37th Annual Meeting

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Society for Medical Decision Making
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October 18-21, 2015
Hyatt Regency St. Louis at the Arch
St. Louis, MO

Implementation

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37th Annual Meeting of the Society for Medical Decision Making
Oral & Poster Abstract Sessions

Monday, October 19, 2015

TRA-1. TOP RATED ABSTRACTS I

Next Session »

10:00 AM - 11:30 AM: Mon. Oct 19, 2015
Grand Ballroom BC

Session Summary:

10:00 AM - 10:15 AM

TRA-1-1. TEST RESULTS IN LINE GRAPHS INSTEAD OF TABLES: LESS CONFUSION WITHOUT DISTORTION

10:15 AM - 10:30 AM

TRA-1-2. EMPIRICAL TESTING OF THE REGRET-BASED THRESHOLD MODEL IN END OF LIFE CARE

10:30 AM - 10:45 AM

TRA-1-3. DO PATIENTS MIS-PREDICT FUTURE WELL-BEING IN DECISIONS ABOUT BREAST RECONSTRUCTION AFTER MASTECTOMY?

10:45 AM - 11:00 AM

TRA-1-4. THE ASSOCIATION BETWEEN DECISION STYLES AND APPRAISAL OF TREATMENT DECISION-MAKING: RESULTS OF THE ICANCARE STUDY

11:00 AM - 11:15 AM

TRA-1-5. RACIAL CONCORDANCE AND PERCEPTION OF HEALTHCARE PROVIDER'S COMMUNICATION SKILLS: DOES SOCIOECONOMIC STATUS MATTER?

11:15 AM - 11:30 AM

TRA-1-6. SHARED DECISION-MAKING PROGRAM LED TO IMPROVED RATES OF BLOOD PRESSURE CONTROL IN FEDERALLY QUALIFIED HEALTH CENTERS: THE OFFICE-GUIDELINE APPLIED TO PRACTICE (OFFICE-GAP) PROGRAM

Abstracts:

TRA-1-1. TEST RESULTS IN LINE GRAPHS INSTEAD OF TABLES: LESS CONFUSION WITHOUT DISTORTION

10:00 AM - 10:15 AM: Mon. Oct 19, 2015
Grand Ballroom BC
Part of Session: TOP RATED ABSTRACTS I

Brian J. Zikmund-Fisher, PhD[1], *Aaron M. Scherer, PhD*[1], *Angela Fagerlin, PhD*[2], *Predrag Klasjna, PhD*[1], *Beth A. Tarini, MD*[1], *Nicole L. Exe, MPH*[1], *Knoll Larkin, MPH*[1] *and Holly Witteman, PhD*[3], *(1)University of Michigan, Ann Arbor, MI, (2)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI, (3)Université Laval, Quebec City, QC, Canada*

Purpose: Patients can increasingly access and view laboratory test results directly via patient portals to electronic health record systems. At present, virtually all such systems display test results in a tabular format that provides a standard range (either with or without high / low markers). Unfortunately, recently published research shows that many people cannot identify out-of-range results in such tables and that confusion is particularly common among the less numerate and literate.

Method: We conducted an online survey experiment in which participants imagined receiving hemoglobin A1c test results in-between clinical visits for management of Type 2 diabetes. Adults (N=1,785) viewed their mock results in one of three formats: (1) standard table that included the test result and a standard range, (2) table with an indicator for whether a result was high or low, or (3) a horizontal line graph that visually showed the test result and standard range. We also varied whether A1c was within the standard range (5.4%), or one of three higher levels (6.4%, 7.1%, or 8.4%). Our primary outcome measure was participants' ratings of how good or bad they thought the test value was (or whether they marked "don't know"). Secondary measures included 4 questions related to graph preferences. We also assessed participant numeracy using both subjective and objective scales as well as graphical literacy.

Result: Controlling for numeracy and graphical literacy, significantly more respondents marked "don't know" for how good or bad the test result was when they viewed the table without markers (OR=2.42, p<.001) or table with markers (OR=2.23, p<.001) than when they viewed the line graph. Subjective numeracy strongly predicted "don't know" responses (p<.001), but neither objective numeracy (p=.09) nor graphical literacy (p=.14) were significant predictors. Mean risk perceptions varied by A1c level (p<.001) and were significantly predicted by subjective numeracy, objective numeracy, and graphical literacy (all p's<.001), but were not significantly different across formats. The 4 graph perception questions were highly correlated (Cronbach's alpha=0.89), and respondents significantly preferred the line graphs compared to either table format (p=.003).

Conclusion: Presenting laboratory test results in the commonly-used table formats, even those with high/low markers, can confuse patients. Visual line graph displays improve patient understanding and satisfaction and could be easily implemented into patient electronic health record portals.

TRA-1-2. EMPIRICAL TESTING OF THE REGRET-BASED THRESHOLD MODEL IN END OF LIFE CARE

10:15 AM - 10:30 AM: Mon. Oct 19, 2015
Grand Ballroom BC
Part of Session: TOP RATED ABSTRACTS I

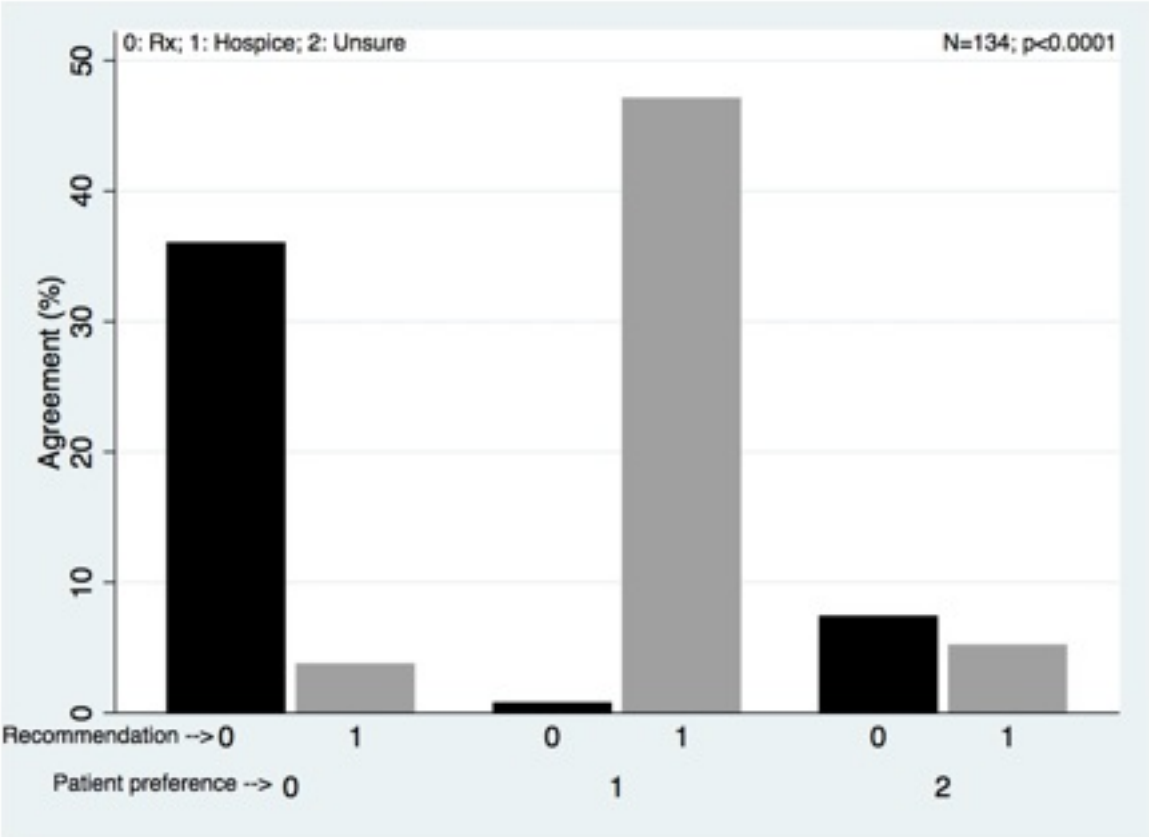
Athanasios Tsalatsanis, PhD[1], Iztok Hozo, PhD[2] and ***Benjamin Djulbegovic, MD, PhD[1],***
(1)University of South Florida, Tampa, FL, (2)Indiana University Northwest, Gary, IN

Purpose: The threshold model represents one of the most important advances in medical decision-making but it has never been empirically tested in real-life setting. We aimed to empirically test the regret-based threshold model in end of life care where patients face choices between hospice and curative treatment.

Method: According to the regret-based threshold model there must be some probability of death (pDeath) at which patients should be indifferent (Pt) between hospice care (Hospice) and continuing treatment targeted at their disease (Rx). The model predicts that if pDeath>Pt, patients should choose hospice; if pDeath<Pt, they should opt for Rx. We tested these predictions by interviewing 134 terminally ill patients facing Rx vs. Hospice decisions. We determined Pt by eliciting regret of omission (i.e. losing benefits of hospice care) and regret of commission (i.e. incurring harms from unnecessary treatment) using a dual visual analogue scale[1]. We estimated pDeath over 6-months using the Palliative Performance Scale (PPS) and adjusted PPS prognostic models. We compared the regret-based threshold model recommendation to the patients' choice at two different time frames: immediately after the interview and one month after the interview to study the patients' preferences and actual choice of care. We used Cramer V (effect size) to calculate the strength of agreement between the model recommendations and the patients' preferences and actual choice, respectively.

Result: We observed statistically significant agreement between the model recommendations and the patients' stated preferences ($p<0.0001$). Out of 134 patients 111 (83%) agreed with the model recommendations immediately after the interview, 6 patients (4%) disagreed, and 17 (13%) were unsure about their preferences (figure). This converts into very large effect size (0.84). 111/134 patients were approached one month after the interview to determine what type of care the patients actually chose: 59 (53%) chose according to the model recommendations; 39 (35%) chose a different option than the model's recommendation; and 13 (12%) patients remained unsure. While the association remains statistically significant ($p=0.0067$), the effect size dropped to 0.21 indicating medium effect.

Conclusion: The regret-based threshold model strongly predicts what patients think they would want (preferences) and moderately predicts the patients' actual choice. This is the first empirical study testing the threshold model in a real-life setting.



Agreement between patient preferences and recommendation of regret threshold model.

TRA-1-3. DO PATIENTS MIS-PREDICT FUTURE WELL-BEING IN DECISIONS ABOUT BREAST RECONSTRUCTION AFTER MASTECTOMY?

10:30 AM - 10:45 AM: Mon. Oct 19, 2015
Grand Ballroom BC
Part of Session: TOP RATED ABSTRACTS I

Clara Lee, MD, MPP[1], *Michael Pignone, MD, MPH*[2], *Allison Deal, MA*[3], *Ruth Huh, BS*[3], *Lillian Blizard, BS*[3] *and Peter A. Ubel, MD*[4], *(1)University of North Carolina Chapel Hill, Chapel Hill, NC, (2)University of North Carolina at Chapel Hill, Chapel Hill, NC, (3)Lineberter Comprehensive Cancer Center, Chapel Hill, NC, (4)Duke University, Durham, NC*

Purpose:

Making a good decision about surgery requires a patient to predict how she will feel in the future, with or without the procedure. However, people often mis-predict how they will feel, tending to overestimate the impact of life events. We hypothesized that breast cancer patients undergoing mastectomy would overestimate the negative impact of mastectomy and the positive impact of reconstruction on well-being. We also hypothesized that prediction accuracy would be associated with satisfaction with decisions.

Method:

Adult women undergoing mastectomy for stage I-III breast cancer, DCIS, or prophylaxis were enrolled at a single site. Before surgery, participants were asked to predict their 12-month happiness, quality of life (QOL), body image, sexual attractiveness, physical sensations, and

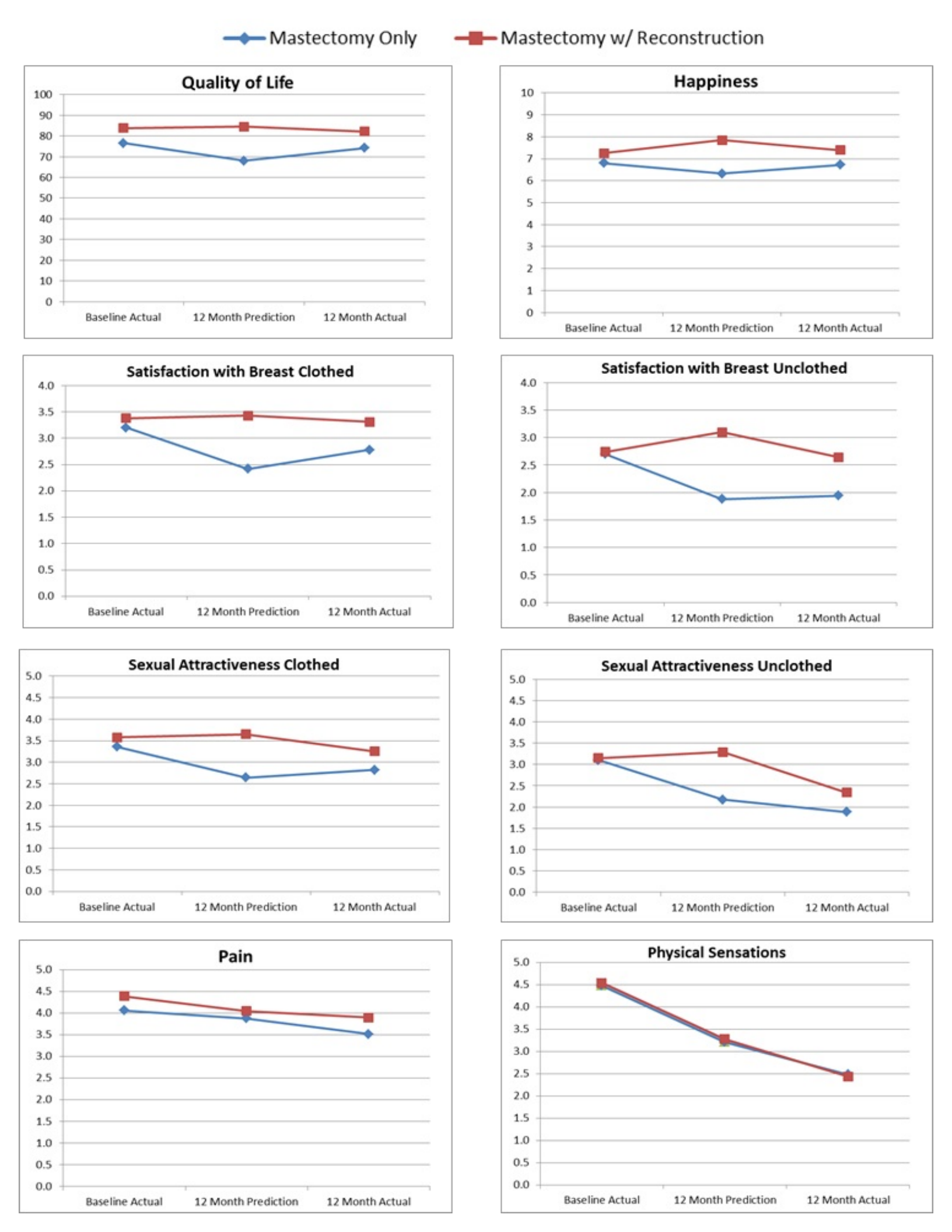
pain. 12 months after surgery, actual scores and satisfaction with decisions were measured. Prediction accuracy was calculated as the difference in predicted and actual 12 month scores, and compared between groups using t-tests. Associations of prediction accuracy with satisfaction with decisions were evaluated by linear regression.

Result:

131 patients completed the baseline survey (72% participation rate) and 111 completed the 12 month survey (88% participation rate). 15 patients were excluded due to delayed reconstruction, leaving 54 who had mastectomy-only and 42 who had mastectomy-with-reconstruction. Mastectomy-only patients generally predicted poorer outcomes than they actually experienced, and mastectomy-with-reconstruction patients generally predicted better outcomes than they actually experienced (Figure 1). Prediction accuracy differed by treatment for QOL (6.3 v -2.3, p=0.01), satisfaction with breast clothed (0.4 v -0.1, p=0.04) and unclothed (0.1 v -0.5, p=0.02), sexual attractiveness clothed (0.2 v -0.4, p=0.03) and unclothed (-0.3 v -1.0, p=0.01) (Table 1). Both groups predicted poorer outcomes after mastectomy-only than after mastectomy-with-reconstruction, with the mastectomy-with-reconstruction group predicting significantly larger differences, for all but the physical sensation and pain items. Prediction accuracy was not associated with satisfaction with decisions (all $p \geq 0.10$).

Conclusion:

Women undergoing mastectomy made mis-predictions about their future well-being after surgery. On average, they overestimated the negative impact of mastectomy and the positive impact of reconstruction. Prediction accuracy was not associated with decisional satisfaction.


Mastectomy Only
Mastectomy w/ Reconstruction
Quality of Life
Happiness
Satisfaction with Breast Clothed
Satisfaction with Breast Unclothed
Sexual Attractiveness Clothed
Sexual Attractiveness Unclothed
Pain
Physical Sensations
Baseline Actual
12 Month Prediction
12 Month Actual

TRA-1-4. THE ASSOCIATION BETWEEN DECISION STYLES AND APPRAISAL OF TREATMENT DECISION-MAKING: RESULTS OF THE ICANCARE STUDY

10:45 AM - 11:00 AM: Mon. Oct 19, 2015
Grand Ballroom BC
Part of Session: TOP RATED ABSTRACTS I

Kathryn A. Martinez, PhD, MPH[1], *Ken Resnicow, PhD*[2], *Steven Katz, MD, MPH*[3] *and Sarah T. Hawley, PhD, MPH*[3], *(1)Ann Arbor, MI, (2)University of Michigan School of Public Health, Ann Arbor, MI, (3)University of Michigan, Ann Arbor VA Health System, Ann Arbor, MI*

Purpose: Despite documented variation in decision-making approaches (i.e. “decision styles,”) limited work has evaluated the association between decision styles and key decision outcomes, such as decision satisfaction or decision quality. Specifically, to date no research has examined the association between women’s decision-making styles and their decision appraisal in the context of breast cancer surgery. Consequently, the objective of this study was to examine the association between three decision-making styles and surgical decision quality and satisfaction among women with breast cancer.

Method: Newly diagnosed breast cancer patients in the Georgia and Los Angeles SEER registries were surveyed approximately 6 months post-diagnosis. A validated 5-item decision satisfaction scale adapted for breast cancer surgery was used to assess women’s satisfaction with their surgical decision-making process. Items were combined into a composite decision satisfaction score (scale: 0-5). A 3-item subjective measure of decision quality was used (Resnicow et al, 2014) that assessed respondents’ satisfaction with the information, involvement and time to make their surgical decision. These items were summed into a composite decision quality score (scale: 0-5). Decision style was assessed with three measures: 1) degree to which decisions are typically motivated by anticipatory regret, 2) rational vs. intuitive decision style, and 3) degree of deliberative decision-making. Multivariable linear regression was used to examine the adjusted differences in decision satisfaction and decision quality by the three participant-reported decision style items. Models adjusted for sociodemograhpic and clinical factors, including type of surgery received.

Result: Among the 2,020 women in the sample, decision-making was appraised positively: the mean decision satisfaction score was 4.4 (SD:0.81) and the mean decision quality score was 4.5 (SD:0.84) out of 5. In the adjusted regression models, greater orientation towards anticipatory regret was significantly associated with worse appraisal of decision-making ($P<0.001$ for decision satisfaction and decision quality). Conversely, more deliberation was significantly associated with positive appraisal of decision-making ($P<0.001$ for decision satisfaction and $P=0.029$ for decision quality) Rational/intuitive decision style was not significantly associated with either decision-making outcome.

Conclusion: Decision quality and satisfaction were high in our sample overall. Greater deliberation in decision--making was associated with better appraisal of both decision quality and satisfaction. Identification of women who typically make decisions based on anticipatory regret may assist clinicians in supporting their breast cancer surgical decision-making process.

TRA-1-5. RACIAL CONCORDANCE AND PERCEPTION OF HEALTHCARE PROVIDER'S COMMUNICATION SKILLS: DOES SOCIOECONOMIC STATUS MATTER?

11:00 AM - 11:15 AM: Mon. Oct 19, 2015
Grand Ballroom BC
Part of Session: TOP RATED ABSTRACTS I

Anushree Vichare, MBBS, MPH *and Tiffany Green, Ph.D, Department of Healthcare Policy and Research, School of Medicine, Virginia Commonwealth University, Richmond, VA*

Purpose: Extensive empirical evidence suggests higher satisfaction with care if there is racial concordance between patients and their providers. It is unknown to what extent satisfaction differs among socioeconomic groups, even when racial concordance is achieved. This analysis assesses whether the relationship between provider-patient racial concordance and satisfaction with provider's communication skills differs by socioeconomic status (SES).

Method: An analytic sample of 32,671 respondents with a usual source of care (USC) was identified using the 2007-2012 Medical Expenditure Panel Survey (MEPS). Patient satisfaction with provider's communication skills was measured on four dimensions; how often the provider listened carefully, explained medical care in an understandable way, showed respect and spent enough time during consultation. Patients and physician's race and ethnicity were categorized as non-Hispanic white, non-Hispanic black, Hispanic and other race. SES was defined using income at federal poverty level (FPL); "low SES" (<200%), "middle SES" (200%-400%) and "high SES" (>400%). Logistic regression models were used to examine the effect of SES on perception of communication skills in racially concordant interactions.

Result: Approximately 30% of the respondents indicated being racially discordant with their provider; racial discordance was more common among minority and low to middle SES patients. Racial concordance did not have a statistically significant association with higher satisfaction on any measure. Compared to high SES patients, low SES patients were more likely to be dissatisfied in all four domains of provider's communication skills. The largest differences were detected in satisfaction with provider's ability to explain medical care (4.5 percentage points, $p<0.001$). However, perceptions of communication skills did not differ between middle and low SES patients. Additionally, no significant differences were found in the association between race concordance and satisfaction across SES categories.

Conclusion: Vulnerable low SES populations may experience ineffective patient-provider communication even when they have a USC. This can result in greater dissatisfaction with the care received relative to more advantaged populations. Concordance is multidimensional and patient's perception of similarity to their provider extends to aspects beyond demographic characteristics like personal beliefs and values. With growing emphasis on patient satisfaction scores, a key policy challenge is enhancing physician skills to elicit patient communication preferences that can transcend issues of race and sex to foster positive experiences of care.

TRA-1-6. SHARED DECISION-MAKING PROGRAM LED TO IMPROVED RATES OF BLOOD PRESSURE CONTROL IN FEDERALLY QUALIFIED HEALTH CENTERS: THE OFFICE-GUIDELINE APPLIED TO PRACTICE (OFFICE-GAP) PROGRAM

11:15 AM - 11:30 AM: Mon. Oct 19, 2015
Grand Ballroom BC
Part of Session: TOP RATED ABSTRACTS I

Adesuwa Olomu, MD, MS[1], *Nazia Naz Khan, MD, MS*[1], *David Todem, PhD*[1], *Qinhua Huang*[2], *Shireesha Bottu, MD*[3] *and Margaret Holmes-Rovner, PhD*[1], *(1)Michigan State University College of Human Medicine, East Lansing, MI, (2)Michigan State University, East Lansing, MI, (3)East Lansing, MI*

Purpose: Shared decision making (SDM) implementation has been limited, in part, by lack of physician uptake. We tested an intervention that supplies a common missing ingredient in implementation: bilateral patient and physician education used with decision aids (DAs) and encounter prompts to structure communication.

Method: The Office-Guidelines Applied in Practice (Office-GAP) intervention included: 1) patient SDM training in one 90 min group visit 2) clinician SDM training in one 60-90 min session 3) patient decision aid & clinical encounter decision checklist. Two site intervention/control design. Main outcome measure: change in blood pressure (BP) control by chart review. Logistic regression analysis with propensity scoring to control for confounders was used to examine change over time in the rate of BP control in two clinical sites.

Result: Participants were low-income patients with diabetes and coronary heart disease (CHD) in two Federally Qualified Healthcare Centers (FQHCs). 120 patients were in the intervention arm; 123 in the control arm. Medication use was not different statistically at baseline. Results show that program elements were consistently used with > 98% clinician attended training and the checklist present in the patient chart. Patient attendance at the group visit was > 80% in the intervention. After controlling for confounders, the model showed that the Office-GAP intervention significantly increased the probability of getting BP under control ($p=0.0122$, OR=2.36). For diabetic patients, those with Medicaid insurance were more likely to have their BP under control compared to those without insurance ($p=0.0590$, OR=1.67). Patients whose BP was under control at baseline were more likely to have their BP controlled at 12 months ($p<0.0001$, OR=5.01). Diabetic patients were less likely to have BP controlled compared to non-diabetic patients ($p=0.0041$, OR=0.312).

Conclusion: Use of the Office-GAP program to teach SDM and use of DAs in clinical practice was demonstrated to be feasible in FQHCs. This two group intervention showed that the Office-GAP intervention led to higher rates of BP control among underserved patients with CHD and diabetes. The Office-GAP program combines previously developed interventions into a brief, efficient approach to improved communication and collaborative decision making in clinical practice. Further research is needed to reproduce our results and describe the mechanism that appears to improve shared decision making.

TRA-2. TOP RATED ABSTRACTS II

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10:00 AM - 11:30 AM: Mon. Oct 19, 2015
Grand Ballroom FG

Session Summary:

10:00 AM - 10:15 AM

TRA-2-1. VALUE OF INDIVIDUALIZED INFORMATION IN COST-EFFECTIVENESS ANALYSIS: WHEN IS AN OUTCOME PREDICTION MODEL WORTH USING?

10:15 AM - 10:30 AM

TRA-2-2. BETTER EPIDEMIC CONTROL FOR FUTURE AFRICAN EBOLA OUTBREAKS: DYNAMIC SIMULATION MODELING CALIBRATION AND ANALYSIS

10:30 AM - 10:45 AM

TRA-2-3. DEVELOPMENT OF A CLINICAL FORECASTING MODEL FOR DETECTING COMORBID DEPRESSION AMONG PATIENTS WITH DIABETES AND AN APPLICATION IN DEPRESSION SCREENING POLICYMAKING

10:45 AM - 11:00 AM

TRA-2-4. ESTIMATING THE PREVALENCE OF HEPATITIS C IN PENNSYLVANIA MEDICAID USING A MICROSIMULATION MODEL

11:00 AM - 11:15 AM

TRA-2-5. HEALTH UTILITIES IN ADULTS WITH CHRONIC PAIN

11:15 AM - 11:30 AM

TRA-2-6. DO STAKEHOLDER PREFERENCES FOR ENGAGEMENT IN PEDIATRIC ATTENTION-DEFICIT/HYPERACTIVITY DISORDER TREATMENT CORRELATE WITH REPORTED OUTCOMES? A BEST WORST SCALING EXPERIMENT

Abstracts:

TRA-2-1. VALUE OF INDIVIDUALIZED INFORMATION IN COST-EFFECTIVENESS ANALYSIS: WHEN IS AN OUTCOME PREDICTION MODEL WORTH USING?

10:00 AM - 10:15 AM: Mon. Oct 19, 2015
Grand Ballroom FG
Part of Session: TOP RATED ABSTRACTS II

***Natalia Olchanski, MS**, Joshua T. Cohen, Ph.D., Peter J. Neumann, Sc.D., John B. Wong, MD and David M. Kent, MD, MSc, Tufts Medical Center, Boston, MA*

Purpose: Because risk often varies across patients enrolled in randomized trials, average population trial and cost-effectiveness analysis (CEA) results do not apply to many patients. Risk prediction models make it possible to incorporate individual risk and clinical effectiveness information to compute individualized CEA and identify patients for whom therapy is most appropriate. The expected value of individualized care (EVIC) refers to the incremental

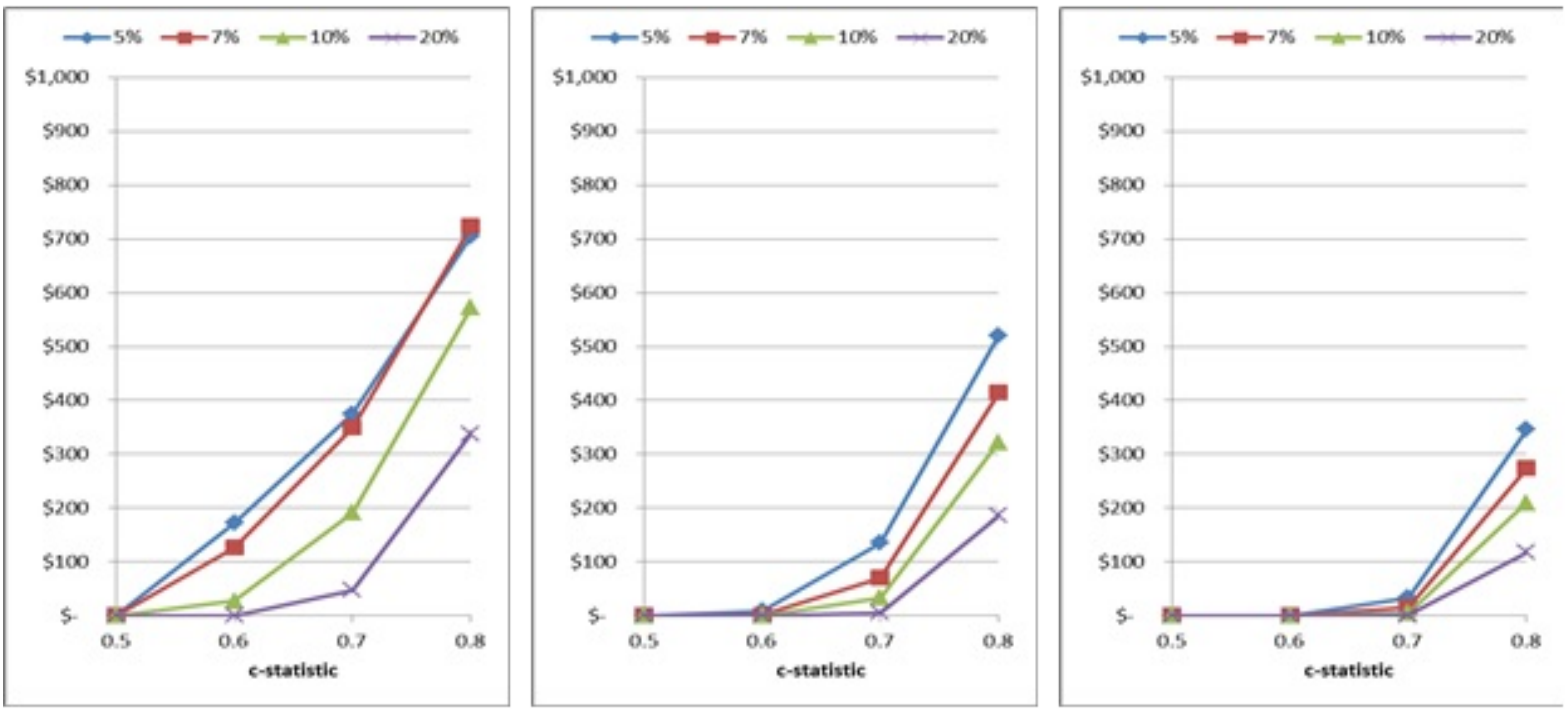
monetized value of customizing care in this manner, compared to a uniform recommendation (treat all or none) based on the population average incremental cost-effectiveness ratio (ICER). We explore factors influencing EVIC.

Methods: We developed a general framework to calculate individualized ICERs as a function of individual outcome risk. For a case study (tPA vs. streptokinase to treat possible myocardial infarction), we used simulation to explore how EVIC is influenced by risk model discriminatory power (c-statistic), population outcome prevalence, model calibration and willingness-to-pay (WTP) thresholds. We characterized individual risk using beta distributions, the parameters for which we estimated from population prevalence and the risk model c-statistic. We derived this relationship empirically from a database of 25 large randomized clinical trials. We assumed that treatment effect (relative risk reduction) and life expectancy do not vary according to patient risk.

Results: For unbiased models (figure), EVIC is always non-negative and improvements in discrimination better targets treatment, increasing EVIC. In our example, lower population outcome prevalence also increases EVIC. EVIC also depends on the WTP threshold; when the WTP and population average ICER are close, EVIC increases because individualized information more often changes treatment decisions. In contrast to unbiased prediction models, miscalibrated models can introduce mistakes and hence have a negative EVIC. When the population average ICER is near the WTP threshold, decision making is more sensitive to bias and these mistakes are more common (making EVIC more negative). In simulated examples, EVIC decreased for model c-statistic values of 0.6-0.7 and increased for c-statistic values of 0.8-0.9.

Conclusions: In general, higher predictive model c-statistic values produce higher EVIC values. This benefit is greatest when the population ICER is near the WTP threshold. When models are miscalibrated, greater discriminating power can paradoxically reduce the EVIC under some circumstances.

Figure: EVIC as a function of c-statistic at several levels of outcome prevalence and WTP thresholds



TRA-2-2. BETTER EPIDEMIC CONTROL FOR FUTURE AFRICAN EBOLA OUTBREAKS: DYNAMIC SIMULATION MODELING CALIBRATION AND ANALYSIS

10:15 AM - 10:30 AM: Mon. Oct 19, 2015
Grand Ballroom FG
Part of Session: TOP RATED ABSTRACTS II

***Kejing Jiang**, Stanford University Department of Management Science and Engineering, Stanford, CA, Jason Andrews, Stanford University School of Medicine, Stanford, CA and Jeremy D. Goldhaber-Fiebert, PhD, Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

Purpose: In the previous 4 decades, there have been 19 major outbreaks of Ebola virus disease, but none have approached the magnitude of the 2014 outbreak in Liberia nor have they occurred in such large, urban settings. For the 2014 outbreak, outcry erupted due to delays in implementing safe burial practices and social distancing interventions. While experts expect future urban outbreaks, empirical evaluations of alternative population control strategies are infeasible, necessitating simulation modeling approaches to aid preparedness.

Method: We developed a 5-compartment dynamic transmission model of Ebola for the 2014 Liberian outbreak and performed literature review to characterize model inputs and their uncertainty. We matched 2-week moving averages of new Ebola cases reported by the World Health Organization both before widespread burial and social distancing interventions began in Liberia (prior to September 2014) as well as afterwards (through mid-May 2015) by performing 10,000 Neldor-Mead search calibrations from random starting sets of inputs. By simultaneously calibrating to both periods, we recovered natural history parameters and intervention effectiveness. The objective function of the calibration was a weighted sum-of-squares where weights were the inverse of the standard error of the observed estimates under the binomial

distribution. For analyses of alternative timings of interventions, we sampled 1,000 calibrated parameter sets with replacement from the 10,000, weighting the sampling by an approximation of the likelihood function so that better-fitting sets were more likely to be sampled.

Result: Compared to the observed 10,604 cumulative Ebola cases from the current outbreak in Liberia, our model predicts 10,519 cases [95%CrI: 9,755-10,992]. If interventions had been implemented earlier by 1 month, total cases are predicted at 1,904 [95%CrI: 1,359-2,951]. At 2 months earlier, these figures are 485 cases [95%CrI: 273-1,041].

Conclusion: Initiating safe burial and social distancing interventions earlier via better surveillance and epidemic preparedness has the potential to substantially decrease the impact of future Ebola epidemics in urban African settings.

TRA-2-3. DEVELOPMENT OF A CLINICAL FORECASTING MODEL FOR DETECTING COMORBID DEPRESSION AMONG PATIENTS WITH DIABETES AND AN APPLICATION IN DEPRESSION SCREENING POLICYMAKING

10:30 AM - 10:45 AM: Mon. Oct 19, 2015
Grand Ballroom FG
Part of Session: TOP RATED ABSTRACTS II

Haomiao Jin, MS[1], *Shinyi Wu, PhD*[1] *and Paul Di Capua, MD, MBA*[2], *(1)University of Southern California, Los Angeles, CA, (2)University of California, Los Angeles, Los Angeles, CA*

Purpose: Approximately 30% of diabetes patients are suffering from depression, but nearly half of them are undiagnosed. Although universal depression screening improves diagnosis rates, it is a labor-intensive intervention. This study developed a clinical forecasting model for automatically detecting comorbid depression among patients with diabetes and applied the model to derive a screening policy to improve efficiency of depression screening.

Method: Machine learning methods were used to develop the model to forecast occurrence of major depression, measured by Patient Health Questionnaire 9-item score≥10. Predictors were selected using a correlation-based subset evaluation method from 20 risk factors of depression. Two linear models, Ridge logistic regression and multilayer perceptron, and two nonlinear models, support vector machine and random forest, were trained and validated on data pooled from two safety-net clinical trials of diabetes and depression (N=1793). The model with the best overall predictive ability, measured by area under receiver-operating curve (AUROC), was chosen as the ultimate model. Depression identification rate and measures relevant to provider resource and time were compared between a model-based policy that screens only patients predicted as being depression and alternative policies. These policies include universal screening and partial screening based on certain risk factors of depression such as depression history, diabetes severity, or either criteria.

Result: Seven predictors were selected to develop the prediction model: 1) gender, 2) Tolbert diabetes self-care 3) number of diabetes complications, 4) previous diagnosis of major depression, 5) number of ICD-9 diagnoses in past 6 months, 6) chronic pain, and 7) self-rated health status. Ridge logistic regression with the above seven predictors had the best overall predictive ability (AUROC=0.81) and was chosen as the ultimate model. Compared to universal screening, the model-based policy can save about 50-60% of provider resources and time but will miss identification of about 30% of depression cases. Partial-screening policy

based on depression history alone yielded a very low rate of depression identification. Two other partial screening policies have depression identification rates similar to model-based policy but cost more in resources and time.

Conclusion: The depression prediction model developed in this study has compelling predictive ability. By adopting the model-based depression screening policy, healthcare providers can better prioritize the use of their resources and time while increasing efficiency in managing their patient population with depression.

TRA-2-4. ESTIMATING THE PREVALENCE OF HEPATITIS C IN PENNSYLVANIA MEDICAID USING A MICROSIMULATION MODEL

10:45 AM - 11:00 AM: Mon. Oct 19, 2015
Grand Ballroom FG
Part of Session: TOP RATED ABSTRACTS II

Mina Kabiri, MS[1], *Walid Gellad, MD, MPH*[1], *Jagpreet Chhatwal, PhD*[2], *Michael Dunn, MD, FACP*[3], *Julie Donohue, PhD*[1] *and Mark S. Roberts, MD, MPH*[1], *(1)Department of Health Policy and Management, University of Pittsburgh, Pittsburgh, PA, (2)The University of Texas MD Anderson Cancer Center, Houston, TX, (3)Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh School of Medicine, Pittsburgh, PA*

Purpose: New highly effective therapies have changed the treatment paradigm for hepatitis C virus (HCV), with very high cure rates. However, the unknown true prevalence of HCV-infected individuals and their distribution of disease stages, along with high cost of treatment, present challenges for healthcare payers like state Medicaid programs with limited budgets for HCV treatment. Our objective was to estimate the prevalence of HCV in the Pennsylvania (PA) Medicaid.

Method: We used PA Medicaid claims data from 2007–2012 to identify individuals diagnosed with HCV, individuals who received HCV therapies, and those who developed advanced liver disease due to HCV infection. To estimate the current HCV prevalence, we used an innovative approach of combining the results of claims data with a validated microsimulation model that accurately predicted national HCV prevalence in the United States. In this process, we accounted for trends in Medicaid enrollment, and adjusted the rates of treatment contraindications, such as substance abuse, that are often higher in Medicaid populations. We calibrated our model such that it simulated the observed number of patients diagnosed with HCV, and “hard outcomes” (liver transplants, hepatocellular carcinoma, decompensated cirrhosis) from 2007–2012 claims data. Our model included historic as well as current HCV screening and treatment recommendations. From the calibrated PA model, we estimated the number of patients who will need treatment in 2015 and beyond by disease stage (represented by fibrosis scores F0–F4) and by HCV genotype.

Result: Our calibrated model matched the number of individuals with HCV diagnoses based on PA Medicaid claims data at 26,400 in 2012. The model estimated 22 liver transplants in 2012, closely matching the true incidence found in claims data. Our model estimated that 46,400 beneficiaries were infected with HCV in 2015, of whom 65% were aware of their disease, and 72% were treatment naïve. In the following 10 years, 8,500 new patients would be added to PA Medicaid either because of HCV screening or new enrollments.

Conclusion: We provide a novel approach to estimate the prevalence of HCV by using a combination of claims data and simulation modeling. Our results can assist state Medicaid programs in effective allocation of their resources to manage HCV patients in a rapidly changing clinical and policy environment.

TRA-2-5. HEALTH UTILITIES IN ADULTS WITH CHRONIC PAIN

11:00 AM - 11:15 AM: Mon. Oct 19, 2015
Grand Ballroom FG
Part of Session: TOP RATED ABSTRACTS II

***Mary-Ellen Hogan, BScPhm, PharmD, MSc*[1], *Nicholas Mitsakakis, MSc PhD*[2], *Vibhuti Shah, MD MSc*[3], *Joel Katz, BA, MA, PhD*[4], *Anna Taddio, BScPhm, MSc, PhD*[5] *and Murray D Krahn, MD, MSc, FRCPC*[2], *(1)Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada, (2)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (3)Institute of Health Policy, Management and Evaluation, University of Toronto, Department of Paediatrics, Mount Sinai Hospital, Toronto, ON, Canada, (4)Department of Psychology, York University, Toronto General Research Institute and Department of Anesthesia and Pain Management, University Health Network, Toronto, ON, Canada, (5)Leslie Dan Faculty of Pharmacy, University of Toronto; Department of Child Health Evaluative Sciences, Pharmacy, Hospital for Sick Children, Toronto, ON, Canada*

Purpose: Almost 1 in 5 adults has chronic pain. New interventions are being developed to manage this widespread condition and cost-utility analyses of these technologies require robust data. We aimed to estimate utilities using a population based sample of adults with chronic pain and examine the contribution of several factors. **Methods:** Health Utilities Index Mark 3 (HUI3) values, self-reported race/ethnicity and presence of arthritis, back problems, migraines, heart disease, stroke, diabetes and cancer were obtained from the Ontario survey responses of the Canadian Community Health Survey (CCHS) 2009-10. The CCHS questions for presence of pain, severity and disability from pain were used to identify and stratify patients with chronic pain. Income, aggregated diagnosis groups (ADGs, Johns Hopkins ACG system, a measure of comorbidity), age and sex were obtained from linked administrative data. Ordinary least squares regression was used to investigate the impact of variables on utility. **Results:** A total of 15,901 responses for adults 18 64 years of age were available for analysis and 4,116 reported chronic pain. In the pain cohort, mean age was 48 years (SD 12); 59% were female. The average number of ADGs was 4.2 (SD 2.9). People with chronic pain had a mean utility of 0.60, 0.22 points below the overall sample mean (see table). Increasing income quintile was associated with an increase in utility ($p<0.001$) as was black race ($p < 0.05$) (versus Caucasian). Aboriginal ethnicity was associated with a decrease in utility ($p<0.001$). Presence of the following conditions was associated with a decrease in utility: migraine, back problems, arthritis, suffering from the effects of a stroke, heart disease, diabetes and an additional ADG (all $p<0.001$). Age, sex, and having cancer were not significantly associated with utility change.

	Utility	95% CI	N
Whole sample	0.820	0.817 – 0.824	15,901
Chronic pain cohort	0.600	0.591 – 0.608	4,116
Mild pain	0.739	0.728 – 0.750	1,251
Moderate pain	0.605	0.595 – 0.616	2,151
Severe pain	0.338	0.317 – 0.358	714
No activity limitations or a few activity limitations	0.785	0.778 – 0.791	2,177
Some activity limitations	0.537	0.528 – 0.547	1,106
Most activity limitations	0.199	0.188 – 0.209	833

Conclusions: Utilities in people with chronic pain were very low and decreased with greater pain and more activity limitations. A decrement of 0.22 is larger than seen with heart disease, diabetes, COPD, asthma and epilepsy.[1] To our knowledge, this study is the first to estimate utilities in patients with chronic pain at the population level. This data will be useful to inform future cost-utility analyses.

[1]Mittmann N, Trakas K, Risebrough N, Liu B. Utility scores for chronic conditions in a community-dwelling population. Pharmacoeconomics 1999; 15(4):369-376.

TRA-2-6. DO STAKEHOLDER PREFERENCES FOR ENGAGEMENT IN PEDIATRIC ATTENTION-DEFICIT/HYPERACTIVITY DISORDER TREATMENT CORRELATE WITH REPORTED OUTCOMES? A BEST WORST SCALING EXPERIMENT

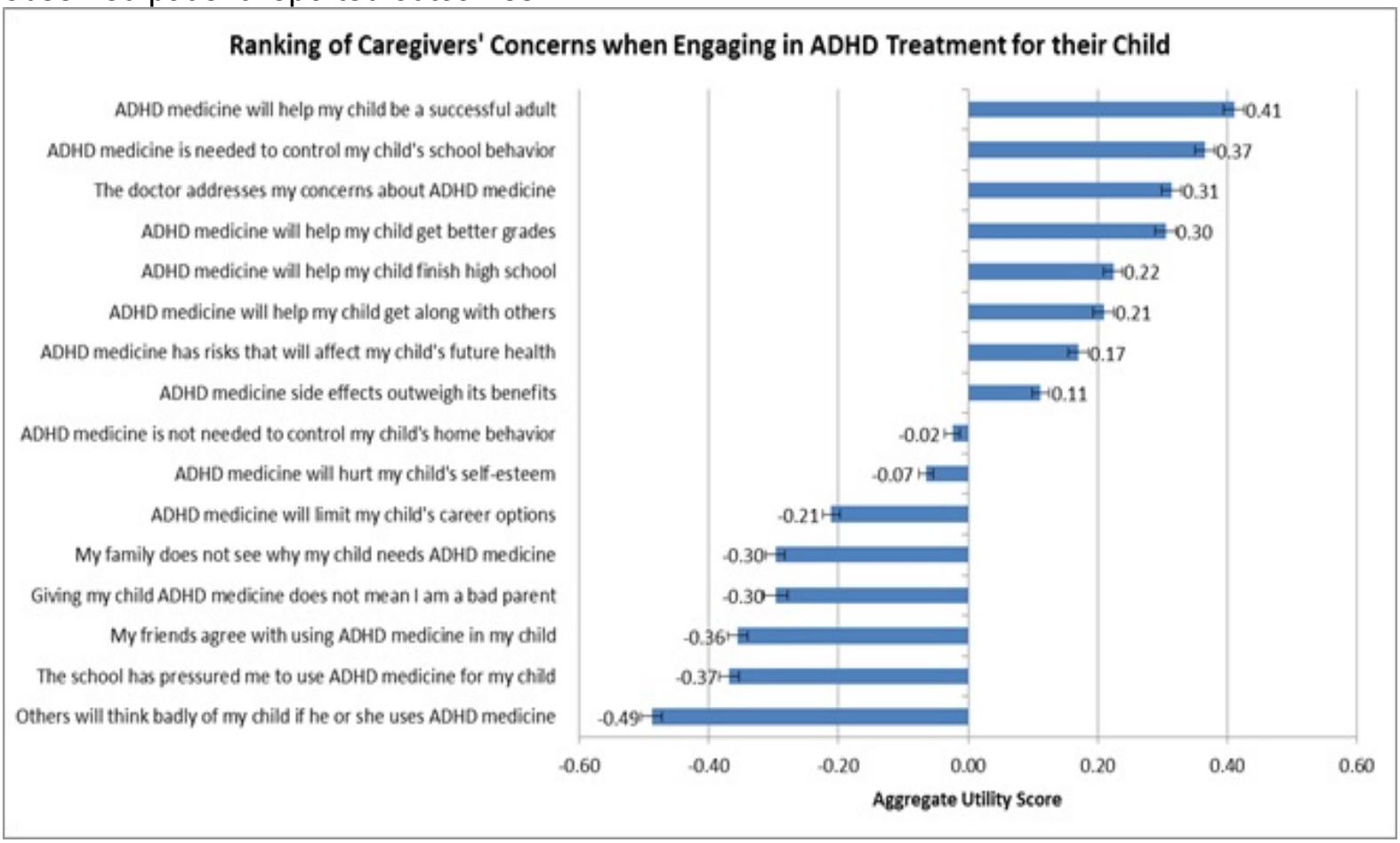
11:15 AM - 11:30 AM: Mon. Oct 19, 2015
Grand Ballroom FG
Part of Session: TOP RATED ABSTRACTS II

Melissa Ross, MA[1], *John F.P. Bridges, PhD*[2], *Xinyi Ng, BSc (Pharm)*[3], *Emily J. Frosch, M.D.*[4], *Gloria M. Reeves, M.D.*[5] *and Susan dosReis, PhD*[1], *(1)University of Maryland School of Pharmacy, Baltimore, MD, (2)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, (3)University of Maryland Baltimore, Baltimore, MD, (4)Johns Hopkins School of Medicine, Baltimore, MD, (5)University of Maryland School of Medicine, Baltimore, MD*

Purpose: To understand the relationship between treatment-initiation concerns and outcomes of an evidence-based treatment among caregivers of a child with attention-deficit/hyperactivity disorder (ADHD).

Methods: Caregivers of a 4-14 year-old child diagnosed with ADHD were recruited from pediatric primary and mental health clinics and family support groups across Maryland. A case 1, balanced incomplete block design (BIBD), best-worst scaling (BWS) experiment assessed caregivers' most important concerns when initiating ADHD treatment. Participants completed 16 choice tasks, each showing 6 of the 16 concerns from which one most and one least important concern was selected. Demographic characteristics, caregiver-reported improvements resulting from medication, and additional desired ADHD changes also were reported. Preference utilities were estimated using conditional logit, effects coding, and assuming sequential best-worst responses. Scores were ranked to assess relative importance. Latent class analysis (LCA) was conducted to determine if there were distinct segments that prioritized concerns differently. Reported outcomes were estimated based on the observed

impact of treatment and additional desired changes. **Results:** The 184 participants (m=42 years) were primarily the biological mother and Caucasian (68%). Children were mostly male (71%) and using medication (81%). The top-ranked utility scores influencing whether to engage in treatment were the child becoming a successful adult (1.71, p<.0001), school behavior improvements (1.55, p<.0001), and the doctor addressing their concerns (1.39, p<.0001). Least important to treatment initiation were school pressures to medicate (-2.01, p<.0001) followed by issues related to stigma. LCA yielded a three segment solution: short-term impact (36%), long-term impact (40%), and side-effects/safety (24%). When considering caregiver-reported outcomes behavioral (48%), executive functioning (57%), and mood (10%) improvements were noted. Of those reporting improvement in behavior, executive functioning, and school, 60%, 60%, and 45%, respectively, desired additional improvement in their child's ADHD (p<.05). **Conclusions:** While 76% of caregivers' priorities when considering engaging in ADHD treatment were focused on outcome improvement, the majority had not realized full improvement, despite using an evidence-based medication treatment. Those whose priorities and expectations are not met over the course of treatment are at high risk for disengagement from care. Additional research is needed to implement a shared-decision making process over the course of care to ensure that stated preferences for treatment outcomes correspond with observed patient-reported outcomes.



1A. ORAL ABSTRACTS: PREFERENCES AND DECISION MAKING IN COLORECTAL CANCER SCREENING

« Previous Session | Next Session »

1:00 PM - 2:30 PM: Mon. Oct 19, 2015
Grand Ballroom A

Session Summary:

1:00 PM - 1:15 PM

1A-1. PATIENT PERCEPTIONS ABOUT COLORECTAL CANCER SCREENING AFTER VIEWING A DECISION AID TARGETED TO OLDER ADULTS

1:15 PM - 1:30 PM

1A-2. DETERMINANTS OF PATIENT INTENT AND PREFERENCE REGARDING COLORECTAL CANCER SCREENING: BASELINE FINDINGS FROM THE DATES (DECISION AID TO TECHNOLOGICALLY ENHANCE SHARED DECISION MAKING) STUDY

1:30 PM - 1:45 PM

1A-3. RANDOMIZED TRIAL OF A DECISION AID TO PROMOTE APPROPRIATE COLORECTAL CANCER SCREENING AMONG OLDER ADULTS

1:45 PM - 2:00 PM

1A-4. INFLUENCES ON PRIMARY CARE PROVIDERS' RECOMMENDATIONS FOR HYPOTHETICAL PROSTATE AND COLON CANCER SCREENING IN OLDER ADULTS: A WITHIN-SUBJECTS EXPERIMENT

2:00 PM - 2:15 PM

1A-5. IMPACT OF PERSONALIZED AND COMPARATIVE RISK INFORMATION ON DECISIONS ABOUT COLORECTAL CANCER SCREENING

2:15 PM - 2:30 PM

1A-6. PREFERENCES FOR COLORECTAL SCREENING TESTS AMONG A PREVIOUSLY UNSCREENED POPULATION

Abstracts:

1A-1. PATIENT PERCEPTIONS ABOUT COLORECTAL CANCER SCREENING AFTER VIEWING A DECISION AID TARGETED TO OLDER ADULTS

1:00 PM - 1:15 PM: Mon. Oct 19, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: PREFERENCES AND DECISION MAKING IN COLORECTAL CANCER SCREENING

Alexandra F. Dalton, PhD[1], *Carol E. Golin, MD*[2], *Carolyn B. Morris, MPH*[3], *Renee M. Ferrari, PhD*[3], *Christine E. Kistler, MD, MASc*[4] *and Carmen L. Lewis, MD, MPH*[5], *(1)University of*

Colorado Anschutz School of Medicine, Raleigh, NC, (2)Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill, Chapel Hill, NC, (3)The University of North Carolina at Chapel Hill, Chapel Hill, NC, (4)Department of Family Medicine, The University of North Carolina at Chapel Hill, Chapel Hill, NC, (5)Dividsion of General Internal Medicine, Department of Medicine, University of Colorado Anschutz School of Medicine, Aurora, CO

Purpose: To compare perceptions about colorectal cancer (CRC) screening between an intervention group and an attention control in a study about a decision aid (DA) designed to promote individualized decision making about CRC screening in older adults.

Method: We conducted a single-blinded, randomized controlled trial to test the efficacy of a CRC DA designed for older adults. Eligible patients were asked to arrive early for an upcoming clinic visit to receive the DA or control materials. Before seeing their provider, participants completed written questions including: likelihood of discussing screening, physician's screening preference, preferences for decision making process, life expectancy, likelihood that screening will prolong life, and decisional balance between risks and benefits.

Result: 424 participants ages 70-84 were recruited from 14 primary care practices within the Duke Primary Care Research Consortium. The intervention group was more likely than the control to say they were very/somewhat likely to talk with their doctor about CRC screening (60% vs 44%; p=.001), versus somewhat/very unlikely. In both groups, >78% of participants preferred to share the decision making process with their doctor in some capacity. A greater proportion of patients in the intervention group than the control thought they would live >10 years (47% vs. 39%; p=.12) versus less time, although it was not statistically significant. Patients who received the DA were less likely than the control to believe screening would prolong their lives "a lot" (12% vs. 23%; p=.005), compared to any shorter duration of time. However, >40% of all participants were "unsure" whether screening would prolong their lives. The intervention group was less likely than the control to say the "Benefits greatly outweigh the risks" of screening (30% vs. 46%; p=.001), compared to any other category. There was no significant difference between the groups' perceptions of their providers' screening preference.

Conclusion: Exposure to the DA appears to increase patients' intent to discuss screening with providers. The DA also appeared to affect risk/benefit assessment, perhaps due to increased knowledge about screening. It is interesting that a plurality of respondents in both groups remain unsure about whether screening would prolong their lives. Although not statistically significant, differences in perceived life expectancy may be clinically important, as the data suggest a trend to report a higher life expectancy among intervention patients.

1A-2. DETERMINANTS OF PATIENT INTENT AND PREFERENCE REGARDING COLORECTAL CANCER SCREENING: BASELINE FINDINGS FROM THE DATES (DECISION AID TO TECHNOLOGICALLY ENHANCE SHARED DECISION MAKING) STUDY

1:15 PM - 1:30 PM: Mon. Oct 19, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: PREFERENCES AND DECISION MAKING IN COLORECTAL CANCER SCREENING

Masahito Jimbo, MD, PhD, MPH[1], Ananda Sen, PhD[1], Melissa Plegue, MA[1], Karen Kelly-Blake, PhD[2], Mary Rapai, MA[1], Minling Zhang, MS[1], Sarah T. Hawley, PhD, MPH[3], Yuhong Zhang, BA[1] and Mack Ruffin IV, MD, MPH[1], (1)University of Michigan, Ann Arbor, MI, (2)Michigan State University, East Lansing, MI, (3)University of Michigan, Ann Arbor VA Health System, Ann Arbor, MI

Purpose: At least two options are available for colorectal cancer (CRC) screening among average risk adults aged 50 years and older: stool blood test and colonoscopy. We sought to determine the predictors of patient intent to get screened for CRC and patient preference for a particular CRC screening test.

Method: We performed confirmatory factor analysis, regression analysis, mediation analysis, and Classification and Regression Trees analysis on baseline patient survey data from a 2-armed randomized controlled study (R01CA152413) set in 12 community and 3 university-based primary care practices in Metro Detroit. Patients were men and women aged 50 to 75 years not current on CRC screening. Main outcomes were the patient intent to get screened for CRC and patient preference for a particular CRC screening test. Perceived risk and self-efficacy were intermediate outcomes.

Result: Data were obtained from 570 participants. Mean age was 57.7 years, 56.1% were women, and 55.1% were white and 36.6% black. Women had 32% lower odds than men to perceive CRC to be high/moderate risk [OR 0.68 (0.47-0.97), p=0.03], and 41% lower odds than men of having high self-efficacy [OR 0.59 (0.42-0.85), p=0.006]. Whites had 63% lower odds than blacks of having high self-efficacy [OR 0.37 (0.25-0.57), p<0.001], and 47% lower odds to have intent to get screened for CRC [OR 0.53 (0.34-0.84), p=0.007]. Older age, higher knowledge, lower level of test worries, and medium/high vs. low self-efficacy increased the odds of being intent on getting screened for CRC. Self-efficacy, but not perceived risk, significantly mediated the association between race, attitude, and test worries and patient intent to get screened for CRC. Neither self-efficacy nor perceived risk significantly mediated for CRC screening test preference. However, participants (n=30) who wanted neither stool blood test nor colonoscopy had about 20% lower odds of being intent on getting screened for CRC than the ones with specific [OR 0.82 (0.72-0.94), p=0.004] or non-specific [OR 0.77 (0.67-0.89), p<0.001] test preference.

Conclusion: Age, gender, and race were significantly associated with perceived risk, self-efficacy, and intent. Self- efficacy significantly mediated the association between race, attitude, and test worries and patient intent to get screened. Having neither preference for stool blood test nor colonoscopy negatively correlated with intent.

1A-3. RANDOMIZED TRIAL OF A DECISION AID TO PROMOTE APPROPRIATE COLORECTAL CANCER SCREENING AMONG OLDER ADULTS

1:30 PM - 1:45 PM: Mon. Oct 19, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: PREFERENCES AND DECISION MAKING IN COLORECTAL CANCER SCREENING

***Carmen Lewis, MD, MPH[1]**, Christine E. Kistler, MD, MASc[2], Carolyn Morris, MPH[3], Alexandra Dalton, PhD[4], Maihan Vu, DrPH, MPH[5], Noel T. Brewer, PhD[6], Stacey Sheridan, MD, MPH[7],*

Rowena Dolor, MD, MSH[8], Renee Ferrari, PhD[3], Russell Harris, MD, MPH[9], Colleen Barclay[10] and Carol E. Golin, MD[11], (1)Dividsion of General Internal Medicine, Department of Medicine, University of Colorado Anschutz School of Medicine, Aurora, CO, (2)Department of Family Medicine, The University of North Carolina at Chapel Hill, Chapel Hill, NC, (3)The University of North Carolina at Chapel Hill, Chapel Hill, NC, (4)University of Colorado Anschutz School of Medicine, Raleigh, NC, (5)Center for Health Promotion and Disease Prevention. The University of North Carolina at Chapel Hill, Chapel Hill, NC, (6)Department of Health Behavior, Gillings School of Global Public Health, The University of North Carolina at Chapel Hill, Chapel Hill, NC, (7)Division of General Medicine and Clinical Epidemiology, School of Medicine, The University of North Carolina at Chapel Hill, Chapel Hill, NC, (8)Division of General Internal Medicine, Duke University Medical Center, Durham, NC, (9)Cecil G. Sheps Center for Health Services Research,University of North Carolina at Chapel Hill, Chapel Hill, NC, (10)Sheps Center for Health Services Research, University of North Carolina Chapel Hill, Chapel Hill, NC, (11)Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill, Chapel Hill, NC

Purpose: To evaluate a novel approach for the use of patient decision aids (PDA), specifically to promote individualized decision making for older adults for colorectal cancer (CRC) screening.

Method: A single-blinded, randomized controlled trial testing the effectiveness of a written decision support intervention targeted for older adults making a decision about whether to undergo CRC screening compared to an attention control about driving safety. Participants were recruited from 14 primary care practices affiliated with the Duke Primary Care Research Consortium. Eligible patients were ages 70 to 84, had upcoming appointments within 4 to 6 weeks, and were eligible for CRC screening. The primary outcome was appropriate CRC screening behavior six months after the index visit. Appropriate screening behavior was defined as screening test completion for participants in the good health state, discussion about CRC screening in the intermediate health state (preference sensitive), and no screening test completion in the poor health state. Health state classifications were derived from age and Charlson Comorbidity Index and were based on the life expectancy needed to expect a net benefit from CRC screening.

Result: Of 424 patients randomized, 412 (97%) had complete data for analysis. The proportion of participants who exhibited appropriate CRC screening behavior at six months was higher in the decision support group compared to control (55% vs. 45%; p=0.03). Consistent with our hypothesis, a higher proportion of participants in the good health state were screened in the intervention group compared to control group (27% vs 13%; p=0.01) and in the intermediate health state, a higher proportion of participants in the intervention group reported discussions compared to controls. (53% vs 38%; p=0.02). We did not find a difference in the proportion who did not undergo screening among participants the poor health state (92% PDA vs 95% control; p=0.56).

Conclusion: Overall, the decision aid promoted appropriate CRC screening, primarily in participants with good or intermediate health status. Low rates of screening in participants with poor health status limited our ability to test the effectiveness of the decision aid in decreasing overuse in this subgroup. Targeted patient decision aids may be an effective method to promote appropriate care in an older population along the continuum of health.

1A-4. INFLUENCES ON PRIMARY CARE PROVIDERS' RECOMMENDATIONS FOR HYPOTHETICAL PROSTATE AND COLON CANCER SCREENING IN OLDER ADULTS: A WITHIN-SUBJECTS EXPERIMENT

1:45 PM - 2:00 PM: Mon. Oct 19, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: PREFERENCES AND DECISION MAKING IN COLORECTAL CANCER SCREENING

***Christine E. Kistler, MD, MASc**, Department of Family Medicine, The University of North Carolina at Chapel Hill, Chapel Hill, NC, Maihan Vu, DrPH, MPH, Center for Health Promotion and Disease Prevention. The University of North Carolina at Chapel Hill, Chapel Hill, NC, Anne Sutkowi-Hemstreet, Community Programs, Napa County Office of Education, Napa, CA, Ziya Gizlice, PhD, Biostatistical Support Unit, Center for Health Promotion and Disease Prevention, The University of North Carolina at Chapel Hill, Chapel Hill, NC, Carmen Lewis, MD, MPH, Dividsion of General Internal Medicine, Department of Medicine, University of Colorado Anschutz School of Medicine, Aurora, CO, Carol E. Golin, MD, Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill, Chapel Hill, NC, Russell Harris, MD, MPH, Cecil G. Sheps Center for Health Services Research,University of North Carolina at Chapel Hill, Chapel Hill, NC, Noel T. Brewer, PhD, Department of Health Behavior, Gillings School of Global Public Health, The University of North Carolina at Chapel Hill, Chapel Hill, NC, Emily Elstad, PhD, American Institutes for Research (AIR), Chapel Hill, NC, Rowena Dolor, MD, MSH, Division of General Internal Medicine, Duke University Medical Center, Durham, NC, Colleen Barclay, Sheps Center for Health Services Research, University of North Carolina Chapel Hill, Chapel Hill, NC and Stacey Sheridan, MD, MPH, Division of General Medicine and Clinical Epidemiology, School of Medicine, The University of North Carolina at Chapel Hill, Chapel Hill, NC*

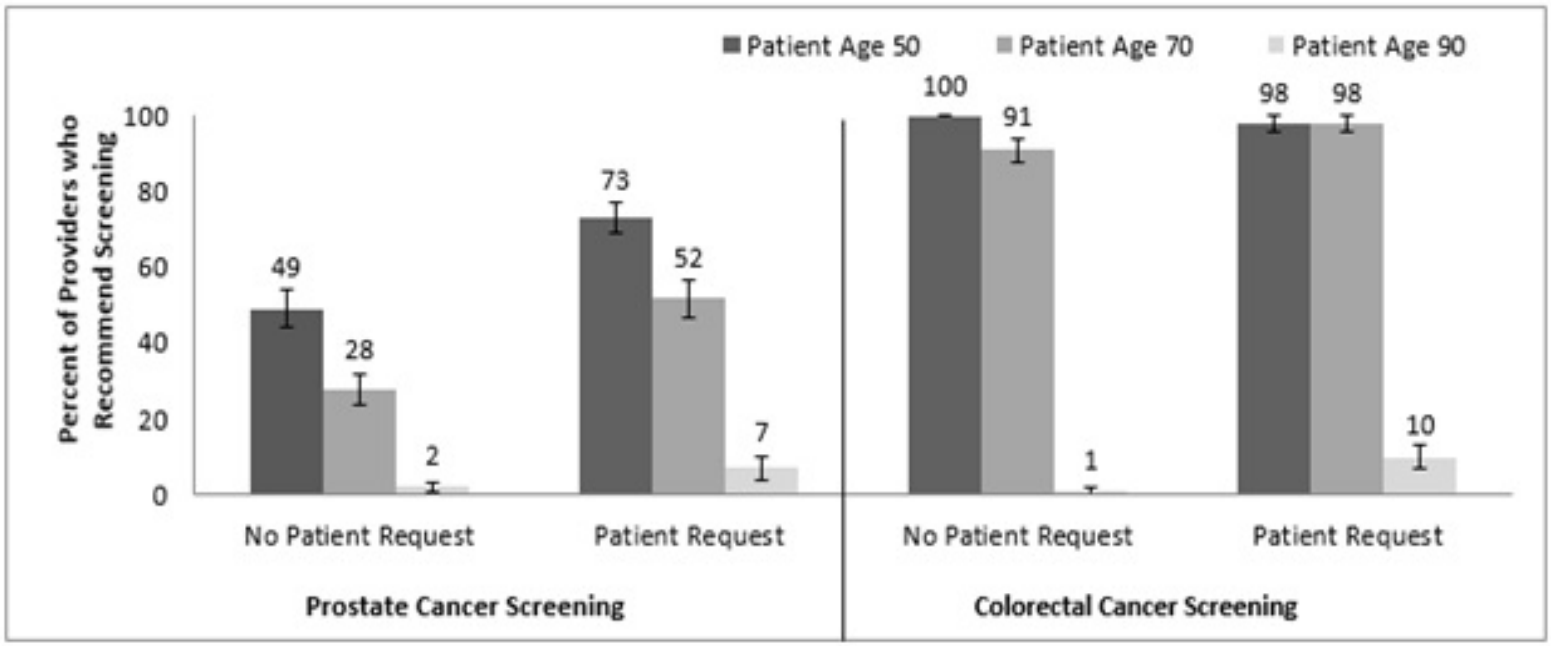
Title: Influences on Primary Care Providers' Recommendations for Hypothetical Prostate and Colon Cancer Screening in Older Adults: a Within-subjects Experiment

Abstract (word count max 375)- currently 283

Purpose: To identify factors that influence primary care providers' recommendations for cancer screening in older adults.

Methods: A cross-sectional survey of all primary care providers (n=123) in a Research Consortium of 24 primary care Family Medicine and General Internal Medicine clinics in central North Carolina. We designed a within-subjects experiment in which providers read two hypothetical patient vignettes that varied by type of cancer screening test (prostate and colorectal) and were asked whether they would recommend screening for patients that varied by age (age 50, 70, 90) and request for screening (request and no request). Outcomes were providers' recommendations for cancer screening.

Results: We found 51% (95% CI 48%, 54%) would recommend cancer screening, regardless of screening test type, patient age, or patient request. Providers reported they would recommend screening more often for colorectal cancer as compared to prostate cancer (p<0.001) and for younger patients as compared to older patients (p>0.001) Providers said they would recommend screening more often when the patient requested it as compared to when patients made no request for screening, for both vignettes (prostate and colorectal cancer screening) across all ages (p<0.001). The recommendation for screening of hypothetical younger patients was more pronounced for colorectal cancer screening as compared to prostate cancer screening (p<0.001 for the interaction of age on the relationship between screening test and recommendation). The interaction of age on the relationship between patient request and recommendation approached statistical significance (p=0.08).



Conclusions: Providers' reported recommendations for cancer screening depended on type of hypothetical patient being screened. Colorectal cancer screening, younger age, and patient request all increased providers' recommendations. Next steps may include the development of interventions to address screening for prostate cancer, older adults, or patient request.

1A-5. IMPACT OF PERSONALIZED AND COMPARATIVE RISK INFORMATION ON DECISIONS ABOUT COLORECTAL CANCER SCREENING

2:00 PM - 2:15 PM: Mon. Oct 19, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: PREFERENCES AND DECISION MAKING IN COLORECTAL CANCER SCREENING

Peter H. Schwartz, MD, PhD[1], *Karen K. Schmidt, MSN, RN, CCRP*[1], *Paul F. Muriello, BA*[1], *Anthony D. Cox, PhD*[2] *and Dena S. Cox, PhD*[2], *(1)Indiana University School of Medicine, Indianapolis, IN, (2)Kelley School of Business, Indiana University, Indianapolis, Indianapolis, IN*

Purpose: Personalized medicine could allow individuals to make decisions about prevention based on their specific levels of health risk, but little is known about how personalized data about risk and benefit informs patient decisions. We conducted an online study of responses to

a hypothetical scenario in which individuals were assigned differing information about their personal risk of colorectal cancer (CRC), with or without comparative data on the average person's CRC risk.

Methods: 622 participants aged 50-75 were recruited from a national on-line survey panel. All participants viewed information about CRC and two approved tests. Participants were then randomized to view additional information following a 2x3 between-subjects experimental design (Table 1):

(a) one of three personalized-risk conditions: no personalized risk information, or a hypothetical scenario in which lifetime risk of CRC mortality was either 1.5% (low personalized risk) or 6% (high personalized risk).

(b) one of two average-risk conditions: viewing vs. not viewing average lifetime risk of CRC mortality (3%). Viewing average risk allowed individuals to determine whether their personalized risk was above or below average (comparative risk).

The no-risk-information condition served as the control group. Participants then completed a questionnaire assessing perceived CRC risk, screening intention and test choice.

Results: There was a significant interactive effect of average and personalized risk information on perceived likelihood of dying of CRC ($F_{2,622} = 4.40$, $p=.013$, $eta^2=.014$).

Participants who viewed only average-person risk information, and participants assigned to the low personalized risk condition, both had significantly lower perceived CRC mortality risk than participants in the no-risk-information control group. However, participants assigned to the high personalized-risk condition did not have significantly different perceived CRC risk than the control group. (Table 1.)

There was no significant difference between experimental groups in intent to be screened or in test choice. Numeracy did not moderate the effects of the experimental conditions on perceived risk, intent, or test choice.

Conclusions: Low personalized risk information decreased participants' perceived CRC mortality risk; however, high personalized risk information had no impact on individuals' perceived CRC risk. Neither personalized nor average risk information influenced participants' screening intentions. These findings suggest that personalized and comparative risk data may only influence behavior if that data is supplemented with description of potential implications for screening.

Table 1: Perceived Risk of Dying of CRC (1-7 scale)		Average risk data (3%)	
		Not Provided	Provided
Personalized risk data	Not Provided	Mean = 3.25	Mean = 2.43*
	Low (1.5%)	Mean = 2.55**	Mean = 2.63***
	High (6%)	Mean = 3.06	Mean = 2.96

*significantly differs from perceived risk in control(p = .002)
** significantly differs from perceived risk in control (p = .009)
*** significantly differs from perceived risk in control (p = .027)
(p-values calculated with Dunnett's test)

1A-6. PREFERENCES FOR COLORECTAL SCREENING TESTS AMONG A PREVIOUSLY UNSCREENED POPULATION

2:15 PM - 2:30 PM: Mon. Oct 19, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: PREFERENCES AND DECISION MAKING IN COLORECTAL CANCER SCREENING

Doria Cole[1]*, Erik Mai*[1]*, Julia Gaebler, PhD*[1]*, Donna Hochberg*[1]*, Michael C. Dugan, MD*[2]*, Audrey H. Calderwood, MD, MS*[3] *and Paul C. Schroy III, MD, MPH*[3]*, (1)Health Advances, LLC, Weston, MA, (2)Exact Sciences Corporation, Madison, WI, (3)Boston University School of Medicine, Boston, MA*

Purpose: The current USPSTF CRC guidelines recommend screening for individuals aged 50-75 who are at average risk of CRC, and yet CRC screening rates in the US remain relatively low relative to other cancer screening rates in the US. In light of the recent approval of a new stool-based colorectal cancer (CRC) screening test, this study sought to understand patient preferences for CRC screening options in a previously unscreened population.

Method: A web-based survey was developed for persons aged 50-75 who were at average risk of CRC, but screening naive. Respondents were asked a series of questions to gauge their perspectives on CRC screening and knowledge of five existing CRC screening tests (colonoscopy, flexible sigmoidoscopy (FS), fecal occult blood testing (FOBT), fecal immunochemical testing (FIT), and stool DNA testing). Respondents were then introduced to a series of CRC test profiles, each of which contained a description, as well as information on dietary preparation, time requirements, physical discomfort, complication risk, frequency of testing, accuracy, and follow up of abnormal results. After reviewing the test profiles, respondents were asked another series of questions to elicit their preferred screening option and the CRC test attributes influencing their choice.

Result: To date, 415 eligible persons have completed the survey. Among the 83% of respondents indicating their likelihood of undergoing screening in the next year was a 3 or higher on a 5-point Likert-type scale (1=definitely not, 3=maybe, 5=definitely) after being introduced to the test profiles, 40% would choose to receive colonoscopy and 37% would choose the new stool DNA test. Few respondents indicated they would choose FOBT (10%), FOBT (9%), or FS (4%). Among persons choosing colonoscopy, accuracy of the test at detecting cancer and polyps and frequency of testing were cited as the main drivers of preference (64%, 63%, and 41% of respondents, respectively). Among respondents choosing stool DNA, the low level of discomfort associated with the test, amount of time required to do the test, and test process were cited as the primary drivers of preference (45%, 41%, and 25% of respondents, respectively).

Conclusion: Educating patients about the full menu of recommended screening options, including stool DNA testing, and eliciting patient preferences that reflect the importance they place on individual test features can potentially increase participation among the unscreened population.

1B. ORAL ABSTRACTS: STATED PREFERENCES AND DISCRETE-CHOICE EXPERIMENTS

« Previous Session | Next Session »

1:00 PM - 2:30 PM: Mon. Oct 19, 2015
Grand Ballroom B

Session Summary:

1:00 PM - 1:15 PM

1B-1. GOOD NEWS AND BAD NEWS: THE PERCEIVED VALUE OF WHOLE GENOME SEQUENCING INFORMATION

1:15 PM - 1:30 PM

1B-2. A STATED CHOICE EXPERIMENT TO INVESTIGATE PREFERENCES FOR INFORMATION PROVISION IN NEWBORN BLOODSPOT SCREENING PROGRAMMES

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1B-3. THE DEVELOPMENT AND TESTING OF A DISCRETE CHOICE EXPERIMENT QUESTIONNAIRE TO MEASURE INDIVIDUALS' PREFERENCES FOR HEALTH OUTCOMES AND MEDICAL EXPENDITURES

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1B-4. THE EFFECT OF FRAMING OF DEATH ON HEALTH STATE VALUES OBTAINED FROM DISCRETE CHOICE EXPERIMENTS

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1B-5. INVESTIGATING THE FRAMING-EFFECTS OF RISK ATTRIBUTES IN A DISCRETE CHOICE EXPERIMENT FOR A NATIONAL BREAST SCREENING PROGRAMME

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1B-6. VARIATION IN CAREGIVER PREFERENCES FOR PEDIATRIC ATTENTION-DEFICIT/HYPERACTIVITY DISORDER TREATMENTS: A COMPARISON OF STRATIFICATION AND LATENT CLASS ANALYSIS

Abstracts:

1B-1. GOOD NEWS AND BAD NEWS: THE PERCEIVED VALUE OF WHOLE GENOME SEQUENCING INFORMATION

1:00 PM - 1:15 PM: Mon. Oct 19, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: STATED PREFERENCES AND DISCRETE-CHOICE EXPERIMENTS

***Reed Johnson, PhD**, Duke Clinical Research Institute, Durham, NC, Deborah Marshall, PhD, University of Calgary, Calgary, AB, Canada, Juan Marcos Gonzalez, PhD, Research Triangle Park, NC and Kathryn Phillips, PhD, University of California, San Francisco, San Francisco, CA*

Purpose: Whole genome sequencing (WGS) can help inform treatment decisions or predict disease risks. American College of Medical Genetics and Genomics guidelines recommend that WGS reports given to individuals include only mutations that currently are clinically actionable. However, patients could perceive that such information has non-clinical value or future clinical value as new treatment options emerge. The aim of this study was to quantify such values to help inform reporting recommendations.

Method: This study estimated the value of WGS information using double-bounded contingent-valuation methods. An online survey (n=406 adults from US general population) was used to evaluate willingness to pay (WTP) for a basic WGS report consistent with current guidelines versus a report containing non-actionable findings. Respondents first indicated whether they would purchase an augmented report for a randomly assigned dollar amount. A follow-up question increased or decreased the starting value conditional on the initial response. The resulting no/no, no/yes, yes/no, and yes/yes responses define double-bounded segments for interval-regression analysis.

Result: Interest in non-actionable, fatal diseases: 34% (n=139) would want to know this information, 38% (n=154) would not want to know, and 28% (n=117) were not sure. 55% of respondents (n=224) were not willing to pay anything for such non-actionable genetic information. The Table summarizes mean incremental WTP by respondent characteristics.

Mean WTP ($US) for information on non-actionable mutations (95% CI)

Would want to know if they had gene variants that lead to a fatal disease	$226 (157, 295)***
Underwent prior genetic testing	$198 (74, 321) ***
Would want to know if they had gene variants that lead to memory loss	$155 (90, 220) ***
Prefers to decide themselves which results to include in report	$94 (20, 168) **
No health insurance	$86 (-38, 211)
Education (bachelor's degree or higher)	$20 (-43, 84)
Race/ethnicity (white, non-Hispanic)	-$65 (-125, -6) **

***p<0.05; ***p<0.001*

Conclusion: A majority of respondents were unwilling to pay for non-actionable genetic information. Among the largest mean WTP values were those for mutations linked to a fatal condition or memory loss. Heterogeneity in perceived values of non-actionable genetic information suggests that considerations should be given to both actionable and non-actionable genetic information depending on patient preferences. Our findings suggest that quantifying patient preferences could provide useful information to inform WGS recommendations and policies.

1B-2. A STATED CHOICE EXPERIMENT TO INVESTIGATE PREFERENCES FOR INFORMATION PROVISION IN NEWBORN BLOODSPOT SCREENING PROGRAMMES

1:15 PM - 1:30 PM: Mon. Oct 19, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: STATED PREFERENCES AND DISCRETE-CHOICE EXPERIMENTS

Stuart Wright, BSc, MSc[1], *Katherine Payne, BPharm, MSc, PhD*[1], *Nimarta Dharni, BSc, MSc, PhD*[2] *and Fiona Ulph, BSc, MSc, PhD*[2], *(1)Manchester Centre for Health Economics, The University of Manchester, Manchester, United Kingdom, (2)Manchester Centre for Health Psychology, The University of Manchester, Manchester, United Kingdom*

Purpose: To identify the preferred types, and mode of delivery, of information in the context of Newborn Bloodspot Screening Programmes (NBSP).

Method: Following piloting (n=50), an on-line hybrid (linked conjoint analysis (CA) and discrete choice experiment (DCE)) stated choice experiment, was completed by a public sample

(recruited via an internet panel provider). Two survey versions (A: NBSP for 9 conditions; B: NBSP for 20 conditions) comprised four tasks each: a validated measure of attitudes towards involvement in decision-making; six CA questions (11 information attributes); ten DCE questions (4 attributes: 3 process and the ability to make an informed decision); demographic questions. Literature reviews and 13 semi-structured interviews informed attribute/level selection. The design criteria were orthogonal foldover arrays (CA) and Bayesian D-efficiency using Ngene (DCE). The CA and DCE data were analysed separately and then linked using ordered logit and logit models. Marginal willingness-to-pay (WTP) values with 95% confidence intervals (CI) were calculated.

Result: The sample comprised 700 respondents (58% female; mode age band 25 to 34 years; 48% with university degree: 48% parents). A high proportion (37%) of respondents indicated wanting to make decisions about screening after the midwife provided information and a recommendation. Responses differed between versions A and B. In version A, respondents positively valued: all information attributes except the possibility of receiving false-positive results or how parents can prepare their baby; information early in pregnancy (WTP £14.32; CI: £8.25 to £21.43); receiving information in an individual discussion (WTP £10.57; CI: £5.84 to £16.44); the ability to make a decision about screening (WTP £13.51; CI: £10.72 to £16.52).

In version B, respondents positively valued: all information attributes (CA); information early in pregnancy (WTP £15.20; CI: £7.72 to £23.68); the ability to make a decision about screening (WTP £16.05; CI: £12.28 to £20.82). Respondents completing version B had no significant preferences for how information is given.

Conclusion: This hybrid CA-DCE was able to elicit preferences for information provision in the context of a NBSP. Respondents stated a need for different types of information to allow them to make an informed decision and had clear preferences about which information was more important and what format of information provision was preferred, which was in some instances affected by the number of conditions included in the NBSP.

1B-3. THE DEVELOPMENT AND TESTING OF A DISCRETE CHOICE EXPERIMENT QUESTIONNAIRE TO MEASURE INDIVIDUALS' PREFERENCES FOR HEALTH OUTCOMES AND MEDICAL EXPENDITURES

1:30 PM - 1:45 PM: Mon. Oct 19, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: STATED PREFERENCES AND DISCRETE-CHOICE EXPERIMENTS

***Nathalie Pelletier-Fleury, MD - PhD**, Centre de Recherche en Epidémiologie et Santé des Populations - Equipe 1 'Economie de la santé - Recherche sur les services de santé' (CESP, INSERM, UMR 1018), Villejuif, France, Nicolas Krucien, PhD, Health Economics Research Unit, Aberdeen, United Kingdom and Amiram Gafni, PhD, McMaster University, Hamilton, ON, Canada*

Purpose:

To measure individuals' preferences for potential baskets of health outcomes and medical expenditures, we designed a discrete choice experiment (DCE) questionnaire, pre-tested it for clarity of presentation, ease and feasibility of administration, and assessed its validity.

Method:

We recruited 31 participants by snowball sampling. The instrument included: (1) Information section in which we carefully described the context of the decision-making; (2) 10 choice tasks each including 2 generic alternatives (Situation A vs B) described by 2 attributes (total costs and health outcomes (in Healthy Years Equivalent (HYEs)); (3) Feedback type questions. In addition we added 2 tasks to test both dominance and stability properties. Participants' preferences were estimated using different specifications of conditional logit model, and answers to the feedback questions were descriptively analysed. Predictive performance of the best choice model was investigated using a bootstrapping procedure with 1,000 replicates.

Result:

Overall difficulty of the questionnaire: 19.4% found it "very difficult". The topic was considered interesting ("moderately to extremely") by 80.7%. 73.3% considered the amount of information conveyed acceptable ("moderately to extremely"), only 3.2% considered it difficult ("very to extremely") to understand. 87.1% and 74.2% declared taking into account HYEs and costs respectively, in all the vignettes when they made their choices. 3.2% of respondents failed stability test, 12.9% failed dominance and 3.2% failed both stability and dominance. The best specification of the choice model included an interaction effect between preferences for health outcomes and medical expenditures. The estimated preferences were in line with *a priori*assumption regarding both the sign and magnitude of the estimates. Respondents positively valued increase in health outcomes (β=0.306) and negatively valued increase in level of medical expenditures (β=-0.113). The interaction effect was significant and negative. The mean predictive performance of this model was high: 80.84% [95% CI: 80.72-80.96].

Conclusion:

The results of the pre-test for clarity of presentation, ease and feasibility of administration were positive; they also indicate that responses were valid. This questionnaire, once administered to a representative sample of the population, can generate a population based net loss or net benefit functions to be used, for example, in a framework recently published in Health Economics that describes how to assess and manage the risk of potential undesirable outcome in the context of resource allocation.

1B-4. THE EFFECT OF FRAMING OF DEATH ON HEALTH STATE VALUES OBTAINED FROM DISCRETE CHOICE EXPERIMENTS

1:45 PM - 2:00 PM: Mon. Oct 19, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: STATED PREFERENCES AND DISCRETE-CHOICE EXPERIMENTS

*Marcel Jonker, MSc[1], **Esther W. de Bekker-Grob, PhD**[2], Bas Donkers, PhD[1] and Elly Stolk, PhD[1], (1)Erasmus University Rotterdam, Rotterdam, Netherlands, (2)Erasmus MC, University Medical Center, Rotterdam, Netherlands*

Purpose: DCE with duration as an attribute is considered a promising strategy for health state valuations. However, the implicit procedure for anchoring obtained values onto the full health-death scale conflicts with explicit decisions of health states such as obtained in Time Trade Off

or DCE approaches with death included as an alternative-specific choice option. We aim to test the hypothesis that those discrepancies occur because of different framings of 'death' in those tasks: implicit or explicit, immediate or postponed.

Method: An experiment with 4 distinctly different framings was conducted among a Dutch nationally representative sample of 1200 respondents. These framings comprise both DCE approaches (i.e. DCEduration and DCEdeath) with and without the addition of lead time (LT) to the EQ5D5Lhealth profiles. A Bayesian efficient design consisting of 8 sets of 30 (matched pairwise) choice tasks was used. The design was jointly optimized for all framings, thereby keeping all aspects of the DCE design except for the framing constant. Respondents were randomly assigned to one of the 4 study arms. Mixed logit models were used to analyze the DCE data, and the resulting estimates of the utility decrements associated with the severity levels within each dimension were compared between the 4 arms to establish the impact of the framing effects.

Results: The estimation results revealed substantial framing effects. While the DCE death approach classified just 8% of the health states as worse than death, much higher percentages were found in the other arms: 28% (duration), 57% (LT-death) and 81% (LT-duration). Relative distances between health states on the latent scale were not affected by adding LT, but anchoring on death altered the values. We observed less dispersion for mild to moderate states, and a more stretched distribution for severe states.

Conclusion: Estimation results were substantially altered by the framing of death as explicit or implicit, and immediate or postponed. These framing effects may help to explain the commonly observed discrepancies between values derived using Time Trade Off and the popular DCE duration approach. While one may argue against the use of a death alternative in DCE tasks for health state valuation on basis of theoretical and statistical considerations, it would seem to be an essential component for those who aim to reconcile DCE and TTO results.

1B-5. INVESTIGATING THE FRAMING-EFFECTS OF RISK ATTRIBUTES IN A DISCRETE CHOICE EXPERIMENT FOR A NATIONAL BREAST SCREENING PROGRAMME

2:00 PM - 2:15 PM: Mon. Oct 19, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: STATED PREFERENCES AND DISCRETE-CHOICE EXPERIMENTS

Caroline Vass, BSc, MSc[1]*, Dan Rigby, BSc, MSc, PhD*[2]*, Stephen Campbell, BA, MA, PhD*[3] *and Katherine Payne, BPharm, MSc, PhD*[1]*, (1)Manchester Centre for Health Economics, The University of Manchester, Manchester, United Kingdom, (2)Department of Economics, The University of Manchester, Manchester, United Kingdom, (3)Centre for Primary Care, The University of Manchester, Manchester, United Kingdom*

Purpose: To understand if, and how, the framing of risk in a discrete choice experiment (DCE) affects preferences for a national breast screening programme (NBSP).

Method: An online DCE was designed and piloted (n=124) to elicit the preferences of female members of the public (recruited via an internet panel provider) for a NBSP described by two risk attributes (probability of detecting a cancer and risk of unnecessary follow-up per 100 women screened) and a cost attribute (out-of-pocket expense). Two survey versions presented

the risk attributes as: (A) percentage only or (B) percentage and an icon array. The unlabelled DCE was blocked into two surveys, each containing 11 sets of choices between two screening programmes and an opt-out. The design, generated using Ngene, included an internal validity test through the inclusion of a dominant choice set. The DCE data were analysed using heteroskedastic conditional logit (HCLM) and scale-adjusted latent class (SALC) models.

Result: 1007 women (version A =501; B=506) completed the DCE. The results of the HCLM suggested that all attribute coefficients, but no two-way interactions, were significant and had the expected signs. Interactions of attributes with risk framing version were not significant and the risk framing version had no significant impact on the scale parameter. SALC analysis revealed heterogeneity in preferences, with five latent classes and three scale classes providing the best fit. The class probabilities indicate 84% of respondents were members of three large classes where all scale-adjusted attribute coefficients were significant: 31% in class 1 (probability of detecting a cancer most important), 27% in class 2 (cost of screening most important), 25% in class 3 (risk of unnecessary follow-up most important). The remaining 17% were split between classes 4 (9%) and 5 (8%). Class 1 members tended to be aware and concerned about their risk of breast cancer. Class 2 members were less likely to be older (over 50). Class 3 individuals tended to be younger (25-34) and have experience of cancer in their family. Risk framing version was not a predictor of class membership.

Conclusion: This study found the framing of risk attributes did not impact respondents' choices in a DCE. However, other sources of heterogeneity were found in women's preferences for the balance between the risks and benefits of a NBSP.

1B-6. VARIATION IN CAREGIVER PREFERENCES FOR PEDIATRIC ATTENTION-DEFICIT/HYPERACTIVITY DISORDER TREATMENTS: A COMPARISON OF STRATIFICATION AND LATENT CLASS ANALYSIS

2:15 PM - 2:30 PM: Mon. Oct 19, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: STATED PREFERENCES AND DISCRETE-CHOICE EXPERIMENTS

Susan dosReis, PhD[1]*, Xinyi Ng, BSc (Pharm)*[2]*, Melissa Ross, MA*[1]*, Gloria M. Reeves, M.D.*[3]*, Emily Frosch, M.D.*[4] *and John F.P. Bridges, PhD*[5]*, (1)University of Maryland School of Pharmacy, Baltimore, MD, (2)University of Maryland Baltimore, Baltimore, MD, (3)University of Maryland School of Medicine, Baltimore, MD, (4)Johns Hopkins School of Medicine, Baltimore, MD, (5)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD*

Purpose: Preference heterogeneity, often analyzed by stratification on observable factors known to influence preferences, may be better assessed with latent class analysis. We compared theses approaches within a study of caregiver preferences for pediatric attention-deficit/hyperactivity disorder (ADHD) treatments.

Method: Eligible caregivers had a child aged 4-14 years being treated for ADHD, and were recruited from community clinics and support groups. Treatment preferences were elicited using Case 2 Best Worst Scaling (BWS), implemented as part of a larger survey that captured demographic and clinical information, including time since ADHD diagnosis. The 18 BWS profiles were identified from a main-effects orthogonal array spanning seven attributes (i.e.,

medication, therapy, school, caregiver training, provider, communication, and costs). The dependent variable was caregivers' choice of a best and a worst attribute for each profile. Preference heterogeneity was examined by: a) stratification of time since ADHD diagnosis (<4 years/4+ years), since illness experience can influence preferences; b) latent class analysis (LCA). In the stratified analysis, the best-worst score method was estimated separately for each strata. Latent Gold®Choice was used to conduct the LCA. The latent segment solution was determined using model fit statistics and theoretical interpretability. Bivariate statistics tested for statistically significant differences in demographic and treatment by diagnosis duration strata and across latent segments.

Result: Caregivers (n=184; 84% mothers; 43% college-educated) reported for children who were on average 9 years old and taking stimulants (75%). Regardless of time since the child's ADHD diagnosis, medication use seven days a week, therapy in a clinic, and an individualized education program were most preferred ($p<0.001$). Irrespective of ADHD duration, out-of-pocket costs and caregiver behavior training were most important ($p<0.001$), but the conditional importance of medication and school accommodations differed. Demographic and treatment variables were similar between the two groups. The LCA generated a three-segment solution: 1) cost-sensitive (53%); 2) multi-modal treatment (23%); 3) medication-oriented (24%). Medication administration, therapy location, school accommodation, caregiver behavior training, and out-of-pocket costs discriminated each class. ADHD duration did not differ across segments ($p>0.05$), and few other factors were significantly different.

Conclusion: Latent class analysis provides a nuanced understanding of preferences for medical treatment, and can be applied to other medical conditions. Future research will build upon this work to investigate the correlation with adherence.

1C. ORAL ABSTRACTS: COST EFFECTIVENESS OF CARDIOVASCULAR DISEASE INTERVENTIONS

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1:00 PM - 2:30 PM: Mon. Oct 19, 2015
Grand Ballroom C

Session Summary:

1:00 PM - 1:15 PM

1C-1. ALL TAKING SOME OR SOME TAKING NONE? ASSESSING WHETHER DIFFERENT APPROACHES FOR MODELING DRUG COMPLIANCE AFFECT THE OPTIMAL DECISION FOR STATIN TREATMENT INITIATION

1:15 PM - 1:30 PM

1C-2. COST-EFFECTIVENESS OF ANTIPLATELET DRUGS AFTER PERCUTANEOUS CORONARY INTERVENTION

1:30 PM - 1:45 PM

1C-3. COST-EFFECTIVENESS OF TELEHOMECARE FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN CANADA

1:45 PM - 2:00 PM

1C-4. PHARMACOGENOMICS IMPLEMENTATION: QUANTITATIVE COMPARISON OF EVIDENCE LEVELS FOR PHARMACOGENOMIC- VS. CLINICAL-BASED PERSONALIZED MEDICINE

2:00 PM - 2:15 PM

1C-5. STRATIFIED MEDICINE AND COST-EFFECTIVENESS: STRONG INFLUENCE OF CHOICES IN MODELLING SHORT-TERM, TRIAL-BASED, MORTALITY RISK REDUCTION AND POST-TRIAL LIFE EXPECTANCY

2:15 PM - 2:30 PM

1C-6. USING MODELING TO PROJECT OPTMIAL CAROTID STENOSIS SCREENING PRACTICES

Abstracts:

1C-1. ALL TAKING SOME OR SOME TAKING NONE? ASSESSING WHETHER DIFFERENT APPROACHES FOR MODELING DRUG COMPLIANCE AFFECT THE OPTIMAL DECISION FOR STATIN TREATMENT INITIATION

1:00 PM - 1:15 PM: Mon. Oct 19, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: COST EFFECTIVENESS OF CARDIOVASCULAR DISEASE INTERVENTIONS

Ankur Pandya, PhD[1], *Stephen Sy, MS*[1] *and Thomas Gaziano, MD, MSc*[2], *(1)Harvard T.H. Chan School of Public Health, Boston, MA, (2)Harvard Medical School, Boston, MA*

ALL TAKING SOME OR SOME TAKING NONE? ASSESSING WHETHER DIFFERENT APPROACHES FOR MODELING DRUG COMPLIANCE AFFECT THE OPTIMAL DECISION FOR STATIN TREATMENT INITIATION

Purpose: When medication compliance is reported as a single value without additional context, it is unclear how this parameter should be modeled in cost-effectiveness analyses. We sought to evaluate whether modeling compliance using two extreme assumptions affected the optimal decision for initiating statin treatment for primary atherosclerotic cardiovascular disease (ASCVD) prevention in the U.S.

Methods: We used a previously developed and validated ASCVD micro-simulation model for a representative adult population in the U.S. (ages 40-75 years). In the model, hypothetical individuals received statin treatment, experienced ASCVD events, and died from ASCVD-related or non-ASCVD-related causes based on ASCVD natural history and statin treatment parameters. All model parameters were estimated from published sources. Statin compliance rates after initiating treatment were 67%, 53%, and 50% in years 1, 2, and 3+, respectively. We used this model to identify and compare optimal ASCVD treatment thresholds under two statin

compliance assumptions: 1) proportional reductions in drug effectiveness/risks/costs for all users; and 2) some proportion of patients that are fully compliant with all others completely noncompliant. We evaluated various 10-year ASCVD risk thresholds between >2.0-15.0% (including >7.5%, the current policy recommendation in the U.S.) as well as a treat none strategy in our cost-effectiveness analyses. We used a societal perspective, 3% discount rate for costs and health outcomes, and $50,000-$150,000 per quality-adjusted life year (QALY) cost-effectiveness threshold range.

Results: For any given ASCVD treatment threshold strategy, lifetime discounted costs and QALYs were lower using compliance approach 1 (proportional reductions) compared to compliance approach 2 (individuals either fully compliant or noncompliant). The differences between compliance approaches were more pronounced for strategies that resulted in more individuals taking statins (i.e., for more lenient treatment thresholds). Optimal ASCVD treatment thresholds were >7.5%, >4.0%, and >3.0% using cost-effectiveness thresholds of $50,000/QALY, $100,000/QALY, and $150,000/QALY respectively for both compliance approaches (Table).

Conclusions: While the choice of modeling statin compliance affected total cost and QALY results, we found that the optimal decisions regarding statin treatment thresholds in the U.S. did not differ by compliance approach. The true effect of medication noncompliance likely lies somewhere between the two extreme approaches we evaluated.

Table. Lifetime per-person quality-adjusted life years (QALYs), costs ($), and incremental cost-effectiveness ratios ($/QALY) for alternative statin compliance modeling approaches

	1) Proportional reductions in drug effectiveness/risks/costs for all users			2) Some proportion of patients that are fully compliant with all others completely noncompliant		
ASCVD risk threshold	QALYs	Costs	ICER ($/QALY)	QALYs	Costs	ICER ($/QALY)
No treatment	17.276	$21,310	Reference	17.311	$21,543	Reference
≥15.0%	17.309	$22,109	$24,000/QALY	17.357	$22,660	$24,000/QALY
≥10.0%	17.320	$22,455	$30,000/QALY	17.374	$23,139	$29,000/QALY
≥7.5%	17.327	$22,696	$37,000/QALY	17.384	$23,492	$35,000/QALY
≥5.0%	17.333	$23,039	$57,000/QALY	17.392	$23,971	$55,000/QALY
≥4.0%	17.335	$23,200	$81,000/QALY	17.395	$24,206	$76,000/QALY
≥3.0%	17.336	$23,406	$140,000/QALY	17.398	$24,500	$120,000/QALY
≥2.0%	17.337	$23,656	$830,000/QALY	17.399	$24,854	$590,000/QALY

1C-2. COST-EFFECTIVENESS OF ANTIPLATELET DRUGS AFTER PERCUTANEOUS CORONARY INTERVENTION

1:15 PM - 1:30 PM: Mon. Oct 19, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: COST EFFECTIVENESS OF CARDIOVASCULAR DISEASE INTERVENTIONS

***Torbjørn Wisløff, MSc, PhD**, Oslo University Hospital & University of Oslo, Oslo, Norway and Gunhild Hagen, MPhil, B.A., Norwegian Knowledge Centre for the Health Services, Oslo,*

Norway

Purpose:

Hundreds of thousands of patients each year undergo percutaneous coronary intervention (PCI) after either a myocardial infarction (MI) or angina. Antiplatelet therapy with 12 months use of clopidogrel (Plavix) has long been considered standard treatment after a PCI in order to prevent MI and death. Recently two new drugs, prasugrel and ticagrelor, have been introduced, but there is uncertainty as to whether or not these new treatments offer value for money. Our objective was to compare the cost-effectiveness of different antiplatelet drugs for patients who have undergone PCI.

Method:

We modified a previously developed probabilistic Markov model to fit the current research question. The model applies a lifelong health care payer perspective after a PCI operation including risk of MI, major bleeding, new revascularization (PCI or coronary artery bypass graft) and death. All costs and health benefits were discounted at 4% as recommended in national guidelines.

Efficacy data of prasugrel and ticagrelor compared to clopidogrel were based on the two licensing phase III randomized controlled trials including 13 608 and 18 624 participants, respectively. Outcomes included significant reductions in risk of MI for both drugs, increased risk of bleeding and reduced risk of revascularization with prasugrel and reduced overall mortality with ticagrelor.

Costs of all three antiplatelet drugs are based on current prices from the Norwegian Medicines Agency; EUR 207 per year for Clopidogrel, EUR 509 per year for Prasugrel and EUR 817 per year for Ticagrelor.

Result:

60-year old patients undergoing PCI had a life expectancy of 17.52 (11.96 discounted) if treated with clopidogrel the first year. Treatment with prasugrel increased life expectancy to 18.21 (12.30 discounted), while ticagrelor resulted in 19.04 life years (12.69 discounted). Ticagrelor was cost-effective compared to clopidogrel at an ICER of EUR 8 000 per life year gained, while prasugrel was extendedly dominated by ticagrelor and clopidogrel. At an assumed cost-effectiveness threshold of EUR 70 000 per life year gained, 77%, 23% and 0.1% of simulations indicated that ticagrelor, prasugrel and clopidogrel were cost-effective, respectively.

Conclusion:

Ticagrelor is clearly cost-effective compared to prasugrel and clopidogrel for a Norwegian setting.

1C-3. COST-EFFECTIVENESS OF TELEHOMECARE FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN CANADA

1:30 PM - 1:45 PM: Mon. Oct 19, 2015
Grand Ballroom C

Part of Session: ORAL ABSTRACTS: COST EFFECTIVENESS OF CARDIOVASCULAR DISEASE INTERVENTIONS

***Austin Nam, MSc**, Institute of Health Policy, Management and Evaluation, University of Toronto, Toronto, ON, Canada, Aysegul Erman, Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada and Murray D Krahn, MD, MSc, FRCPC, Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada*

Purpose: Chronic obstructive pulmonary disease (COPD) is the leading cause of healthcare utilization and the fourth leading cause of death in Canada. A growing body of evidence suggests that telehomecare (THC) may be effective in reducing healthcare utilization associated with COPD-related exacerbations. In Canada, telehomecare has been gaining wider acceptance for management of chronic diseases. The objective of this study was to estimate the long-term cost-effectiveness of telehomecare compared to usual care for Canadian COPD patients.

Method: A state-transition model was used to examine the cost-effectiveness of telehomecare and usual care for a hypothetical cohort of mixed gender 50 year old Canadian COPD patients. The model included health states structured around disease stages according to GOLD (Global Initiative for Chronic Obstructive Lung Disease) classifications. Subgroup analyses were performed for age decile groups (30 to 80 years) and disease severity. A conservative scenario analysis, in which the treatment effect of telehomecare ceased upon patient departure from the telehomecare program (6 months), was conducted to consider the impact of duration of effect on the cost-effectiveness estimate. Model data were obtained from published literature. We used a payer perspective, a lifetime horizon and a 5% discount rate.

Result: Telehomecare was associated with higher costs ($38,320.01 vs. $36,862.72) and gains QALYs (13.02 vs. 13.00 QALYs) per person, translating to an ICER of $53,336.99/QALY gained compared to usual care. Subgroup analyses indicated that ICERs were lower for older patients (>60 years) or higher disease severity (> stage 2). In a scenario analysis in which the effect of telehomecare was not sustained beyond the duration of the program (6 months), the model estimated a higher ICER of $84,933.23/QALY gained.

Conclusion: Our analysis suggested that telehomecare is likely to be cost-effective for 50-year old mixed gender COPD patients at a WTP threshold of $100,000/QALY. Telehomecare may be more cost-effective in older, more severe patients. The duration of telehomecare effects over the cohort's lifetime may have substantial effects on the cost-effectiveness of the program.

1C-4. PHARMACOGENOMICS IMPLEMENTATION: QUANTITATIVE COMPARISON OF EVIDENCE LEVELS FOR PHARMACOGENOMIC- VS. CLINICAL-BASED PERSONALIZED MEDICINE

1:45 PM - 2:00 PM: Mon. Oct 19, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: COST EFFECTIVENESS OF CARDIOVASCULAR DISEASE INTERVENTIONS

***Devender Dhanda, MS, MBA**, Gregory Guzauskas, MSPH, PhD, Mark Bounthavong, PharmD, MPH and David Veenstra, PharmD, PhD, University of Washington, Seattle, WA*

Purpose: The evidence requirement for implementing pharmacogenomic-based testing in the clinic is not well defined, whereas clinical decisions based on drug-drug interactions(DDI) are routinely made generally based on limited empirical evidence. The objective of our study was to compare the evidence levels for pharmacogenomic-based warfarin dosing algorithm vs. warfarin-amiodarone DDI.

Methods: We developed two analogous decision analytic models and conducted value of information(VOI) analyses to quantitatively compare the evidence from two interventions in atrial fibrillation patients: pharmacogenomic-based algorithm for warfarin dosing and dose reduction of warfarin following amiodarone initiation. The key model differences were intervention specific parameters. We used the baseline clinical event rates from ARISTOTLE(main study) trial for pharmacogenomic-based intervention and rates from re-analysis of ARISTOTLE study(analysis of amiodarone use) for DDI-based intervention. Relative risk estimates were taken from a recent meta-analysis of RCTs for pharmacogenomic-model, whereas for DDI-model, from a large observational study. We used US payer perspective and a lifetime horizon. We estimated the probability of making a non-optimal decision, expected value of perfect information(EVPI) per patient, and EVPI at the population level.

Results: The relative risk of major hemorrhage for *CYPC29* gene variant (exposure for pharmacogenomics) vs wild type was 2.26(95%CI:1.36, 3.75), and the hazard ratio for major hemorrhage related hospitalization following concomitant warfarin and amiodarone(exposure for DDI) therapy was 2.45(95%CI:1.49, 4.02). The treatment effects(prevention of major hemorrhage) for the pharmacogenomic-and DDI-based interventions were 0.60 and 0.41, respectively. Initial simulation results indicate the QALYs improvements were 0.011 and 0.033 for pharmacogenomics- and DDI-based interventions, respectively. The probability of making a non-optimal decision was 15.6 and 10.1 percent for pharmacogenomics- and DDI-based intervention. The EVPI was $119 and $187 per patient and $179 million and $280 million at the AF population level for pharmacogenomics- and DDI-based interventions. The population EVPI for pharmacogenomic-based intervention decreased to $49 million with an assumed test cost of $0.

Conclusions: The evidence levels for warfarin pharmacogenomics and warfarin-amiodarone DDI appear to be similar. The value of perfect information is higher for DDI because of greater uncertainty in the stroke risk due to dose reduction of warfarin. Our findings suggest that policies for implementation of pharmacogenomics-based testing should be comparable to the DDI-based clinical decisions, which is not the case currently in both clinical and reimbursement guidelines.

1C-5. STRATIFIED MEDICINE AND COST-EFFECTIVENESS: STRONG INFLUENCE OF CHOICES IN MODELLING SHORT-TERM, TRIAL-BASED, MORTALITY RISK REDUCTION AND POST-TRIAL LIFE EXPECTANCY

2:00 PM - 2:15 PM: Mon. Oct 19, 2015
Grand Ballroom C

Part of Session: ORAL ABSTRACTS: COST EFFECTIVENESS OF CARDIOVASCULAR DISEASE INTERVENTIONS

David van Klaveren, MSc*[1], *John B. Wong, MD*[2], *David M. Kent, MD, MSc*[2] *and Ewout W. Steyerberg, PhD*[1], *(1)Erasmus MC, University Medical Center, Department of Public Health, Rotterdam, Netherlands, (2)Tufts Medical Center, Boston, MA

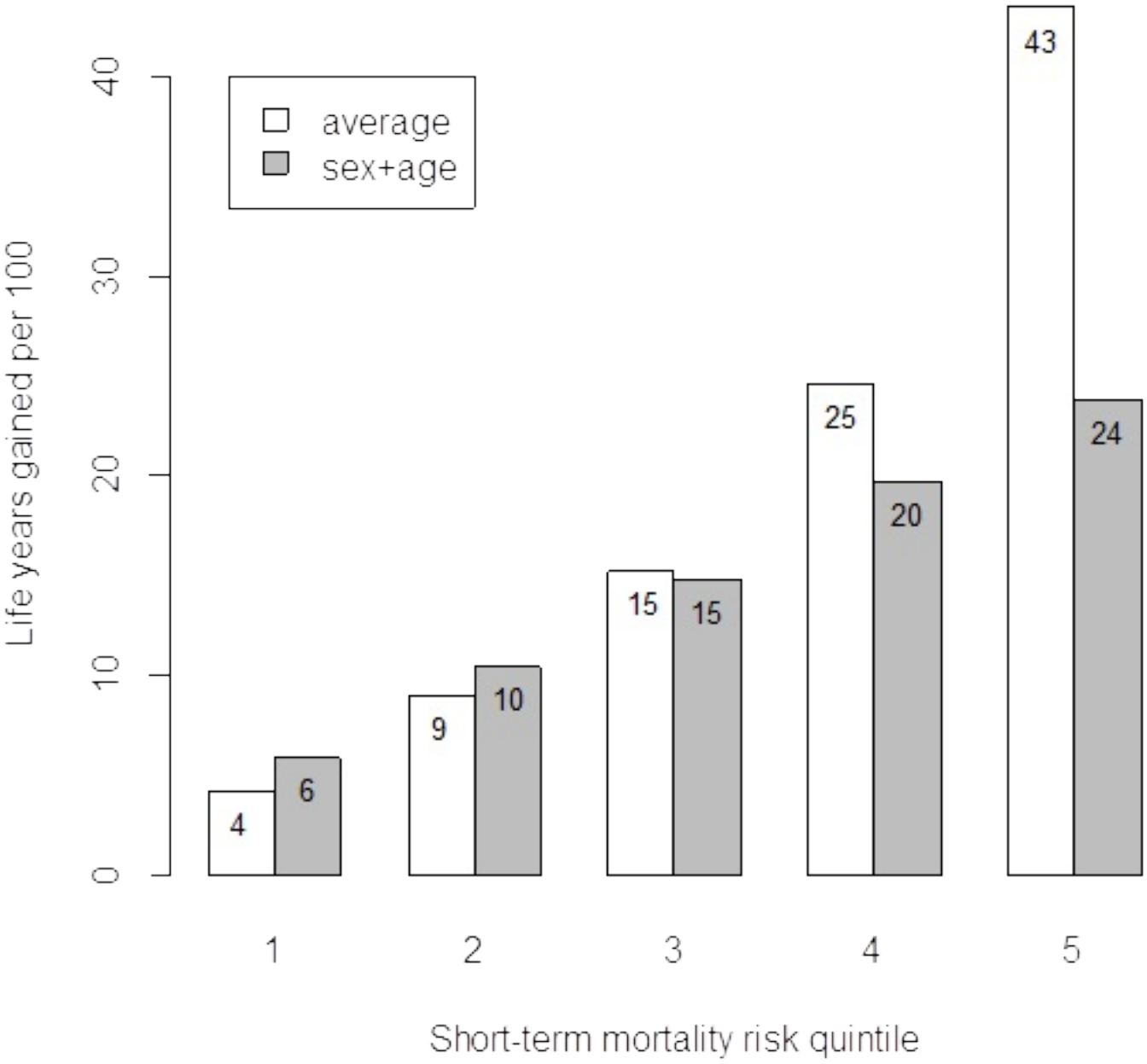
Purpose: Stratified medicine may improve the cost-effectiveness of medical interventions by targeting the right patients. Long-term survival benefit of a one-time treatment may be estimated by multiplying a trial-based short-term mortality risk reduction with the life expectancy after short-term survival. We aimed to study the influence of different modelling choices for the within-trial mortality risk reduction and post-trial life expectancy on estimates of cost-effectiveness for individual patients.

Method: We analyzed 30,510 patients with an acute myocardial infarction who were included in the GUSTO-I trial and treated with different forms of thrombolysis. Estimates of short-term mortality risk reduction were obtained from a logistic regression model with treatment (aggressive vs standard thrombolysis), sex and age as predictor variables. Life expectancy estimates were derived from sex and age-specific US life tables with an additional 2% yearly excess hazard to capture the increased mortality risk of cardiovascular patients. Aggressive thrombolysis was considered cost-effective when incremental costs per life year gained fell below $50,000.

Result: Based on sex and age-specific risk reductions but average population life expectancy, there was a substantial difference in expected life years gained between the lowest and highest quintile of short-term mortality risk (0.04 in first quintile vs 0.43 in fifth quintile; Figure 1). On individual patient level these assumptions imply aggressive thrombolysis to be cost-effective for men above the age of 48 and women above the age of 44 (83% of the population). When both mortality risk reduction and life expectancy were sex and age-specific, the difference in life years gained between the lowest and highest risk quintile was substantially attenuated (0.06 in first quintile vs 0.24 in fifth quintile; Figure 1). Individual cost-effectiveness of aggressive thrombolysis was extended to men above 43 and women above 37 of age (92% of the population).

Conclusion: This case-study illustrates how failure to model short-term risk reduction and life expectancy at a congruent level of detail may mislead our estimates of individualized cost-effectiveness and misallocate resources.

Figure 1 Life years gained from aggressive thrombolysis per 100 patients with an acute MI by sex and age specific short-term mortality risk quintile. Based on average population life expectancy (white bars) and on sex and age specific life expectancy (grey bars).



1C-6. USING MODELING TO PROJECT OPTMIAL CAROTID STENOSIS SCREENING PRACTICES

2:15 PM - 2:30 PM: Mon. Oct 19, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: COST EFFECTIVENESS OF CARDIOVASCULAR DISEASE INTERVENTIONS

***Ankur Pandya, PhD**, Harvard T.H. Chan School of Public Health, Boston, MA and Ajay Gupta, MD, Weill Cornell Medical College, New York, NY*

USING MODELING TO PROJECT OPTMIAL CAROTID STENOSIS SCREENING PRACTICES

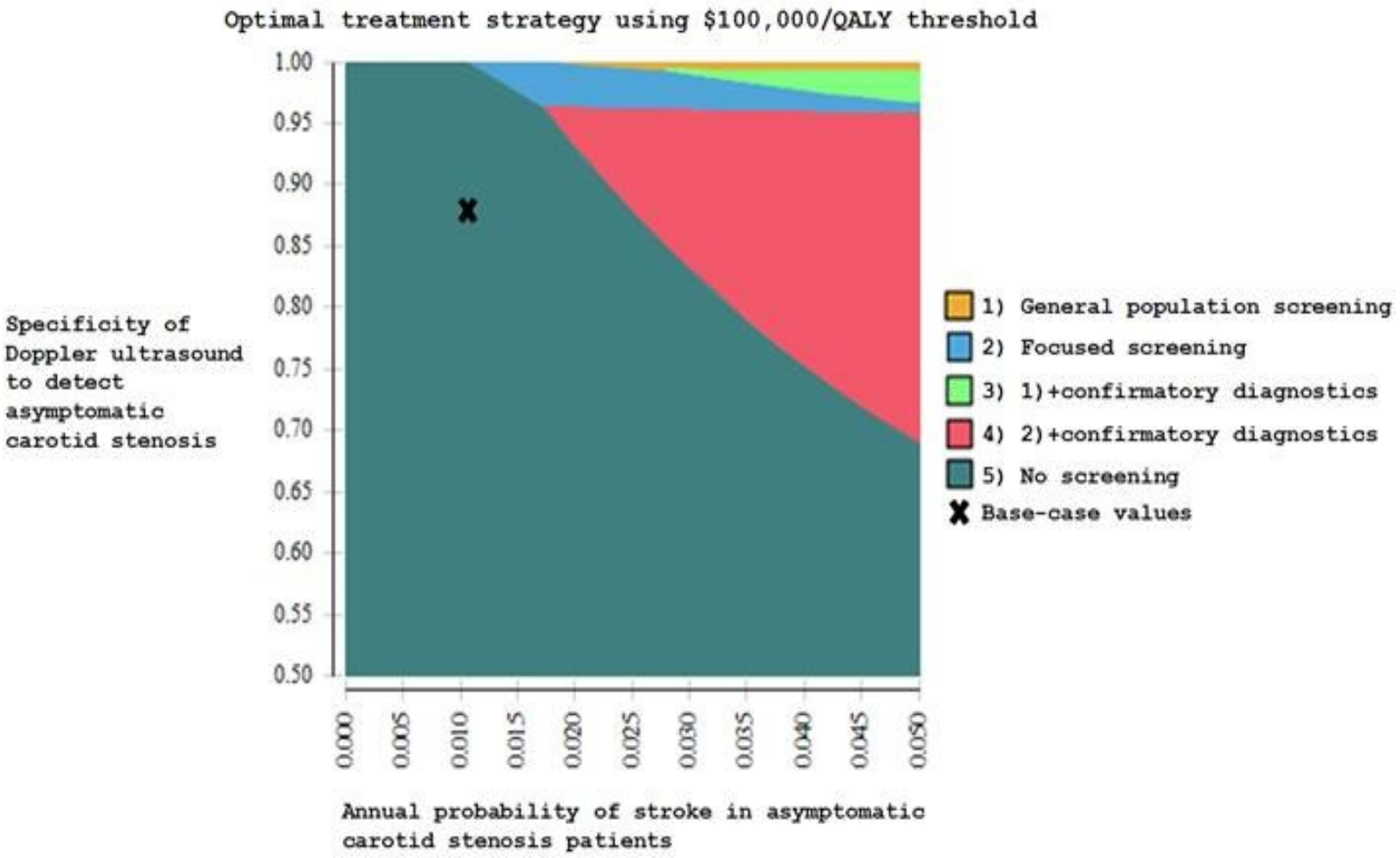
Purpose: Carotid artery stenosis (50-99% extracranial internal carotid artery blockage) is a risk factor for ischemic stroke. The United States Preventive Services Task Force (USPSTF) recently recommended against screening for asymptomatic carotid artery stenosis (ACAS) in the general population, although the USPSTF report also suggested that improved testing approaches could justify some screening. We sought to use simulation modeling to identify potentially efficient ACAS screening practices.

Methods: We developed a decision analytic model to compare the following screening strategies for ACAS in 65-year-olds in the U.S.: 1) general population screening with Duplex ultrasound (DUS); 2) focused DUS screening on individuals at highest risk for ACAS (based on clinical risk factors); 3) screening with confirmatory diagnostic test (ACAS diagnosis requires positive DUS and follow-up magnetic resonance imaging angiography results); 4) focused screening with confirmatory diagnostics (combination of strategies 2 and 3); and 5) no screening. Individuals' stroke risks were based their ACAS state. In the model, patients with positive ACAS test results undergo revascularization (carotid endarterectomy), which reduces the risk of stroke (relative risk of 0.54). ACAS prevalence (1.0%), test performance parameters (including sensitivity and specificity, ranging from 88-98%), and revascularization benefits, risks and costs, were estimated from published sources. Discounted lifetime costs and quality-adjusted life years (QALYs) were projected for each strategy.

Results: Strategy 5 (no screening) had lifetime discounted costs and QALYs of $7,758 and 11.695, respectively. All other strategies were dominated (i.e., had higher costs and lower or equal QALYs), with costs and QALYs ranging from $7,766 (strategy 4)-$9,464 (strategy 1) and 11.695 (strategies 2 and 4)-11.678 (strategy 1). Results were robust to changes in all parameters related to costs inputs, utility values, and revascularization risks and benefits in one-way sensitivity analyses. Results were sensitive to the probability of stroke in ACAS patients the specificity of the DUS test for ACAS (Figure).

Conclusions: The USPSTF recommendation is consistent with our cost-effectiveness results for general population or staged screening for ACAS, although identifying ACAS patients at higher risk for stroke (i.e., risk stratification among ACAS patients) coupled with improved DUS specificity could result in cost-effective ACAS screening strategies.

Figure



2D. ORAL ABSTRACTS: IMPROVING INFORMATION PRESENTATION AND PROCESSING

« Previous Session | Next Session »

4:30 PM - 6:00 PM: Mon. Oct 19, 2015
Grand Ballroom A

Session Summary:

4:30 PM - 4:45 PM

2D-1. QUANTITATIVE ANALYSIS OF CONSUMER UNDERSTANDING, PREFERENCES, AND RESPONSES TO DRUG SAFETY MESSAGES

4:45 PM - 5:00 PM

2D-2. BLOCK IT OUT! PRESENTING TEST RESULTS WITH CLEARLY DEFINED CATEGORIES INCREASES UNDERSTANDING OF THE RESULTS

5:00 PM - 5:15 PM

2D-3. CAN INTEGRATION OF MULTIMEDIA FEATURES INTO DECISION AIDS IMPROVE PATIENT DECISION-MAKING? A SYSTEMATIC REVIEW AND META-ANALYSIS

5:15 PM - 5:30 PM

2D-4. COMPARISON OF BRIEF VS LONG PATIENT DECISION AIDS ON DECISIONAL OUTCOMES IN RHEUMATOID ARTHRITIS

5:30 PM - 5:45 PM

2D-5. THE IMPACT OF THE "ILLUSION OF EXPLANATORY DEPTH" ON HEALTH-RELATED DECISION MAKING PREFERENCES

5:45 PM - 6:00 PM

2D-6. PRACTICE MAKES PERFECT: A PRACTICE TRAVEL DECISION INCREASES CONFIDENCE IN A SUBSEQUENT MEDICAL DECISION

Abstracts:

2D-1. QUANTITATIVE ANALYSIS OF CONSUMER UNDERSTANDING, PREFERENCES, AND RESPONSES TO DRUG SAFETY MESSAGES

4:30 PM - 4:45 PM: Mon. Oct 19, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: IMPROVING INFORMATION PRESENTATION AND PROCESSING

Lauren McCormack, PhD, MSPH[1], *Craig Lefebvre, PhD*[2], *Carla Bann, PhD*[2], *Olivia Taylor*[2] *and Paula Rausch, PhD, RN*[3], *(1)University of North Carolina at Chapel Hill, Chapel Hill, NC, (2)RTI, RTP, NC, (3)FDA, Silver Spring, MD*

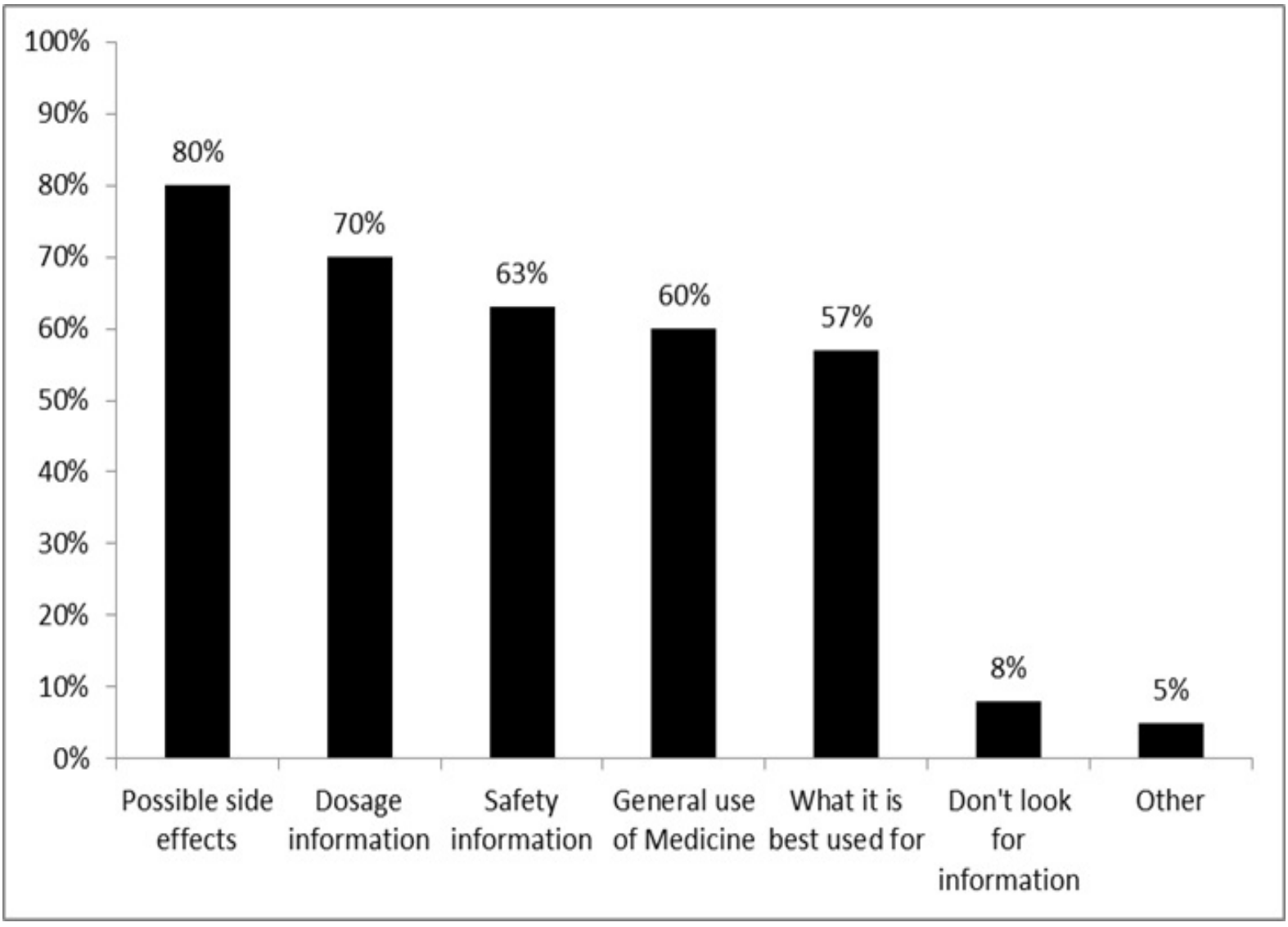
Purpose: To understand how adults in the United States differ with respect to their comprehension of, as well as their needs and preferences for, emerging information about prescription drug safety.

Methods: Using a large Internet panel, we conducted a randomized study (FDA grant #U18FD004608-03) to examine comprehension and other measures of effectiveness of drug safety messages that emerge in a post-market surveillance phase. A total of 1,244 panel members participated in the survey. Half of the sample was randomized to receive an existing FDA Drug Safety Communication (DSC) with the drug name fictionalized while the other half received the same safety information revised using best practices in health literacy, plain language and clear communication. *Strategies included simplifying the reading level of the DSC by using shorter sentences and words with fewer syllables; using format and design modifications such as additional subheadings and more white space; and adding numeric information geared toward lay audiences.* We examined how these modifications to the way drug risk information is communicated impacts comprehension, message clarity, and behavioral intentions.

Results: When seeking information about prescription drugs, 80% of respondents reported that they looked for information about possible side effects; 70% for dosage information; 63% for safety information (see Figure 1). Based on a five-item comprehension index, those who

received the revised version of the message had significantly greater comprehension of the information relative to the standard version (62% versus 52% correct). In a multivariate model, greater comprehension was associated with being White, having no health insurance, and greater trust in the information. Lower comprehension was associated with higher risk perceptions for heart or blood vessel disease. 82% of those who received the Revised version agreed that the message was clear compared with 73% who received the Standard version. *A consumer's health literacy level was a key factor in respondents' level of understanding of the information.* No significant differences between groups were found on any of the behavioral intentions measures including the likelihood of talking to their doctor.

Conclusions : Communicators should seek to reduce cognitive burden by presenting drug safety messages with a modest amount of information, key points that can be easily identified, an organized layout, and numerical information with adequate context.



N=1244

2D-2. BLOCK IT OUT! PRESENTING TEST RESULTS WITH CLEARLY DEFINED CATEGORIES INCREASES UNDERSTANDING OF THE RESULTS

4:45 PM - 5:00 PM: Mon. Oct 19, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: IMPROVING INFORMATION PRESENTATION AND PROCESSING

Aaron M. Scherer, PhD[1], *Holly O. Witteman, PhD*[2], *Angela Fagerlin, PhD*[3], *Predrag Klasnja, PhD*[1], *Beth A. Tarini, MS, MD*[1], *Nicole L. Exe, MPH*[1], *Knoll Larkin, MPH*[1] *and Brian J. Zikmund-Fisher, PhD*[1], *(1)University of Michigan, Ann Arbor, MI, (2)Université Laval, Quebec City, QC, Canada, (3)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

Purpose: With the advent of online patient portals to electronic health record systems, patients are increasingly receiving their laboratory test results directly. Other research from our lab highlights that presenting test results with a visual line graph reduces confusion about the results compared to the tables typically used on online portals. However, it is unclear what specific line graph features might improve understanding of test results.

Methods: Participants (N=4,833) completed an online survey experiment in which they were presented with a hypothetical scenario where they received hemoglobin A1c test results from a blood draw done between clinical visits for management of Type 2 diabetes. Test results were randomly presented in one of three line graph formats: (1) solid, single-color that only showed the standard range, (2) color gradient utilizing a stoplight color theme (green to red) to indicate risk categories or (3) solid-color blocks that indicated discrete risk categories utilizing the stoplight color theme. The A1c test value was also randomized, being within the standard range (5.4%) or one of three higher levels (6.4%, 7.1%, or 8.4%). Our primary outcome measures were 1) how good or bad the participant thought their test result was for their health, with “don’t know” as a response option and 2) graph preferences. Individual difference measures included subjective and objective numeracy, and graphical literacy.

Results: Controlling for numeracy and graphical literacy, both A1c test value and graph format had significant effects on risk perceptions (p’s<.05). More importantly, we observed a significant A1c test value by format interaction (p<.001): Participants were more sensitive to changes in A1c values when they viewed the stoplight-colored block design with discrete risk categories than when they saw either of the other line graph formats. Respondents also significantly preferred the stoplight-colored block design (p’s<.03). The A1c test value was not a significant predictor of “don’t know” responses (p=.88), but the stoplight-colored gradient design did result in higher rates of “don’t know” responses than either the solid single-color and stoplight-colored block designs (p=.01).

Conclusion: Presenting laboratory test results using a line graph that utilizes stoplight-colored blocks that clearly demarcate discrete risk categories decreases confusion, increases sensitivity to differences in test values, and is more preferred to line graphs that utilize a solid, single-color or a stoplight-colored gradient.

2D-3. CAN INTEGRATION OF MULTIMEDIA FEATURES INTO DECISION AIDS IMPROVE PATIENT DECISION-MAKING? A SYSTEMATIC REVIEW AND META-ANALYSIS

5:00 PM - 5:15 PM: Mon. Oct 19, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: IMPROVING INFORMATION PRESENTATION AND PROCESSING

***Ania Syrowatka**, Dörthe Krömker and Robyn Tamblyn, Montreal, QC, Canada*

Purpose: To identify multimedia features that have been integrated into computer-based decision aids (DAs), and to assess which features facilitate high-quality decision-making.

Method: Relevant studies were located by searching MEDLINE, Embase, CINAHL and CENTRAL databases. The review focused on studies that tested multimedia DAs in adults faced with preference-sensitive decisions, and reported quality of decision-making outcomes, such as knowledge or decisional conflict scores. A thematic analysis was conducted to identify multimedia features and sub-classes. A meta-analysis was conducted based on standardized mean differences (SMDs) for improvements in quality of decision-making scores. Subgroup analyses compared pooled SMDs for DAs that incorporated a specific feature to other computer-based DAs that did not incorporate the feature to assess whether specific multimedia features were associated with improvements in quality of decision-making.

Result: Of 3,541 unique publications, 58 articles met all inclusion criteria. The thematic analysis identified six multimedia features: content control, tailoring, implicit values clarification, explicit values clarification, feedback, and social support. Overall, multimedia DAs performed significantly better than simple aids or usual care (SMD=0.43; 95%CI=0.31-0.56; p<0.00001). DAs that provided content control performed better than DAs that did not incorporate the feature (SMD=0.48 vs. 0.32; p=0.21); however, the association was only significant when providing control over clarifying (SMD=0.60 vs. 0.28; p=0.01) or supplemental information (SMD=0.65 vs. 0.32; p=0.03). Although DAs that tailored information performed better than usual care or simple aids (SMD=0.32; 95%CI=0.17-0.48; p<0.0001), inclusion of this feature was associated with reduced quality of decision-making when compared to other computer-based DAs (SMD=0.32 vs. 0.61; p=0.03). DAs providing implicit values clarification performed worse overall (SMD=0.36 vs. 0.51; p=0.25); however, the association was significant only when incorporating role modeling (SMD=0.16 vs. 0.50; p=0.006). DAs incorporating explicit values clarification, feedback or social support performed similar to DAs not including the feature with SMDs of 0.42 (vs. 0.47; p=0.72), 0.36 (vs. 0.49; p=0.92), and 0.45 (vs. 0.42; p=0.80), respectively.

Conclusion: Multimedia features should be integrated into DAs to improve quality of decision-making; however, some features perform better than others. Content control, specifically control over clarifying or supplemental information, should be integrated into DAs. Alternative implicit values clarification, such as patient testimonials, should be integrated over role modeling. Further analyses are necessary to assess why DAs that incorporated tailoring performed significantly worse than other computer-based DAs.

2D-4. COMPARISON OF BRIEF VS LONG PATIENT DECISION AIDS ON DECISIONAL OUTCOMES IN RHEUMATOID ARTHRITIS

5:15 PM - 5:30 PM: Mon. Oct 19, 2015
Grand Ballroom A

Part of Session: ORAL ABSTRACTS: IMPROVING INFORMATION PRESENTATION AND PROCESSING

***Richard W. Martin, MD, MA**, Michigan State University, Grand Rapids, MI and Ryan Enck, BS, Michigan State University College of Human Medicine, Grand Rapids, MI*

Purpose: To compare the effects of brief and long International Patient Decision Aids Standard (IPDAS) compliant patient decision aids (PtDA) on decisional outcomes.

Method: Rheumatoid arthritis (RA) patients were presented, via mail survey, with a hypothetical decision scenario where they were asked to consider adding Enbrel^{TM} (etanercept) to their current regimen. To prepare for the decision, each patient was randomized to review either an etanercept specific long, 24 page PtDA (LONG DA) or a short, 2 page PtDA (SHORT DA). Each subject was evaluated for: their decision to intensify therapy, strength of preference of decision, pre and post intervention knowledge, and decisional conflict (DCS).

Result: Equal number of patients were allocated to each intervention. The response rate was 52% with 266 participants. With formative evaluation of the PtDA, there was no difference in patient rating of: having information needed, being well organized, and being helpful in making a decision. 123 (14.6%) of patients who reviewed the LONG DA and 143 (14.0%) of who reviewed the SHORT DA chose to take etanercept (χ^2=.023; NS). There was no significant difference between intervention groups in mean strength of preference to intensify therapy. Those who were randomized to the SHORT DA vs LONG DA had a greater increase in post-intervention etanercept related knowledge that 15.5% vs 10.5% (P< .02). There was no difference between interventions in: overall decisional conflict (DCS), nor informed, values clarity, uncertainty, or effective decision subscales. However, subjects who reviewed the SHORT DA had significantly higher score on the DCS support subscale (P< .04).

Conclusion:

In this randomized clinical trial of decision support, a brief PtDA was not inferior to a traditional long format PtDA. Rather there is evidence of increased knowledge gain and feeling more supported to make a decision to intensify therapy. Brief PtDA are acceptable to patients and can effectively support patients preparing for complex medication decisions. Implementing simple decision supports at the point of care deserves further evaluation.

2D-5. THE IMPACT OF THE "ILLUSION OF EXPLANATORY DEPTH" ON HEALTH-RELATED DECISION MAKING PREFERENCES

5:30 PM - 5:45 PM: Mon. Oct 19, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: IMPROVING INFORMATION PRESENTATION AND PROCESSING

***Aaron M. Scherer, PhD**, University of Michigan, Ann Arbor, MI, Laura D. Scherer, PhD, University of Missouri, Columbia, MO and Angela Fagerlin, PhD, VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

Purpose: As patients are encouraged to become more involved in their healthcare decisions they may be confronted with how little they actually know about the decision options. People

often think they have a relatively good understanding of how something works, a phenomenon known as the “illusion of explanatory depth”, an illusion that is disrupted when people are forced to try to explain how it actually works (see Rosenblit & Keil, *Cogn Sci,*2002). Whether people exhibit the illusion of explanatory depth for medical interventions and the impact of disrupting this illusion on interest in using or being involved in decisions about using those interventions is unknown.

Methods: Participants (N = 309) were recruited through Amazon’s Mechanical Turk to complete an online survey experiment. Participants began by indicating the perceived effectiveness of a 12 medical interventions (preventative medicines, screening tools, and treatments) and their subjective knowledge about how the medical interventions work. Participants were then randomly assigned to explain how one of the medical interventions worked. After providing their explanation, participants re-rated their subjective knowledge and perceived efficacy of the medical intervention, as well as their willingness to use and be involved with making a decision about using the intervention. After completing this process for a second medical intervention, participants indicated their familiarity and usage of each prevention, screening tool, and treatment.

Results: Overall, participants exhibited a decreased sense of understanding after attempting to explain how a medical intervention works ($p < .001$), providing evidence for the illusion of explanatory depth. Perceived efficacy of the medical intervention also decreased after providing an explanation ($p < .001$). More importantly, decreases in perceived efficacy were associated with decreased willingness to use the medical intervention ($p < .001$) and decreased desire for participation in decision making about the medical intervention ($p = .01$).

Conclusion: Disrupting the illusion of explanatory depth for medical interventions was associated with decreased interest in utilizing the medical intervention and less desire for involvement in decisions about whether to use the medical intervention. While disrupting the illusion of explanatory depth may reduce a patient’s interest in being involved in the decision-making process, it could be used as a tool for correcting misinformation or reducing the overutilization of low-value services.

2D-6. PRACTICE MAKES PERFECT: A PRACTICE TRAVEL DECISION INCREASES CONFIDENCE IN A SUBSEQUENT MEDICAL DECISION

5:45 PM - 6:00 PM: Mon. Oct 19, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: IMPROVING INFORMATION PRESENTATION AND PROCESSING

Holly O. Witteman, PhD[1], *Laura D. Scherer, PhD*[2], *Nicole L. Exe, MPH*[3], *Mark Dickson, MA*[3], *Daniel Connochie, BA*[3] *and Angela Fagerlin, PhD*[4], *(1)Université Laval, Quebec City, QC, Canada, (2)University of Missouri, Columbia, MO, (3)University of Michigan, Ann Arbor, MI, (4)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

Purpose: Many people come to medical decision-making unused to participating in high-stakes health decisions. This study aimed to test whether providing people with a practice decision in a more familiar, less frightening context might help them with a subsequent medical decision.

Method: We first developed a novel values clarification method by applying best practices in interface design, including user-centered design methods. The values clarification method uses dynamic visual feedback throughout a decision aid to help people explore how well or poorly their available options align with their expressed values. We then randomized half of study participants in an online experiment to go through a practice travel decision followed by a medical decision. The other half of study participants were assigned only the medical decision. Participants randomized to the practice travel decision were asked to imagine that they had won a free trip and needed to choose one of four available travel options. For the medical decision, we asked participants to imagine they were diagnosed with early-stage breast cancer (women) or early-stage prostate cancer (men) and needed to choose a treatment. We carefully constructed the travel decision to closely mimic the medical decisions. We presented all decisions using the same decision aid interface design and values clarification method, showing participants how their values for different decision attributes (e.g., length of flight for the travel decision, length of hospital stay for the medical decision) aligned with their available options. After all participants completed the medical decision aid, we asked them (1) which medical treatment option they would choose, and (2) how confident they were that it was the best choice for them.

Result: Participants (n=445) were a diverse sample of US adults (mean age 51, SD 8, 57% female, 82% white). Exposure to the practice travel decision was not associated with any differences in participants' medical treatment choices (men: Chi-squared(3)=3.15, p=0.37; women: Chi-squared(2)=1.35, p=0.51), but it was associated with increased confidence in their medical decisions (F(1,443)=5.62, p=.02).

Conclusion: Giving people a practice decision in a less threatening context may help them feel more confident in their abilities to make medical decisions that reflect what matters to them.

2E. ORAL ABSTRACTS: ADVANCES AND APPLICATIONS IN QUANTITATIVE METHODS

« Previous Session | Next Session »

4:30 PM - 6:00 PM: Mon. Oct 19, 2015
Grand Ballroom B

Session Summary:

4:30 PM - 4:45 PM

2E-1. A STATISTICAL APPROACH TO COST-EFFECTIVENESS ANALYSIS UNDER UNCERTAINTY ABOUT THE WILLINGNESS-TO-PAY FOR HEALTH

4:45 PM - 5:00 PM

2E-2. ANALYSIS OF DEPRESSION TRAJECTORY PATTERNS USING COLLABORATIVE LEARNING

5:00 PM - 5:15 PM

2E-3. DATA-DRIVEN MODELING AND SIMULATION FOR THE DESIGN AND EVALUATION OF HIV VIRAL LOAD MONITORING POLICIES IN RESOURCE-LIMITED SETTINGS

5:15 PM - 5:30 PM

2E-4. DISTINGUISHING HIGH-RISK VERSUS LOW-RISK SUBGROUPS IN COMPARTMENTAL EPIDEMIC MODELS: WHERE TO DRAW THE LINE?

5:30 PM - 5:45 PM

2E-5. ACCOUNTING FOR INTERVAL CENSORING WHEN ESTIMATING TIME-TO-EVENT CURVES FOR COST-EFFECTIVENESS ANALYSIS

5:45 PM - 6:00 PM

2E-6. GENERALIZED PROPENSITY SCORE MATCHING WITH MULTIPLE COHORTS: A CASE STUDY OF COMPARATIVE EFFECTIVENESS OF COMMON SECOND-LINE REGIMENS FOR NON-SMALL CELL LUNG CANCER IN THE US

Abstracts:

2E-1. A STATISTICAL APPROACH TO COST-EFFECTIVENESS ANALYSIS UNDER UNCERTAINTY ABOUT THE WILLINGNESS-TO-PAY FOR HEALTH

4:30 PM - 4:45 PM: Mon. Oct 19, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: ADVANCES AND APPLICATIONS IN QUANTITATIVE METHODS

***Reza Yaesoubi, PhD, MSc**, Forrest Crawford, PhD and A. David Paltiel, PhD, Yale School of Public Health, New Haven, CT*

Purpose: Although it plays a central role in cost-effectiveness analysis (CEA), society's willingness to invest for an additional unit of health is rarely known to policy makers. Our goal is to develop a statistical method to help decision-makers determine whether a new healthcare alternative is considered cost-effective in the absence of exact value for the willingness-to-pay for health (WTP).

Method: Our method utilizes a probability density function *P* to represent the policy maker's uncertain belief about the true value of WTP. The proposed method calculates a probability *p* that corresponds to the *p*-value of the hypothesis that the net monetary benefit (NMB) of a new alternative is less than or equal to that of an existing alternative when the true WTP value is randomly drawn from *P*. If *p* is less than a desired significance level, we reject this hypothesis, and consider the new alternative cost-effective under the WTP belief *P*. Our method also calculates the expected NMB gain under *P* if the new alternative is chosen. This information allows statistical comparison of the cost-effectiveness of multiple interventions. To demonstrate the application of our method, we consider two hypothetical alternatives, both of which present the same incremental cost-effectiveness ratio of $20,000 per unit of health but result in

substantially different health and financial outcomes (Figure A-B). These alternatives also yield the same cost-effectiveness acceptability curves (CEAC) (Figure C-D), a popular tool used in CEA when the true value of WTP is unknown.

Result: When the policy maker's belief about the WTP value follows a Gamma distribution with mean $50,000 and StDev $5,000 (Figure E), both Alternatives 1 and 2 are considered cost-effective at significance level 0.05 (p-value < 0.01, Table). While CEACs suggests that Alternatives 1 and 2 perform equally well (Figure C-D), our method determines that Alternative 2 has significantly higher expected NMB gain, and hence, should be preferred to Alternative 1. In this example, when the policy maker's belief about the WTP value is uninformative (Figure F), neither of these alternatives is considered cost-effective (p-value > 0.2).

Conclusion: We developed a method to statistically evaluate and compare the cost-effectiveness of healthcare alternatives under uncertainty about the WTP value. We showed how our approach can overcome the limitations of CEACs commonly used in CEA.

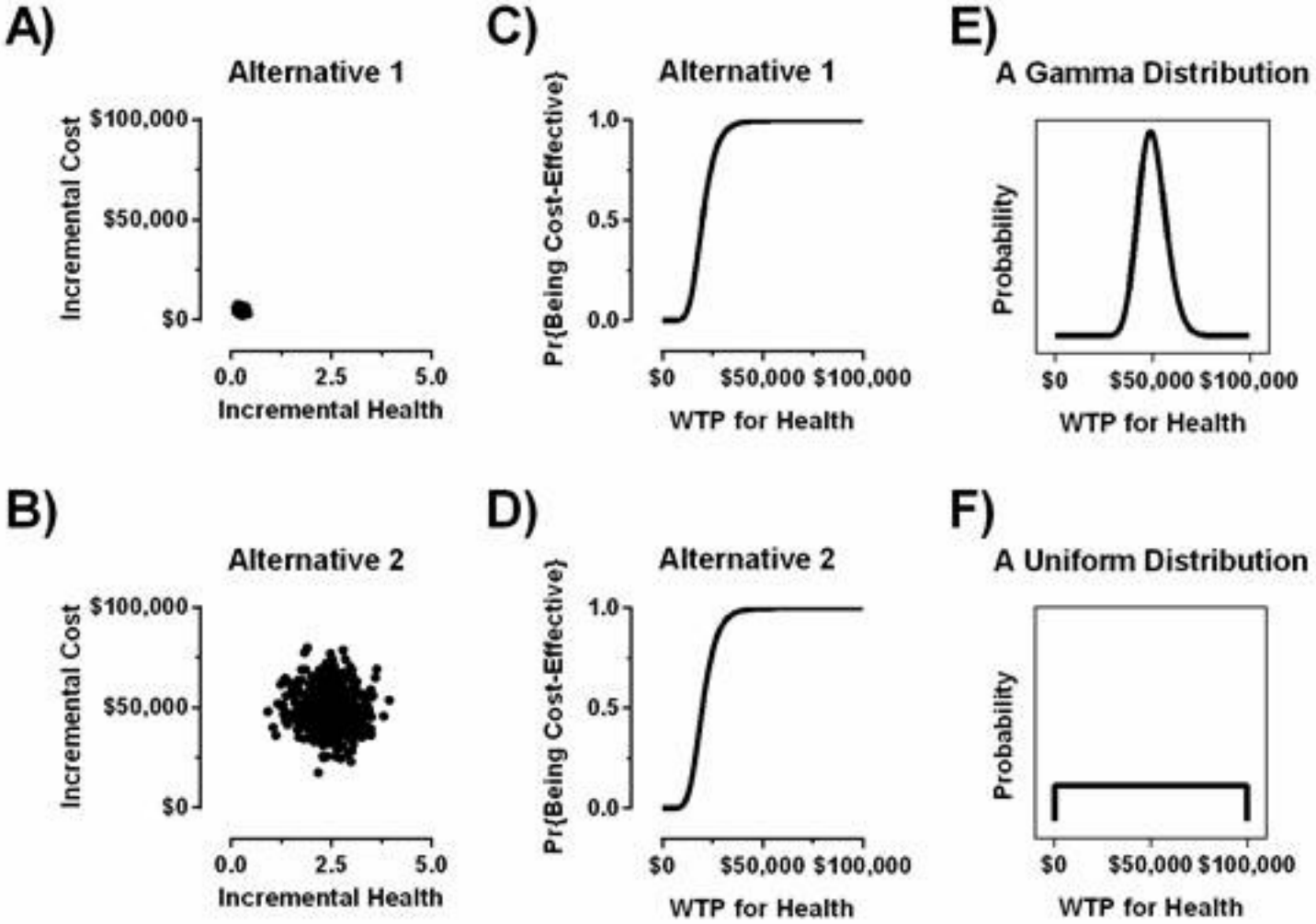


Table: Cost-effectiveness analysis under uncertain willingness-to-pay for health (WTP) value

WTP Belief	Alternative	*p*-value[¶]	Mean of NMB Gain[#]
Figure E	1	0.0061	$7,564 ($171)
	2	0.0060	$75,130 ($873)
Figure F	1	0.2108	$7,564 ($374)
	2	0.2097	$75,130 ($2,476)

[¶] A *p*-value smaller than a desired significant level (e.g. 0.05) implies the cost-effectiveness of the alternative.
[#] Numbers in parentheses are 95% half-widths.

2E-2. ANALYSIS OF DEPRESSION TRAJECTORY PATTERNS USING COLLABORATIVE LEARNING

4:45 PM - 5:00 PM: Mon. Oct 19, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: ADVANCES AND APPLICATIONS IN QUANTITATIVE METHODS

*Ying Lin, MS, Shuai Huang, PhD and **Shan Liu, PhD**, Industrial and Systems Engineering, University of Washington, Seattle, WA*

Purpose: Depression is a common, complex, and dynamic mental disorder. Mitigating depression has become a national health priority as it affects 1 out of 10 American adults and is the most common mental illness seen in primary care. While the emerging use of electronic health record (EHR) in health care provides an unprecedented information infrastructure, the complex dynamics of individual's depression trajectory and the widely reported heterogeneity of the depression population are two major challenges for monitoring depressive patients. The objective of this study is to effectively analyze patterns in the collected depression trajectories of a treatment population and proactively probe new trajectories for monitoring treatment outcomes.

Method: Our data contain longitudinal Patient Health Questionnaire (PHQ)-9 scores over 4 years for assessing depression severity from the Mental Health Research Network. The PHQ-9 scores are linked to time between observations, type of providers, age, sex, treatment status, and Charlson comorbidity score of the patients. We analyzed >6,000 patients with at least four PHQ-9 observations who have on-going treatment. We first used smoothing splines to model each depression trajectory. We then used K-means clustering, recursive partitioning, and collaborative degradation model (CDM) to identify the subgroup patterns. CDM considers the underlying cluster structure embedded in the population and the resemblance of the individuals to these clusters. Lastly, for >3,000 patients with at least six PHQ-9 observations, we compared the individual growth model (IGM), mixed effect model (MEM), CDM, and CDM with network regularization (NCDM) on their predictive performance on the last two observations within each subject.

Result: We found five trajectory patterns in the on-going treatment population: stable high, stable low, stable moderate, an increasing and a decreasing group. The increasing and decreasing groups converge and become stable around a PHQ-9 score of 10 to 15. For prediction, the root mean square error in the testing set for IGM, MEM, CDM, and NCDM are 21.98, 6.12, 5.24, and 3.46.

Conclusion: We established a trajectory-based framework for depression diagnosis and prognosis adaptable to population heterogeneity using electronic health record data. Clustering provides an effective tool for characterizing the trajectory patterns of the depression population. For prediction, we found the NCDM achieved the highest performance.

2E-3. DATA-DRIVEN MODELING AND SIMULATION FOR THE DESIGN AND EVALUATION OF HIV VIRAL LOAD MONITORING POLICIES IN RESOURCE-LIMITED SETTINGS

5:00 PM - 5:15 PM: Mon. Oct 19, 2015
Grand Ballroom B

Part of Session: ORAL ABSTRACTS: ADVANCES AND APPLICATIONS IN QUANTITATIVE METHODS

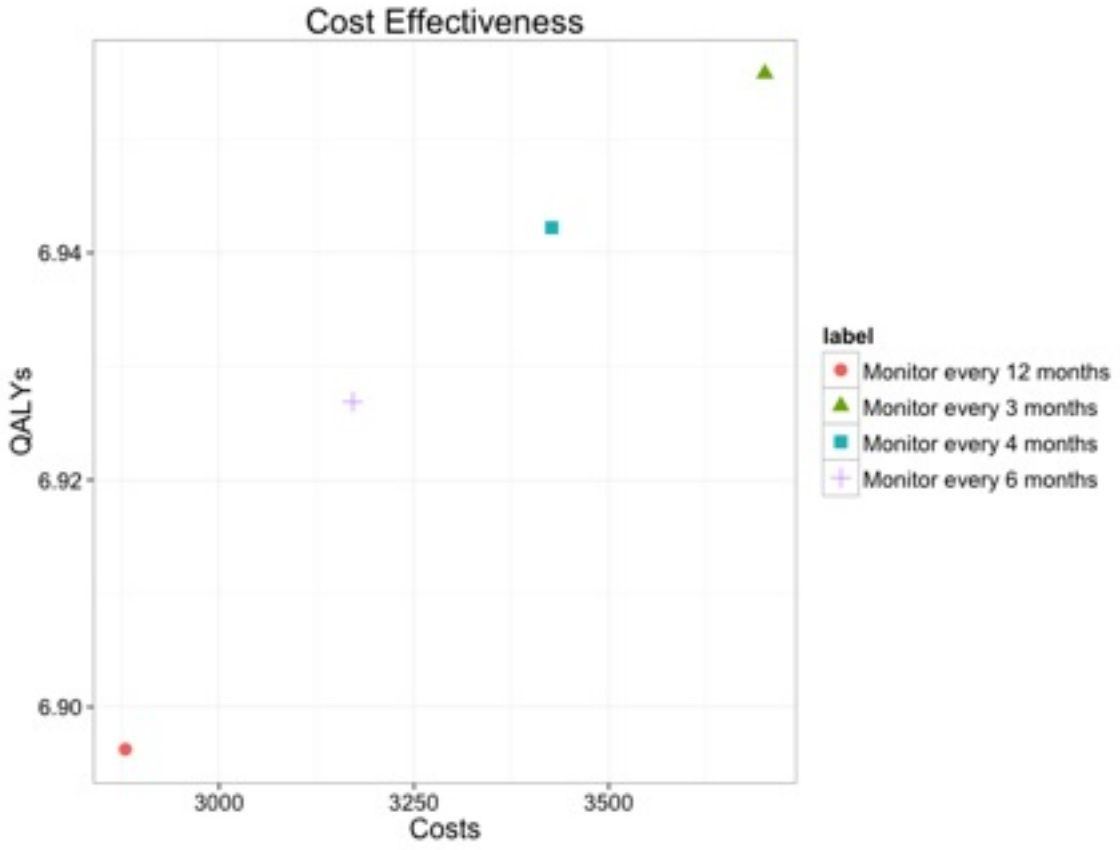
***Diana Negoescu, PhD**, University of Minnesota, Minneapolis, MN, Heiner Bucher, MPH, Swiss HIV Cohort Study, Basel Institute for Clinical Epidemiology & Biostatistics, Basel, Switzerland and Eran Bendavid, MD, MS, Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

Purpose: Early detection of virologic failure in HIV patients on antiretroviral therapy may improve the health outcomes of patients and reduce transmission. HIV RNA (viral load) monitoring is a costly yet common technology for detecting failure. We assess the health benefits and cost-effectiveness of strategies for viral load monitoring in resource-limited contexts.

Methods: We created a microsimulation model parameterized using longitudinal cohort data. We use the Swiss HIV Cohort Study (SHCS) data to estimate: 1) predictors of virologic failure; and 2) CD4 evolution during virologic failure and on antiretroviral therapy (ART). We model the probability of virologic failure as a function of self-reported patient adherence, time on regimen, age and gender. Adherence is also modeled as a time-varying process that depends on the patient's previous adherence status, age, gender and education level. Individual CD4 counts are modeled using quantile regression models, where CD4 progression depends on failure status, previous CD4 count, time since ART initiation, CD4 nadir, age and gender. We develop a microsimulation model informed by the data, and simulate 30,000 HIV patients in Uganda for 10 years following ART initiation. We then use our model to evaluate the total costs and QALYs achieved over a 10-year period by four viral load monitoring frequencies: every 3, 4, 6 or 12 months.

Results: The model was validated by matching the five-year survival rates and the opportunistic infection-free survival rates within the 95% confidence intervals of the DART randomized clinical trial. The average total number of months spent in virologic failure per patient over the 10 years simulated ranged from 2.07 for the 3-month interval policy to 4.25 for the 12-month policy. The percentage of the patients who switched to second-line regimen by the end of the 10-year period ranged from 31.6% for the 12-month policy to 36.8% for the 3-month policy. In comparison with monitoring viral load every 12 months, more frequent monitoring marginally increased QALYs. Compared with 12-monthly monitoring, 3-monthly monitoring yields on average a gain of 0.0595 QALYs per patient, at an incremental cost of $821.

Conclusions: In resource-limited settings, high-frequency viral load monitoring relative to yearly monitoring costs more per QALY gained than many HIV interventions. Use of direct person-level data can inform model construction and improve parameter estimation for diverse populations.



2E-4. DISTINGUISHING HIGH-RISK VERSUS LOW-RISK SUBGROUPS IN COMPARTMENTAL EPIDEMIC MODELS: WHERE TO DRAW THE LINE?

5:15 PM - 5:30 PM: Mon. Oct 19, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: ADVANCES AND APPLICATIONS IN QUANTITATIVE METHODS

Sze-chuan Suen, MS[1], *Jeremy D. Goldhaber-Fiebert, PhD*[2] *and Margaret L. Brandeau, PhD*[1], *(1)Department of Management Science and Engineering, Stanford University, Stanford, CA, (2)Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

Purpose: Economic evaluations of infectious disease control interventions frequently use dynamic compartmental epidemic models. Such models capture heterogeneity in risk of infection by stratifying the population into discrete risk groups, thus approximating what is typically continuous variation in risk with discrete groups. An important open question is whether and how different risk stratification choices influence model predictions.

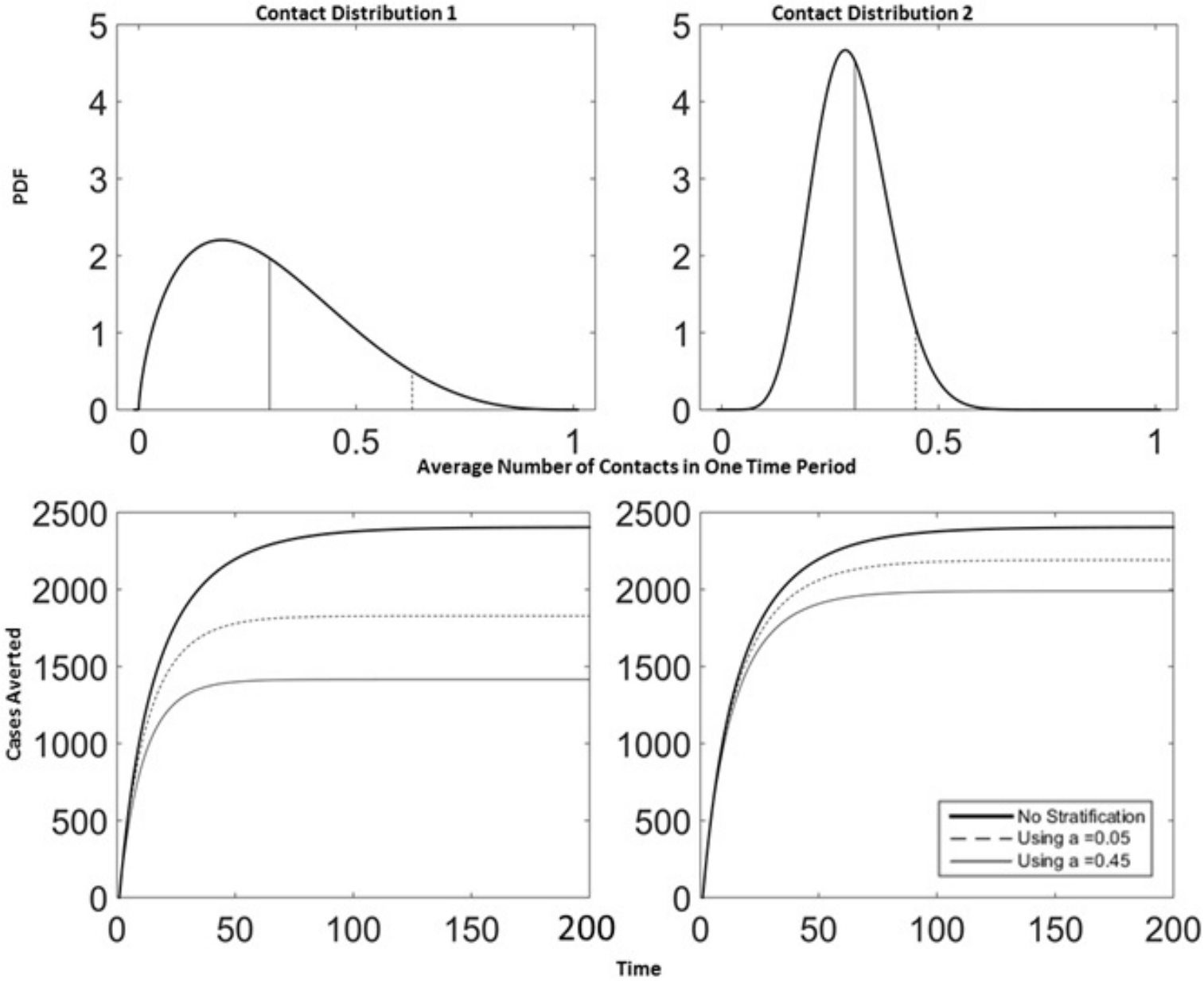
Method: We developed equivalent Susceptible-Infectious-Susceptible dynamic transmission models: an unstratified model and models stratified into high-risk and low-risk groups. All model parameters other than contact rate(s) were identical. Stratified models differed from one another in terms of the proportion of the population that was high risk (***a***) and the contact rates in the high- and low-risk groups, though the overall contact rate in all models was equal. Models were equivalent in the sense that absent intervention, they all produced the same overall prevalence of infectious individuals at all times. We introduced a hypothetical intervention that reduced the contact rate and applied it to a proportion of the population,

irrespective of risk group in the stratified models. We addressed two questions: 1) Does the choice of where to discretize risk alter the model-predicted effectiveness (cases averted) of an intervention relative to an unstratified model? 2) If so, how are deviations from the unstratified model's predicted effectiveness related to the choice of discretization? To answer these questions, we chose an example set of model parameters and examined model predictions following the discretization of various population distributions of contact rates.

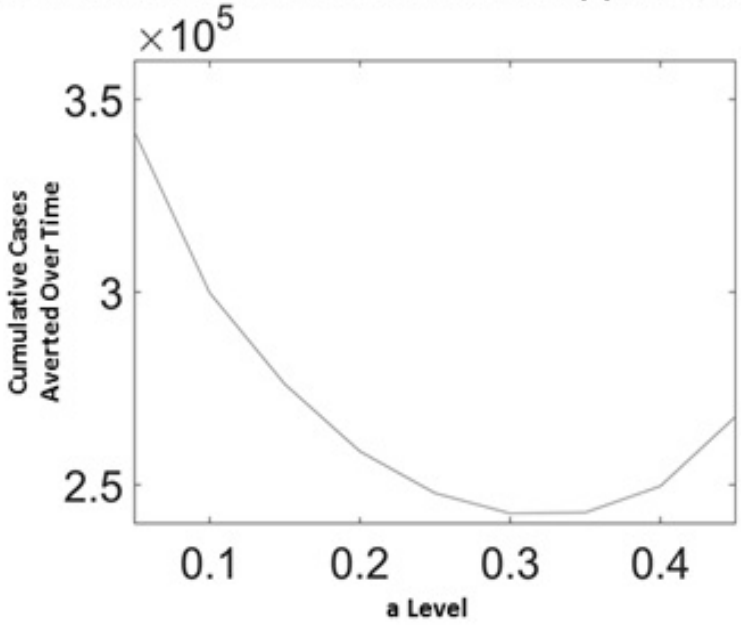
Result: For models that produce equivalent epidemic predictions in the absence of intervention, we find that the predicted number of cases averted depends upon how the population's distribution of contact rates is discretized into high- and low-risk groups (Figure 1, Panel A and B). Additionally, Panel A shows that unstratified models may produce a higher estimate of effectiveness than the stratified models, and the extent of this difference depends on the underlying distribution of risk. Deviation from the prediction of the unstratified model ($\boldsymbol{a} = 0$) is largest when $\boldsymbol{a}$ takes on intermediate values between 0 and 1 (Panel B).

Conclusion: The choice of how to discretize risk in compartmental epidemic models can influence predicted effectiveness of interventions. Analysts should carefully examine multiple alternatives and report the range of results.

A) Variation in Intervention Effects by Risk Stratification (a) for Various Distributions of Contact Rates



B) Cumulative Cases Averted Over Time For Different Risk Stratification (a) Levels, for Contact Distribution 1



2E-5. ACCOUNTING FOR INTERVAL CENSORING WHEN ESTIMATING TIME-TO-EVENT CURVES FOR COST-EFFECTIVENESS ANALYSIS

5:30 PM - 5:45 PM: Mon. Oct 19, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: ADVANCES AND APPLICATIONS IN QUANTITATIVE METHODS

***Christopher Parker, MSc**, ICON Health Economics & Epidemiology, Oxford, United Kingdom and Neil Hawkins, PhD, London School of Hygiene and Tropical Medicine, London, United Kingdom*

Purpose:

Certain endpoints, such as progression-free survival, are by definition interval censored. The exact time of the event is unknown; rather we only know that it occurred between two assessment times. However, this censoring is typically ignored in survival analysis for cost-effectiveness analysis, despite the fact that statistical methods for taking account of the interval censoring are well established.

The objective of this study was to investigate, in the context of cost-effectiveness analysis, the potential bias that may occur if interval censoring is not accounted for in survival analysis.

Method:

Time-to-event data including interval censoring were simulated. 10,000 sets of 500 event times (representing a typical trial) were simulated for two treatment groups from Weibull distributions that had common shape but different scale parameters. Interval censoring was simulated assuming that assessments (for example, for progression) were conducted every four months. The actual event times were then rounded down and up to the nearest assessment to form the left and right hand censoring times respectively.

The mean time-to-event was estimated using two different parametric survival models; (i) assuming no censoring, and (ii) accounting for the interval censoring. The degree of bias in the mean difference in time-to-event between treatments was assessed by comparing the mean difference estimated from both models with the true value estimated using the parameters of the distribution. Two scenario analyses were conducted; decreasing the frequency of assessments to eight months, and increasing the event hazard in the control arm.

Result:

When interval censoring was ignored, the mean time-to-event difference was overestimated (bias = 1.91 months). The bias was reduced when methods that account for interval censoring were used (bias = 0.51 months). When the frequency of assessments was decreased to eight months, accounting for the interval censoring reduced the bias from 1.47 months to -0.01 months. Similarly, when increasing the event hazard in the control arm, accounting for the interval censoring reduced the bias from 1.75 months to -0.70 months.

Conclusion:

Interval censoring is a common finding in clinical studies, resulting from periodic assessments for events such as disease progression. When interval censoring is present, ignoring this

censoring will yield biased estimates of mean time-to-event and potentially cost-effectiveness. Therefore, accounting for interval censoring is important when estimating time-to-event curves for cost-effectiveness analysis.

2E-6. GENERALIZED PROPENSITY SCORE MATCHING WITH MULTIPLE COHORTS: A CASE STUDY OF COMPARATIVE EFFECTIVENESS OF COMMON SECOND-LINE REGIMENS FOR NON-SMALL CELL LUNG CANCER IN THE US

5:45 PM - 6:00 PM: Mon. Oct 19, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: ADVANCES AND APPLICATIONS IN QUANTITATIVE METHODS

Zhanglin Lin Cui, PhD[1], *Lisa M. Hess, PhD*[2], *Robert J Goodloe, MS*[1], *Gebra Cuyun Carter, PhD*[1] *and Douglas E Faries, PhD*[1], *(1)Eli Lilly and Co, Indianapolis, IN, (2)Eli Lilly and Company/Indiana University, Indianapolis, IN*

Purpose: Conventional pairwise propensity score matching (PSM) has significant limitations when applied to multiple cohorts due to the lack of common support of matched patients across comparisons. This study compares the generalized PSM to the conventional pairwise PSM in assessing the comparative effectiveness of common regimens used in the second-line treatment of lung cancer in the US.

Method: IMS Oncology patient-level EMR data were used for this study. Eligible patients were those with a diagnosis of lung cancer (ICD-9-CM 162.2-162.9) from 1/1/2007-6/30/2013 who received at least two lines of treatment. Generalized propensity scores were estimated using multinomial logistic regression. A region of common support with sufficient overlap in the covariate distribution and minimum variance of the covariate space was identified. Generalized PSM with replacement was performed on the common support to obtain estimated outcomes under each regimen for each patient. Balance among the cohorts was assessed by using absolute standardized differences (ASD) in covariates. Cox proportional hazards model was used for survival analysis after the generalized PSM and compared to outputs after conventional pairwise PSM. Bootstrapping was conducted as a sensitivity analysis.

Result: The five most common lung cancer regimens were identified, resulting in a total sample size of 5,222 patients. Generalized PSM used 61.2% of the patient sample while the conventional pairwise PSM used 24.1-77.1% of the patient sample across the 10 comparisons. Perfect balance (ASD=0) among the regimens was achieved on each covariate after generalized PSM by definition; acceptable balance was achieved in the conventional pairwise PSM with ASDs<0.1. Using the generalized PSM, median overall survival ranged from 5.6-8.9 months among the top 5 regimens; 8 out of the 10 survival comparisons achieved statistical significance ($p<0.05$). Similar results were obtained from bootstrapping. Using the conventional pairwise PSM, the median overall survival ranged from 5.6-9.5 months among the top 5 regimens and only 1 out of the 10 survival comparisons achieved statistical significance ($p<0.05$). The noted differences arose from different matched patient samples and the size of the samples.

Conclusion: The generalized PSM allows for comparisons across multiple cohorts using a common support while removing bias from observed covariates under the ‘no unmeasured

confounding' assumption and may have potential applications in observational studies with multiple cohorts.

2F. ORAL ABSTRACTS: APPLIED HEALTH ECONOMICS AND PUBLIC HEALTH

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4:30 PM - 6:00 PM: Mon. Oct 19, 2015
Grand Ballroom C

Session Summary:

4:30 PM - 4:45 PM

2F-1. MODELING THE COST-EFFECTIVENESS OF OPIOID AGONIST TREATMENT POLICY ALTERNATIVES IN CALIFORNIA'S PUBLICLY-FUNDED DRUG TREATMENT FACILITIES

4:45 PM - 5:00 PM

2F-2. THE SCOPE OF VALUE AND OPPORTUNITY LOSS IN TREATING HEPATITIS C

5:00 PM - 5:15 PM

2F-3. INFORMING RESOURCE ALLOCATION DECISIONS IN HIV/AIDS: A CASE STUDY FOR BRITISH COLUMBIA, CANADA

5:15 PM - 5:30 PM

2F-4. PROBABILISTIC MODEL-BASED PATTERN ANALYSIS OF HEALTH RESOURCE USE AMONG PEOPLE LIVING WITH HIV/AIDS

5:30 PM - 5:45 PM

2F-5. A COMPARISON OF DIFFERENT APPROACHES IN MODELLING FOR THE CONDUCT OF COST-EFFECTIVENESS ANALYSES: A CASE IN CHILDHOOD FLU VACCINATION

5:45 PM - 6:00 PM

2F-6. COST EFFECTIVENESS OF INFLUENZA VACCINE OPTIONS IN US ELDERS

Abstracts:

2F-1. MODELING THE COST-EFFECTIVENESS OF OPIOID AGONIST TREATMENT POLICY ALTERNATIVES IN CALIFORNIA'S PUBLICLY-FUNDED DRUG TREATMENT FACILITIES

4:30 PM - 4:45 PM: Mon. Oct 19, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLIED HEALTH ECONOMICS AND PUBLIC HEALTH

Emanuel Krebs, M.A.[1]*, Jeong E Min, MSc*[1]*, Libo Li*[2]*, Elizabeth Evans*[2]*, Richard A Rawson*[2]*, Yih-Ing Hser*[2] *and Bohdan Nosyk, Ph.D.*[1]*, (1)BC Centre for Excellence in HIV/AIDS, Vancouver, BC, Canada, (2)UCLA Integrated Substance Abuse Programs, Los Angeles, CA*

Purpose: California treats the largest population of individuals with opioid use disorders in the USA and is among a small group of states that applies regulations for opioid agonist treatment (OAT) that are more stringent than existing federal regulations. We assessed the cost-effectiveness of the current standard of OAT in California, which includes mandated short-term (21 day) detoxification for OAT-naïve clients, compared to a scenario in which all entrants access non-time-limited (or maintenance-oriented) OAT.

Method: Our semi-Markov model captures the chronic, recurrent nature of opioid dependence, capturing periods of treatment, incarceration (defined as time spent in jail or prison), relapse (defined by opioid use outside of treatment), opioid abstinence and death. Hypothetical cohorts of prescription opioid (PO) and heroin users entered the model in either detoxification or maintenance treatment with the latter available in both strategies in subsequent treatment attempts. We used linked state-wide administrative data on drug treatment, criminal justice and incarceration, supplemented with other published data, to populate our model. We allowed for subsequent episodes of treatment and relapse to differ in duration, controlling for individuals being under legal supervision (parole or probation) or not. We compared an 'actual practice' scenario based on the observed distribution of PO and heroin users across detoxification and maintenance at first treatment to the hypothetical scenario of all treatment entrants initiating maintenance. One-way and probabilistic sensitivity analyses were executed for a range of alternate scenarios.

Result: Allowing access to maintenance-oriented treatment to OAT-naïve individuals was found to be a dominant strategy at 1-year, 5-year and lifetime horizons, resulting in lower total costs and higher quality-adjusted life-year (QALY) gains. Over a lifetime horizon, individuals who initiated maintenance upon first treatment entry gained 13.0 discounted QALYs on average (vs 12.1 for those receiving the standard of care) and generated a societal cost of $0.74 million (vs $1.02 million). Cost savings in the maintenance initiation cohort were realized primarily because of greater treatment retention and the lower costs of criminality associated with the reduced time spent out-of-treatment.

Conclusion: Synthesizing population-level data on OAT in publicly-funded drug treatment facilities in California, we found that immediate access to maintenance treatment may be more effective and less costly than the current standard of care for individuals presenting for opioid use disorder treatment.

Funding: NIDA R01DA031727;R01DA032551;P30DA016383 (PI:Hser)

2F-2. THE SCOPE OF VALUE AND OPPORTUNITY LOSS IN TREATING HEPATITIS C

4:45 PM - 5:00 PM: Mon. Oct 19, 2015
Grand Ballroom C

Part of Session: ORAL ABSTRACTS: APPLIED HEALTH ECONOMICS AND PUBLIC HEALTH

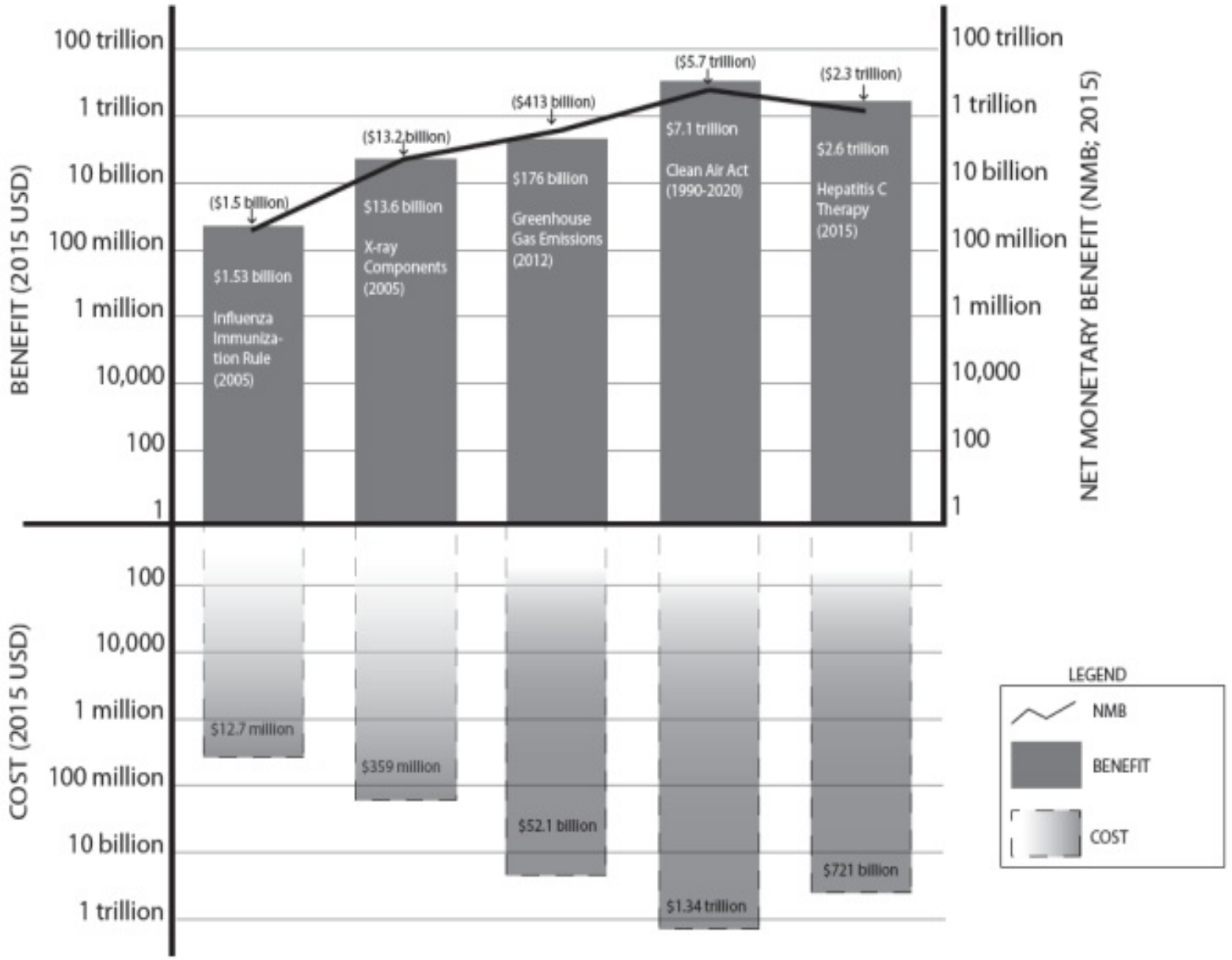
Mai T. Pho, MD MPH[1]*, Benjamin P. Linas, MD, MPH*[2]*, Jake R. Morgan, MS*[3]*, William Padula, Ph.D.*[1]*, Andrew Aronsohn, MD*[1]*, Daniel Johnson, MD*[1] *and David O. Meltzer, MD, PhD*[1]*, (1)University of Chicago, Chicago, IL, (2)Boston Medical Center, Boston, MA, (3)Boston University, Boston, MA*

Purpose: New therapies for Hepatitis C (HCV) are curative, but costly. We estimate the economic value of providing treatment for HCV in the US and compare it to the value of major federally regulated health interventions, such as the Clean Air Act.

Methods: Using a value of statistical life (VSL) and value of statistical life year (VSLY) framework, we calculate the net monetary benefit (NMB) of life-years saved if sofosbuvir-containing therapy is provided for all individuals estimated to have HCV based from the National Health and Examination Survey, 2003-2010. We assumed a VSL of 5 million USD. The VSLY is the quotient of VSL and the discounted expected remaining life-years for the general population at a mean age of 52. The NMB of therapy is the product of VSLY and the remaining life-years associated with treatment, minus the incremental cost. Outcomes are discounted at 3%. We project life expectancy and costs using the HCV Cost-Effectiveness (HCV-CE) Monte Carlo simulation model. In sensitivity analyses, we vary prices for HCV drugs (100% to 55%) to reflect potential offsets of rebates and other discounts, as well as the VSL (1 to 10 million USD). We compare valuations to those of other federally supported interventions.

Results: Treating 2.7 million individuals with HCV will result in 9.5 million life-years saved at an incremental cost of $345 billion dollars compared to no treatment. The VSLY is $274,000 dollars. The NMB of hepatitis C therapy is $2.2 trillion dollars, and ranges from $176 billion to $4.9 trillion dollars at VSL of $1 million to $10 million dollars, respectively. When we discount the price of medications by 45%, the NMB of therapy is $2.4 trillion dollars, with an incremental cost of therapy of $187 billion dollars. The NMB and cost exceed that of other federal regulations impacting health (Figure 1).

Conclusions: The economic value, and absolute cost accrued by treating HCV is on the order of the largest federal health interventions, such as the Clean Air Act. The effects are large due to the high mortality risk of HCV, the curative effect of therapy, therapy cost, and the size of the population. Concurrent efforts to expand access to and reduce the cost of therapy should be a priority at the federal level.



2F-3. INFORMING RESOURCE ALLOCATION DECISIONS IN HIV/AIDS: A CASE STUDY FOR BRITISH COLUMBIA, CANADA

5:00 PM - 5:15 PM: Mon. Oct 19, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLIED HEALTH ECONOMICS AND PUBLIC HEALTH

***Bohdan Nosyk, Ph.D.**, Jeong E Min, MSc, Emanuel Krebs, M.A., Rolando Barrios, MD and Julio Montaner, MD, BC Centre for Excellence in HIV/AIDS, Vancouver, BC, Canada*

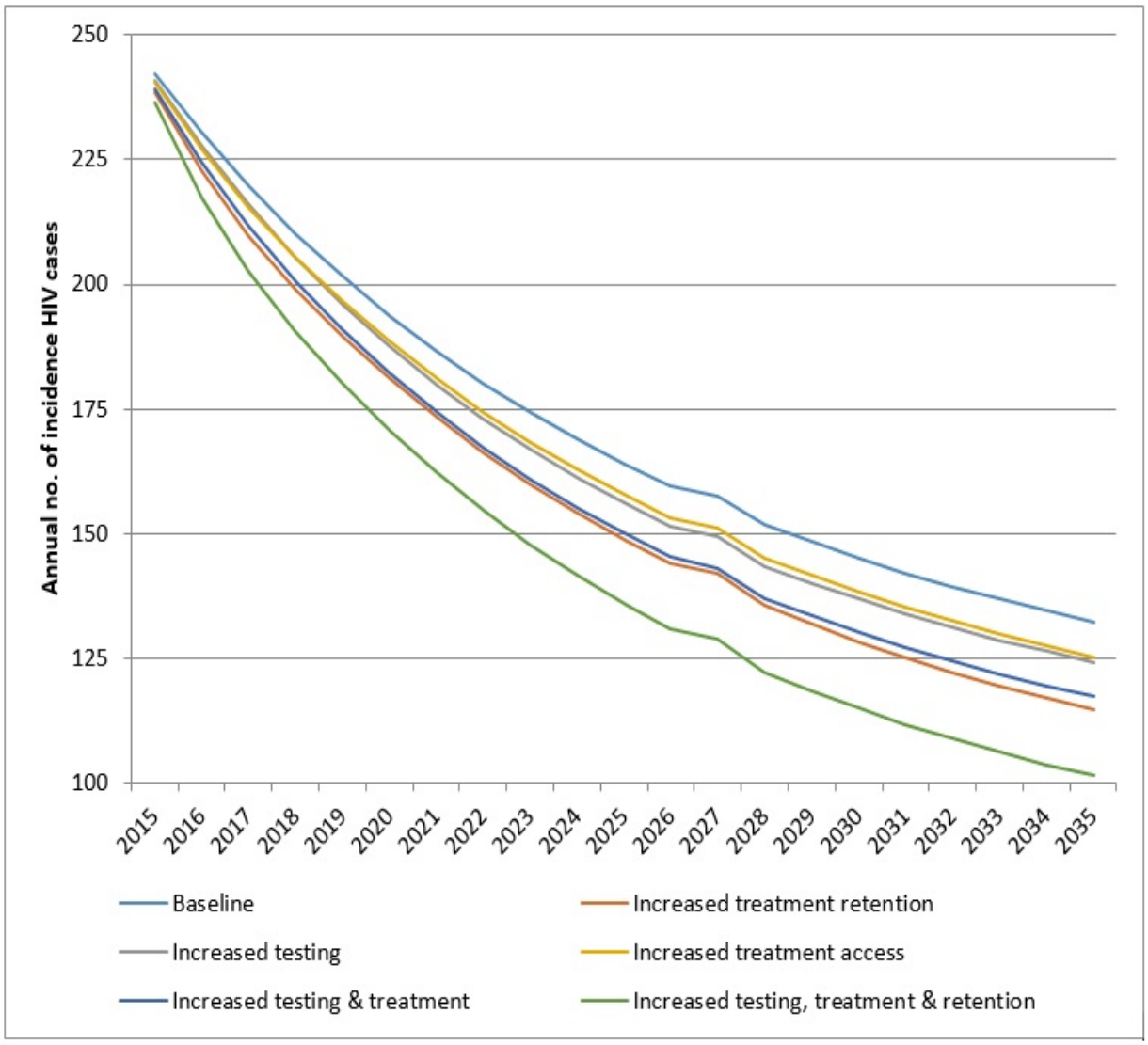
Purpose: Interventions to improve HIV care may vary substantially in their ability to deliver good value for money. There is an urgent need to maximize the value of health spending by prioritizing cost-effective interventions and, more broadly, identifying an optimal mix of interventions. We consider hypothetical scenarios of increased uptake of HIV testing and treatment, and improved treatment retention to identify the most cost-effective public health strategy.

Method: We used a previously-validated dynamic compartmental HIV transmission model to project the costs, benefits and epidemiological outcomes of the HIV/AIDS epidemic in BC from 2015 to 2035 under six hypothetical scenarios: (1) current practice, characterized using all available population-level epidemiologic and economic data; (2) a 10% increase in the HIV testing rate; (3) a 10% increase in treatment uptake; (4) a 25% decrease in the rate of treatment discontinuation; (5) interventions in scenarios (2)+(3); and (6) interventions in scenarios (2)+(3)+(4). In this hypothetical exercise, costs and effectiveness of the various interventions was assumed equal across HIV risk groups, the implementation of the interventions was at the provincial-level, and no budget constraint was imposed. Total HIV incidence, mortality, present-valued costs (in 2014$CDN) and quality-adjusted life years (QALYs) were estimated for each scenario, while incremental cost-effectiveness ratios (ICERs) were calculated against scenario (1), as well as the next-most resource intensive strategy in the interest of identifying the most efficient strategy. Analyses were executed from a third party payer (TPP) perspective.

Result: Scenarios (2) (6) were all highly cost effective (<1x GDP per capita) compared to actual practice. Strategies (3) and (4) were dominated by strategies (5) and (6) respectively. We found strategy (6) remained cost-effective compared to strategy (5), with an ICER of $30,351 per QALY gained. At an additional cost of $110M over the study timeframe (5.5M/year), jointly increasing HIV testing and treatment access and improving HAART retention resulted in 531 averted HIV cases, 115 averted deaths and an overall gain of 6,469 QALYs.

Conclusion: Despite significant prior investment and advances in HIV care in BC, we found interventions to further improve HIV testing and care were highly cost-effective. Further research is required to aid resource allocation decisions on the margin, in real-time, using the observed costs and effectiveness of such interventions as delivered within localized settings.

Figure 1 Estimated annual HIV incidence in British Columbia, Canada: 2015-2035, under hypothetical scenarios (1) – (6)



2F-4. PROBABILISTIC MODEL-BASED PATTERN ANALYSIS OF HEALTH RESOURCE USE AMONG PEOPLE LIVING WITH HIV/AIDS

5:15 PM - 5:30 PM: Mon. Oct 19, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLIED HEALTH ECONOMICS AND PUBLIC HEALTH

Emanuel Krebs, M.A.[1]*, Jeong E Min, MSc*[1]*, Rolando Barrios, MD*[1]*, Julio Montaner, MD*[2] *and Bohdan Nosyk, Ph.D.*[1]*, (1)BC Centre for Excellence in HIV/AIDS, Vancouver, BC, Canada, (2)Division of AIDS, Faculty of Medicine, University of British Columbia, Vancouver, BC, Canada*

Purpose: Identifying patterns of health resource utilization (HRU) of people living with HIV/AIDS (PLHIV) can help in the development of targeted interventions on health outcomes and costs.

Method: We conducted a population-level analysis of HRU for individuals having received a CD4 test after HIV diagnosis. All individuals in British-Columbia in the modern antiretroviral treatment-era (post-September 2006) were included. We derived from the first year following linkage ten categorical and binary indicators capturing HRU from linked comprehensive administrative health databases. Using a probabilistic model-based clustering analysis for mixed data, parameters were estimated by the method of maximum likelihood (ML) using the expectation maximization (EM) algorithm. Individuals with estimated parameters maximizing the posterior probability of belonging to a similar cluster are classified with each other, and the optimal number of clusters was estimated by the Bayesian Information Criterion (BIC). The analysis was conducted across CD4 count stratification (>200cells/mm^3; <200cells/mm^3).

Result: Our study included 941 individuals with at least one year follow-up (median age 40, 21% female) and with a CD4 count obtained between September 1st, 2006 and March 31st, 2011. The 215 individuals with CD4<200 clustered in 2 HRU patterns. The high cost cluster (N=58; mean $23,691 [SD: $25,443]) had costs more than four times the low cost cluster (N=157; $5,494 [$9,066]). Driving the difference in costs were lengthy HIV-related hospitalizations (62.1% with >7 days in the high cost cluster) and more frequent non-HIV-related physician visits (mean visits 92 vs. 24). The 726 individuals with CD4>200 were best classified in 3 clusters. The high cost cluster (N=146; $11,981 [$16,490]) was characterized by numerous non-HIV physician visits and ER hospitalizations (87.8% of all individuals with ≥1 day) as well as a high prevalence of mental health issues. Mean costs were more than triple that of the medium cost cluster (N=428; $2,723 [$4,170]). The low cost cluster (N=152; $1,391 [$8,360]) had almost no hospitalizations (98.7% with 0 days) and relatively few total non-HIV medication days.

Conclusion: Electronic medical records can be used to characterize heterogeneous HRU patterns in the interest of designing public health interventions to optimize clinical response and improve efficiency in medical care delivery.

2F-5. A COMPARISON OF DIFFERENT APPROACHES IN MODELLING FOR THE CONDUCT OF COST-EFFECTIVENESS ANALYSES: A CASE IN CHILDHOOD FLU VACCINATION

5:30 PM - 5:45 PM: Mon. Oct 19, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLIED HEALTH ECONOMICS AND PUBLIC HEALTH

Bernice Tsoi, BSc, MSc, PhD(cand)[1], *Nathaniel Osgood*[2], *Jean-Eric Tarride, PhD, MA*[3], *Gordon Blackhouse, MSc*[1], *Rahim Oraji*[2], *Ron Goeree, MA*[3] *and Daria J. O'Reilly, PhD, MSc*[3], *(1)Department of Clinical Epidemiology and Biostatistics, Faculty of Health Sciences, McMaster University, Hamilton, ON, Canada, (2)University of Saskatchewan, Saskatoon, SK, Canada, (3)McMaster University, Dept. of Clinical Epidemiology & Biostatistics, Hamilton, ON, Canada*

Purpose:

Decision trees have traditionally been the modelling approach used to assess the economic value of vaccinations. However, this approach fails to capture the complexities in transmission

dynamics. Alternative approaches that may handle such interactions include agent-based models (ABM) and system dynamics (SD). We compared the performance and results generated by a decision tree, ABM and SD in assessing the cost-effectiveness of two different childhood influenza vaccines.

Method:

An existing decision tree comparing intranasal live attenuated vaccine (LAIV) against injectable inactived influenza vaccine was adapted into a SD and ABM structure using the epidemiological pattern of 'susceptible-infectious-recovered' on AnyLogic 7.0 . The proportion of infected, expected costs and incremental cost-effectiveness ratio (ICER), as estimated by each modelling approach, were compared. Scenario analyses were conducted to relax the models' assumptions to determine the impact of the various modelling approaches in assessing the economic value of vaccinations.

Result:

Model calibration was successful: all three modelling approaches produced similar estimates when identical parameters and assumptions were adopted. LAIV was found to be the dominant strategy. Scenario analyses revealed that disease transmission and economic value of the vaccination strategies were sensitive to: (1) the proportion and schedule of vaccination under both dynamic models; (2) the network topology, which can be more flexibly modelled in ABM and; (3) heterogeneity from age-specific parameters, which was most easily captured in the ABM.

Conclusion:

The clinical and economic estimates differ according to the modelling approach employed and its associated assumptions. ABM, an individual-level model, was the most flexible as it could capture patient heterogeneity and model individuals' behaviours within their social network. SD, an aggregate-level model, was limited in capturing patient heterogeneity and required an assumption of random-mixing between individuals. The most rigid, though, was found to be the decision tree as it relies on a set of simplifying assumptions.

2F-6. COST EFFECTIVENESS OF INFLUENZA VACCINE OPTIONS IN US ELDERS

5:45 PM - 6:00 PM: Mon. Oct 19, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLIED HEALTH ECONOMICS AND PUBLIC HEALTH

Jonathan M Raviotta, MPH[1], *Jay DePasse*[2], *Shawn T Brown*[2], *Eunha Shim*[3], *Mary Patricia Nowalk*[1], *Richard K Zimmerman*[1] *and Kenneth J. Smith, MD, MS*[1], *(1)University of Pittsburgh, Pittsburgh, PA, (2)Pittsburgh Supercomputing Center, Carnegie Mellon University, Pittsburgh, PA, (3)Soongsil University, Seoul, South Korea*

Purpose: Three influenza vaccines are available for use in persons aged ≥65 years: trivalent influenza vaccine (TIV), quadrivalent influenza vaccine (QIV), and a newer and more expensive high dose trivalent vaccine, formulated to better protect elders, but the cost-effectiveness of choosing among these vaccines for routine use is unclear.

Methods: We used a Markov model to estimate the cost-effectiveness of influenza vaccination strategies over a single 10 month influenza season in persons aged ≥65. Vaccination and influenza occurred based on 5-year US monthly averages. The analysis took a societal perspective, with model parameters derived from CDC data, national databases, and medical literature sources. In the base case analysis, we assumed equal vaccine uptake between strategies and no indirect vaccination effects. Vaccine costs were: TIV $10.69, QIV $16.15, and high dose TIV $24.69. One-way and probabilistic sensitivity analyses were performed to test model robustness.

Results: In the base case, total influenza costs were $4.13 higher with TIV compared to no vaccination while gaining 0.0011 QALYs, or $3690 per QALY gained. Compared to TIV, high dose TIV cost $3.73 more and gained 0.0003 QALYS, or $12,300/QALY gained. QIV was eliminated due to extended dominance. One-way sensitivity analyses revealed a robust model: high dose TIV was favored at a $100,000/QALY threshold unless: 1) the increase in relative effectiveness of high-dose TIV compared to TIV is <11.0% (base case 24.2%), favoring QIV; or 2) TIV effectiveness falls below 9.8% (base case 39%), favoring no vaccination. QIV, with its added influenza B component, was not favored when the likelihood of influenza B types were varied in plausible ranges. In a probabilistic sensitivity analysis, varying parameters simultaneously over distributions 5000 times, high dose TIV is favored in 67% of iterations at a $50,000/QALY threshold and in 80% at $100,000/QALY.

Conclusion: High dose TIV for adults ≥65 is very likely to be an economically reasonable influenza vaccination strategy. A revision of CDC influenza vaccination recommendations for elders may be warranted.

Tuesday, October 20, 2015

3G. ORAL ABSTRACTS: PATIENT-PROVIDER INTERACTION AND COMMUNICATION

« Previous Session | Next Session »

10:30 AM - 12:00 PM: Tue. Oct 20, 2015
Grand Ballroom A

Session Summary:

10:30 AM - 10:45 AM

3G-1. DISHONESTY IN PATIENT DISCLOSURES TO HEALTHCARE PROVIDERS

10:45 AM - 11:00 AM

3G-2. ARE PATIENTS BIASED AGAINST MINORITY AND FEMALE PHYSICIANS? EVIDENCE THAT BIAS PREDICTS PHYSICIAN EVALUATIONS

11:00 AM - 11:15 AM

3G-3. FACTORS AFFECTING PHYSICIANS' INTENTIONS TO COMMUNICATE PERSONALIZED PROGNOSTIC INFORMATION TO CANCER PATIENTS AT THE END OF LIFE: AN EXPERIMENTAL VIGNETTE STUDY

11:15 AM - 11:30 AM

3G-4. VARIABILITY IN PHYSICIAN PROGNOSIS AND RECOMMENDATIONS FOR LIFE SUSTAINING TREATMENT AFTER INTRACEREBRAL HEMORRHAGE

11:30 AM - 11:45 AM

3G-5. WHAT LEADS PARENTS TO SAY YES, NO OR MAYBE TO HUMAN PAPILLOMAVIRUS VACCINATION? THE ROLE OF PROVIDER RECOMMENDATION QUALITY

11:45 AM - 12:00 PM

3G-6. EARLY LESSONS FROM TESTING A "ONE SIZE FITS ALL" DECISION AID FOR END-OF-LIFE CARE IN ADVANCED STAGE COPD

Abstracts:

3G-1. DISHONESTY IN PATIENT DISCLOSURES TO HEALTHCARE PROVIDERS

10:30 AM - 10:45 AM: Tue. Oct 20, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: PATIENT-PROVIDER INTERACTION AND COMMUNICATION

Andrea Gurmankin Levy, PhD, MBe[1], *Aaron M. Scherer, PhD*[2], *Knoll Larkin, MPH*[2] *and Angela Fagerlin, PhD*[3], *(1)Middlesex Community College, Middletown, CT, (2)University of Michigan, Ann Arbor, MI, (3)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

Purpose: Patient honesty with healthcare providers is critical to quality patient care. If providers are not aware of their patients' unhealthy behaviors and concerning symptoms, then providers cannot address these issues, and may even make contraindicated recommendations. Thus, the purpose of this study is to examine the extent to which patients withhold information from their healthcare providers.

Methods: 2,010 people completed an online survey through MTurk, an online resource through Amazon.com that conducts online surveys with adult volunteers for a small monetary reward. The survey asked participants whether they ever avoided telling a healthcare provider any of 19 types of information (Table 1), and if so, the reasons for and conditions of the nondisclosure.

Results: Participants had a mean age of 36 (SD=12.4), 49% had completed college or more, 84% were White, and 60% were female. Across the 19 types of information, 2-46% of participants avoided sharing it with their healthcare provider (Table 1). Multiple regression revealed that females, younger participants, Whites, those with more education, and worse

self-rated health were significantly more likely to have avoided sharing with their healthcare provider ($p<.049$ for all).

Conclusions: The results reveal that it is not uncommon for patients to withhold important information from their healthcare providers. A better understanding of how to make patients comfortable reporting this important, though potentially embarrassing, information is critical to improving the physician-patient relationship and patient care.

Table 1.

Type of information *(in order of presentation)*	**% who avoided telling healthcare provider the information**
Didn't understand provider's instructions	32%
Disagreed with provider's recommendation	46%
Didn't exercise	29%
Had unhealthy diet	25%
Took a certain medication	16%
Did not take prescription medications as instructed	23%
Took someone else's prescription medication	14%
Drank alcohol or how much drank	17%
Smoked or how much smoked	15%
Were depressed or how depressed	23%
Had an embarrassing symptom	16%
Had unsafe sex or how much had unsafe sex	11%
Used recreational drugs or how much used recreational drugs	16%
Have been abused	7%
Have been sexually assaulted or raped	4%

Suicidality or severity of suicidality	10%
For participants with minor children (N=593):	
Child had an unhealthy diet	5%
Child has a lot of screen time	11%
Did not use the recommended car seat	2%

3G-2. ARE PATIENTS BIASED AGAINST MINORITY AND FEMALE PHYSICIANS? EVIDENCE THAT BIAS PREDICTS PHYSICIAN EVALUATIONS

10:45 AM - 11:00 AM: Tue. Oct 20, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: PATIENT-PROVIDER INTERACTION AND COMMUNICATION

***Elizabeth S. Focella, PhD**, University of Wisconsin Oshkosh, Oshkosh, WI and Victoria A. Shaffer, PhD, University of Missouri, Columbia, MO*

Purpose: After a medical visit, patients are often asked to evaluate their physician. These evaluations are used to monitor physician performance and patient satisfaction. However, patients may have pre-existing biases that might unduly influence their evaluation of racial minority and female physicians. Two studies examined the role of racial bias (Study 1) and gender bias (Study 2) in evaluations of minority and female physicians.

Method: In both studies, college students were asked to take the role of a patient while reading a vignette in which a doctor attempted to diagnose their persistent cough. In Study 1 (N=203) the doctor in the vignette was either portrayed as an Arab or White male, using different surnames. Participants then evaluated the doctor and the visit. To measure their level of implicit bias against people of Arab descent, participants then completed an Implicit Association Test (IAT; Greenwald, Nosek, & Banaji, 2003). In Study 2 (N=61), the doctor was either portrayed as a White female or male. Participants then evaluated the doctor and the visit and completed a measure of their gender bias.

Result: In Study 1, participants who read about a physician with an Arab surname rated him as less thorough (p=.006), lower in physician quality (intelligence, diagnostic ability, and professionalism, alpha=.86, p=.023) and gave him a lower overall grade (p=.006) compared to participants who evaluated a White physician. Participants also expressed less trust in their Arab physician (p=.032), and marginally less satisfaction with his treatment (p=.087). The negative evaluations of the physician with an Arab surname were significantly predicted by participants' implicit bias against people of Arab descent (p=.03).

In Study 2, relative to female participants, male participants rated the female physician as less thorough (p=.008), lower in physician quality (intelligence, diagnostic ability, and professionalism, alpha=.85, p=.016) and gave her a lower overall grade (p=.015) compared to

the male physician. The negative evaluations of the female physician were significantly predicted by participants' gender bias (p=.04).

Conclusion: A growing number of physicians in the U.S. are racial minorities and/or female. Due to patients' preexisting biases, minority and female physicians may receive poorer evaluations that could negatively, and erroneously, impact their career and ability to effectively practice medicine.

3G-3. FACTORS AFFECTING PHYSICIANS' INTENTIONS TO COMMUNICATE PERSONALIZED PROGNOSTIC INFORMATION TO CANCER PATIENTS AT THE END OF LIFE: AN EXPERIMENTAL VIGNETTE STUDY

11:00 AM - 11:15 AM: Tue. Oct 20, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: PATIENT-PROVIDER INTERACTION AND COMMUNICATION

Paul K. J. Han, MD, MA, MPH[1], *Nathan Dieckmann, PhD*[2], *Tina Holt, MD*[1], *Caitlin Gutheil, MS*[1] *and Ellen Peters, PhD*[3], *(1)Maine Medical Center Research Institute, Portland, ME, (2)Oregon Health & Science University, Portland, OR, (3)Ohio State University, Columbus, OH*

Purpose:

To explore the effects of personalized prognostic information on physicians' intentions to communicate prognosis to cancer patients at the end of life, and to identify situational and physician characteristics that moderate these effects.

Method:

A factorial experiment was conducted among a sample of 93 Family Medicine physicians affiliated with residency training programs in northern New England. Participants were presented with a hypothetical case vignette depicting an acutely ill, end-stage gastric cancer patient asking about his prognosis. Participants' intentions to communicate prognostic information were assessed both before and after provision of an evidence-based, personalized prognostic estimate (78% mortality risk) from a hypothetical clinical prediction model. The emotional state of the hypothetical patient (distressed vs. non-distressed) and ambiguity in the prognostic estimate (ambiguous risk range vs. unambiguous point estimate) were varied between subjects. Other potential determinants of prognostic communication were measured: 1) perceived patient distress, 2) perceived credibility of prognostic models, 3) individual differences in physicians' objective and subjective numeracy, and 4) individual differences in physicians' aversion to ambiguity. General linear models were used to assess the effects of personalized prognostic information on the change in prognostic communication intentions, and to identify factors that moderate these effects and influence intentions to communicate available prognostic information.

Result:

Provision of personalized prognostic information significantly increased prognostic communication intentions ($p<.001$, $\eta^2=.39$). There were no significant effects of the experimental factors (patient distress, prognostic ambiguity) on change in communication intentions. However, several variables moderated the effects of prognostic information.

Greater change in prognostic communication intentions following provision of prognostic information was associated with lower perceptions of patient distress (p=.01, η^2_p=.08), greater objective numeracy (p=.03, η^2_p=.06), greater perceived credibility of prognostic models (p=.056, η^2_p=.045), and lower ambiguity aversion (p=.07, η^2_p=.04). Similarly, greater intentions to communicate personalized prognostic information were associated with greater subjective numeracy (β=.19, p=.005, η^2=.10), lower ambiguity aversion (β=-.08, p=.008, η^2=.08), and greater perceived credibility of prognostic models (β=.49, p=.02, η^2=.06).

Conclusion:

The provision of personalized prognostic information increases physicians' intentions to communicate prognosis to a hypothetical cancer patient at the end of life, and several situational and physician characteristics moderate this effect. More research is needed to confirm these findings in actual clinical practice, and to identify and reduce barriers to prognostic communication in end-of-life care.

3G-4. VARIABILITY IN PHYSICIAN PROGNOSIS AND RECOMMENDATIONS FOR LIFE SUSTAINING TREATMENT AFTER INTRACEREBRAL HEMORRHAGE

11:15 AM - 11:30 AM: Tue. Oct 20, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: PATIENT-PROVIDER INTERACTION AND COMMUNICATION

Darin Zahuranec, MD, MS[1], *Angela Fagerlin, PhD*[2], *Brisa Sanchez, PhD*[3], *Meghan Roney, MPH*[1], *Andrea Fuhrel-Forbis, MA*[1] *and Lewis Morgenstern, MD*[4], *(1)University of Michigan Center for Bioethics and Social Sciences in Medicine, Ann Arbor, MI, (2)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI, (3)University of Michigan School of Public Health, Ann Arbor, MI, (4)University of Michigan, Ann Arbor, MI*

Purpose: The role of physicians in the observed variability in end-of-life treatment decisions remains under debate. We investigated physician prognostic estimates and treatment recommendations in intracerebral hemorrhage (ICH), a particularly severe type of stroke where early limitations in life-sustaining treatments are common.

Methods: A written survey was mailed to 3727 practicing US neurologists and neurosurgeons consisting of two scenarios of moderate to severe ICH. Selected factors were randomly varied including patient characteristics (age, clinical severity) and presence (versus absence) of a validated prognostic score indicating probability of 90-day functional recovery. All patients were described as being functionally independent at baseline and having no explicit advance directives but a general preference to avoid long-term dependence on machines. Physicians were asked to indicate their predictions of 30-day mortality (free text write-in from 0-100%) and initial treatment recommendations (6-point ordinal scale from 1: comfort only to 6: full treatment, dichotomized as 1-3 vs. 4-6 for analysis). Multilevel marginal regression models were used to investigate predictors of physician-predicted mortality and treatment recommendations.

Results: A total of 816 physicians responded (response rate 22%), with complete data available for 742. Mean age was 52, 32% were neurosurgeons, and 17% were female.

Physician predictions of 30-day mortality varied widely (Figure 1). Physician factors associated with mortality prediction included surgical specialty (p<0.001; surgeons more optimistic than non-surgeons), geographic region (p=0.02; West was most optimistic), and number of ICH cases seen in the prior year (p<0.01; 16+ cases more pessimistic than 1-15 cases). Other physician factors including age, race, sex, and personality characteristics (empathy, religious importance, optimism) were not associated with mortality predictions. Treatment recommendations also varied widely (Figure 2), though none of the investigated physician demographic or personality characteristics were associated with treatment recommendations. Providing the results from a validated prognostic score did alter physicians' overall treatment recommendations (p<0.001), though this effect was mostly seen in the younger, moderately severe case (odds ratio for predicting limited treatment 0.22, 95% CI 0.10, 0.50, p<0.001).

Conclusions: Physicians vary substantially in their prognostic estimates and treatment recommendations for ICH. Providing physicians with a formal prognostic score does change their treatment recommendations, though the impact of the prognostic score depends on patient characteristics.

Figure 1: Distribution of 30-day mortality by patient age and clinical severity

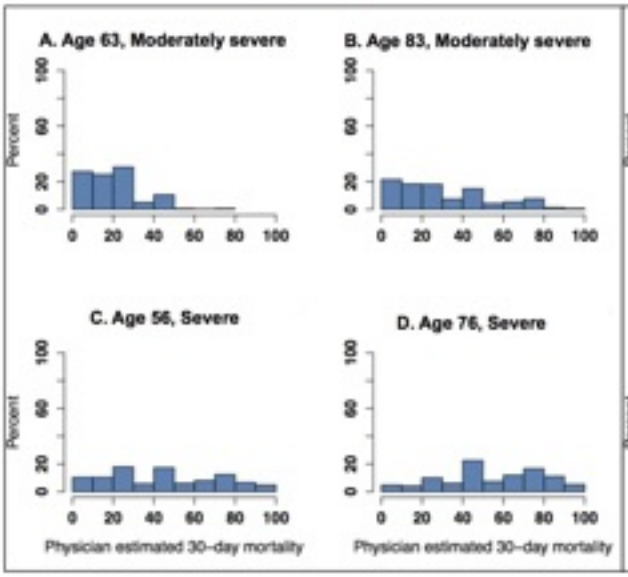
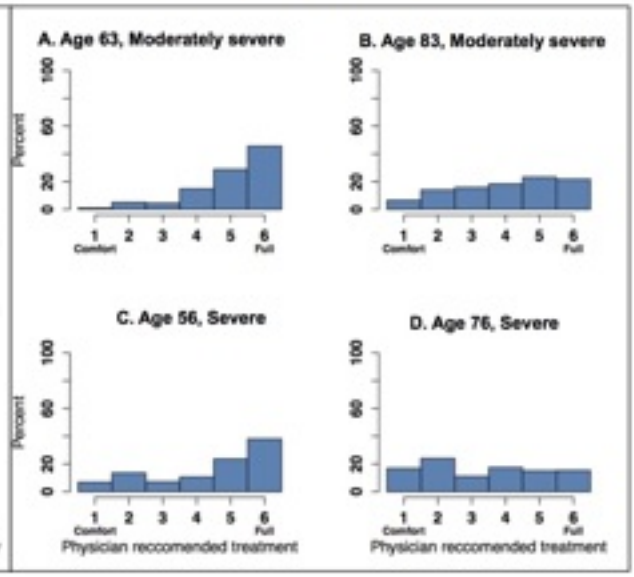


Figure 2: Distribution of treatment recommendations by patient age and clinical severity



3G-5. WHAT LEADS PARENTS TO SAY YES, NO OR MAYBE TO HUMAN PAPILLOMAVIRUS VACCINATION? THE ROLE OF PROVIDER RECOMMENDATION QUALITY

11:30 AM - 11:45 AM: Tue. Oct 20, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: PATIENT-PROVIDER INTERACTION AND COMMUNICATION

Melissa Gilkey, PhD[1], *William Calo, PhD*[2], *Jennifer Moss, PhD*[2] *and Noel T. Brewer, PhD*[3], *(1)Harvard Medical School, Boston, MA, (2)University of North Carolina, Chapel Hill, NC, (3)Department of Health Behavior, Gillings School of Global Public Health, The University of North Carolina at Chapel Hill, Chapel Hill, NC*

Purpose: Only 38% of adolescent girls and 14% of adolescent boys complete the three-dose human papillomavirus (HPV) vaccine series, despite its excellent safety profile, mounting

evidence of effectiveness, and national guidelines for routine administration. Research indicates that improving the implementation of HPV vaccination programs will require healthcare providers to recommend the vaccine more often and more strongly, but little is known empirically about which types of recommendation are most influential. Thus, we sought to investigate the relationship between provider recommendation quality and HPV vaccine decision making by parents of adolescents.

Method: In 2014 to 2015, we conducted a national, online survey of 1,495 U.S. parents who reported on the immunization history of an 11- to 17-year-old adolescent in their households. For parents who had received provider recommendations for HPV vaccination, our survey assessed recommendation quality on three indicators: 1) *strength of endorsement* (whether the provider said HPV vaccine was very important); 2) *urgency* (whether the provider recommended vaccinating today); and 3) *prevention message* (whether the provider said HPV vaccine prevents cancer). Using an index of these indicators, we categorized parents as having received no, low-quality, or high-quality provider recommendations. Separate multivariable logistic regression models assessed associations between recommendation quality and HPV vaccination decisions, including *initiation* (acceptance of ≥1 dose), *follow through* (acceptance of 3 doses, among initiators), *refusal*, and *delay*.

Result: Almost half (48%) of parents reported no provider recommendation for HPV vaccination, while 16% received low-quality recommendations and 36% received high-quality recommendations. Compared to no recommendation, high-quality recommendations were associated with over nine times the odds of HPV vaccine initiation (OR=9.31, 95% CI, 7.10-12.22) and over three times the odds of follow through (OR=3.82, 95% CI, 2.39-6.11). Low-quality recommendations were more modestly associated with initiation (OR=4.13, 95% CI, 2.99-5.70), but not follow through. Parents who received high- versus low-quality recommendations less often reported HPV vaccine refusal or delay.

Conclusion: Our findings provide early evidence to suggest that high-quality recommendations are more effective than low-quality recommendations for encouraging HPV vaccine acceptance and discouraging refusal and delay. Given that only about one-third of parents received high-quality recommendations, interventions are needed to improve provider communication about HPV vaccine so as to support parents' decision making and address the persistent underuse of a powerful tool for cancer prevention.

3G-6. EARLY LESSONS FROM TESTING A "ONE SIZE FITS ALL" DECISION AID FOR END-OF-LIFE CARE IN ADVANCED STAGE COPD

11:45 AM - 12:00 PM: Tue. Oct 20, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: PATIENT-PROVIDER INTERACTION AND COMMUNICATION

Melissa Basile, PhD[1]*, Andrzej Kozikowski, PhD*[1]*, Lauren Uhler, MPH*[2] *and Negin Hajizadeh, MD, MPH*[3]*, (1)North Shore LIJ Health System, Manhasset, NY, (2)Dell Medical School at the University of Texas at Austin, Austin, TX, (3)Hofstra North Shore-LIJ School of Medicine, Manhasset, NY*

Purpose: To refine a decision aid that supports doctor-patient and patient-family discussions

about mechanical ventilation for advanced stage COPD, through analysis of: usability testing, interviews and focus groups.

Methods: We recruited 27 participants and held separate research study sessions for each stakeholder group: physicians (n=7), patients (n=11), family/caregivers (n=4), and a mixed-group of stakeholders (n=5). Sessions were comprised of three activities: 1) participant use of the decision aid with usability tasks, 2) one-on-one semi-structured interviews, and 3) participation in a focus group. Interview and focus group questions elicited stakeholder perceptions of our decision aid, understanding of the information presented, factors impacting decision making, and recommendations for improvement. Audio recordings were transcribed for thematic analysis. Themes were compared, revised, and interpreted within the context of decision aid revisions. Triangulation of data collected from each session and from the three activities was performed to increase comprehensiveness and robustness of data analysis.

Results: All participants felt the decision aid could facilitate this difficult conversation, and found the web-based platform acceptable. There was consensus for: wanting more information on establishing an advance directive; believing that quality of life issues were the most important factors in decision making; desiring information detailing quality of life after mechanical ventilation; and for technical improvements such as navigation and adding a glossary and links to forms. On the other hand: some participants found the information too shocking ("a slap in the face"), while others wanted more explicit and realistic information; and some participants recommended that potentially upsetting information about the likelihood of dying be placed upfront, while others felt it should appear later on in the tool. There were also varying opinions about when the decision aid should be introduced. As expected, those with lower numeracy had difficulty understanding data from pictographs. Additionally, analysis revealed that lived experiences with end-of-life treatments may have influenced participants' ability to understand the data, and their willingness to incorporate the data into their decision making.

Conclusions: A decision aid designed to inform end-of-life decision making for advanced stage COPD needs to allow for heterogeneity in the level of detail wanted and preferences for the ways in which that information is presented; and consider the impact of lived experience on understanding prognostic information and the informed decision making process.

3H. ORAL ABSTRACTS: CANCER OUTCOMES RESEARCH AND POLICY

« Previous Session | Next Session »

10:30 AM - 12:00 PM: Tue. Oct 20, 2015
Grand Ballroom B

Session Summary:

10:30 AM - 10:45 AM

3H-1. NOVEL BIOMARKERS TO TRIAGE WOMEN WITH MINOR CERVICAL LESIONS: QUANTIFYING THE COST-EFFECTIVENESS TRADEOFFS TO ENSURE FEASIBLE

IMPLEMENTATION

10:45 AM - 11:00 AM

3H-2. COMPARISON OF LUNG CANCER SCREENING GUIDELINES WITH OTHER MAJOR PREVENTIVE CARE SERVICES IN SMOKERS

11:00 AM - 11:15 AM

3H-3. MODELING BREAST CANCER RISK IN YOUNGER WOMEN A FIRST STEP IN THE DEVELOPMENT OF RISK-STRATIFIED MAMMOGRAPHIC SCREENING

11:15 AM - 11:30 AM

3H-4. VALUE OF ADDITION OF HPV VACCINATION TO ANAL PRECANCEROUS LESION TREATMENT IN OLDER MSMDO WE NEED FURTHER EVIDENCE?

11:30 AM - 11:45 AM

3H-5. PREDICTING UTILITY SCORES FOR MYELOFIBROSIS PATIENTS: MAPPING THE MYELOFIBROSIS SYMPTOM ASSESSMENT FORM AND MYELOPROLIFERATIVE SYMPTOM ASSESSMENT FORM TO THE EUROQOL-5D

11:45 AM - 12:00 PM

3H-6. A MODEL-BASED COMPARISON OF EVALUATION STRATEGIES FOR URINARY TRACT MALIGNANT TUMORS IN PATIENTS WITH ASYMPTOMATIC MICROSCOPIC HEMATURIA

Abstracts:

3H-1. NOVEL BIOMARKERS TO TRIAGE WOMEN WITH MINOR CERVICAL LESIONS: QUANTIFYING THE COST-EFFECTIVENESS TRADEOFFS TO ENSURE FEASIBLE IMPLEMENTATION

10:30 AM - 10:45 AM: Tue. Oct 20, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: CANCER OUTCOMES RESEARCH AND POLICY

***Kine Pedersen, MPhil**, Department of Health Management and Health Economics, University of Oslo, Oslo, Norway, Sveinung Wergeland Sørbye, MD, PhD, University Hospital of North Norway, Tromsø, Norway, Ivar Sønbø Kristiansen, MD, PhD, MPH, University of Oslo, Oslo, Norway and Emily A. Burger, PhD, Harvard T. H. Chan School of Public Health, Boston, MA*

Purpose: In Norway, primary Human papillomavirus (HPV) testing is currently not recommended for younger women (*i.e.*, ages 25-33), yet emerging screening technologies may still allow improvements for other areas of the cervical cancer screening algorithm. We aimed to inform Norwegian decision-makers about the short-term consequences associated with the use of alternative biomarkers to triage younger women with minor cervical lesions (*i.e.*, ASC-US/LSIL).

Methods: We expanded a previously developed probabilistic decision-tree model that projected the health and economic consequences of alternative triage strategies for women with ASC-US/LSIL through a single screening round (*i.e.*, three years). We compared the current Norwegian guidelines (*i.e.*, reflex HPV DNA testing with delayed HPV testing and cytology for HPV positive), to 12 candidate triage strategies that involved alternative biomarkers (*i.e.*, reflex HPV DNA and mRNA testing, p16/Ki67 dual-staining), in terms of the number of detected precancers (*i.e.*, CIN2+) and resource use (*i.e.*, societal costs and colposcopy referrals). To identify efficient strategies, we calculated the incremental cost-effectiveness ratios (ICER) in terms of the additional costs per additional detected precancer for each strategy compared with the next most costly strategy. In addition, we considered feasibility by calculating the expected increase in colposcopy referrals for each efficient strategy compared with current Norwegian guidelines.

Results: Four out of the 13 strategies were considered cost-efficient (ICER range: $3,796 to $45,897 per additional detected precancer). The current guidelines detected fewer precancers and required higher costs than alternative strategies. In comparison, a strategy involving HPV mRNA testing detected 13% more precancers and reduced costs by 14%, though required 14% more colposcopy referrals. Strategies involving HPV DNA testing with immediate colposcopy for HPV positive were expected to increase precancer detection by 50%, but would also require twice as many colposcopies compared to current guidelines.

Conclusion: Novel biomarkers may be used to improve the effectiveness and efficiency of cervical cancer screening for younger women with minor cervical lesions. However, the optimal strategy depends on decision-makers willingness to accept higher resource use (either costs and/or colposcopy referrals) as well as the potential capacity constraints of Norwegian pathology laboratories. Although the use of novel biomarkers is promising, models can be expanded to investigate the long-term consequences of these strategies.

3H-2. COMPARISON OF LUNG CANCER SCREENING GUIDELINES WITH OTHER MAJOR PREVENTIVE CARE SERVICES IN SMOKERS

10:45 AM - 11:00 AM: Tue. Oct 20, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: CANCER OUTCOMES RESEARCH AND POLICY

***Glen Taksler, PhD**, Cleveland Clinic, Cleveland, OH*

Purpose: To help providers understand the health benefit of new lung cancer screening guidelines (recommended in 2013) relative to other major preventive care services in smokers.

Method: Using national data on the distribution of major risk factors in smokers, we simulated a panel of smokers aged 55-80 years. For each individual, we applied an existing quantitative model to estimate the gain in life expectancy associated with discussion of guidelines graded “A” or “B” by the US Preventive Services Task Force, controlling for patient characteristics (age, race, gender, lifestyle, and comorbidity). To estimate the probability that discussion of a guideline would result in patient action (for example, obtaining a lung CT), we applied estimates of individual adherence rates, characterized by guideline as “easy” or “difficult”. We assumed adherence rates of 70% for easy guidelines (including lung cancer screening) and 30% for difficult guidelines (including tobacco cessation) in the first year, with a steady decline

thereafter. We rank-ordered guidelines by their increase in adherence-adjusted life expectancy, to compare the net benefits of lung cancer screening with other major preventive care recommendations.

Result: In a hypothetical 55-year-old white female current smoker with a 30 pack-year history, hypertension (BP=140/90), mildly elevated lipids (TC=240, LDL=110), obesity (BMI=30), and no family history of cancer, discussion of lung cancer screening was estimated to add 2 months to adherence-adjusted life expectancy. Discussion of lung cancer screening offered less health benefit than discussion of tobacco cessation (+6 months), blood pressure control (+4 months), and weight loss (+4 months); similar benefit to discussion of aspirin (+2 months); and more benefit than discussion of screenings for colorectal cancer and breast cancer (+1 month each). Therefore, despite the difficulty of quitting smoking, discussion of tobacco cessation was 3 times more likely to improve life expectancy than discussion of lung cancer screening. The rank-order of recommendations was similar for other races and genders, with the relative importance of discussing tobacco cessation highest in black males (+11 months for quitting smoking vs. +2 months for lung cancer screening). Discussion of lung cancer screening consistently offered more health benefit than discussion of screening for abdominal aortic aneurysm, which is guideline-recommended for male smokers, but offered <1 month of additional life expectancy.

Conclusion: Analytic models may help to put lung cancer screening guidelines in perspective.

3H-3. MODELING BREAST CANCER RISK IN YOUNGER WOMEN A FIRST STEP IN THE DEVELOPMENT OF RISK-STRATIFIED MAMMOGRAPHIC SCREENING

11:00 AM - 11:15 AM: Tue. Oct 20, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: CANCER OUTCOMES RESEARCH AND POLICY

Marquita Decker, MD, MPH[1], *Nicolien T. van Ravesteyn, PhD*[2], *Amy Trentham-Dietz, PhD*[1], *Oguzhan Alagoz, PhD*[3], *Harry J. de Koning, MD, PhD*[4], *Lee Wilke, MD*[5] *and David J. Vanness, Ph.D.*[6], *(1)University of Wisconsin, Madison, WI, (2)Erasmus MC, University Medical Center, Department of Public Health, Rotterdam, Netherlands, (3)University of Wisconsin-Madison, Madison, WI, (4)Erasmus MC, University Medical Center, Rotterdam, Netherlands, (5)Department of Surgery, University of Wisconsin, Madison, WI, (6)University of Wisconsin, Department of Population Health Sciences, Madison, WI*

Purpose:

The US Preventive Services Task Force recommends biennial breast cancer screening for women ages 50 to 74 with average risk of breast malignancy. Consensus exists regarding annual mammographic screening of selected high risk individuals. However there is uncertainty about screening women under age 50 with intermediate breast cancer risk. This study modeled lifetime breast cancer risk in the US population of women ages 35 to 49 to facilitate future development of risk-stratified screening.

Method:

Data from the US Census Bureau, National Cancer Institutes, Breast Cancer Screening Consortium, and the National Health Interview Survey were used to estimate breast cancer risk

factor prevalence in the US population. Family history, parity, previous breast biopsy, breast density, and BRCA1&2 mutations were considered as informative risk factors. Monte Carlo simulation modeling was used to estimate proportions of the population with low to average (≤12.5%), intermediate (12.6%-30%), and high (>30%) lifetime breast cancer risk.

Result:

Women ages 35 to 49 make up 10% of the US population and 27% of all adult women. Estimates of risk factor prevalence demonstrated that 6% (95%CI: 5.8-7.1%) have at least one first degree relative with breast cancer, 24%(95%CI: 22.5-24.7%) are nulliparous, 2% (95%CI: 1.9-2.7) had a previous breast biopsy, 55% (95%CI: 54-55%) have BIRADS III or IV breast density, and 0.9% (95%CI: 0.5-1.2%) carried BRCA1 or 2 mutations. Based on this risk factor prevalence, an estimated 87% of women have low to average risk, 12% have intermediate risk, and 1% have a high lifetime risk of breast cancer.

Conclusion:

A substantial proportion of women ages 35 to 49 in the US are estimated to have intermediate lifetime risk of breast cancer. Therefore further development of risk-stratified screening in this age group is warranted.

3H-4. VALUE OF ADDITION OF HPV VACCINATION TO ANAL PRECANCEROUS LESION TREATMENT IN OLDER MSMDO WE NEED FURTHER EVIDENCE?

11:15 AM - 11:30 AM: Tue. Oct 20, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: CANCER OUTCOMES RESEARCH AND POLICY

Ashish A. Deshmukh, Ph.D., M.P.H.[1], *Scott B. Cantor, Ph.D.*[1], *Elisabeth A.L. Fenwick, PhD*[2], *Elizabeth Chiao, M.D., M.P.H.*[3], *Alan Nyitray, Ph.D.*[4], *Prajnan Das, M.D., M.S., M.P.H.*[1] *and Jagpreet Chhatwal, PhD*[1], *(1)The University of Texas MD Anderson Cancer Center, Houston, TX, (2)ICON plc, Oxford, United Kingdom, (3)Baylor College of Medicine, Houston, TX, (4)The University of Texas School of Public Health, Houston, TX*

Purpose: Observational studies have shown that quadrivalent human papillomavirus (qHPV) vaccination of 27 years or older HIV-negative men who have sex with men (MSM) who were treated for initial high-grade squamous intraepithelial lesion (HSIL)—anal precancerous lesion—reduces the risk of recurrent HSIL. Our objective was to explore the value for future research on qHPV vaccination in 27 years or older MSM treated for initial HSIL.

Method: We created two separate Markov models for HIV-positive and HIV-negative MSM evaluating the cost-effectiveness for inclusion of qHPV vaccine as adjuvant/secondary prevention strategy after treatment for initial HSIL. The vaccine efficacy was defined as the decrease in the hazards of developing recurrent HSIL. Using the outputs from the probabilistic sensitivity analysis, we estimated the population-level expected value of perfect information (pEVPI), and population-level expected value of partial perfect information (pEVPPI) for key model parameters including HSIL to anal cancer progression vaccine efficacy, probability of HSIL recurrences, HPV 16/18 incidence, and utilities. The population-level values were estimated for the number of MSM who would be potentially benefited from the vaccination over the next 20 years at an annual discount rate of 3%.

Result: The pEVPI in HIV-positive and HIV-negative MSM at willingness-to-pay threshold of $100,000/quality-adjusted life year (QALY) were $0 and $580,000, respectively. The two parameters with highest expected value of partial perfect information (pEVPPI) were vaccine efficacy (at $0/QALY ICER in HIV-positive and $200,000/QALY in HIV-negative MSM) and HSIL to anal cancer progression (at $0/QALY ICER in HIV-negative and $195,000/QALY in HIV-positive MSM). The EVPPI for other parameters—probability of HSIL recurrences, HPV 16/18 incidence, and utilities—were low.

Conclusion: In HIV-positive MSM, a future clinical trial may not be worthwhile, and implementation of the vaccination policy sooner rather than later should be a priority. In HIV-negative MSM, a future research could be potentially worthwhile if the fixed cost of research is less than $580,000. In both HIV-positive and HIV-negative MSM, further research regarding the estimation of HSIL to anal cancer progression may not be worthwhile. The lower EVPPI associated with the parameters like probability of HSIL does not mean that additional research about these inputs should take a lower priority, the low values indicate that precise estimates could be obtained from less expensive observational studies.

3H-5. PREDICTING UTILITY SCORES FOR MYELOFIBROSIS PATIENTS: MAPPING THE MYELOFIBROSIS SYMPTOM ASSESSMENT FORM AND MYELOPROLIFERATIVE SYMPTOM ASSESSMENT FORM TO THE EUROQOL-5D

11:30 AM - 11:45 AM: Tue. Oct 20, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: CANCER OUTCOMES RESEARCH AND POLICY

*Chang Ho Lee, BSc[1], Karen E Bremner, BSc[2], Paul Grootendorst, PhD[1], Jolie Ringash, MD, MSc[3], Murray D Krahn, MD, MSc, FRCPC[4] and **Nicholas Mitsakakis, MSc PhD**[4], (1)University of Toronto, Toronto, ON, Canada, (2)University Health Network, Toronto, ON, Canada, (3)University of Toronto and the Princess Margaret Cancer Centre (PMCC), Toronto, ON, Canada, (4)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada*

Purpose:

Health utility is a preference-based measure of quality of life that informs healthcare resource allocation decisions. Utilities are commonly measured using generic instruments, such as the EuroQol-5D (EQ-5D), that are applicable to diverse disease areas. The quality of life of patients with myleofibrosis, however, is often measured using disease-specific profile instruments, including the Myelofibrosis Symptom Assessment Form (MF-SAF) and Myeloproliferative Symptom Assessment Form (MPN-SAF). In order to estimate utilities and compare the quality of life of patients with myleofibrosis to patients with other conditions, we mapped the MFSAF and MPN-SAF instruments to EQ-5D utility scores.

Method:

174 patients with myelofibrosis completed the MF-SAF, MPN-SAF and EQ-5D by online survey and mail. Patients were recruited from English-speaking countries (Canada, US, UK, and Australia) through a local myelofibrosis patient support group and websites of national and international support groups. We fitted two linear regression models for each myelofibrosis instrument, one using the original EQ-5D scores as a response variable and one which applied

the Box-Cox power transformation to EQ-5D scores. Models were selected using stepwise selection and Akaike Information Criterion (AIC) and adjusted R^2 criterion approach. Bootstrap was used to validate and assess any overfitting in the models. The predictive accuracy of the models was assessed with Root Mean Square Error (RMSE). Spearman Correlation between the predicted and observed utility scores was calculated to measure predictive ability.

Result:

The best-fitting model for both the MF-SAF and MPN-SAF used the power of two-transformed EQ-5D utility scores. Prior to transformation, a small constant (of 0.466) needed to be added to the utility scores to ensure their value was positive. The R^2 values were 0.40 and 0.55 for the MF-SAF and MPN-SAF, respectively, and the RMSE were small at 0.46 (MF-SAF) and 0.39 (MPN-SAF)

Conclusion:

Our mapping algorithm predicts EQ-5D scores from MF-SAF and MPN-SAF scores, thus allowing estimation of utilities for groups of myelofibrosis patients who completed only the MF-SAF or MPN-SAF in clinical studies. However, as in previous mapping studies, our model is less accurate in predicting utilities for individual patients. We are exploring various statistical techniques with the goal of improving the accuracy of models to map utilities from descriptive instruments. Our next step will be to create a mapping algorithm using different types of regression.

3H-6. A MODEL-BASED COMPARISON OF EVALUATION STRATEGIES FOR URINARY TRACT MALIGNANT TUMORS IN PATIENTS WITH ASYMPTOMATIC MICROSCOPIC HEMATURIA

11:45 AM - 12:00 PM: Tue. Oct 20, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: CANCER OUTCOMES RESEARCH AND POLICY

Matthew Nielsen, MD, MS[1], *Stephanie B. Wheeler, PhD, MPH*[2], *Daniel Erim, MD, MSc*[2], *Mihaela Georgieva, BA*[2] *and Casey Ng, MD*[3], *(1)University of North Carolina, Chapel Hill, NC, USA, Chapel Hill, NC, (2)University of North Carolina at Chapel Hill, Chapel Hill, NC, (3)Kaiser Permanente Southern California, Fontana, CA*

Purpose: Asymptomatic microscopic hematuria (AMH) is common in the general adult population. AMH is considered a risk factor for urinary tract malignant tumors and its presence is a frequent reason for urologic referral. The recommendations for evaluation and management of patients with asymptomatic microscopic hematuria vary among different clinical practice guidelines, with approaches ranging from extensive evaluations of the majority of patients to patient risk-stratification to avoid unnecessary workup. The purpose of this study was to compare the US guidelines with international guidelines and alternative evaluation strategies for urinary tract malignant tumors in adult patients with asymptomatic microscopic hematuria.

Method: We used a patient-level microsimulation model from the perspective of a US public insurance payer to assess different initial evaluation strategies for urinary tract cancers in a hypothetical cohort of 100,000 adult AMH patients. The analytic horizon was one urology clinic

visit. We compared the benefits and trade-offs in terms of costs per patient, cancer detection rates (including missed cancer cases), secondary cancers and related mortality from radiation exposure as well as the burden of procedural complications and incidental findings. We also calculated the incremental cost effectiveness ratios (ICERs) for the different evaluation strategies as incremental cost per additional cancer case detected.

Result: The American Urological Association (AUA) guidelines recommending extensive evaluations for all AMH patients, including multi-phasic computed tomography (CT), were associated with a greater number of detected cancer cases at a higher cost than the alternative risk-stratification evaluation strategies. The AUA strategy had an ICER of over $200,000 per additional cancer case detected compared to an evaluation strategy stratifying patients in three risk groups using a Hematuria Risk Index. In addition, the AUA guidelines were associated with a higher number of radiation-induced cancer cases, deaths from radiation-induced cancer, short-term procedural complications, and incidental findings than the alternative evaluation strategies using patient risk-stratification.

Conclusion: Risk-stratification of AMH patients is an important way to avoid unnecessary workup and complications by tailoring initial evaluation based on patients' risk for developing urinary tract malignancies. The results from this study suggest that low-risk AMH patients can avoid extensive workup altogether while medium-risk AMH patients can undergo a less intensive initial evaluation than that recommended by the AUA.

3I. ORAL ABSTRACTS: PATIENT PREFERENCES AND ENGAGEMENT

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10:30 AM - 12:00 PM: Tue. Oct 20, 2015
Grand Ballroom C

Session Summary:

10:30 AM - 10:45 AM

3I-1. IMPACT OF MULTIPLE TEST OPTIONS ON INTENT-TO-SCREEN AMONG A PREVIOUSLY UNSCREENED POPULATION

10:45 AM - 11:00 AM

3I-2. WHY ARE SO MANY PATIENTS DISSATISFIED WITH KNEE REPLACEMENT SURGERY? REFLECTIONS AND RESULTS FROM A MULTIPHASE MIXED METHODS STUDY IN BRITISH COLUMBIA

11:00 AM - 11:15 AM

3I-3. USE OF BEST-WORST SCALING TO ASSESS PATIENT PREFERENCES FOR REFRACTORY OVERACTIVE BLADDER TREATMENTS

11:15 AM - 11:30 AM

3I-4. PATIENT BELIEFS AND PREFERENCES DO NOT EXPLAIN VARIATION IN SUBSEQUENT TESTING AFTER INITIAL EVALUATION FOR ISCHEMIC HEART DISEASE

11:30 AM - 11:45 AM

3I-5. HEALTH UTILITY SCORES IN CHILDHOOD CANCER SURVIVORS: INSIGHTS FROM THE CHILDHOOD CANCER SURVIVOR STUDY

11:45 AM - 12:00 PM

3I-6. PREDICTING THE HUI3 AND EQ-5D FROM THE MOS-HIV IN PATIENTS WITH ADVANCED HIV

Abstracts:

3I-1. IMPACT OF MULTIPLE TEST OPTIONS ON INTENT-TO-SCREEN AMONG A PREVIOUSLY UNSCREENED POPULATION

10:30 AM - 10:45 AM: Tue. Oct 20, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: PATIENT PREFERENCES AND ENGAGEMENT

Doria Cole[1]*, Julia Gaebler, PhD*[1]*, Erik Mai*[1]*, Donna Hochberg*[1]*, Michael C. Dugan, MD*[2]*, Audrey H. Calderwood, MD, MS*[3] *and Paul C. Schroy III, MD, MPH*[3]*, (1)Health Advances, LLC, Weston, MA, (2)Exact Sciences Corporation, Madison, WI, (3)Boston University School of Medicine, Boston, MA*

Purpose: Colorectal cancer (CRC) screening is recommended for persons aged 50-75 who are at average risk of CRC. However, compliance with this recommendation has been historically low. In light of the introduction of a new stool-based CRC screening test, this study sought to understand the impact of educating patients on CRC screening test options on self-reported intent-to-screen within the next year.

Method: A web-based survey was developed for persons aged 50-75, who were at average risk of CRC, but who have not yet undergone screening. Respondents were asked a series of questions to gauge their perspectives on CRC screening, their knowledge of CRC screening tests, and, using a 5-point Likert-type scale, their baseline intent-to-screen in the next year (1=definitely not, 3=maybe, 5=definitely). Respondents were then introduced to the profiles of 5 available CRC screening tests: colonoscopy, flexible sigmoidoscopy (FS), fecal occult blood testing (FOBT), fecal immunochemical testing (FIT), and stool DNA testing. Each profile contained a brief description about the test, and information on dietary preparation, time requirements, physical discomfort, complication risk, frequency of testing, accuracy, and follow up. After reviewing the test profiles, respondents were asked another series of questions to elicit their preferred CRC screening option and the test attributes influencing their choice. They were then asked again, on the same Likert-type scale, their intent to undergo CRC screening in the next year.

Result: To date, 415 eligible persons have completed the survey, representing a diverse population in terms of gender, race/ethnicity, education, and income. Prior to reviewing the test profiles, the majority of respondents were unaware of CRC screening options other than

colonoscopy. Following their introduction to various CRC screening tests, self-reported intent-to-screen increased significantly ($p<0.05$), using a one-tailed, paired t-test, from a mean (SD) of 2.89 (SD=1.20) to 3.61 (SD=1.19). 67% of patients indicated they had never discussed CRC screening with their physicians in the past; of the 33% of patients who had been counseled on CRC screening, most were recommended only colonoscopy.

Conclusion: Awareness of CRC screening options other than colonoscopy may increase patients' intentions to undergo screening in the next year. These findings affirm the need to educate patients on the importance of CRC screening and to provide alternate test options to patients unwilling or unable to undergo colonoscopy.

3I-2. WHY ARE SO MANY PATIENTS DISSATISFIED WITH KNEE REPLACEMENT SURGERY? REFLECTIONS AND RESULTS FROM A MULTIPHASE MIXED METHODS STUDY IN BRITISH COLUMBIA

10:45 AM - 11:00 AM: Tue. Oct 20, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: PATIENT PREFERENCES AND ENGAGEMENT

Stirling Bryan[1]*, Laurie J Goldsmith*[2]*, Richard Sawatzky*[3]*, Valerie MacDonald*[4]*, Jennifer Davis*[1]*, Samar Hejazi*[5]*, Patrick McAllister*[6]*, Ellen Randall*[7]*, Jessica Shum*[1] *and Nitya Suryaprakash*[1]*, (1)Centre for Clinical Epidemiology & Evaluation, Vancouver, BC, Canada, (2)Simon Fraser University, Burnaby, BC, Canada, (3)Trinity Western University, Langley, BC, Canada, (4)Fraser Health Authority, Burnaby, BC, Canada, (5)Fraser Health Authority, Surrey, BC, Canada, (6)Island Health, Victoria, BC, Canada, (7)School of Population and Public Health, Vancouver, BC, Canada*

Purpose: Whilst total knee arthroplasty (TKA) is the most common joint replacement surgery in Canada, published research indicates dissatisfaction post-surgery in up to 20% of patients. This statistic is troubling, especially as the underlying problems and solutions remain unclear, but also offers potential for service improvement and efficiency gains. Our research team is currently investigating this question through a longitudinal mixed methods cohort study: Patient Experience of Arthroplasty of the Knee (PEAK).

Method: Our project explores patient satisfaction, experience and outcomes quantitatively (using survey data collected at 6 and 12 months, and administrative data) and qualitatively (interviews conducted at 7 and 13 months post-surgery). A cohort of 515 patients has been established—57 of which were purposefully sampled for the qualitative portion—with recruitment from all regions of British Columbia. A highly engaged patient cohort has been achieved, evidenced through very high response rates to our postal surveys (91% at 6 months, 88% at 12 months). To explain variation in survey-reported satisfaction, we used bivariate and multivariate ordered logistic regression using two-level (patient and health region) random intercept proportional odds models. The mixed methods frame for this project resulted from a team commitment to interdisciplinarity. Quantitative survey data have been used to inform sampling for the qualitative component, and qualitative data were used to support the quantitative analysis and interpretation. All team members are involved in regular qualitative and quantitative data discussions.

Result: Our survey data indicate a dissatisfaction rate of approximately 15% at both 6 and 12 months. Key drivers of variation in survey-reported dissatisfaction include: pre-surgery patient expectations and mental health (particularly depression); and post-surgery health outcomes, most notably pain and functional limitations (e.g., stiffness, mobility, usual activities, etc.). The qualitative data are supportive and complementary to our quantitative findings, indicating the importance of personal and clinical support, particularly post-surgery. In addition, patients reported dissatisfaction with not being sufficiently forewarned about post-surgical pain and having insufficient interaction with their surgeon and the health care system post-surgery.

Conclusion: These results indicate where the TKA process and the health care system might be able to provide better patient-centered care. Areas highlighted include patient selection, and post-operative care and support, particularly challenging the boundaries of where the health care system ends its relationship with the patient.

3I-3. USE OF BEST-WORST SCALING TO ASSESS PATIENT PREFERENCES FOR REFRACTORY OVERACTIVE BLADDER TREATMENTS

11:00 AM - 11:15 AM: Tue. Oct 20, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: PATIENT PREFERENCES AND ENGAGEMENT

***Kathleen Beusterien, MPH**, ORS Health, Washington DC, DC, Michael Kennelly, MD, FPMRS, FACS, Charlotte Continence Center, Charlotte, NC, Sandip Vasavada, MD, Cleveland Clinic Foundation, Cleveland, OH, Kaitlan Amos, BS, ORS Health, Andover, MA, Mary Jo Williams, BS, Medtronic, Fridley, MN and John F.P. Bridges, PhD, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD*

Purpose: Current treatments for refractory overactive bladder (OAB) differ considerably: sacral neuromodulation (SNM) involves implanting a device in the buttock; onabotulinumtoxinA involves injections into the bladder; and percutaneous tibial nerve stimulation (PTNS) involves inserting a needle into the ankle. We sought to use best-worst scaling (BWS) to assess patient preferences for differentiating attributes of these treatments and compare direct preference elicitation with the BWS scores versus traditional Likert responses.

Methods: Qualitative interviews with OAB patients and clinicians informed the development of an online survey incorporating several stated-preference methods. Best-worst scaling (Case 1) was used to assess 13 treatment features. Across 13 tasks presenting subsets of attributes, respondents identified the best and worst. A score ranging from -1.0 (worst) to 1.0 (best) were calculated based on the rates each attribute was chosen. Attitudes toward the attributes were assessed via like/dislike Likert scales, and patients were asked their percentage likelihood (0-100%) of trying each treatment, based on standardized treatment descriptions.

Results: 245 OAB patients (118 US, 127 UK) completed the survey (79% female; mean age of 50 + 7.8. ‘Lasting improvement’ (0.82), and ‘minimal side effects’ (0.67)’ were rated most favorably, and ‘implant complications’ (-0.65), and ‘Be willing to self-catheterize’ (-0.53) were rated worst. The percentage likelihood estimates for trying one of the three treatments were significantly correlated with the BWS scores. Specifically, the likelihood of trying SNM was correlated with ‘implanted device’ and ‘sends signals’, and negatively correlated with ‘repeated visits’, ‘needle in ankle’, and ‘minimal side effects’. The likelihood of trying onabotulinumtoxinA

was correlated with ‘Botox (botulinum toxin) treatment’, ‘self-catheterize’, ‘treatment via urethra’, and ‘minor procedure’, and was negatively correlated with ‘needle in ankle’, ‘implant complications’, ‘repeated visits’, and ‘implanted device’. The likelihood of trying PTNS was correlated with ‘needle in ankle’ and ‘sends signals’, and was negatively correlated with ‘minor procedure’ and ‘Botox (botulinum toxin) treatment’. In contrast, all the attribute like/dislike Likert scores only were positively correlated with willingness to try treatment, thus disliking attributes was not associated with willingness to try an alternative treatment.

Conclusions: BWS was successful in assessing the magnitude of patient preferences for attributes associated with different refractory OAB therapies. Compared to Likert items, BWS may be more sensitive in capturing both positive and negative attributes driving treatment selection.

3I-4. PATIENT BELIEFS AND PREFERENCES DO NOT EXPLAIN VARIATION IN SUBSEQUENT TESTING AFTER INITIAL EVALUATION FOR ISCHEMIC HEART DISEASE

11:15 AM - 11:30 AM: Tue. Oct 20, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: PATIENT PREFERENCES AND ENGAGEMENT

Joseph Ladapo, MD, PhD[1], *James M. Pitcavage, MS*[2], *John M. Pfeifer, MD*[2], *Ioulia A. Lee, MS*[2], *Jessica M. Runge*[2] *and Brent A. Williams, PhD*[2], *(1)New York University School of Medicine, New York, NY, (2)Geisinger Health System, Danville, PA*

Purpose: More than 4 million patients in the United States are newly evaluated each year for ischemic heart disease (IHD), and both policymakers and researchers have raised concerns about high variability in patterns of subsequent medical management and referral to follow-up cardiovascular tests and procedures, with reports of both under-treatment and over-treatment. Little is known about how patients’ beliefs and preferences influence subsequent clinical decisions, but a better understanding of this relationship is needed to effectively improve medical management and reduce unnecessary tests and procedures.

Method: We surveyed 280 randomly selected patients without prior diagnosis of IHD who were newly evaluated with stress echocardiography, stress myocardial perfusion imaging (MPI), or cardiac computed tomography angiography (CCTA) between November 1, 2013 and February 28, 2015 within Geisinger Health System. We assessed how important patients felt their initial test was to their health, whether they believed their initial test result was abnormal, and how likely they were to complete any recommended follow-up. Using electronic health records, we constructed logistic regression models of follow-up testing and procedures within 90 days while adjusting for anginal symptoms, initial test results, and other clinical and sociodemographic characteristics. Analyses accounted for survey design and nonresponse.

Result: Of 280 patients (mean age=59 years), 46% were men, 16% had diabetes, and 36% reported experiencing angina. The initial stress test or CCTA was abnormal in 8% and subsequent tests or procedures were performed on 11% (6% after normal test, 64% after abnormal test). Most patients felt their initial test was important (70%), had an accurate understanding of their test result (80%), and had strong preferences for completing recommended follow-up (64%). While cardiac risk factors and a test abnormality were associated with subsequent testing, patients’ beliefs about test importance (OR 0.9 [95% CI,

0.4–1.7]), understanding of initial results (OR 1.2 [95% CI, 0.6–2.7]), and preferences for follow-up (OR 0.9 [95% CI, 0.5–1.7]) were not.

Conclusion: Among patients with suspected ischemic heart disease, variation in subsequent testing and procedures cannot be explained by patient beliefs or preferences. Variation that leads to over-treatment or under-treatment may be better addressed by focusing on physician factors.

3I-5. HEALTH UTILITY SCORES IN CHILDHOOD CANCER SURVIVORS: INSIGHTS FROM THE CHILDHOOD CANCER SURVIVOR STUDY

11:30 AM - 11:45 AM: Tue. Oct 20, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: PATIENT PREFERENCES AND ENGAGEMENT

Jennifer M. Yeh, PhD[1], *Janel Hanmer, MD, PhD*[2], *Zachary J. Ward, MPH*[1], *Wendy Leisenring, ScD*[3], *Greg Armstrong, MD, MSCE*[4], *Melissa M. Hudson, MD*[4], *Marilyn Stovall, PhD*[5], *Les Robison, PhD*[4], *Kevin Oeffinger, MD*[6] *and Lisa Diller, MD*[7], *(1)Harvard T.H. Chan School of Public Health, Center for Health Decision Science, Boston, MA, (2)The University of Pittsburgh, Pittsburgh, PA, (3)Fred Hutchinson Cancer Research Center, Seattle, WA, (4)St. Jude Children's Research Hospital, Memphis, TN, (5)The University of Texas MD Anderson Cancer Center, Houston, TX, (6)Memorial Sloan Kettering Cancer Center, New York, NY, (7)Dana-Farber/Boston Children's Cancer and Blood Disorders Center and Harvard Medical School, Boston, MA*

Purpose: Although improvements in childhood cancer treatments have resulted in remarkable survival rate increases, survivors of childhood cancer face very high risks for serious chronic illness and premature death from late-effects in adulthood, including secondary cancers and cardiac disease. To date, utility weights are lacking for this unique, complex population, limiting comparative effectiveness modeling. We sought to understand the impact of late-effects on quality of life in childhood cancer survivors using health utility scores.

Methods: We calculated SF-6D health utility scores for childhood cancer survivors using SF-36v1 data (n=7105) from the NCI-sponsored Childhood Cancer Survivor Study (CCSS), a multi-institutional study of 5-year survivors of childhood and adolescent cancer, and the general population using SF-12v2 data (n=12,803) from the Medical Expenditures Panel Survey (MEPS). We calculated SF-6D scores for the overall cohort (age 18-49) and for sex- and age-strata (ages 18-29, 30-39, 40-49). We also compared SF-6D scores among survivor subgroups (e.g., based upon original cancer diagnosis, cancer treatment, and number of chronic conditions). We defined a Minimally Important Difference (MID) as a 0.03 point difference in SF-6D score and statistical significance at the $P<0.05$ level.

Results: Based on CCSS SF-36 data, we found that SF-6D scores for survivors were statistically lower than MEPS general population estimates (males, 0.787 (SD, 0.118) vs. 0.827 (SD, 0.170); females, 0.751 (SD, 0.124) vs. 0.790 (SD, 0.173)). This was consistent across age-stratum, with lower SF-6D scores for older ages (e.g., males age 40-49, 0.772 (SD, 0.122) vs. 0.807 (SD, 0.152); females age 40-49, 0.735 (SD, 0.130) vs. 0.776 (SD, 0.151). Within CCSS responders, SF-6D score differences did not reach MID when comparing across original cancer diagnosis groups, age at diagnosis, and treatment subgroups. SF-6D scores were

lower in survivors who reported chronic conditions; when compared to those who reported no conditions (0.81 (SD, 0.107), SF-6D scores were MID and statistically significantly lower in survivors who reported 2 (0.773 (SD, 0.118) or ≥3 conditions (0.735 (SD, 0.128), regardless of severity grade. Multivariate linear regression models found that age, sex, and most chronic conditions were associated with statistically significant SF-6D score decrements ($p<0.03$).

Conclusions: Health utility weights for childhood cancer survivors are consistently lower than for the general population, largely attributable to the multiple chronic conditions that develop after initial cancer cure.

3I-6. PREDICTING THE HUI3 AND EQ-5D FROM THE MOS-HIV IN PATIENTS WITH ADVANCED HIV

11:45 AM - 12:00 PM: Tue. Oct 20, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: PATIENT PREFERENCES AND ENGAGEMENT

Vilija R. Joyce, MS[1], *Huiying Sun, PhD*[2], *Paul G. Barnett, PhD*[1], *Nick Bansback, PhD*[3], *Susan Griffin, PhD*[4], *Ahmed M. Bayoumi, MD, MSc*[5], *Aslam H. Anis, PhD*[6] *and Douglas K. Owens, MD, MS*[7], *(1)VA Palo Alto Health Care System, Menlo Park, CA, (2)CIHR Canadian HIV Trials Network, Vancouver, BC, Canada, (3)University of British Columbia; Centre for Clinical Epidemiology and Evaluation; Centre for Health Evaluation and Outcome Sciences, Vancouver, BC, Canada, (4)University of York, York, United Kingdom, (5)Centre for Research on Inner City Health, Li Ka Shing Knowledge Institute, St. Michael's Hospital, Toronto, ON, Canada, (6)University of British Columbia, Vancouver, BC, Canada, (7)VA Palo Alto Health Care System, Palo Alto, CA*

Purpose: Disease-specific instruments are frequently used in HIV quality of life research; however, scores generated from these instruments are not suited for cost-effectiveness analyses as they do not assign utility values to health states. Our objective was to estimate, validate, and compare two mapping algorithms to predict HUI3 and EQ-5D health state values from a disease specific instrument based on the Medical Outcomes Study (MOS-HIV) in patients with HIV.

Method: We developed and validated mapping algorithms using data from two separate HIV clinical trials. We divided data from the first trial into estimation (n=294 patients) and internal validation (n=73) datasets; data from the second trial formed the external validation dataset (n=168). We compared ordinary least squares (OLS) with the more flexible beta regression method; the 10 MOS-HIV domain scores served as predictor variables. We assessed model performance using mean absolute error (MAE) and root mean square error (RMSE).

Result: Both the OLS and beta regression models accurately predicted the mean HUI3 and EQ-5D scores in the external validation sample. The mean observed HUI3 score was 0.837, while the predicted score from the OLS model was 0.817; the mean observed EQ-5D score was 0.897, while the OLS-predicted score was 0.883. Model fit, in terms of mean absolute error values in the external validation sample, ranged from 0.068 to 0.104. Both the OLS and beta regression models predicted HUI3 and EQ-5D values that were too high for patients in poor health. For the sickest tertile, the mean observed HUI3 was 0.13; both the OLS and beta regression models predicted a mean of 0.38.

Conclusion: The proposed mapping algorithms can be used to predict HUI3 and EQ-5D health state values from the MOS-HIV, with the caveat that overprediction may pose a problem in samples where a substantial proportion of patients are in poor health. These algorithms may be useful for estimating health state values for cost-effectiveness studies when HUI3 or EQ-5D data are not available.

4J. ORAL ABSTRACTS: AFFECTIVE EXPERIENCES AND DECISION MAKING

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1:30 PM - 3:00 PM: Tue. Oct 20, 2015
Grand Ballroom A

Session Summary:

1:30 PM - 1:45 PM

4J-1. GRAPHIC WARNING LABELS ELICIT AFFECTIVE AND THOUGHTFUL RESPONSES FROM SMOKERS

1:45 PM - 2:00 PM

4J-2. SIDE EFFECT PERCEPTIONS AND THEIR EFFECT ON TREATMENT DECISIONS: A PSYCHOMETRIC INVESTIGATION

2:00 PM - 2:15 PM

4J-3. MEDICATION ACTIVATION INFLUENCES DECISIONS REGARDING TREATMENT ESCALATION

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4J-4. EXPERIENCE NARRATIVES TARGETING THE DIRECTION OF BIAS REDUCE AFFECTIVE FORECASTING ERRORS

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4J-5. INCREASING VACCINE ACCEPTANCE: CAN WE INCREASE TRUST IN VACCINE SAFETY THROUGH EXPOSURE TO VAERS INFORMATION?

2:45 PM - 3:00 PM

4J-6. INCORPORATING INDIVIDUAL PATIENT PREFERENCES IN TREATMENT DECISION MODELING FOR BREAST CANCER

Abstracts:

4J-1. GRAPHIC WARNING LABELS ELICIT AFFECTIVE AND THOUGHTFUL RESPONSES FROM SMOKERS

1:30 PM - 1:45 PM: Tue. Oct 20, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: AFFECTIVE EXPERIENCES AND DECISION MAKING

Abigail Evans, PhD[1], *Ellen Peters, PhD*[2], *Andrew Strasser, PhD*[3], *Lydia Emery*[4], *Kaitlin Sheerin*[5] *and Daniel Romer, PhD*[3], *(1)The Ohio State University, Columbus, OH, (2)Ohio State University, Columbus, OH, (3)University of Pennsylvania, Philadelphia, PA, (4)Northwestern University, Evanston, IL, (5)University of Missouri, Columbia, MO*

Purpose: This experiment investigates the psychological processes underlying cigarette graphic warning labels' influence on smokers' risk perceptions, quit intentions, and risk knowledge after four weeks of exposure to the warnings in a naturalistic setting.

Method: Adult smokers (N=293; mean age=33.7) who did not plan to quit were recruited from two US cities. Participants were stratified on the basis of age, gender, and amount smoked, and then randomly assigned to receive their own brand of cigarettes in modified packages for four weeks. Packaging was modified to feature either the nine basic-text warning statements mandated by the Family Smoking Prevention and Tobacco Control act (text only), the basic-text warnings plus the nine images selected by FDA in their 2011 Final Rule to be required on American cigarette packaging (graphic images), or the nine images selected by the FDA plus elaborated text which provided additional details about smoking risks (elaborated text). Participants returned to the lab each week to receive additional cigarettes and complete questionnaires. Affective reactions and risk scrutiny were reported after one week of exposure to the warnings. Perceived warning credibility, risk perceptions, quit intentions, label memory, and risk knowledge were assessed after four weeks of exposure to the warnings. Risk knowledge was assessed again approximately one month after the experiments conclusion.

Result: In structural equation models, the presence of graphic images (compared to text only) indirectly influenced risk perceptions and quit intentions by means of an affect heuristic (image->negative affect->risk perception->quit intention). Negative affect from graphic images also influenced risk perceptions and quit intentions by motivating greater processing of risk information (e.g., image->negative affect->risk scrutiny->label credibility->risk perception->quit intention). We further predicted and found that warnings with graphic images were more memorable than text-only warnings, and this increased memory for label content mediated increased smoking risk knowledge at the conclusion of the study and one month later. Finally, increased smoking risk knowledge was associated with greater quit intentions, but only among participants who perceived warning labels as credible.

Conclusion: Graphic warning labels are more effective than text-only warnings in encouraging smokers to quit and in educating them about smoking's risks. Negative affective reactions, thinking about risks, and perceptions of label credibility are important mediators of their impact.

4J-2. SIDE EFFECT PERCEPTIONS AND THEIR EFFECT ON TREATMENT DECISIONS: A PSYCHOMETRIC INVESTIGATION

1:45 PM - 2:00 PM: Tue. Oct 20, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: AFFECTIVE EXPERIENCES AND DECISION MAKING

***Erika A. Waters, PhD, MPH**, Washington University School of Medicine, Saint Louis, MO, Thorsten Pachur, PhD, Max Planck Institute for Human Development, Berlin, Germany and Graham Colditz, MD, DrPH, Washington University in St. Louis, Saint Louis, MO*

Purpose: An important principle of informed medical decision making is that patients weigh the benefits and risks of treatment options. However, previous research has shown that side effects can prompt patients to forego otherwise-beneficial therapies. The present study examines the underlying structure of side effect perceptions in an effort to identify which characteristics make side effects particularly aversive and how this aversion may affect medical decisions.

Methods: Women (N=148) aged 40-74 years of age were recruited from a large participant registry to complete an online experiment. Participants rated 10 side effects--randomly selected from a pool of 20--on each of 15 characteristics (e.g., frightening, gross). In addition, for each side effect they read a hypothetical scenario in which an effective and necessary medical treatment conferred a 1 in 100 risk of experiencing a side effect (e.g., nausea). Aversiveness of each side effect was measured in four ways: participants indicated their willingness to take the medication (i.e., choice), willingness to pay to avoid the side effect (WTP), the amount of negative affect associated with the side effect, and they ranked the side effects in terms of their desirability. Each of the 20 side effects was rated by at least 45 participants.

Results: A principle component analysis of the ratings of the side effects' characteristics yielded a four-factor solution, which together accounted for 82% of the total variance: dread (27%), shame (24%), disabling (19%), and coping (12%). Regression analyses further indicated that dread was the strongest predictor of each measure of aversiveness. High dread was associated with statistically significantly ($p<.05$) lower choice ($b=-.52$) and desirability rankings ($b=-.64$), and higher WTP ($b=.59$) and negative affect ($b=.73$). Side effects that were perceived as disabling were associated with significantly higher WTP ($b=.47$) and negative affect ($b=.51$), and lower desirability ($b=-.61$), but not choice ($b=-.16$). Side effects perceived as shameful or associated with coping difficulties were not statistically significantly associated with any of the aversiveness measures ($ps>.05$).

Conclusions: These findings reveal that affect is a key factor in patients' perceptions of side effects and this aspect has a strong impact on their decisions regarding treatments that involve side effects. Decision support tool developers should consider adding components to address the affective nature of medical decision making.

4J-3. MEDICATION ACTIVATION INFLUENCES DECISIONS REGARDING TREATMENT ESCALATION

2:00 PM - 2:15 PM: Tue. Oct 20, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: AFFECTIVE EXPERIENCES AND DECISION MAKING

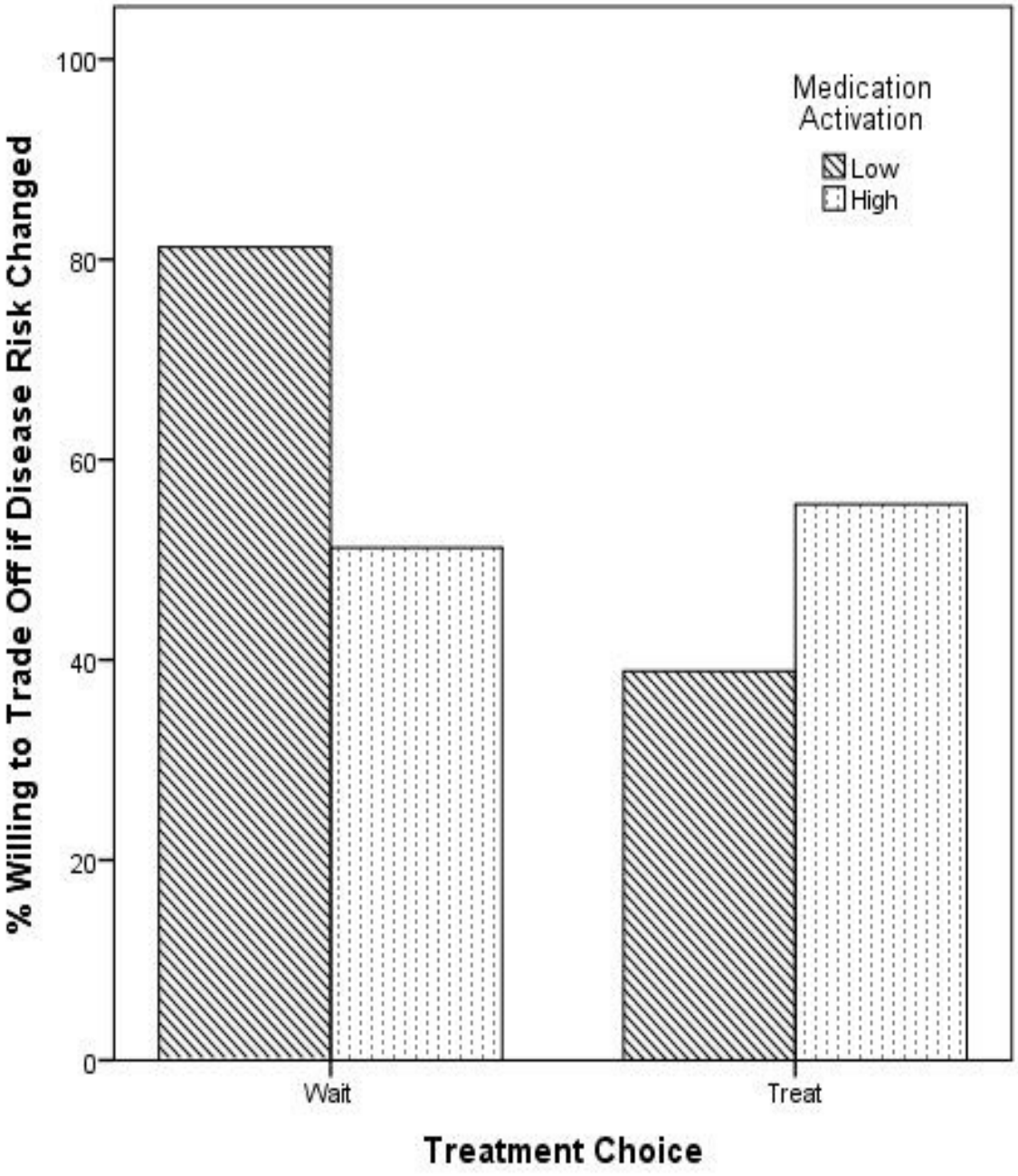
*Elizabeth Seng, PhD[1], Amy Grinberg, M.A.[1] and **Liana Fraenkel, MD, MPH**[2], (1)Ferkauf Graduate School of Psychology at Yeshiva University, Albert Einstein College of Medicine of Yeshiva University, Bronx, NY, (2)Yale School of Medicine, New Haven, CT*

Purpose: In this study, we sought to test a published conceptual model describing the influence of disease activation (DA) and medication activation (MA) on treatment preference (treat, or wait) and willingness to trade-off (i.e. choose an alternative course of action given a change in the expected disease or medication related outcomes) in an experimental study design.

Methods: We recruited 147 adults from the U.S. on a web-based portal (MTurk). Participants were told to imagine they were just diagnosed with psoriasis, and randomized to vignettes in a 2 (High DA vs. Moderate DA) X 2 (High MA vs. Moderate MA) factorial design. Participants were either given a picture of severe psoriasis (High DA) vs. no picture (Moderate DA). Participants were told the medication was either an inflammation reducing pill (Moderate MA) or an immune suppressing injection accompanied by an injection picture (High MA). Participants completed three questions: Treatment Choice (treat now or wait), Willingness to Trade-Off (WTO) if Disease Risk Changed (yes, no), and WTO if Medication Risk Changed (yes, no). A series of logistic regressions examined the influence of DA, MA, and their interaction on Treatment Choice, and DA, MA, Treatment Choice, and their interactions on WTO if Disease or Medication Risk Changed.

Results: The majority of participants chose to treat (61.2%). High MA was associated with choosing to wait (e.g., defer treatment) (OR = 2.89, p = .002). Treatment Choice (OR = .14, p = .005), MA (OR = .24, p = .046), and the interaction between these two variables (OR = 8.46, p = .011) were associated with WTO if the risk of disease progression was changed (see Figure). People randomized to the high MA condition were less willing to trade off if medication risk changed (OR = .43, p = .019).

Conclusions: These results have significant implications for patient decisions regarding treatment escalation. People who approach a treatment decision highly activated by a treatment are likely to refuse treatment escalation. Further, people who are highly activated by a treatment, and therefore more likely to refuse treatment escalation, are also *un*likely to reconsider their decision in light of new information about the risks associated with either the disease or the treatment.



4J-4. EXPERIENCE NARRATIVES TARGETING THE DIRECTION OF BIAS REDUCE AFFECTIVE FORECASTING ERRORS

2:15 PM - 2:30 PM: Tue. Oct 20, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: AFFECTIVE EXPERIENCES AND DECISION MAKING

Victoria A. Shaffer, PhD[1]*, Elizabeth S. Focella, PhD*[1]*, Laura D. Scherer, PhD*[1] *and Brian J. Zikmund-Fisher, PhD*[2]*, (1)University of Missouri, Columbia, MO, (2)University of Michigan, Ann Arbor, MI*

Purpose: People typically overestimate the unpleasantness of medical experiences and may avoid important screenings (Dillard et al., 2010) or medical procedures with long-term health benefits (Angott et al., 2013). We sought to determine whether targeted narratives could reduce these mispredictions or 'affective forecasting errors.'

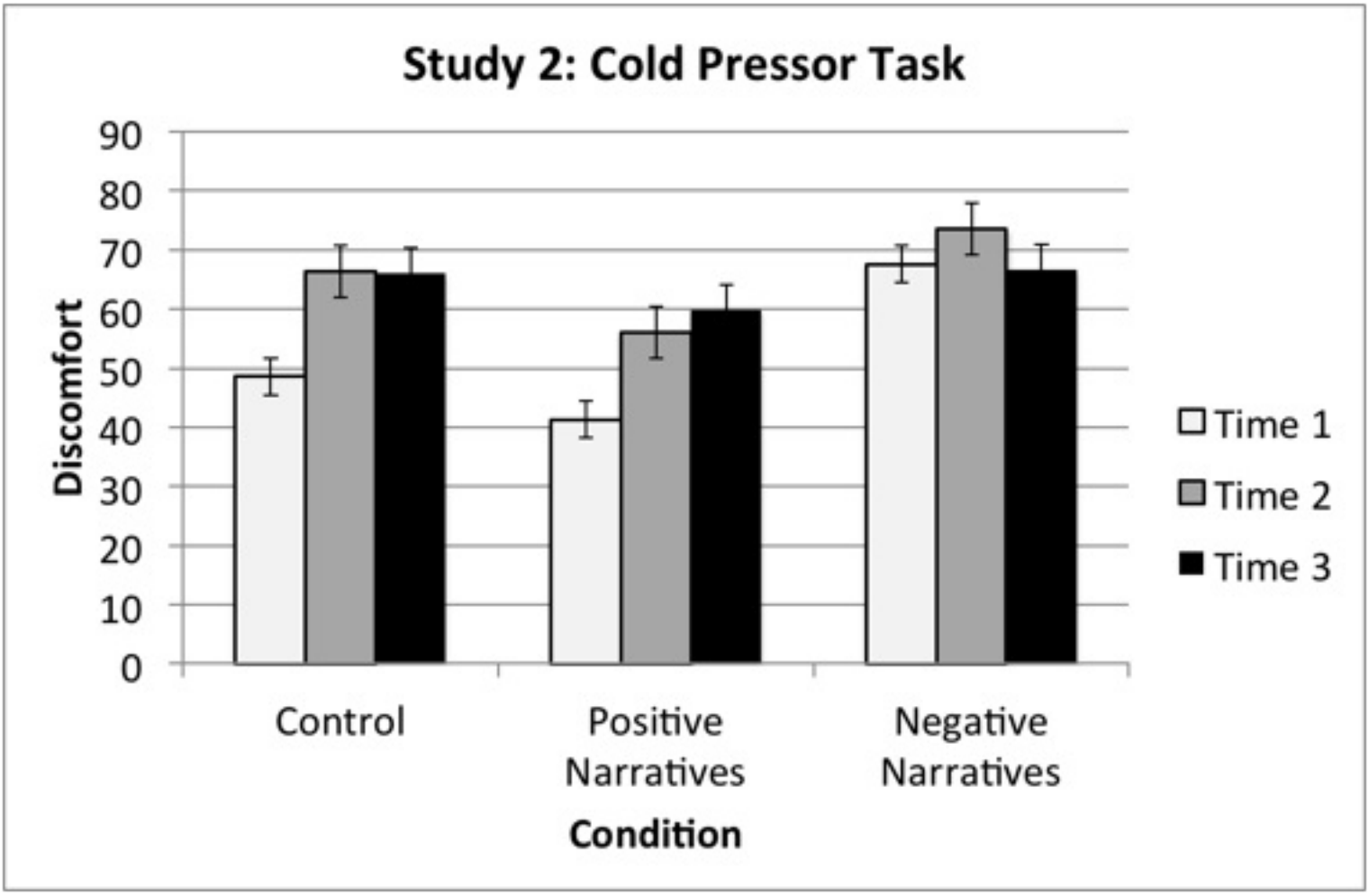
Method: In Study 1 (N=196), college students were surveyed about 10 common medical events (e.g. Pap test, donating blood) and provided ratings of predicted discomfort (if they had never experienced it) or actual discomfort. Participants making predictions were randomly assigned to either the control condition (no narratives) or the targeted narrative condition (4 narratives describing experiences with the medical event provided by participants in a pilot test; narratives were chosen to target the direction of bias observed in prior work) before making predictions.

In Study 2, college students (N=150) made predictions (Time 1) about the discomfort associated with the cold pressor task (keeping your hand in ice water 0-1°C for up to 2 minutes). Before making predictions, participants were randomly assigned to one of three conditions: 1) control (no narratives), 2) positive narratives (2 stories describing the task as not painful), or 3) negative narratives (2 stories describing the task as painful). Narratives were selected from an earlier cold pressor study. All participants completed the cold pressor task and then immediately provided ratings of the discomfort experienced (Time 2). Participants also reported their memory for the experienced discomfort one month later (Time 3).

Results: In Study 1, affective forecasting errors were observed for 8 of the 10 medical events. Specifically, predicted discomfort was significantly greater than reported discomfort, $p<.05$. Targeted narratives successfully reduced affective forecasting errors in 5 of the 8 events where bias was observed.

In the Study 2 cold pressor task, predicted discomfort was significantly less than reported discomfort, and negative narratives (which targeted the direction of the bias) again eliminated affective forecasting errors (Figure 1). However, participants in the positive narrative condition reported significantly *less* discomfort from the experience despite exhibiting forecasting errors, $p<.05$.

Conclusions: Affective forecasting errors can be improved with the use of narratives that target the direction of bias in prediction errors. However, stories that paint an overly positive impression, while still resulting in prediction errors, resulted in less experienced discomfort during an unpleasant task.



4J-5. INCREASING VACCINE ACCEPTANCE: CAN WE INCREASE TRUST IN VACCINE SAFETY THROUGH EXPOSURE TO VAERS INFORMATION?

2:30 PM - 2:45 PM: Tue. Oct 20, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: AFFECTIVE EXPERIENCES AND DECISION MAKING

Laura D. Scherer, PhD[1], *Victoria A. Shaffer, PhD*[1], *Niraj Patel*[2] *and Brian J. Zikmund-Fisher, PhD*[3], *(1)University of Missouri, Columbia, MO, (2)Columbia, MO, (3)University of Michigan, Ann Arbor, MI*

Purpose: One contributing factor to vaccine hesitancy is that people lack trust in claims that vaccines are safe. For example, a person who is wary of vaccines might wonder why there is a Vaccines Adverse Event Reporting System (VAERS) if vaccines are benign. The answer of course is that vaccines are (comparatively) safe because there are extremely few adverse events relative to the number of vaccine doses, and causality is often unclear in the reports that do exist. Our purpose was to determine whether expansive disclosure of VAERS information might increase trust in vaccine safety by showing individuals that adverse events are extremely rare and causality may be questioned in many of the reported events.

Method: We recruited 1230 participants (mean age=34, SD=11; range=18-71, 83% white) to complete an online survey. Participants were randomly assigned to either (1) read the Gardasil Vaccine Information Statement from the Centers for Disease Control, (2) additionally learn how many deaths and disabilities were reported for Gardasil in 2013 (31 events total), or (3) view all

of the above information and additionally read the 31 VAERS event reports. Participants who read these reports rated whether they thought that the vaccine caused these events. Afterward, participants reported their willingness to vaccinate a child (1-6 Likert scale) and their belief that the CDC is faithfully reporting vaccine risks (0-100 slider scale).

Result: Expansive disclosure of the VAERS reports caused participants to be significantly less willing to vaccinate a child (M=3.93, SD=1.84) compared to both the summary data (M=4.67, SD=1.64) and the CDC information statement (M=4.41, SD=1.76), p<.001. Participants in the expansive disclosure condition were also less likely to believe that the CDC is faithfully reporting the risks (M= 4.53, SD=1.51) compared to the other conditions (Ms=4.71, 4.85, SDs=1.36, 1.33), p=.004. Participants with preexisting negative vaccine attitudes were more likely to believe that the vaccine caused the health events reported in VAERS, r=-.39, p<.001.

Conclusion: Contrary to predictions, expansive disclosure of the VAERS reports decreased evaluations of HPV vaccine safety and reduced trust. By contrast, the VAERS summary data did not negatively affect judgments. One possible reason for these findings is that when participants read the VAERS reports, their preexisting vaccine attitudes shaped their interpretation of whether the vaccine caused each event.

4J-6. INCORPORATING INDIVIDUAL PATIENT PREFERENCES IN TREATMENT DECISION MODELING FOR BREAST CANCER

2:45 PM - 3:00 PM: Tue. Oct 20, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: AFFECTIVE EXPERIENCES AND DECISION MAKING

Shengfan Zhang, Ph.D.[1], *Raha Akhavan-Tabatabaei, Ph.D.*[2], *Juan David Bolívar Vargas*[2] *and Julian David Coy Ulloa*[2], *(1)University of Arkansas, Fayetteville, AR, (2)Universidad de los Andes, Bogotá, Colombia*

Purpose: Technological advances, dramatic increase in costs, and more patient involvement have been posing challenges to healthcare providers in medical decision making. This paper proposes a dynamic decision modeling framework to determine optimal breast cancer treatment decisions that incorporate individual patient preferences.

Method: A Markov decision process (MDP) model is formulated to identify optimal treatment decisions when breast cancer is diagnosed at an annual mammogram exam. The underlying Markov chain represents a patient's health status at each screening. We assume follow-up tests (e.g., biopsy) are used to confirm the presence of breast cancer after a positive mammogram. Type II error of mammography and the possibility of spontaneous regression of early stage cancers are considered in the model. While the patient can choose to wait on treatment, there are various types of treatments including different combinations of surgeries and adjuvant treatments considered in this study: breast conserving surgery (BCS), mastectomy, radiation therapy, chemotherapy, and hormone therapy The goal of the decision model is to maximize a patient's life score, which is a metric that seeks to take into account the patient's expected remaining life years as well as her personal preferences. Life scores depend on various factors: age, cancer stage, hormone receptor status, type of treatment, and the patient's personal opinion (as measured by emotional weights) on treatment side effects including cancer recurrence, change in appearance, figure and general pain.

Result: The results show that the optimal treatment policies vary with the patient's personal preferences. No treatment decision is found to be optimum for elderly patients, when side effects outweigh the gains in life years. The threshold of no treatment decisions depends on individual patient preferences. The average life score of the invasive cancer patients is around one-fourth of the average life score of in situ patients. When emotional weights of side effects are high, the treatment combination of a BCS plus radiotherapy and chemotherapy is often recommended as optimal.

Conclusion: This study provides a dynamic decision framework to evaluate and identify optimal treatment decisions based on individual patient preferences. It shows how patient preferences can be incorporated as an outcome measure in the MDP model.

4K. ORAL ABSTRACTS: APPLICATIONS IN OUTCOMES RESEARCH AND POLICY

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1:30 PM - 3:00 PM: Tue. Oct 20, 2015
Grand Ballroom B

Session Summary:

1:30 PM - 1:45 PM

4K-1. OPTIMAL TIMING OF DRUG SENSITIVITY TESTING FOR PATIENTS ON FIRST-LINE TB TREATMENT IN INDIA

1:45 PM - 2:00 PM

4K-2. CURRENT TREATMENT FOR CHRONIC HEPATITIS B (CHB): A SYSTEMATIC REVIEW AND A NETWORK META-ANALYSIS

2:00 PM - 2:15 PM

4K-3. BURDEN OF COMMUNITY-ACQUIRED CLOSTRIDIUM DIFFICILE INFECTION IN ONTARIO, CANADA: A POPULATION-BASED STUDY

2:15 PM - 2:30 PM

4K-4. CLASSIFICATION AND REGRESSION TREES (CART) ANALYSIS FOR PREDICTING INFLUENZA

2:30 PM - 2:45 PM

4K-5. PATHWAY VARIATION ANALYSIS: MODELLING AND ANALYSIS OF STROKE PATIENT JOURNEY IN THE EMERGENCY DEPARTMENT

2:45 PM - 3:00 PM

4K-6. USING AN ATRIAL FIBRILLATION DECISION SUPPORT TOOL (AFDST) FOR THROMBOPROPHYLAXIS IN ATRIAL FIBRILLATION: IMPACT OF GENDER AND AGE

Abstracts:

4K-1. OPTIMAL TIMING OF DRUG SENSITIVITY TESTING FOR PATIENTS ON FIRST-LINE TB TREATMENT IN INDIA

1:30 PM - 1:45 PM: Tue. Oct 20, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: APPLICATIONS IN OUTCOMES RESEARCH AND POLICY

Sze-chuan Suen, MS[1]*, Margaret L. Brandeau, PhD*[1] *and Jeremy D. Goldhaber-Fiebert, PhD*[2]*, (1)Department of Management Science and Engineering, Stanford University, Stanford, CA, (2)Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

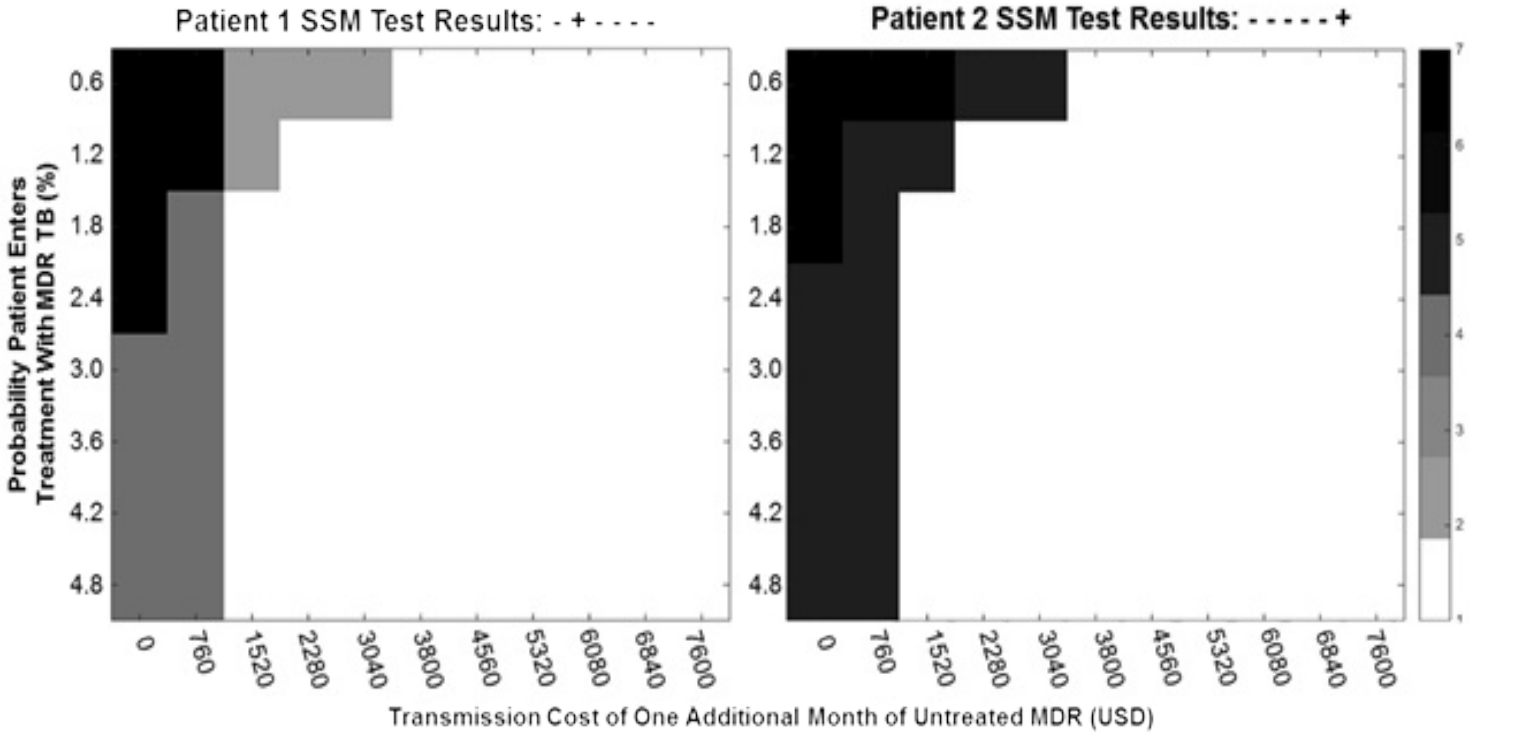
Purpose: Effectively treating tuberculosis (TB) requires administering drugs to which the infection is not resistant. Though costly, drug sensitivity testing (DST) of patients receiving first-line treatment can triage those with multi-drug-resistant (MDR) TB to appropriate but expensive treatment alternatives. In India, patients receive DST if they have not responded to four months of treatment, as measured by the imperfect but inexpensive sputum smear (SS) test. We seek to determine the optimal time to administer DST and the patterns of SS results that should prompt DST. If DST is administered too soon, many patients without MDR TB will be unnecessarily tested. If administered too late, patients with MDR TB may continue to transmit disease and experience declining health.

Method: We use a partially observed Markov decision process (POMDP) to determine the optimal timing and frequency of SS test information collection and DST testing in India. We calculate parameters such as patient response to treatment, patient dynamics while on treatment (the possibility of default or death), and discounted lifetime costs and health benefits using clinical studies and our previously published TB microsimulation model. We solve the POMDP using value iteration on a constrained feasible belief set.

Result: Current policy appears suboptimal given India's relatively high national estimates of MDR TB prevalence and transmission. For these estimates, DST should be administered to all patients at the outset of treatment. We project that this could save $7800 per TB patient in discounted net monetary benefits after accounting for averted downstream transmissions. However, in settings where the risk of transmission or MDR prevalence is much lower than the national average, a patient's SS result sequence can change the optimal DST timing, and individually tailored testing policies would be optimal. See Figure 1: national averages for India lie in the white region but districts with low MDR prevalence or transmission have different optimal policies that vary by patient SS outcomes.

Conclusion: India should revise the drug sensitivity testing protocol in their first-line national TB treatment program to provide DST during the first month of treatment in areas of average or high MDR TB prevalence and transmission, and may wish to consider individually tailored DST regimens in low transmission, low MDR prevalence areas to reduce financial costs.

Figure 1: Optimal Time to DST Patients with Different SS Trajectories, by Transmission Cost and MDR Prevalence



4K-2. CURRENT TREATMENT FOR CHRONIC HEPATITIS B (CHB): A SYSTEMATIC REVIEW AND A NETWORK META-ANALYSIS

1:45 PM - 2:00 PM: Tue. Oct 20, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: APPLICATIONS IN OUTCOMES RESEARCH AND POLICY

William W. L. Wong, Ph.D.[1], *Petros Pechlivanoglou, MSc, PhD*[1], *Aysegul Erman*[2], *Yasmin Saeed, BScPhm*[2], *Mina Tadrous, PhD*[3], *Mona Younis*[2], *Noha Zaki Rayad, PhD*[4], *Joanna M. Bielecki, BSC, MISt*[1], *Valeria E. Rac, MD, PhD*[1] *and Murray D Krahn, MD, MSc, FRCPC*[1], *(1)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (2)Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada, (3)The Ontario Drug Policy Research Network, St. Michael's Hospital, Toronto, ON, Canada, (4)Toronto, ON, Canada*

Purpose: An estimated 240 million people worldwide are chronically infected with the hepatitis B virus. Of those infected with CHB, 40% will silently progress to liver cirrhosis and are at risk of dying prematurely of liver failure or liver cancer. The objective of this review is to identify and synthesize the available Randomized Controlled Trials (RCTs) evidence investigating the comparative effectiveness and safety between the available CHB treatments (standard interferon, pegylated-interferon, adefovir, lamivudine, entecavir, telbivudine, and tenofovir) in treatment-naive individuals.

Method: Databases (PubMed, Embase, Cochrane Library and Web of Science) were searched for RCTs investigating the therapy in hepatitis B e antigen (HBeAg) positive and/or HBeAg negative patients with CHB published in English before October 29, 2014. Network meta-analyses (NMA) were conducted to estimate pooled effectiveness and safety data using

the following outcomes: 1) Efficacy for HBeAg positive patients: virologic response; alanine aminotransferase (ALT) normalization; HBeAg loss; HBeAg seroconversion; and HBsAg loss; 2) Efficacy for HBeAg negative patients: virologic response and ALT normalization; and 3) Safety: Serious adverse events, any adverse events, and withdrawal due to adverse events.

Result: A total of 62 studies were selected for inclusion. In HBeAg positive patients, tenofovir was most effective in achieving virologic response (predicted probability: 86%); tenofovir was found significantly better than adefovir, telbivudine, entecavir, pegylated interferon and interferon. In terms of other efficacy outcomes (i.e. ALT normalization; HBeAg seroconversion; and HBsAg loss), tenofovir was not significantly better than the other treatments. In HBeAg negative patients, tenofovir was the most effective in achieving virologic response (98%); tenofovir was significantly better than adefovir, telbivudine, pegylated interferon and interferon. Tenofovir was not significantly better than the other treatments for ALT normalization. There was no significant difference between tenofovir and other oral agents for safety outcomes.

Conclusion: Our study found that for HBeAg positive patients, tenofovir is the most effective treatment followed by entecavir, for the outcomes of virologic response and ALT normalization; for HBeAg loss and HBeAg seroconversion, pegylated interferon is the most effective treatment followed by tenofovir. For HBeAg negative patients, tenofovir is also the most effective treatment, followed by adefovir and entecavir, in terms of virologic response and ALT normalization. Current practice guidelines should be informed by cost-effectiveness and patient perspectives, in addition to evidence regarding effectiveness and safety.

4K-3. BURDEN OF COMMUNITY-ACQUIRED CLOSTRIDIUM DIFFICILE INFECTION IN ONTARIO, CANADA: A POPULATION-BASED STUDY

2:00 PM - 2:15 PM: Tue. Oct 20, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: APPLICATIONS IN OUTCOMES RESEARCH AND POLICY

*Natasha Nanwa, MSc[1], **Beate Sander**[2], Murray D Krahn, MD, MSc, FRCPC[3], Nick Daneman, MD, MSc[4], Hong Lu, MSc, PhD[5], Peter C. Austin, PhD[5], Anand Govindarajan, MD, MSc[6], Laura Rosella, MPH, PhD[7], Suzanne Cadarette, MSc, PhD[1] and Jeffrey Kwong[2], (1)Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada, (2)Public Health Ontario, Toronto, ON, Canada, (3)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (4)Institute of Health Policy, Management and Evaluation, University of Toronto, Toronto, ON, Canada, (5)Institute for Clinical Evaluative Sciences, Toronto, ON, Canada, (6)Mount Sinai Hospital, Toronto, ON, Canada, (7)Dalla Lana School of Public Health, Toronto, ON, Canada*

Purpose:

To assess attributable health and cost outcomes associated with community-acquired *Clostridium difficile* infection (CDI).

Method:

We conducted a population-based matched cohort study. Between 01/01/2003 and 31/12/2010, we identified incident cases of community-acquired CDI (infected patients) defined

as patients with the ICD-10-CA code A04.7 present during: an emergency department (ED) visit (principal/non-principal diagnosis, index date: ED registration date); a non-elective hospital admission (principal/non-principal diagnosis) with length of stay ≤2 days (index date: hospital admission date); or a non-elective hospital admission (principal diagnosis) with CDI symptoms (e.g., diarrhea) documented during a physician or ED visit within two weeks prior to the hospital admission date (index date: physician visit or ED registration date). We followed infected patients until 31/12/2011. Infected patients were matched 1:1 without replacement to uninfected subjects in the general population using propensity score and hard matching on a set of baseline characteristics. Health outcomes included colectomy within 1-year post index date and all-cause mortality. Cost outcomes (from the healthcare payer perspective in 2012 Canadian dollars) included phase-specific costs, up-to-1-year costs unadjusted for survival, and up-to-3-year costs adjusted for survival.

Result:

We identified 7,903 patients infected with community-acquired CDI. The crude mean annual incidence was 7.8 per 100,000. The mean age was 63.5 years (standard deviation=22.0) and 63% were female. The relative risk for undergoing a colectomy within 1-year post index date was 5.53 (95% confidence interval [CI], 3.30-9.27) and the relative risk for mortality within 1-year post index date was 1.58 (95%CI, 1.44-1.75). Infected patients had 1.3- to 5.3-fold higher mean costs versus uninfected subjects. The mean attributable cost (adjusted for survival) of an incident community-acquired CDI patient was $8,881 (95%CI: $7,951-$9,904) in the first year, $2,663 in the second year, and $2,480 in the third year. Mean attributable costs were generally higher among those diagnosed in 2010 (possibly due to a virulent strain), males, those aged ≥65 years, and those who died within 1-year after the index date.

Conclusion:

Community-acquired CDI is associated with a substantial health and economic burden. CDI leads to a greater risk for colectomy and all-cause mortality, and higher short- and long-term healthcare costs. This is the first study to evaluate the costs of community-acquired CDI using a large population-based sample and to evaluate long-term costs of community-acquired CDI.

4K-4. CLASSIFICATION AND REGRESSION TREES (CART) ANALYSIS FOR PREDICTING INFLUENZA

2:15 PM - 2:30 PM: Tue. Oct 20, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: APPLICATIONS IN OUTCOMES RESEARCH AND POLICY

Richard K. Zimmerman, MD, MPH[1], *GK Balasubramani, PhD*[2], *Mary Patricia Nowalk, PhD*[1], *Stephen R. Wisniewski, PhD*[3], *Arnold Monto, MD*[4], *Huong McLean, MPH, PhD*[5], *Ryan E Malosh, PhD*[4], *Michael L. Jackson, PhD, MPH*[6], *Lisa A. Jackson, MD, MPH*[6], *Manjusha Gaglani, MBBS*[7], *Lydia Clipper, BSN*[8], *Edward Belognia, MD*[5] *and Brendan Flannery, PhD*[9], *(1)University of Pittsburgh School of Medicine, Pittsburgh, PA, (2)University of Pittsburgh, Pittsburgh, PA, (3)University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA, (4)Ann Arbor, MI, (5)Marshfield, WI, (6)Seattle, WA, (7)Baylor Scott & White Health, Texas A&M HSC COM, Temple, TX, (8)Temple, TX, (9)Atlanta, GA*

Purpose: Despite the burden of influenza, the use of neuraminidase inhibiting anti-viral medication is relatively infrequent. Rapid, cost-effective methods for determining the likelihood of influenza may help identify patients for whom antiviral medications will be most beneficial (high risk condition, ≥65 years old, and presenting for treatment within 48 hours of symptom onset). Clinical decision algorithms are a rapid, inexpensive method to evaluate probability of influenza, but to date, most algorithms are based on regression analyses that do not account for higher order interactions. This study used classification and regression trees (CART) modeling to estimate probabilities of influenza.

Method: 4,173 individuals ≥ 5 years of age who presented at ambulatory centers for treatment of acute respiratory illness (≤ 7 days) with cough or fever in 2011-2012 were included. Eligible enrollees provided nasal and pharyngeal swabs for real-time, reverse transcriptase polymerase chain reaction (RT-PCR) testing for influenza, self-reported symptoms, personal characteristics and self-reported influenza vaccination status. CART was used to develop a series of models with prediction success of sensitivity, specificity, positive predictive values (PPV), negative predictive values (NPV), and areas under the curve (AUC) calculated.

Result: 645 enrollees <65 years and 60 enrollees ≥65 years had PCR-confirmed influenza. Antiviral medication was prescribed for 14% of those individuals. Among nine possible clinical features, CART selected the best combination (fever, cough, fatigue, and shortness of breath and household smoke)with a sensitivity of 81%, specificity of 52%, PPV of 24%, NPV of 94% and AUC=0.68. Limiting the sample to those 345 patients for whom antivirals are clearly recommended i.e., individuals <65 years with a high risk condition or ≥65 years, and who presented for care ≤2 days from symptom onset, presence of fever and cough resulted in a prediction algorithm with 86% sensitivity, 47% specificity, 27% PPV, 95% NPV and AUC=0.67.

Conclusion: The algorithm based on CART recursive partitioning, among outpatients ≥5 years, was used to estimate probability of influenza with good sensitivity and high NPV, but low PPV in an influenza season with low prevalence of disease. After further testing for seasons with higher influenza prevalence, CART may be used to exclude many who do not need antivirals, and indicate who should be considered for viral testing for confirmation of influenza.

4K-5. PATHWAY VARIATION ANALYSIS: MODELLING AND ANALYSIS OF STROKE PATIENT JOURNEY IN THE EMERGENCY DEPARTMENT

2:30 PM - 2:45 PM: Tue. Oct 20, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: APPLICATIONS IN OUTCOMES RESEARCH AND POLICY

***Sudi Lahiri-Ceglarek, PhD**, University of Warwick, Coventry, United Kingdom*

Purpose: Best practice guidelines recommend stroke patients receive a majority of care in a multidisciplinary stroke unit. However, factors affecting care related decisions in the Emergency Department (ED) can result in patients diverting from the care pathway (CP) and prevent direct admission to the stroke unit (SU). Patient diversion from the CP can result in unnecessary variation in care and also affect a hospital's ability to meet crucial quality requirements.

Method: Pathway Variation Analysis (PVA) was designed as a quality improvement initiative to improve direct admission to the SU from ED. Using a mixed method approach, PVA entailed: (i) accurately modelling care journeys of stroke patients in ED with consideration to decision-making involving assessments and differentials, hospital operational parameters, and performance targets; (ii) incorporating information on variability with respect to symptomatology and time of hospital admission; and, (iii) analysis of CP diversion involving factors identified through (i) and (ii) to develop suggestions for reducing diversion, thereby allowing patients to receive majority of care in the SU. The PVA approach was implemented in a 1250-bed hospital in the UK to reduce the problem of patients diverting from the CP in ED which resulted in the hospital unable to meet contractual performance target which stipulates that 80% of stroke patients must spend 90% of hospital stay in the SU.

Result: Use of PVA led to accurate modelling of patient journeys and clinical decision-making in the ED. It helped identify factors preventing direct admission into the SU; and classify the problem of diversion as either *on the care pathway* or *from the care pathway*. Simulation analysis with hospital data on decision-making in the ED to diagnose stroke led to examining goodness of decisions made within the constraints of hospital operational parameters. Results led to assessing bed capacity prompting an increase of hyper-acute stroke unit beds by 50% to accommodate increased flow of patients into the unit due to their being correctly identified in ED; and merging the unit with the acute stroke ward to manage variation in the incoming patient flow into the ward. Implementing PVA led to meeting the quality threshold, up from 73% to over 90%.

Conclusion: Pathway Variation Analysis holds important implications for managing patient journeys in the ED.

4K-6. USING AN ATRIAL FIBRILLATION DECISION SUPPORT TOOL (AFDST) FOR THROMBOPROPHYLAXIS IN ATRIAL FIBRILLATION: IMPACT OF GENDER AND AGE

2:45 PM - 3:00 PM: Tue. Oct 20, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: APPLICATIONS IN OUTCOMES RESEARCH AND POLICY

Mark Eckman, MD, MS[1], *Gregory Lip, MD*[2], *Ruth Wise, MSN, MDes*[1], *Anthony Leonard, PhD*[3], *Barbara Speer, BS*[3], *Megan Sullivan, MS*[4], *Nita Walker, MD*[5], *Matthew Flaherty, MD*[6], *Brett Kissela, MD, MS*[7], *Peter Baker, BS*[8], *Dawn Kleindorfer, MD*[6], *John Kues, PhD*[9], *Robert Ireton, BS*[8], *Dave Hoskins*[8], *Brett Harnett, MS-IS*[8], *Carlos Aguilar, MD, MS*[10], *Lora Arduser, PhD*[11], *Dylan Steen, MD*[12] *and Alexandru Costea, MD*[12], *(1)University of Cincinnati, Division of General Internal Medicine and Center for Clinical Effectiveness, Cincinnati, OH, (2)University of Birmingham, Birmingham, United Kingdom, (3)University of Cincinnati, Department of Family and Community Medicine, Cincinnati, OH, (4)UC Health, Cincinnati, OH, (5)University of Cincinnati, Division of General Internal Medicine, Cincinnati, OH, (6)University of Cincinnati, Department of Neurology, Cincinnati, OH, (7)University of Cincinnati, Cincinnati, OH, (8)University of Cincinnati, Department of Biomedical Informatics, Center for Health Informatics, Cincinnati, OH, (9)University of Cincinnati, Department of Community and Family Medicine, Cincinnati, OH, (10)University of Cincinnati, Division of General Internal Medicine*

and Center for Health Informatics, Cincinnati, OH, (11)University of Cincinnati, Department of English, Cincinnati, OH, (12)University of Cincinnati, Division of Cardiology, Cincinnati, OH

Purpose: Among patients with atrial fibrillation (AF), female gender has been associated with both an increased risk of stroke and paradoxically a decreased likelihood of receiving anticoagulant therapy. There also is a perception that the elderly are less likely to receive anticoagulant therapy due to concerns about falling and frailty. We wished to assess the appropriateness of antithrombotic therapy among women and the elderly, looking for patterns of either under-treatment or unnecessary treatment.

Method: Retrospective cohort study of 1,586 adults with non-valvular AF or flutter seen in primary care settings of an integrated healthcare system between December 2012 and March 2014. Treatment recommendations were made by an **A**trial **F**ibrillation **D**ecision **S**upport **T**ool (AFDST) based on projections for QALE calculated by a decision analytic model that integrates patient-specific risk factors for stroke and hemorrhage and examines strategies of no antithrombotic therapy, aspirin, or oral anticoagulation.

Result:

Current treatment was discordant from recommended treatment in 45% (326/725) of women and in 39% (338/860) of men (p = 0.02). Among the elderly (age ≥ 85) current treatment was discordant from recommended treatment in 35% (89/258), while treatment was discordant among 43% (575/1328) of patients < 85 years of age (p = < 0.01). We further examined age categories in 5-year increments and found that discordant therapy was as high as 60-70% in those between the ages of 31 and 50. Among 326 women with discordant treatment 99% (322/326) was due to under-treatment and 1% (4/326) was due to overtreatment. Among 338 men with discordant treatment 81% (274/338) was due to under-treatment, while 19% (64/338) was due to overtreatment. Among 89 elderly patients with discordant treatment 98% (87/89) of discordance was due to under-treatment and 2% (2/89) was due to overtreatment, whereas in those < 85 years of age, 88% (509/575) was due to under-treatment and 12% (66/575) of was due to overtreatment.

Conclusion:

Women are still undertreated with antithrombotic therapy for AF. Somewhat surprisingly, compared with older patients, a larger proportion of patients < 85 years of age are receiving treatment that is discordant from recommended therapy. Furthermore, in women and the elderly the major reason for discordant therapy is under-treatment; whereas in men and younger patients, a larger proportion of discordance is due to overtreatment.

4L. ORAL ABSTRACTS: APPLICATIONS OF VALUE OF INFORMATION AND COST EFFECTIVENESS ANALYSIS

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1:30 PM - 3:00 PM: Tue. Oct 20, 2015
Grand Ballroom C

Session Summary:

1:30 PM - 1:45 PM

4L-1. VALUE OF INFORMATION ANALYSIS TO EXPLORE THE UNCERTAINTY OF AN EARLY IDENTIFICATION MODEL OF ALZHEIMER'S DISEASE

1:45 PM - 2:00 PM

4L-2. COST EFFECTIVENESS OF NOVEL ALZHEIMER'S DEMENTIA DIAGNOSTICS

2:00 PM - 2:15 PM

4L-3. VALUE OF PERFECT IMPLEMENTATION AND INFORMATION FOR ANTI-VEGF THERAPY FOR MACULAR DEGENERATION

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4L-4. COST EFFECTIVENESS OF BRONCHIAL THERMOPLASTY IN PATIENTS WITH SEVERE UNCONTROLLED ASTHMA

2:30 PM - 2:45 PM

4L-5. VALUE OF INFORMATION ANALYSES OF GOUT THERAPIES: USING A META-MODELING APPROACH

2:45 PM - 3:00 PM

4L-6. A COST-EFFECTIVENESS ANALYSIS OF MINIMAL RESIDUAL DISEASE TESTING FOR THE MANAGEMENT OF CHILDHOOD ACUTE LYMPHOBLASTIC LEUKEMIA

Abstracts:

4L-1. VALUE OF INFORMATION ANALYSIS TO EXPLORE THE UNCERTAINTY OF AN EARLY IDENTIFICATION MODEL OF ALZHEIMER'S DISEASE

1:30 PM - 1:45 PM: Tue. Oct 20, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLICATIONS OF VALUE OF INFORMATION AND COST EFFECTIVENESS ANALYSIS

Tzeyu L. Michaud, MHA *and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

Purpose: To estimate the societal value of reducing uncertainty in the decision whether or not to use cerebrospinal fluid (CSF) biomarker testing to target treatments for patients with mild cognitive impairment (MCI) who are at increased risk of developing Alzheimer's disease (AD).

Method: We used a previously developed model that evaluated the cost-effectiveness of different test-and-treat strategies for MCI patients. CSF biomarker testing categorized patients into risk groups to target treated with cholinesterase inhibitors for a subset of patients. We used value of information analysis (VOI) to quantify the expected gain from reducing parameter uncertainty associated these test-and-treat strategies. We derived the expected value of perfect information (EVPI) for all parameters or a single parameter (partial EVPI), as well as the corresponding expected value of sampling information (EVSI), and computed the optimal

sample sizes for additional research through the expected net benefit of sampling (ENBS) for those parameters. To demonstrate the use of EVSI and ENBS to determine the optimal sample size of a new study, we assumed that a fixed cost of $10 million and a variable cost of $2,000 per patient for a study collecting data on all parameters. If data on only one parameter was to be collected, we assumed a fixed cost of $5 million and a variable cost of $1,000 per patient.

Result: The total EVPI was $1,991 per patient. Parameters of the treatment effectiveness on patients with mild AD and the treatment effectiveness on MCI patients were most responsible for uncertainty of the decision (partial EVPI = $1,031 and $567, respectively). A maximum ENBS of about $33 million was reached for an optimal sample size of 3,500 patients of a hypothetical new study including all parameters. A study collecting data to inform the parameter of the treatment effectiveness on patients with mild AD would have an optimal sample size of 1,900 patients. Because the estimated population EVSI for the treatment effectiveness on MCI patients was less than study costs assumed, additional research to inform this parameter was not justified.

Conclusion: Given our estimates of study costs, the efficient study design for the use of CSF biomarker testing on MCI patients for early intervention purpose involves a trial of 1,900 patients on the treatment effectiveness on patients with mild AD.

4L-2. COST EFFECTIVENESS OF NOVEL ALZHEIMER'S DEMENTIA DIAGNOSTICS

1:45 PM - 2:00 PM: Tue. Oct 20, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLICATIONS OF VALUE OF INFORMATION AND COST EFFECTIVENESS ANALYSIS

*Spencer A. W. Lee, B.Sc.[1], Luciano A. Sposato, MD, MBA, FAHA[2], Vladimir Hachinski, CM, MD, FRCPC, DSc[2] and **Lauren E. Cipriano, Ph.D.**[1], (1)Ivey Business School, London, ON, Canada, (2)Department of Clinical Neurological Sciences, London Health Sciences Centre, London, ON, Canada*

Purpose: Cerebrospinal fluid biomarker levels improve the sensitivity and specificity of Alzheimer's disease (AD) diagnosis, but the test is invasive and costly. Treatment for AD can delay cognitive and functional decline, improve quality of life, and is cost effective. We aim to estimate the cost effectiveness of clinical assessment plus cerebrospinal fluid biomarker levels compared to clinical assessment alone for the diagnosis of AD.

Method: We constructed a Markov model to estimate the lifetime costs and quality-adjusted life-years (QALYs) of clinical assessment plus cerebrospinal fluid biomarker levels compared to clinical assessment alone for the diagnosis of AD in a cohort of patients with suspected AD. We considered the influence of the prevalence of AD in the referred population, the cost of the biomarker test, the quality-of-life reduction associated with the invasiveness of lumbar puncture, and the combination assessment sensitivity and specificity. Lifetime discounted costs, including those of unpaid caregivers, and health benefits in QALYs were estimated using a U.S. societal perspective.

Result: At an AD prevalence of 15% in the referred population, clinical assessment plus biomarker (sensitivity of 68% and specificity of 93%) costs $1,747 per person less and reduces QALYs by 0.011 when compared to clinical assessment alone (sensitivity of 43% and

specificity of 81%). The cost savings are largely due to the reduction in the number of false positives who receive costly treatment with no utility benefit. The decrease in QALYs is primarily due to the invasiveness of lumbar puncture (quality-of-life reduction of 0.02 QALYs). At a willingness to pay of $50,000/QALY or $100,000/QALY, clinical assessment plus biomarker is preferred to clinical assessment alone. If the prevalence of AD in the referral population is greater than 35%, clinical diagnosis plus biomarker decreases costs and increases QALYs compared to clinical diagnosis alone. Clinical assessment alone is preferred if the quality-of-life reduction from lumbar puncture is greater than 0.03 QALY and for referred populations with low AD prevalence (less than 8% of the population).

Conclusion: The optimal diagnostic strategy depends on the prevalence of AD in the population and the quality-of-life reduction from lumbar puncture, but it is likely that clinical diagnosis plus biomarker is preferred for patients referred for suspected AD.

4L-3. VALUE OF PERFECT IMPLEMENTATION AND INFORMATION FOR ANTI-VEGF THERAPY FOR MACULAR DEGENERATION

2:00 PM - 2:15 PM: Tue. Oct 20, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLICATIONS OF VALUE OF INFORMATION AND COST EFFECTIVENESS ANALYSIS

***David W. Hutton, PhD**, University of Michigan School of Public Health, Ann Arbor, MI, Eric Ross, Ann Arbor, MI and Joshua D. Stein, M.D., M.S., University of Michigan Medical School, Ann Arbor, MI*

Purpose:

Anti-vascular endothelial growth factor (anti-VEGF) therapies can prevent blindness from age-related macular degeneration (AMD), but they consume 1/6th of Medicare's part B drug budget. The FDA-approved medication, ranibizumab, costs almost 40x the off-label medication, bevacizumab. Randomized trials have shown similar efficacy, but the trials were not powered to detect small differences in important safety outcomes. Prior cost-effectiveness analyses suggest ranibizumab has an incremental cost-effectiveness ratio in the millions of dollars when compared to bevacizumab. However, 1/3rd of patients currently receive ranibizumab. We assess the value of perfect implementation with current information and compare this to the value of perfect implementation *and* information.

Method:

We combine population models of disease incidence and prevalence along with patient-level models of disease progression and treatment to project 10-year costs and health outcomes for AMD patients in the United States treated with ranibizumab and bevacizumab. We examine societal costs both under current practice and with perfect implementation where all patients receive cost-effective therapy. We synthesize uncertainty in clinical trial safety results and ascertain the expected value of perfect information (EVPI) (assuming perfect implementation) using Monte Carlo simulation.

Result:

With current information, bevacizumab is cost-effective assuming a willingness-to-pay (WTP) of $100,000/QALY. Over 10 years, 2.6 million patients will receive anti-VEGF treatment for AMD in the United States. If all treated patients were to receive bevacizumab, the value of perfect implementation would be $46 billion. Monte Carlo simulation shows an 8% chance that the preferred therapy would be ranibizumab. The EVPI is $4.9 billion. These results are robust to the choice of threshold WTP.

Conclusion:

Comparing the value of perfect implementation with the value of perfect information helps prioritize policies. Because of the large populations involved and the vast cost differences in therapies, the value of perfect implementation of anti-VEGF therapies for AMD is about an order of magnitude larger than the value of information. This suggests that policies should focus on ways to increase use of therapy known to be cost-effective for AMD. The value of future studies that gather more information on the effectiveness of therapies for AMD should be thought of in terms of how the results may influence real-world therapy choices by patients and providers, improving implementation of cost-effective therapies.

4L-4. COST EFFECTIVENESS OF BRONCHIAL THERMOPLASTY IN PATIENTS WITH SEVERE UNCONTROLLED ASTHMA

2:15 PM - 2:30 PM: Tue. Oct 20, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLICATIONS OF VALUE OF INFORMATION AND COST EFFECTIVENESS ANALYSIS

Joe Zein, MD[1], *Michelle Menegay, MPH*[1], *Mendel E. Singer, PhD*[1], *Serpil Erzurum, MD*[2], *Thomas Gildea, MD*[2], *Joseph Cicenia, MD*[2], *Sumita Khatri, MD*[2], *Mario Castro, MD*[3] *and Belinda Udeh, PhD, MPH*[4], *(1)Case Western Reserve University, Cleveland, OH, (2)Cleveland Clinic, Cleveland, OH, (3)Washington University School of Medicine, Saint Louis, MO, (4)Department of Outcomes Research, Anesthesiology Institute, Cleveland Clinic, Cleveland, OH*

Purpose: Bronchial thermoplasty (BT) uses radiofrequency to reduce smooth-muscle mass within airways. BT is effective in reducing exacerbations and improving quality of life (QOL). It was approved by the Food and Drug Administration (FDA) in 2010 to be performed as an outpatient intervention for treatment of severe persistent asthma in adults, not controlled with medication. This study assessed BT's clinical and economic outcomes at 5 and 10 years for individuals with severe uncontrolled asthma.
Method: A cost-effectiveness analysis was conducted from a healthcare perspective. A Markov model was constructed, evaluating the cost-effectiveness of BT compared to usual care (UC). Model inputs included all direct healthcare costs, cost-savings from exacerbation reduction, and QOL benefits from exacerbation and mortality reduction. Utilities and costs were obtained from recent clinical trials and secondary data sources. Outcomes were measured in quality adjusted life years (QALY), incremental cost-effectiveness ratios (ICERs) and clinical events including hospitalizations. The analysis was conducted at 5-years, the time-frame of the clinical trials, and 10-years, a conservative estimate of BT's minimum effectiveness. Deterministic and probabilistic sensitivity analysis (PSA) was performed to assess the robustness of the model and inputs to population and parameter changes.

Result: BT had an ICER of $45,170/QALY at 5-years, and $29,821/QALY at 10 years compared to UC. At both time frames, BT's ICER was below the conservative willingness to pay threshold (WTP) of $50,000/QALY. Other outcomes indicated at 10 years, the BT group would have $4,633 less in ER and hospitalization costs, and $2,592-$4,244 less in medication costs.
Sensitivity analysis indicated results were sensitive to the cost of BT and probability of exacerbations in the BT and UC group. At 10-years, two thresholds were identified. At a WTP of $50,000, if the cost of the BT series exceeded $10,384 or if the probability of exacerbations fell below 0.63/year with UC, BT would no longer be cost-effective. PSA produced results similar to the baseline analysis. The cost-effectiveness acceptability curve summarized BT would be cost-effective at 10-years with a 93.3% probability for a WTP of $50,000.
Conclusion: BT is likely to be a cost effective treatment for asthmatics at high risk of exacerbations. Continuing to follow asthmatics treated with BT beyond five-years will help inform longer efficacy and support its cost-effectiveness.

4L-5. VALUE OF INFORMATION ANALYSES OF GOUT THERAPIES: USING A META-MODELING APPROACH

2:30 PM - 2:45 PM: Tue. Oct 20, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLICATIONS OF VALUE OF INFORMATION AND COST EFFECTIVENESS ANALYSIS

Eric Jutkowitz[1], *Fernando Alarid-Escudero, MS*[2], *Hyon Choi, M.D., Dr.P.H.*[3], *Karen M. Kuntz, ScD*[2] *and Hawre Jalal, PhD*[4], *(1)University of Minnesota School of Public Health, Minneapolis, MN, (2)University of Minnesota, Minneapolis, MN, (3)Department of Medicine, Massachusetts General Hospital, Boston,, MA, (4)Department of Health Policy and Management, University of Pittsburgh, Graduate School of Public Health, Pittsburgh, PA*

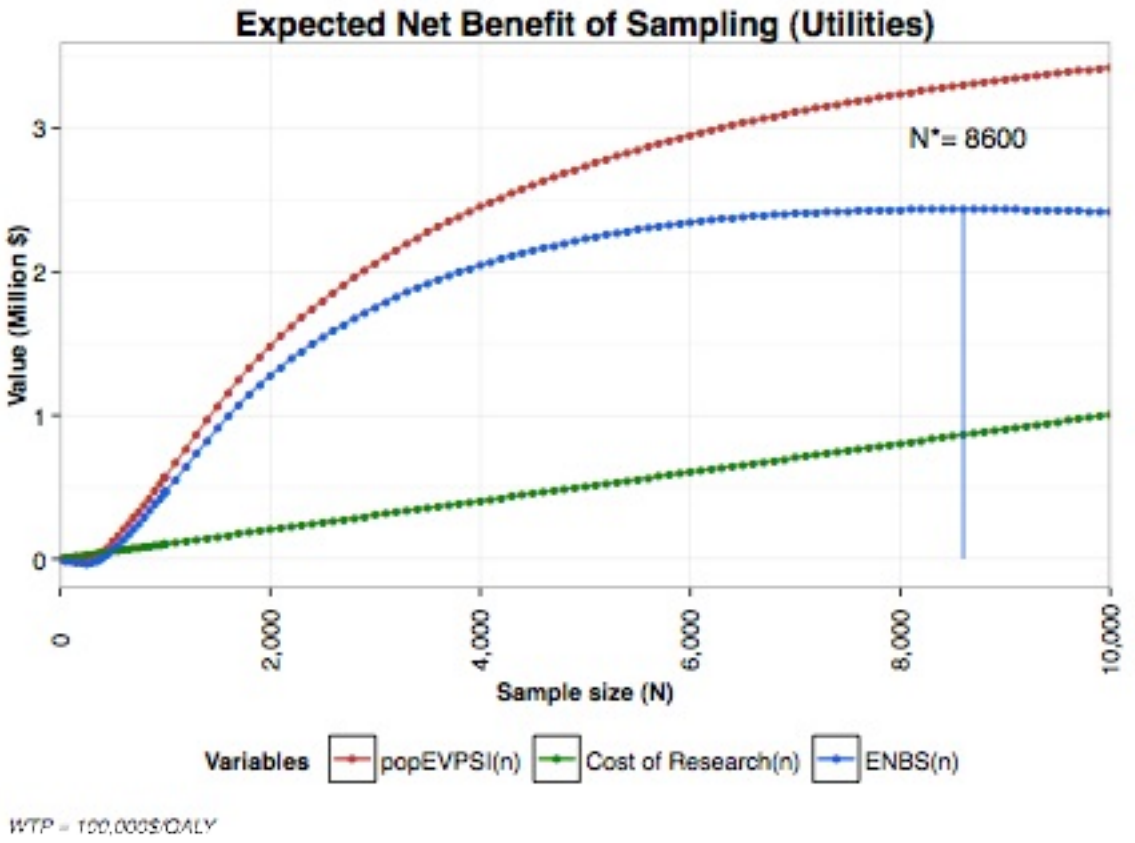
Purpose: Gout is the most common inflammatory arthritis in the United States, and several urate-lowering treatment strategies are used to manage symptoms. The value of collecting additional information of key parameters in the cost-effectiveness of urate-lowering treatment strategies for the management of gout is unknown. We apply a meta-modeling approach to calculate the expected value of perfect information (EVPI), expected value of partial perfect information (EVPPI), and the expected value of sample information for parameters (EVPSI) on all model parameters (e.g., utilities, efficacy, and cost).

Methods: We used a previously developed model that evaluated the cost-effectiveness of five urate-lowering strategies: no treatment, allopurinol or febuxostat only, allopurinol- febuxostat sequential therapy, and febuxostat-allopurinol sequential therapy. Health states in the model accounted for disease status: controlled, uncontrolled on medication, and uncontrolled off medication. To quantify uncertainty in the model we conducted a probabilistic sensitivity analysis (PSA). We implemented a linear regression meta-model to the dataset generated from the PSA. Conceptually similar parameters were evaluated together (e.g., utilities) since a single study is likely to inform all of these parameters. To inform future research design we extrapolated EVPI, EVPPI, and EVPSI on a United States population level for an annual incidence of 29,376 new gout patients assuming a decision lifetime of 10 years. Finally, we calculated the optimal sample size of a future study assuming a patient survey would be

administered during a clinical visit (fixed cost $6,000; cost per patient $100) to evaluate the parameter group of interest.

Results: Population EVPI varies by a decision maker's willingness-to-pay (WTP) per quality-adjusted life year and is $227 million for WTP of $100,000. EVPPI is highest for utility parameters when WTP is $50,000-$100,000. Figure 1 shows population EVPSI for parameters evaluating utilities, cost of research, expected net benefit of sampling (ENBS), and the optimal sample size for a survey conducted in a clinic evaluating gout patients' health utilities. Given a WTP of $100,000, the optimal sample size of a survey based research study evaluating the health utility of gout patients is 8,600. If the costs of research doubles the optimal sample size is 5,700.

Conclusions: Future studies should be conducted to evaluate utility of gout patients.



4L-6. A COST-EFFECTIVENESS ANALYSIS OF MINIMAL RESIDUAL DISEASE TESTING FOR THE MANAGEMENT OF CHILDHOOD ACUTE LYMPHOBLASTIC LEUKEMIA

2:45 PM - 3:00 PM: Tue. Oct 20, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLICATIONS OF VALUE OF INFORMATION AND COST EFFECTIVENESS ANALYSIS

*Olga Gajic-Veljanoski, MD, MSc, PhD[1], Ba' Pham, MSc, PhD[2], **Petros Pechlivanoglou, MSc, PhD**[2], Sumit Gupta, MD, PhD, FRCPC[3], Paul Gibson, MD, FRCPC[4], Charlene Rae, MSc[5] and Murray D Krahn, MD, MSc, FRCPC[2], (1)Health Quality Ontario & Toronto Health Economics and Technology Assessment (THETA) Collaborative, Toronto, ON, Canada, (2)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto,*

Toronto, ON, Canada, (3)Division of Haematology/Oncology, Hospital for Sick Children, Toronto, ON, Canada, (4)Children's Hospital, London Health Sciences, London, ON, Canada, (5)Dept of Clinical Epidemiology and Biostatistics, Hamilton, ON, Canada

Purpose: Minimal residual disease (MRD) testing by flow cytometry or polymerase chain reaction identifies submicroscopic residual leukemic cells in bone marrow or peripheral blood of pediatric patients with acute lymphoblastic leukemia (ALL). The test results are used in combination with other clinical factors to risk stratify patients and intensify therapy accordingly. We sought to determine the cost-effectiveness of MRD testing by flow cytometry for the management of childhood ALL.

Method: We developed a probabilistic state-transition microsimulation model to compare two strategies: MRD testing followed by risk-directed treatment versus no testing. The base case was a 6-year old child with newly diagnosed precursor B-cell ALL at the beginning of induction chemotherapy. We tracked changes in the risk of relapse after the first and second MRD tests at the end of induction and consolidation, respectively, to simulate patients' prognosis and predict treatment in consolidation and maintenance phases. The analytic perspective was that of the Ontario Ministry of Health and Long-Term Care and the time horizon was the patient's lifetime. The effect of MRD-risk-directed treatment intensification was based on the estimate of the UKALL2003 trial; other input parameters were estimated from the literature, expert opinion and a paediatric population-based clinical networked information system (POGONIS). Outcomes were expressed as the lifetime probability of relapse or bone marrow transplant (BMT), survival, quality-adjusted life years (QALYs), lifetime costs and incremental cost-effectiveness ratios. Costs and QALYs were discounted at 5%.

Result: MRD testing versus no testing was associated with increased life expectancy (66.50 vs. 66.04 years) and lower rates of first relapse or first BMT (relapse: 40.08% vs. 41.37%; BMT: 20.97% vs. 21.07%). Compared to no testing, MRD testing was associated with an increased quality-adjusted survival of 0.08 QALYs (95% confidence interval [CI]: -0.29; 0.46) and incremental costs of $3,863 (95%CI: -8,498; 15,530), yielding an incremental cost-effectiveness ratio of $50,249/QALY gained. The results were sensitive to the effectiveness of MRD-risk directed treatment, costs of ALL treatment and probability of BMT after consolidation. The probability that MRD testing was cost-effective was 57.80% at a threshold of $100,000/QALY.

Conclusion: MRD testing of newly diagnosed patients with childhood ALL followed by risk-directed treatment results in better health outcomes and appears to be cost-effective with a considerable degree of uncertainty.

Wednesday, October 21, 2015

5M. ORAL ABSTRACTS: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

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10:00 AM - 11:30 AM: Wed. Oct 21, 2015
Grand Ballroom A

Session Summary:

10:00 AM - 10:15 AM

5M-1. SHARED DECISION MAKING (SDM) IN PEDIATRIC TYPE 1 DIABETES: EVALUATION OF DECISION COACHING WITH A PATIENT DECISION AID

10:15 AM - 10:30 AM

5M-2. SYSTEMATIC REVIEW OF SHARED DECISION MAKING INTERVENTIONS FOR INDIVIDUALS WITH MENTAL HEALTH CONCERNS

10:30 AM - 10:45 AM

5M-3. INCREASING PATIENT CENTERED COMMUNICATION AND DECISION MAKING IN PRIMARY CARE OFFICE VISITS: COMPARATIVE EFFECTIVENESS OF A NOVEL MULTIDIMENSIONAL INTERVENTION WITH AN EXISTING PATIENT ACTIVATION INTERVENTION

10:45 AM - 11:00 AM

5M-4. TREATMENT SUMMARIES AND FOLLOW-UP CARE INSTRUCTIONS FOR CANCER SURVIVORS: IMPROVING SURVIVOR SELF-EFFICACY AND HEALTH CARE UTILIZATION

11:00 AM - 11:15 AM

5M-5. FIELD TESTING OF DECISION COACHING USING PATIENT DECISION AID WITH PARENTS FACING POTENTIAL BIRTH OF AN EXTREMELY PREMATURE INFANT

11:15 AM - 11:30 AM

5M-6. USING THE OBSERVER OPTION5 MEASURE TO EVALUATE THE EFFECT OF A NOVEL "OPEN COMMUNICATION" INTERVENTION ON SHARED DECISION-MAKING IN PRIMARY CARE APPOINTMENTS

Abstracts:

5M-1. SHARED DECISION MAKING (SDM) IN PEDIATRIC TYPE 1 DIABETES: EVALUATION OF DECISION COACHING WITH A PATIENT DECISION AID

10:00 AM - 10:15 AM: Wed. Oct 21, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

Margaret L. Lawson, MD, MSc, FRCP[1], *Allyson L. Shephard, RN, MScN*[1], *Bryan Feenstra, RN, MScN*[2], *Laura Boland, MSc, PhD(c)*[3], *Nadia Sourial, MSc*[1] *and Dawn Stacey, RN, PhD, CON (C)*[2], *(1)Children's Hospital of Eastern Ontario Research Institute, Ottawa, ON, Canada,*

(2)University of Ottawa, Ottawa, ON, Canada, (3)University of Ottawa, Institute of Population Health, Ottawa, ON, Canada

Purpose: To evaluate the effect of decision coaching with a decision aid on decisional conflict and participants' satisfaction for youth and parents considering a change in insulin delivery method (2-3 injections per day vs. multiple daily injections vs. insulin pump therapy).

Methods: Pre-post test design. As part of a hospital-wide SDM implementation project, social workers in a pediatric type 1 diabetes clinic were trained as decision coaches through an online, self-directed tutorial (Ottawa Decision Support Tutorial) and a skill-building workshop that provided foundational SDM knowledge and practise using simulated clinical encounters, audit and feedback. Youth and their parents considering a change in the youth's insulin delivery method were referred for decision coaching by their diabetes physician. Decision coaches followed a standardized coaching protocol using the dyadic Ottawa Family Decision Guide pre-populated for insulin delivery options. Data were collected from participating family members immediately pre-coaching (T1) and 10-14 days post (T2). Primary outcome was youth and parent decisional conflict measured with the low literary Decisional Conflict Scale (DCS), and compared at T1 and T2 using a paired t-test. Other outcomes included choice predisposition vs actual choice (T1&T2), Preparation for Decision Making Scale (PrepDM) (T2), and satisfaction with coaching questionnaire (T2).

Results: 42 families participated, each consisting of 1 youth and 1-2 parents. Youth (n=42), 52% male, median age 11.5 years (range 6.3-17.7). Parents (n=62), 40% male. Twenty sessions involved youth and both parents (17 youth and female parent; 5 youth and male parent). Coaching sessions averaged 55.2±8.9 minutes. Mean youth DCS decreased from 36.4±19.8(SD) (T1) to 4.6±10.0 (T2) ($p<0.0001$). Mean parent DCS decreased from 42.0±24.0 (T1) to 3.8±8.0 (T2) ($p<0.0001$). Between T1 and T2, choice predisposition changed for parents but not youth. 54.6% of youth preferred to share the decision with others; 45.5% preferred to decide themselves after hearing others' views. Mean PrepDM scores (T2) were 79.0±14.7 for youth and 77.8.2±17.4 for parents. Ninety-one percent of parents and 58.6% of youth rated the coaching session length as appropriate. Youth (88.9-96.3%) and parents (87.8-100%) rated the coaching session as helpful, clear, balanced, and would definitely/probably recommend it.

Conclusion: Decision coaching with a decision aid reduced decisional conflict for youth and parents facing a preference-sensitive insulin delivery decision. Youth and parents were satisfied with the decision coaching intervention.

5M-2. SYSTEMATIC REVIEW OF SHARED DECISION MAKING INTERVENTIONS FOR INDIVIDUALS WITH MENTAL HEALTH CONCERNS

10:15 AM - 10:30 AM: Wed. Oct 21, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

Julie Bertram, BSN, MSN[1], *Sarah Narendorf, PhD*[2] *and Christine Bakos-Block*[2], *(1)St. Louis University School of Nursing, St. Louis, MO, (2)University of Houston Graduate College of Social Work, Houston, TX*

Purpose:

This systematic review of shared decision making interventions sought to 1) determine the level of evidence for the effectiveness of shared decision making interventions for individuals who experience mental health concerns and 2) identify directions for future research and intervention development for shared decision making in mental health treatment.

Method:

A systematic search of Psychinfo, Pubmed and CINAHL-Plus (2008-2014) yielded 502 abstracts. Included in this review were studies that a) reported results of a shared decision making intervention (defined as one that aimed to facilitate communication and patient engagement), b) used at least a pre/post test study design, and c) targeted a consumer group with mental health issues. Design, participant, and methodological characteristics of each study were analyzed. Quality ratings were assigned by 2 reviewers using the Quality Assessment Tool for Quantitative Studies (Thomas et al, 2004).

Result:

20 studies met criteria for this review, 14 of which were randomized controlled trials. Most interventions were delivered in outpatient settings. Intervention types included those targeted at increasing provider competencies (n=3), consumer competencies (n=3) or both (n=14). All but 3 of the studies included a written component in the intervention; 4 included video; 8 included web-based; and 19 were interactive.

Studies that measured patient attitudes/activation (n=9) generally found positive effects (n=7 with significant findings). Provider/consumer interactions were also effective in 5 of 6 studies. Functional outcomes including symptoms, hospital readmissions or follow up with treatment were measured in 11 studies and 6 found significant effects. Length of interventions ranged from 20 minutes to 12 months but there was no evidence that longer interventions were more effective. Interventions that focused solely on providers or solely on patients tended to narrowly define success in terms of patient activation or increased patient centeredness in the interactions compared to broader interventions that more often measured functional outcomes.

Conclusion:

Rigorous research on Shared Decision Making interventions has proliferated over the last four years; the majority of which employed rigorous study designs. Interventions that measured patient activation or patient centeredness have generally reported success in these outcomes.

But, it is less clear whether this translates into improved functioning or treatment engagement. Just over half of studies in this review that measured functional outcomes found significant results, indicating promising directions for future research.

5M-3. INCREASING PATIENT CENTERED COMMUNICATION AND DECISION MAKING IN PRIMARY CARE OFFICE VISITS: COMPARATIVE EFFECTIVENESS OF A NOVEL MULTIDIMENSIONAL INTERVENTION WITH AN EXISTING PATIENT ACTIVATION INTERVENTION

10:30 AM - 10:45 AM: Wed. Oct 21, 2015
Grand Ballroom A

Part of Session: ORAL ABSTRACTS: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

Ming Tai-Seale, PhD[1], *Glyn Elwyn, MD, MSc, PhD*[2], *Caroline Wilson, MSc*[1], *Cheryl Stults, PhD*[1], *Ellis Dillon, PhD*[1], *Amy Meehan, MPH*[1], *Martina Li, MPH*[1], *Judith Chuang, MPH*[1] *and Dominick Frosch, PhD*[1], *(1)Palo Alto Medical Foundation Research Institute, Palo Alto, CA, (2)The Dartmouth Institute for Health Policy and Clinical Practice, Lebanon, NH*

Purpose:

Test the comparative effectiveness of two interventions designed to improve patient centered communication and decision-making in primary care.

Method:

We conducted a cluster randomized pilot trial to compare “Open Communication” (OpenComm), “Ask 3 Questions” (Ask3), and usual care in a fully crossed 2x2 design. Four primary care clinics were randomized, one to each trial arm. The novel OpenComm intervention, co-developed with a group of clinician, patient stakeholders, and user-experience design consultants, consists of: (1) an animated-video to encourage open communication between patients and physicians; (2) a patient visit companion booklet to enable patients to delineate issues that matter the most to them and to review and record their next steps; and (3) the use of Standardized Patient Instructors to provide communication coaching for physicians. Ask3 is an evidence-based three-question prompt list, encouraging patients to ask about options, potential benefits and risks and their individual likelihood.

We collected 300 post-visit surveys from patients served by 26 primary care physicians (75 unique patient visits/clinic, average 11.5 visits/physician). Outcome measures included the percentage of patient participants who gave the highest possible score on CollaboRATE, a validated 3-item patient engagement measure that captures patient perceptions of patient centeredness of communication and decision-making in a consultation.

Descriptive analyses and logistic regression with cluster robust standard errors were used to analyze the data. Covariates included patient age, sex, race/ethnicity, and education.

Result:

The proportion of patients who gave the highest possible score on CollaboRATE was 74.3% in the OpenComm clinic, 72.0% in the Ask3 clinic, 74.3% in the OpenComm combined with Ask3 clinic, and 67.6% in the usual care clinic. Compared with visits in the OpenComm clinic, the odds ratios of giving the highest possible CollaboRATE score were 0.75 (s.e.=0.05, $p<0.01$), 0.58 (s.e.=0.12, $p<0.01$), and 0.52 (s.e.=.05, $p<0.01$) in the Ask3, OpenComm+Ask3, and usual care clinics, respectively.

Conclusion:

CollaboRATE scores were highest in the OpenComm arm, and higher than Ask3 alone, the combination of both approaches, or usual care. The multidimensional OpenComm approach offers a promising approach to improve patient centered communication and decision-making in primary care office visits.

5M-4. TREATMENT SUMMARIES AND FOLLOW-UP CARE INSTRUCTIONS FOR CANCER SURVIVORS: IMPROVING SURVIVOR SELF-EFFICACY AND HEALTH CARE UTILIZATION

10:45 AM - 11:00 AM: Wed. Oct 21, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

***Kelly Kenzik, PhD**, Michelle Martin, PhD, Gabrielle Rocque, MD, Karen Meneses, PhD, RN, FAAN, Aras Acemgil, Richard Taylor, DNP, CRNP, ANP-BC, Bradford Jackson, PhD, Mona Fouad, MD, MPH, Kerri Bevis, MD, Yufeng Li, PhD, Elizabeth Kvale, MD, Wendy Demark-Wahnefried, PhD, RD, Edward Partridge, MD and Maria Pisu, PhD, University of Alabama at Birmingham, Birmingham, AL*

Purpose: The purpose was to examine the relationship between receiving treatment summaries and follow-up care plan instructions from a health care provider and cancer survivors' self-efficacy for chronic illness management, and also the relationship between self-efficacy and health care utilization.

Method: 461 cancer survivors from 12 cancer centers across AL, MS, GA, FL, and TN completed telephone surveys. Participants were ≥65 years old, had completed treatment, and were ≥2 years post-diagnosis. We assessed whether they had received a written treatment summary and whether a health care professional explained their follow-up care plan. Respondents completed the Stanford Chronic Illness Management Self-Efficacy Scale and self-reported ER visits and hospitalizations in the past year. Multiple linear regression models estimated the association of 1) treatment summary and 2) follow-up care plan explanation with total self-efficacy score, controlling for race, age, sex, years since diagnosis, disease severity, and enrollment status in a navigation program. Multiple logistic regression models examined the association of self-efficacy scores with 1) ER visits and 2) hospitalizations (yes/no) while adjusting for covariates. We explored mediation and moderation analyses to examine the potential relationship between treatment summaries, self-efficacy, and ER/hospitalizations.

Result:

The majority of survivors were female (53%) and 21% were minorities. Survivors were on average 75 years old and 4.6 years from diagnosis. The most frequent diagnoses were breast (15%), prostate (17%), or lung (11%). Approximately 38% reported receiving a written treatment summary plan and 75% reported that a health care professional explained their follow-up care plan. In the adjusted models, receiving treatment summaries and follow-up care instructions were significantly associated with higher self-efficacy scores (B=0.47, SD=0.23, p=0.04 and B=0.75, SD=0.27, p=0.007, respectively). In the adjusted logistic regression models, higher self-efficacy scores were significantly associated with decreased odds of ER visits (OR:0.85; 95% CI:0.77, 0.93) and hospitalizations (OR:0.87 95% CI:0.79, 0.96) in the past year. Self-efficacy mediated the relationship between follow-up care instructions and ER use.

Conclusion: Verbal explanations of the follow-up care plan by a health care professional to older cancer survivors, beyond the written component of the care plan, may enhance survivor self-efficacy for managing cancer as a chronic condition. Self-efficacy may be associated with

lower odds of health care utilization, but the mechanism through which self-efficacy is associated with ER/hospitalizations needs further examination.

5M-5. FIELD TESTING OF DECISION COACHING USING PATIENT DECISION AID WITH PARENTS FACING POTENTIAL BIRTH OF AN EXTREMELY PREMATURE INFANT

11:00 AM - 11:15 AM: Wed. Oct 21, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

*Gregory Moore, MD, FRCPC[1], Brigitte Lemyre, MD, FRCPC[1], Sandra Dunn, RN, PhD[2], Thierry Daboval, MD, MSc, FRCPC[1], Allyson L. Shephard, RN, MScN[3], Sharon Ding[3], Salwa Akiki, MSc[3] and **Margaret L. Lawson, MD, MSc, FRCP**[3], (1)Children's Hospital of Eastern Ontario, Ottawa, ON, Canada, (2)BORN Ontario, Ottawa, ON, Canada, (3)Children's Hospital of Eastern Ontario Research Institute, Ottawa, ON, Canada*

Purpose: Professional associations recommend shared decision making (SDM) with parents facing potential delivery of an extremely premature infant (EPI) to help them choose between palliative and intensive care. Study objectives were to: i) revise a patient decision aid (PtDA) for counseling parents facing the potential birth of an EPI (Guillén et al 2012); ii) develop the Ottawa EPI PtDA; iii) field test the Ottawa EPI PtDA with decision coaching (DC).

Methods: Pre-post test design. The published PtDA was evaluated using International PtDA Standards (IPDAS) criteria. We surveyed a multi-stakeholder group to identify key elements for the Ottawa EPI PtDA and sought feedback from the local SDM program, neonatologists and parents. Four neonatologists were trained in DC and alpha-tested our PtDA. Our PtDA and DC were field (beta) tested with women and partners at risk of delivering at 23 - 24 weeks gestational age (GA). Primary outcome measure was change in Decisional Conflict Scale (DCS) from pre-DC (T1), to immediately post-DC (T2), and 12-48 hours post-DC (T3), using paired T-tests. Secondary measures included change in choice predisposition and parents' satisfaction with the PtDA and DC.

Results: The Ottawa EPI PtDA addressed the deficits in the published PtDA (IPDAS score 13/35) providing more information about quality of life, maternal impact, local outcome data, and the option of palliative care. Post-modification IPDAS score increased to 31/35 ($p<0.001$). Eleven DC sessions involved 18 parents (mean GA 23.3 weeks; 10 female, 8 male) and lasted 30-65 minutes (mean 50). Total DCS (mean±SD) decreased from 50.3±25.7 (T1) to 7.7±15.0 (T2) ($p<0.001$). Three parents didn't complete T3 DCS due to infants' early delivery. There was no change in DCS between T2 and T3 ($n=15$; $p=0.51$). Parents' preferences: T1: 4 intensive care, 2 palliative care, 2 uncertain, and 10 unaware of options vs. T2: 12 intensive care, 5 palliative care, 1 uncertain, and all knew options. 94% of parents said DC with the Ottawa EPI PtDA helped to identify what they needed to make a decision.

Conclusion: The quality of an existing yet untested PtDA was improved using multi-source feedback, alpha-testing, and incorporation of local data. Field testing demonstrates the promise of the Ottawa EPI PtDA combined with DC to help parents engage in SDM at the limit of viability.

5M-6. USING THE OBSERVER OPTION5 MEASURE TO EVALUATE THE EFFECT OF A NOVEL "OPEN COMMUNICATION" INTERVENTION ON SHARED DECISION-MAKING IN PRIMARY CARE APPOINTMENTS

11:15 AM - 11:30 AM: Wed. Oct 21, 2015
Grand Ballroom A
Part of Session: ORAL ABSTRACTS: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

*Cheryl Stults, PhD[1], Ellis Dillon, PhD[1], Glyn Elwyn, MD, MSc, PhD[2], Dominick Frosch, PhD[1], Caroline Wilson, MSc[1], Amy Meehan, MPH[1], Judith Chuang, MPH[1], Martina Li, MPH[1] and **Ming Tai-Seale, PhD**[1], (1)Palo Alto Medical Foundation Research Institute, Palo Alto, CA, (2)The Dartmouth Institute for Health Policy and Clinical Practice, Lebanon, NH*

Purpose:

To analyze the impact of a novel intervention for improving patient-physician communication by evaluating how physicians engage patients in shared decision-making.

Method:

A cluster randomized controlled trial tested two interventions at four primary care clinics of a multispecialty group practice: (1) usual care, (2) Ask 3 Questions, an existing tool encouraging patients to ask questions, (3) Open Communication, a novel intervention combining physician and patient coaching, and (4) Ask 3+Open Communication. The Open Communication intervention incorporated the “Visit Companion Booklet”, video coaching for patients, and Standardized Patient Instructor communication coaching for physicians. Of the 300 adult patients who participated, 40 visits were audio-recorded (10 per clinic). Observer OPTION^5, a validated observer measure, was used to evaluate how physicians present options, establish a partnership with the patient, describe pros and cons of options, elicit patient preferences, and integrate patient preferences into the decision. Two qualitative researchers blinded to intervention arms jointly identified “topics” requiring decisions, scored each item, and then averaged across coders to create final scores.

We used descriptive statistics and linear regression with cluster robust standard errors to analyze the OPTION^5 item and final scores (scaled 0-100) for 200 topics. The models included the main effects for both interventions, their interaction, and controlled for patient demographics.

Result:

The average number of “topics” per visit coded ranged from 4.8 to 5.2 [min=1, max=13, s.d. 2.15-3.36].

Overall, presenting options and describing pros and cons of options had the highest average scores (7.65 and 7.24). For presenting options, the coefficient on the main effect for Ask 3 was positive and statistically significant (coeff=0.90, $p<0.05$). The scores for Ask 3+Open Communication were significantly lower than usual care for presenting options (coeff=-.49, $p<0.01$) and establishing partnership (coeff=-1.3, $p<0.01$). There were no other statistically significant results for comparisons to usual care.

Conclusion:

While the general level of shared decision-making was low, the use of the Ask 3 prompt led to a small but significant increase in physicians presenting options to patients. No other significant improvements in other aspects of shared decision-making were present. These findings illustrate how difficult it is to change physician communication with patients, and the overall low final scores (under 30%) suggest that it is imperative to find methods to better engage patients in sharing decision-making.

5N. ORAL ABSTRACTS: ADVANCING EVALUATION METHODS AND FRAMEWORKS

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10:00 AM - 11:30 AM: Wed. Oct 21, 2015
Grand Ballroom B

Session Summary:

10:00 AM - 10:15 AM

5N-1. DEVELOPMENT AND PILOT OF FOUR DECISION AIDS FOR IMPLANTABLE CARDIOVERTER-DEFIBRILLATORS IN DIFFERENT MEDIA FORMATS

10:15 AM - 10:30 AM

5N-2. CHOOSING APPROPRIATE MULTI-CRITERIA DECISION ANALYSIS TECHNIQUE(S) TO SUPPORT HEALTH CARE DECISIONS: ISSUES AND CONSIDERATIONS

10:30 AM - 10:45 AM

5N-3. A CHECKLIST FOR REPORTING VALUATION STUDIES OF MULTI-ATTRIBUTE UTILITY-BASED INSTRUMENTS (CREATE)

10:45 AM - 11:00 AM

5N-4. AN EFFICIENT HYBRID CALIBRATION APPROACH COMBINING ARTIFICIAL NEURAL NETWORK METAMODELING AND BAYESIAN METHODS

11:00 AM - 11:15 AM

5N-5. PREFERENCE AGGREGATION IN THE HEALTH UTILITIES INDEX MARK 2 AND 3

11:15 AM - 11:30 AM

5N-6. A FRAMEWORK FOR PRIORITIZING RESEARCH INVESTMENTS IN PRECISION MEDICINE

Abstracts:

5N-1. DEVELOPMENT AND PILOT OF FOUR DECISION AIDS FOR IMPLANTABLE CARDIOVERTER-DEFIBRILLATORS IN DIFFERENT MEDIA FORMATS

10:00 AM - 10:15 AM: Wed. Oct 21, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: ADVANCING EVALUATION METHODS AND FRAMEWORKS

Amy Jenkins, MS[1], *Jacqueline Jones, PhD, RN*[2], *B. Karen Mellis*[1], *Heather Nuanes*[3], *Carolyn Nowels, MSPH*[4], *Paul Varosy, MD*[5], *Richard Thomson, MD*[6], *Glyn Elwyn, MD, MSc, PhD*[7], *David J. Magid, MD, MPH*[8], *Angela Brega, PhD*[1], *Travis Vermilye, MFA*[9], *Fred Masoudi, MD, MSPH*[10] *and Daniel Matlock, MD, MPH*[11], *(1)University of Colorado, Denver, Aurora, CO, (2)University of Colorado College of Nursing, Aurora, CO, (3)Kaiser Permanente- Institute for Health Research, Denver, CO, (4)The University of Colorado Denver, Aurora, CO, (5)Denver Veterans Affairs Medical Center, Denver, CO, (6)University of Newcastle upon Tyne, Newcastle upon Tyne, United Kingdom, (7)The Dartmouth Institute for Health Policy and Clinical Practice, Lebanon, NH, (8)The Kaiser Institute for Health Research, Denver, CO, (9)University of Colorado, Denver, Denver, CO, (10)University of Colorado School of Medicine, Aurora, CO, (11)University of Colorado School of Medicine, Division of General Internal Medicine, Aurora, CO*

Purpose: Develop and pilot four implantable cardioverter-defibrillator (ICD) decision aids for primary prevention.

Methods: Tool development followed the Ottawa Decision Support Framework and the International Patient Decision Aid Standards. Prior qualitative and survey assessments directed the initial content. Decision aids (DAs) were iteratively modified using feedback from 28 patient interviews; three patient focus groups; patient stakeholders; local research groups; and a national panel of 14 experts in decision science and/or cardiovascular disease. The pilot trial was conducted at three clinics across Denver, Colorado. To test feasibility, recruitment strategies differed by site: 1) chart review of ICD referrals; 2) chart review of electrophysiologists' (EP) schedules; and 3) clinic staff identification of eligible patients. Intervention patients were mailed the four DAs before discussing ICD therapy with the EP. Patients were interviewed at baseline, one month after meeting with the EP, and three months after enrollment. Primary outcomes were acceptability and feasibility; secondary outcomes included ICD-specific knowledge, decision quality, values concordance, decision conflict, and decision regret.

Results: Twenty-one eligible patients enrolled; 15 were randomized to the intervention and six to the control (usual care). 67% found the DAs to be unbiased, 22% thought they were biased toward ICDs, and 11% thought they were biased toward not getting an ICD. Furthermore, 89% found the DAs helpful and 100% would recommend them to others. The pilot was feasible at all sites; however, using clinic staff to identify eligible patients was more efficient than using chart review. Intervention patients did not have significantly greater knowledge about ICDs (M=14.00, SD=2.62) than controls (M=11.60, SD=3.13, t_{13}=1.57, *ns*). Intervention patients had increased concordance between their decision and end-of-life values (71% concordant vs. 29%, p=0.06). Intervention patients did not have significantly different levels of decision conflict (M=17.81, SD=14.97) than controls (M=24.38, SD=25.35, t_{13}=0.64, *ns*) or decision regret (M=21.88, SD=16.24, M=16.00, SD=19.12, respectively, t_{11}=0.59, *ns)*.

Conclusions: Patients felt the DAs provided helpful, balanced information that they would recommend to other patients. Furthermore, utilizing clinic staff is an efficacious way to get decision aids to patients. The impact of the DAs on the secondary outcomes will be tested in a future, adequately powered trial.

5N-2. CHOOSING APPROPRIATE MULTI-CRITERIA DECISION ANALYSIS TECHNIQUE(S) TO SUPPORT HEALTH CARE DECISIONS: ISSUES AND CONSIDERATIONS

10:15 AM - 10:30 AM: Wed. Oct 21, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: ADVANCING EVALUATION METHODS AND FRAMEWORKS

***Praveen Thokala, PhD**, University of Sheffield, Sheffield, United Kingdom and Kevin Marsh, PhD, Evidera, London, United Kingdom*

Purpose: Multi-Criteria Decision Analysis (MCDA) is concerned with decision-making situations in which multiple criteria are explicitly considered, usually resulting in, depending on the type of application, alternatives being ranked (prioritized) or selected or rejected. There has been increase in the number of MCDA applications in healthcare since 1990s but there is still confusion among potential users regarding their appropriate use. There is a need to develop guidelines for choosing the most appropriate MCDA method to be applied for a given health care decision problem.

Method: This paper discusses the main MCDA approaches and methods and provides examples of the diverse range of health care applications in use internationally. The common steps for implementing MCDA are explained, which include 1) carefully structuring the decision problem being addressed; 2) ensuring that appropriate criteria are specified; 3) measuring alternatives' performance accurately; using valid and reliable methods for 4) scoring alternatives and 5) weighting criteria; and 6) presenting MCDA results, including 7) sensitivity analysis, in a form that is relatively easily interpreted and communicated. However, the way these steps are conducted differentiate the MCDA methods.

Result: Most applications of MCDA in health care are based on weighted-sum models. Notwithstanding the popularity of this approach, methodological issues arise at each step of the process for creating and applying such models. In particular, there are a potentially confusing variety of scoring and weighting methods (steps 4 and 5) to choose from. Naturally, all methods (and software implementing them) have their relative strengths and weaknesses (choosing the 'best' MCDA method is itself a multi-criteria decision problem!).

When thinking about which scoring and weighting methods to use consideration needs to be given to: how well methods elicit trade-offs between criteria; the time and resources required to implement alternative methods; the cognitive burden imposed on participants and whether skilled facilitators are required; the need for additional data processing and statistical analysis; the validity of the underlying assumptions relative to decision-makers' preferences; and whether the outputs produced will satisfy decision-makers' objectives.

Conclusion: As the use of MCDA in health care increases, further research into the development of a framework to help select the most appropriate methods for particular types of health care application would be worthwhile.

5N-3. A CHECKLIST FOR REPORTING VALUATION STUDIES OF MULTI-ATTRIBUTE UTILITY-BASED INSTRUMENTS (CREATE)

10:30 AM - 10:45 AM: Wed. Oct 21, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: ADVANCING EVALUATION METHODS AND FRAMEWORKS

***Feng Xie, PhD**, McMaster University, Hamilton, ON, Canada, A. Simon Pickard, PhD, University of Illinois at Chicago, Chicago, IL, Paul Krabbe, PhD, University Medical Center Groningen, Groningen, Netherlands, Dennis Revicki, PhD, Bethesda, MD, Rosalie C. Viney, PhD, University of Technology, Sydney, Sydney, Australia, Nancy Devlin, PhD, Office of Health Economics, London, United Kingdom and David Feeny, PhD, Hamilton, ON, Canada*

Purpose: A valuation study is a key part of the development of a multi-attribute utility-based instrument (MAUI). A review of guidance on methods for valuation studies found one study by Stalmeier et al which restricted its focus to elements relevant to health utility measurement. Our objective was to broadly identify key elements relevant to reporting value set development in the literature by developing a Checklist for REporting VAluaTion StudiEs (CREATE).

Method: An expert panel of five members was formed to provide inputs and guidance on the checklist. We followed the international reporting guideline development framework. A list of items was generated based on a systematic literature review of EQ-5D valuation studies. A modified Delphi panel approach was adopted by asking the expert panel via email to assess independently the content validity, completeness, and wording of these items and suggest any additional items if needed. Upon receiving inputs from the expert panel, items were refined. In the next stage, inputs on the checklist were solicited from the members of the EuroQol Research Foundation who were asked to comment on the checklist and assess how important each item is. If an item was classified as “required” by more than 50% of the participants in the survey, the item was included in the second round of deliberation which decided the final version of the checklist.

Result: From an initial list of 35 items, 21 items were selected for final inclusion on the checklist, grouped into 7 sections: (1) descriptive system; (2) health states valued; (3) sampling; (4) preference data collection; (5) study sample; (6) modeling; and (7) scoring algorithm.

Conclusion: The CREATE is aimed to facilitate and promote transparent reporting for valuation studies of MAUIs. This checklist is methodology-oriented and can assist users in their critical appraisal of value sets and help guide research related to the design, execution and reporting of health valuation studies.

5N-4. AN EFFICIENT HYBRID CALIBRATION APPROACH COMBINING ARTIFICIAL NEURAL NETWORK METAMODELING AND BAYESIAN METHODS

10:45 AM - 11:00 AM: Wed. Oct 21, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: ADVANCING EVALUATION METHODS AND FRAMEWORKS

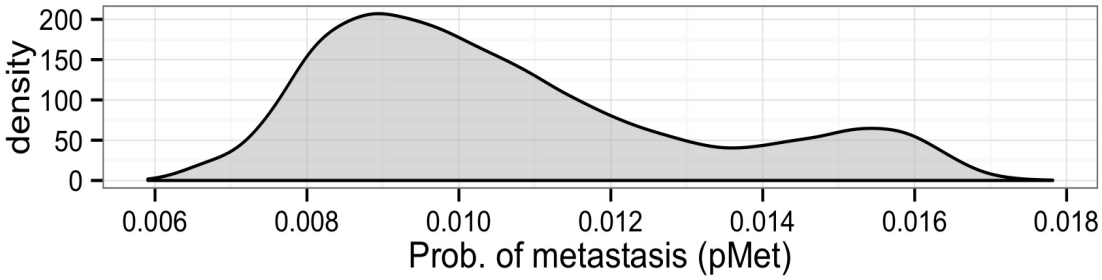
Hawre Jalal, MD, MSc, PhD, *University of Pittsburgh, Pittsburgh, PA and Fernando Alarid-Escudero, MS, University of Minnesota, Minneapolis, MN*

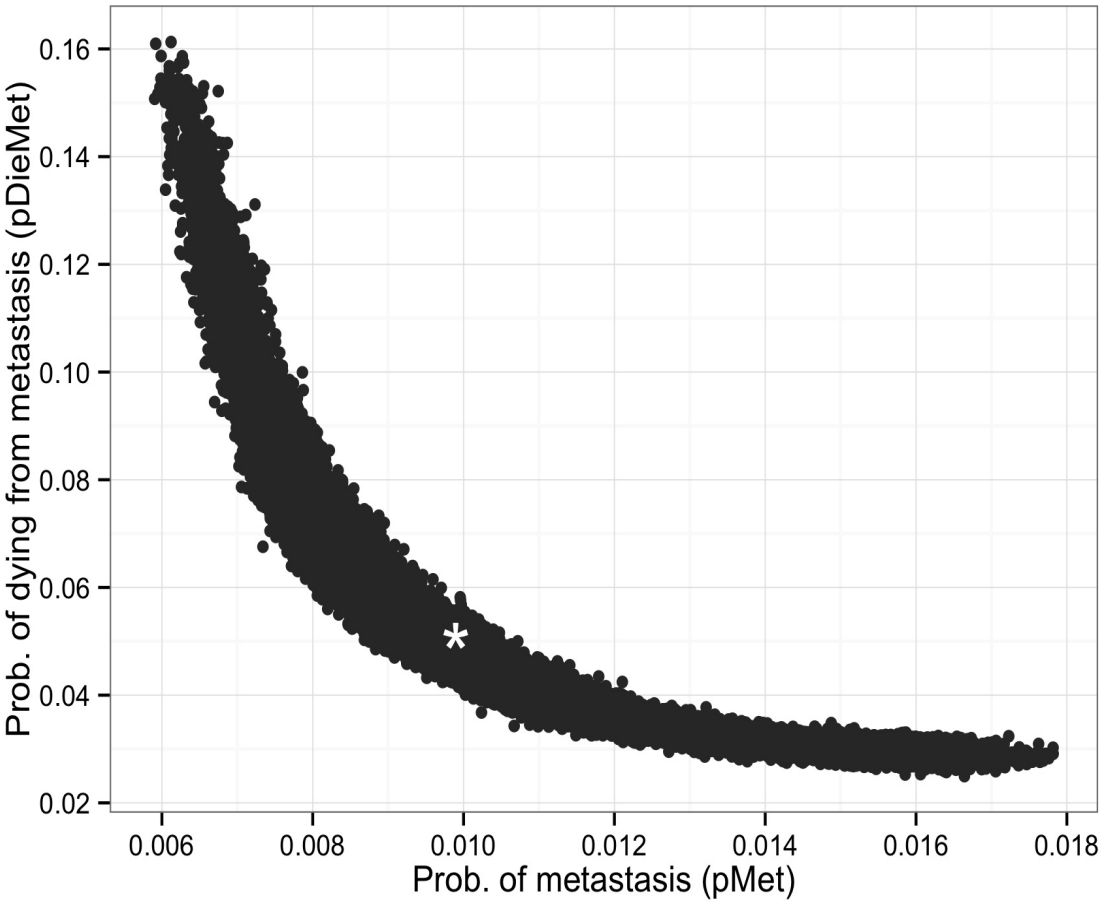
Purpose: Bayesian methods are naturally suited for calibration because they reveal the posterior distributions of the model parameters and their correlations, unlike direct search algorithms [e.g., Nelder-Mead (NM)] that only produce point estimates. However, Bayesian methods are rarely implemented in practice due to technical and computational challenges associated with defining simulation models in specialized software (e.g., BUGS). We propose combining artificial neural network (ANN) metamodeling with Bayesian calibration as a hybrid approach that is efficient and can be quickly scaled to models of arbitrary complexity.

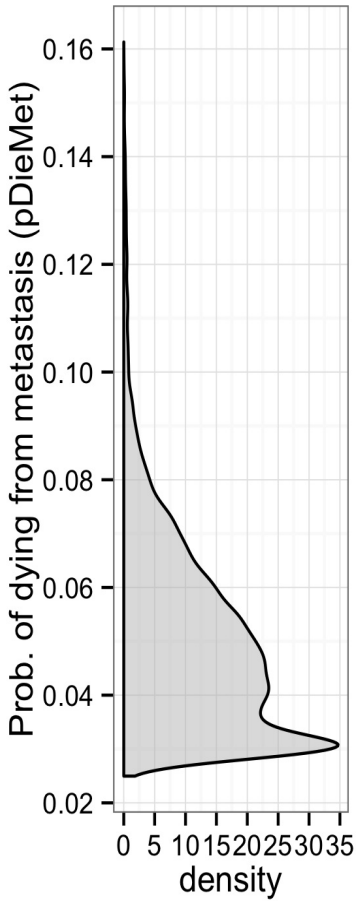
Methods: Our approach involves these steps: (1) conduct a PSA with vague input parameter values, (2) fit an ANN metamodel using the PSA's inputs and outputs, (3) calibrate the ANN metamodel using Markov chain Monte Carlo (MCMC) sampling algorithm, and (4) obtain the posterior distribution of the calibrated parameters that quantifies all sources of uncertainty not explained by the simulation model or the observed data. We demonstrate our approach with a Markov model for cancer progression. The model has three states: Cancer free, Metastasis and Dead, and two unknown probabilities that define the transitions between cancer free and metastasis (pMet) and death from metastasis (pDieMet). We produced 100 survival curves from the Markov model using 100 random parameter sets for pMet and pDieMet. We compared the accuracy of the Hybrid approach to estimate the true parameter values for each parameter set relative to NM calibration. In addition, we initialized NM from 100 random starting points, while we initialized the Hybrid approach from a single starting point.

Results: The Hybrid approach was more precise than NM. The mean squared errors for NM were more than 1000 times and 200 times greater than the Hybrid approach for pMet and pDieMet, respectively. The Hybrid approach took 2.9 seconds compared to 1.6 seconds for NM. The Figure shows the results of the Hybrid approach for one set of true parameter values indicated by the star (pMet=0.0099 and pDieMet=0.0477). In addition the Hybrid approach reveals the posterior distribution and the correlation between pMet and pDieMet, which are not possible with direct search algorithms like NM.

Conclusions: Bayesian calibration reveals posterior parameter distributions and their correlations for calibrated model parameters. Adding ANN metamodeling can overcome many technical and computational challenges associated with Bayesian calibration.







5N-5. PREFERENCE AGGREGATION IN THE HEALTH UTILITIES INDEX MARK 2 AND 3

11:00 AM - 11:15 AM: Wed. Oct 21, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: ADVANCING EVALUATION METHODS AND FRAMEWORKS

Barry Dewitt[1], *Janel Hanmer, MD, PhD*[2] *and Alexander Davis*[1], *(1)Department of Engineering & Public Policy, Carnegie Mellon University, Pittsburgh, PA, (2)The University of Pittsburgh, Pittsburgh, PA*

Purpose: To investigate the theoretical foundations for the aggregation of individual preferences into community preferences for the Health Utilities Index Mark 2 (HUI2) and 3 (HUI3). We assess the extent to which this aggregation is normatively justified and investigate policy-relevant alternative aggregation procedures.

Method: The HUI2 and HUI3 assign a utility to a health state by aggregating individuals' preferences into a community scoring function. This is done by taking the average of individuals' utilities for a health state as "the" utility of that health state. Social choice theory (Arrow, 1951; Sen, 1970) describes the contexts in which various preference aggregation methods are normatively justified. We describe the aggregation procedures used in the HUI2 and HUI3 in the framework of social choice theory and apply results from social choice theory to the HUI context.

Result: Examining the HUI2 and HUI3 through the lens of social choice theory, we investigate the assumptions that must be satisfied to justify relying on the average. For example, excluding individuals based on "illogical" responses (e.g., preferring a state with lower functional capacity to a state with higher functional capacity) creates normative problems for using the average as the mechanism of preference aggregation. Similarly, excluding individuals who report no differences between health states has strong implications for the normative foundations of the aggregation procedure. Social choice theory also provides alternatives to the average. For example, a minimum or maximum aggregation method may identify subgroups of interest while an aggregation method that is a function of the standard deviation may address concerns with equity. Thus, aggregation methods embody different values and we describe policy scenarios in which an alternative aggregation method may be preferred.

Conclusion: The current use of the average as the method of preference aggregation is justified under explicit assumptions. This method ignores aspects of decision-making that may be relevant to societal decisions such as the equity of outcomes. There exist theoretically strong alternatives that capture distributional properties ignored by the average. Alternative procedures could be used in sensitivity analysis, ensuring the average is not ignoring some aspect of the heterogeneity of preferences that is relevant to the decision at hand.

5N-6. A FRAMEWORK FOR PRIORITIZING RESEARCH INVESTMENTS IN PRECISION MEDICINE

11:15 AM - 11:30 AM: Wed. Oct 21, 2015
Grand Ballroom B
Part of Session: ORAL ABSTRACTS: ADVANCING EVALUATION METHODS AND FRAMEWORKS

Anirban Basu, PhD[1], *Josh Carlson, MPH, PhD*[2] *and David Veenstra, PharmD, PhD*[2], *(1)Pharmaceutical Outcomes Research and Policy Program, University of Washington, Seattle, Seattle, WA, (2)University of Washington, Seattle, WA*

Purpose: The adoption of precision medicine (PM) has been limited in practice to date, and yet its promise has attracted research investments. Developing foundational economic approaches for directing proper use of PM and stimulating growth in this area from multiple perspectives is thus quite timely.

Method: Building on our previously developed Expected Value of Individualized Care (EVIC) framework, we conceptualize new decision-relevant metrics to better understand and forecast the expected value of PM. Several aspects of behavior at the patient, physician and the payer level are considered that can inform the rate and manner in which PM innovations diffuse

throughout the relevant population. We illustrate this framework and the methods using a retrospective evaluation of the use of OncotypeDx genomic test among breast cancer patients.

Result: The enriched metrics can help inform many facets of PM decision making, such as evaluating alternative reimbursement levels for PM tests, implementation and education programs for physicians and patients, and decisions around research investments by manufacturers and public entities. We replicated prior published results on evaluation of OncotypeDx among breast cancer patients, but also illustrated that those results are based on assumptions that are often not met in practice. Instead, we show how incorporating more practical aspects of behavior around PM could lead to drastically different estimates of value. For OncotypeDx, population returns to a social insurer ranged from $17Billions to $37Billion and from $4Billion to $10Billion in revenues for the manufacturer depending on the nature of reimbursement policies and diffusion patterns.

Conclusion: We believe that the framework and the methods presented can provide decision makers with more decision-relevant tool to explore the value of PM. There is a growing recognition that data on adoption is important to decision makers. More research is needed to develop prediction models for potential diffusion of PM technologies.

5O. ORAL ABSTRACTS: APPLICATIONS IN HEALTH SERVICES RESEARCH

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10:00 AM - 11:30 AM: Wed. Oct 21, 2015
Grand Ballroom C

Session Summary:

10:00 AM - 10:15 AM

5O-1. RACIAL DISPARITIES ON EXPENDITURES OF PRESCRIPTION MEDICATION FOR MAJOR CHRONIC DISEASES IN THE U.S.: MEDICAL EXPENDITURE PANEL SURVEY 2011-2012

10:15 AM - 10:30 AM

5O-2. ONE YEAR HEALTHCARE COST AND UTILIZATION IN ADULTS WITH CHRONIC PAIN

10:30 AM - 10:45 AM

5O-3. MOTIVATING PROCESS COMPLIANCE THROUGH INDIVIDUAL ELECTRONIC MONITORING: AN EMPIRICAL EXAMINATION OF HAND HYGIENE IN HEALTHCARE

10:45 AM - 11:00 AM

5O-4. A NATURALISTIC EVALUATION OF A DIAGNOSTIC SUPPORT SYSTEM FOR FAMILY PHYSICIANS

11:00 AM - 11:15 AM

5O-5. TRENDS IN STAGE-SPECIFIC INCIDENCE OF PROSTATE CANCER IN NORWAY, 1980-2010: A POPULATION-BASED STUDY

11:15 AM - 11:30 AM

5O-6. USING BAYESIAN EVIDENCE SYNTHESIS TO ESTIMATE FRACTURE RISK ASSOCIATED WITH HORMONAL THERAPY IN EARLY BREAST CANCER

Abstracts:

5O-1. RACIAL DISPARITIES ON EXPENDITURES OF PRESCRIPTION MEDICATION FOR MAJOR CHRONIC DISEASES IN THE U.S.: MEDICAL EXPENDITURE PANEL SURVEY 2011-2012

10:00 AM - 10:15 AM: Wed. Oct 21, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLICATIONS IN HEALTH SERVICES RESEARCH

***Man Yee Mallory Leung, PhD**, Washington University School of Medicine, St. Louis, MO, Graham Colditz, MD, DrPH, Washington University in St. Louis, Saint Louis, MO and Erika A. Waters, PhD, MPH, Washington University School of Medicine, Saint Louis, MO*

Purpose: Racial disparities in health outcomes is a severe public health concern. This study explores whether there are also racial disparities in medication expenditures for five major chronic diseases (diabetes, heart diseases, cancers, mental disorders, and chronic respiratory diseases) among non-institutionalized U.S. adults.

Method: We used data from the Medical Expenditure Panel Survey, 2011-2012, to study racial differences (white, black, Asian, Hispanic and other) in (1) annual medication expenditures, and (2) the number of visits that included medical prescriptions for major chronic diseases (prescription visits). The annual medication expenditures were estimated using two-part models, with logistic regression in the first part and generalized linear model with log-link and gamma variance in the second part. The number of prescription visits was estimated using zero-inflated Poisson model. Covariates included age, age squared, gender, logged total family income, education (<high school, high school diploma, college, graduate school), insurance status (private, Medicaid, Medicare, uninsured, and other public insurance), census region, and body mass index category. Complex sampling designs were adjusted for. All dollar values are expressed in 2012 US prices.

Result: Whites had significantly larger predicted medication expenditures and number of prescription visits than other races for most major chronic diseases in our study (all *p*s<.05). Across all five diseases, diabetes had the highest racial differentials in medication expenditures and number of prescription visits. Averaging over all non-white races, the medication expenditures differentials for non-whites compared to whites was -$1,279 for diabetes, -$812 for chronic respiratory diseases, -$466 for mental illness, -$444 for heart diseases, and -$433 for cancer. Compared to whites, non-whites had fewer prescription visits: -8.7 for diabetes, -6.3 for chronic respiratory diseases, -5.6 for mental illness, -4.7 for cancer, and -4.0 for heart diseases. Averaging over all five diseases, Asians had the largest

differences in medical expenditures and number of visits with medical prescription with the whites, followed by blacks and Hispanics.

Conclusion: There are substantial racial differences in the predicted medication expenditures and number of visits with medical prescriptions for five major chronic diseases in the U.S., even controlling for key covariates. Future research should examine the causes of these disparities and the extent to which disparities in medical expenditures contribute to racial disparities in morbidity and mortality outcomes.

5O-2. ONE YEAR HEALTHCARE COST AND UTILIZATION IN ADULTS WITH CHRONIC PAIN

10:15 AM - 10:30 AM: Wed. Oct 21, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLICATIONS IN HEALTH SERVICES RESEARCH

***Mary-Ellen Hogan, BScPhm, PharmD, MSc**, Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada, Vibhuti Shah, MD MSc, Institute of Health Policy, Management and Evaluation, University of Toronto, Department of Paediatrics, Mount Sinai Hospital, Toronto, ON, Canada, Joel Katz, BA, MA, PhD, Department of Psychology, York University, Toronto General Research Institute and Department of Anesthesia and Pain Management, University Health Network, Toronto, ON, Canada, Anna Taddio, BScPhm, MSc, PhD, Leslie Dan Faculty of Pharmacy, University of Toronto; Department of Child Health Evaluative Sciences, Pharmacy, Hospital for Sick Children, Toronto, ON, Canada and Murray D Krahn, MD, MSc, FRCPC, Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada*

Purpose: Approximately 19% of adults have chronic pain. Technologies to treat chronic pain require cost estimates for cost-utility analyses. In countries like Canada, with universal health coverage, costs borne by the government payer are of greatest interest to decision makers. **Methods:** Adults (18-64 years) with and without chronic pain were identified from the Canadian Community Health Survey (CCHS 2000-01, 2007-08, 2009-10). Ontario respondents were linked to their administrative data which documents all publicly funded healthcare. This includes hospital stays, emergency department use, physician visits, long-term and complex continuing care, homecare, rehabilitation and drugs for those ≥65 years or on social assistance. Adults with chronic pain were matched to those without using age, sex, survey year, and a propensity score for having chronic pain; it was estimated from a rurality index, income quintile and comorbidity (ADGs, Johns Hopkins ACG system). Per-person costs and use of healthcare were estimated for one year following survey response, adjusting for inflation. Incremental cost was the difference in costs between individuals with pain and those without. **Results:** Chronic pain was reported by 13,129 (19%) of 67,619 CCHS respondents. 12,207 (93%) with chronic pain were matched to respondents without pain. 58% were female, mean age was 46 years (SD 12) and mean number of ADGs was 4.1 (SD 2.8) for each of cases and their matched controls. One year healthcare utilization was greater in the chronic pain group versus the control group ($p<0.01$) for the following: patients with at least 10 physician visits (56% vs 46%), at least 1 emergency department visit (32% vs 25%), at least 1 hospital stay (20% vs 16%), at least 1 CT (15% vs 7%), and at least 1 MRI (7% vs 4%). Incremental costs were available for 8,298 pairs from CCHS 2007-08 and 2009-10, and are

reported in the table.

	Cases (CA$2013)	Controls (CA$2013)	Incremental cost (CA$2013)	95% CI (CA$2013)
Per person mean cost	3,251	2,107	1,144	856 – 1,439
Females	3,217	2,158	1,059	729 – 1,371
Males	3,299	2,036	1,263	786 – 1,825
Mild pain	1,988	1,905	83	-436 – 432
Moderate pain	3,285	2,174	1,111	663 – 1,543
Severe pain	5,475	2,227	3,248	2,546 – 3,933
None or a few activity limitations	2,186	1,916	270	-68 – 640
Some activity limitations	3,111	2,258	853	373 – 1,332
Most activity limitations	6,200	4,636	3,822	2,966 – 4,626

Conclusions: Adults with chronic pain used more services and costs were greater than matched controls without chronic pain. The incremental cost is 30% more than what Ontario spends annually per capita ($3,800) on publicly funded healthcare. This study is the first to use Ontario administrative data to estimate healthcare costs for people with chronic pain. The data will be useful for healthcare planning and will improve the quality of Canadian cost-utility analyses.

5O-3. MOTIVATING PROCESS COMPLIANCE THROUGH INDIVIDUAL ELECTRONIC MONITORING: AN EMPIRICAL EXAMINATION OF HAND HYGIENE IN HEALTHCARE

10:30 AM - 10:45 AM: Wed. Oct 21, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLICATIONS IN HEALTH SERVICES RESEARCH

*Bradley Staats[1], **Hengchen Dai**[2], David Hofmann[1] and Katherine L. Milkman, Ph.D.[2], (1)UNC Kenan-Flagler Business School, Chapel Hill, NC, (2)The Wharton School, University of Pennsylvania, Philadelphia, PA*

Purpose: One way to ensure greater compliance with organizational standards is by electronically monitoring employees' activities. In the setting of hand hygiene in healthcare – a context where compliance is on average lower than 50% and where this lack of compliance can result in significant negative consequences – we investigated the effectiveness of electronic monitoring.

Method: We relied on data from a company that uses a radio frequency identification-based system to monitor healthcare workers' hand hygiene compliance in hospitals. We observed over three-and-a-half years of compliance data from caregivers in 71 hospital units at 42 hospitals where electronic monitoring was deployed (encompassing over 20 million observations of hand hygiene opportunities). Since 71 hospital units activated electronic monitoring over the course of three years, this staggered roll-out allows us to isolate the effects of activating electronic monitoring on hand hygiene compliance from the effects of other potentially confounding factors, such as general time trends in hand hygiene compliance or the roll-out of a public campaign. The large number of hospital units involved in this study allows us to examine whether and why there is variability in the monitoring effect across hospital

units. Also, the three-year longitudinal panel data allow us to explore whether the initial effects of activating electronic monitoring are strengthened over time or instead decay. For nine hospital units, electronic monitoring was discontinued, allowing us to evaluate the effects of the removal of monitoring on hand hygiene compliance. We used ordinary least squares (OLS) regressions to analyze our data.

Result: We find that, on average, caregivers exhibited a large and significant increase in hand hygiene compliance after electronic monitoring was activated. There is significant variability in the monitoring effect across units and that units with stronger social norms for hand hygiene compliance experienced bigger benefits from monitoring than units with weaker norms. Further, the benefits of monitoring increased for nearly two years before they eventually gradually degraded. Surprisingly, after monitoring was terminated, hand hygiene compliance did not sustain but dropped even *below* pre-monitoring levels.

Conclusion: Our findings highlight the need for not only implementing electronic monitoring, but also continuing to actively manage compliance efforts. The termination effect observed in our study highlights the limitations of merely monitoring desired behavior as a means of producing lasting compliance.

5O-4. A NATURALISTIC EVALUATION OF A DIAGNOSTIC SUPPORT SYSTEM FOR FAMILY PHYSICIANS

10:45 AM - 11:00 AM: Wed. Oct 21, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLICATIONS IN HEALTH SERVICES RESEARCH

Olga Kostopoulou, PhD[1]*, Talya Porat, PhD*[1]*, Samhar Mahmood, PhD*[1]*, Derek Corrigan*[2] *and Brendan C. Delaney, MD*[1]*, (1)King's College London, London, United Kingdom, (2)Royal College of Surgeons of Ireland, Dublin, Ireland*

Purpose: To determine whether providing family physicians with a computerized diagnostic support system (DSS), integrated with the patient's electronic health record (EHR), improves diagnostic accuracy.

Method: A DSS prototype was designed and developed as part of the EU TRANSFoRm project (www.transformproject.eu). The prototype currently supports three reasons for encounter (RfE), abdominal pain, chest pain and dyspnoea, and is integrated with a commercial EHR system (InPS Vision3). It is triggered by the physician entering the RfE and immediately displays a list of suggested diagnoses for the specific patient, using also information extracted from the EHR. The principle of presenting family physicians with diagnoses to consider at the start of the encounter, before testing any diagnostic hypotheses, was shown to be effective with computer-simulated patients in two RCTs, in the UK and Greece (Kostopoulou and colleagues, 2015a & 2015b). In addition, the current prototype enables physicians easily to code both the presence and absence of symptoms and signs, while the list of suggested diagnoses is updated accordingly. At the end of the consultation, all the information that the physician has recorded is automatically transferred into the EHR.

In the evaluation study, 32 family physicians, users of the Vision3 EHR system, diagnosed 12 standardized patients (actors) in simulated clinics. Each physician first consulted with 6 patients using Vision3, and on a second occasion, with 6 different but matched for difficulty

patients, using the DSS. The patient scenarios ranged in difficulty and were counterbalanced, so that they were all seen with and without the DSS across physicians.

Result: Mean diagnostic accuracy was 0.50 [95% CI 0.42-0.58] without and 0.57 [0.50-0.64] with the DSS. Improvement in diagnostic accuracy was significant: odds ratio 1.33 [1.07-1.66] (*P*=0.01). The odds of giving a correct diagnosis doubled, on average, when scenario difficulty was accounted for in the regression model: OR 2.1 [1.43 to 2.83] (*P*<0.001).

Conclusion: This improvement in diagnostic accuracy is clinically significant, since the evaluation was done in a realistic environment, with actors as patients, and under the usual time pressures of the clinical consultation (10 minutes). Furthermore, this was the first time that the physicians were using the DSS prototype, following a 30-minute training session. Data analyses of the prototype's usability and of patient satisfaction are on-going.

5O-5. TRENDS IN STAGE-SPECIFIC INCIDENCE OF PROSTATE CANCER IN NORWAY, 1980-2010: A POPULATION-BASED STUDY

11:00 AM - 11:15 AM: Wed. Oct 21, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLICATIONS IN HEALTH SERVICES RESEARCH

***Mette Holm Møller, Bsc Public Health**, Aarhus University, Denmark, Aarhus, Denmark, Ivar Sønbø Kristiansen, MD, PhD, MPH, Department of Health Management and Health Economics, University of Oslo, Oslo, Norway, Christian Beisland, Department of Urology, Surgical Clinic, Haukeland University Hospital, Bergen, Norway, Jarle Rørvik, Department of Radiology, Haukeland University Hospital, Bergen, Norway and Henrik Støvring, Department of Public Health, Section for Biostatistics, Aarhus University, Aarhus, Denmark*

Purpose: To estimate the changes in the stage distribution of prostate cancer (PC) after the introduction of opportunistic PSA-testing.

Method: From the Cancer Registry of Norway we obtained cancer stage, age and year of diagnosis on all men over the age of 50 diagnosed with PC during the period 1980-2010 in Norway. Three calendar-time periods were defined: One before the introduction of PSA-testing (1980-1989) and two after reflecting increasing diagnostic intensity (1990-2000 and 2001-2010); and three age groups: men eligible for PSA-testing (50-65 and 66-74) or older (75+). Birth-cohorts were categorized into four intervals: <1910, 1916-1925, 1926-1940 and >1941. We used Poisson regression to conduct a cross-sectional and a cohort-based analysis of trends in the incidence of localised, regional and distant cancer, respectively.

Result: The annual incidence of localised PC among men aged 50-65 and 66-74 rose from 41.4 and 255.2 per 100,000 before the introduction of PSA-testing to 137.9 and 418.7 in 2001-2010 afterwards, respectively, corresponding to 3.3 (CI: 3.1; 3.5) and 1.6 (CI: 1.6; 1.7) fold increases. The incidence of regional cancers increased by a factor seven and four among men aged <75 and 75+, respectively. The incidence of distant cancers among men aged 75+ decreased from 218.8 to 155.1 per 100,000, corresponding to a decrease of 0.7 (CI: 0.7; 0.8). The cohort-based analysis showed that the incidence of localised and regional PC shifted downwards to younger men, with a gradually decreased incidence of distant cancer in more recent cohorts.

Conclusion: Opportunistic PSA-testing substantially increased the incidence of localised and regional PC among men aged 50-74 years. The increase was not fully compensated in absolute numbers by the decrease in incidence of distant PC in older men, although it decreased by 30%.

5O-6. USING BAYESIAN EVIDENCE SYNTHESIS TO ESTIMATE FRACTURE RISK ASSOCIATED WITH HORMONAL THERAPY IN EARLY BREAST CANCER

11:15 AM - 11:30 AM: Wed. Oct 21, 2015
Grand Ballroom C
Part of Session: ORAL ABSTRACTS: APPLICATIONS IN HEALTH SERVICES RESEARCH

Ava John-Baptiste, PhD*[1], *Taryn Becker, MD, MSc, FRCPC*[2], *Hadas Fischer, MSc*[2], *Kinwah Fung, MSc*[2], *Lorraine Lipscombe, MD, MSc, FRCPC*[2], *Peter C. Austin, PhD*[3] *and Geoffrey Anderson, MD, MSC, PhD*[4], *(1)Western University, London, ON, Canada, (2)Women's College Research Institute, Toronto, ON, Canada, (3)Institute for Clinical Evaluative Sciences, Toronto, ON, Canada, (4)University of Toronto, Toronto, ON, Canada

Purpose: Randomized controlled trials (RCTs) provide information on drug efficacy prior to licensing. Administrative databases serve important roles in identifying and monitoring adverse event risks post-market. For postmenopausal women with early breast cancer, aromatase inhibitors (anastrazole, letrozole or exemestane) reduce the risk of breast cancer recurrence compared to Tamoxifen, but may increase fracture risk. We incorporated prior information on the risk of hip, spine and wrist fracture derived from pre-market RCTs into post-market analyses using administrative data.

Method: We conducted a retrospective cohort study of women age 66 or older diagnosed with early breast cancer, in Ontario, Canada from 2003 to 2010, who initiated treatment with an aromatase inhibitor (AI) or Tamoxifen (Tam). Prior information from meta-analyses of pre-market RCTs indicated an increased risk of hip, spine and wrist fracture with a probability that the relative risk (RR) exceeded 1 of 92% (RR=1.73, 95% Credible Interval (CrI) 0.81, 3.68), 98% (RR= 1.46, 95%CrI 1.02, 2.09) and 94% (RR= 1.48, 95%CrI 0.9, 2.44), respectively. Using Cox proportional hazard regression, we modeled the hazard of fracture occurrence, estimating the relative hazard ratio (HR) for AI compared to Tam, adjusting for age, fracture history, corticosteroid use, rheumatoid arthritis, dementia and diabetes. Using data augmentation, we incorporated both uninformative and informative priors into the analyses. We estimated posterior probabilities that the HR exceeded 1, assuming a normal distribution for regression coefficients.

Result: A smaller proportion of women who initiated treatment on AI (n=6,526) experienced fractures (hip: 2.4%, spine: 1.7%, wrist: 3.8%) compared to women initiated on Tam (n=3,733, hip: 3.8%, spine: 2.3%, wrist: 4.1%) but the mean time to fracture was shorter on AI. After risk adjustment, posterior probabilities that the HR exceeded 1 for AI compared to Tam were 46% (HR=0.99, 95%CrI 0.71, 1.25), 35% (HR=0.94, 95%CrI 0.78, 1.26) and 76% (HR=1.08, 95%CrI 0.88, 1.32) with an uninformative prior, and 63% (HR=1.04, 95%CrI 0.83, 1.3), 84% (HR=1.12, 95%CrI 0.89, 1.4) and 89% (HR=1.13, 95%CrI 0.93, 1.36) with an informative prior, for hip, spine and wrist fracture, respectively.

Conclusion: In our study, informative prior information derived from RCTs increased posterior probabilities of greater fracture risk for AI compared to Tam. This approach incorporated safety data from a range of sources and can be implemented in commonly used statistical software.

Sunday, October 18, 2015 (Posters)

POSTER SESSION I & WELCOME RECEPTION

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Grand Ballroom EH

Posters:

PS1-1. BROADER ECONOMIC AND SOCIAL IMPACT OF IMMUNIZATION AGAINST VACCINE-PREVENTABLE DISEASES IN 73 GAVI COUNTRIES FROM 2001-2020

Samantha Clark, MHS[1], *Sachiko Ozawa, PhD, MHS*[1], *Simrun Grewal, MHS*[2], *Meghan Stack, MPH, MS*[1], *Allison Portnoy, MSPH*[1], *Peter Hansen*[3], *Hope Johnson*[4], *Michelle Li*[5] *and Damian Walker, PhD*[6], *(1)International Vaccine Access Center, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, (2)University of Washington, Seattle, WA, (3)Gavi, Washington, DC, (4)Gavi, Genève, Switzerland, (5)Gavi, Geneva, Switzerland, (6)BMGF, Seattle, WA*

PS1-2. ESTIMATING THE ECONOMIC IMPACT OF VACCINATION AGAINST WEST NILE VIRUS IN THE UNITED STATES

Dagna Constenla, PhD*, Johns Hopkins University, Baltimore, MD*

PS1-3. OVERTREATMENT AND COST-EFFECTIVENESS OF SEE-AND-TREAT APPROACH IN MANAGING CERVICAL SQUAMOUS INTRAEPITHELIAL LESIONS IN THE US SETTING

Kalatu R. Davies, Ph.D.[1], *Van T. Nghiem, M.S.P.H.*[1], *J. Robert Beck, M.D.*[2], *Michele Follen, MD, PhD*[3] *and Scott B. Cantor, Ph.D.*[4], *(1)The University of Texas MD Anderson Cancer Center, Department of Health Services Research, Houston, TX, (2)Fox Chase Cancer Center, Philadelphia, PA, (3)Department of Obstetrics & Gynecology, Brookdale University Hospital & Medical Center, Brooklyn, NY, (4)The University of Texas MD Anderson Cancer Center, Houston, TX*

PS1-4. COST EFFECTIVENESS OF THERAPIES FOR CASTRATION RESISTANT METASTATIC PROSTATE CANCER

Niranjan Kathe, M.S.*, Corey Hayes, Pharm D MPH, Anand Shewale, M.S. and Bradley Martin, Pharm D PhD, University of Arkansas for Medical Sciences, Little Rock, AR*

PS1-5. VALUE OF IMPLEMENTATION OF PHYSICAL EXERCISE FOR CANCER SURVIVORS

*Janne Mewes, MSc[1], **Lotte Steuten, PhD**[2], Maarten J. IJzerman, PhD[1] and Wim van Harten, Prof. Dr.[3], (1)University of Twente, Enschede, Netherlands, (2)Fred Hutchinson Cancer Research Center, Seattle, WA, (3)University of Twente and the Netherlands Cancer Institute, Amsterdam, Netherlands*

PS1-6. THE EFFECTIVENESS AND COST-EFFECTIVENESS OF IMPLEMENTING BICYCLE LANES IN THE PREVENTION OF OBESITY AND PERMANENT SEVERE INJURY

*Yao Qiao, MSc MPH[1], **Alyssa S Parpia, MPH**[1] and Beate Sander[2], (1)University of Toronto, Toronto, ON, Canada, (2)Public Health Ontario, Toronto, ON, Canada*

PS1-7. CALIBRATING DYNAMIC COMPARTMENTAL MODELS OF HUMAN IMMUNODEFICIENCY VIRUS IN THE UNITED STATES

Yao-Hsuan Chen, PhD[1], *Emine Yaylali, PhD[1], Katherine A. Hicks, MS[2], Emily L. Tucker[2], Paul G. Farnham, Ph.D.[3] and Stephanie Sansom, PhD[3], (1)CDC, Atlanta, GA, (2)RTI Health Solutions, Research Triangle Park, NC, (3)Centers for Disease Control and Prevention, Atlanta, GA*

PS1-8. AT WHAT COST? EVALUATING RECENT TRENDS IN THE COSTS OF ORAL ANTICANCER DRUGS

*Carrie Bennette, MPH, PhD, University of Washington, Seattle, WA, **Catherine Richards, MPH, PhD**, Hutchinson Center for Cancer Outcomes Research, Fred Hutchinson Cancer Research Center, Seattle, WA and Scott Ramsey, MD, PhD, Hutchinson Center for Cancer Outcomes Research, Fred Hutchinson Cancer Research Center / University of Washington, Seattle, WA*

PS1-9. CHRONIC MYELOID LEUKEMIA TREATMENT: STARTING WITH A HIGHLY POTENT TYROSINE KINASE INHIBITOR AND EARLY SWITCHING TO IMATINIB?

Ursula Rochau, MD, MSc[1], *Durda Vukicevic, MD[2], Stefan Schmidt, MD[3], David Stenehjem, PharmD[4], Diana Brixner, Prof., RPh, PhD[5], Jerald Radich, Prof., MD[6], Guenther Gastl, Prof., MD[3] and Uwe Siebert, Prof., MD, MPH, MSc, ScD[7], (1)UMIT - University for Health Sciences, Medical Informatics and Technology, Institute of Public Health, Medical Decision Making and HTA, Department of Public Health and HTA/ ONCOTYROL - Center for Personalized Cancer Medicine, Area 4 HTA and Bioinformatics, Hall in Tyrol/ Innsbruck, Austria, (2)Institute of Public Health, Medical Decision Making and Health Technology Assessment, Department of*

Public Health and Health Technology Assessment, UMIT - University for Health Sciences, Medical Informatics and Technology, Hall i.T., Austria, Hall in Tirol, Austria, (3)Medical University Innsbruck, Innsbruck, Austria, (4)University of Utah, Department of Pharmacotherapy/ University of Utah Hospitals & Clinics, Huntsman Cancer Institute, Salt Lake City, UT, (5)UMIT-University for Health Sciences, Medical Informatics&Technology, Dept. Public Health&HTA/ ONCOTYROL - Center for Personalized Cancer Medicine, Area 4 HTA&Bioinformatics/ University of Utah, Dept. Pharmacotherapy&Program in Personalized Health Care, Hall in Tyrol/ Innsbruck/ Salt Lake City, Austria, (6)Fred Hutchinson Cancer Research Center, Seattle, WA, (7)UMIT, Dept. Public Health&HTA/ ONCOTYROL, Area 4 HTA&Bioinformatics/ Harvard T.H. Chan School Public Health, Center for Health Decision Science, Dept. Health Policy&Management/ Harvard Medical School, Institute for Technology Assessment&Dept. Radiology, Hall in Tyrol/ Innsbruck/ Boston, Austria

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PS1-10. WHICH INFLUENZA VACCINE IS FAVORED IN 2 TO 8 YEAR OLDS? A COST-EFFECTIVENESS ANALYSIS

Kenneth J. Smith, MD, MS[1], *Jonathan M Raviotta, MPH*[1], *Jay DePasse*[2], *Shawn T Brown*[2], *Eunha Shim*[3], *Mary Patricia Nowalk*[1] *and Richard K Zimmerman*[1], *(1)University of Pittsburgh, Pittsburgh, PA, (2)Pittsburgh Supercomputing Center, Carnegie Mellon University, Pittsburgh, PA, (3)Soongsil University, Seoul, South Korea*

PS1-12. A COST-EFFECTIVENESS STUDY OF HOME-BASED STROKE REHABILITATION

Laura Allen, M.Sc.[1], ***Ava John-Baptiste, PhD***[2], *Marina Richardson, M.Sc.*[3], *Matthew Meyer, Ph.D*[1], *Mark Speechley, Ph.D*[1], *David Ure*[4], *Deb Willems*[5] *and Robert Teasell, MD*[6], *(1)Western University, Department of Epidemiology and Biostatistics, London, ON, Canada, (2)Western University, London, ON, Canada, (3)Lawson Health Research Institute, Aging, Rehabilitation and Geriatric Care, London, ON, Canada, (4)St. Joseph's Health Care, London, London, ON, Canada, (5)Southwestern Ontario Stroke Network, London, ON, Canada, (6)Schulic School of Medicine and Dentistry, London, ON, Canada*

PS1-13. TRAINING PRIMARY CARE PHYSICIANS IN SHARED DECISION MAKING FOR COLORECTAL CANCER SCREENING. INSIGHTS FROM A STATEWIDE COLORECTAL CANCER SCREENING PROGRAM IN SWITZERLAND

Kevin Selby, MD, Jean-Luc Bulliard, PD, PhD, Cristina Nichita, MD, David Gachoud, MD, MEd, Gian Dorta, MD, Cyril Ducros, MD, Jacques Cornuz, MD, MPH and ***Reto Auer, MD, MAS****, University of Lausanne, Lausanne, Switzerland*

PS1-14. PARENTAL DECISION MAKING INVOLVEMENT AND DECISIONAL CONFLICT: A DESCRIPTIVE STUDY

Laura Boland, MSc, PhD(c)*, University of Ottawa, Institute of Population Health, Ottawa, ON, Canada, Jennifer Kryworuchko, PhD, RN, CNCC(C), University of Saskatchewan College of*

Nursing, Saskatoon, SK, Canada, Anton Saarimaki, MCS, Ottawa Hospital Research Institute, Ottawa, ON, Canada and Margaret L. Lawson, MD, MSc, FRCP, Children's Hospital of Eastern Ontario, Ottawa, ON, Canada

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PS1-15. PREFERENCE FOR DECISION MAKING ROLE IN PROSTATE CANCER SURVIVORS IS ASSOCIATED WITH ILLNESS PERCEPTIONS AND SATISFACTION WITH INFORMATION PROVISION: RESULTS FROM THE PROFILES-REGISTRY

Maarten Cuypers, MSc.[1], *Romy R.E.D. Lamers, MD*[2], *Olga Husson, PhD*[1], *Paul J.M. Kil, MD, PhD*[2], *Marieke de Vries, PhD*[1] *and Lonneke V. van de Poll-Franse, PhD*[1], *(1)Tilburg University, Tilburg, Netherlands, (2)St. Elisabeth Hospital, Tilburg, Netherlands*

PS1-16. TREATMENT DECISION MAKING IN LOW-RISK PROSTATE CANCER: RECRUITMENT AND DATA COLLECTION FEASIBILITY

Shellie Ellis, MA, PhD[1], *Brantley Thrasher, MD*[1], *Emily Jones*[2] *and Kim Kimminau, PhD*[3], *(1)University of Kansas School of Medicine, Kansas City, KS, (2)University of Kansas, Kansas City, KS, (3)Univeristy of Kansas School of Medicine, Kansas City, KS*

PS1-17. PHYSICIANS' FIRST IMPRESSIONS IN THE DIAGNOSIS OF EARLY CANCERS

Olga Kostopoulou, PhD[1], *Miroslav Sirota*[2], *Thomas Round*[2], *Shyamalee Samaranayaka*[2] *and Brendan C. Delaney, MD*[1], *(1)King's College London, London, United Kingdom, (2)Department of Primary Care and Public Health Sciences, London, United Kingdom*

PS1-18. PROSTATE CANCER PATIENTS' PREFERENCES FOR INFORMATION AND DECISION SUPPORT: WHERE, WHEN, AND HOW?

Deb Feldman-Stewart, PhD[1], *Christine Tong, MSc*[1], *Michael Brundage, MD, MSc*[1], *John Robinson, PhD*[2], *Jackie Bender, PhD*[3] *and Hannah Carolan, MD*[4], *(1)Queen's University, Kingston, ON, Canada, (2)Tom Baker Cancer Centre, Calgary, AB, Canada, (3)University Health Network, Toronto, ON, Canada, (4)British Columbia Cancer Agency, Vancouver, BC, Canada*

PS1-19. IMPLEMENTATION OF DECISION AIDS FOR IMPLANTABLE CARDIOVERTER-DEFIBRILLATORS: LESSONS LEARNED AND PATIENT PERSPECTIVES

Jacqueline Jones, PhD, RN[1], *Carolyn Nowels, MSPH*[2], *B. Karen Mellis*[3], *Amy Jenkins, MS*[3], *Heather Nuanes*[4], *Paul Varosy, MD*[5], *Richard Thomson, MD*[6], *Glyn Elwyn, MD, MSc, PhD*[7], *David J. Magid, MD, MPH*[8], *Angela Brega, PhD*[3], *Travis Vermilye, MFA*[9], *Fred Masoudi, MD, MSPH*[10] *and Daniel Matlock, MD, MPH*[11], *(1)University of Colorado College of Nursing, Aurora, CO, (2)The University of Colorado Denver, Aurora, CO, (3)University of Colorado,*

Denver, Aurora, CO, (4)Kaiser Permanente- Institute for Health Research, Denver, CO, (5)Denver Veterans Affairs Medical Center, Denver, CO, (6)Newcastle University, NE1 7RU, United Kingdom, (7)The Dartmouth Institute for Health Policy and Clinical Practice, Lebanon, NH, (8)The Kaiser Institute for Health Research, Denver, CO, (9)University of Colorado, Denver, Denver, CO, (10)University of Colorado School of Medicine, Aurora, CO, (11)University of Colorado School of Medicine, Division of General Internal Medicine, Aurora, CO

PS1-20. CONSIDERING PATIENT VALUES AND PREFERENCES ENHANCES PATIENT INVOLVEMENT IN RECTAL CANCER TREATMENT DECISION MAKING

*Marleen Kunneman, MA[1], Arwen H. Pieterse, PhD[1], Corrie Marijnen, MD PhD[2] and **Anne M. Stiggelbout, PhD**[3], (1)Leiden University Medical Center, Leiden, Netherlands, (2)Leiden University Medical Center, Dept of Radiotherapy, Leiden, Netherlands, (3)LUMC, Leiden, Netherlands*

PS1-21. DECISION CONSULTATIONS ABOUT (NEO-)ADJUVANT CANCER TREATMENT: PATIENT AND ONCOLOGIST QUESTIONS AS A VEHICLE TO PROMOTE SHARED DECISION MAKING

***Anne M. Stiggelbout, PhD**[1], Marleen Kunneman, MA[2], Ellen G. Engelhardt, MSc.[2], Johanneke Portielje, MD, PhD[3], Corrie Marijnen, MD PhD[4], Ellen MA Smets, PhD[5] and Arwen H. Pieterse, PhD[2], (1)LUMC, Leiden, Netherlands, (2)Leiden University Medical Center, Leiden, Netherlands, (3)Haga Ziekenuis, The Hague, Netherlands, (4)Leiden University Medical Center, Dept of Radiotherapy, Leiden, Netherlands, (5)Academic Medical Center, University of Amsterdam, Amsterdam, Netherlands*

PS1-22. ATTITUDES TOWARD SCREENING AND LUNG CANCER RISK PERCEPTIONS AMONG VETERANS INVITED TO AND SCHEDULING LUNG CANCER SCREENING

***Sarah Lillie, PhD, MPH**[1], Steven Fu, MD[1], Angela Fabbrini, MPH[2], Kathryn Rice, MD[2], Ann Bangerter, BS[1], Barbara Clothier, MA, MS[1], Tam Do, BA[1], Elizabeth Doro[1], M. Anas Moughrabieh, MD[3], David Nelson, PhD[1] and Melissa Partin, PhD[1], (1)Minneapolis VAHCS Center for Chronic Disease Outcomes Research, Minneapolis, MN, (2)Minneapolis VAHCS Pulmonary Section, Minneapolis, MN, (3)University of Minnesota, Minneapolis, MN*

PS1-23. THE ASSOCIATION BETWEEN INVOLVEMENT OF SIGNIFICANT OTHERS IN BREAST CANCER TREATMENT DECISIONS AND THEIR LONG-TERM DISTRESS

***Kathryn A. Martinez, PhD, MPH**, Ann Arbor, MI, Nancy Janz, PhD, University of Michigan, School of Public Health, Ann Arbot, MI and Sarah T. Hawley, PhD, MPH, University of Michigan, Ann Arbor VA Health System, Ann Arbor, MI*

PS1-24. QUITADVISOROB: FEASIBILITY AND ACCEPTABILITY OF AN EVIDENCE-BASED DECISION TOOL FOR TOBACCO CESSATION IN THE OBSTETRIC/GYNECOLOGIC SETTING

Michael Mejia, B.A.[1], Meghan Johnson, B.A.[2], Hannah Knudsen, Ph.D.[1], William Stoops, Ph.D.[1], Christina Studts, Ph.D.[2], Wendy Hansen, M.D.[1], George Reynolds, B.A.[3] and Jamie L. Studts, PhD[1], (1)University of Kentucky College of Medicine, Lexington, KY, (2)University of Kentucky College of Public Health, Lexington, KY, (3)Health Decision Technologies, LLC, Oakland, CA

PS1-25. EXPERT OPINION OF TREATMENT DECISION MAKING IN PATIENTS WITH EARLY STAGE NON-SMALL CELL LUNG CANCER

Sahar Mokhles, BSc[1], Alex Maat, MD[1], Joachim Aerts, MD PhD[1], Joost Nuyttens, MD PhD[2], Ad Bogers, MD PhD[1] and Johanna Takkenberg, MD PhD[3], (1)Erasmus University Medical Center, Rotterdam, Netherlands, (2)Erasmus MC Cancer Institute, Rotterdam, Netherlands, (3)Erasmus MC, Rotterdam, Netherlands

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PS1-26. PATIENT AND HEALTHCARE PROVIDER INVOLVEMENT IN THE DEVELOPMENT OF A PATIENT DECISION AID FOR THOSE WITH PREVIOUSLY TREATED CHRONIC LYMPHOCYTIC LEUKEMIA

*Thomas LeBlanc, MD, MA[1], David Rizzieri, MD[2], Robert Wolf, PharmD[3], Ellen Neylon, MSN, FNP-BC, RN, OCN[4], **Valerie Caroselli, PharmD**[5], Katie Deering, PharmD[5] and Brad Schenkel, MS[6], (1)Duke University School of Medicine, Durham, NC, (2)Duke University Medical Center, Durham, NC, (3)Mayo Clinic, Rochester, MN, (4)Center for Lymphoid Malignancies at Columbia University Medical Center, New York, NY, (5)EPI-Q, Inc., Oak Brook, IL, (6)Janssen Scientific Affairs, LLC, Horsham, PA*

PS1-27. COMPARING THE CONCERNS AND BIASES OF VACCINATING AND NON-VACCINATING PARENTS: A QUESTION OF DEGREE, NOT CHARACTER

***Aaron M. Scherer, PhD**[1], Megan Knaus, MPH[1], Brian J. Zikmund-Fisher, PhD[1] and Angela Fagerlin, PhD[2], (1)University of Michigan, Ann Arbor, MI, (2)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

PS1-28. RISK OF ARM LYMPHEDEMA WITH TAXANE AND ANTHRACYCLINE USE AMONG PATIENTS WITH BREAST CANCER

***Anand Shewale, MS**[1], Amanda Stolarz, PharmD[1], Jacob Painter, PharmD, PhD, MBA[1], Nancy Rusch, PhD[1], Anuj Shah, B. Pharm[2] and Lori Fischbach, PhD, MPH[1], (1)University of Arkansas for Medical Sciences, LITTLE ROCK, AR, (2)University of Arkansas for Medical Sciences, Little Rock, AR*

PS1-29. CONSENT TO TREAT FORMS FALL SHORT OF PROVIDING INFORMATION TO GUIDE DECISION MAKING

*Christine Manta, BA[1], Jacqueline Ortiz, MPhil[2], Benjamin Moulton, JD, MPH[3], **Kimberly Williams, MPH**[4] and Seema S. Sonnad, PhD[1], (1)Christiana Care Health System Value Institute, Newark, DE, (2)Christiana Care Health System, Newark, DE, (3)Informed Medical Decisions Foundation, Boston, MA, (4)Value Institute, Christiana Care Health System, Newark, DE*

PS1-30. MALE AND FEMALE COLLEGE STUDENTS HAVE A POOR UNDERSTANDING OF HPV AND HPV VACCINES

***A. Scott LaJoie, PhD, MSPH**, Jelani C. Kerr, PhD, MSPH, Edna Ross, PhD, Richard D. Clover, MD and Diane M. Harper, MD, MPH, MS, University of Louisville, Louisville, KY*

PS1-31. CAREGIVERS' AND PATIENTS' RESPONSES TO THE IMPLEMENTATION OF A DECISION AID FOR PROSTATE CANCER TREATMENT

***Julia van Tol-Geerdink, PhD**[1], Inge van Oort, MD PhD[1], Rik Somford, MD PhD[2], Carl Wijburg, MD PhD[3], Arno Geboers, MD PhD[4] and Peep Stalmeier, PhD[1], (1)Radboud UMC, Nijmegen, Netherlands, (2)Canisius Wilhelmina Hospital, Nijmegen, Netherlands, (3)Rijnstate Hospital, Arnhem, Netherlands, (4)Slingeland Hospital, Doetinchem, Netherlands*

PS1-33. NOT MY CHILD: DOES OPTIMISM BIAS INFLUENCE PARENT PREDICTIONS OF CHILDHOOD-OBESITY RELATED DISEASE RISKS?

***Davene R. Wright, PhD**[1], Paula Lozano, MD, MPH[2], Elizabeth Dawson-Hahn, MD[1], Dimitri Christakis, MD, MPH[1], Wren Haaland, MPH[1] and Anirban Basu, PhD[3], (1)Seattle Children's Research Institute, Seattle, WA, (2)Group Health Research Institute, Seattle, WA, (3)Pharmaceutical Outcomes Research and Policy Program, University of Washington, Seattle, Seattle, WA*

PS1-34. HOW GOOD A JOB ARE WE RHEUMATOLOGISTS DOING IN SCREENING FOR HEPATITIS B & C BEFORE INITIATING IMMUNO-SUPPRESIVE/S IN SLE ?

*Meenakshi Jolly and **Chandrahasa Annem**, RUSH UNIVERSITY, CHICAGO, IL*

PS1-35. A NOVEL TOOL TO EVALUATE THE ACCURACY OF PREDICTING SURVIVAL IN CYSTIC FIBROSIS

Aasthaa Bansal, PhD[1], *Patrick Heagerty, PhD*[1], *Nicole Hamblett, PhD*[2] *and Christopher Goss, MD, MS, FCCP*[1], *(1)University of Washington, Seattle, WA, (2)Seattle Children's Research Institute, Seattle, WA*

PS1-36. PORTFOLIO MANAGEMENT TO INFORM CANCER CLINICAL TRIALS RESEARCH INVESTMENT DECISIONS IN THE US: A PROOF OF CONCEPT EVALUATION

Carrie Bennette, MPH, PhD[1], *Anirban Basu, PhD*[2], *Josh Carlson, MPH, PhD*[1], *Joshua A. Roth, PhD, MHA*[3], *Scott Ramsey, MD, PhD*[4] *and David Veenstra, PharmD, PhD*[1], *(1)University of Washington, Seattle, WA, (2)Pharmaceutical Outcomes Research and Policy Program, University of Washington, Seattle, Seattle, WA, (3)Fred Hutchinson Cancer Research Center, Seattle, WA, (4)Hutchinson Center for Cancer Outcomes Research, Fred Hutchinson Cancer Research Center / University of Washington, Seattle, WA*

PS1-37. PROJECTIONS OF RACIAL AND ETHNIC DISPARITIES IN HUMAN PAPILLOMAVIRUS (HPV)-RELATED CANCER BURDEN FOLLOWING INTRODUCTION OF HPV VACCINATION IN THE UNITED STATES

Emily A Burger, PhD, *Harvard T. H. Chan School of Public Health, Boston, MA, Kyueun Lee, MSc, Harvard Center for Health Decision Science, Boston, MA and Jane J. Kim, PhD, Harvard T.H. Chan School of Public Health, Boston, MA*

PS1-38. VARIATION IN TREATMENT DECISIONS IN TRAUMATIC BRAIN INJURY: PREDICTORS AND ASSOCIATIONS WITH OUTCOME

Maryse C. Cnossen, MSc.[1], *Suzanne Polinder, PhD.*[1], *Teuntje Andriessen, MSc.*[2], *Joukje Naalt, van der, PhD.*[3], *Iain Haitsma, PhD.*[1], *Janneke Horn, PhD.*[4], *Gaby Franschman, PhD.*[5], *Peter Vos, PhD.*[2], *Ewout W. Steyerberg, PhD*[6] *and Hester F. Lingsma, PhD.*[7], *(1)Erasmus University Medical Center, Rotterdam, Netherlands, (2)Radboud University Nijmegen Medical Center, Nijmegen, Netherlands, (3)University Medical Center Groningen, Groningen, Netherlands, (4)Academic Medical Center Amsterdam, Amsterdam, Netherlands, (5)VU University Medical Center, Amsterdam, Netherlands, (6)Erasmus MC, University Medical Center, Department of Public Health, Rotterdam, Netherlands, (7)Erasmus MC, Rotterdam, Netherlands*

PS1-39. ECONOMIC TRENDS FROM 2004 2011 FOR CLOSTRIDIUM DIFFICILE INFECTION FOR INTENSIVE CARE AND OTHER INPATIENTS: A RETROSPECTIVE, COHORT STUDY

Matthew Hutcherson, BS[1], *Nicole Zimmerman, MS*[2], *Chiedozie Udeh, MD*[3], *J. Steven Hata, MD*[4], *Joe Zein, MD*[5], *Abhishek Deshpande, MD*[6], *Simon Lam, PharmD, RPh*[7], *Jarrod E. Dalton, PhD*[8] *and Belinda Udeh, PhD, MPH*[1], *(1)Department of Outcomes Research,*

Anesthesiology Institute, Cleveland Clinic, Cleveland, OH, (2)Departments of Outcomes Research and Quantitative Health Sciences, Cleveland Clinic, Cleveland, OH, (3)Critical Care Center and Department of Cardiothoracic Anesthesiology, Cleveland Clinic, Cleveland, OH, (4)Critical Care Center and Departments of General Anesthesiology and Cardiothoracic Anesthesiology, Cleveland Clinic, Cleveland, OH, (5)Departments of Pulmonary Medicine and Critical Care Medicine, Cleveland Clinic, Cleveland, OH, (6)Center for Value Based Care Research, Medicine Institute, Cleveland Clinic, Cleveland, OH, (7)Department of Pharmacy, Cleveland Clinic, Cleveland, OH, (8)Cleveland Clinic, Cleveland, OH

PS1-40. PARTNER SERVICES PROGRAMS FOR CHLAMYDIAL INFECTION: A COMPARISON BETWEEN PARTNER NOTIFICATION AND EXPEDITED PARTNER THERAPY

Szu-Yu Zoe Kao, MA[1], *Karen M. Kuntz, ScD*[2] *and Eva Enns, MS, PhD*[2], *(1)University of Minnesota School of Public Health, Minneapolis, MN, (2)University of Minnesota, Minneapolis, MN*

PS1-41. SOCIAL MEDIA AS A KEY TOOL TO RECRUIT RARE DISEASE PATIENTS FOR CLINICAL RESEARCHERS

Chang Ho Lee, BSc[1], *Karen E Bremner, BSc*[2], *Paul Grootendorst, PhD*[1], *Jolie Ringash, MD, MSc*[3], *Murray D Krahn, MD, MSc, FRCPC*[4] *and* ***Nicholas Mitsakakis, MSc PhD***[4], *(1)University of Toronto, Toronto, ON, Canada, (2)University Health Network, Toronto, ON, Canada, (3)University of Toronto and the Princess Margaret Cancer Centre (PMCC), Toronto, ON, Canada, (4)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada*

PS1-42. PRIORITIZING SUPPORT FOR INTERVENTION STUDIES THAT AIM TO IMPROVE RETENTION IN ANTIRETROVIRAL THERAPY PROGRAMS IN EAST AFRICA

Jennifer Uyei, PhD MPH, *Lingfeng Li, PhD and R. Scott Braithwaite, MD, MSc, FACP, New York University School of Medicine, New York, NY*

PS1-43. IMPACT OF TELEHOMECARE PROGRAM ON PATIENTS' QUALITY OF LIFE AND DISEASE-MANAGEMENT SKILLS

Valeria E. Rac, MD, PhD[1], *Yeva Sahakyan, MD, MPH*[1], *Nida Shahid, HBSc., CCRP*[1], *Iris Fan, BA*[2] *and Murray Krahn, MD, Msc, FRCPC*[2], *(1)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (2)Toronto Health Economics and Technology Assessment (THETA) Collaborative, Toronto, ON, Canada*

PS1-44. NEW MODEL OF HEALTHCARE DELIVERY-TELEHOMECARE PROGRAM FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) AND HEART FAILURE (HF) PATIENTS IN ONTARIO, CANADA

Valeria E. Rac, MD, PhD[1], *Yeva Sahakyan, MD, MPH*[1], *Nida Shahid, HBSc., CCRP*[1], *Aleksandra Stanimirovic, MSc, PhD (candidate)*[1], *Iris Fan, BA*[2], *Welson Ryan*[1] *and Murray Krahn, MD, Msc, FRCPC*[2], *(1)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (2)Toronto Health Economics and Technology Assessment (THETA) Collaborative, Toronto, ON, Canada*

PS1-45. PRIMARY CARE PROVIDER PARTICIPATION IN BREAST CANCER TREATMENT DECISIONS: RESULTS FROM THE ICANCARE STUDY

Lauren Wallner, PhD, MPH[1], *Paul Abrahamse*[1], *Steven Katz, MD, MPH*[2] *and Sarah T. Hawley, PhD, MPH*[2], *(1)University of Michigan, Ann Arbor, MI, (2)University of Michigan, Ann Arbor VA Health System, Ann Arbor, MI*

PS1-46. MODELING THE RISK OF COLORECTAL LESIONS BASED ON A MIXED CHINESE COHORT

Xiaolei Xie, Ph.D.[1], *Jie Xing*[2], *Wenying Zhou*[1], *Nan Kong, Ph.D.*[3] *and Shutian Zhang, M.D.*[2], *(1)Tsinghua University, Beijing, China, (2)National Clinical Research Center for Digestive Diseases of China, Beijing, China, (3)Purdue University, West Lafayette, IN*

PS1-47. HEALTH-RELATED QUALITY OF LIFE, COMORBIDITIES AND MORTALITY IN NONTUBERCULOUS MYCOBACTERIAL INFECTIONS: A SYSTEMATIC REVIEW

Man Wah Yeung[1], *Edwin Khoo, MPH*[1], *Sarah Brode*[2], *Frances Jamieson*[1], *Hiroyuki Kamiya*[3], *Jeffrey Kwong*[1], *Liane Macdonald*[1], *Theodore Marras*[4], *Kozo Morimoto*[5] *and Beate Sander*[1], *(1)Public Health Ontario, Toronto, ON, Canada, (2)Department of Medicine, University of Toronto, Toronto, ON, Canada, (3)Japanese Red Cross Medical Center, Tokyo, Japan, (4)Toronto Western Hospital, Toronto, ON, Canada, (5)Fukujuji Hospital, Tokyo, Japan*

PS1-48. RISK FACTORS FOR COST-RELATED MEDICATION NON-ADHERENCE AMONG OLDER PATIENTS WITH CANCER

James Zhang, PhD *and David Meltzer, MD/PhD, University of Chicago, Chicago, IL*

PS1-49. VALIDATION OF A DOMAIN ASSESSING THE ENGAGEMENT OF GENERAL PRACTITIONERS TOWARD VACCINATION USING THE RASCH MODEL

Fatoumata Fofana, MSc[1], Khadra Benmedjahed[1], Pascale Arnould, MD[2], Guillaume Coindard, MD[2], François Denis, MD[3], Didier Duhot, MD[2], Jean-Luc Gallais, MD[2], Luc Martinez, MD[2], François Raineri, MD[2], Antoine Regnault, PhD[1], Didier Seyler, MD[2], Béatrice Tugaut[1] and ***Benoit Arnould, PhD***[1]*, (1)Mapi, Health Economics and Outcomes Research and Strategic Market Access, Lyon, France, (2)French Society of General Medicine (SFMG), Issy les Moulineaux, France, (3)University Hospital, Bacteriology and Virologie department, Limoges, France*

PS1-50. A DISCRETE CHOICE EXPERIMENT (DCE) TO ELICIT PREFERENCES FOR ATTRIBUTES OF A BEDSIDE PHARMACOGENETIC TEST PILOT TEST RESULTS

Basil G. Bereza, CFA MSc PhD (Candidate)*, University of Toronto, Toronto, ON, Canada, Doug Coyle, MA, MSc, PhD, University of Ottawa, School of Epidemiology, Public Health and Preventive Medicine, Ottawa, ON, Canada and Manny Papadimitropoulos, PhD, MScPhm, Eli Lilly Canada Inc, Scarborough, ON, Canada*

PS1-51. ENGAGING PEOPLE LIVING WITH LUNG CANCER IN PROJECT TRANSFORM: INTEGRATING THE PATIENT EXPERIENCE INTO LUNG CANCER RESEARCH, TREATMENTS, AND POLICY

John Bridges, PhD, MEc[1]*, Ellen Janssen, BA[1], Andrea Ferris, MBA[2] and Sydney Morss Dy, MD, MSc[1], (1)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, (2)LUNGevity, Chicago, IL*

PS1-52. A METHODICAL STUDY OF AN ANALYTIC HIERARCHY PROCESS (AHP) CONCERNING THE DEVELOPMENT OF A CENTRAL INFORMATION PLATFORM FOR RARE DISEASES IN GERMANY

Frédéric Pauer, M. Sc.*, Institute of Risk and Insurance (IVBL), Center for Health Economics Hannover (CHERH), University of Hannover, Hannover, Germany*

PS1-53. USING DELIBERATIVE METHODS TO GUIDE IMPLEMENTATION OF LUNG CANCER SCREENING

Daniel S. Reuland, MD, MPH[1]*, Alison Brenner, PhD[2], Laura Cubillos Braswell, MPH[2], Maihan Vu, DrPH, MPH[3], Louise Henderson, PhD[4], Patricia Rivera, MD[5], Katherine Birchard, MD[6], Michael Pignone, MD, MPH[1] and Russel Harris, MD MPH[7], (1)University of North Carolina School of Medicine, Chapel Hill, NC, (2)Cecil G Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, Chapel Hill, NC, (3)Center for Health Promotion and Disease Prevention. The University of North Carolina at Chapel Hill, Chapel Hill, NC, (4)Department of Radiology, University of North Carolina at Chapel Hill, Chapel Hill, NC, (5)Division of Pulmonary and Critical Care Medicine, University of North Carolina, Chapel Hill, NC, (6)Cardiothoracic Imaging Division, Department of Radiology, University of North Carolina*

at Chapel Hill, Chapel Hill, NC, (7)Cecil G Sheps Center for Health Services Research, University of North Carolina, Chapel Hill, NC

PS1-54. TRADING BANKRUPTCY FOR HEALTH IN THE UNITED STATES: A DISCRETE-CHOICE EXPERIMENT

Mark G. Shrime, MD, MPH[1], *Milton C. Weinstein, PhD*[2], *Jessica Cohen, PhD*[2] *and Joshua A. Salomon, PhD*[2], *(1)Harvard University Interfaculty Initiative in Health Policy, Cambridge, MA, (2)Harvard School of Public Health, Boston, MA*

PS1-55. USING EYE-TRACKING METHODS TO INVESTIGATE THE FRAMING OF RISK ATTRIBUTES IN DISCRETE CHOICE EXPERIMENTS

Caroline Vass, BSc, MSc[1], *Dan Rigby, BSc, MSc, PhD*[2], *Stephen Campbell, BA, MA, PhD*[3], *Kelly Tate, BSc*[4], *Andrew Stewart, BSc, PhD*[4] *and Katherine Payne, BPharm, MSc, PhD*[1], *(1)Manchester Centre for Health Economics, The University of Manchester, Manchester, United Kingdom, (2)Department of Economics, The University of Manchester, Manchester, United Kingdom, (3)Centre for Primary Care, The University of Manchester, Manchester, United Kingdom, (4)School of Psychological Sciences, The University of Manchester, Manchester, United Kingdom*

PS1-56. QUANTIFYING RANK ORDER DISCRIMIATION IN UNITS OF INFORMATION

William Benish, MS, MD, *Case Western Reserve University, Shaker Heights, OH, Jarrod E. Dalton, PhD, Cleveland Clinic, Cleveland, OH and Neal V. Dawson, MD, Case Western Reserve University at MetroHealth Medical Center, Cleveland, OH*

PS1-57. PROBABILISTIC SENSITIVITY ANALYSIS IN SEQUENTIAL DECISION MODELS

Qiushi Chen, BS, Georgia Institute of Technology, Atlanta, GA, Turgay Ayer, PhD, Georgia Insitute of Technology, Atlanta, GA and ***Jagpreet Chhatwal, PhD****, The University of Texas MD Anderson Cancer Center, Houston, TX*

PS1-58. TIMED AUTOMATA MODELING OF THE PERSONALIZED TREATMENT DECISIONS IN METASTATIC CASTRATION RESISTANT PROSTATE CANCER

Stefano Schivo, PhD, ***Koen Degeling, BSc****, Hendrik Koffijberg, PhD, Maarten J. IJzerman, PhD and Rom Langerak, PhD, University of Twente, Enschede, Netherlands*

PS1-59. INCORPORATING PRIOR BELIEFS INTO CLINICAL DECISIONS

***Robert Lew, PhD**, Department of Veterans Affairs, Boston, MA, John Russo, PhD, computer science wentworth institute of technology, boston, MA, Chen-Hsiang Yu, PhD, Wentworth Institute of Technology, Boston, MA and Hongsheng Wu, PhD, Wentworth Institute of Technology, Boston, MA*

PS1-60. ELICITING THE EFFECTS OF LIPID PROFILE ON QUALITY OF LIFE FOR TYPE 2 DIABETES PATIENTS

***Niraj Kumar Pandey, M.S.**[1], Murat Kurt, PhD[2] and Mark Karwan, PhD[1], (1)University at Buffalo, The State University of New York, Buffalo, NY, (2)Merck Research Laboratories, North Wales, PA*

Monday, October 19, 2015 (Posters)

POSTER SESSION II: LEE B. LUSTED FINALISTS' MODERATED POSTER SESSION & CONTINENTAL BREAKFAST

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Grand Ballroom EH

Posters:

PS2-1. DETERMINING THE OPTIMAL AGE TO VACCINATE AGAINST HERPES ZOSTER: A COST-EFFECTIVENESS ANALYSIS

***Phuc Le, PhD, MPH** and Michael Rothberg, MD, MPH, Medicine Institute Cleveland Clinic, Cleveland, OH*

PS2-2. A SIMPLIFIED METHOD FOR ASSESSING COST-EFFECTIVENESS OF PREDICTIVE BIOMARKERS IN ONCOLOGY

***Anton Safonov**[1], Shi-Yi Wang, MD, PhD[2], Cary P. Gross, MD[1], Lajos Pusztai, MD, PhD[3] and Christos Hatzis[3], (1)Yale University School of Medicine, New Haven, CT, (2)Yale School of Public Health, New Haven, CT, (3)Yale Cancer Center, New Haven, CT*

PS2-3. ASSESSING THE ROLE OF SEQUENCING UP TO THREE LINES OF CHEMOTHERAPY IN METASTATIC COLORECTAL CANCER TREATMENT: A COST EFFECTIVENESS ANALYSIS

***Iakovos Toumazis, MS**[1], Murat Kurt, PhD[2], Artemis Toumazi, MS[3], Loukia Karacosta, PhD[1], Changhyun Kwon, PhD[4] and Daniel Goldstein, MD[5], (1)Stanford University, Stanford, CA, (2)Merck Research Laboratories, North Wales, PA, (3)Stem-Cell and Brain Research Institute,*

Lyon, France, (4)University at Buffalo, The State University of New York, Buffalo, NY, (5)Winship Cancer Institute, Emory University, Atlanta, GA

PS2-4. COST-EFFECTIVENESS OF HIV PREEXPOSURE PROPHYLAXIS FOR INJECTION DRUG USERS IN THE UNITED STATES

Cora Bernard[1], *Margaret L. Brandeau, PhD*[1], *Keith Humphreys, PhD*[2], *Eran Bendavid, MD, MS*[3], *Mark Holodniy, MD*[2], *Christopher Weyant, MS*[1], *Douglas K. Owens, MD, MS*[2] *and Jeremy D. Goldhaber-Fiebert, PhD*[3], *(1)Department of Management Science and Engineering, Stanford University, Stanford, CA, (2)VA Palo Alto Health Care System, Palo Alto, CA, (3)Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

PS2-5. ADJUVANT HPV VACCINATION IN OLDER HIV-POSITIVE MEN WHO HAVE SEX WITH MEN FOR PREVENTION OF ANAL CANCER LONG-TERM CLINICAL AND ECONOMIC BENEFITS

Ashish A. Deshmukh, Ph.D., M.P.H.[1], *Jagpreet Chhatwal, PhD*[1], *Elizabeth Chiao, M.D., M.P.H.*[2], *Alan Nyitray, Ph.D.*[3], *Prajnan Das, M.D., M.S., M.P.H.*[1] *and Scott B. Cantor, Ph.D.*[1], *(1)The University of Texas MD Anderson Cancer Center, Houston, TX, (2)Baylor College of Medicine, Houston, TX, (3)The University of Texas School of Public Health, Houston, TX*

PS2-7. COST EFFECTIVENESS OF DABIGATRAN, APIXABAN, RIVAROXABAN, EDOXABAN AND WARFARIN FOR ISCHEMIC STROKE PROPHYLAXIS AMONG PATIENTS WITH ATRIAL FIBRILLATION: US PRIVATE PAYER'S PERSPECTIVE

Anuj Shah, B. Pharm[1], *Anand Shewale, MS*[2], *Corey Hayes, Pharm D MPH*[1] *and Bradley Martin, Pharm D PhD*[1], *(1)University of Arkansas for Medical Sciences, Little Rock, AR, (2)University of Arkansas for Medical Sciences, LITTLE ROCK, AR*

PS2-8. THE COST-EFFECTIVENESS OF A DECISION AID FOR PATIENTS CONSIDERING TOTAL HIP OR KNEE ARTHROPLASTY: SUB-ANALYSIS OF A RANDOMIZED CONTROLLED TRIAL

Logan Trenaman, MSc[1], *Nick Bansback, PhD*[1], *Stirling Bryan, PhD*[2], *David O. Meltzer, MD, PhD*[3], *Geoffrey Dervin, MD*[4], *Gillian Hawker, MD*[5], *Monica Taljaard, PhD*[6], *Peter Tugwell, MD*[6] *and Dawn Stacey, PhD*[6], *(1)University of British Columbia; Centre for Clinical Epidemiology and Evaluation; Centre for Health Evaluation and Outcome Sciences, Vancouver, BC, Canada, (2)University of British Columbia; Centre for Clinical Epidemiology and Evaluation, Vancouver, BC, Canada, (3)University of Chicago, Chicago, IL, (4)The Ottawa Hospital, Ottawa, ON, Canada, (5)University of Toronto, Toronto, ON, Canada, (6)University of Ottawa; Ottawa Health Research Institute, Ottawa, ON, Canada*

PS2-9. COST-EFFECTIVENESS OF PROPHYLACTIC PERIOPERATIVE BETA-BLOCKERS USE IN PATIENTS UNDERGOING CARDIAC OR HIGH-RISK NON-CARDIAC SURGERY

Melissa Giraldo, MD and Kenneth Smith, MD, MS, University of Pittsburgh, Pittsburgh, PA

PS2-11. PREFERENCE AGGREGATION IN THE HEALTH UTILITIES INDEX MARK 2 AND 3

Barry Dewitt[1], Janel Hanmer, MD, PhD[2] and Alexander Davis[1], (1)Department of Engineering & Public Policy, Carnegie Mellon University, Pittsburgh, PA, (2)The University of Pittsburgh, Pittsburgh, PA

PS2-12. MICROSIMULATION METHODS FOR POLICY ANALYSIS: THE CASE OF THE CADILLAC TAX

Fernando Alarid-Escudero, MS, Coleman Drake, Lucas Higuera, MA and Roger Feldman, PhD, University of Minnesota, Minneapolis, MN

PS2-13. VALUE OF INDIVIDUALIZED INFORMATION IN COST-EFFECTIVENESS ANALYSIS: WHEN IS AN OUTCOME PREDICTION MODEL WORTH USING?

Natalia Olchanski, MS, Joshua T. Cohen, Ph.D., Peter J. Neumann, Sc.D., John B. Wong, MD and David M. Kent, MD, MSc, Tufts Medical Center, Boston, MA

PS2-14. USING MACHING LEARNING TO POPULATE A MARKOV MODEL BY MINING BIG DATA DIRECTLY FROM A HOSPITAL EHR

William Padula, Ph.D.[1], Mary Beth Makic, PhD, RN[2], Ziv Epstein[3], Jonathan Gemmell, PhD[4], Manish Mishra, MD, MPH[5] and David O. Meltzer, MD, PhD[1], (1)University of Chicago, Chicago, IL, (2)University of Colorado, Aurora, CO, (3)Pomona College, Claremont, CA, (4)DePaul University, Chicago, IL, (5)Geisel School of Medicine at Dartmouth, Hanover, NH

PS2-15. A BAYESIAN APPROACH TO EPIDEMIOLOGIC ESTIMATION FOR POLICY MODELS IN THE PRESENCE OF SPARSE DATA: THE EXAMPLE OF HEPATITIS C PREVALENCE AMONG INJECTION DRUG USERS

Jake R. Morgan, MS[1], Benjamin P. Linas, MD, MPH[2], Mai T. Pho, MD MPH[3], Joshua A. Salomon, PhD[4] and Laura F. White, PhD[1], (1)Boston University, Boston, MA, (2)Boston Medical Center, Boston, MA, (3)University of Chicago, Chicago, IL, (4)Harvard School of Public Health, Boston, MA

PS2-17. A NON-ITERATIVE METHOD OF IDENTIFYING THE COST-EFFECTIVENESS FRONTIER USING NET MONETARY BENEFITS AND ITS GRAPHICAL INTERPRETATION

Sze-chuan Suen, MS, *Department of Management Science and Engineering, Stanford University, Stanford, CA and Jeremy D. Goldhaber-Fiebert, PhD, Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

PS2-19. INTRODUCING THE CURVE OF OPTIMAL SAMPLE SIZE (COSS): A GRAPHIC REPRESENTATION OF OPTIMAL SAMPLE SIZE BY WILLINGNESS-TO-PAY THRESHOLD

Fernando Alarid-Escudero, MS[1], *Eric Jutkowitz*[2], *Karen M. Kuntz, ScD*[1] *and Hawre Jalal, PhD*[3], *(1)University of Minnesota, Minneapolis, MN, (2)University of Minnesota School of Public Health, Minneapolis, MN, (3)Department of Health Policy and Management, University of Pittsburgh, Graduate School of Public Health, Pittsburgh, PA*

PS2-21. DOES SIZE MATTER? A METHOD FOR ADAPTIVELY DETERMINING CYCLE LENGTH IN A STATE-TRANSITION MODEL

Rowan Iskandar, MA, *Fernando Alarid-Escudero, MS and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

PS2-22. A NON-SAMPLING BASED METHOD FOR PROPAGATING PARAMETER UNCERTAINTY INTO STATE-TRANSITION MODELS

Rowan Iskandar, MA *and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

PS2-25. ESTIMATING THE PREVALENCE OF HEPATITIS C IN PENNSYLVANIA MEDICAID USING A MICROSIMULATION MODEL

Mina Kabiri, MS[1], *Walid Gellad, MD, MPH*[1], *Jagpreet Chhatwal, PhD*[2], *Michael Dunn, MD, FACP*[3], *Julie Donohue, PhD*[1] *and Mark S. Roberts, MD, MPH*[1], *(1)Department of Health Policy and Management, University of Pittsburgh, Pittsburgh, PA, (2)The University of Texas MD Anderson Cancer Center, Houston, TX, (3)Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh School of Medicine, Pittsburgh, PA*

PS2-26. DEVELOPMENT OF A CLINICAL FORECASTING MODEL FOR DETECTING COMORBID DEPRESSION AMONG PATIENTS WITH DIABETES AND AN APPLICATION IN DEPRESSION SCREENING POLICYMAKING

Haomiao Jin, MS[1], *Shinyi Wu, PhD*[1] *and Paul Di Capua, MD, MBA*[2], *(1)University of Southern California, Los Angeles, CA, (2)University of California, Los Angeles, Los Angeles, CA*

PS2-27. IMPACT OF EXPANDING THE NATIONAL SALT REDUCTION INITIATIVE: A MATHEMATICAL MODEL OF BENEFITS AND RISKS OF POPULATION-LEVEL SODIUM REDUCTION

Sung Eun Choi, SM[1], *Margaret L. Brandeau, PhD*[2] *and Sanjay Basu, MD, PhD*[1], *(1)Stanford University, Stanford, CA, (2)Department of Management Science and Engineering, Stanford University, Stanford, CA*

PS2-28. USING DECOMPOSITION ANALYSIS TO UNDERSTAND THE IMPACT OF SODIUM ON DISPARITIES IN BLOOD PRESSURE IN THE UNITED STATES

Sung Eun Choi, SM[1], *Arjumand Siddiqi, ScD*[2] *and Sanjay Basu, MD, PhD*[1], *(1)Stanford University, Stanford, CA, (2)University of Toronto, Toronto, ON, Canada*

PS2-29. BREAST DENSITY LEGISLATION AND BREAST CANCER STAGE AT DIAGNOSIS

Ilana Richman, MD, *Stanford University/VA Palo Alto, Stanford, CA, Steven Asch, PhD, HSR&D Center for Health Care Evaluation, Menlo Park, CA, Douglas K. Owens, MD, MS, VA Palo Alto Health Care System, Palo Alto, CA and Jay Bhattacharya, MD, PhD, Stanford University, Stanford, CA*

PS2-31. ESTIMATION OF FIBROSIS PROGRESSION RATES FOR CHRONIC HEPATITIS C: A SYSTEMATIC REVIEW AND META-ANALYSIS UPDATE

Aysegul Erman[1], *Tawnya Hansen*[2], *Joanna M. Bielecki, BSC, MISt*[3], *Murray D Krahn, MD, MSc, FRCPC*[3] *and Hla-Hla Thein, MD, MPH, PhD*[4], *(1)Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada, (2)Department of Medicine, University Health Network, University of Toronto, Toronto, ON, Canada, (3)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (4)Dalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada*

PS2-33. MANAGEMENT OF EPILEPSY IN WOMEN CONTEMPLATING PREGNANCY: A DECISION ANALYSIS MODEL

Rohan D'Souza[1], *Ari Breiner*[2], *Beate Sander*[3], *Kellie Murphy*[1], *Sarah Bermingham*[4] *and Murray D Krahn, MD, MSc, FRCPC*[4], *(1)Mount Sinai Hospital, Toronto, ON, Canada, (2)Institute of Health Policy Management and Evaluation, Toronto, ON, Canada, (3)Public Health Ontario, Toronto, ON, Canada, (4)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada*

PS2-34. BETTER EPIDEMIC CONTROL FOR FUTURE AFRICAN EBOLA OUTBREAKS: DYNAMIC SIMULATION MODELING CALIBRATION AND ANALYSIS

***Kejing Jiang**, Stanford University Department of Management Science and Engineering, Stanford, CA, Jason Andrews, Stanford University School of Medicine, Stanford, CA and Jeremy D. Goldhaber-Fiebert, PhD, Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

PS2-35. ASSESSING THE IMPACT OF RECENCY EFFECT IN SURGERY

***Vlad V. Simianu, MD**[1], Anirban Basu, PhD[2], Rafael Alfonso-Cristancho, MD, MSc, PhD[3], Abraham D. Flaxman, PhD[4] and David R. Flum, MD, MPH[1], (1)Department of Surgery, University of Washington, Seattle, WA, (2)Pharmaceutical Outcomes Research and Policy Program, University of Washington, Seattle, Seattle, WA, (3)Surgical Outcomes Research Center (SORCE), University of Washington, Seattle, WA, (4)Institute for Health Metrics and Evaluation, University of Washington, Seattle, WA*

PS2-36. A DYNAMIC MODEL OF PROSTATE SPECIFIC ANTIGEN (PSA) SCREENING FOR PROSTATE CANCER: ANATOMY OF A MEDICAL DECISION

***Ozge Karanfil**, Hazhir Rahmandad and John D. Sterman, Massachusetts Institute of Technology, Sloan School of Management, System Dynamics Research Group, Cambridge, MA*

PS2-37. DO STAKEHOLDER PREFERENCES FOR ENGAGEMENT IN PEDIATRIC ATTENTION-DEFICIT/HYPERACTIVITY DISORDER TREATMENT CORRELATE WITH REPORTED OUTCOMES? A BEST WORST SCALING EXPERIMENT

***Melissa Ross, MA**[1], John F.P. Bridges, PhD[2], Xinyi Ng, BSc (Pharm)[3], Emily J. Frosch, M.D.[4], Gloria M. Reeves, M.D.[5] and Susan dosReis, PhD[1], (1)University of Maryland School of Pharmacy, Baltimore, MD, (2)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, (3)University of Maryland Baltimore, Baltimore, MD, (4)Johns Hopkins School of Medicine, Baltimore, MD, (5)University of Maryland School of Medicine, Baltimore, MD*

PS2-38. HEALTH UTILITIES IN ADULTS WITH CHRONIC PAIN

***Mary-Ellen Hogan, BScPhm, PharmD, MSc**[1], Nicholas Mitsakakis, MSc PhD[2], Vibhuti Shah, MD MSc[3], Joel Katz, BA, MA, PhD[4], Anna Taddio, BScPhm, MSc, PhD[5] and Murray D Krahn, MD, MSc, FRCPC[2], (1)Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada, (2)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (3)Institute of Health Policy, Management and Evaluation, University of Toronto, Department of Paediatrics, Mount Sinai Hospital, Toronto,*

ON, Canada, (4)Department of Psychology, York University, Toronto General Research Institute and Department of Anesthesia and Pain Management, University Health Network, Toronto, ON, Canada, (5)Leslie Dan Faculty of Pharmacy, University of Toronto; Department of Child Health Evaluative Sciences, Pharmacy, Hospital for Sick Children, Toronto, ON, Canada

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PS2-39. DO WARM UP EXERCISES IMPACT UTILITY? EVALUATING ANCHORING BIAS IN PEDIATRIC UTILITY ELICITATION

***Rohit Tejwani, MS**, Hsin-Hsiao Wang, MD, MPH and Jonathan Routh, MD, MPH, Duke University School of Medicine, Durham, NC*

PS2-40. USING BEST-WORST SCALING TO ELICIT PATIENT PREFERENCES FOR SYMPTOM CONTROL, SIDE-EFFECTS AND PROCESS CHARACTERISTICS OF TREATMENTS IN PARKINSON'S DISEASE

***Marieke G.M. Weernink, MSc**, Karin G.M. Groothuis-Oudshoorn, PhD, Maarten J. IJzerman, PhD and Janine A. van Til, PhD, University of Twente, Enschede, Netherlands*

PS2-41. DISEASE SPECIFIC PATIENT REPORTED OUTCOME MEASURES IN ATRIAL FIBRILLATION: SYSTEMATIC REVIEW AND ASSESSMENT OF THE MEASUREMENT PROPERTIES

***Devender Dhanda, MS, MBA** and Emily Beth Devine, PhD, PharmD, MBA, University of Washington, Seattle, WA*

PS2-43. ENGAGING PATIENTS AND OTHER STAKEHOLDERS IN THE DEVELOPMENT OF PATIENT DECISION AIDS: COMPARISONS OF CURRENT PRACTICES WITH USER-CENTERED DESIGN

***Gratianne Vaisson, MSc**[1], Michèle Dugas, BA[1], Thierry Provencher[1], Érik Breton, PhD[1], Selma Chipenda Dansokho, PhD[1], Heather Colquhoun, PhD[2], Angela Fagerlin, PhD[3], Anik Giguère, PhD[1], Sholom Glouberman, PhD[4], Lynne Haslett, RN, NP, MEd[5], Aubri S. Hoffman, PhD[6], Noah Ivers, MD, PhD, CCFP[7], France Legare, MD, PhD, CCFP[1], Jean Legare[8], Carrie A. Levin, PhD[9], Karli Lopez, AA[10], Victor M. Montori, MD, MSc[11], Jean-Sébastien Renaud, PhD[1], Kerri Sparling, BA[12], Dawn Stacey, RN, PhD, CON (C)[13], Marie-Ève Trottier, BA[1], Robert J. Volk, PhD[14], William Witteman, MISt[15] and Holly O. Witteman, PhD[1], (1)Université Laval, Quebec City, QC, Canada, (2)University of Toronto, Toronto, ON, Canada, (3)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI, (4)Patients Canada, Toronto, ON, Canada, (5)East End Community Health Centre, Toronto, ON, Canada, (6)Geisel School of Medicine at Dartmouth College, Lebanon, NH, (7)Women's College Hospital, Toronto, ON, Canada, (8)Arthritis Society, Quebec, QC, Canada, (9)Informed Medical Decision Foundation, Healthwise, Boston, MA, (10)Stone Soup Group, Anchorage, AK, (11)Knowledge*

and Evaluation Research Unit - Mayo Clinic, Rochester, MN, (12)Six Until Me, East Greenwich, RI, (13)University of Ottawa, Ottawa, ON, Canada, (14)The University of Texas MD Anderson Cancer Center, Houston, TX, (15)CHU de Québec, Québec, QC, Canada

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PS2-44. PATIENT PREFERENCES IN TYPE 2 DIABETES - DEVELOPING A STATED-PREFERENCE INSTRUMENT USING A COMMUNITY ENGAGEMENT APPROACH

Ellen Janssen, BA[1], *Jodi Segal, MD, MPH*[2] *and John Bridges, PhD, MEc*[1], *(1)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, (2)Johns Hopkins School of Medicine, Baltimore, MD*

PS2-45. HEALTH UTILITIES IN MARGINALIZED CHRONIC HEPATITIS C PATIENTS PARTICIPATING IN A COMMUNITY-BASED HEPATITIS C PROGRAM

Yasmin Saeed, BScPhm[1], *Kate Mason*[2], *Suzanne Chung*[3], *Jason Altenberg*[2], *Jeff Powis, MD*[4], *Julie Bruneau, MD*[5], *Jordan J. Feld, MD*[6], *Zeny Feng, PhD*[7], *Nicholas Mitsakakis, MSc PhD*[3], *Robert Myers, MD*[8], *Valeria E. Rac, MD, PhD*[3], *Karen E Bremner, BSc*[9], *Murray D Krahn, MD, MSc, FRCPC*[3] *and William W. L. Wong, Ph.D.*[3], *(1)Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada, (2)South Riverdale Community Health Centre, Toronto, ON, Canada, (3)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (4)Toronto East General Hospital, Toronto, ON, Canada, (5)Department of Family Medicine, Université de Montréal, Montreal, QC, Canada, (6)Toronto Centre for Liver Disease, University Health Network, Toronto, ON, Canada, (7)Department of Mathematics and Statistics, University of Guelph, Guelph, ON, Canada, (8)Department of Medicine, University of Calgary, Calgary, AB, Canada, (9)University Health Network, Toronto, ON, Canada*

PS2-46. COMPARING THE ACCURACY OF THE CONSTANT PROPORTIONAL RISK POSTURE VERSUS DELTA MODEL: MODELING THE STANDARD-GAMBLE - TIME TRADE-OFF RELATIONSHIP

David Chartash, BEngSc, MHSc[1], *Aaron Carroll, MD, MS*[2] *and Stephen M. Downs, MD, MS*[1], *(1)Children's Health Services Research Indiana University School of Medicine, Indianapolis, IN, (2)Pediatric and Adolescent Comparative Effectiveness Research Indiana University School of Medicine, Indianapolis, IN*

PS2-49. RACIAL CONCORDANCE AND PERCEPTION OF HEALTHCARE PROVIDER'S COMMUNICATION SKILLS: DOES SOCIOECONOMIC STATUS MATTER?

Anushree Vichare, MBBS, MPH *and Tiffany Green, Ph.D, Department of Healthcare Policy and Research, School of Medicine, Virginia Commonwealth University, Richmond, VA*

PS2-50. EXPANDED CHOICE SETS INCREASE PATIENTS' WILLINGNESS TO COMPLETE ADVANCE DIRECTIVES

Katherine Courtright, M.D.[1], *Vanessa Madden, B.Sc.*[1], *Nicole Gabler, Ph.D.*[1], *Elizabeth Cooney, MPH*[1], *Jennifer Kim, B.S.*[1], *Nicole Herbst, M.D.*[1], *Jennifer Whealdon, B.S.*[1], *Lauren Burgoon, M.A.*[2], *Karol Szymula*[1], *Moses Flash, B.A.*[3], *Laura Dember, M.D.*[1] *and Scott Halpern, M.D., Ph.D.*[1], *(1)University of Pennsylvania, Philadelphia, PA, (2)Jefferson University, Philadelphia, PA, (3)Massachusetts General Hospital, Boston, MA*

PS2-51. INTEREST IN CANCER SCREENING TESTS THAT LACK BENEFITS

Katy Valentine, *Columbia, MO and Laura D. Scherer, PhD, University of Missouri, Columbia, MO*

PS2-52. DO ADVANCE DIRECTIVES YIELD DISPOSITIVE INFORMATION ABOUT TREATMENT PREFERENCES FOR INCAPACITATED, CRITICALLY ILL PATIENTS?

Jared Chiarchiaro, MD, *Leslie Scheunemann, MD MPH, Natalie Ernecoff, MPH, Robert M. Arnold, MD and Douglas White, MD, MAS, University of Pittsburgh School of Medicine, Pittsburgh, PA*

PS2-53. DOES THE USE OF A DECISION AID IMPROVE DECISION MAKING IN PROSTHETIC HEART VALVE SELECTION? A MULTICENTER RANDOMIZED CLINICAL TRIAL

Nelleke M. Korteland[1], *Yunus Ahmed*[2], *David R. Koolbergen, MD PhD*[2], *Marjan Brouwer*[3], *Frederiek de Heer, MSc*[3], *Jolanda Kluin, MD PhD*[3], *Eline F. Bruggemans, MSc*[4], *Robert J.M. Klautz, MD PhD*[4], *Anne M. Stiggelbout, PhD*[4], *Jeroen J.J. Bucx, MD PhD*[5], *Ad J.J.C. Bogers, MD PhD*[1] *and Johanna Takkenberg, MD PhD*[1], *(1)Erasmus MC, Rotterdam, Netherlands, (2)AMC, Amsterdam, Netherlands, (3)UMCU, Utrecht, Netherlands, (4)LUMC, Leiden, Netherlands, (5)Diakonessenhuis Utrecht, Utrecht, Netherlands*

PS2-55. DO PRIMARY CARE CLINICIANS ASK PATIENTS WHAT MATTERS TO THEM? AN OBSERVATIONAL STUDY IN 5 FAMILY MEDICINE CLINICS

Gisèle Diendéré, MD[1], *Selma Chipenda Dansokho, PhD*[1], *Anne-Sophie Julien, MSc*[2], *Philippe Jacob*[1], *Sonia Mahmoudi*[1], *Natalia Arias*[3], *Laurie Pilote, MD*[1], *Roland Grad, MD MSc*[4], *France Legare, MD, PhD, CCFP*[1], *Anik Giguère, PhD*[1], *Luc Côté, PhD*[1] *and Holly O. Witteman, PhD*[1], *(1)Université Laval, Quebec City, QC, Canada, (2)CHU de Québec, Québec, QC, Canada, (3)Universidad de Cantabria, Cantabria, Spain, (4)McGill University, Montreal, QC, Canada*

PS2-56. PREFERENCES AND PRACTICES OF PATIENTS WITH LUNG DISEASES AND THEIR HEALTHCARE PROVIDERS REGARDING ADVANCE CARE PLANNING: A SYSTEMATIC REVIEW

***Lea J Jabbarian, MSc**, Ida J Korfage, MSc, PhD, Agnes van der Heide, MD, PhD and Judith AC Rietjens, PhD, Department of Public Health, Erasmus University Medical Center, Rotterdam, Netherlands*

PS2-57. IMPLICATIONS OF THE NATURALIST ORIENTATION FOR VACCINE ACCEPTANCE

***Niraj Patel**, Columbia, MO and Laura D. Scherer, PhD, University of Missouri, Columbia, MO*

PS2-58. FIRST USER EXPERIENCES FROM A MULTI-CENTER IMPLEMENTATION OF A WEB-BASED PROSTATE CANCER TREATMENT DECISION AID IN THE NETHERLANDS

***Maarten Cuypers, MSc.**[1], Romy R.E.D. Lamers, MD[2], Paul J.M. Kil, MD, PhD[2], Lonneke V. van de Poll-Franse, PhD[1] and Marieke de Vries, PhD[1], (1)Tilburg University, Tilburg, Netherlands, (2)St. Elisabeth Hospital, Tilburg, Netherlands*

PS2-59. CHOOSING TREATMENTS CONGRUENT WITH VALUES: DO PATIENTS NEED HELP AND DO DECISION AIDS PROVIDE IT? SUB-ANALYSIS OF A SYSTEMATIC REVIEW

***Sarah Munro, MA**, University of British Columbia, Vancouver, BC, Canada, Dawn Stacey, RN, PhD, CON (C), University of Ottawa, Ottawa, ON, Canada, Krystina B. Lewis, RN, MN, CCN(C), University of Ottawa Heart Institute, Ottawa, ON, Canada and Nick Bansback, PhD, University of British Columbia; Centre for Clinical Epidemiology and Evaluation; Centre for Health Evaluation and Outcome Sciences, Vancouver, BC, Canada*

Tuesday, October 20, 2015 (Posters)

POSTER SESSION III & CONTINENTAL BREAKFAST

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Grand Ballroom EH

Posters:

PS3-1. COST-EFFECTIVENESS ANALYSIS OF PLEURX® CATHETER VS. TALC PLEURODESIS FOR THE TREATMENT OF MALIGNANT PLEURAL EFFUSIONS: A MARKOV MODEL

*Iñigo Bermejo, MSc[1], Maria José Roca, PhD[2] and **Francisco J. Díez, PhD**[1], (1)UNED, Madrid, Spain, (2)Hospital Universitario Virgen de la Arrixaca de Murcia, El Palmar, Spain*

PS3-2. IDENTIFYING CULTURAL INFLUENCES ON PATIENTS' DESIRED LEVELS OF PARTICIPATION IN MEDICAL DECISION MAKING: A MULTI-CULTURAL INVESTIGATION

Dana Alden, MBA, MA, PhD[1], *Khatijah Lim Abdullah, BSc, MSc, DClinP[2], John Friend, PhD[1], Sorapop Kiatpongsan, MD, PhD[3], Ping Yein Lee, MBBS, MFamMed[4], Yew Kong Lee, BA, PhD[5], Supanida Limpongsanurak[6], Chirk Jenn Ng, MBBS, MMed(Fam Med), PhD[7], Miho Tanaka, PhD, MPH[8], Lyndal Trevena, MBBS, MPhilPH, PhD[9], Katrina Tsang, MBChB[10] and Huso Yi, PhD[11], (1)Shidler College of Business, University of Hawaii, Honolulu, HI, (2)Department of Nursing Science, University of Putra Malaysia, Kuala Lumpur, Malaysia, (3)Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, (4)Department of Family Medicine, University of Putra Malaysia, Serdang, Malaysia, (5)University of Malaya, Kuala Lumpur, Malaysia, (6)Medical Student, Chulalongkorn University, Bangkok, Thailand, (7)Department of Primary Care Medicine, University of Malaya, Kuala Lumpur, Malaysia, (8)Health Services Research & Development Service, Washington DC, DC, (9)School of Public Health, The University of Sydney, Sydney, Australia, (10)The Chinese University of Hong Kong, Hong Kong, China, (11)CUHK Centre for Bioethics, The Chinese University of Hong Kong, Hong Kong, China*

PS3-3. A DISCRETE EVENT MODEL FOR ASSESSING THE COST-EFFECTIVENESS OF PRECISION MEDICINE INITIATIVES

John Graves, PhD[1], *Jonathan Schildcrout, MS, PhD[2], Yaping Shi, MS[1], Xiaoming Wang, MS[2], Ramya Marathi, MS[2], Julie Field, PhD[2], James Stahl, MD, CM, MPH[3] and Josh Peterson, MD, MPH[1], (1)Vanderbilt University School of Medicine, Nashville, TN, (2)Vanderbilt University Medical Center, Nashville, TN, (3)Massachusetts General Hospital, Boston, MA*

PS3-4. COST-EFFECTIVENESS ANALYSIS OF UNIVERSAL NEWBORN SCREENING FOR SEVERE COMBINED IMMUNE DEFICIENCY IN WASHINGTON STATE

Scott Grosse[1], *Yao Ding[2], John Thompson[3], Lisa Kobrynski[4], Jelili Ojodu[2] and Guisou Zarbalian[2], (1)Centers for Disease Control and Prevention, Atlanta, GA, (2)Association of Public Health Laboratories, Silver Spring, MD, (3)Washington State Department of Health, Shoreline, WA, (4)Emory University School of Medicine, Atlanta, GA*

PS3-5. COMPARATIVE EFFECTIVENESS AND COST EFFECTIVENESS OF GENERIC ALENDRONATE, RISEDRONATE, DENOSUMAB AND ZOLEDRONIC ACID FOR SECONDARY PREVENTION OF FRAGILITY FRACTURES- PRELIMINARY RESULTS

*Gunhild Hagen, M.Phil., Institute of Public Health, Norwegian University of Science and Technology, Trondheim, Norway, **Ivar Sønbø Kristiansen, MD, PhD, MPH**, University of Oslo,*

Oslo, Norway and Torbjørn Wisløff, MSc, PhD, Oslo University Hospital & University of Oslo, Oslo, Norway

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PS3-6. COST-EFFECTIVENESS OF INITIAL MAGNETIC RESONANCE CHOLANGIOPANCREATOGRAPHY VERSUS A RISK STRATIFICATION ALGORITHM FOR MANAGEMENT OF SUSPECTED CHOLEDOCHOLITHIASIS

***Stella Kang, MD**, David Hoffman, MD and R. Scott Braithwaite, MD, MSc, FACP, New York University School of Medicine, New York, NY*

PS3-7. PALIVIZUMAB FOR USE IN INFANTS WITH CYSTIC FIBROSIS: EFFECTIVENESS AND COST-EFFECTIVENESS

***Ashleigh McGirr, MPH**[1], Kevin Schwartz, MD[2], Upton Allen, MD MSc[2], Melinda Solomon, MD[2] and Beate Sander[3], (1)Dalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada, (2)The Hospital for Sick Children, Toronto, Toronto, ON, Canada, (3)Public Health Ontario, Toronto, ON, Canada*

PS3-8. COST-EFFECTIVENESS OF PROPOFOL VS DEXMEDETOMIDINE FOR MILD TO MODERATE SEDATION DURING MECHANICAL VENTILATION

***Bianka Nguyen, BS**[1], Chiedozie Udeh, MD[2], Phuc Le, PhD[3], Joe Zein, MD[4], Simon Lam, PharmD, RPh[5] and Belinda Udeh, PhD, MPH[1], (1)Department of Outcomes Research, Anesthesiology Institute, Cleveland Clinic, Cleveland, OH, (2)Critical Care Center and Department of Cardiothoracic Anesthesiology, Cleveland Clinic, Cleveland, OH, (3)Center for Value-based Care Research, Medicine Institute, Cleveland Clinic, Cleveland, OH, (4)Departments of Pulmonary Medicine and Critical Care Medicine, Cleveland Clinic, Cleveland, OH, (5)Department of Pharmacy, Cleveland Clinic, Cleveland, OH*

PS3-9. PHARMACOECONOMIC MODELING OF BIOSIMILARS IN THE US: A CONCEPTUAL FRAMEWORK

***Tanya G.K. Bentley, PhD**, Ayanna Anene, BS and Michael S. Broder, MD, MSHS, Partnership for Health Analytic Research, LLC, Beverly Hills, CA*

PS3-10. MENISCAL ALLOGRAFT TRANSPLANTATION IS A COST-EFFECTIVE ALTERNATIVE TO PARTIAL MENISCECTOMY FOR TORN LATERAL DISCOID MENISCUS

*Austin Ramme, MD, PhD[1], Eric Strauss, MD[1], Laith Jazrawi, MD[1] and **Heather Taffet Gold, PhD**[2], (1)NYU Hospital for Joint Diseases, New York, NY, (2)NYU School of Medicine, New York, NY*

PS3-11. ESTIMATION OF DISABILITY WEIGHTS IN THE GENERAL POPULATION OF SOUTH KOREA USING A PAIRED COMPARISON

Min Woo Jo, PhD *and Minsu Ock, MD, University of Ulsan College of Medicine, Seoul, South Korea*

PS3-12. ANTICOAGULATION THERAPY FOR ATRIAL FIBRILLATION IN PATIENTS WITH DEMENTIA: A COST EFFECTIVENESS ANALYSIS

Estefania Ruiz Vargas, PhD[1]*, Luciano A. Sposato, MD, MBA, FAHA*[1]*, Sepehr Nemati, PhD*[2]*, Vladimir Hachinski, CM, MD, FRCPC, DSc*[1] *and Lauren E. Cipriano, Ph.D.*[2]*, (1)Department of Clinical Neurological Sciences, London Health Sciences Centre, London, ON, Canada, (2)Ivey Business School, London, ON, Canada*

PS3-13. COST-EFFECTIVENESS OF WARFARIN AND DABIGATRAN TO PREVENT STROKE IN ELDERLY MALE PATIENTS WITH ATRIAL FIBRILLATION

Viengneesee Thao, MS*, University of Minnesota Twin-Cities, Minneapolis, MN and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

PS3-14. AVERSION TO AMBIGUITY ABOUT THE RISK OF TREATMENT HARMS INFLUENCES DECISION MAKING AND VARIES BY LEVEL OF RISK AND AMBIGUITY

Nick Bansback, PhD*, University of British Columbia; Centre for Clinical Epidemiology and Evaluation; Centre for Health Evaluation and Outcome Sciences, Vancouver, BC, Canada, Mark Harrison, PhD, Faculty of Pharmaceutical Sciences, University of British Columbia, Vancouver, BC, Canada and Paul K. J. Han, MD, MA, MPH, Maine Medical Center Research Institute, Portland, ME*

PS3-15. SHARING DIFFICULT CHOICES

Tatiana Barakshina, MBA*, University of Illinois at Chicago, Aurora, IL and Alan Malter, PhD, Chicago, IL*

PS3-16. WHY NOT TAKE A RISK? EXPLAINS SUBJECTS' EXPECTATIONS FOR ANTIBIOTICS AND PRIOR PRESCRIBING IN A LARGE ONLINE SAMPLE

David Broniatowski, PhD*, The George Washington University, Washington, DC, Eili Klein, PhD, Johns Hopkins University, Baltimore, MD, Larissa May, MD, MSPH, The George Washington University Medical Faculty Associates, Washington, DC and Valerie Reyna, PhD, Cornell University, Ithaca, NY*

PS3-17. THE USE OF PATIENT NARRATIVES IN A DECISION AID FOR LEFT VENTRICULAR ASSIST DEVICE PLACEMENT FOR HEART FAILURE: AN APPLICATION OF PRE-EXISTING GUIDELINES

Estevan Delgado, BA[1], *Kristin Kostick, PhD, MA, MFA*[2], *Lidija Wilhelms, BA*[1], *Robert Volks, PhD*[3] *and Jennifer Blumenthal-Barby, PhD, MA*[1], *(1)Center for Medical Ethics and Health Policy: Baylor College of Medicine, Houston, TX, (2)Center for Medical Ethics and Health Policy: Baylor College of Medicine, HOUSTON, TX, (3)MD Anderson Cancer Center, Houston, TX*

PS3-18. USE OF FEEDBACK TO IMPROVE SYMBOLIC-NUMBER MAPPINGS

Rachel Eyler, PharmD*, University of Connecticut School of Pharmacy, Storrs, CT, Sara Cordes, PhD, Boston College, Chestnut Hill, MA and Liana Fraenkel, MD, MPH, Yale School of Medicine, New Haven, CT*

PS3-19. WHAT IS THE IMPACT OF DESCRIBING TREATMENTS AS 'NEW'?

Mark Harrison, PhD*, Faculty of Pharmaceutical Sciences, University of British Columbia, Vancouver, BC, Canada, Carlo Marra, Memorial University, St. John's, NF, Canada and Nick Bansback, PhD, University of British Columbia; Centre for Clinical Epidemiology and Evaluation; Centre for Health Evaluation and Outcome Sciences, Vancouver, BC, Canada*

PS3-20. HEALTH INSURANCE DECISION-MAKING OF INDIVIDUALS WITH CHRONIC CONDITIONS

Ashley Housten, OTD, OTR/L, MSCI, MPA*, Washington University School of Medicine, Saint Louis, MO, Kimberly Kaphingst, ScD, UNIVERSITY OF UTAH, DEPARTMENT OF COMMUNICATION, Salt Lake City, UT, Timothy McBride, PhD, Washington University in St Louis, Brown School of Social Work, St Louis, MO, Jingxia (Esther) Liu, PhD, Washington University School of Medicine Division of Biostatistics, Saint Louis, MO and Mary Politi, PhD, Washington University School of Medicine, St. Louis, MO*

PS3-21. PHYSICIAN-PATIENT RELATIONSHIPS IN ORGAN TRANSPLANTATION FROM MARGINAL DONORS

Sara Kamran, MPH[1], *Yvon Calmus, MD, PhD*[2], *Marie-Pascale Pomey, MD, PhD*[3] *and Gwenaelle Vidal-Trecan, MD, PhD*[1], *(1)Department of public Heath, Paris center university hospitals, Assistance Publique - Hôpitaux de Paris, Paris, France, (2)Centre de transplantation hépatique, Pitié Salpêtrière hospital, Assistance Publique - Hôpitaux de Paris, Paris, France, (3)Department of Health Administration, Institut de Recherche en Santé Publique, Université de Montréal, Montreal, QC, Canada*

PS3-22. PATIENT SURVEY RESULTS AFTER USE OF INTEGRATED EHR DECISION TOOL

Jon Keevil, MD[1], *Margaret Leaf*[2] *and Amy Zelenski*[2], *(1)University of Wisconsin Hospital and Clinics, Madison, WI, (2)Madison, WI*

PS3-23. IDENTIFYING PREDICTORS OF PREVENTIVE BEHAVIORS AN EXPERIMENTAL STUDY

Maciej Kos, *Northeastern University, Boston, MA, Anna Blajer-Golebiewska, University of Gdansk, Department of Economics, Sopot, Poland and Dagmara Wach, University of Gdańsk, Department of Economics, Sopot, Poland*

PS3-24. AUTOMATIC HEURISTIC CUES OR SLOW AND DELIBERATE REASONING: USING COGNITIVE-EXPERIENTIAL SELF-THEORY TO EXPLAIN VARIABILITY IN UNDERSTANDING DECISION AID PROGNOSTIC ESTIMATES

Andrzej Kozikowski, PhD[1], *Melissa Basile, PhD*[1], *Lauren Uhler, MPH*[2] *and Negin Hajizadeh, MD, MPH*[3], *(1)North Shore LIJ Health System, Manhasset, NY, (2)Dell Medical School at the University of Texas at Austin, Austin, TX, (3)Hofstra North Shore-LIJ School of Medicine, Manhasset, NY*

PS3-25. VALUES-CONSISTENT DECISIONS WITH USE OF A PRENATAL TESTING DECISION SUPPORT GUIDE

Miriam Kuppermann, PhD, MPH[1], *Sanae Nakagawa, MA*[1], *Steven Gregorich, PhD*[2], *Rachel Freyre, RN*[1] *and Mary Norton, MD*[1], *(1)University of California, San Francisco, Department of Obstetrics, Gynecology & Reproductive Sciences, San Francisco, CA, (2)University of California, San Francisco, Department of Medicine, San Francisco, CA*

PS3-26. ADHERING TO NEWLY PRESCRIBED MEDICATION IN THE ELDERLY: AN EXPERIMENTAL APPROACH

Miguel Oliveira, PhD, *Center for Social Studies - University of Coimbra, Coimbra, Portugal, Vanessa Santos, MsC, Department of Psychology, School of Social Sciences, University of Évora, Évora, Portugal and António M. Diniz, PhD, Department of Psychology, Research Center in Education and Psychology, School of Social Sciences, University of Évora, Évora, Portugal*

PS3-27. PATIENT PREFERENCES FOR COMMUNICATION OF TAILORED SURVIVAL ESTIMATES

Madhav Narayan, BA[1], Jacqueline Jones, PhD, RN[2], Laura Portalupi, MSW[3], Colleen McIlvennan, DNP, ANP[4], Daniel Matlock, MD, MPH[5] and Larry Allen, MD, MHS[4], (1)University of Colorado School of Medicine, Aurora, CO, (2)University of Colorado College of Nursing, Aurora, CO, (3)University of Colorado School of Medicine, Adult and Child Center for Health Outcomes Research and Delivery Science, Aurora, CO, (4)University of Colorado School of Medicine, Division of Cardiology, Aurora, CO, (5)University of Colorado School of Medicine, Division of General Internal Medicine, Aurora, CO

PS3-28. A QUALITY IMPROVEMENT STUDY TO INTEGRATE PATIENT DECISION AIDS INTO ORTHOPEDIC CARE

***Karen R. Sepucha, PhD**, Mahima Mangla, MPH, Thomas Cha, MD, MBA, Janet Dorrwachter, NP, Leigh Simmons, M.D., Emily Wendell, Lauren Leavitt, M.A. and Harry Rubash, MD, Massachusetts General Hospital, Boston, MA*

PS3-29. DECISION-MAKING UNDER UNCERTAINTY: THE EFFECTS OF EXPLICIT PROBABILITY INFORMATION AND RISK PREFERENCES OF DOCTORS

Vlad V. Simianu, MD[1], Margaret A. Grounds, BA[2], Susan L. Joslyn, Ph.D.[2], Jared E. LeClerc, Ph.D.[2], Anne E. Pugel, MD[3], Nidhi Agrawal, Ph.D.[4], Rafael Alfonso-Cristancho, MD, MSc, PhD[5], Abraham D. Flaxman, PhD[6] and David R. Flum, MD, MPH[1], (1)Department of Surgery, University of Washington, Seattle, WA, (2)Department of Psychology, Seattle, WA, (3)Department of Surgery, Seattle, WA, (4)Foster School of Business, Seattle, WA, (5)Surgical Outcomes Research Center (SORCE), University of Washington, Seattle, WA, (6)Institute for Health Metrics and Evaluation, University of Washington, Seattle, WA

PS3-30. PARTNER INFLUENCE ON ASTHMA PATIENTS' DECISION MAKING ABOUT PRESCRIPTION DRUGS

Katherine Treiman, PhD MPH[1], Megan Lewis, PhD[2], Kevin Betts, PhD[3], Amie O'Donoghue, PhD[3], Caroline Chandler, BA[2] and Paula Eguino Medina, BS[2], (1)RTI International, Rockville, MD, (2)RTI International, Research Triangle Park, NC, (3)Food and Drug Administration, Silver Spring, MD

PS3-32. IT SOUNDS LIKE SOME BS: ACCEPTANCE AND REJECTION OF GENETIC RISK COMMUNICATION

Erika A. Waters, PhD, MPH, Washington University School of Medicine, Saint Louis, MO, Linda Ball, PhD, Washington University, St. Louis, MO, Kimberly Carter, PhD, SIUE Department of Social Work, Edwardsville, IL and Sarah Gehlert, PhD, Washington University in St. Louis, Brown School, St. Louis, MO

PS3-33. LEGISLATION AND EVIDENCE FOR REIMBURSEMENT OF MEDICAL FOODS IN WORKER'S COMPENSATION SYSTEMS

*Vicky Cao, **Tracy Lin, PhD**, Anna Oh, MSN, MPH, RN, Duyen-Anh Pham, PharmD, Candy Tsourounis, PharmD and Leslie Wilson, PhD, University of California, San Francisco, San Francisco, CA*

PS3-34. GROWING COST OF COMPOUNDED DRUGS IN CALIFORNIA WORKERS' COMPENSATION (CAWC) SYSTEM

***Leslie Wilson, PhD**, Osama A Shoair, BPharm, PhD, Duyen-Anh Pham, PharmD, Tracy Lin, PhD and Vicky Cao, University of California, San Francisco, San Francisco, CA*

PS3-35. OPTIMIZING REFERRAL TO RENAL CARE MANAGEMENT PROGRAM THROUGH USE OF A PREDICTIVE MODEL FOR TRANSITION TO DIALYSIS IN A MEDICARE ADVANTAGE POPULATION

***Yanting Dong, PhD**, Huyi Hines, PhD, Gil Haugh, Meghan Cockrell, MPH, Todd Prewitt, MD and Vipin Gopal, PhD, Humana, Louisville, KY*

PS3-36. A MEASURE OF QUEBEC EMERGENCY PHYSICIANS' INTENTIONS TO USE WIKI-BASED REMINDERS TO PROMOTE BEST PRACTICES IN TRAUMA CARE

***Audrey Dupuis, MA**[1], Jean-Marc Chauny[2], Claudia Plourde[3], Karine Sanogo[4], Mélissa Tremblay[5], Nicolas Elazhary[6], Pierre-Luc Sylvain[7], Sylvain Levac[8], François Parent[9], Marcel Rheault[9], Annie Prévost[10], Hugo Grenier[10], Chantal Lanthier[2], Martin-Olivier Recher[11], France Légaré[12], Patrick Michel Archambault[13] and Emilie Papillon-Dion[14], (1)Université Laval, Québec, QC, Canada, (2)Hôpital du Sacré-Coeur de Montréal, Montréal, QC, Canada, (3)CSSS de la Côte-de-Gaspé (Hôpital de Gaspé), Gaspé, QC, Canada, (4)CISSS des Laurentides (Hôpital régional de Saint-Jérôme), Saint-Jérôme, QC, Canada, (5)CIUSSS du Saguenay-Lac-Saint-Jean (Hôpital de Chicoutimi), Chicoutimi, QC, Canada, (6)Centre de recherche du CHUS, Sherbrooke, QC, Canada, (7)CISSS du Bas-Saint-Laurent (Centre Hospitalier De Matane), Matane, QC, Canada, (8)CSSS de la Baie-des-Chaleurs (Hôpital de Maria), Maria, QC, Canada, (9)CIUSSS Mauricie-et-Centre-du-Québec (Centre hospitalier régional de Trois-Rivières), Trois-Rivières, QC, Canada, (10)CISSS CA (Hôpital de Thetford Mines), Thetford Mines, QC, Canada, (11)CISSS des Laurentides (Hôpital de Saint-Eustache), Saint-Eustache, QC, Canada, (12)Chaire de recherche du Canada en implantation de la prise de décision partagée dans les soins primaires, Université Laval, Québec, QC, Canada, (13)CISSS CA, Secteur Alphonse-Desjardins (CHAU Hôtel-Dieu de Lévis), Lévis, QC, Canada, (14)CISSS de Chaudiere-Appalaches, Levis, QC, Canada*

PS3-37. VARIABLE SELECTION FOR PROPENSITY SCORE MODELS IN COMPARATIVE EFFECTIVENESS RESEARCH ON CHRONIC CORONARY ARTERY DISEASE

Alexandra G. Ellis, MSc[1], Thomas A. Trikalinos, MD[1], Benjamin S. Wessler, MD[2], John B. Wong, MD[2] and Issa J. Dahabreh, MD, MS[1], (1)Brown University, Providence, RI, (2)Tufts Medical Center, Boston, MA

PS3-38. FIRST-DOLLAR MEDICARE SUPPLEMENT PLANS ARE ASSOCIATED WITH HIGHER QUALITY OF CARE

Timothy Wells, PhD[1], Kevin Hawkins, PhD[1], Gandhi Bhattarai, PhD[1], Yan Cheng, MS[1], Douglas Armstrong, MHS[2] and Charlotte Yeh, MD[2], (1)OptumInsight, Ann Arbor, MI, (2)AARP Services, Inc., Washington, DC

PS3-39. MODELING EMERGENCY DEPARTMENT UTILIZATION

Tina Hernandez-Boussard, PhD, MPH, Stanford University, Palo Alto, CA, Doug Morrison, MS, Stanford, CA and Sanjay Basu, MD, PhD, Stanford University, Stanford, CA

PS3-40. IMPACT OF DIPEPTIDYL PEPTIDASE-4 INHIBITORS ON THE RISK OF CARDIOVACULAR-RELATED HOSPITALIZATIONS

Niranjan Kathe, M.S., Anuj Shah, B. Pharm and Qayyim Said, Ph.D., University of Arkansas for Medical Sciences, Little Rock, AR

PS3-41. DECISION QUALITY AND EDUCATIONAL NEEDS OF HEALTHCARE PERSONNEL TO IMPROVE DECISION-MAKING ABOUT MANAGING HOME HEALTHCARE HAZARDS

Celia E. Wills, PhD, RN[1], Barbara Polivka, PhD, RN[2], Amy Darragh, PhD[3], Steven Lavender, PhD[3], Carolyn Sommerich, PhD[3] and Stredney Donald, MA[4], (1)The Ohio State University, Columbus, OH, (2)University of Louisville, Louisville, KY, (3)Ohio State University, Columbus, OH, (4)Ohio Supercomputer Center, Columbus, OH

PS3-42. COST-EFFECTIVENESS ANALYSIS OF HIV PREVENTION FOR NEGLECTED, AT-RISK WOMEN IN VIETNAM: IMPLICATIONS FOR PRIORITIZING BEHAVIORAL INTERVENTION RESOURCES

***Van T. Nghiem, M.S.P.H.**[1], Theodore M. Hammett, Ph.D.[2], Lincy S. Lal, Pharm.D., Ph.D.[3] and J. Michael Swint, Ph.D.[3], (1)The University of Texas MD Anderson Cancer Center, Department of Health Services Research, Houston, TX, (2)Abt Associates, Cambridge, MA, (3)The University of Texas School of Public Health, Department of Management, Policy and Community Health, Houston, TX*

PS3-43. IMPACT OF TELEHOMECARE PROGRAM ON MONITORING PARAMETERS AMONG COPD AND HF PATIENTS

Valeria E. Rac, MD, PhD[1], *Yeva Sahakyan, MD, MPH*[1], *Nida Shahid, HBSc., CCRP*[1], *Aleksandra Stanimirovic, MSc, PhD (candidate)*[1], *Iris Fan, BA*[2], *Welson Ryan*[1], *Petros Pechlivanoglou, MSc, PhD*[1], *Lusine Abrahamyan, MD MPH PhD*[1] *and Murray Krahn, MD, Msc, FRCPC*[2], *(1)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (2)Toronto Health Economics and Technology Assessment (THETA) Collaborative, Toronto, ON, Canada*

PS3-44. A HEALTHCARE SETTING TRANSITION MODEL FOR WISCONSIN MEDICAID LONG TERM CARE POPULATION

Elise Wu, PhD*, Merck, north wales, PA*

PS3-45. USING PLAN DO CHECK ACT (PDCA) QUALITY IMPROVEMENT CYCLES TO IMPLEMENT PREVENTION RECOMMENDATIONS AMONG PRIMARY CARE PHYSICIANS IN SWITZERLAND

Regula Cardinaux, PhD, Sophie Guinand, MD, Jacques Cornuz, MD, MPH and ***Reto Auer, MD, MAS****, University of Lausanne, Lausanne, Switzerland*

PS3-46. SOCIAL NETWORK CHARACTERISTICS AND PREFERENCES FOR INFORMATION AS A SUBSTITUTE DECISION MAKER IN AN INTENSIVE CARE UNIT SIMULATION

Jorie Butler, PhD[1], *Eliotte Hirshberg, MD*[2], *Ramona Hopkins, PhD*[3], *Emily Wilson, MS*[4], *James Orme, MD*[5], *Sarah Beesley, MD*[6], *Kathryn Kuttler, PhD*[7] *and Samuel Brown, MD, MS*[6], *(1)University of Utah, Salt Lake City, UT, (2)University of Utah, Division of Pulmonary Medicine, Department of Internal Medicine, Salt Lake City, UT, (3)Psychology Department and Neuroscience Center, Provo, UT, (4)Center for Humanizing Critical Care, Intermountain Healthcare, Murray, UT, (5)Division of Pulmonary Medicine, Department of Internal Medicine, Salt Lake City, UT, (6)Division of Pulmonary Medicine, Department of Internal Medicine, University of Utah, Salt Lake City, UT, (7)Homer Warner Center for Informatics Research, Murray, UT*

PS3-47. DECISION MAKING IN EXPANDED NEWBORN SCREENING; A QUALITATIVE STUDY EXAMINING CONSENT AND COMMUNICATION PREFERENCES OF PARENTS IN THE UK

Nimarta Dharni, BSc, MSc, PhD[1], *Rebecca Bennett, PhD*[2], *Stuart Wright, BSc, MSc*[3] *and Fiona Ulph, BSc, MSc, PhD*[1], *(1)Manchester Centre for Health Psychology, The University of Manchester, Manchester, United Kingdom, (2)School of Law, University of Manchester,*

Manchester, United Kingdom, (3)Manchester Centre for Health Economics, The University of Manchester, Manchester, United Kingdom

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PS3-48. PARENTS PREFER ACTIVE AND COLLABORATIVE PARTICIPATION IN DECISION REGARDING THEIR CHILD WITH MEDICAL COMPLEXITY

***David Fox, MD**, University of Colorado, Denver, Aurora, CO, Elizabeth Campagna, MS, Children's Outcomes Research Program, Aurora, CO and Allison Kempe, MD, MPH, Children's Outcome Research Program, Aurora, CO*

PS3-49. SELECTION OF KEY PROMIS DOMAINS FOR A PREFERENCE-BASED SCORING SYSTEM

***Janel Hanmer, MD, PhD**[1], David Feeny, PhD[2], Baruch Fischhoff, PhD[3], Ron Hays, PhD[4], Rachel Hess, MD, MS[5], Paul Pilkonis, PhD[3], Dennis Revicki, PhD[6], Mark S. Roberts, MD, MPH[7], Joel Tsevat, MD[8] and Lan Yu, PhD[9], (1)The University of Pittsburgh, Pittsburgh, PA, (2)Hamilton, ON, Canada, (3)Pittsburgh, PA, (4)Los Angeles, CA, (5)University of Utah, Salt Lake City, UT, (6)Bethesda, MD, (7)Department of Industrial Engineering, University of Pittsburgh, Pittsburgh, PA, (8)Cincinnati, OH, (9)University of Pittsburgh, Pittsburgh, PA*

PS3-50. SHARED DECISION MAKING AND REGRET PLAYS CRITICAL ROLES OF POSTTRAUMATIC GROWTH: A LONGITUDINAL STUDY

*Ching-Wen Lai[1], **Yu-Hsuan Tsao**[1] and Chi-Chang Chang, PhD[2], (1)chungshan medical university, TAICHUNG, Taiwan, (2)ChungShan Medical University, Taichung, Taiwan*

PS3-51. THE VALUE OF DATA TRANSPARENCY AT THE POINT OF CARE

***Peter Lodato, MPH**[1], Jennifer C. Goldsack, MS, MBA[2], Susan Mascioli, MS, BSN, RN, CPHQ, NEA-BC[2] and Seema S. Sonnad, PhD[1], (1)Christiana Care Health System Value Institute, Newark, DE, (2)Christiana Care Health System, Newark, DE*

PS3-52. DO INDIVIDUALS' UTILITIES FOR DIVERSE HEALTH STATES TEND TO HAVE A CONSISTENT RANK WITHIN A POPULATION?

*Irene Fischer, MPH[1], Rob Culverhouse, PhD[1], Michael Hagen, MD[2] and **Walton Sumner, MD**[1], (1)Washington University School of Medicine, St. Louis, MO, (2)University of Kentucky, Lexington, KY*

PS3-53. HEALTH-RELATED QUALITY OF LIFE IN PERSONS WITH WEST NILE VIRUS INFECTION

Man Wah Yeung[1], *Mark Loeb*[2], *George Tomlinson*[3] *and Beate Sander*[3], *(1)Public Health Ontario, Toronto, ON, Canada, (2)McMaster University, Hamilton, ON, Canada, (3)University of Toronto, Toronto, ON, Canada*

PS3-54. USING TECHNOLOGY AND PROVIDER ASSESSMENT TO REDESIGN CLINICAL RECOGNITION SYSTEMS

Muge Capan, PhD, *Pan Wu, PhD, Michele Campbell, RN, MSM, CPHQ, Susan Mascioli, MS, BSN, RN, CPHQ, NEA-BC and Eric V. Jackson, Jr., MD, MBA, Christiana Care Health System, Newark, DE*

PS3-55. LOOPY NO MORE: PROBABILISTIC SENSITIVITY ANALYSIS IN MICROSIMULATION MODELS

Jagpreet Chhatwal, PhD, *The University of Texas MD Anderson Cancer Center, Houston, TX, Kan Li, MS, Houston, TX, Andrew Briggs, DPhil, University of Glasgow, Glasgow, United Kingdom, Elisabeth A.L. Fenwick, PhD, ICON plc, Oxford, United Kingdom and Mark S. Roberts, MD, MPH, Department of Health Policy and Management, University of Pittsburgh, Pittsburgh, PA*

PS3-56. COMPARISON OF TIMED AUTOMATA WITH DISCRETE EVENT SIMULATION FOR MODELING PERSONALIZED TREATMENT DECISIONS: THE CASE OF METASTATIC CASTRATION RESISTANT PROSTATE CANCER

Koen Degeling, BSc, *Hendrik Koffijberg, PhD, Stefano Schivo, PhD, Rom Langerak, PhD and Maarten J. IJzerman, PhD, University of Twente, Enschede, Netherlands*

PS3-57. CHOICE OF TIME SCALE FOR MODELING LONG-TERM SURVIVAL IN A COST-EFFECTIVENESS ANALYSIS: AN ILLUSTRATION

Bart Ferket, MD, PhD[1], *Ankur Pandya, PhD*[2], *Zach Feldman, MSc*[3], *M.G. Myriam Hunink, MD, PhD*[4] *and Madhu Mazumdar, PhD*[1], *(1)Institute for Healthcare Delivery Science, Department of Population Health Science and Policy, Icahn School of Medicine at Mount Sinai, New York, NY, (2)Harvard T.H. Chan School of Public Health, Boston, MA, (3)Icahn School of Medicine at Mount Sinai, New York, NY, (4)Center for Health Decision Science, Harvard T.H.Chan School of Public Health, Boston, MA*

PS3-58. RETURN-TO-WORK DECISIONS IN REHABILITATION: HOW TO GET WORKERS, CLINICIANS AND STAKEHOLDERS ON THE SAME PAGE?

Marie-France Coutu, PhD[1], ***Marie-Elise Labrecque, MA***[1], *France Legare, MD, PhD, CCFP*[2], *Marie-Jose Durand, PhD*[1] *and Dawn Stacey, RN, PhD, CON (C)*[3], *(1)Université de*

Sherbrooke, Longueuil, QC, Canada, (2)Université Laval, Quebec City, QC, Canada, (3)University of Ottawa, Ottawa, ON, Canada

PS3-59. VALIDATION OF THE CONCEPTUAL FRAMEWORK OF THE DIVA QUESTIONNAIRE

Luc Martinez, MD[1], *Fatoumata Fofana, MSc*[2], *Benoit Arnould, PhD*[2], *Didier Duhot, MD*[1], *François Denis, MD*[3], *Pascale Arnould, MD*[1], *Jean-Luc Gallais, MD*[1], *Guillaume Coindard, MD*[1], *Didier Seyler, MD*[1], *François Raineri, MD*[1], *Khadra Benmedjahed*[2] *and Béatrice Tugaut*[2], *(1)French Society of General Medicine (SFMG), Issy les Moulineaux, France, (2)Mapi, Health Economics and Outcomes Research and Strategic Market Access, Lyon, France, (3)University Hospital, Bacteriology and Virologie department, Limoges, France*

PS3-60. THE PRIMACY OF PRIORS: THE EFFECT OF BAYESIAN PRIOR SELECTION ON THE ESTIMATED RISK OF INDUCED VZV DISSEMINATION FROM THE SHINGLES VACCINE IN IMMUNOCOMPROMISED PATIENTS

Marc Vacquier, MSc[1], *Jordan Hinahara, BA*[1], *Szu-Yu Zoe Kao, MA*[1] *and Karen M. Kuntz, ScD*[2], *(1)University of Minnesota School of Public Health, Minneapolis, MN, (2)University of Minnesota, Minneapolis, MN*

Wednesday, October 21, 2015 (Posters)

POSTER SESSION IV & CONTINENTAL BREAKFAST

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Grand Ballroom EH

Posters:

PS4-2. COST-EFFECTIVENESS ANALYSIS WITH MARKOV INFLUENCE DIAGRAMS

Francisco J. Díez, PhD[1], *Mar Yebra, MSc*[2], *Iñigo Bermejo, MSc*[1], *Miguel Ángel Palacios-Alonso*[3], *Manuel Arias, PhD*[1], *Manuel Luque, PhD*[1], *Mark Sculpher, PhD*[4], *Marta Soares, Msc*[4] *and Claire Rothery, PhD*[4], *(1)UNED, Madrid, Spain, (2)Technical University of Madrid, Pozuelo de Alarcón, Spain, (3)INAOE, Tonantzintla, Puebla, Mexico, (4)University of York, York, United Kingdom*

PS4-4. THE VALUE OF TOTAL KNEE REPLACEMENT REVISITED: A COMPARATIVE ANALYSIS OF THE IMPACT OF INCREASED PROCEDURE RATES ON HEALTH OUTCOMES AND COSTS USING DATA FROM THE OSTEOARTHRITIS INITIATIVE

Zach Feldman, MSc[1], *Edwin Oei, MD, PhD*[2], *Madhu Mazumdar, PhD*[3] *and Bart Ferket, MD, PhD*[3], *(1)Icahn School of Medicine at Mount Sinai, New York, NY, (2)Department of Radiology, Erasmus Medical Center, Rotterdam, Netherlands, (3)Institute for Healthcare Delivery Science, Department of Population Health Science and Policy, Icahn School of Medicine at Mount Sinai, New York, NY*

PS4-5. NEGATIVE-PRESSURE WOUND THERAPY (NPWT) EQUIPMENT IN THE MANAGEMENT OF OPEN ABDOMEN PATIENTS: COMPARISON BETWEEN TWO PAYMENT SCHEMES

Cecilia de la Luz Hipólito-Olivares, MSc *and Leodegario Correa, Dr., Mexican Institute of Social Security-IMSS, Mexico City, Mexico*

PS4-6. EXAMINING DISPARITIES IN THE TREATMENT AND COSTS OF KNEE OSTEOARTHRITIS USING AN INTERACTIVE MARKOV MODEL

Taruja Karmarkar, MHS[1], *Anne Maurer, MS*[2], *Thomas Mason, MD*[3], *Ana Eastman, MD*[4], *Melvyn Harrington, MD*[5], *Randall Morgan, MD, MBA*[6], *Michael Parks, MD*[7] *and Darrell Gaskin, PhD*[1], *(1)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, (2)Zimmer, Inc., Warsaw, IN, (3)Cook County Health & Hospitals System, Chicago, IL, (4)PIH Health, Whittier, CA, (5)Baylor College of Medicine Medical Center, Houston, TX, (6)W. Montague Cobb/NMA Health Institute, Washington, DC, (7)Hospital for Special Surgery, New York, NY*

PS4-7. MEDICAL COST SAVINGS FROM MEDICATION ADHERENCE AND IMPLICATIONS FOR TARGETING BEHAVIORAL INTERVENTIONS

Steven Kymes, Ph.D., MHA[1], *Richard Pierce, Ph.D.*[1], *Charmaine Girdish, MPH*[1], *Olga Matlin, Ph.D.*[1] *and William Shrank, MD, MSHS*[2], *(1)CVS Health, Northbrook, IL, (2)CVS Health, Woonsocket, RI*

PS4-8. COST-UTILITY ANALYSIS OF ORAL ANTISEPTIC CHLORHEXIDINE IN DECREASING VENTILATOR-ASSOCIATED PNEUMONIA IN INTENSIVE CARE UNITS

Sojung Lee, BSc, DDS[1], *Petros Pechlivanoglou, MSc, PhD*[2], *Victoria McCredie, MBChB*[3], *Carlos Quiñonez, DMD, MSc, PhD, FRCD(C)*[1], *Murray D Krahn, MD, MSc, FRCPC*[2] *and Amir Azarpazhooh, DDS, MSc, PhD, FRCD(C)*[1], *(1)University of Toronto, Toronto, ON, Canada, (2)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (3)Sunnybrook Health Sciences Center, Toronto, ON, Canada*

PS4-9. THE VALUE OF QUALITY IMPROVEMENT INTERVENTIONS FOR CATHETER-ASSOCIATED URINARY AND BLOOD STREAM INFECTIONS: A SYSTEMATIC REVIEW

Teryl Nuckols, MD, MSHS[1], *Emmett Keeler, PhD*[1], *Laura Anderson, MPH*[2], *Brian Doyle, MD*[3], *Aziza Arifkhanova,, MS*[1], *Joshua Pevnick, MD, MSHS*[4], *Kanaka Shetty, MD, MS*[1], *Peggy Chen, MD, MSc, MHS*[1], *Roberta Shanman, MS*[1], *Jennifer Schneider Chafen, M.D., M.S.*[5], *Margaret Maglione, MPP*[1], *Courtney Coles, MPH*[6] *and Paul Shekelle, MD, MPH, PhD*[7], *(1)RAND, Santa Monica, CA, (2)UCLA School of Public Health, Department of Epidemiology, Los Angeles, CA, (3)UCLA Department of General Internal Medicine, Los Angeles, CA, (4)Cedars-Sinai Medical Center, Los Angeles, CA, (5)Castlight Health, San Francisco, CA, (6)UCLA School of Public Health, Department of Health Policy & Management, Los Angeles, CA, (7)VA Medical Center West Los Angeles, Los Angeles, CA*

PS4-11. HEALTHCARE COSTS ATTRIBUTABLE TO LYME DISEASE: A POPULATION-BASED MATCHED COHORT STUDY IN ONTARIO, CANADA

Beate Sander[1], *Edwin Khoo, MPH*[1], *John Wang, MSc*[1], *Gerald Evans, MD*[2], *Manon Fleury, MSc*[3], *Stephen Moore, MPH*[1], *Mark Nelder, PhD*[1], *Nicholas Ogden, PhD*[3], *Curtis Russell, PhD*[1], *Doug Sider, MD, MSc*[1] *and Samir Patel, PhD*[1], *(1)Public Health Ontario, Toronto, ON, Canada, (2)Queens University, Kingston, ON, Canada, (3)Public Health Agency of Canada, Guelph, ON, Canada*

PS4-12. ASSISTED REPRODUCTIVE TECHNOLOGIES (ARTS) IN ALBERTA, CANADA: AN ECONOMIC ANALYSIS TO INFORM POLICY DECISION-MAKING

Anil Vaidya, MBBS, MPH, MSc, *Tania Stafinski, PhD, Alexa Nardelli, MPH, Tarek Motan, MD, MPH and Devidas Menon, MHS, PhD, University of Alberta, Edmonton, AB, Canada*

PS4-13. ECONOMIC EVALUATION OF COMBINATION TREATMENTS DOES USE OF NETWORK META-ANALYSIS MAKE A DIFFERENCE?

Torbjørn Wisløff, MSc, PhD, *Oslo University Hospital & University of Oslo, Oslo, Norway*

PS4-14. BARRIERS AND FACILITATORS OF IMPLEMENTING SHARED DECISION MAKING AND DECISION SUPPORT IN A PEDIATRIC HOSPITAL: A DESCRIPTIVE STUDY

Laura Boland, MSc, PhD(c), *University of Ottawa, Institute of Population Health, Ottawa, ON, Canada, Daniel McIsaac, MD, MPH, FRCPC, The Ottawa Hospital, Ottawa, ON, Canada and Margaret L. Lawson, MD, MSc, FRCP, Children's Hospital of Eastern Ontario, Ottawa, ON, Canada*

PS4-15. NEWS ARTICLES ARE MORE LIKELY TO BE SHARED IF THEY COMBINE STATISTICS WITH EXPLANATION

***David Broniatowski, PhD**, The George Washington University, Washington, DC, Mark Dredze, PhD, Johns Hopkins University, Baltimore, MD and Karen Hilyard, PhD, University of Georgia College of Public Health, Athens, GA*

PS4-16. PATIENT RESPONSE TO A DECISION SUPPORT TOOL IN DEVELOPMENT: VETERANS LIKE ME

***Jorie Butler, PhD**[1], Bryan Gibson, PhD[2], Lee Ellington, PhD[3], Bruce Bray, MD[4], Katherine Doyon[3] and Qing Zeng, PhD[4], (1)Center for Humanizing Critical Care, Intermountain Healthcare, Murray, UT, (2)SLC VA IDEAS Center of Innovation, Salt Lake City, UT, (3)University of Utah College of Nursing, Salt Lake City, UT, (4)University of Utah Biomedical Informatics, Salt Lake City, UT*

PS4-18. PERFECTLY ACCOMPLISHED SHARED DECISION MAKING: A CALL TO CONSIDER A WIDER RANGE OF CONSEQUENCES

***Dominick Frosch, PhD**, Gordon and Betty Moore Foundation, Palo Alto, CA, Sarah Kobrin, PhD, MPH, National Cancer Institute, Bethesda, MD and Glyn Elwyn, MD, MSc, PhD, The Dartmouth Institute for Health Policy and Clinical Practice, Lebanon, NH*

PS4-19. EVALUATING A WORKSHOP TO DEVELOP SHARED DECISION MAKING AND DECISION COACHING SKILLS AMONGST PEDIATRIC HEALTHCARE PROFESSIONALS

***Margaret L. Lawson, MD, MSc, FRCP**[1], Allyson L. Shephard, RN, MScN[1], Jennifer Kryworuchko, PhD, RN, CNCC(C)[2], Laura Boland, MSc, PhD(c)[3], Janet Jull, OT, PhD[1] and Dawn Stacey, RN, PhD, CON (C)[4], (1)Children's Hospital of Eastern Ontario Research Institute, Ottawa, ON, Canada, (2)University of Saskatchewan College of Nursing, Saskatoon, SK, Canada, (3)University of Ottawa, Institute of Population Health, Ottawa, ON, Canada, (4)University of Ottawa, Ottawa, ON, Canada*

PS4-21. INTEGRATING MENTAL HEALTH PATIENT DECISION AIDS INTO PRIMARY CARE PRACTICE

***Felisha Marques, MPH**, Karen Carlson, M.D., Lisa Brugnoli-Semeta, RN, Karen R. Sepucha, PhD and Leigh Simmons, M.D., Massachusetts General Hospital, Boston, MA*

PS4-22. IMPORTANT FACTORS IN CLINICAL DECISION MAKING FOR RAPID STREPTOCOCCAL ANTIGEN TESTING: A SURVEY OF PEDIATRIC EMERGENCY DEPARTMENT (ED) PROVIDERS

***Angela Myers, MD**[1], Russell McCulloh, MD[2], Brian Lee[2], Jennifer Goldman, MD[2], Cameron Myers[3], Sarah Weston, MD[2] and Lisa Schroeder, MD[2], (1)Children's Mercy Kansas City,*

Kansas City, MO, (2)Children's Mercy Hospital, Kansas City, MO, (3)University of Missouri Kansas City School of Medicine, Kansas City, MO

PS4-23. IMPLEMENTING COLLABORATE: A MEASURE OF SHARED DECISION MAKING

*Paul Barr, PhD, Rachel Thompson, PhD, Rachel Forcino, **Elissa M. Ozanne, PhD** and Glyn Elwyn, MD, MSc, PhD, The Dartmouth Institute for Health Policy and Clinical Practice, Lebanon, NH*

PS4-24. PATIENT AND PROVIDER PERSPECTIVES ON SHARED DECISION-MAKING IN SYNCOPE: QUALITATIVE GROUNDWORK FOR DECISION-SUPPORT INTERVENTION DEVELOPMENT

***Marc Probst, MD, MS**[1], Hemal Kanzaria, MD, MS[2], Dominick L. Frosch, PhD[3], Maggie Breslin, MDes[4], Marie-noelle Langan, MD[4], Erik Hess, MD, MSc[5] and Lynne Richardson, MD[1], (1)Mount Sinai, New York, NY, (2)Los Angeles, CA, (3)UCLA, Los Angeles, CA, (4)New York, NY, (5)Rochester, MN*

PS4-25. OPTIMIZING THE USE OF MENTAL HEALTH DECISION AIDS IN THE OUTPATIENT SETTING

***Karen R. Sepucha, PhD**, Madeleine Matthiesen, MD, Felisha Marques, MPH, Lisa Brugnoli-Semeta, RN and Leigh Simmons, M.D., Massachusetts General Hospital, Boston, MA*

PS4-26. PATIENT KNOWLEDGE AND PREFERENCES SURROUNDING INTERRUPTION OF ANTICOAGULATION THERAPY FOR MINOR PROCEDURES

*Seema S. Sonnad, PhD, Christiana Care Health System Value Institute, Newark, DE, Debbi Chiappardi-Williams, RN, Christiana Care Health System, Newark, DE, Andrew Doorey, MD, Christiana Care Health System Cardiology Consultants, Newark, DE and **Kimberly Williams, MPH**, Value Institute, Christiana Care Health System, Newark, DE*

PS4-27. OTTAWA DECISION SUPPORT TUTORIAL FOR ENHANCING UNDERSTANDING OF SHARED DECISION MAKING: WHAT DO THE USERS THINK?

***Dawn Stacey, PhD**[1], Annette M. O'Connor, PhD[1], Anton Saarimaki, MCS[2] and Meg Carley, BSc[2], (1)University of Ottawa, Ottawa, ON, Canada, (2)Ottawa Hospital Research Institute, Ottawa, ON, Canada*

PS4-28. DEVELOPMENT OF A DECISION AID FOR PATIENTS WITH ADVANCED HEART FAILURE CONSIDERING A DESTINATION THERAPY LEFT VENTRICULAR ASSIST DEVICE

Jocelyn Thompson, MA[1], Dan Matlock, MD, MPH[2], Colleen McIlvennan, DNP, ANP[3], Amy Jenkins, MS[1] and Larry Allen, MD, MHS[3], (1)University of Colorado School of Medicine, Adult and Child Center for Health Outcomes Research and Delivery Science, Aurora, CO, (2)The University of Colorado School of Medicine, Division of General Internal Medicine, Aurora, CO, (3)University of Colorado School of Medicine, Division of Cardiology, Aurora, CO

PS4-29. A WEB-BASED TUTORIAL TO PREVENT OBESITY GROUNDED IN FUZZY-TRACE THEORY IMPROVES KNOWLEDGE, GIST COMPREHENSION, AND HEALTHY VALUES

***Valerie Reyna, PhD**[1], Priscila G. Brust-Renck, M.A., Ph.D[1], Christopher R. Wolfe, Ph.D.[2], Evan A. Wilhelms, M.S.[1], Colin Widmer, M.A.[2], Elizabeth Cedillos, M.A.[2] and Anna Kate Morant, BSc[1], (1)Cornell University, Ithaca, NY, (2)Miami University, Oxford, OH*

PS4-31. NATION-WIDE ASSESSMENT OF INFORMED DECISION-MAKING IN PRENATAL SCREENING IN THE NETHERLANDS

***Heleen M. E. van Agt, MSc, PhD**[1], Marleen M.H.J.D. Schoonen, MSc, PhD[1], Jacques Fracheboud, MSc[1], Jantine Wieringa, MSc[2] and Harry J. de Koning, MD, PhD[1], (1)Erasmus MC, University Medical Center, Rotterdam, Netherlands, (2)National Institute for Public Health and the Environment, Bilthoven, Netherlands*

PS4-32. GRAPHICALLY SUMMARIZING RISK PREDICTION MODELS

*Vanya Van Belle, PhD, Ir, ESAT-STADIUS / iMinds-KU Leuven Medical Information Technologies Department, KU Leuven, Leuven, Belgium and **Ben Van Calster, PhD**, KU Leuven Department of Development and Regeneration, Leuven, Belgium*

PS4-33. DEVELOPMENT OF AN ONLINE PATIENT DECISION AID FOR PREVIOUSLY TREATED CHRONIC LYMPHOCYTIC LEUKEMIA

*Thomas LeBlanc, MD, MA[1], David Rizzieri, MD[2], Robert Wolf, PharmD[3], Ellen Neylon, MSN, FNP-BC, RN, OCN[4], **Valerie Caroselli, PharmD**[5], Katie Deering, PharmD[5] and Brad Schenkel, MS[6], (1)Duke University School of Medicine, Durham, NC, (2)Duke University Medical Center, Durham, NC, (3)Mayo Clinic, Rochester, MN, (4)Center for Lymphoid Malignancies at Columbia University Medical Center, New York, NY, (5)EPI-Q, Inc., Oak Brook, IL, (6)Janssen Scientific Affairs, LLC, Horsham, PA*

PS4-34. DECISION ANALYSIS IN THE TREATMENT PATHWAY FOR USE OF HYDROXUREA IN CHILDREN WITH SICKLE CELL DISEASE

Olubiyi Aworunse, MD MPH PhD(c), University of Texas School of Public Health Houston, Houston, TX and Sun-Young Kim, PhD, University of Texas School of Public Health, San Antonio, TX

PS4-35. ANTICOAGULATION FOR PREGNANT WOMEN WITH MECHANICAL HEART VALVES: A SYSTEMATIC REVIEW AND META-ANALYSIS

Rohan D'Souza[1], Jackie Ostro[1], Anne Malinowski[1], Candice Silversides[1], Mathew Sermer[1], Kellie Murphy[1], Beate Sander[2], Prakesh Shah[1] and Nadine Shehata[1], (1)Mount Sinai Hospital, Toronto, ON, Canada, (2)Public Health Ontario, Toronto, ON, Canada

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PS4-36. CHANGES IN PERFORMANCE IN THE HOSPITAL VALUE BASED PURCHASING PROGRAM AFTER THE ADDITION OF AN EFFICIENCY DOMAIN

Anup Das, BA[1], Lena Chen, MD, MS[2] and Edward Norton, PhD[2], (1)University of Michigan, Ann Arbor, MI, (2)Ann Arbor, MI

PS4-37. THE "WORKING" DIAGNOSIS: CHANGES IN THE PNEUMONIA DIAGNOSIS AMONG HOSPITALIZED VETERANS

***Barbara Jones, MD**[1], Makoto Jones, MD[2], Zhou Xi[3], Brian Sauer[4], Brett South[5], Yijun Shao[5], Qing Zeng-Treitler[5], Wendy Chapman[5] and Matthew Samore, MD[6], (1)VHA Salt Lake City, University of Utah, and Intermountain Health Care, Salt Lake City, UT, (2)VHA Salt Lake CIty and University of Utah, Salt Lake City, UT, (3)SLC VA Health System & University of Utah, Salt Lake City, UT, (4)University of Uah, Salt Lake City, UT, (5)University of Utah, Salt Lake City, UT, (6)University of Utah, Salt Lake City, UT. VA Salt LAke City Health Care System, SLC, UT, Salt Lake City, UT*

PS4-38. HEALTH ACTIVITY TRACKING IS ASSOCIATED WITH HIGHER MEDICATION ADHERENCE

Thomas Quisel, BS, Luca Foschini, PhD and Jessie Juusola, PhD, Evidation Health, Menlo Park, CA

PS4-39. DEVELOPMENT OF NEW HARM-BASED WEIGHTING APPROACH TO COMPOSITE INDICATORS: THE AGENCY FOR HEALTHCARE RESEARCH AND QUALITY PATIENT SAFETY FOR SELECTED INDICATORS (AHRQ PSI-90)

Kathryn M. McDonald, MM[1], Halcyon Skinner, PhD, MPH[2], Patricia Zrelak, PhD[3], Garth Utter, MD[3], Sheryl Davies, MA[1], Hawre Jalal, PhD[4], Robert Houchens, PhD[5] and Patrick Romano, MD, MPH[3], (1)Stanford University Center for Health Policy and Center for Primary Care and Outcomes Research, Stanford, CA, (2)Truven Health, Ann Arbor, MI, (3)UC Davis,

Sacramento, CA, (4)Department of Health Policy and Management, University of Pittsburgh, Graduate School of Public Health, Pittsburgh, PA, (5)Truven Health, Sacramento, CA

PS4-40. DEVELOPMENT OF MEDICAL IMAGING PATHWAYS FOR USE BY PRIMARY CARE PHYSICIANS

Ravi Menezes, PhD[1], *Lilly Whitham, MSc*[2], *Jisla Mathews, MBBS, MBA*[2] *and Karen Weiser, MBA*[2], *(1)University Health Network, Toronto, ON, Canada, (2)Toronto, ON, Canada*

PS4-41. GPS' CHOICE OF SERVICES IN A PUBLIC HEALTH CARE SYSTEM WITH FINANCIAL INCENTIVES

Andreas Pahle, MD, *Bolteløkka Legesenter, Oslo, Norway, Daniel Sørli, MD, Sørumsand, Norway and Ivar Sønbø Kristiansen, Avdeling for helseledelse og helseøkonomi, Oslo, Norway*

PS4-42. FACTORS AFFECTING THE DELIVERY OF A PHARMACIST-LED MEDICATION REVIEW. EVIDENCE FROM THE MEDSCHECK ANNUAL SERVICE IN ONTARIO

Petros Pechlivanoglou, MSc, PhD[1], *Lusine Abrahamyan, MD MPH PhD*[1], *Linda Mackeigan, PhD*[2], *Lisa Dolovich, PhD*[3], *Giulia Consiglio, MSc*[2], *Valeria E. Rac, MD, PhD*[1], *Jonghyun Shin, MSc*[2], *Suzanne Cadarette, MSc, PhD*[2] *and Murray D Krahn, MD, MSc, FRCPC*[1], *(1)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (2)Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada, (3)Department of Family Medicine, McMaster University, Hamilton, ON, Canada, Hamilton, ON, Canada*

PS4-43. EFFECT OF CORN PRICE ON MEAT CONSUMPTION AND HEALTH OUTCOMES IN BALTIMORE CITY

Allison Pitt, MS, *Department of Management Science and Engineering, School of Engineering, Stanford University, Stanford, CA and Eran Bendavid, MD, MS, Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

PS4-44. USE OF THE CHILD HEALTH UTILITY 9D INDEX IN AUSTRALIAN ADOLESCENTS WITH DENTAL CARIES

Utsana Tonmukayakul, DDS, MPH, MHEcon[1], *Hanny Calache, DDS, PhD*[2], *Kerina Princi, BAppSc(Pod), GradDipHlthProm*[3] *and Lisa Gold, MA, MSc, PhD*[1], *(1)Deakin Health Economics, Melbourne, Australia, (2)Dental Health Services Victoria, Melbourne, Australia, (3)Australasian Leukaemia & Lymphoma Group, Melbourne, Australia*

PS4-46. IMPLEMENTATION AND ADOPTION OF THE TELEHOMECARE PROGRAM FOR PATIENTS WITH HEART FAILURE OR CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Valeria E. Rac, MD, PhD[1], *Gemma Hunting, MA*[2], *Nida Shahid, HBSc., CCRP*[1], *Yeva Sahakyan, MD, MPH*[1], *Iris Fan, BA*[2], *Christelle Moneypenny, Hon BA, MSc (cand.)*[2], *Aleksandra Stanimirovic, MSc, PhD (candidate)*[1], *Taylor North*[2], *Yelena Petrosyan, MD, MPH, PhD (Candidate)*[2] *and Murray Krahn, MD, Msc, FRCPC*[2], *(1)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (2)Toronto Health Economics and Technology Assessment (THETA) Collaborative, Toronto, ON, Canada*

PS4-47. IMPLEMENTING A MODEL OF ATTRIBUTE IDENTIFICATION USING CONTINUOUS STAKEHOLDER ENGAGEMENT TO PRIORITIZE TREATMENT DECISIONS FOR YOUTH WITH SERIOUS MENTAL AND COGNITIVE IMPAIRMENT

Susan dosReis, PhD[1], *Wendy Camelo Castillo, MD, PhD*[2], *Melissa Ross, MA*[1], *Marcy Fitz-Randolph, DO, MPH*[3], *Angela Vaughn-Lee*[4] *and Beverly Butler*[5], *(1)University of Maryland School of Pharmacy, Baltimore, MD, (2)University of Maryland Baltimore, Baltimore, MD, (3)PatientsLikeMe, Cambridge, MA, (4)Maryland Coalition of Families, Baltimore, MD, (5)Timonium, MD*

PS4-48. ENGAGEMENT OF MEMBERS OF MARGINALIZED POPULATIONS IN THE DEVELOPMENT OF PATIENT DECISION AIDS AND OTHER PATIENT-CENTERED TOOLS

Michèle Dugas, BA[1], *Gratianne Vaisson, MSc*[1], *Thierry Provencher*[1], *Érik Breton, PhD*[1], *Selma Chipenda Dansokho, PhD*[1], *Heather Colquhoun, PhD*[2], *Angela Fagerlin, PhD*[3], *Anik Giguère, PhD*[1], *Sholom Glouberman, PhD*[4], *Lynne Haslett, RN, NP, MEd*[5], *Aubri S. Hoffman, PhD*[6], *Noah Ivers, MD, PhD, CCFP*[7], *France Legare, MD, PhD, CCFP*[1], *Jean Legare*[8], *Carrie A. Levin, PhD*[9], *Karli Lopez, AA*[10], *Victor M. Montori, MD, MSc*[11], *Jean-Sébastien Renaud, PhD*[1], *Kerri Sparling, BA*[12], *Dawn Stacey, RN, PhD, CON (C)*[13], *Marie-Ève Trottier, BA*[1], *Robert J. Volk, PhD*[14], *William Witteman, MISt*[15] *and Holly O. Witteman, PhD*[1], *(1)Université Laval, Quebec City, QC, Canada, (2)University of Toronto, Toronto, ON, Canada, (3)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI, (4)Patients Canada, Toronto, ON, Canada, (5)East End Community Health Centre, Toronto, ON, Canada, (6)Geisel School of Medicine at Dartmouth College, Lebanon, NH, (7)Women's College Hospital, Toronto, ON, Canada, (8)Arthritis Society, Quebec, QC, Canada, (9)Informed Medical Decision Foundation, Healthwise, Boston, MA, (10)Stone Soup Group, Anchorage, AK, (11)Knowledge and Evaluation Research Unit - Mayo Clinic, Rochester, MN, (12)Six Until Me, East Greenwich, RI, (13)University of Ottawa, Ottawa, ON, Canada, (14)The University of Texas MD Anderson Cancer Center, Houston, TX, (15)CHU de Québec, Québec, QC, Canada*

PS4-49. DEVELOPING A STATED-PREFERENCES INSTRUMENT FOR DUCHENNE/BECKER MUSCULAR DYSTROPHY A COMMUNITY-ENGAGED RESEARCH APPLICATION

Ilene L. Hollin, MPH[1], *Caroline Young, ScM*[2], *Caroline Hanson, BS*[1], *Holly Peay, PhD, CGC*[2] *and John F.P. Bridges, PhD*[1], *(1)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, (2)Parent Project Muscular Dystrophy, Hackensack, NJ*

PS4-51. A STUDY OF PATIENT ENGAGEMENT IN THE CONTEXT OF DENTAL IMPLANTS

Ananthavalli Ramesh, B.E; M.S *and Prakash Sai L, Ph. D, Indian Institute of Technology Madras, Chennai, India*

PS4-52. PREFERENCE ELICITATION TO AID DECISION-MAKING FOR TREATMENT OF A FIRST TIME ANTERIOR SHOULDER DISLOCATION

Benjamin Streufert, MD[1], *Lori Orlando, MD*[1], *Joel Huber, PhD*[2], *Reed Johnson, PhD*[3], *Dean Taylor, MD*[1], ***Shelby D. Reed, PhD***[3] *and Richard Mather III, MD, MBA*[3], *(1)Duke University Medical Center, Durham, NC, (2)Fuqua School of Business, Duke University, Durham, NC, (3)Duke Clinical Research Institute, Durham, NC*

PS4-53. QUALITY OF REPORTING OF ABSTRACTS OF PEDIATRIC RANDOMIZED CONTROLLED TRIALS

Chelsea Koller, BS*, Riley Hedin, David Herrmann, Michael Bibens, Sarah Kahn, Lauren Kollmorgen, Blake Umberham and Matt Vassar, PhD, Oklahoma State University Center for Health Sciences, Tulsa, OK*

PS4-54. A DATA-GENERATED MARGIN-OF-ERROR TO DECIDE WHEN TWO MEASUREMENTS AGREE

Hongsheng Wu, PhD, Wentworth Institute of Technology, Boston, MA, Timothy Moore, MD, Department of Radiology at the University of Nebraska Medical Center, Omaha, NE, Alan Erickson, MD, Division of Rheumatology & Immunology University of Nebraska Medical Center, Omaha, NE and ***Robert Lew, PhD****, Department of Veterans Affairs, Boston, MA*

PS4-55. CAUSAL INFERENCE USING AGENT-BASED MODELS AND THE PARAMETRIC G-FORMULA

Eleanor Murray, ScD candidate[1], *James Robins, MD*[1], *George R. Seage, DSc*[1], *Kenneth Freedberg, MD, MSc*[2] *and Miguel Hernan, MD*[1], *(1)Harvard TH Chan School of Public Health, Boston, MA, (2)Massachusetts General Hospital, Boston, MA*

PS4-56. LESS IS MORE EQ-5D-5L VALUE SETS BASED ON AN 8-PARAMETER NON-LINEAR MODEL PREDICTS LEFT-OUT STATES BETTER THAN A 20-PARAMETER MAIN EFFECTS MODEL

Kim Rand-Hendriksen, PhD., Cand.Psychol[1], *Liv Ariane Augestad, MD, PhD*[1], *Juan Manuel Ramos Goñi, Msc*[2] *and Nan Luo, PhD*[3], *(1)University of Oslo, Oslo, Norway, (2)EuroQol Research Foundation, 3068 AV Rotterdam, Netherlands, (3)Saw Swee Hock School of Public Health, National University of Singapore, Singapore, Singapore*

PS4-57. USING A HIDDEN MULTI-STATE MARKOV MODEL TO CHARACTERIZE UNOBSERVABLE DISEASE NATURAL HISTORY: THE CASE OF COLORECTAL CANCER RECURRENCE

Johnie Rose, MD, PhD[1], *Laura Homa, PhD*[2], *Chung Yin Kong, PhD*[3], *Neal J. Meropol, MD*[4], *Michael W. Kattan, PhD*[5] *and Gregory Cooper, MD*[4], *(1)Case Western Reserve University School of Medicine; Case Comprehensive Cancer center, Cleveland, OH, (2)Case Western Reserve University School of Medicine, Cleveland, OH, (3)Massachusetts General Hospital - Institute for Technology Assessment, Boston, MA, (4)University Hospitals Seidman Cancer Center, Case Comprehensive Cancer Center, Case Western Reserve University, Cleveland, OH, (5)Cleveland Clinic, Cleveland, OH*

PS4-58. USING REAL WORLD DATA TO STRUCTURE AND POPULATE MARKOV MODELS A CASE STUDY OF TELEMONITORING FOR HEART FAILURE

Praveen Thokala, PhD*, Pete Dodd, PhD, Simon Dixon, PhD and Alan Brennan, BSc, MSc, PhD, University of Sheffield, Sheffield, United Kingdom*

PS4-59. A CALIBRATION HIERARCHY FOR RISK MODELS: MODERATE' CALIBRATION GUARANTEES NON-HARMFUL DECISION MAKING

Ben Van Calster, PhD[1], *Daan Nieboer*[2] *and Ewout W. Steyerberg, PhD*[2], *(1)KU Leuven Department of Development and Regeneration, Leuven, Belgium, (2)Erasmus MC, University Medical Center, Department of Public Health, Rotterdam, Netherlands*

PS4-60. THE QUALITY OF RESEARCH ABSTRACTS IN EMERGENCY MEDICINE

Laura Varney[1], *Byron Detweiler*[1], *Alberto Chong*[1], *Jonathan Holmes*[1], *Ryan Johnston*[1], *Michael Caniglia*[1], *Bryan Gibson*[1] *and Matt Vassar, PhD*[2], *(1)Oklahoma State University College of Osteopathic Medicine, Tulsa, OK, (2)Oklahoma State University Center for Health Sciences, Tulsa, OK*

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