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35th ANNUAL MEETING

Bench, Bedside and Beyond: Medical Decision Making and Public Policy

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HILTON BALTIMORE, BALTIMORE, MD OCTOBER 19 - 23, 2013

The 35th Annual Meeting of the Society for Medical Decision Making
Oral & Poster Abstract Sessions

Monday, October 21, 2013

TRA1. TOP-RANKED ABSTRACTS, CONCURRENT SESSION 1

Next Session »

10:15 AM - 11:30 AM: Mon. Oct 21, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Session Chairs:

- *Eran Bendavid, MD, MS*
- *Eve Wittenberg, MPP, PhD*

Session Summary:

10:15 AM - 10:30 AM

TRA1-1. COMPARISON OF CONTROL ALGORITHMS FOR SCHEDULING TESTING VISITS

10:30 AM - 10:45 AM

TRA1-2. MODELLING TO SUPPORT REVISED WHO HIV TREATMENT GUIDELINES: CHALLENGES OF SYNTHESIZING RESULTS ACROSS MULTIPLE MODELS

10:45 AM - 11:00 AM

TRA1-3. IMPACT OF INCREASING WAIT TIMES ON THE EFFECTIVENESS OF TRANSCATHETER AORTIC-VALVE REPLACEMENT (TAVR) IN HIGH-RISK AND INOPERABLE PATIENTS WITH SEVERE AORTIC DISEASE: A DISCRETE EVENT SIMULATION MODEL

11:00 AM - 11:15 AM

TRA1-4. INCREMENTAL BENEFITS AND COST-EFFECTIVENESS OF A CATCH-UP HPV VACCINATION PROGRAM IN NORWAY

11:15 AM - 11:30 AM

TRA1-5. EFFICACY OF THE BRCA GIST INTELLIGENT TUTORING SYSTEM TO HELP WOMEN DECIDE ABOUT TESTING FOR GENETIC BREAST CANCER RISK

Abstracts:

TRA1-1. COMPARISON OF CONTROL ALGORITHMS FOR SCHEDULING TESTING VISITS

10:15 AM - 10:30 AM: Mon. Oct 21, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT SESSION 1

Greggory J. Schell, MSE[1]*, Mariel S. Lavieri, Ph.D.*[1]*, Jonathan E. Helm, Ph.D.*[2]*, Mark P. Van Oyen, Ph.D.*[1]*, David C. Musch, Ph.D., M.P.H.*[3] *and Joshua D. Stein, M.D., M.S.*[3]*, (1)University of Michigan School of Engineering, Ann Arbor, MI, (2)Indiana University Kelley School of Business, Bloomington, IN, (3)University of Michigan Medical School, Ann Arbor, MI*

Purpose: We developed and compared the performance of two novel dynamic control algorithms for determining personalized time between testing for patients diagnosed with open angle glaucoma (OAG) against fixed interval monitoring schedules.

Methods: We developed a Kalman filter which combines population disease dynamics with the individual patient's health to predict the patient's future health state. Logistic regression was then used to map the Kalman filter's Gaussian confidence region for the forecasted health states to a probability that a patient is experiencing OAG progression. Two control algorithms (for scheduling the times at which tests will be taken) were created: (1) test when the worst-case point of the confidence region exceeds a threshold on the probability of progression; or (2) test when a proportion of the confidence region exceeds a progression threshold. These algorithms were compared against fixed interval scheduling using longitudinal data from 571 patients who were enrolled in the Advanced Glaucoma Intervention Study (AGIS) and Collaborative Initial Glaucoma Treatment Study (CIGTS) randomized clinical trials.

Results: Our control algorithms achieved Pareto dominance over the fixed yearly monitoring schedule with respect to efficiency in progression detection and detection delay. Using the same average number of scheduled tests as the fixed yearly schedule for each patient, both algorithms increased efficiency in identifying OAG progression by 29% ($p<0.0001$) and detected progression 57% earlier ($p=0.02$). Furthermore, the algorithm's performance using the conservative single point of progression was near identical to the algorithm's performance using the more robust proportion of the region method.

Conclusions: We proposed and validated two new and robust algorithms for designing personalized monitoring schedules based on the patient's disease dynamics (which are updated as each new test is performed). Our two control algorithms reallocate monitoring visits to schedule testing closer to the time when progression occurs and to avoid testing when no significant change in the patient's health state is predicted. We demonstrate that equivalent solutions may be obtained by considering two optimization based approaches: a single point of progression threshold or a region crossing the progression threshold. More broadly, the novel modeling framework we developed can be applied to determine personalized monitoring schedules for a variety of chronic diseases which require longitudinal monitoring.

TRA1-2. MODELLING TO SUPPORT REVISED WHO HIV TREATMENT GUIDELINES: CHALLENGES OF SYNTHESIZING RESULTS ACROSS MULTIPLE MODELS

10:30 AM - 10:45 AM: Mon. Oct 21, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT SESSION 1

Nicolas A. Menzies, MPH[1], *Jeffrey W. Eaton, PhD*[2], *Timothy B. Hallett, PhD*[2] *and Joshua A. Salomon, PhD*[3], *(1)Harvard University, Boston, MA, (2)Imperial College London, London, United Kingdom, (3)Harvard School of Public Health, Boston, MA*

Purpose: To guide the 2013 revision of its HIV treatment guidelines, the World Health Organization commissioned the HIV Modelling Consortium to evaluate possible policy changes. Rather than rely on a single model, we engaged multiple HIV modeling groups to contribute to a synthetic policy analysis.

Method: We requested research groups with expertise in modeling HIV epidemiology to simulate the potential impact of standardized policy alternatives in four settings: India, Vietnam, South Africa, and Zambia. Competing policies involved expanding ART eligibility to individuals with higher CD4 cell counts, prioritizing high-risk groups, increasing treatment coverage. A standardized costing framework was developed. Policy options were compared in terms of epidemic impact, health system costs, and cost-effectiveness over 20 years. Research groups met in November 2012 to finalize the analytic approach. Synthesized results from 12 mathematical models were reported to the WHO guideline committee in early 2013.

Result: All models predicted that broad expansions in ART eligibility and coverage would substantially reduce HIV transmission, reduce HIV-related mortality, and increase total costs. In generalized epidemics (South Africa, Zambia), most models estimated that expanding eligibility to CD4 ≤500 cells/μL—a key policy under consideration— would cost US$500-$1,500 per disability-adjusted life year averted, versus current guidelines. Other expansions in eligibility and coverage also produced favourable cost-effectiveness ratios. In concentrated epidemics (India, Vietnam), expanding ART eligibility and increasing coverage in high-risk populations appeared highly cost-effective compared to conventional benchmarks, but efforts to raise coverage in the general population did not. While common themes emerged, translating findings into policy messages was challenging: there was substantial variation on several modelled outcomes, models differed in the set of interventions they could simulate, costing approaches and reported outcomes had to be simplified to allow consistent application across models, and the project timeframe was constrained by predefined WHO policy-setting timelines, limiting the depth of analysis possible. Challenges were particularly acute when attempting to calculate the incremental cost-effectiveness of multiple competing interventions, and standard approaches for synthesising modelled evidence proved unsatisfying for summarizing results across multiple models.

Conclusion: Modeled analyses provided useful input to guideline revisions, identifying policies that would likely be cost-effective in most settings. Synthesizing the results of multiple models is challenging, and must balance the transparency of reporting disparate outcomes with the need to identify summary messages.

TRA1-3. IMPACT OF INCREASING WAIT TIMES ON THE EFFECTIVENESS OF TRANSCATHETER AORTIC-VALVE REPLACEMENT (TAVR) IN HIGH-RISK AND

INOPERABLE PATIENTS WITH SEVERE AORTIC DISEASE: A DISCRETE EVENT SIMULATION MODEL

10:45 AM - 11:00 AM: Mon. Oct 21, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT SESSION 1

Harindra C. Wijeysundera, MD, PhD[1], *William W. L. Wong, Ph.D.*[2], *Maria C. Bennell, MSc*[3], *Stephen E. Fremes, MD*[3], *Sam Radhakrishnan, MD*[3], *Mark Peterson, MD, PhD*[4] *and Dennis T. Ko, MD, MSc*[5], *(1)Schulich Heart Center, Sunnybrook Health Sciences Center, Toronto, ON, Canada, (2)University of Toronto, Toronto, ON, Canada, (3)Sunnybrook Health Sciences Center, Toronto, ON, Canada, (4)St Michael's Hospital, Toronto, ON, Canada, (5)Institute for Clinical Evaluative Sciences, Toronto, ON, Canada*

Purpose: There is increasing demand for transcatheter aortic valve replacement (TAVR) as the primary treatment option for patients with severe aortic stenosis (AS) who are high risk surgical candidates or inoperable. TAVR is typically limited to centers of excellence with restricted capacity, thereby causing prolonged wait-times. Our objective was to use mathematical simulation models to estimate the hypothetical effectiveness of TAVR with increasing wait-times, when compared to either conservative medical therapy in inoperable candidates or conventional surgical aortic valve surgery in high risk candidates.

Methods: We developed a fully probabilistic discrete event model, using input data from the randomized controlled Placement of Aortic Transcatheter Valves (PARTNER) trials. We evaluated two populations separately: a) in the high risk surgical cohort, we compared TAVR to conventional aortic valve surgery; b) in the inoperable cohort, we compared TAVR to conservative medical therapy. We evaluated 7 scenarios with hypothetical TAVR wait-times ranging from 10 days to 180 days. The main outcome was 1-year mortality and wait-time deaths.

Results: In the inoperable cohort, the mean 1-year mortality for the conservative medical therapy arm was approximately 50%. When the TAVR wait-time was 10 days, the mean TAVR wait-time mortality was 1.9% with a 1 year mortality of 31.5%. Mean TAVR wait-time deaths increased to 28.9% with a 180-day wait, with a corresponding mean 1-year mortality of 41.4%. In the high risk cohort, the wait-time deaths and mean 1-year mortality for the surgical patients were 2.5% and 27% respectively in all scenarios. The TAVR wait-time deaths increased from 2.2% at a 10-day wait to 22.4% at a 180-day wait, with a corresponding increase in 1-year mortality from 24.5% to 32.6%. The 1-year mortality in the TAVR group exceeded that in the surgical group at wait-times greater than 60 days.

Conclusion: We found that modest increases in TAVR wait-times would have substantial impact on the effectiveness of TAVR in both inoperable patients and high risk surgical candidates. In the high-risk surgical candidates, at wait-times beyond 60 days, TAVR was less effective on average compared to conventional surgery. Our results highlight the importance of aggressive wait-time management for TAVR in severe AS.

TRA1-4. INCREMENTAL BENEFITS AND COST-EFFECTIVENESS OF A CATCH-UP HPV VACCINATION PROGRAM IN NORWAY

11:00 AM - 11:15 AM: Mon. Oct 21, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT SESSION 1

Emily Burger, MPhil[1], *Stephen Sy, BS*[2], *Mari Nygard, MD, PhD*[3], *Ivar SÃ¸nbÃ¸ Kristiansen, MD, PhD, MPH*[1] *and Jane J. Kim, PhD*[2], *(1)University of Oslo, Oslo, Norway, (2)Harvard School of Public Health, Boston, MA, (3)Cancer Registry of Norway, Oslo, Norway*

Purpose: School-based vaccination of 12-year-old girls against human papillomavirus (HPV) was introduced in Norway in 2009, free of charge. Since the vaccine is ideally targeted to young individuals prior to HPV exposure, catch-up vaccination for girls over age 12 was not publicly funded. Our objective was to estimate the cost-effectiveness of a one-year female catch-up program (starting in 2014) up to age 26.

Method: We calibrated a previously published dynamic model of HPV transmission to fit observed HPV prevalence and cervical cancer incidence in Norway. Under various scenarios of catch-up vaccination in females, we projected reductions in HPV incidence over multiple birth cohorts, including both direct and indirect benefits, and applied these reductions to a microsimulation model of cervical cancer and incidence-based models for non-cervical HPV-related diseases. We adopted a societal perspective and assumed that vaccination of females age >19 years would incur higher delivery costs (i.e., through their family physician). Scenarios reflecting 50% coverage of women up to age 20, 22, 24 or 26 were compared to a baseline strategy assuming that these cohorts were not vaccinated. Sensitivity analyses were conducted on vaccine cost (market vs. tender price) and differential uptake among targeted women.

Result: The marginal benefit of the vaccine decreased as the upper bound of the catch-up age increased. For example, at 50% coverage, the cohort of girls aged 18-years-old in 2014 gained an absolute 21% in cumulative reduction in HPV-16 incidence, compared to no catch-up campaign, while for the cohort of girls aged 26-years-old, this gain was only 10%. Cost-effectiveness followed a similar trend. At the current market price of the vaccine, catch-up can only be extended to age 22 while still remaining below Norway's willingness-to-pay threshold (≈$83,000/QALY), compared with vaccinating 12-year-old girls only. However, the tender price of the vaccination (not publicly available) is believed to be less than 50% of the market price, in which case a catch-up program to age 26 falls below the threshold. Results remained stable for a catch-up campaign achieving only 30% coverage.

Conclusion: At current market price, a one-year catch-up program up to age 22 is likely to be cost effective; however, at the assumed tender price, HPV vaccination may be extended to age 26 while remaining cost-effective.

TRA1-5. EFFICACY OF THE BRCA GIST INTELLIGENT TUTORING SYSTEM TO HELP WOMEN DECIDE ABOUT TESTING FOR GENETIC BREAST CANCER RISK

11:15 AM - 11:30 AM: Mon. Oct 21, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT SESSION 1

Christopher R. Wolfe, Ph.D.[1], *Valerie Reyna, PhD*[2], *Priscila G. Brust-Renck, M.A.*[2], *Audrey M. Weil, B.A.*[1], *Colin L. Widmer, BA*[1], *Elizabeth M. Cedillos, M.A.*[1], *Isabella Damas Vannucchi, B.A.*[1] *and Andrew M. Circelli*[1], *(1)Miami University, Oxford, OH, (2)Cornell University, Ithaca, NY*

Purpose: To test the efficacy of an expanded version of the BRCA Gist Intelligent Tutoring System (ITS) designed to help women understand and make decisions about genetic testing for breast-cancer risk with a broader range of participants recruited on the web, in local communities, and at two universities.

Methods: This interactive tutorial guided by Fuzzy-Trace Theory is the first use of an ITS in patients' medical decision-making. Three female avatars of varying ethnicities present tutorial information orally, visually, in

brief video clips, and in writing (a screen shot is shown below). Tutorial dialogues address questions such as, "how do genes affect breast cancer risk?" Expanded content addresses inherited genetic mutations, what should be considered before genetic testing, how breast cancer spreads, stages of breast cancer, and the Gail model. Using "expectations texts" and Latent Semantic Analysis, a conversational agent (avatar) "understands" and responds to participants' typed questions and comments using natural language. Information pertaining to breast cancer and genetic risk was taken from the National Cancer Institute (NCI) web site, and vetted by medical experts. The efficacy of the BRCA Gist ITS was tested in two randomized, controlled experiments equating time on task. Participants in both a laboratory experiment (n=210) and a field experiment (n=180) were randomly assigned to one of three conditions: BRCA Gist; studying pages from the NCI web site covering comparable materials; or a control tutorial on nutrition. Participants were then given a test of content knowledge about breast cancer and genetic risk, twelve scenarios applying their knowledge about assessing breast cancer risk, a gist comprehension measure, and questions about the participant's interest in being tested.

Results: In both the laboratory and field experiments, the BRCA Gist group performed significantly better than the control group on content knowledge about breast cancer and genetic risk, gist comprehension, knowledge application, and risk assessment. Participants' interest in testing was significantly lower following the BRCA Gist tutorial. Effect sizes were generally large.

Conclusions: The BRCA Gist ITS may be fruitfully applied in assisting laypeople in preventive health and medical decision-making by effectively teaching content knowledge, enhancing gist-based comprehension, and increasing the ability to apply knowledge to assess risk and make testing decisions about genetics and breast-cancer.

TRA2. TOP-RANKED ABSTRACTS, CONCURRENT SESSION 2

« Previous Session | Next Session »

10:15 AM - 11:30 AM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Session Chairs:

- *Eva Enns, MS, PhD*
- *Mark Sculpher, PhD*

Session Summary:

10:15 AM - 10:30 AM

TRA2-1. FOLLOW THE CROWD: HOW SOCIAL MEDIA COMMENTS ON HEALTH NEWS ARTICLES INFLUENCE OPINIONS ABOUT HEALTH CHOICES

10:30 AM - 10:45 AM

TRA2-2. RANDOMIZED TRIAL OF AN INFORMED FREE CHOICE APPROACH TO PRENATAL TESTING AMONG WOMEN OF VARYING LITERACY LEVELS

10:45 AM - 11:00 AM

TRA2-3. I'M BIASED: INCREASED PATIENT COMPLIANCE WHEN SURGEONS ADMIT SPECIALTY BIAS

11:00 AM - 11:15 AM

TRA2-4. THE IMPORTANCE OF SHARED DECISION MAKING TO PATIENTS SELECTING A SPECIALIST FOR CONSULTATION

11:15 AM - 11:30 AM

TRA2-5. CLINICAL BENEFITS OF CONTRALATERAL PROPHYLACTIC MASTECTOMY FOR WOMEN WITH UNILATERAL EARLY-STAGE BREAST CANCER

Abstracts:

TRA2-1. FOLLOW THE CROWD: HOW SOCIAL MEDIA COMMENTS ON HEALTH NEWS ARTICLES INFLUENCE OPINIONS ABOUT HEALTH CHOICES

10:15 AM - 10:30 AM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT SESSION 2

Holly O. Witteman, PhD[1], *Angela Fagerlin, PhD*[2], *Nicole Exe, MPH*[3] *and Brian J. Zikmund-Fisher, PhD*[3], *(1)UniversitÃ© Laval, Quebec City, QC, Canada, (2)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI, (3)University of Michigan, Ann Arbor, MI*

Purpose: In the current era of social media, online health news sources often encourage readers to comment on articles. Little is known about whether or how such social media comments might influence other readers.

Methods: Using freely available online news items, we created a composite news article about a health decision that evokes diverse views: home birth. We then selected comments that had been posted on the original articles and classified them as either (a) positive or negative about the topic of home birth and (b) fact-oriented or story-oriented. We conducted a between-subjects factorial online experiment in a demographically diverse, US-based sample population: N = 1703; mean age 49 (SD 16); 51% female; 80% white; 49% no college. All participants read the same mock news article, but we experimentally manipulated whether or not comments were posted to the article and what types of comments were shown. After participants viewed the materials, we asked them to indicate their overall opinion of home birth on a scale from 'extremely negative opinion' (value 0) to 'extremely positive opinion' (value 100). We also asked their likelihood of planning a home birth if they or a partner were to be expecting a child, and of recommending home birth to others (secondary outcomes). To account for the potential influence of prior opinions and knowledge, we asked them to indicate how much they felt they knew about home birth before reading the article: 'Nothing', 'A little bit', or 'A lot'.

Results: Opinions of home birth ranged widely (median 51, IQR 46) and were significantly influenced by the presence of positive versus negative comments (means: 63 for positive versus 39 for negative, $p<.0001$). Story-oriented comments exerted greater influence on opinions than fact-oriented comments (differences between positive and negative: 27 for story-oriented versus 19 for fact-oriented, $p<.0001$). Although people who felt more knowledgeable about home birth had more positive opinions overall, effects of experimental factors were consistent regardless of prior knowledge. Results for secondary outcomes followed similar patterns.

Conclusions: Comments posted on an online health news article can powerfully influence readers' opinions and potential decision intentions, regardless of their prior knowledge on the topic. Last year, 72% of US-based Internet users sought health information online, suggesting that this finding may be very broadly applicable.

TRA2-2. RANDOMIZED TRIAL OF AN INFORMED FREE CHOICE APPROACH TO PRENATAL TESTING AMONG WOMEN OF VARYING LITERACY LEVELS

10:30 AM - 10:45 AM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT SESSION 2

***Miriam Kuppermann, PhD, MPH**, Sherri Pena, MS, Judith Bishop, CNM, Sanae Nakagawa, MA, Steven Gregorich, PhD and Mary E. Norton, MD, University of California, San Francisco, San Francisco, CA*

Purpose: In 2007, the American College of Obstetricians and Gynecologists issued guidelines suggesting that all women, regardless of age, should be offered prenatal screening and diagnostic testing for aneuploidy. This change in the 35-year old threshold for offering testing was in part a response to evidence on women's preferences generated by members of SMDM, and took place despite concerns that offering testing to all women could result in increased use of diagnostic testing with higher costs and greater miscarriage risk. The guidelines emphasized that pretest counseling should entail "discussion of the risk and benefits of invasive testing compared with screening tests," including their screen positive, true positive, and detection rates, and the "type and prognosis of aneuploidies likely to be missed by serum screening," leading to questions regarding how to communicate this complex information during a prenatal visit.

Method: We created an engaging, interactive decision support guide for women of varying literacy levels that addresses these issues, and conducted a randomized trial of an "informed free choice" (IFC) approach to prenatal testing among English- or Spanish-speaking pregnant women. Women randomized to IFC viewed the

guide and were told they could have any of the tests described, free of charge, while women randomized to usual care received no intervention and were not offered testing free of charge. At 24-36 weeks gestation, participants completed a telephone interview to assess patient-reported outcomes. After delivery, charts were reviewed to ascertain which prenatal tests, if any, the participant underwent.

Result: We recruited a diverse population of 710 women with varying numeracy and literacy levels. Half (47.6%) of the participants were Latina, 25.4% had poor literacy (REALM-R scores < 6), and 44.5% had low numeracy scores (<2 on a 0-to-5 scale). Compared to women randomized to usual care, women randomized to IFC had higher knowledge scores (9.4 versus 8.6, p=.001) and were less likely to undergo invasive testing (5.6% versus 12.4%, p=.004). No differences emerged in decisional conflict, pregnancy worry, or depression.

Conclusion: Providing women of varying literacy levels the opportunity to use an engaging decision support guide and to choose between differing prenatal screening and diagnostic testing strategies (including no testing) without financial barriers enabled them to make more informed choices that led to lesser use of invasive testing options.

TRA2-3. I'M BIASED: INCREASED PATIENT COMPLIANCE WHEN SURGEONS ADMIT SPECIALTY BIAS

10:45 AM - 11:00 AM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT SESSION 2

***Sunita Sah, MD, PhD, MBA**, Georgetown University, Washington DC, DC and Peter A. Ubel, MD, Duke University, Durham, NC*

Purpose: Surgeons are more likely to recommend surgery than non-surgeons. In one field study using real doctor-patient interactions and in one lab experiment, we examined the impact on patient trust and likelihood to undergo surgery, specifically a prostatectomy, when patients heard their urologists admit to a specialty bias.

Method: The field study consisted of 243 doctor-patient interactions that were recorded from 4 VA hospitals as part of a study on prostate cancer and in which the treatment outcome of the patient was known. Transcripts from the recordings were coded to record the presence or absence of a bias statement—for example, “I’m a surgeon so I’m biased towards recommending surgery,”—and we examined whether these statements were more likely to be present when patients opted for surgery. The lab experiment consisted of 377 male participants who watched a series of video clips in which a surgeon explained two treatment options for prostate cancer: radiation therapy and surgery. The men were randomized into two conditions—those that heard their urologist admitting their specialty bias in the video clips and those who did not. These men then decided on which treatment they would prefer and their level of trust in the doctor

Result: Patients across the 4 VA hospitals who heard their surgeon admit to a specialty bias (n = 58 out of 243 transcripts) were more likely to take surgery (43%) than those who did not hear their surgeon admit a bias (27%), p = .001. The lab experiment found similar results; participants were more likely to choose surgery if their urologist admitted a specialty bias (87% vs. 68%, p < .01), and these participants also felt increased their trust in the surgeon (p < .05) and felt that their surgeon was more competent (p < .05).

Conclusion: Hearing a doctor openly admit to their specialty bias alters the patients’ perception of the doctor. It increases the patients’ evaluation of the doctor’s skill and competence, their trust in the doctor, and their compliance with the doctor’s biased recommendation.

TRA2-4. THE IMPORTANCE OF SHARED DECISION MAKING TO PATIENTS SELECTING A SPECIALIST FOR CONSULTATION

11:00 AM - 11:15 AM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT SESSION 2

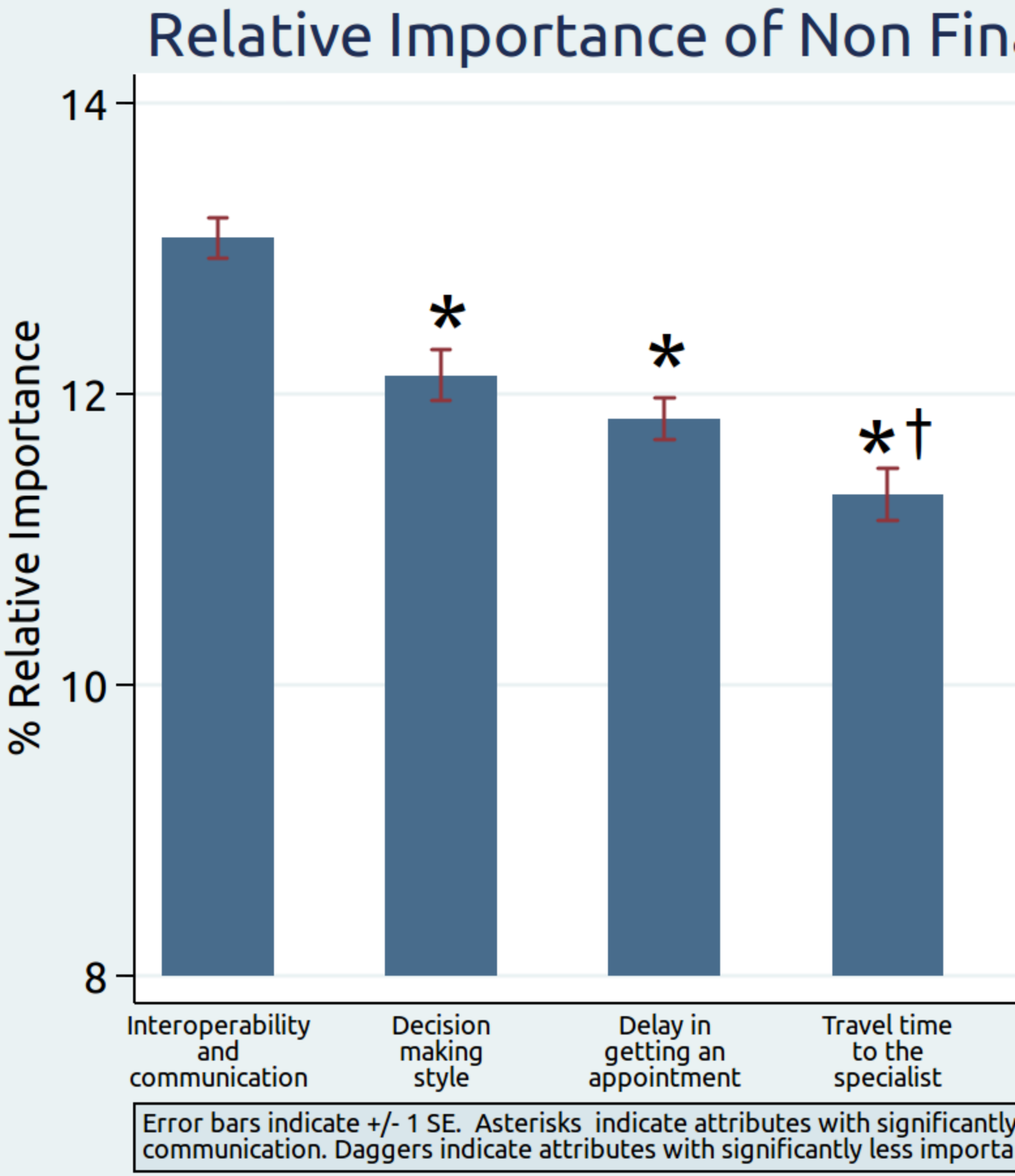
Robert Dunlea, MD, MS *and Leslie Lenert, MD, MS, University of Utah, Salt Lake City, UT*

Purpose : Compare the relative importance of shared decision making to other factors that influence a patient's choice of a specialist for consultation.

Methods: We recruited a national sample designed to roughly parallel US population demographics using an Internet survey vendor. Adults who reported having a visit to a healthcare provider in the past year were invited to complete a web based adaptive conjoint analysis (ACA) survey consisting of 8 attributes with 3 levels each. We performed data quality control by excluding participants that did not spend an adequate time on each page or who consistently selected one response. We estimated individuals' utility (overall preference) for each level of each attribute using hierarchical Bayesian analysis and then normalized the weights based on the observed ranges of utilities for the attributes. We simulated patient choice for different types of specialists using a randomized first choice method. Survey data collection and analysis was completed using SSIWeb and ACA/HB (Sawtooth Software).

Results: 706 patients completed the survey. Of these 530 had adequate data quality as defined by time on page for responses and variability in response items. Subject demographics paralleled those of the US population (53.5% female, 31.1% minority, 9.4% Latino) but were better educated (82.5% with some college or higher). Their health was somewhat lower than typical of the population (17.6% reported poor to fair health). Not surprisingly, the most important factor in patients' choice of a specialist was cost of out of pocket cost (insurance coverage). However, among the non financial factors, EHR interoperability and communication between specialist and generalist had greatest weight (P <0.001) followed by the specialist's decision making style (P< 0.001 for differences, see figure). In model simulations, two thirds of patients (67%) were willing to trade two weeks of time waiting for an appoint with a specialist that participates in shared decision making.

Conclusion: Coordination of care with the primary care providers and decision making style (shared decision making) are highly valued by patients in the choice of a specialist for a referralÃ¢Â€Â”more valued than attributes such as specialist availability, expertise, and travel time to the specialist. Generalists should consider patients' preferences when recommending a specialist to patients for a referral.


Relative Importance of Non Fin
% Relative Importance
14
12
10
8
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Interoperability and communication
Decision making style
Delay in getting an appointment
Travel time to the specialist
Error bars indicate +/- 1 SE. Asterisks indicate attributes with significantly
communication. Daggers indicate attributes with significantly less importa

TRA2-5. CLINICAL BENEFITS OF CONTRALATERAL PROPHYLACTIC MASTECTOMY FOR WOMEN WITH UNILATERAL EARLY-STAGE BREAST CANCER

11:15 AM - 11:30 AM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT SESSION 2

***Pamela R. Portschy, MD**, Karen M. Kuntz, ScD and Todd M. Tuttle, MD, MS, University of Minnesota, Minneapolis, MN*

Title: Clinical Benefits of Contralateral Prophylactic Mastectomy for Women with Unilateral Early-stage Breast Cancer

Purpose: To examine the survival benefits of contralateral prophylactic mastectomy (CPM) in women with early-stage breast cancer without a BRCA mutation or additional risk factors.

Methods: We developed a Markov model to compare CPM with no CPM among women with early-stage breast cancer without a BRCA mutation. Probabilities for developing contralateral breast cancer (CBC), dying from CBC, dying from the primary breast cancer, and the reduction in CBC due to CPM were estimated from the published literature. From the parameterized model, we estimated the life expectancy (LE) gain and absolute 20-year survival difference of CPM among cohorts of women newly diagnosed with unilateral breast cancer defined by age (40-60 years), estrogen receptor (ER) status (positive or negative) and stage of cancer (I or II).

Results: LE gain from CPM ranged from 0.13 to 0.59 years for women with stage I breast cancer and 0.08 to 0.29 years for those with stage II breast cancer (table). Twenty-year absolute survival differences ranged from 0.56% to 0.94% for women with stage I breast cancer and 0.36% to 0.61% for women with stage II breast cancer. CPM was more beneficial among younger women, stage I, and ER negative breast cancer.

Conclusions: Although CPM dramatically reduces the risk of CBC, the maximum life expectancy gain is about 7 months with a less than 1% 20-year survival difference for all age, ER status, and cancer stage groups. Decision models may be helpful for physicians when counseling patients on prophylactic breast cancer risk reduction strategies. **Table:** LE Gains from CPM

	Life Expectancy (yrs)		
Characteristics	**CPM**	**No CPM**	**LE Gain**
40 yo, ER+, Stage I	36.77	36.30	0.47
40 yo, ER-, Stage I	36.76	36.17	0.59
40 yo, ER+, Stage II	24.16	23.92	0.24
40 yo, ER-, Stage II	24.15	23.86	0.29
50 yo, ER+, Stage I	29.72	29.45	0.27
50 yo, ER- , Stage I	29.71	29.38	0.33
50 yo, ER+, Stage II	20.89	20.74	0.15
50 yo, ER-, Stage II	20.88	20.70	0.18
60 yo, ER+, Stage I	22.54	22.41	0.13
60 yo, ER-, Stage I	22.53	22.37	0.16
60 yo, ER+, Stage II	16.98	16.90	0.08
60 yo, ER-, Stage II	16.98	16.88	0.10

A. ESTIMATING COSTS IN A COMPLEX HEALTHCARE ENVIRONMENT

« Previous Session | Next Session »

1:00 PM - 2:15 PM: Mon. Oct 21, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Session Chairs:

- *Rhys Williams*
- *Tanya G.K. Bentley, PhD*

Session Summary:

1:00 PM - 1:15 PM

A-1. HOSPITALIZATION COSTS ASSOCIATED WITH ATRIAL FIBRILLATION FOR PATIENTS OF ISCHEMIC STROKE IN THE UNITED STATES

1:15 PM - 1:30 PM

A-2. INCREMENTAL HEALTHCARE COSTS OF ANXIETY DISORDERS IN THE AMBULATORY ADULT POPULATION OF THE UNITED STATES

1:30 PM - 1:45 PM

A-3. CHARACTERISTICS OF MULTI-DISCIPLINARY HEART FAILURE CLINICS THAT PREDICT 1-YEAR CUMULATIVE HEALTH CARE COSTS: A POPULATION-BASED STUDY

1:45 PM - 2:00 PM

A-4. TOTAL HEALTH CARE EXPENDITURES ASSOCIATED WITH OBESITY-RELATED DISEASES: USING DATA FROM THE NATIONAL HEALTH INTERVIEW SURVEY 1997-2000 AND THE MEDICAL EXPENDITURE PANEL SURVEY

2:00 PM - 2:15 PM

A-5. WHY THE NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE'S NEW GUIDANCE ON DISCOUNTING CREATES SCOPE FOR AGE DISCRIMINATION AND OTHER INCONSISTENCIES

Abstracts:

A-1. HOSPITALIZATION COSTS ASSOCIATED WITH ATRIAL FIBRILLATION FOR PATIENTS OF ISCHEMIC STROKE IN THE UNITED STATES

1:00 PM - 1:15 PM: Mon. Oct 21, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: ESTIMATING COSTS IN A COMPLEX HEALTHCARE ENVIRONMENT

***Guijing Wang, PhD**, Xin Tong, MPH and Mary George, MD, Centers for Disease Control and Prevention, Atlanta, GA*

Purpose: In the United States, about 87% of stroke is ischemic stroke. Atrial fibrillation (AF) is a major risk factor for and associated with more severe, ischemic stroke. While stroke mortality and incidence rates as well as the impact of AF on stroke are well documented, the influence of AF on the cost of stroke at national level is unknown. We estimated the AF-associated costs among elderly population (age ≥ 65 years) with ischemic stroke.

Methods: Using 2010 Medicare Provider Analysis and Review data, we identified all hospitalizations with a primary diagnosis of ischemic stroke by International Classification of Disease, Ninth Revision, Clinical Modification (ICD-9-CM) codes of 433, 434, and 436. After excluding the hospitalizations with no racial information and those with 30 or more days of hospital stays, we estimated the cost associated with AF (ICD-9-CM code 427.31, 427.32) using multivariate regression models for three population groups: National, stroke belt (an 8-state region of southeastern US), and non-stroke belt. From a societal perspective, we used total charge as the total cost for the hospital stays. We explored the association between the cost and age, sex, race, initial admission status, respectively.

Results: Among 257,595 hospitalizations with ischemic stroke, 23.5% of them had AF. The mean cost was $34,901, of which $4979 (95% confidence interval [CI], $4649-$5309) was AF-associated. Compared to the rest of the country, the cost of hospitalizations in stroke belt was $7892 lower (95% CI, $7611-$8173). After controlling for potential confounders, AF associated cost was $3436 (95% CI, $2861-$4010) in stroke belt and $5169 (95% CI, $4788-$5550) in non-stroke belt. Both mean cost and AF-associated costs decreased with age. Hospitalizations of male patients had higher mean cost, but lower AF-association cost than those of female patients. Hospitalizations of African American patients had both higher mean cost and AF-associated costs than those of whites.

Conclusions: The hospitalization cost for patients with ischemic stroke was high, and AF further increased the costs. While there has been a persistent high stroke mortality rate in the stroke-belt, both the mean and AF-associated costs of the hospitalizations in non-stroke belt were substantially higher than those in stroke-belt. Age, gender, and race are major determinants of the cost.

A-2. INCREMENTAL HEALTHCARE COSTS OF ANXIETY DISORDERS IN THE AMBULATORY ADULT POPULATION OF THE UNITED STATES

1:15 PM - 1:30 PM: Mon. Oct 21, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: ESTIMATING COSTS IN A COMPLEX HEALTHCARE ENVIRONMENT

Elaheh Shirneshan, M.S.[1]*, George Relyea, M.S.*[2] *and Lawrence LB Brown, PharmD, PhD*[1]*, (1)University of Tennessee Health Science Center, Memphis, TN, (2)University of Memphis, Memphis, TN*

Purpose: Anxiety disorders are the most common psychiatric illness in the Unites States. However, there is a lack of up-to-date estimation of their economic burden. The purpose of this study is to (1) estimate the annual total healthcare expenditures incurred by individuals with anxiety disorder(s) for the ambulatory adult population of the U.S., and (2) estimate the annual incremental healthcare expenditures attributable to anxiety disorders for this population.

Method: Retrospective data analysis was conducted using the 2010 Medical Expenditure Panel Survey (MEPS), a nationally representative survey of the civilian non-institutionalized population of the U.S. Individuals with anxiety disorders were identified as those who reported having been diagnosed with anxiety disorders, or received any treatment for their condition (i.e. Clinical Classification Code of '651' in the Medical Conditions file or event-level files). Total healthcare costs incurred by these individuals were estimated as the weighted-sum of their overall expenditure. The incremental costs associated with anxiety disorders were estimated using multivariate regression analysis. A Generalized Linear Model (GLM), with Poisson variance function, was used to account for distributional issues of the healthcare cost data. The model was adjusted for covariates: age, gender, race/ethnicity, marital status, education, poverty category, perceived health status, geographic region, metropolitan statistical area (MSA), insurance coverage, and comorbidities. All analyses were conducted for individuals 18 years and older.

Result: In 2010, 8.71% of individuals 18 years and older ($20.36 million persons) reported having been diagnosed with anxiety disorders. The annual total healthcare expenditure incurred by this group of individuals reached $191.08 billion in 2013 U.S. dollars. The annual adjusted per-capita and total healthcare expenditures attributable to anxiety disorders were $1,519.55 (SE: $350.76; p <0.0001), and $30.94 billion, respectively. After adjusting for all covariates, adults with anxiety disorders had 30% higher total healthcare expenditures than those without anxiety disorders, (parameter estimate: 1.30; p<0.0001).

Conclusion: Given the prevalence of self-reported anxiety disorders, the annual direct medical expenditures associated with this category of mental illness is estimated at approximately $30.94 billion in 2013 U.S. dollars, for the U.S. adult population. This accounts for more than 16% of the annual total healthcare expenditures incurred by sufferers of anxiety disorders. Even as a conservative estimate, this result shows that anxiety disorders absorb a significant portion of the U.S. healthcare resources.

A-3. CHARACTERISTICS OF MULTI-DISCIPLINARY HEART FAILURE CLINICS THAT PREDICT 1-YEAR CUMULATIVE HEALTH CARE COSTS: A POPULATION-BASED STUDY

1:30 PM - 1:45 PM: Mon. Oct 21, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: ESTIMATING COSTS IN A COMPLEX HEALTHCARE ENVIRONMENT

Harindra C. Wijeysundera, MD, PhD[1]*, Xuesong Wang*[2]*, Maria C. Bennell, MSc*[3]*, Dennis T. Ko, MD, MSc*[4]*, Lusine Abrahamyan, MD, MPH, PHD*[5]*, Jack Tu, MD*[6]*, Peter C. Austin, Phd*[4] *and Murray D. Krahn, MD, MSc*[7]*, (1)Schulich Heart Center, Sunnybrook Health Sciences Center, Toronto, ON, Canada, (2)Insitute for Clinica Evaluative Sciences, Toronto, ON, Canada, (3)Sunnybrook Health Sciences Center, Toronto, ON, Canada, (4)Institute for Clinical Evaluative Sciences, Toronto, ON, Canada, (5)University of Toronto, Toronto, ON, Canada, (6)Institute for Clinical Evaluative Sciences, Toronto, CA, Canada, (7)Toronto Health Economics and Technology Assessment (THETA) Collaborative, Toronto, ON, Canada*

Purpose: To identify patient- and clinic-level factors that explain the variation in one-year cumulative health care costs for heart failure (HF) patients treated in multi-disciplinary HF clinics.

Methods: All patients discharged alive after an acute care hospitalization in Ontario, Canada in fiscal year 2006 were identified. Patients treated at HF clinics were selected based on the presence of a claim by a HF clinic physician in the 1-year after the index hospitalization. The service components at all HF clinics were scored using a 10-item validated instrument. The primary outcome was the cumulative 1-year health care costs post-discharge. Costs included all ambulatory, acute care hospitalizations, emergency room visits, same-day surgeries and HF medication costs. A hierarchical generalized linear model with a logarithmic link and gamma distribution was developed to identify patient and clinic level predictors of cost. The impact of patient and clinic level factors on the variation in costs between clinics was assessed by the proportional change in the variance of the clinic-level random effect.

Results: Of the 16,300 acute care hospitalizations in 2006 for HF, 1,216 patients were seen in HF clinics. There was a 7-fold variation in mean costs by clinic ($14,670-$96,524). The between-clinic variation in costs decreased by 2.5% when patient factors were added to the null model. The variation decreased by a further 67% when clinic-level factors were added. Mean total health care costs were 14% higher for males (rate ratio (RR) 1.14; p=0.037). Chronic atherosclerosis (RR 1.23, p=0.008), valvular heart disease (RR 1.37, p=0.004), diabetes (RR 1.16, p=0.044), and peripheral vascular disease (RR 1.65, p=0.0006) were associated with higher mean costs. A history of CABG was associated with a 48% (p=0.001) reduction in mean costs. Patients seen at HF clinics which placed an emphasis on peer support had lower mean costs (RR 0.75, p=0.018). HF clinic size as reflected by total annual clinic visits was a predictor of costs, with clinics that received a moderate number of visits having a 30% reduction in costs compared to smaller clinics (p=0.037).

Conclusions: HF clinics have a substantial effect on mortality, but health outcomes, including costs vary considerably between clinics. Efforts should focus on ways to standardize care across specialty clinics to ensure effective treatment for patients, while reducing unnecessary health care spending.

A-4. TOTAL HEALTH CARE EXPENDITURES ASSOCIATED WITH OBESITY-RELATED DISEASES: USING DATA FROM THE NATIONAL HEALTH INTERVIEW SURVEY 1997-2000 AND THE MEDICAL EXPENDITURE PANEL SURVEY

1:45 PM - 2:00 PM: Mon. Oct 21, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: ESTIMATING COSTS IN A COMPLEX HEALTHCARE ENVIRONMENT

Su-Hsin Chang, PhD[1], *Man Yee Mallory Leung, PhD*[1], *Carolyn R.T. Stoll, MPH, MSW*[2] *and Graham A. Colditz, MD, DrPH*[1], *(1)Washington University School of Medicine, St. Louis, MO, (2)Division of Public Health Sciences, Washington University School of Medicine, St. Louis, MO*

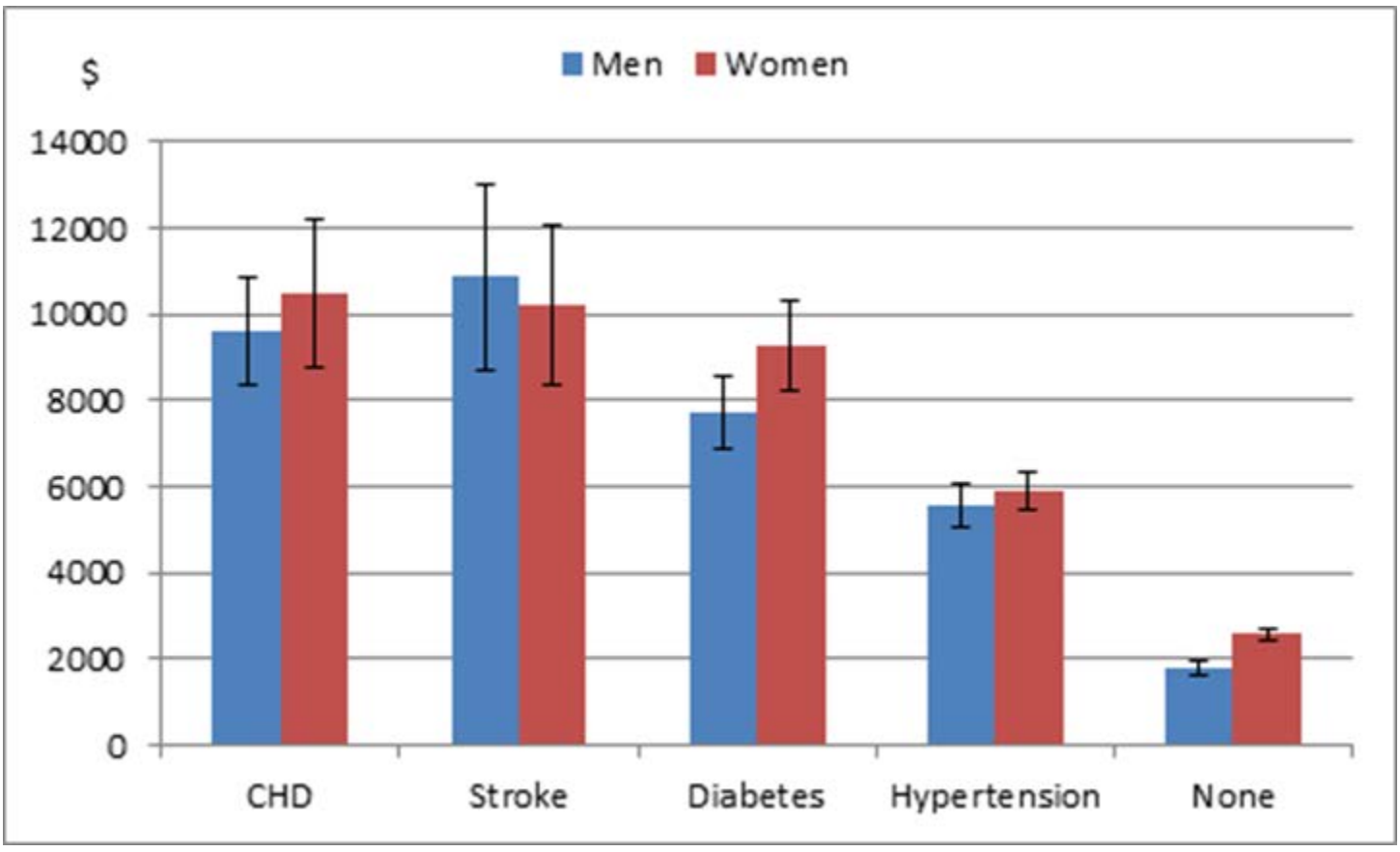
Purpose: To estimate health care expenditures associated with obesity-related diseases (ORDs), including diabetes, hypertension, coronary heart disease (CHD), and stroke.

Methods: Data from the National Health Interview Survey (NHIS), 1997-2000, were linked to the Medical Expenditure Panel Survey (MEPS). Our sample was chosen from the NHIS Sample Adult Data Files, which contain data on adults aged 18 years and older. The main outcome variable was total health care expenditures. Expenditures in MEPS are defined as payments from all sources, including direct payments from individuals, private insurance, Medicare, Medicaid, and miscellaneous other sources. Our analyses were stratified by gender and adjusted for age, age squared, inverted body mass index, marital status, smoking, race, and physical activity. Total expenditures were projected based on the regression estimates. All expenditures were computed

at the 2000 price level based on the Consumer Price Index for All Urban Consumers. Bootstrap was performed to resample the population 1,000 times to compute the means and standard errors. The complex sampling designs in the NHIS and MEPS were adjusted from data merging and analysis to total expenditure prediction.

Results: Our sample comprised 17,917 women and 13,928 men. The total expenditures (standard errors) for men with hypertension, diabetes, CHD, and stroke were $5,570 ($262), $7,729 ($441), $9,600 ($644), and $10,865 ($1,096) per person, respectively. The total expenditures for women were higher than those for men: $5,899 ($212) for hypertension, $9,286 ($531) for diabetes, $10,205 ($941) for stroke, and $10,480 ($867) for CHD. However, men with hypertension, diabetes, CHD, and stroke had 3.1, 4.3, 5.4, and 6.1 times more expenditures than men without any of these ORDs, while the relative expenditure ratios for women with hypertension (2.3), diabetes (3.6), CHD (4.1), and stroke (4.0) were lower as compared to women without ORDs.

Conclusions: This study provides evidence suggesting that total health care expenditures were higher for women with and without ORDs than for men. Among the total health care expenditures for women and men with ORDs, women with CHD and men with stroke had the highest expenditures. Women with or without these ORDs had higher health care expenditures than men, except for the total expenditures for people with stroke. Nonetheless, relative expenditures comparing those with ORDs to those without are higher for men than for women.



A-5. WHY THE NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE'S NEW GUIDANCE ON DISCOUNTING CREATES SCOPE FOR AGE DISCRIMINATION AND OTHER INCONSISTENCIES

2:00 PM - 2:15 PM: Mon. Oct 21, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: ESTIMATING COSTS IN A COMPLEX HEALTHCARE ENVIRONMENT

***Mike Paulden, MA., MSc.**, University of Toronto, Toronto, ON, Canada and James O'Mahony, PhD, Trinity College Dublin, Dublin, Ireland*

Purpose: To show how the National Institute for Health and Care Excellence's (NICE) recommendation of applying lower discount rates to costs and effects in selected cases can create worrying inconsistencies in the economic appraisal of healthcare interventions, including the potential for age discrimination.

Methods: We review amendments to NICE's methods guidelines to show how the recommended discount rates have changed three times since 2004. In particular, we consider the most recent amendment made in April 2013, which states that certain highly effective, non-preventative interventions with health effects lasting more than 30 years can be subject to lower discount rates than others. We discuss how this amendment should be interpreted. We then explore some of the possible consequences of selectively applying lower discounting using examples of cost-effectiveness analyses of alternative interventions.

Results: We show that selectively applying lower discount rates can lead to the health benefits of otherwise similar interventions being valued very differently. This can lead to large differences in cost-effectiveness ratios, which in turn can lead to marked differences in the probability of adoption. We demonstrate the paradoxical result that NICE may prefer to allocate resources to interventions that yield lower health gains than alternative treatments of the same cost. We also show the particular example in which the 30 years criterion means that individuals with shorter remaining life expectancy may not be eligible for treatment, whereas younger individuals with longer remaining life expectancy are.

Conclusions: There seems to be no valid reason to apply favourable discount rates selectively. Consequently, the differences in the valuation of health effects, cost-effectiveness ratios and the probability of adoption all appear to be unjustifiable inconsistencies. Not only is the selective application of favourable discount rates not justified on theoretical grounds, but it leads to real concerns regarding equitable resource allocation between patients, especially regarding the eligibility of older people. While there are good arguments for NICE to reduce their reference case discount rate from the current 3.5%, any reduction should be applied to all interventions and be accompanied by a review of the cost-effectiveness threshold. NICE should take to care to uphold high standards in its methods guidance when revising its discounting recommendations.

B. INCORPORATING PATIENT AND PHYSICIAN PREFERENCES IN MEDICAL DECISION MAKING

« Previous Session | Next Session »

1:00 PM - 2:15 PM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Session Chairs:

- *Jessica Ancker, MPH, PhD*
- *Pei-Jung Lin, Ph.D.*

Session Summary:

1:00 PM - 1:15 PM

B-1. DOES BIOMARKER INFORMATION IMPACT BREAST CANCER PATIENTS' PREFERENCES FOR THERAPY?

1:15 PM - 1:30 PM

B-2. UNDERSTANDING PREFERENCES FOR CRC SCREENING PROGRAMS AMONG VULNERABLE ADULTS IN RURAL NORTH CAROLINA: A DISCRETE CHOICE EXPERIMENT

1:30 PM - 1:45 PM

B-3. EFFECT OF A PATIENT DECISION AID FOR PROSTATE CANCER ON DIFFERENT ASPECTS OF REGRET: A RANDOMIZED, CONTROLLED TRIAL

1:45 PM - 2:00 PM

B-4. GOAL SETTING DURING PERIODIC HEALTH EXAMS: WHAT TYPES OF GOALS ARE SET AND WHAT IMPACT DOES IT HAVE ON THE VISIT?

2:00 PM - 2:15 PM

B-5. PHYSICIAN DECISION-MAKING AND TRENDS IN USE OF CARDIAC STRESS TESTING TO DIAGNOSE CORONARY HEART DISEASE IN THE UNITED STATES

Abstracts:

B-1. DOES BIOMARKER INFORMATION IMPACT BREAST CANCER PATIENTS' PREFERENCES FOR THERAPY?

1:00 PM - 1:15 PM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: INCORPORATING PATIENT AND PHYSICIAN PREFERENCES IN MEDICAL DECISION MAKING

*Ann Partridge, MD, MPH[1], **Karen R. Sepucha, PhD**[2], Anne O'Neill, M.S.[3], Kathy D. Miller, M.D.[4], Emily L. Baker[3], Chau T. Dang, M.D.[5], Donald W. Northfelt, M.D.[6], George W. Sledge Jr., M.D.[4] and Bryan P. Schneider, M.D.[4], (1)Dana-Farber Cancer Institute, Boston, MA, (2)Massachusetts General Hospital, Boston,*

MA, (3)Dana Farber Cancer Institute, Boston, MA, (4)Indiana University Cancer Center, Indianapolis, IN, (5)Memorial Sloan-Kettering Cancer Center, New York, NY, (6)Mayo Clinic, Scottsdale, AZ

Purpose: Biomarker information can risk stratify patients based on potential for benefit/toxicity from therapy. Ideally, a biomarker will identify those who benefit with limited or no toxicity. However, for some medicines, such as bevacizumab, early biomarker studies suggest that patients who may benefit also have increased toxicity. The purpose of this study was to examine how biomarker information would impact patients' preferences for therapy in this situation.

Method: We surveyed participants at the 18 month follow-up assessment in a large, international double blind randomized controlled trial, ECOG5103. For this trial, participants with breast cancer were randomized to receive adjuvant chemotherapy with either placebo or bevacizumab. We asked patients for their preferred treatment (either chemotherapy A alone or chemotherapy A+B) in two hypothetical scenarios: 1) baseline without biomarker information; and 2) after learning that they tested positive for a “B-receptor” which increased both the benefit and toxicity of chemotherapy A+B. The risk information was given in both numerical (table) and graphical (100-person pictograph) format. We asked participants for the main reason for their choice. McNemar’s test was used to examine changes in treatment preferences.

Result: 439 patients completed both scenarios on 18-month survey. Table 1 shows the participants’ treatment preferences in each scenario. The increase in benefit and toxicity associated with the positive biomarker information in scenario 2 led 60/439 (14%) participants to switch their preference. Among participants who changed preference, those randomized to receive bevacizumab were more likely to switch to chemotherapy A in scenario 2. Among all participants, the main reason reported for their treatment preference in scenario 2 was greater benefits of chemotherapy A+B (64%), the lower risks with chemotherapy A (20%) and positive biomarker (10%). Table 1: Participants’ treatment preferences in scenario 1 and 2 (chemo=chemotherapy)

		Scenario 2: With “positive B-receptor”		
		Preferred chemo A	Preferred chemo A+B	Total
Scenario 1: Without biomarker information	Preferred chemo A	73	28	101
	Preferred chemo A+B	32	306	338
	Total	105	334	439

Conclusion: Information about a positive biomarker indicating increased benefit and increased toxicity from additional chemotherapy did not change many participants’ preferred treatment. The majority (70%) preferred the most aggressive course of treatment in both scenarios. Whether patients not enrolled in the trial would be more sensitive to the increased toxicity information is unclear.

B-2. UNDERSTANDING PREFERENCES FOR CRC SCREENING PROGRAMS AMONG VULNERABLE ADULTS IN RURAL NORTH CAROLINA: A DISCRETE CHOICE EXPERIMENT

1:15 PM - 1:30 PM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: INCORPORATING PATIENT AND PHYSICIAN PREFERENCES IN MEDICAL DECISION MAKING

Michael Pignone, MD, MPH[1], *Stephanie B. Wheeler, PhD, MPH*[1], *Sarah T. Hawley, PhD, MPH*[2], *Carmen Lewis, MD, MPH*[1], *Trisha Crutchfield, MHA, MSIS*[1], *Kristen Hassmiller Lich, PhD, MHSA*[1], *Paul M. Brown, PhD, MS*[3], *Ravi K. Goyal, MS*[1], *Emily Gillen, MA*[1] *and Jane Laping, MS, MPH*[1], *(1)University of North Carolina at Chapel Hill, Chapel Hill, NC, (2)University of Michigan, Ann Arbor VA Health System, Ann Arbor, MI, (3)University of California, Merced, Merced, CA*

Purpose: To use a discrete choice experiment (DCE) to learn about how vulnerable adults in North Carolina value different aspects of colorectal cancer (CRC) screening programs.

Methods: We used prior research, focus groups, and expert opinion to develop a DCE that examined four key attributes of potential CRC screening programs: 1) choice of screening tests offered (fecal occult blood testing (FOBT) alone, colonoscopy (COL) alone, choice of FOBT and COL, choice of FOBT, COL or radiological screening); 2) travel distance required to obtain screening (0, 15, 30, or 45 miles); 3) co-payment or reward for having screening ($1000 co-payment, $100 co-payment, $25 co-payment, $0 copayment, $10 reward, or $100 reward); 4) proportion of follow-up costs paid out of pocket (0%, 5%, 50%, 100%). We then used Sawtooth software to generate a 16-task DCE. After pilot testing to ensure comprehension, we enrolled a sample of English-speaking average-risk adults ages 50-74. Participants were recruited from rural NC communities with low rates of CRC screening, had either no insurance or only public insurance, and had low or fixed incomes. They received basic information about CRC screening and potential program features, then completed the DCE and survey questions. We analyzed DCE responses using Hierarchical Bayesian methods to produce group and individual-level part-worth utilities for the 4 attributes, and also calculated individual-level importance scores. Each individual's highest importance score was considered the "DCE-calculated most important attribute."

Results: We enrolled 150 adults. Mean age was 55.9 (range 50-74), 55% were women, 76% White and 19% African-American; 87% had annual household income under $30,000; and 51% were uninsured. From the survey, proportion of out of pocket follow-up costs was most frequently reported to be most important (42% of participants); testing options was next most frequent (32%). From the DCE, follow-up cost was most frequently found to be the DCE-calculated most important attribute (49%), followed by screening test reward/co-payment (43%). Agreement between the survey and DCE-calculated most important attribute was modest (45%). On both the survey and DCE, participants valued having test choice and the opportunity to choose FOBT.

Conclusions: Screening test rewards /co-payments and follow-up costs are important program characteristics, particularly for vulnerable populations. Programs to encourage screening should take these factors into account to be most effective.

B-3. EFFECT OF A PATIENT DECISION AID FOR PROSTATE CANCER ON DIFFERENT ASPECTS OF REGRET: A RANDOMIZED, CONTROLLED TRIAL

1:30 PM - 1:45 PM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: INCORPORATING PATIENT AND PHYSICIAN PREFERENCES IN MEDICAL DECISION MAKING

Julia J. van Tol-Geerdink, PhD[1], *Jan Willem H. Leer, MD, PhD*[2], *Carl Wijburg, MD, PhD*[3], *Inge M. van Oort, MD, PhD*[4], *Henk Vergunst, MD, PhD*[5], *Emile J. van Lin, MD, PhD*[2], *J. Alfred Witjes, MD, PhD*[4] *and* ***Peep F.M. Stalmeier, PhD***[6], *(1)Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands, (2)Dept. Radiation Oncology, Radboud Univ. Medical Centre, Nijmegen, Netherlands, (3)Dept. Urology, Rijnstate Hospital,, Arnhem, Netherlands, (4)Dept. Urology, Radboud Univ. Medical Centre, Nijmegen, Netherlands, (5)Dept. Urology, Canisius Wilhelmina Hospital,, Nijmegen, Netherlands, (6)Dept. Health Evidence, Radboud Univ. Medical Centre, Nijmegen, Netherlands*

Purpose: Implementation of decision aids in medical decision making is still low, partly because of fear that involving patients could have a negative impact. This study focuses on the effect of increasing patient involvement, by means of a decision aid, on regret in the context of the treatment choice for prostate cancer.

Method: Between 2008 and 2011, patients with localized prostate cancer were individually randomized to 1) usual care (n=77) and 2) usual care plus a discussion on risks and benefits of different treatment options by means of a decision aid (N=163). The treatments options were radical prostatectomy, external beam radiotherapy and brachytherapy. This was a multicenter trial (3 sites) with imbalanced randomization (1:2). The primary outcome measure was regret, which was assessed before, and 6 and 12 months after treatment with the regret scale of Brehaut(1), and with three newly developed regret scales focusing on process regret, option regret and outcome regret. Additional information was gathered on patient characteristics, participation, knowledge, anxiety, healthy-related quality-of-life and decision evaluation.

Result: The decision aid increased patient participation (P=0.002) and subjective knowledge (P=0.006). The effect of the decision aid was comparable on the three aspects of regret, but seemed to differ between patients with or without serious morbidity at 12 months. In patients with serious side effects, the use of a decision aid resulted in a trend to less option regret (P=0.075) and less Brehaut regret (P=0.061), with an effect size of 0.35 to 0.38, respectively.

Conclusion: Our data suggest that the decision aid had little effect on regret in patients without serious side effects, but it may lead to less regret in patients with serious side effects.

B-4. GOAL SETTING DURING PERIODIC HEALTH EXAMS: WHAT TYPES OF GOALS ARE SET AND WHAT IMPACT DOES IT HAVE ON THE VISIT?

1:45 PM - 2:00 PM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: INCORPORATING PATIENT AND PHYSICIAN PREFERENCES IN MEDICAL DECISION MAKING

Heather L. Morris, BA, MS *and Jennifer Elston Lafata, PhD, Virginia Commonwealth University, Richmond, VA*

Purpose: The US Preventive Services Task Force, among others, has endorsed goal setting as a central component of health promotion. We describe patient-physician goal setting discussions during period health examinations (PHEs) as well as compare the mean length of visits with and without an explicit goal setting discussion.

Method: Observational study of 485 PHEs to 64 primary care physicians practicing in a large, southeast Michigan Health System between 2007-2009. Previously collected data from office visit audio recordings and direct observation were combined with pre-visit patient surveys and administrative records for patient and physician characteristics, respectively. Office visit transcripts were queried in Microsoft Word to identify any use of the word “goal.” Among visits containing the word “goal,” the first author used a structured worksheet to code goal-related discussions for context (health vs. other) as well as specific patient-centered and collaborative communication techniques, including those developed by Street et al. (2001) and Heisler et al (2003).

Result: Among the 485 visits, 98 goal discussions were identified, 59 of which were health-related. These health-related goals occurred in 49 (10%) visits to 30 different physicians. Visits with Caucasian patients were more likely to contain a health-related goal discussion (51%/n=30 followed by African Americans 37%/n=22)

as were visits to female physicians (71%/n=42 vs. 29%/n=17, p=0.03), but no differences in the likelihood of health-related goal discussion was detected by patient gender, age, body mass index or health status, nor physician age, race or specialty. The most commonly occurring health-related goals were those related to weight loss (30%), blood pressure (14%), and physical activity (10%). Over half of goals (56%) were physician set, with the remainder evenly split between patient- and collaboratively-set. Most (72%) included a discussion of goal-attainment strategies, but relatively few (<37%) contained discussion of the benefits of goal-attainment, patients' beliefs, or physician partnership building. When a health-related goal was discussed, the mean time with the physician significantly increased (30.2 vs. 26.6 minutes, p=0.01).

Conclusion: Despite patients and physicians advocating the utility of PHEs for goal setting, we found only a minority of visits included an explicitly labeled goal. Furthermore, barely a quarter of those reflected collaboratively set goals. How to foster effective, collaborative goal setting during busy primary care office visits remains an important topic for study.

B-5. PHYSICIAN DECISION-MAKING AND TRENDS IN USE OF CARDIAC STRESS TESTING TO DIAGNOSE CORONARY HEART DISEASE IN THE UNITED STATES

2:00 PM - 2:15 PM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: INCORPORATING PATIENT AND PHYSICIAN PREFERENCES IN MEDICAL DECISION MAKING

***Joseph A. Ladapo, MD, PhD**, NYU School of Medicine, NY, NY*

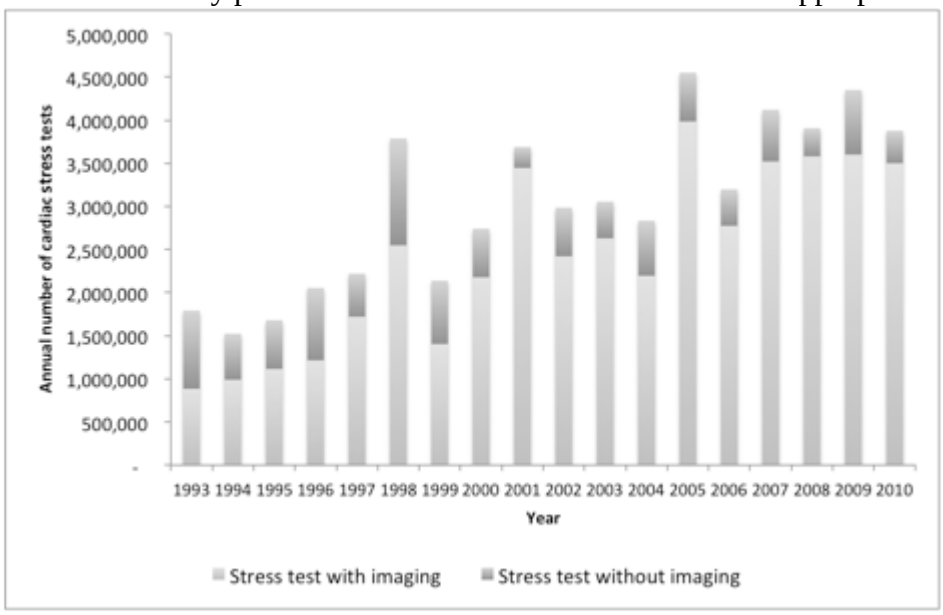
Purpose: Physicians routinely perform cardiac stress testing to diagnose and risk-stratify patients suspected of having coronary heart disease (CHD), but its use has come under intense scrutiny recently because of concerns about explosive growth, the contribution of this growth to high and rising healthcare costs, and potential patient harms related to radiation exposure from radionuclide imaging. However, it is unknown whether trends in its utilization may be attributable to changing population demographics and clinical risk factors.

Method: We analyzed nationally representative cross-sections of adult ambulatory patient visits in the United States, using a sample of 872,498 visits from the National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey from 1993 to 2010. Patients were excluded if they had prior history of CHD. The main outcomes were survey-weighted measures of referrals for or performance of cardiac stress testing, with or without imaging. Multivariable logistic regression was used to test time trends, with year modeled as a linear predictor, and we included clinical risk factors (smoking, diabetes, dyslipidemia, and hypertension), an indicator for whether the patient's reason for visiting the physician was chest pain, physician specialty, and sociodemographic characteristics, including age, gender, race/ethnicity, geographic location, and insurance status.

Result: The annual number of adult ambulatory visits that resulted in a cardiac stress test being ordered or performed increased steadily from 1.86 million in 1993-1997 (31 in 10,000 visits) to 3.89 million in 2006-2010 (46 in 10,000 visits). After adjusting for clinical and sociodemographic characteristics, there was no evidence of a time trend in stress testing (P=0.48 for trend). However, the portion of cardiac stress tests performed with imaging increased from 64% (95% CI 48%-79%) in 1993-1997 to 87% (95% CI 79%-96%) in 2006-2010 (P<0.001 for trend).

Conclusion: The growth in physicians' use of cardiac stress testing does not appear to represent dynamic changes in over-testing or overuse. However, the increasing use of cardiac stress testing with imaging, much of which exposes patients to radiation, is unlikely to be related to changing patient demographics or clinic risk

factors. It therefore supports concerns voiced by professional societies and insurers about inappropriate utilization of cardiac imaging.



C. PROGRAMMATIC CONSIDERATIONS IN HEALTHCARE AND THEIR IMPACT ON HEALTH OUTCOMES

« Previous Session | Next Session »

1:00 PM - 2:15 PM: Mon. Oct 21, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Session Chairs:

- *Beate Sander, PhD*
- *Julia Thornton Snider, PhD*

Session Summary:

1:00 PM - 1:15 PM

C-1. SYNERGIES IN OUTCOMES FROM PUBLIC AND PRIVATE SECTOR TB AND MDR TB CONTROL INTERVENTIONS: AN INDIAN MICROSIMULATION MODELING STUDY

1:15 PM - 1:30 PM

C-2. UNEMPLOYMENT AND HEALTH OUTCOMES: MEDICARE'S IMPACT ON THE US HEALTHCARE INDUSTRY

1:30 PM - 1:45 PM

C-3. EXPANDING THE NORWEGIAN HPV VACCINE PROGRAM TO INCLUDE BOYS

1:45 PM - 2:00 PM

C-4. COST-EFFECTIVENESS OF ROUTINE CARDIAC ASSESSMENT FOR CHILDHOOD CANCER SURVIVORS: A MODEL-BASED EXPLORATION OF THE IMPACT OF RECOMMENDED GUIDELINES ON LONG-TERM OUTCOMES AND SURVIVAL

2:00 PM - 2:15 PM

C-5. DO WE NEED COMPARATIVE EFFECTIVENESS RESEARCH ON THE NEW ORAL ANTICOAGULANTS?

Abstracts:

C-1. SYNERGIES IN OUTCOMES FROM PUBLIC AND PRIVATE SECTOR TB AND MDR TB CONTROL INTERVENTIONS: AN INDIAN MICROSIMULATION MODELING STUDY

1:00 PM - 1:15 PM: Mon. Oct 21, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: PROGRAMMATIC CONSIDERATIONS IN HEALTHCARE AND THEIR IMPACT ON HEALTH OUTCOMES

Sze-chuan Suen, MS[1], *Eran Bendavid, MD, MS*[1], *Kimberly Babiarz, MA, PhD*[2] *and Jeremy D. Goldhaber-Fiebert, PhD*[1], *(1)Stanford University, Stanford, CA, (2)Centers for Health Policy and Primary Care and Outcomes Research, Stanford, CA*

Purpose: Despite India's nationwide public sector tuberculosis (TB) control program, many patients seek and receive care in private sector clinics. Private sector care often includes inappropriate diagnostics and ineffective treatments of insufficient duration that can select for multidrug resistant (MDR) TB. Given current efforts to improve TB care and roll out new technologies, we evaluate likely impacts of these efforts if undertaken in the public and private sectors separately or in combination.

Method: We extend our previously developed, dynamic transmission microsimulation model of TB in India. The model follows India's population stratified by age, sex, TB, drug resistance, and treatment status. We calibrate the model to Indian demographic, epidemiologic, and TB healthcare patterns in the public and private sectors. Control interventions include: 1) improving treatment effectiveness in the public sector only; 2) improving the accuracy and rapidity of TB diagnosis and drug sensitivity testing in the public and/or the private sector; 3) increasing referrals from the private sector to the public sector through public private mix (PPM); 4) reducing inappropriate medication use to prevent MDR generation in the private sector; 5) combinations of these efforts. Main outcomes are incidence and prevalence of active non-MDR and MDR TB in 2023 relative to 2013 levels.

Result: Without interventions, the model projects declines in non-MDR TB incidence (12%) and prevalence (12%) and increases in MDR incidence (15%) and prevalence (19%) between 2013 and 2023. For non-MDR

TB, increasing referrals from the private to the public sector (through PPM) alone or in combination with improved diagnostics yields 15-17% lower incidence and 34-47% lower prevalence. Synergies provided by combined public and private sector interventions are evident for MDR outcomes. Exclusively private sector interventions result in MDR incidence and prevalence increases of 13-16%, whereas exclusively public sector interventions result in 2-7% declines. Combinations of PPM and increases in non-MDR TB treatment effectiveness to avoid generating MDR reduce incidence by 13-19%. Likewise, although MDR prevalence increases 14-18% with PPM alone, PPM combined with rapid, accurate diagnostics results in MDR prevalence declines of 55-58%.

Conclusion: Combining public and private sector interventions to improve and link TB care and rapid, accurate diagnostics is a promising approach for reducing non-MDR and MDR TB in India.

C-2. UNEMPLOYMENT AND HEALTH OUTCOMES: MEDICARE'S IMPACT ON THE US HEALTHCARE INDUSTRY

1:15 PM - 1:30 PM: Mon. Oct 21, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: PROGRAMMATIC CONSIDERATIONS IN HEALTHCARE AND THEIR IMPACT ON HEALTH OUTCOMES

Lawrence Pellegrini, MSW, MPA, *University of Massachusetts, Amherst, Amherst, MA and Rosa Rodriguez-Monguio, PhD, University of Massachusetts, Amherst -School of Public Health and Health Sciences, Amherst, MA*

Purpose: Recessions are characterized by increased morbidity and mortality, reduced access to private health insurance and strain on public health insurers. This study sought to evaluate the effect of unemployment on health outcomes, Medicare and overall healthcare spending, and the US healthcare industry.

Method: Data were collected for 50 states and DC from 1999-2009. Unemployment, healthcare facility and occupational employment data were obtained from the Bureau of Labor Statistics. Mortality and morbidity data were collected from the Center for Disease Control and Prevention. Healthcare spending data were derived from the Centers for Medicare and Medicaid Services. State fixed effects regressions were performed to examine the relationship between unemployment, Medicare and overall healthcare spending, and health outcomes (i.e. morbidity and mortality). Regressions were also performed to model the association between Medicare and overall healthcare spending and healthcare facility and occupational employment. Medicare models controlled for each state's elderly population rate. All statistical tests used a two-sided α significance level of $p<.05$. Statistical analyses were performed with STATA.

Result: Unemployment was associated with declining self-reported health status and increased mortality rates for males ($p<.01$) and females ($p<.001$) aged 16-64 years old. Further, as the economy contracts, Medicare's share of state overall healthcare spending increased ($p<.001$) while all other state healthcare spending declined ($p<.001$). An increase in Medicare's share of state overall healthcare spending would positively affect statewide employment at general medical and surgical hospitals, outpatient physician offices and home health agencies ($p<.001$). Further, an increase in Medicare's share of state overall healthcare spending would also increase statewide employment of registered nurses, home health aides, pharmacy techs, and physician assistants per 100,000 ($p<.001$), while it would negatively affect employment of internists and surgeons ($p<.01$). To the contrary, as all other state healthcare spending increased, statewide employment of registered nurses, home health aides, and pharmacy techs decreased ($p<.001$), while employment of primary care physicians, internists, and surgeons increased ($p<.05$).

Conclusion: Unemployment is associated with increased morbidity and mortality. Recessions are also associated with increased Medicare spending as a share of state overall healthcare spending, with statistically significant impacts on statewide healthcare facility and occupational employment. During economic contractions, imbalanced numbers of healthcare providers might also lead to increasing morbidity and mortality rates for working age individuals.

C-3. EXPANDING THE NORWEGIAN HPV VACCINE PROGRAM TO INCLUDE BOYS

1:30 PM - 1:45 PM: Mon. Oct 21, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: PROGRAMMATIC CONSIDERATIONS IN HEALTHCARE AND THEIR IMPACT ON HEALTH OUTCOMES

Emily Burger, MPhil[1]*, Stephen Sy, BS*[2]*, Mari Nygard, MD, PhD*[3]*, Ivar SÃ¸nbÃ¸ Kristiansen, MD, PhD, MPH*[1] *and Jane J. Kim, PhD*[2]*, (1)University of Oslo, Oslo, Norway, (2)Harvard School of Public Health, Boston, MA, (3)Cancer Registry of Norway, Oslo, Norway*

Purpose: Increasingly, countries have introduced vaccination against human papillomavirus (HPV), causally linked to several cancers and genital warts, targeted to young girls, but few have recommended routine vaccination of boys. Declining vaccine prices and the growing evidence of vaccine impact on reducing HPV-related conditions in both women and men prompts countries, such as Norway, to decide whether HPV vaccination of boys is warranted.

Method: A previously-published dynamic model of HPV transmission was updated to integrate recent evidence of gender- and type-specific natural history of HPV infections and empirically calibrated to observed HPV prevalence and cervical cancer incidence in Norway. Reductions in the incidence of HPV, which include both the direct and indirect benefits of vaccination, were applied to a microsimulation model of the natural history of cervical cancer in the presence of status quo screening, and to incidence-based models for other non-cervical HPV-related diseases among both men and women. We adopted a societal perspective and compared the incremental costs and benefits (discounted 4% annually) of a scenario reflecting the current 3-dose coverage level of pre-adolescent girls (75%) with and without similar coverage in boys in a school-based delivery program. Multiple good-fitting parameter sets from the dynamic model were used to explore the impact of parameter uncertainty on reductions in HPV incidence. Sensitivity analyses were conducted on vaccine cost and properties, and differential uptake among boys.

Result: Assuming 75% vaccine coverage, high, lifelong vaccine efficacy, and the current market price of the vaccine (plus administration and supplies), we found that expanding the vaccination program to include boys generally exceeded the commonly cited willingness-to-pay threshold in Norway (i.e., $83,000/QALY), compared with vaccination of 12-year-old girls alone, even when including vaccine benefits to all HPV-related conditions. However, the current tender price is estimated at half the market price (not-publicly available); under this assumption, vaccinating both girls and boys exceeded $100,000/QALY when only cervical cancer endpoints were considered but fell below Norway's willingness-to-pay threshold when including all HPV-related conditions. Results remained stable when male uptake was 50%.

Conclusion: At Norway's current market price, expanding the HPV vaccination program to boys is unlikely to be cost effective; however, at the assumed tender price, vaccinating boys becomes more attractive and may warrant a change in the current female-only vaccination policy.

C-4. COST-EFFECTIVENESS OF ROUTINE CARDIAC ASSESSMENT FOR CHILDHOOD CANCER SURVIVORS: A MODEL-BASED EXPLORATION OF THE IMPACT OF RECOMMENDED GUIDELINES ON LONG-TERM OUTCOMES AND SURVIVAL

1:45 PM - 2:00 PM: Mon. Oct 21, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: PROGRAMMATIC CONSIDERATIONS IN HEALTHCARE AND THEIR IMPACT ON HEALTH OUTCOMES

***Jennifer M. Yeh, PhD**, Harvard School of Public Health, Boston, MA, Anju Nohria, MD, Brigham and Women's Hospital and Harvard Medical School, Boston, MA, Boston, MA and Lisa Diller, MD, Dana-Farber/Children's Hospital Cancer Center and Harvard Medical School, Boston, MA*

Purpose: Childhood cancer survivors face elevated risks for cardiac mortality, with congestive heart failure (CHF) responsible for up to half of all cases. Follow-up guidelines for survivors recommend routine cardiac assessment every 1 to 5 years, depending on original cancer diagnosis age and treatment, and angiotensin converting enzyme inhibitors (ACEI) may reduce CHF risk. We sought to estimate the clinical benefits and cost-effectiveness of routine cardiac assessment to detect asymptomatic left-ventricular dysfunction (ALVD) and ACEI treatment to reduce CHF incidence and improve overall survival.

Methods: Using a decision-analytic approach, we synthesized the best available data to model the clinical course of CHF in a cohort of patients similar to those in the Childhood Cancer Survivors Study (CCSS). We used a simulation model to project lifetime CHF risk, life expectancy (LE), lifetime costs and incremental cost-effectiveness ratios (ICERs) associated with interval-based cardiac assessment. Compared to no assessment, we estimated the incremental benefit of an echocardiogram every 1, 2, 5 or 10 years. Test performance (sensitivity=0.53, specificity=0.86) and absolute excess risk (AER) for CHF incidence were based on CCSS estimates, while a broader range of data were used to establish baseline assumptions, including: 1) ALVD progresses to CHF after a median interval of 5.9 years and 2) ACEI treatment for ALVD reduces CHF risk (RR=0.67). Screening and treatment costs were based on Medicare reimbursement rates.

Results: For a cohort of 5-year childhood cancer survivors (diagnosis age=10), the expected CHF-related mortality was 18.8%. Routine echocardiogram reduced lifetime CHF risk by 4.9% (every 10 years) to 11.9% (every 1 year). Compared to no assessment, the ICER for assessment every 10 years was $188,900 per LE gained. ICERs for all other strategies exceeded $200,000 per LE gained. Results were most sensitive to AER for CHF among CCSS, ACEI treatment effectiveness and echocardiogram specificity. Prevalence of individuals with false positive test results varied by strategy, ranging from 13% (every 10 years) to 91% (every 1 year) at 45 years of age. Based on probabilistic sensitivity analysis, the probability that assessment every 10 years was optimal given a cost-effectiveness threshold of $150,000 per QALY was only 2%.

Conclusions: Recommended follow-up guidelines for cardiac assessment may improve overall survival for childhood cancer survivors, but less frequent screening than currently recommended is likely optimal.

C-5. DO WE NEED COMPARATIVE EFFECTIVENESS RESEARCH ON THE NEW ORAL ANTICOAGULANTS?

2:00 PM - 2:15 PM: Mon. Oct 21, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: PROGRAMMATIC CONSIDERATIONS IN HEALTHCARE AND THEIR IMPACT ON HEALTH OUTCOMES

***TorbjÃ¸rn WislÃ¸ff, M.Sc.**, Gunhild Hagen, MPhil, B.A. and Marianne Klemp, MD, PhD, Norwegian Knowledge Centre for the Health Services, Oslo, Norway*

Purpose: Use of new oral anticoagulants (apixaban, dabigatran and rivaroxaban) for atrial fibrillation is increasing rapidly. The objective of this analysis was to investigate whether or not elimination of decision uncertainty related to the new oral anticoagulants for atrial fibrillation would be cost-effective.

Method: We developed a decision analytic model, designed as a probabilistic Markov model containing more than 200 different probability distributions and eight health states. Epidemiological input data was gathered from registries. Data on Health Related Quality of Life were based on published EQ-5D data and costs were based on national tariffs. Efficacy data included the three major randomized controlled trials comparing each of the new oral anticoagulants (apixaban, dabigatran and rivaroxaban) with warfarin. Current efficacy estimates indicate that the new anticoagulants are efficacious on some, but not all, outcomes compared to warfarin. However, no direct evidence comparing any of these new anticoagulants with each other is yet available. To explore the value of reducing decision uncertainty, we conducted expected value of perfect information on parameters (EVPPI) for parameters and groups of parameters. We focused particularly on efficacy, in order to investigate whether new RCT's with direct comparison on the new oral anticoagulants is worth conducting.

Result: Expected value of perfect information analyses on groups of parameters (EVPPI) for the group of efficacy parameters was not higher than EVPPI for the other groups of parameters (QALYs, costs, epidemiological data). EVPPI for efficacy data was $ 7 (medium risk patients) and $ 1,300 (high risk patients) per patient, given an assumed threshold value of $100,000 per QALY gained.

Conclusion: There is added value in conducting more research on the efficacy of new oral anticoagulants for high risk patients. Hence, new randomized controlled trial(s) comparing all of the new oral anticoagulants would probably decrease decision uncertainty, at least for high risk patients. However, better data on QALYs and epidemiological data would have even higher potential for reducing decision uncertainty.

D. CANCER SCREENING IN WOMEN'S HEALTH: CAN IT BE IMPROVED?

« Previous Session | Next Session »

2:30 PM - 3:45 PM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Session Chairs:

- *Angela Fagerlin, PhD*
- *Cathy J. Bradley, Ph.D.*

Session Summary:

2:30 PM - 2:45 PM

D-1. CERVICAL CANCER SCREENING IN RESOURCE-LIMITED SETTINGS: EVALUATING TRADEOFFS BETWEEN TEST PERFORMANCE AND PROGRAMMATIC CONSIDERATIONS

2:45 PM - 3:00 PM

D-2. THE BENEFIT-HARM FRONTIER OF HPV PRIMARY SCREENING FOR CERVICAL CANCER IN GERMANY: ESTIMATES FROM A SYSTEMATIC DECISION -ANALYSIS

3:00 PM - 3:15 PM

D-3. DOUBLE READING OF MAMMOGRAMS: EFFECTIVELY PAIRING READERS WITH DIVERSE SKILLS TO IMPROVE PERFORMANCE

3:15 PM - 3:30 PM

D-4. THE EFFECT OF DIFFERENT UTILITY ASSUMPTIONS ON THE COST-EFFECTIVENESS OF CERVICAL CANCER SCREENING

3:30 PM - 3:45 PM

D-5. MODELLING THE OCCURRENCE OF INVASIVE BREAST CANCER IN WOMEN AGED 50-59 AND SIMULATING THE STUDY AND CONTROL GROUPS OF WOMEN IN THE CANADIAN NATIONAL BREAST SCREENING STUDY-2

Abstracts:

D-1. CERVICAL CANCER SCREENING IN RESOURCE-LIMITED SETTINGS: EVALUATING TRADEOFFS BETWEEN TEST PERFORMANCE AND PROGRAMMATIC CONSIDERATIONS

2:30 PM - 2:45 PM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: CANCER SCREENING IN WOMEN'S HEALTH: CAN IT BE IMPROVED?

Nicole G. Campos, PhD[1], *Philip E. Castle*[2], *Thomas C. Wright Jr., MD*[3] *and Jane J. Kim, PhD*[1], *(1)Harvard School of Public Health, Boston, MA, (2)Independent consultant, Arlington, VA, (3)Columbia University College of Physicians and Surgeons, New York, NY*

Purpose: To examine tradeoffs between cervical cancer screening test performance (sensitivity, specificity) and programmatic considerations (population coverage, follow-up of screen-positive women) in low-resource settings.

Method: Using an individual-based Monte Carlo simulation model of the natural history of human papillomavirus (HPV) and cervical cancer calibrated to epidemiologic data from Uganda, we assumed screening occurred once in a woman's lifetime at age 35 with two-visit HPV DNA testing or one-visit visual inspection

with acetic acid (VIA). Model outcomes included reduction in lifetime risk of cancer and incremental cost-effectiveness ratios (ICERs). For each screening modality, we performed one- and two-way sensitivity analyses to assess the tradeoffs between 1) test sensitivity and specificity; 2) test sensitivity and screening coverage; and 3) screening coverage and follow-up rates of screen-positive women. Sensitivity, specificity and coverage were varied 30-100% and loss-to-follow-up rates were varied from 15-60% per clinical contact. To assess the tradeoff between test sensitivity and loss-to-follow-up given uncertainty, we compared HPV DNA testing with 80-100% sensitivity to VIA with 40-60% sensitivity, as loss-to-follow-up varied from 15-60%.

Result: For both screening modalities, improving test sensitivity had greater potential to reduce the ICER of onetime screening relative to comparable improvements in test specificity, due to the potential for increased benefits relative to costs incurred. While there were similar reductions in cancer risk for comparable changes in coverage and sensitivity, the costs associated with increasing coverage were proportional to benefits, yielding stable ICERs; as sensitivity increased from 30-100%, ICERs decreased by 65% (HPV testing). A comparison of HPV DNA testing and VIA found that when loss-to-follow-up per clinical contact was low (i.e., 15%), HPV testing yielded greater cancer risk reductions than VIA at all assumed levels of sensitivity. When loss-to-follow-up rates reached 60% per visit, a perfectly sensitive HPV test yielded similar cancer risk reductions as the least sensitive VIA program considered. The rank ordering of strategies changed dramatically as sensitivity and loss-to-follow-up varied.

Conclusion: Available screening modalities pose tradeoffs between test performance, coverage, and follow-up. Where screening is limited, test sensitivity and follow-up of screen-positive women are critical determinants of the relative effectiveness and cost-effectiveness of prevention programs.

D-2. THE BENEFIT-HARM FRONTIER OF HPV PRIMARY SCREENING FOR CERVICAL CANCER IN GERMANY: ESTIMATES FROM A SYSTEMATIC DECISION -ANALYSIS

2:45 PM - 3:00 PM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: CANCER SCREENING IN WOMEN'S HEALTH: CAN IT BE IMPROVED?

Gaby Sroczynski, MPH, Dr.PH[1], Eva Esteban, MPH[2], Jutta Engel, Prof., Dr.med., MPH[3], Peter Hillemanns, Prof., Dr.med.[4], Karl-Ulrich Petry, Prof., Dr.med.[5], Alexander KrÃ¤mer, Prof., Dr.med.[6], Petra Schnell-Inderst, Dr., MPH[2], Nikolai MÃ¼hlberger, DVM, MPH[7] and ***Uwe Siebert, MD, MPH, MSc, ScD***[8]*, (1)UMIT - University for Health Sciences, Medical Informatics and Technology, ONCOTYROL - Center for Personalized Cancer Medicine, Hall i.T., Austria, (2)UMIT - University for Health Sciences, Medical Informatics and Technology, ONCOTYROL - Center for Personalized Cancer Medicine, Hall, i. T., Austria, (3)Ludwig-Maximilians-University, Munich, Germany, (4)Hanover Medical School, Hanover, Germany, (5)Teaching Hospital Wolfsburg, Hanover Medical School, Wolfsburg, Germany, (6)University of Bielefeld, Bielefeld, Germany, (7)UMIT - University for Health Sciences, Medical Informatics and Technology, ONCOTYROL - Center for Personalized Cancer Medicine, Hall, Austria, (8)UMIT/ ONCOTYROL/ Harvard School of Public Health/ Harvard Medical School, Hall, Austria*

Purpose:

Compared to cytology, HPV testing has the potential to improve the effectiveness by reducing cervical cancer incidence due to improved early detection and treatment but also a higher risk of over-diagnosis and overtreatment of irrelevant lesions. We systematically evaluated benefits and harms of different HPV-based primary cervical cancer screening strategies in the German health care context.

Method:

A previously validated and published Markov model[1] for the German health care context was used to analyze the trade-off between benefits and harms of different screening strategies differing by length of screening interval and test algorithms including HPV testing alone or in combination with cytology or with cytological triage for HPV-positive women. We used published German clinical and epidemiological data as well as test accuracy data from international meta-analyses. We used a benefit-harm frontier for reduction in cervical cancer cases (CC) vs. unnecessary treatment (defined as invasive therapy of < CIN 3) to visualize dominated strategies and incremental harm-benefit ratios.

Result:

Overall, HPV-based screening was more effective than cytology alone, with a relative reduction in cervical cancer incidence of 49%-90% compared to 33% - 80% with cytology alone (depending on screening intervals). The incremental gain in effectiveness with HPV screening compared to cytology was higher and incremental increase in harms was lower with extended screening intervals. Out of 18 strategies, 12 were dominated based on the benefit harm-frontier. Compared to annual cytology, which is currently the recommended standard in Germany, biennial HPV screening was similarly effective but reduced unnecessary treatment (depending on test and follow-up algorithm). In contrast, annual HPV primary screening compared to annual cytology alone would result in an incremental harm-benefit ratio of 12 - 117 unnecessary treatments per additional prevented cervical cancer case (depending on screening adherence rate).

Conclusion:

Based on our decision-analytic benefit-harm frontier analyses, HPV-based cervical cancer screening is more effective than cytology alone, but has a higher risk of overtreatment when used in annual screening. In the German health care context, depending on screening adherence rate biennial or triennial HPV screening for women aged 30 yrs and older is similarly or more effective as annual cytology alone, but with significantly reduced unnecessary treatments.

1. Sroczynski et al. *Eur J Cancer* 2011;**47**(11):1633-1646.

D-3. DOUBLE READING OF MAMMOGRAMS: EFFECTIVELY PAIRING READERS WITH DIVERSE SKILLS TO IMPROVE PERFORMANCE

3:00 PM - 3:15 PM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: CANCER SCREENING IN WOMEN'S HEALTH: CAN IT BE IMPROVED?

***Marwa Gadala, MASc**, Lorenzo Strigini, M.Eng, Andrey Povyakalo, PhD and Peter Ayton, PhD, City University London, London, United Kingdom*

Purpose: Double reading is standard practice in breast cancer screening programs in at least 12 countries. We retrospectively investigated whether its benefits can be increased by forming complementary reader pairs according to indicators of ability, as per published guidelines.

Method: We used data from an independent UK clinical trial where 50 readers each read 180 mammograms - 60 with cancer and 120 normal. We selected four groups of *complementary* reader pairs in which a member of a Group A, expected to be more effective, is paired with a member of a Group B, expected to be less effective. The complementary AB groups are: (1) high and low experience (recommended by UK NHS), (2) high and low specificity, (3) high and low sensitivity, and (4) high sensitivity and low specificity readers. For each group, all possible AB double reading pairs were simulated using the OR recall rule. We compared

sensitivities and specificities of these complementary pairs first to those of homogeneous (AA, BB) pairs, and then to each other. Statistical significance was determined using Welch's t-test and 95% confidence intervals. To weigh sensitivity and specificity benefits, ROC curves, Youden's indices, and positive likelihood ratios were compared.

Result: Grouping according to sensitivity and according to specificity significantly increased sensitivity by 3.5% (p=0.0009) and 1.7% (p=0.037) respectively, compared to homogeneous pairings, with no significant effects on specificity. Grouping high sensitivity and low specificity readers produced a sensitivity of 0.918 (95%CI: 0.913, 0.924), significantly higher than all other groups. Grouping according to experience produced a sensitivity of 0.852 (95%CI: 0.844, 0.859), significantly lower than all other groups, but also the significantly highest specificity, 0.722 (95%CI: 0.707, 0.737). The bootstrap method for ROC comparisons applied to pAUC (sensitivity >0.8) shows that Group (1)'s most extreme readers have the highest performance (non-significant). However, Youden's indices and positive likelihood ratios show significant differences between the complementary groups with Group (1) still being the highest, followed by Group (3).

Conclusion: Some forms of pairing by complementary ability levels can significantly improve sensitivity, with an insignificant effect on specificity, compared to homogeneous pairings. These preliminary results suggest that pairing by sensitivity yields the best clinical performance, and should be further investigated. Pairing readers simply according to convenience could be significantly less effective.

D-4. THE EFFECT OF DIFFERENT UTILITY ASSUMPTIONS ON THE COST-EFFECTIVENESS OF CERVICAL CANCER SCREENING

3:15 PM - 3:30 PM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: CANCER SCREENING IN WOMEN'S HEALTH: CAN IT BE IMPROVED?

Inge M.C.M. de Kok, PhD[1]*, Ida J. Korfage, MSc, PhD*[2]*, J. Dik F. Habbema, PhD*[1]*, Marie-Louise Essink-bot, MD, PhD*[3] *and Marjolein van Ballegooijen, PhD*[1]*, (1)Erasmus MC, University Medical Center, Rotterdam, Netherlands, (2)Erasmus MC - University Medical Center, Rotterdam, Netherlands, (3)Academic Medical Center / University of Amsterdam, Amsterdam, Netherlands*

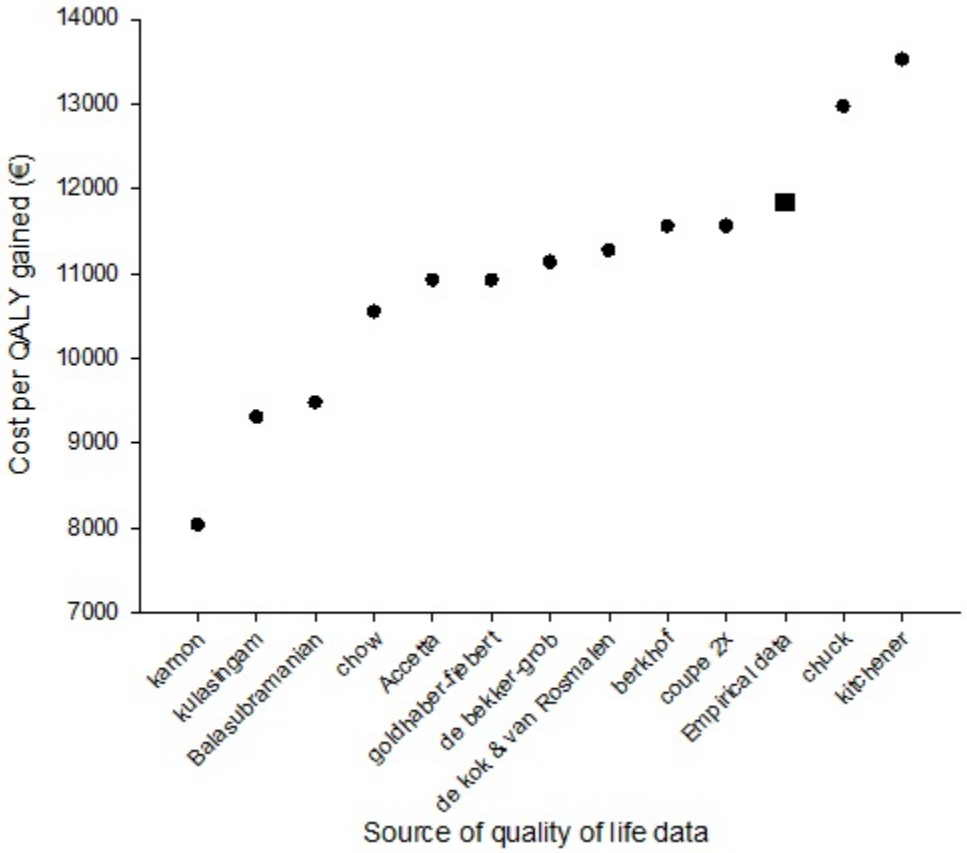
Purpose: Since empirical utility scores are now available for all health states related to cervical cancer screening and treatment, we estimated the impact of using these utility scores on the cost-effectiveness of cervical cancer screening, compared to using utility scores from the literature.

Method: We first reviewed the literature on cost-effectiveness analyses (CEAs) of cervical cancer screening published between 2003 and 2013. We focused on studies that used quality adjusted life years (QALYs). We evaluated the differences in utility assumptions between the publications. For the different CEAs and based on the empirical data, we calculated the number of days lost due to loss of quality of life for the different health states, by multiplying the assumed utilities with the mean durations of the loss in quality of life. We used the microsimulation screening analysis (MISCAN) model to estimate the impact of using these different utility scores on the cost-effectiveness (costs per QALY gained) of primary human papillomavirus (HPV) screening compared to no screening.

Result: Utility scores and number of days lost due to loss of quality of life as assumed for women in different health states that are related to cervical cancer and its prevention are very heterogeneous across the different CEAs, as well as compared to the empirical data. These differences result in a significant variation in cost-effectiveness of primary HPV screening compared to no screening, ranging from Â€8,035 to Â€13,518 per

QALY gained (See Figure). If the empirical data was used, the cost effectiveness of primary HPV screening was Â€11,839 per QALY gained.

Conclusion: The assumed number of days lost as a consequence of loss in quality of life for different health states in CEAs of cervical cancer screening has a major effect on the estimated cost-effectiveness ratio of screening. We showed that most CEAs, compared to the empirical data, overestimated the number of QALYs gained by screening, and therefore overestimate the cost effectiveness of screening. Utility assessment in CEAs therefore needs to be based on good quality data. From our analysis, we can conclude that for comparability, extensive sensitivity analyses on quality of life assumptions and presentation of costs per life year gained in CEAs are needed.



D-5. MODELLING THE OCCURRENCE OF INVASIVE BREAST CANCER IN WOMEN AGED 50-59 AND SIMULATING THE STUDY AND CONTROL GROUPS OF WOMEN IN THE CANADIAN NATIONAL BREAST SCREENING STUDY-2

3:30 PM - 3:45 PM: Mon. Oct 21, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: CANCER SCREENING IN WOMEN'S HEALTH: CAN IT BE IMPROVED?

Laurent N. Caudrelier, B.Eng.[1], *Sharareh Taghipour, PhD*[2], *Anthony B. Miller, MD, FRCP, (C), FFPH, FACE*[1] *and Bart J. Harvey, MD, MSc, PhD, MEd, FACPM, FRCPC*[1], *(1)University of Toronto, Toronto, ON, Canada, (2)Ryerson University, Toronto, ON, Canada*

Purpose: Breast cancer is one of the most frequent types of cancer in Canada. We built an accurate model of the progression of breast cancer that includes predisposition factors and examine the effectiveness of different screening strategies. This tool is essential to evaluating different approaches to reduce the incidence of breast cancer and its associated mortality.

Method: We start by modelling the natural progression of breast cancer using a Markov process. A patient follows from healthy state to preclinical state and finally to a clinical state, if the cancer is not detected by screening. We incorporate the effects of covariates on transition rates using proportional hazards model. Patients are women aged 50-59 from the Canadian National Breast Screening Study-2 (CNBSS). We include prevalent cancers, which are cancers detected at the initial screen of the CNBSS screening program by means of different modalities. We estimate the screening sensitivities at the initial and subsequent screens for both study and control groups of the CNBSS. We then develop a simulation model to predict the expected number of prevalent, screen-detected and clinical cancers for this age group, and validate the progression model and screening sensitivities.

Result: We compare the effectiveness of mammography (MA) and physical breast examination (PEX) for the study group to that of solely PEX for the control group. The values of the program sensitivity at initial and subsequent screens are given in table 1. Our analysis shows that age of entry and family history are the two main risks factors for cancer progression for the age group 50-59. We estimate that only 83.5% of reported cancer cases would have developed within the follow-up period of five years of the CNBSS if those women had been screened only through PEX. We evaluate overdiagnosis due to the addition of MA screening at 21.8%.

Conclusion: The values we estimated and validated for both control and study groups for transition rate, risk factors, effect of screening modalities and programs and proportion of overdiagnosis will help policy-makers by giving them the tools to improve the QALY and cost of their screening strategies.

Table 1: Estimated values of the program sensitivity

	Control group (PEX only)	Study group (MA & PEX)
Sensitivity at initial screen	69%	95%
Sensitivity at subsequent screens	39%	82%

2:30 PM - 3:45 PM: Mon. Oct 21, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Session Chairs:

- *April D. Kimmel, PhD*
- *Margaret Holmes-Rovner, PhD*

Session Summary:

2:30 PM - 2:45 PM

E-1. CLINICIAN TRAINING: A CRITICAL COMPONENT FOR IMPLEMENTATION OF PATIENT DECISION AIDS

2:45 PM - 3:00 PM

E-2. INCORPORATING SHARED DECISION MAKING AS PART OF PERFORMANCE MEASUREMENT: THE CHALLENGE OF TIMING

3:00 PM - 3:15 PM

E-3. SHORT GRAPH LITERACY SCALE

3:15 PM - 3:30 PM

E-4. HOW SHOULD COMPLEX DATA BE PRESENTED TO HELP PATIENTS MAKE INFORMED DECISIONS?

3:30 PM - 3:45 PM

E-5. ABILITY TO IDENTIFY OUT-OF-RANGE TEST RESULTS IN STANDARD TABLES IS HIGHLY DEPENDENT ON NUMERACY

Abstracts:

E-1. CLINICIAN TRAINING: A CRITICAL COMPONENT FOR IMPLEMENTATION OF PATIENT DECISION AIDS

2:30 PM - 2:45 PM: Mon. Oct 21, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: IDENTIFYING THE CHALLENGES TO UNDERSTANDING EVIDENCE AND DECISIONS

***Lauren Leavitt, M.A.**, Leigh Simmons, M.D. and Karen R. Sepucha, PhD, Massachusetts General Hospital, Boston, MA*

Purpose: Patient decision aids (PtDA) have been shown to help inform and involve patients in decision-making about their health care. However, the use of these tools in routine clinical practice has been limited. Clinician training is needed to ensure shared decision making happens, but studies suggest variable success in its ability to increase the use of PtDAs. The purpose of this study was to evaluate the impact of a training program in shared decision making designed for primary care clinicians and their staff.

Method: Primary care physicians at Massachusetts General Hospital (MGH) have access to 39 PtDAs developed by the Informed Medical Decisions Foundation. Physicians can order the decision aids through the electronic medical record (EMR) and the PtDAs are mailed to patients at their home. We developed a 45-minute training session that addressed the integration of shared decision making in routine care, models for

implementation of PtDAs, and practice- and provider- level data on PtDA usage. Each session also left time for discussion of best practices and implementation challenges specific to the practice. We scheduled training session with each primary care practice during regularly scheduled team meetings. We examined the impact of training in a before – after study. We tracked PtDA orders through our EMR at each practice the 8 weeks prior to each session and compared that to the 8 weeks post. We examined changes in overall prescriptions and unique prescribers in the pre- and post- intervention periods using Wilcoxon signed rank test.

Result: We conducted sessions with 14/15 primary care practices and have complete, follow-up data on 11 practices. Almost 200 clinicians attended the sessions. The training was associated with a more than doubling of PtDA orders for the practices (mean orders: 29 in the 8 weeks pre- versus 73 in the 8 weeks post-training, p= 0.01). The training also led to an increased number of unique prescribers (mean number per practice: 6 pre-training versus 10 post-training, p=0.02). Data from practices that had early sessions suggests that the increases may be sustained over several months.

Conclusion: Clinician training resulted in a significant increase in the use of decision aids and the number of prescribers. Getting clinicians to use PtDAs regularly is an important step to improve quality of decisions at our center.

E-2. INCORPORATING SHARED DECISION MAKING AS PART OF PERFORMANCE MEASUREMENT: THE CHALLENGE OF TIMING

2:45 PM - 3:00 PM: Mon. Oct 21, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: IDENTIFYING THE CHALLENGES TO UNDERSTANDING EVIDENCE AND DECISIONS

Karen R. Sepucha, PhD[1], *Jeffrey K. Belkora, PhD*[2], *Sandra Feibelmann, M.P.H.*[1], *Beverly Moy, MD, MPH*[1], *Ann Partridge, MD, MPH*[3] *and Clara Lee, MD, MPP*[4], *(1)Massachusetts General Hospital, Boston, MA, (2)University of California, San Francisco, San Francisco, CA, (3)Dana-Farber Cancer Institute, Boston, MA, (4)University of North Carolina Chapel Hill, Chapel Hill, NC*

Purpose: National Quality Forum has identified shared decision making (SDM) as a key measure gap. One challenge in performance measurement of SDM is that for many decisions, reliable patient identification is only feasible after treatment has occurred. However, there are concerns, e.g. recall bias, when patients' knowledge, involvement and goals are collected after treatment. The objective of this study was to examine how performance measurement would be impacted if patients are surveyed shortly after (one month) or long after (one year) treatment.

Method: Longitudinal, multi-site survey of breast cancer (BC) patients, with measurements at 1 month and 1 year after surgery. Patients completed the BC Surgery Decision Quality Instrument to assess knowledge, goals and involvement in decision-making. Total knowledge and involvement scores were scaled from 0-100% with higher scores indicating higher knowledge and involvement. We tested several hypotheses: (1) knowledge scores would decline (2) the decline would be greater for quantitative items than qualitative items, (3) involvement scores would decline and (4) goals (e.g. desire to keep breast, remove breast for peace of mind and avoid radiation) would become more aligned with choices over time. Changes in scores were examined using paired t-tests.

Result: 267/444 (60%) completed 1 month and 229/267 (86%) completed 1-year assessment. The mean total knowledge score did not change (69.2% (SD16.6%) 1-month versus 69.4% (SD17.7%) 1-year, p=0.86). Patients scored the same on quantitative items (61.3% 1-month versus 59.8% 1-year, p=0.65). The reports of involvement did not change (66.8% (SD24.7%) versus 65.2% (SD26.1%), p=0.31). Only one of the goals, avoid

radiation, changed significantly and became less important for all patients over time (for lumpectomy patients, mean difference=-0.44, p=0.03 and for mastectomy patients, mean difference=-0.93, p=0.05). Despite the minimal change in mean scores, many respondents had knowledge scores (116/229, 50%) or involvement scores (163/229, 70%) change by >10% with increases balancing out decreases.

Conclusion: Contrary to our hypotheses, we did not find differences in the mean scores for knowledge, involvement or goals. For population-level assessments, it may be reasonable to survey BC patients up to a year after the decision, greatly increasing feasibility of measurement. However, scores changed markedly for many at the individual-level and additional studies are needed to examine factors associated with these changes and to confirm these results for other decisions.

E-3. SHORT GRAPH LITERACY SCALE

3:00 PM - 3:15 PM: Mon. Oct 21, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: IDENTIFYING THE CHALLENGES TO UNDERSTANDING EVIDENCE AND DECISIONS

***Mirta Galesic, PhD**, Max Planck Institute for Human Development, Berlin, Germany and Yasmina Okan, Universidad de Granada, Granada, Spain*

Purpose: Visual displays can help patients to understand medical information, but may not be as useful to patients with low graph literacy. These patients may not have enough knowledge about the properties of different kinds of displays and procedures for interpreting them. However existing measures of graph literacy are either too difficult or too long for everyday medical research and practice. Here we describe a short test of graph literacy that fills this gap.

Method: The study consisted of two phases. In the first phase, 51 participants in a laboratory setting completed 13 items included in a longer graph literacy scale developed by Galesic & Garcia-Retamero (2011), as well as 16 items involving complex visual displays. All items had health-related content. The complex displays included spatial features, such as height of bars, that were incongruent with the information conveyed by conventional features, such as titles, labels, and scales. Based on the results of the first phase, we selected 4 of the initial 13 items for the short graph literacy scale. In the second phase, we used these 4 items to predict accuracy of understanding of different types of graphs in a study conducted on nationally representative samples of people 25 to 69 years of age in Germany (n= 495) and the United States (n= 492).

Result: In the first phase in the laboratory, we analyzed correlations of each of the 13 original graph literacy scale items with the total score on the 16 complex displays, and selected 4 items that correlated with the total score most highly and predicted it independently of numeracy skills. Each of these items included a different type of display: bar, line, pie chart, and icon array. In the second phase on the nationally representative samples, we found that these 4 items were as successful as the longer 13-item scale in predicting accuracy of understanding of different types of graphs displaying medical information.

Conclusion: The new 4-item scale is fast and psychometrically valid method for measuring graph literacy. The scale can be used in both medical research and practice to test whether different visual displays can be understood by patients with low graph literacy skills.

E-4. HOW SHOULD COMPLEX DATA BE PRESENTED TO HELP PATIENTS MAKE INFORMED DECISIONS?

3:15 PM - 3:30 PM: Mon. Oct 21, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: IDENTIFYING THE CHALLENGES TO UNDERSTANDING EVIDENCE AND DECISIONS

***Sanghee Suh, BS**, Virginia Tech School of Medicine, Roanoke, VA, Ursula Guillen, MD, Christiana Neonatal Associates, Newark, DE and Haresh Kirpalani, MD, Children's Hospital of Philadelphia, Philadelphia, PA*

Purpose: Shared decision-making requires that patients and healthcare workers accurately understand risks and benefits. Different formats of presentation may enhance or worsen comprehension. We aim to systematically review randomized trials assessing the comprehension of different formats of health-related risk statistics.

Method: MEDLINE, CINAHL, and PsychInfo databases were searched up to April 2013. Articles were included if randomized studies compared formats of health risk statistics and measured the outcome of knowledge and interpretation of the data.

Result: Of 1682 publications, 16 were eligible and 7 were included in the final analysis. Two types of knowledge outcomes were identified: (1) verbatim (the ability to interpret numerical values) (2) gist (the ability to choose the lowest-risk treatment option). These papers tested 5 formats – simple numbers, pie graph, horizontal bar graph, vertical bar graph, and systematic pictographs (displaying risk statistics in groups of shaded icons). Systematic pictographs resulted in better comprehension than simple numbers judged by either verbatim (OR 0.52; 95% CI 0.46 to 0.58, p<0.01) or gist knowledge (OR 1.38; 95% 1.25 to 1.53, p<0.01). On the other hand pie graphs resulted in lower verbatim and gist knowledge when compared to the use of simple numbers. Pictographs result in better comprehension than pie graphs in verbatim knowledge (OR 0.24; 95% 0.13 to 0.44, p <0.01).

Conclusion: Systematic pictographs are more effective formats for presenting health risk information to adults. Pie graphs appear to be ineffective in communicating risk information.

E-5. ABILITY TO IDENTIFY OUT-OF-RANGE TEST RESULTS IN STANDARD TABLES IS HIGHLY DEPENDENT ON NUMERACY

3:30 PM - 3:45 PM: Mon. Oct 21, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: IDENTIFYING THE CHALLENGES TO UNDERSTANDING EVIDENCE AND DECISIONS

***Brian J. Zikmund-Fisher, PhD**[1], Holly O. Witteman, PhD[2] and Nicole L. Exe, MPH[1], (1)University of Michigan, Ann Arbor, MI, (2)UniversitÃ© Laval, Quebec City, QC, Canada*

Purpose: Increasingly, patient portals to electronic medical record systems are enabling patients to access their test results outside of clinical consultations. However, availability of data may not equate to understanding. Our purpose was to assess whether less numerate patients could be overwhelmed by tabular formats and therefore be unable to identify out-of-range test results even when reference information is provided.

Methods: We recruited 1819 adults from a demographically-diverse Internet panel and asked them to imagine they were diagnosed with Type 2 diabetes, had been maintaining good blood glucose control, and were now viewing the results of a set of blood tests (CBC, Hemoglobin A1c, and renal panel) in an online portal in between doctor's visits. Following the format currently implemented in the patient portal of a major academic medical center, all tables showed test values, standard ranges, and units but did not show indicators for high or low values. We randomly varied whether the patient's A1c was either 7.1% or 8.4%. We then assessed whether

participants would recognize that the A1c value was out-of-range and what they would do about it. We also measured their numeracy and health literacy.

Results: Compared to more numerate participants, less numerate participants were significantly less able to identify that the A1c value reported in the standard test result tables was above the standard range. Among those scoring in the lowest tertile of subjective numeracy, 39% correctly identified the out-of-range result, versus 62% in the highest tertile ($p<0.001$). This effect persisted even after controlling for health literacy. Furthermore, less numerate participants' intentions to call their doctor were not significantly influenced by whether the A1c value was 8.4% vs. 7.1%, while highly numerate participants adjusted their likelihood of calling their doctor's office based on the test result.

Conclusions: Current tabular formats for providing test results to patients (e.g., through patient portals to electronic record systems) appear unable to meet these patients' informational needs to even a minimal standard. Such failures undermine the value of providing test data. Our results document the need to develop test result displays that are intuitively meaningful, even to less numerate patients.

F. COMPLEX DISEASE MODELING: METHODS AND APPLICATIONS

« Previous Session | Next Session »

2:30 PM - 3:45 PM: Mon. Oct 21, 2013
Key Ballroom 3-4 (Hilton Baltimore)
Session Chairs:

- *Y. Claire Wang, MD, ScD*
- *Seema S. Sonnad, PhD*

Session Summary:

2:30 PM - 2:45 PM

F-1. BAYESIAN LEARNING MODELS FOR ADAPTIVE TREATMENT DECISIONS IN THE PRESENCE OF NOISY FEEDBACK AND TREATMENT-DEPENDENT RATE OF RELAPSES: AN APPLICATION TO MULTIPLE SCLEROSIS

2:45 PM - 3:00 PM

F-2. MODELING HIV TRANSMISSION DYNAMICS IN CONJUNCTION WITH A MICROSIMULATION OF DISEASE PROGRESSION

3:00 PM - 3:15 PM

F-3. CALIBRATION OF A MARKOV CARDIOVASCULAR DISEASE MICROSIMULATION MODEL USING AN ESTABLISHED CELL-BASED SIMULATION MODEL

3:15 PM - 3:30 PM

F-4. HARNESSING THE POWER OF BAYESIAN STATISTICS AND PATIENT-LEVEL DATA TO PREDICT THE EFFECTIVENESS OF IMPLANTABLE CARDIOVERTER DEFIBRILLATOR (ICD) THERAPY IN PATIENT SUBGROUPS

3:30 PM - 3:45 PM

F-5. BIG DATA TOOLS AND LARGE-SCALE SIMULATION MODELS: A PLATFORM FOR INTERACTIVE HYPOTHESIS GENERATION

Abstracts:

F-1. BAYESIAN LEARNING MODELS FOR ADAPTIVE TREATMENT DECISIONS IN THE PRESENCE OF NOISY FEEDBACK AND TREATMENT-DEPENDENT RATE OF RELAPSES: AN APPLICATION TO MULTIPLE SCLEROSIS

2:30 PM - 2:45 PM: Mon. Oct 21, 2013
Key Ballroom 3-4 (Hilton Baltimore)
Part of Session: COMPLEX DISEASE MODELING: METHODS AND APPLICATIONS

Diana M. Negoescu, MS[1], *Kostas Bimpikis, PhD*[2], *Margaret L. Brandeau, PhD*[3] *and Dan A. Iancu, PhD*[2], *(1)Department of Management Science and Engineering, Stanford University, Stanford, CA, (2)Graduate School of Business, Stanford University, Stanford, CA, (3)Stanford University, Stanford, CA*

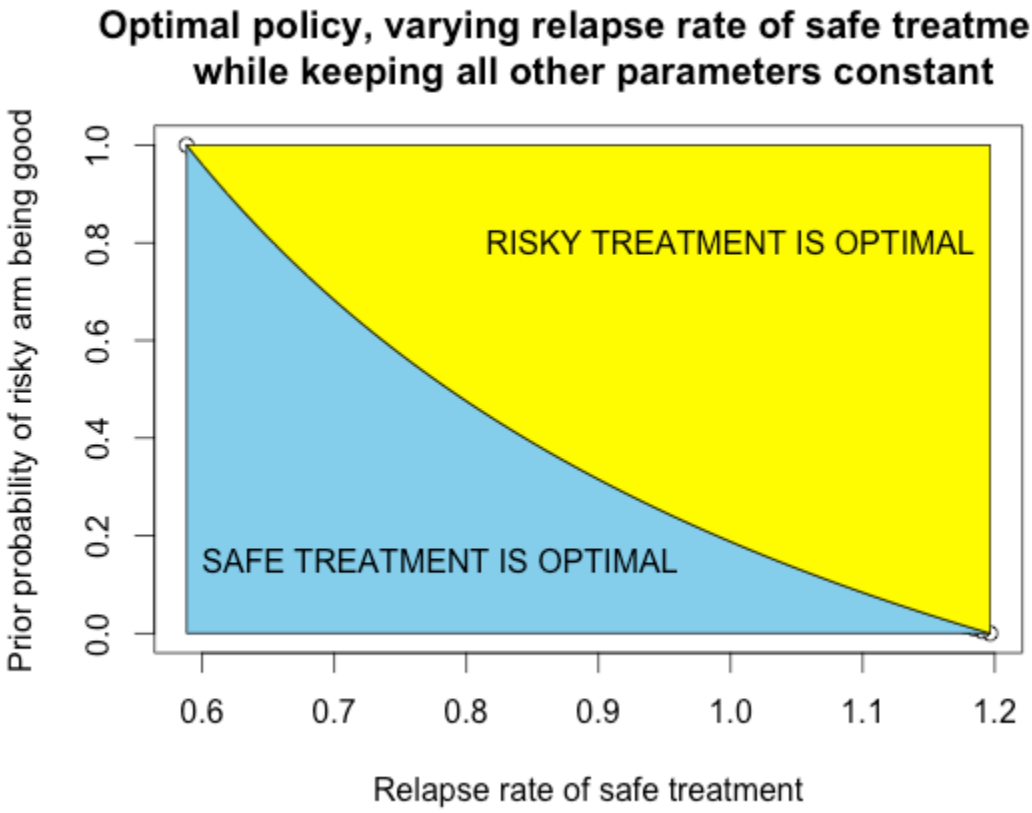
Purpose: Accurate biomarkers to routinely assess the effectiveness of treatments for chronic diseases are not always available. Therapies for such conditions are often only effective in a subgroup of patients, where effectiveness is indicated by the rate of disease relapse or death and may or may not be correlated with quality of life on treatment. Medical decision makers must decide what treatments to prescribe for such diseases based on noisy, subjective feedback from patients. We develop a model for choosing between two treatments with stochastic effectiveness: a safe treatment whose effectiveness distribution is known, and a risky treatment which, unknown a priori, could be either superior or inferior to the safe treatment.

Methods: We develop a Bayesian, continuous-time, two-armed bandit model where the alternative treatments give Brownian rewards (health utilities). We model disease relapses according to Poisson processes. If the risky treatment is superior, it leads to relapses at a lower rate than the safe treatment. Unlike classic bandit models which maximize rewards over a deterministic time not influenced by the decisions, our objective is to maximize the patient's cumulative discounted health utilities over the random time interval that ends with the first disease relapse or death, which depends stochastically on the chosen treatment. We apply the model to the problem of choosing between symptom management (safe treatment) or disease-modifying agents (DMA) (risky treatment)

for patients with multiple sclerosis (MS), where DMA is considered superior if the patient is a treatment responder and inferior if she is a non-responder.

Results: We find a closed-form analytical solution that provides a threshold probability, representing the current belief of the risky treatment being good, below which it is optimal to choose the safe treatment. For MS, if we assume a constant negative shift in quality of life on DMA due to side effects and maximize cumulative discounted quality-adjusted life years, the optimal threshold for acceptance is 25.8%. If we do not consider DMA side effects and only maximize the discounted time until the next relapse or death, the threshold becomes 6.3%.

Conclusions: By optimally balancing the rewards that the patient receives and the amount of information acquired about the treatment, our model can inform treatment decisions for chronic diseases where patients have unknown responsiveness to treatment.



F-2. MODELING HIV TRANSMISSION DYNAMICS IN CONJUNCTION WITH A MICROSIMULATION OF DISEASE PROGRESSION

2:45 PM - 3:00 PM: Mon. Oct 21, 2013 Key Ballroom 3-4 (Hilton Baltimore) Part of Session: COMPLEX DISEASE MODELING: METHODS AND APPLICATIONS

Eric Lloyd Ross, AB[1], *Pamela P. Pei, PhD*[1], *Rochelle P. Walensky, MD, MPH*[1], *Elena Losina, PhD*[2], *Milton C. Weinstein, PhD*[3] *and Kenneth A. Freedberg, MD, MSc*[1], *(1)Massachusetts General Hospital, Boston, MA, (2)Massachusetts General Hospital and Brigham and Women's Hospitals, Boston, MA, (3)Harvard School of Public Health, Boston, MA*

Purpose: Many compartmental models have projected substantial reductions in HIV prevalence with expanded use of antiretroviral therapy (ART). Often these models simulate HIV disease as progression through 3-5 Â“health states,Â” culminating in death; ART slows, but does not reverse, this progression. Our objectives were to develop a dynamic HIV transmission model that could incorporate a more detailed simulation of HIV treatment, and to examine the implications of this framework for long-term epidemic projections.

Method: We combine two models to project HIV transmission. A stochastic, closed-cohort microsimulation (CEPAC-International) projects CD4 count, HIV viral load, and survival trajectories of an HIV-infected cohort. These trajectories are incorporated as inputs to an open-cohort Susceptible-Infected (SI) model of HIV transmission, in which infectivity depends on viral load. The microsimulation differs from simpler models in

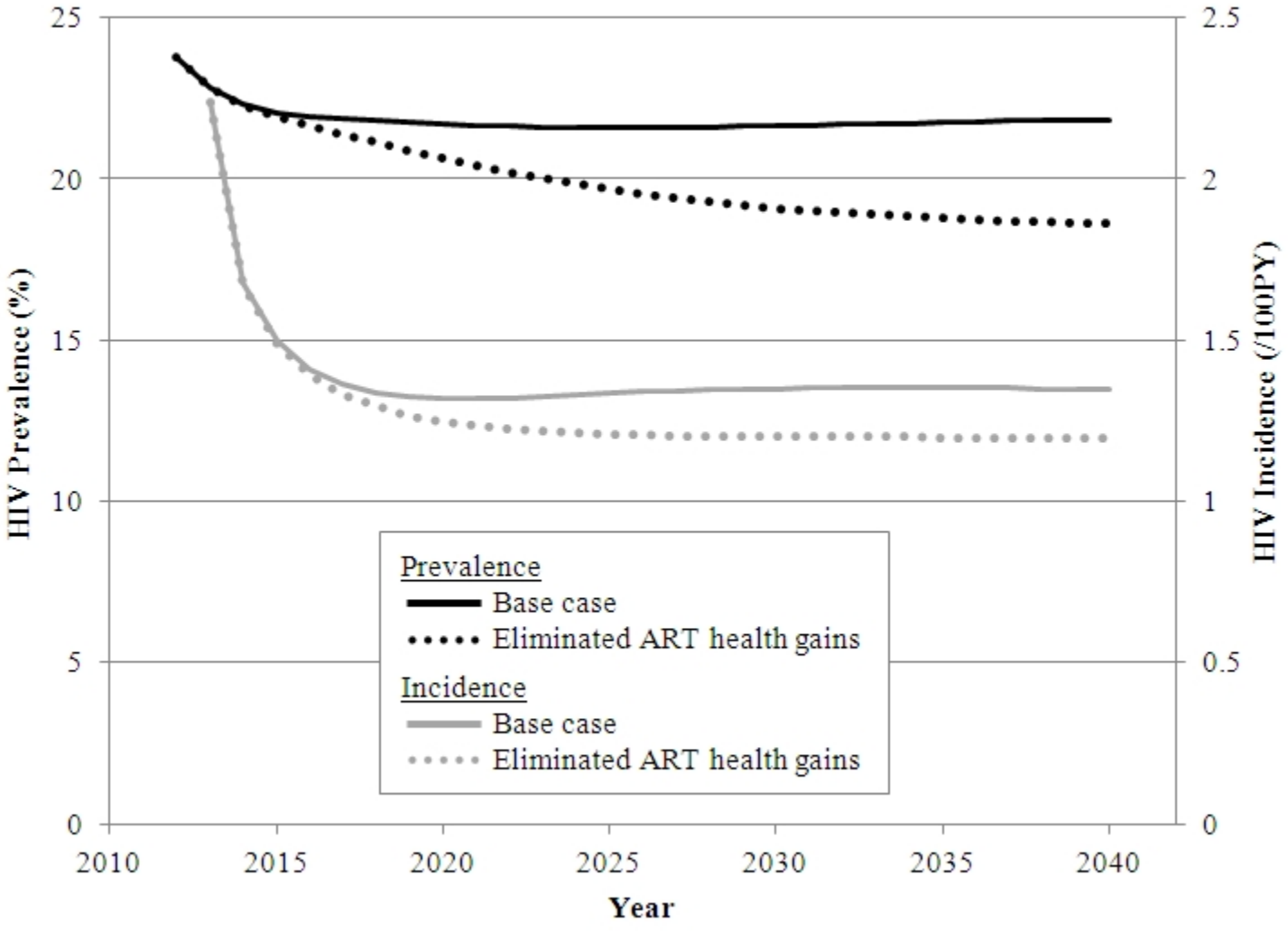
that ART increases patients' CD4 counts, rather than merely slowing disease progression. This produces improved health status by the time of ART failure and/or loss-to-follow-up, resulting in longer survival with uncontrolled viremia and relatively high infectivity.

To assess the implications of this modeling approach, we simulate a policy of immediate ART at diagnosis for HIV-infected patients in Kwa-Zulu Natal, South Africa. Literature-based, base-case inputs include: HIV diagnosis rate of 40/100PY, 80% virologic suppression at 6m on ART, 4% loss-to-follow-up at 12m, and 98% reduced infectivity with suppressed viral load; biannual viral load monitoring guides switch to 2nd-line ART. For comparison, we approximate simpler models by specifying immediate decline to pre-ART CD4 count upon ART failure/loss-to-follow-up; this effectively erases the health gains derived from ART, though it does not fully capture the continued progression while on ART in simpler models.

Result: In the base case, HIV incidence declines rapidly from 2.24/100PY to 1.35/100PY, and prevalence declines from 24% to 22% over 20 years. Eliminating the health gains from ART reduces average life-years with uncontrolled viremia from 7.7 to 6.0y; incidence declines to 1.20/100PY, and 20-year prevalence decreases to 19% (Figure).

Conclusion: Using an HIV microsimulation linked to an SI transmission model, we estimate that immediate ART in South Africa will modestly reduce HIV prevalence. Eliminating the health gains derived from ART Â– akin to simpler models Â– likely overestimates this reduction. These results highlight the importance of a detailed accounting of ART's health benefits in models of HIV transmission.

Figure: Projected HIV prevalence and incidence with varying model assumptions



F-3. CALIBRATION OF A MARKOV CARDIOVASCULAR DISEASE MICROSIMULATION MODEL USING AN ESTABLISHED CELL-BASED SIMULATION MODEL

3:00 PM - 3:15 PM: Mon. Oct 21, 2013
Key Ballroom 3-4 (Hilton Baltimore)
Part of Session: COMPLEX DISEASE MODELING: METHODS AND APPLICATIONS

Anusorn Thanataveerat, MPH[1]*, Y. Claire Wang, MD, ScD*[2] *and Andrew E. Moran, MD, MPH*[1]*, (1)Columbia University, New York, NY, (2)Mailman School of Public Health, New York, NY*

Purpose: To develop and calibrate a cardiovascular disease microsimulation (CVDM) model using the validated cell-based Coronary Heart Disease (CHD) Policy Model and national vital statistics.

Methods: The CVDM was programmed in TreeAge, and states for annual cycles were CVD-free, stroke, coronary heart disease, having both coronary heart disease and stroke, and death. Individual characteristics (sex, age, body mass index, blood pressure, lipid profile, and hypertension treatment, smoking and diabetes) for 35-44 year-olds who were free of CVD were obtained from U.S. National Health and Nutrition Examination Surveys (NHANES) 1999-2008 in order to create nationally-representative simulation cohorts. Annual probabilities of developing the first CVD event or non-CVD death were estimated using multivariate logistic regressions estimated from Framingham Heart Study. Annual risk factor changes and weight gain over time were estimated from NHANES. We calibrated the model by comparing model output with a validated, cell-based Markov model of U.S. adults, the CHD Policy Model, using criteria within 5% of incidence and 1% of mortality rates, as well as visual inspection. Another calibration target was age, sex, and cause-specific mortality rates from 2010 U.S. vital statistics. We simulated 10000 40-year-old male and 10000 female individuals for 30-years or until death. Annual and cumulative CVD incidence, CVD mortality, and non-CVD mortality were computed from the model output.

Results: After CVDM calibration, cumulative 30-year incidence and mortality projections were similar between the CVDM and CHD Policy Model (Table). Within ten-year age intervals between ages 45-74 years, CVDM coronary heart disease and stroke mortality rate estimates were within 1 deaths/1,000 of CHD Policy Model and national vital statistics rates. CVDM coronary heart disease and stroke incidence estimates were within 20 events/1,000 of CHD Policy Model estimates.

Conclusions: Validation is important for positing simulation model accuracy, but nationally representative CVD incidence data are not directly available. An well validated cell-based CVD simulation model can be used in conjunction with national survey and mortality data to validate a new microsimulation model of CVD in U.S. adults.

Table. Comparison of CVD Microsimulation Model 30-year output with a parallel simulation from the Coronary Heart Disease Model. Estimates are reported as events per 1,000 person-years.

Cumulative events per 1,000 person-years, 30-year simulation	Males				Females			
	CHD Policy Model	CVD Microsimulation Model (CVDM)	CVDM Lower 95%	CVDM Upper 95%	CHD Policy Model	CVD Microsimulation Model	CVDM Lower 95%	CVDM Upper 95%
New stroke case	53.33	54.30	49.86	58.74	42.18	41.20	37.30	45.10
New CHD case	199.62	202.90	195.02	210.78	112.22	113.70	107.48	119.92
Stroke death	8.21	7.90	6.16	9.64	6.26	5.60	4.14	7.06
CHD death	26.98	27.30	24.11	30.49	12.10	10.90	8.86	12.94
NCVD death	191.12	194.50	186.74	202.26	136.84	137.90	131.14	144.66
Total death	226.31	229.70	221.46	237.94	155.19	154.40	147.32	161.48

F-4. HARNESSING THE POWER OF BAYESIAN STATISTICS AND PATIENT-LEVEL DATA TO PREDICT THE EFFECTIVENESS OF IMPLANTABLE CARDIOVERTER DEFIBRILLATOR (ICD) THERAPY IN PATIENT SUBGROUPS

3:15 PM - 3:30 PM: Mon. Oct 21, 2013
Key Ballroom 3-4 (Hilton Baltimore)
Part of Session: COMPLEX DISEASE MODELING: METHODS AND APPLICATIONS

Gillian D. Sanders, PhD[1], *Lurdes Inoue, PhD*[2], *Rex Edwards*[3], *Sana M. Al-Khatib, MD, MHS*[3], *Joo Y. Han*[2], *Gust H. Bardy, MD*[2], *J. Thomas Bigger, MD*[4], *Alfred E. Buxton, MD*[5], *Arthur J. Moss, MD*[6], *Kerry L. Lee, PhD*[3], *Richard Steinman*[4], *Paul Dorian, MD*[7], *Al Hallstrom, PhD*[2], *Riccardo Cappato, MD*[8], *Alan H. Kadish, MD*[9], *Peter J. Kudenchuk, MD*[2] *and Daniel B. Mark, MD, MPH*[3], *(1)Duke University School of Medicine, Durham, NC, (2)University of Washington, Seattle, WA, (3)Duke University, Durham, NC, (4)Columbia University, New York, NY, (5)Beth Israel Deaconess Medical Center, Boston, MA, (6)University of Rochester School of Medicine, Rochester, NY, (7)University of Toronto, Toronto, ON, Canada, (8)IRCCS Policlinico San Donato, Milan, Italy, (9)Northwestern Feinberg School of Medicine, Chicago, IL*

Purpose: Although the ICD has been shown to be effective in preventing mortality in several large randomized controlled trials (RCTs), its effectiveness in specific populations is uncertain. We combined data from 7 RCTs to develop, calibrate, and validate a prediction model that estimated survival over time in subgroups of interest.

Methods: Using patient-level data from 7 RCTs representing 4455 patients, we developed a Bayesian hierarchical Weibull regression model to combine data while allowing for trial-specific baseline hazard functions and treatment effects. The final model, derived from backwards elimination, included the main effects of treatment, covariates and the interaction between age and treatment. We performed frequentist evaluation of our prediction model using calibration and discrimination statistics. We performed internal validation using bootstrap samples of the combined data set and external validation using registry data. The model explored patients in 192 subgroups stratified by treatment, age, ejection fraction (EF), New York Heart Association (NYHA) class, QRS, and presence of ischemic disease.

Results: With the borrowing of strength between covariate categories and across trials, our Bayesian hierarchical model allows predictions even for subgroups with small sizes (subgroup sample size ranged from 0 to 200) though with increased uncertainty in such cases. The prediction model had a C-statistic of 0.72 (se=0.01) at year 1 indicating good discrimination and was well calibrated (p=0.99). The C-statistic was slightly smaller at years 2-5 (range: 0.67,0.70), but the model predictions were also calibrated. The same general conclusions were obtained using either internal or external validation data sets. At 5 years, the model predicts the ICD to be more effective in all subgroups. Predicted 5-yr survival with an ICD varied from 29.6% (75+y, NYHAIII, EF<30, QRS>=120, ischemia) to 90% (<65y, NYHAI, EF>=30, QRS>=120, no ischemia), while survival in the control group varied from 20% (75+y, NYHAIII, EF<30, QRS>=120, ischemia) to 84.2% (<65y, NYHAII, EF>=30, QRS<120, no ischemia). The absolute survival benefit ranged from 0.6% to 21.6% across subgroups.

Conclusion: Our findings suggest that over time ICD treatment is more effective in most subgroups relative to non-ICD. Incorporation of this prediction model into a decision-analytic framework will allow exploration of harms/benefits of ICD use in specific subgroups of interest, while also exploring the uncertainty of these findings and the value of additional data acquisition.

F-5. BIG DATA TOOLS AND LARGE-SCALE SIMULATION MODELS: A PLATFORM FOR INTERACTIVE HYPOTHESIS GENERATION

3:30 PM - 3:45 PM: Mon. Oct 21, 2013
Key Ballroom 3-4 (Hilton Baltimore)
Part of Session: COMPLEX DISEASE MODELING: METHODS AND APPLICATIONS

C. Andy Schuetz, PhD *and Kyle Schmaus, M.A., Archimedes Inc., San Francisco, CA*

Purpose: To provide interactive results from computationally intensive large-scale simulation models.

Method: Combining the Archimedes model, response surface methodologies, and big data tools, we created a platform that makes evaluating a highly complex disease and healthcare model interactive, while not requiring statistical programming. The Archimedes Model is a large-scale simulation model of chronic disease and healthcare systems. In this method, an individual level dataset is generated with the simulation model and stored in high performance databases for rapid retrieval. In creating the dataset, the simulation model is run for a broad population of individuals, and each individual is simulated repeatedly for a set treatment scenarios specified by a design of experiments. At run time, the user specifies the study subpopulation in terms of clinical parameters. That subpopulation is extracted from the dataset, and response surfaces (e.g. meta-models) are generated. Subsequently, user-specified treatment scenarios can be estimated from the response surfaces, providing estimates equivalent to what the large-scale simulation model would forecast if it were evaluated directly.

Result: We generated an individual level dataset containing 100,000 US Adults with chronic obstructive pulmonary disease (COPD), forecasting biomarkers and outcomes over 5 years, in 50 treatment scenarios, exploring a set of 8 COPD related treatment parameters (such as improved FEV1, FVC, reduced risks of exacerbations, levels of existing treatments, and smoking cessation). The treatment scenarios were specified by a D-optimal design of experiments for continuous and categorical parameters. Using the platform, we can define the study cohort described in the UPLIFT Study of Tiotropium, model the Tiotropium intervention, and obtain estimates in-line with the published trial results in just minutes.

Conclusion: With this platform, large-scale simulation models can be used interactively and without statistical programming. This platform makes generating hypotheses faster, and accelerates the decision making process from months to minutes.

Tuesday, October 22, 2013

G. APPLICATION OF COST EFFECTIVENESS ANALYSES: FROM PREVENTION TO TREATMENT

« Previous Session | Next Session »

10:30 AM - 12:00 PM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Session Chairs:

- *Anirban Basu, PhD*
- *Ankur Pandya, PhD*

Session Summary:

10:30 AM - 10:45 AM

G-1. COST-EFFECTIVENESS OF PROCALCITONIN-GUIDED ANTIBIOTIC THERAPY FOR OUTPATIENT MANAGEMENT OF ACUTE RESPIRATORY TRACT INFECTIONS IN ADULTS

10:45 AM - 11:00 AM

G-2. COST-EFFECTIVENESS OF UNICOMPARTMENTAL VS TOTAL KNEE ARTHROPLASTY IN OLDER AND YOUNGER PATIENTS IN THE UNITED STATES

11:00 AM - 11:15 AM

G-3. COST-EFFECTIVENESS OF SAME-DAY DISCHARGE AFTER ELECTIVE PERCUTANEOUS CORONARY INTERVENTION

11:15 AM - 11:30 AM

G-4. COST-EFFECTIVENESS OF THE RELAX TRIAL OF COLLABORATIVE CARE FOR TREATING PANIC AND GENERALIZED ANXIETY IN PRIMARY CARE

11:30 AM - 11:45 AM

G-5. COST-EFFECTIVENESS ANALYSIS OF THE NATIONAL PERINATAL HEPATITIS B PREVENTION PROGRAM

11:45 AM - 12:00 PM

G-6. USING A MODEL-BASED ECONOMIC EVALUATION IN A FEASIBILITY STUDY TO INFORM THE VALUE OF A FUTURE TRIAL: A CASE STUDY OF GROMMETS-INSERTION FOR CHILDREN WITH CLEFT PALATE AFFECTED BY OTITIS MEDIA WITH EFFUSION

Abstracts:

G-1. COST-EFFECTIVENESS OF PROCALCITONIN-GUIDED ANTIBIOTIC THERAPY FOR OUTPATIENT MANAGEMENT OF ACUTE RESPIRATORY TRACT INFECTIONS IN ADULTS

10:30 AM - 10:45 AM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: APPLICATION OF COST EFFECTIVENESS ANALYSES: FROM PREVENTION TO TREATMENT

Constantinos I. Michaelidis, BA[1]*, Richard K. Zimmerman, MD, MPH*[1]*, Mary Patricia Nowalk, PhD*[1]*, Michael J. Fine, MD, MSc*[1] *and Kenneth J. Smith, MD, MS*[2]*, (1)University of Pittsburgh School of Medicine, Pittsburgh, PA, (2)University of Pittsburgh, Pittsburgh, PA*

Purpose: To evaluate the cost-effectiveness of procalcitonin-guided antibiotic therapy in outpatient management of ARTIs in adults.

Method: We developed a cost-effectiveness model based on data from two randomized controlled trials and modeled the different cohorts in two separate analyses. Cohort one comprised all adults with ARTIs presenting in the outpatient setting. Cohort two comprised all adults with ARTIs presenting in the outpatient setting and judged by their providers to require antibiotics after clinical evaluation. Both analyses assumed a societal perspective and a clinic visit time horizon. We compared two strategies: usual care and procalcitonin-guided antibiotic therapy. The primary differences between strategies were the procalcitonin testing costs and fewer antibiotic prescriptions in the procalcitonin strategy. The primary outcome was cost per antibiotic avoided. Because there is not an accepted societal willingness-to-pay threshold for this outcome, we developed an estimate for this threshold based on the societal cost of antibiotic resistance per outpatient antibiotic prescription. For each cohort, we performed base case cost-effectiveness analyses and examined model robustness to parameter variation in sensitivity analyses.

Result: We estimated the willingness-to-pay threshold as $43 (range $0–$333) per antibiotic avoided, reflecting the estimated societal cost of antibiotic resistance per outpatient antibiotic prescription. In the cohort including all adults with ARTIs, the procalcitonin strategy cost more ($49 vs. $15 per patient) and reduced the number of antibiotic prescriptions (0.14 vs. 0.37 antibiotic prescriptions per patient) compared to usual care, resulting in an incremental cost-effectiveness ratio (ICER) of $149 per antibiotic prescription avoided. In a probabilistic sensitivity analysis, the likelihood of procalcitonin being favored over usual care was 2.8%. In the cohort including adult ARTIs judged by their providers to require antibiotics, the procalcitonin strategy cost more ($51 vs. $29 per patient) and reduced the number of antibiotic prescriptions (0.25 vs. 0.97 antibiotic prescriptions per patient) compared to usual care, resulting in an ICER of $31 per antibiotic prescription avoided. In a probabilistic sensitivity analysis, the likelihood of procalcitonin being favored over usual care was 58.4%.

Conclusion: Procalcitonin-guided antibiotic therapy for outpatient management of ARTIs in adults is cost-effective compared to usual care when the societal costs of antibiotic resistance are considered and procalcitonin testing is limited to adults with ARTIs judged by their providers to require antibiotics after clinical evaluation.

G-2. COST-EFFECTIVENESS OF UNICOMPARTMENTAL VS TOTAL KNEE ARTHROPLASTY IN OLDER AND YOUNGER PATIENTS IN THE UNITED STATES

10:45 AM - 11:00 AM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: APPLICATION OF COST EFFECTIVENESS ANALYSES: FROM PREVENTION TO TREATMENT

Hassan M.K. Ghomrawi, PhD[1], *Ashley A. Eggman, MS*[1], *Sophia Paul*[2] *and Andrew Pearle, MD*[3], *(1)Weill Cornell Medical College, New York, NY, (2)Hospital for Special Surgery, New York, NY, (3)Hopsital for Special Surgery, New York, NY*

Purpose: Unicompartmental knee arthroplasty (UKA) is an alternative to total knee arthroplasty (TKA) in patients with unicompartmental knee osteoarthritis. UKA has higher revision rates 5-10 years postoperatively, yet requires little rehabilitation, has fewer complications, and may offer patients higher function. Two prior cost-effectiveness (CE) analyses limited to older patients (age 65+) found little benefit to UKA. With rising demand expected among patients <65 who would favor better function and quicker return to work (50% of 3.4 million in 2030), we evaluated CE of UKA vs. TKA in younger and older patients.

Method: We developed a Markov, state-transition model to determine the CE of UKA vs. TKA in hypothetical younger (age 45) and older (age 65) patients. Patients transition to either a full- or limited-function state postoperatively based on their Western Ontario and McMaster Universities Osteoarthritis Index score. The limited-function state is associated with lower quality-of-life (QOL) and increased costs compared to full-function. Patients in either state may experience an implant failure. We assumed that limited-function state patients fail at a higher rate than full-function state and UKA patients only have home health rehabilitation while TKA patients could also have either inpatient rehabilitation or skilled nursing facilities options. Failure rates were calculated from 20-year follow-up data in the Swedish national registry. Procedure and complication costs were based on DRG and ICD-9 codes. Inpatient rehabilitation, outpatient healthcare utilization and return to work costs were derived from the literature. QOL data and transition probability to limited-function state were also from the literature. We report costs, quality-adjusted life years (QALYs), and ICERs over the lifetime of the patient from a societal perspective in US dollars (discounted at 3% annually).

Result: UKA dominated TKA in both younger and older patients in the base case In the younger patients only, TKA has an ICER <$100,000/QALY when the annual revision rate for UKA increased from 1.0% in the base case to 2.45% beginning at age 66 . Results were not sensitive to lowering TKA rehab costs. Increasing UKA's transition probability to the limited-function state to equal that of TKA produced an ICER >$100,000/QALY.

Conclusion: Unlike previous studies, we found UKA had substantial economic value in older and younger patients. Our results indicate that UKA should be recommended for eligible patients regardless of age.

G-3. COST-EFFECTIVENESS OF SAME-DAY DISCHARGE AFTER ELECTIVE PERCUTANEOUS CORONARY INTERVENTION

11:00 AM - 11:15 AM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: APPLICATION OF COST EFFECTIVENESS ANALYSES: FROM PREVENTION TO TREATMENT

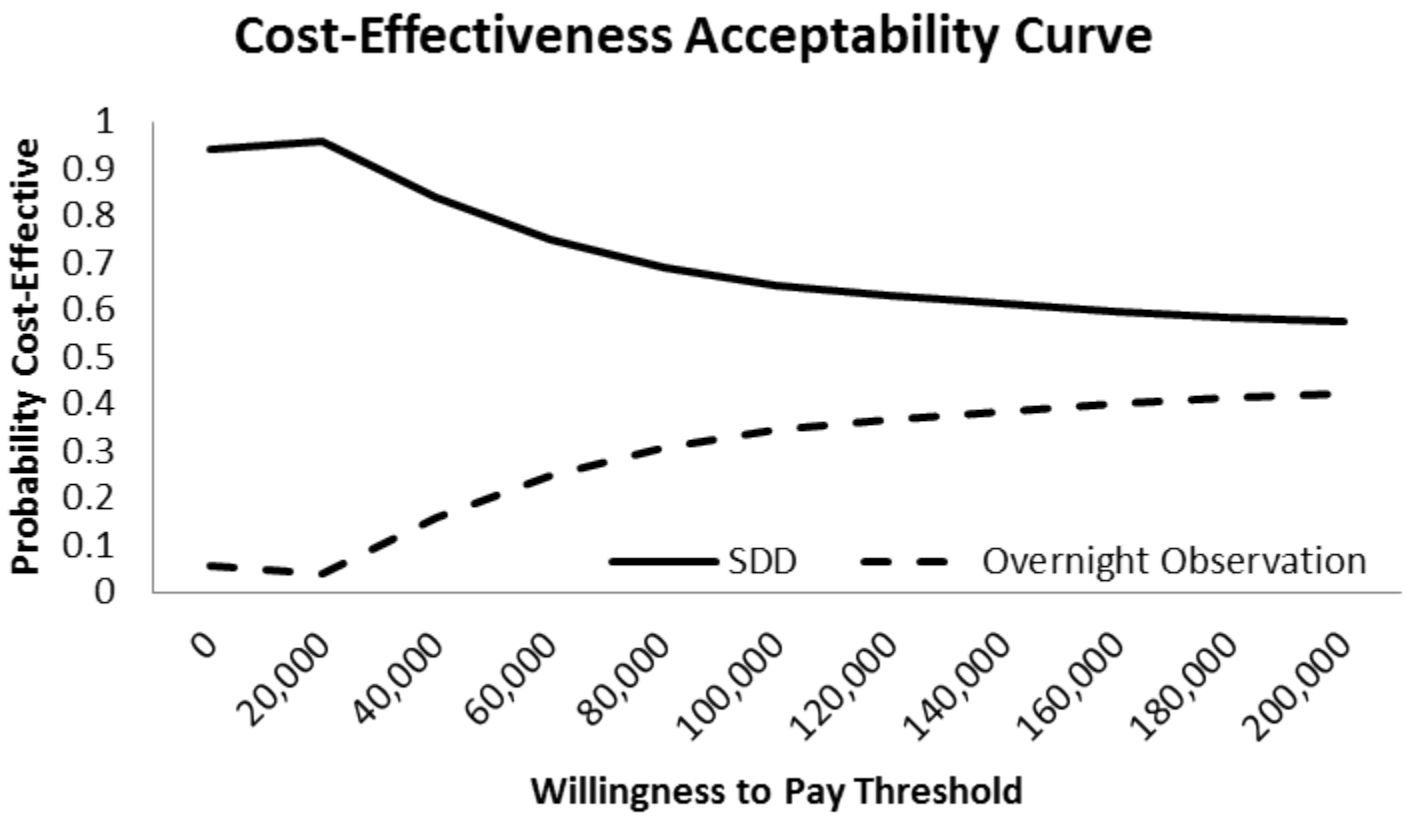
Sze-chuan Suen, MS[1], *Kimberly M. Brayton, MD, JD*[1], *Vishal G. Patel, MD*[2], *Douglas K. Owens, MD, MS*[3] *and Jeremy D. Goldhaber-Fiebert, PhD*[1], *(1)Stanford University, Stanford, CA, (2)University of Texas Southwestern Medical Center, Dallas, TX, (3)Veterans Affairs Palo Alto Health Care System and Stanford University, Stanford, CA*

Purpose: For patients undergoing elective percutaneous coronary intervention (PCI), shortening hospitalization has important cost implications and safety considerations. In studies of same-day discharge (SDD) compared to routine overnight observation in highly selected PCI populations, the overall safety profile is uncertain as some outcome were better with SDD and others were not. We assessed the cost-effectiveness of SDD for all eligible PCI patients.

Method: We developed a decision-analytic Markov model of patients post PCI to compare same-day discharge to routine overnight observation. Patients were followed from their index PCI over their remaining lifetime, including the possibility of repeat coronary procedures. We derived inputs from registries, randomized trials, and meta-analyses. The probabilities for SDD adverse outcomes were death (0.6%), major bleed (MB) (0.9%), myocardial infarction (MI) (2.6%), and target vessel revascularization (1.1%); overnight observation outcomes differed only for MI, at 0.6%. We adjusted mortality rates for previous adverse procedure outcomes. We estimated costs using micro-costing methods (2012 USD) and measured outcomes in QALYs, both considered from a societal perspective and discounted at 3% annually.

Result: Compared to current practice (routine overnight observation), same-day discharge costs $1,639 less but delivers 0.0028 fewer QALYs ($585,000 saved per QALY lost). This finding is sensitive to adverse outcome probabilities. SDD costs less and provides more QALYs for values of safety measures within the 95% confidence intervals Â– when the probabilities of adverse outcomes for SDD patients are lower (<0.57% for death, <0.60% for MB, or <2.32% for MI) or when the probabilities of adverse outcomes for overnight observation are higher (>0.63% for death, >0.90% for major bleeding events, or >2.89% for MI). In contrast, SDD costs more and is less effective if risks of SDD adverse events are substantially higher (>6.46% for MI) but still within the 95% confidence interval. Probabilistic sensitivity analyses reveal that SDD is frequently cost-effective even at higher willingness-to-pay thresholds (see figure).

Conclusion: While same-day discharge can likely reduce costs in many health systems, its health benefits relative to overnight observation appear close and uncertain. The attractiveness of same-day discharge may depend on the ability of particular systems to monitor and quickly respond to adverse events out of the hospital. Research in this area should prioritize establishing the safety profile of same-day discharge in representative patient populations.



G-4. COST-EFFECTIVENESS OF THE RELAX TRIAL OF COLLABORATIVE CARE FOR TREATING PANIC AND GENERALIZED ANXIETY IN PRIMARY CARE

11:15 AM - 11:30 AM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: APPLICATION OF COST EFFECTIVENESS ANALYSES: FROM PREVENTION TO TREATMENT

***Tatiana K. Deveney, BA**, Bea Herbeck Belnap, Dr.Biol.Hum, Bruce L. Rollman, MD, MPH and Kenneth Smith, MD, MS, University of Pittsburgh School of Medicine, Pittsburgh, PA*

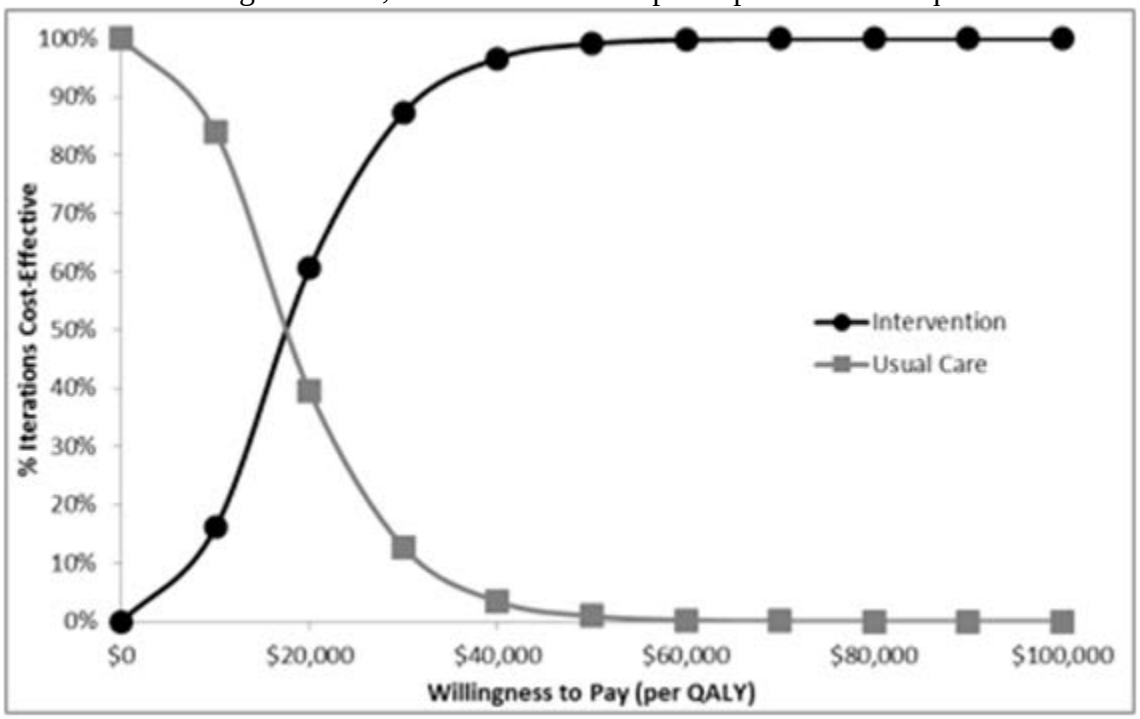
Purpose: The RELAX (Reduce Limitations for Anxiety) Trial demonstrated that telephone-delivered stepped collaborative care for treating panic and generalized anxiety disorders (PD/GAD) is effective at improving health-related quality of life (HRQoL) and anxiety symptoms. Yet, given resource limitations on new health care initiatives, policymakers and providers will require cost-effectiveness analyses of the RELAX intervention before it can be deployed widespread into primary care settings and patient-centered medical homes.

Method: From 3/04-9/08, RELAX randomized 273 highly anxious patients with PD and/or GAD (PDSS ≥ 14 and/or HRS-A ≥ 20) from 6 Pittsburgh-area primary care practices to either: 12-months of telephone delivered collaborative care (CC); or their primary care provider's usual care (UC) and then followed them for up to 24 months. We were able to obtain insurance claims for 65% (178/273) of patients and approximated intervention costs at a mean of $425/person based on actual number of care manager contacts and other resources (e.g., workbooks, care manager supervision). We then estimated the median 24-month incremental costs between study arms. We converted baseline and follow-up SF-36 scores at 2-, 4-, 8-, 12-, 18-, and 24-months to SF-6D preference-based utilities to calculate the incremental cost per quality-adjusted life year (QALY) for CC vs. UC from the payer's perspective, and performed a probabilistic sensitivity analysis to assess the robustness of our results.

Result: Our analysis dataset included 124 patients with complete 24-month SF-36 data (CC=55, UC=69), whose sociodemographic and baseline SF-36 scores were similar to those missing a 24-month SF-36 score (n=149). Over 24-months, CC patients gained 0.031 QALYs and had a $587 higher median total costs compared to UC ($8,299 vs. $7,712), which generated an incremental cost effectiveness ratio of $18,935 per additional QALY. In a probabilistic sensitivity analysis, CC was favored 61% of the time when the cost-effectiveness acceptability was $20,000/QALY and 99% of the time when the threshold was $50,000/QALY (Figure).

Conclusion: Telephone-delivered collaborative care for treating PD/GAD in primary care is a highly cost-effective intervention. Future work will include integration of moderately anxious patients triaged into a

Â“watchful waitingÂ” cohort, and the use of multiple imputation techniques to better utilize collected data.



G-5. COST-EFFECTIVENESS ANALYSIS OF THE NATIONAL PERINATAL HEPATITIS B PREVENTION PROGRAM

11:30 AM - 11:45 AM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: APPLICATION OF COST EFFECTIVENESS ANALYSES: FROM PREVENTION TO TREATMENT

Carolina Barbosa, PhD, MSc, PharmD[1], *Emily A. Smith*[2], *Thomas J. Hoerger*[3], *Nancy Fenlon*[2], *Sarah F. Schillie*[2], *Christina Bradley*[3] *and Trudy V. Murphy*[2], *(1)RTI International, Chicago, IL, (2)Centers for Disease Control and Prevention, Atlanta, GA, (3)RTI International, Research Triangle Park, NC*

Purpose: To analyze the cost-effectiveness of the national perinatal hepatitis B prevention program (PHBPP) over the lifetime of the 2009 U.S. birth cohort and compare the costs and outcomes of the strategy represented by the program to 2 alternatives: Strategy 1: no prevention and Strategy 2: current routine vaccination schedule. The PHBPP is targeted at the identification and management of infants born to hepatitis B surface antigen (HBsAg)-positive mothers.

Method: A decision analytic tree and a long-term Markov model represented the risk of perinatal and early childhood (“postnatal” ages 1 to 5 years-old) infections under different vaccination alternatives, and the long-term health and economic consequences of hepatitis B infection. Outcome measures were the number of perinatal infections and postnatal infections from infants born to HBsAg-positive women, quality-adjusted life years (QALYs), lifetime costs, and incremental cost per QALY gained. The health outcomes and total costs of each strategy were compared in the form of incremental cost effectiveness ratios (ICERs). Costs were evaluated from the health care system perspective and expressed in U.S. dollars at a 2010 price base. Probabilistic sensitivity analysis was conducted to incorporate uncertainty in model parameters. Uncertainty in the model

was described using cost-effectiveness acceptability curves. One-way sensitivity analyses were conducted to estimate the impact of changing each key parameter individually. A series of multi-way sensitivity analyses changed several variables simultaneously to create hypothetical scenarios.

Result: In all analyses, the PHBPP increased QALYs and led to higher reductions in the number of perinatal and postnatal infections than the alternative strategies. Compared with Strategy 2, the PHBPP was associated with 2,351 fewer total infections (1,485 perinatal and 866 postnatal), 2,304 less QALYs lost, and an ICER of $2,602 per QALY. When the PHBPP was compared with a hypothetical scenario of no prevention, it was associated with 9,159 fewer total infections (5,902 perinatal and 3,257 postnatal), 8,772 fewer QALYs lost, and an ICER of $1,785 per QALY. In sensitivity analyses, the cost-effectiveness ratios were robust to variations in model inputs, including instances where the program was both more effective and cost saving.

Conclusion: This study indicated that the current PHBPP represents a cost-effective use of resources. Ensuring the program reaches all pregnant women could prevent further hepatitis B-related morbidity and mortality.

G-6. USING A MODEL-BASED ECONOMIC EVALUATION IN A FEASIBILITY STUDY TO INFORM THE VALUE OF A FUTURE TRIAL: A CASE STUDY OF GROMMETS-INSERTION FOR CHILDREN WITH CLEFT PALATE AFFECTED BY OTITIS MEDIA WITH EFFUSION

11:45 AM - 12:00 PM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: APPLICATION OF COST EFFECTIVENESS ANALYSES: FROM PREVENTION TO TREATMENT

Syed Mohiuddin[1], *Katherine Payne*[1], *Iain Bruce*[2], *Peter Callery*[1], *Nicola Harman*[1], *Bill Shaw*[1], *Tri Tat*[1], *Stephanie Tierney*[1], *Paula Williamson*[3] *and Kevin O'Brien*[1], *(1)University of Manchester, Manchester, United Kingdom, (2)Central Manchester University Hospital, Manchester, United Kingdom, (3)University of Liverpool, Liverpool, United Kingdom*

Purpose: There is a paucity of evidence to guide the treatment of Otitis Media with Effusion (OME), which is a common problem causing hearing impairment in children with Cleft Palate (CP). The surgical insertion of grommets is being used as a means of correcting hearing impairment and preventing complications of untreated OME, but there remains active discussion in the medical community about whether the benefits of grommets outweigh the risks. This study aimed to use value of information analysis within a mixed-methods feasibility study to inform future research requirements and priorities for the treatment of children with CP and OME.

Method: A model-based early economic analysis compared the surgical insertion of grommets with two non-surgical alternatives (hearing-aids; do-nothing) in the management of persistent bilateral OME in children with CP. The model assumed a 2-year time horizon and UK NHS perspective. Outcomes were valued using Quality-Adjusted Life-Years (QALYs) estimated by linking published utility values with hearing gain (measured in decibels). Multiple data sources were used including: systematic reviews of the effectiveness, resource use and utility literature and supplemented with published expert opinion. Probabilistic sensitivity analysis was used to quantify parameter uncertainty. The results of an expected value of perfect information analysis was combined with the findings from the qualitative views of children and parents about willingness to take part in a potential trial and important outcomes of OME management.

Result: The probabilistic incremental cost-effectiveness ratio for grommets insertion versus hearing-aids was £14,333 per QALY (95% CI: £8,311 to £20,355) and versus do-nothing was £18,036 per QALY (-£3,790 to £39,862). A key source of uncertainty was the assumed link with changes in utility values and hearing gain. The expected value of perfect information analysis indicated that the value of future research work in this area is

worthwhile. Children and parents had clear ideas about outcomes that were important to them, which extended beyond hearing gain. However, more than half of the parents (63%) were negative or unsure about their child taking part in a future trial.

Conclusion: This study has shown that value of information analysis has an important role in informing the need for future research but should be part of a wider programme of work to understand the feasibility and design of future trials.

H. METHODS FOR OPTIMIZING AND ANALYZING PATIENT OUTCOMES

« Previous Session | Next Session »

10:30 AM - 12:00 PM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Session Chairs:

- *Nilay D. Shah, PhD*
- *Nicolas A. Menzies, MPH*

Session Summary:

10:30 AM - 10:45 AM

H-1. HETEROGENEITY AND HEALTH OUTCOMES USING COHORT- AND INDIVIDUAL-BASED MODELS

10:45 AM - 11:00 AM

H-2. ADHERENCE TO PREVENTIVE PRACTICES AND PROJECTED POPULATION IMPACT OF HEALTH SYSTEM INTERVENTIONS FOR CORONARY HEART DISEASE

11:00 AM - 11:15 AM

H-3. COMPARING SURGICAL PERFORMANCE FOR ESOPHAGECTOMY: HOW LONG SHOULD WE FOLLOW-UP?

11:15 AM - 11:30 AM

H-4. ADALIMUMAB VERSUS INFLIXIMAB FOR THE TREATMENT OF MODERATE TO SEVERE ULCERATIVE COLITIS IN ADULT PATIENTS WITH NO PRIOR ANTI-TNF EXPERIENCE: AN INDIRECT COMPARISON META-ANALYSIS

11:30 AM - 11:45 AM

H-5. LOGISTIC REGRESSION WITH FILTERED DATA TO IMPROVE PROGRESSION IDENTIFICATION

11:45 AM - 12:00 PM

H-6. FRESH VERSUS ELECTIVE FROZEN-THAWED EMBRYO TRANSFER FOR WOMEN UNDERGOING IN VITRO FERTILIZATION: A DECISION ANALYSIS

Abstracts:

H-1. HETEROGENEITY AND HEALTH OUTCOMES USING COHORT- AND INDIVIDUAL-BASED MODELS

10:30 AM - 10:45 AM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: METHODS FOR OPTIMIZING AND ANALYZING PATIENT OUTCOMES

***Elamin H. Elbasha, PhD**, Merck Research Laboratories, North Wales, PA and Jagpreet Chhatwal, PhD, University of Pittsburgh, Graduate School of Public Health, Pittsburgh, PA*

Purpose: Because of the non-linear relationship between some model inputs and outcomes, previous research using numerical methods suggested that the choice of modeling technique Â— cohort versus individual Â— can have significant effects on model results. However, the direction of the effect is not known *a priori.* Our purpose was to derive mathematically (analytically) the conditions under which a cohort model (which does not capture baseline heterogeneity) compared with an individual-based simulation approach will under-estimate or over-estimate health outcomes.

Method: We used a three-state Markov model to estimate the cost-effectiveness of a hypothetical intervention, with efficacy *e* and cost *I*, to prevent disease developing at rate *b* resulting in disease-specific death at rate *d*, cost at *c* per period, and quality of life loss *q*. All parameters, including all-cause mortality at rate *m*, were constant. We solved the continuous-time model analytically and derived expressions for life expectancy, discounted quality-adjusted life years (QALYs), discounted lifetime disease costs, incremental cost-effectiveness ratio (ICER), and net monetary benefits (NMB). An outcome was calculated using the mean of the input under the cohort-based approach and the whole input distribution for all persons under the individual-based approach. We investigated the impact of heterogeneity on outcomes by varying one parameter at a time (e.g., *b*) while keeping all others constant (e.g., *e*, *m*, *d*, *q*, and *c*). We evaluated the curvature of outcome functions and used Jensen's inequality (*i.e.* if *f* is convex in *X*, $f(E[X] \leq E[f(X)])$ to determine whether a cohort model under- or over-estimated a heath outcome (e.g., if *f* was convex, then a cohort model under-estimated the outcome).

Results: Both life expectancy and QALYs were underestimated by the cohort-based approach (Figure1). If there was only heterogeneity in disease hazard, discounted costs were overestimated whereas QALYs gained, incremental costs, and ICER were under or overestimated depending on the value of *b*. ICER was overestimated

and NMB underestimated when there was heterogeneity in efficacy only. Both approaches yielded the same outcome when there was only heterogeneity in *c* or *q*.

Conclusion: Use of a cohort-based approach that does not adjust for heterogeneity underestimates life expectancy and may under- or over-estimate other outcomes. Characterizing the bias is useful for calibration and predictions.

Outcome	Formula	Curvatu
Life expectancy	$\frac{b(1-e)+d+m}{(d+m)[b(1-e)+m]}$	
Discounted QALYs	$\frac{b(1-e)(1-q)+d+m+r}{(d+m+r)[b(1-e)+m+r]}$	co
Discounted disease costs	$\frac{cb(1-e)}{(d+m+r)[b(1-e)+m+r]}$	convex i
QALYS gained	$\frac{be[d+q(m+r)]}{(b+m+r)(d+m+r)[b(1-e)+m+r]}$	convex in e conc
Incremental costs	$I-\frac{cbe(m+r)}{(b+m+r)(d+m+r)[b(1-e)+m+r]}$	concave in e in $m < m^*$;
Net monetary benefits	$\frac{be\{\lambda[d+q(m+r)]+c(m+r)\}}{(b+m+r)(d+m+r)[b(1-e)+m+r]}-I$	Convex in e d for $\lambda < c/(1-$ $< m^{**}$; co

Figure 1. Formula and curvature of lifetime outcomes as functions of parameters. ***b*** = disease progression r
specific death rate; ***m*** = all-cause mortality rate; ***q*** = quality of life loss; ***I*** = intervention cost; **c** = disease co
willingness-to-pay for a QALY. $b^* = (m+r)\left[1-e+(1-e)^{\frac{2}{3}}\right]/(1-e)^{\frac{4}{3}}$; m^* and m^{**} depends on other pa

H-2. ADHERENCE TO PREVENTIVE PRACTICES AND PROJECTED POPULATION IMPACT OF HEALTH SYSTEM INTERVENTIONS FOR CORONARY HEART DISEASE

10:45 AM - 11:00 AM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: METHODS FOR OPTIMIZING AND ANALYZING PATIENT OUTCOMES

Joseph A. Ladapo, MD, PhD[1], *Benjamin A. Rodwin*[2], *R. Scott Braithwaite, MD, MSc, FACP*[2], *Ankur Pandya, PhD*[3], *Thomas S. Riles, MD*[2], *Caron B. Rockman, MD*[2] *and Jeffrey S. Berger, MD*[2], *(1)NYU School of Medicine, NY, NY, (2)New York University School of Medicine, New York, NY, (3)Weill Cornell Medical College, New York, NY*

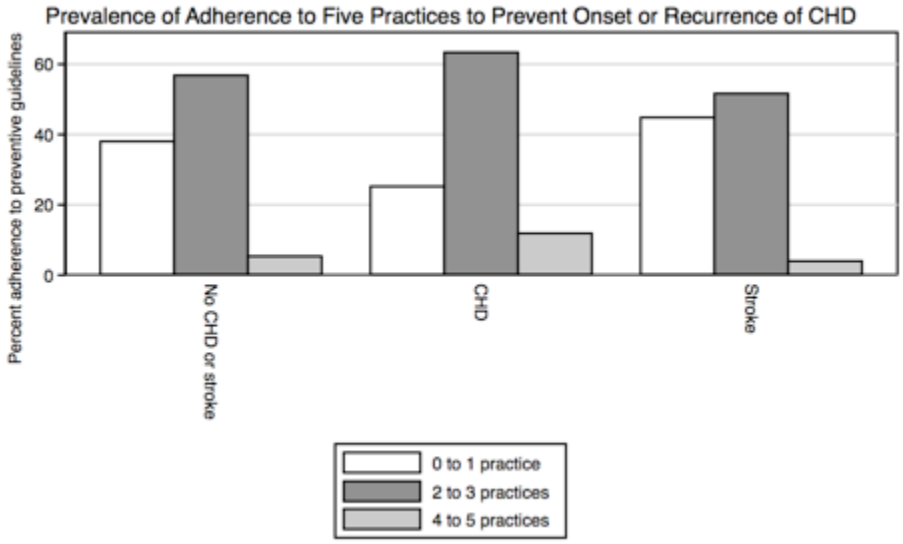
Purpose: Coronary heart disease (CHD) is the leading cause of morbidity and mortality in the United States and worldwide. While public health programs have substantially reduced CHD mortality rates since the 1970s, recent policy changes promoting accountable care organizations (ACOs) and integrated healthcare systems afford new opportunities to potentially improve population health through clinic- or hospital-based point-of-care interventions. To quantify the potential impact of these programs on population health, we identified gaps in preventive practices for CHD and projected health outcomes associated with adoption of point-of-care interventions addressing these gaps.

Method: We analyzed national data from 3.3 million patients who completed Life Line Screening health questionnaires between 2003-2008. We examined the prevalence of unhealthy behaviors (smoking, sedentary lifestyle, poor diet) and clinical risk factors (systolic blood pressure>140mmHg, overweight or obese BMI, absence of statin use in CHD) and projected four-year risk of onset or progression of CHD (defined as angina, myocardial infarction, or cardiac death) using Framingham Heart Study models and meta-analyses of randomized trials. We linked participants' residential addresses to U.S. Census data at the zip code-level to adjust for community income, education, and racial/ethnic diversity.

Result: Median age was 64 years (interquartile range, 56-71), 64% were women, 10% had diabetes, 25% smoked, and 9% had a history of CHD or stroke. Full adherence to preventive behaviors and practices was present in <2% of patients. Using ordinal logistic regression, we found that poorer adherence was associated with age>65 years (aOR 1.3, 95% CI 1.2-1.3), male gender (aOR 1.3, 1.2-1.3), black race (aOR 1.3, 1.3-1.4), and diabetes (aOR 1.4, 1.4-1.5). Adjusting for patient compliance and uptake, clinic- or hospital-based distribution of free high-dose nicotine patches to smokers, free statins to patients with CHD, free pedometers to all patients, and promotion of a Mediterranean diet high in nuts would prevent at least 92, 110, 490, and 480 new or recurrent incidents of CHD per-100,000 adults over four years. In comparison, a 50% reduction in salt consumption--a recommendation widely endorsed by public health organizations--would prevent at least 380 incidents.

Conclusion: Adherence to recommendations for the prevention or progression of CHD is poor. In light of growing integration of healthcare systems and ACOs, selective adoption of clinic- or hospital-based point-of-

care programs may further reduce the population burden of CHD.



H-3. COMPARING SURGICAL PERFORMANCE FOR ESOPHAGECTOMY: HOW LONG SHOULD WE FOLLOW-UP?

11:00 AM - 11:15 AM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: METHODS FOR OPTIMIZING AND ANALYZING PATIENT OUTCOMES

*Aaldert K. Talsma[1], **Hester F. Lingsma, MSc**[1], Ewout W. Steyerberg, PhD[2], Bas P.L. Wijnhoven[1] and Jan J.B. van Lanschot[1], (1)Erasmus MC, Rotterdam, Netherlands, (2)Department of Public Health, AE 236, Rotterdam, Netherlands*

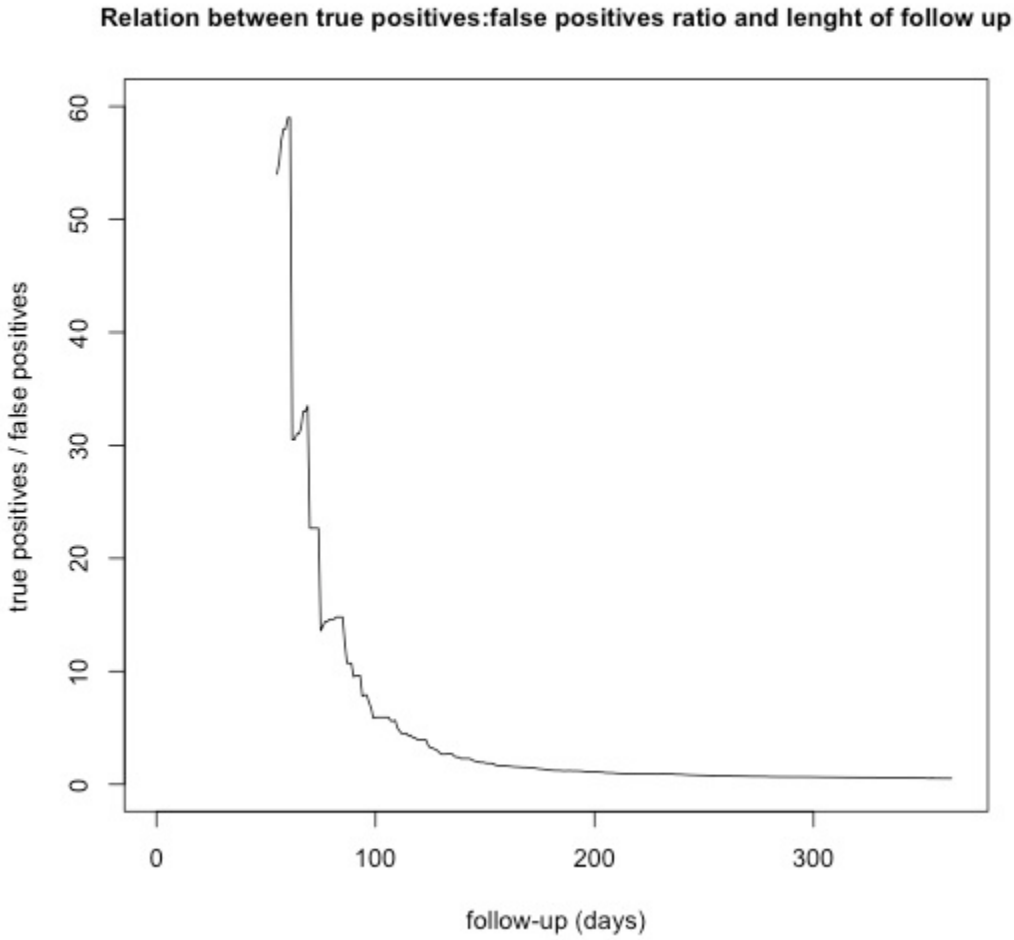
Purpose: Comparing surgical performance across institutions may assist in identifying best practices in the interest of patients, clinicians, payers and policy makers. Although 30-day mortality is the most commonly used performance indicator, follow-up length required to capture deaths potentially due to surgical quality is debated. We aimed to determine optimal follow-up period for mortality after esophageal resection to measure surgical quality, using a decision analytical approach. We also aimed to develop a case-mix adjustment model to compare surgical performance across hospitals.

Methods: Esophageal cancer patients were included prospectively from a large university hospital. The cause of death was classified for all patients who died within one year after surgery as potentially surgery related vs. probably not surgery related (progression of disease). We calculated the numbers of false positives and false negatives for a range of follow-up periods and the ratio between these. Case-mix adjustment models were developed using logistic regression.

Results: Between 1991 and 2011 1,283 patients were operated, of whom 393 (29%) died within 1 year: 107 (29%) with a potential surgical cause, and 261 (70%) with a most likely oncological cause. For 5 deaths (1%), the cause was unknown. Within 30 days after surgery, 36 (2.9%) patients had died, all -except one unknown- with a surgical cause. Within 90 days after surgery 90 (7%) patients had died, 79 with a surgical cause and 10 with an oncological cause. With a follow-up period of 30 days, there would be 34/107 (33%) true positives (surgical deaths) against no false positives (oncological deaths), implying a ratio of infinity for the importance of misclassifying a death as potentially surgery related (figure). With 90 days follow-up, there would be 76 /107 (71%) true positives, and 8/261 (3%) false negatives, implying a ratio of 9.5. A ratio of 1:1 was only reached

after 200 days. Important predictors of 90-day mortality were older age, male gender, involvement of resection margins, transthoracic surgery (vs. transhiatal surgery), weight loss prior to surgery, neoadjuvant therapy, and a history of cardiovascular disease.

Conclusions: A substantial number of surgery related deaths occurred after 30 days after surgery. The optimal length of follow-up depends on the misclassification costs attached to false-positives vs. false-negatives. Weighting both as equally important would require a follow-up up to 200
days.



H-4. ADALIMUMAB VERSUS INFLIXIMAB FOR THE TREATMENT OF MODERATE TO SEVERE ULCERATIVE COLITIS IN ADULT PATIENTS WITH NO PRIOR ANTI-TNF EXPERIENCE: AN INDIRECT COMPARISON META-ANALYSIS

11:15 AM - 11:30 AM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: METHODS FOR OPTIMIZING AND ANALYZING PATIENT OUTCOMES

***Kristian Thorlund, PhD, MSc**, McMaster University, Vancouver, BC, Canada, Eric Druyts, MSc, University of British Columbia, Vancouver, BC, Canada, Edward J. Mills, PhD, MSc, University of Ottawa, Vancouver, BC,*

Canada, Richard N. Fedorak, MD, University of Alberta, Edmonton, AB, Canada and John K. Marshall, MD, McMaster University, Hamilton, ON, Canada

Purpose: Adalimumab and infliximab have been approved for the treatment of ulcerative colitis by several regulatory bodies across the globe. Both are viable treatment options when patients become refractory or intolerant to conventional therapy. Since placebo controlled randomized clinical trials for adalimumab were only published recently, the comparative effectiveness of adalimumab versus infliximab has not yet been established via accepted meta-analytic indirect comparison methods.

Method: An exhaustive search strategy covered major medical databases and recent conventional meta-analyses to identify eligible randomized clinical trials (RCTs). A Bayesian random-effects indirect comparison meta-analysis was performed for five selected and patient-important clinical outcomes at 8 weeks and 52 weeks. Odds ratio (OR) estimates and associated 95% credible intervals (CrI) were produced.

Result: Five eligible RCTs were identified from which data on clinical remission, clinical response, mucosal healing, response on the inflammatory bowel disease questionnaire (IBDQ), colectomy, serious adverse events, and discontinuation due to adverse events were extracted at 8 weeks and 52 weeks. For all efficacy outcomes at both time points, the indirect comparison meta-analysis of adalimumab versus infliximab favoured infliximab. At 8 weeks, clinical remission (OR=0.42, 95% CrI 0.17-0.97), clinical response (OR=0.45, 95% CrI 0.23-0.89) and mucosal healing (OR=0.46, 95% CrI 0.25-0.86) were all statistically significant, whereas IBDQ was not. At 52 weeks, OR estimates for all efficacy outcomes favoured infliximab, but since only two trials provided data for this time point, the results were not statistically significant. Sustained remission was also more likely with infliximab, and sustained response was statistically significantly more likely with infliximab (OR=0.53, 95% CrI 0.24-0.98). For serious adverse events and discontinuations due to adverse events, adalimumab and infliximab both trended towards smaller risk than placebo, but the findings were not statistically significant. Further, the indirect comparison of the adalimumab and infliximab yielded odds ratios close to 1.00 with wide credible intervals.

Conclusion: Our findings suggest that infliximab is significantly more effective than adalimumab for the treatment of moderately to severe ulcerative colitis at 8 weeks, is numerically more effective at 52 weeks, and is more effective at sustaining 8 weeks outcomes till 52 weeks. Findings on safety outcomes were statistically inconclusive.

H-5. LOGISTIC REGRESSION WITH FILTERED DATA TO IMPROVE PROGRESSION IDENTIFICATION

11:30 AM - 11:45 AM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: METHODS FOR OPTIMIZING AND ANALYZING PATIENT OUTCOMES

Greggory J. Schell, MSE[1]*, Mariel S. Lavieri, Ph.D.*[1]*, David C. Musch, Ph.D., M.P.H.*[2] *and Joshua D. Stein, M.D., M.S.*[2]*, (1)University of Michigan School of Engineering, Ann Arbor, MI, (2)University of Michigan Medical School, Ann Arbor, MI*

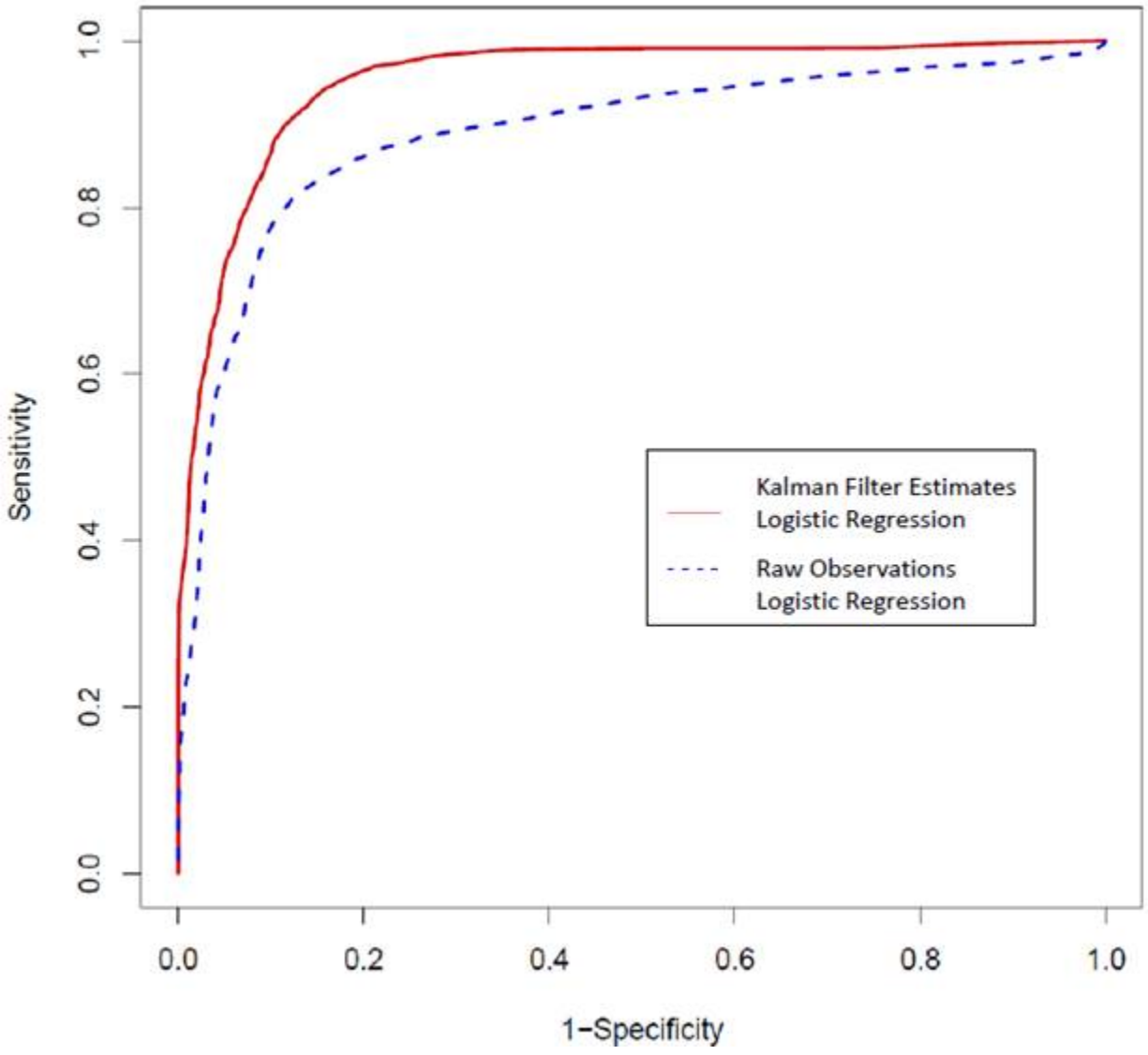
Purpose: We investigated how using filtered longitudinal data as input for logistic regression to predict glaucoma progression affects the classification ability of the logistic regression function.

Methods: A Kalman filter was developed to reduce the process and measurement noise present in longitudinal data from the Collaborative Initial Glaucoma Treatment Study (CIGTS), a randomized clinical trial of patients with early to moderate open angle glaucoma (OAG). These filtered repeated measures estimates were then used

as data input for logistic regression via generalized estimating equations in order to predict OAG progression in patients. Analysis of the receiver operating characteristic (ROC) curve was used to compare this Kalman filter-based model against the standard methodology of using raw observations from the clinical trial as data input for logistic regression.

Results: The Kalman filter-based model resulted in higher specificity and sensitivity compared to the standard raw observations logistic regression model. The area under the ROC curve (AUC) for the Kalman filter-based model was 0.953 while the AUC for the raw observations model was 0.890.

Conclusions: Kalman filtering for estimating the true value of disease-related variables has been shown to improve the progression identification ability of logistic regression functions as compared to the standard approach of using raw data. This approach is applicable to any chronic disease which is subject to noisy observations and requires longitudinal follow-up for effective disease management.



H-6. FRESH VERSUS ELECTIVE FROZEN-THAWED EMBRYO TRANSFER FOR WOMEN UNDERGOING IN VITRO FERTILIZATION: A DECISION ANALYSIS

11:45 AM - 12:00 PM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: METHODS FOR OPTIMIZING AND ANALYZING PATIENT OUTCOMES

Michael Honigberg, AB[1], *Anthony Imudia, MD*[2], *Thomas Toth, MD*[2] *and Anjali Kaimal, MD, MAS*[2], *(1)Harvard Medical School/Harvard Kennedy School, Boston, MA, (2)Massachusetts General Hospital, Harvard Medical School, Boston, MA*

Purpose: Fresh embryo transfer (ET) is currently the norm for in vitro fertilization (IVF). A growing body of literature, however, suggests that pregnancies resulting from frozen-thawed ET have better obstetric and perinatal outcomes than pregnancies resulting from fresh ET. Better outcomes may be related to improved endometrial receptivity and placentation in the more physiologic hormonal environment associated with frozen ET. We used decision analysis to assess the effect of performing elective frozen ET for all IVF cycles.

Methods: A decision-analytic model was developed to compare complication rates for fresh and frozen ET in hypothetical cohorts of women of differing ages (<35, 35-37, 38-40, 41-42, and 43-44). Live-birth rates were derived from 2010 U.S. CDC data. Rates of preterm birth, preeclampsia, and small for gestational age infants based on maternal age and type of IVF cycle were derived from the literature. One-way and multi-way sensitivity analyses were performed to test the robustness of our findings.

Results: For women under 35, fresh and frozen ET result in a similar number of uncomplicated live births. For women aged 35-37, 38-40, 41-42, and 43-44, frozen ET was associated with a higher rate of uncomplicated live births (table). These results were sensitive to the protective effect of frozen ET on the likelihood of complications as well as live-birth rate per cycle with fresh and frozen ET. If the total live-birth rate with fresh ET was more than 3% (35-37), 2.6% (38-40), 1.6% (41-42), or 0.7% (43-44) higher than the total live-birth rate with frozen ET, fresh ET became the preferred strategy for maximizing likelihood of an uncomplicated live birth.

Conclusions: Frozen-thawed embryo transfer optimizes the uncomplicated live-birth rate in women over 35 undergoing IVF. These results are sensitive to the relative likelihood of live birth with fresh versus frozen ET and the protective effect of frozen ET on perinatal complications. Along with individual embryo quality, this data should be considered when contemplating the optimal IVF strategy for women 35 and older. In women under 35, the higher live-birth rate of fresh ET should be weighed against the higher risk of perinatal complications. Additional prospective research is needed to assess live-birth and complication rates following elective frozen-thawed embryo transfer.

Table. Perinatal outcomes for 1,000 cycles of in vitro fertilization (fresh or frozen-thawed embryo transfer).

Maternal age	< 35		35-37		38-40		41-42		43-44	
Type of embryo transfer	Fresh	Frozen	Fresh	Frozen	Fresh	Frozen	Fresh	Frozen	Fresh	Frozen
Uncomplicated live births	326	333	245	299	170	244	91	182	50	142
Complicated live births	89	51	74	48	51	40	34	33	56	26
▪ *Preterm birth*	43	34	33	31	23	25	13	19	5	15
▪ *Small for gestational age*	43	18	39	19	27	15	20	15	8	11
▪ *Preeclampsia*	8	0.6	7	0.7	5	0.5	3	0.5	1	0.4
Total live births	415	384	319	347	221	284	125	215	106	168

I. MODEL INPUTS: HOW CAN WE CHOOSE THE BEST ONES?

« Previous Session | Next Session »

10:30 AM - 12:00 PM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Session Chairs:

- *Jeremy Goldhaber-Fiebert, PhD*
- *Kee Chan, PhD*

Session Summary:

10:30 AM - 10:45 AM

I-1. SELECTING BEST-FITTING INPUTS IN MUTLI-TARGET MODEL CALIBRATION AND IMPLICATIONS FOR COST-EFFECTIVENESS ANALYSIS

10:45 AM - 11:00 AM

I-2. ESTIMATING THE CLINICAL AND QUALITY OF LIFE BENEFITS OF ACUPUNCTURE FROM MULTIPLE PATIENT LEVEL DATA SOURCES: WHAT A PAIN!

11:00 AM - 11:15 AM

I-3. CHANGING CYCLE LENGTHS IN DISCRETE-TIME MARKOV MODELS: CHALLENGES AND SOLUTIONS

11:15 AM - 11:30 AM

I-4. STRATEGIES FOR CALCULATING EVPPI EFFICIENTLY

11:30 AM - 11:45 AM

I-5. SET-VALUED DYNAMIC TREATMENT REGIMES FOR COMPETING OUTCOMES

11:45 AM - 12:00 PM

I-6. USING PROJECTIONS OF LIFE EXPECTANCY IN ECONOMIC DECISION MAKING

Abstracts:

I-1. SELECTING BEST-FITTING INPUTS IN MUTLI-TARGET MODEL CALIBRATION AND IMPLICATIONS FOR COST-EFFECTIVENESS ANALYSIS

10:30 AM - 10:45 AM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: MODEL INPUTS: HOW CAN WE CHOOSE THE BEST ONES?

***Eva Enns, PhD**, University of Minnesota School of Public Health, Minneapolis, MN, Lauren E. Cipriano, MS, Stanford University, Stanford, CA, Cyrena Torrey Simons, MD, PhD, Stanford School of Medicine, Stanford, CA and Chung Yin Kong, PhD, Massachusetts General Hospital, Boston, MA*

Purpose: Calibrating disease natural history models involves changing model inputs to match multiple targets. To identify the best-fitting input set(s), the model's fit to each individual target is often combined into an overall Â“goodness-of-fitÂ” measure. We apply a new approach which utilizes the principle of Pareto-optimality for selecting best-fitting inputs and explore implications for cost-effectiveness analysis and estimates of decision uncertainty.

Methods: A set of model inputs is Pareto-optimal if no other input set simultaneously fits all calibration targets as well or better. The Pareto frontier is the set of these undominated input sets, none of which is clearly superior to any other. Constructing the Pareto frontier thus identifies best-fitting inputs without collapsing multiple fits into a single measure. We demonstrate the Pareto frontier approach in the calibration of a simple model, developed for illustrative purposes, and a previously-published cost-effectiveness model of transcatheter aortic valve replacement (TAVR). For each model, we identify input sets on the Pareto frontier and the top input sets ranked by the weighted sum of individual calibration target fits with (i) equal weightings and (ii) a weighting emphasizing a subset of targets. We evaluate the incremental costs and QALYs of the intervention for best-fitting input sets and assess its cost-effectiveness.

Results: After calibrating the simple model, 506 of 10,000 initial input sets were Pareto-optimal. While the 506 top-ranked input sets under the two weighting schemes yielded results localized to different regions of the cost-effectiveness plane, the Pareto frontier set spanned both regions (Figure 1). This resulted in different estimates of intervention cost-effectiveness and the level of decision uncertainty. At a willingness-to-pay of $100,000/QALY, the intervention was cost-effective when evaluated over the Pareto frontier, and optimal for 70% of Pareto-optimal input sets, but not cost-effective when evaluated over top-ranked input sets under weighting (ii) and optimal for just 17% of input sets. The intervention was optimal for 100% of top input sets under weighting (i). Calibrating the previously-published model also yielded differences. At a $100,000/QALY threshold, TAVR was optimal for 38% of the 260 Pareto-optimal input sets, while it was optimal for 55% and 33% of top input sets under weightings (i) and (ii).

Conclusions: The method of identifying best-fitting input sets in model calibration has the potential to influence cost-effectiveness conclusions.

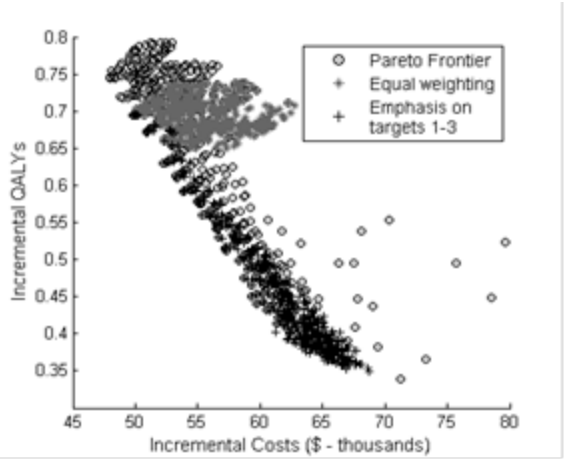


Figure 1 – Calibration results of a simple model of a hypothetical disease and intervention. Incremental costs and QALYs of the intervention are shown for input sets on the Pareto frontier and top-ranking input sets under two weighting schemes (equal weighting and a weighting emphasizing a subset of targets).

I-2. ESTIMATING THE CLINICAL AND QUALITY OF LIFE BENEFITS OF ACUPUNCTURE FROM MULTIPLE PATIENT LEVEL DATA SOURCES: WHAT A PAIN!

10:45 AM - 11:00 AM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: MODEL INPUTS: HOW CAN WE CHOOSE THE BEST ONES?

Andrea Manca, PhD, MSc[1], *Pedro Saramago, MSc, PhD*[2], *Helen Weatherly, MSc*[3], *Thomas Patton, MSc*[2] *and Mark Sculpher, PhD*[3], *(1)The University of York, York, United Kingdom, (2)The University of York, York, England, (3)University of York, York, United Kingdom*

Purpose: Economic analyses carried out to inform policy making must consider and synthesise all (relevant) evidence relating to the clinical effectiveness, patient-reported outcome measures (PROMs) and costs of the health technologies under scrutiny. Evidence based medicine says that a quantitative synthesis of the same outcome measure from multiple IPD sources is the gold standard for deriving estimates of treatment effect, a key parameter in any evaluation model. Unfortunately, in practice the evidence base is often multifaceted and fragmented, comprising a mix of aggregate (AD) and individual patient level data (IPD). This paper illustrates the methodological challenges encountered (and the solutions devised) by the authors in a recent economic model which assessed the value for money of acupuncture in chronic non-cancer related pain among primary care patients.

Methods: We had access to IPD (>18,000 patients) from 28 high quality Randomised Controlled Trials (RCTs) which evaluated acupuncture (versus either sham acupuncture and/or versus usual care) in three different conditions comprising headache, musculoskeletal pain and osteoarthritis of the knee. The evidence base was chaotic, with the majority of the RCTs: (a) reporting different condition-specific (e.g. pain VAS, CMS, WOMAC) and generic PROMs (SF12, SF36, only two studies collected EQ-5D), (b) having different follow up durations, (c) failing to compare directly the relevant strategies. We developed a suite of Bayesian MTC models for the synthesis of continuous (heterogeneous) outcomes (i.e. change in adjusted pain score, change in EQ-5D), which embedded a series of mapping algorithms to predict individual specific EQ-5D values, and correlated these to the patient adjusted standardised pain scores. The analysis was carried out in WinBUGs using McMC methods, to fully characterise the relevant uncertainties while facilitating consistency checks between the direct and indirect evidence.

Results : Acupuncture (net of sham) is more effective at reducing pain and increasing EQ-5D than usual care in the management of non-cancer related chronic pain in primary care.

Conclusions: Bayesian modelling provides a flexible framework to address the challenges posed by a messy evidence base. The approach devised by the authors proved fruitful and facilitated a more robust assessment of the benefits of acupuncture, while (a) synthesising multiple heterogeneous outcomes, available at the IPD level; (b) mapping several PROMs onto the EQ5D; (c) controlling both for ‘sham effect’ and treatment effect modifiers.

I-3. CHANGING CYCLE LENGTHS IN DISCRETE-TIME MARKOV MODELS: CHALLENGES AND SOLUTIONS

11:00 AM - 11:15 AM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: MODEL INPUTS: HOW CAN WE CHOOSE THE BEST ONES?

Suren M. Jayasuriya, B.S., B.A., *Cornell University, Ithaca, NY, Elamin H. Elbasha, PhD, Merck Research Laboratories, North Wales, PA and Jagpreet Chhatwal, PhD, University of Pittsburgh, Graduate School of Public Health, Pittsburgh, PA*

Purpose: It is desirable to have a short cycle length in a discrete-time Markov model, which often requires transforming transition probabilities. Our purpose was to show that the widely used formula $\hat{a}_i = 1 - (1-p_i)^{s/t}$ for converting a probability p_i over time interval t into a transition probability $\hat{a}_i$ for a Markov model with shorter cycle length s is invalid for models with three or more states. We explore theoretical issues concerning the mathematically correct approach for adjusting cycle length in such models, and offer numerical approximation methods to practically solve these issues.

Method: We present several examples of Markov models including ones that involve competing risk to highlight the inaccuracy of the traditional formulas. We formulate the problem of adjusting cycle lengths in Markov models mathematically as that of proving the existence of a unique root of a transition probability matrix and ensuring such root is stochastic (i.e. probabilities are nonnegative and sum up to 1). We use a simple Markov model for advanced liver disease to highlight the mathematically correct approach of finding the root of a matrix using eigendecomposition for determining adjusted transition probabilities. Further, using a previously published HIV Markov model of Chancellor e.t. al., we highlight scenarios where even eigendecomposition fails. Finally, we provide a framework with numerical approximation algorithms to practically change cycle lengths.

Result: We prove that Markov models whose transition matrices are upper triangular with distinct, non-zero probabilities for the diagonal entries (which we label "progressive" Markov models) are guaranteed to have a unique matrix root. This avoids identifiability issues for transition matrices possessing multiple roots as equal candidates for the shorter cycle model. We provide conditions to determine in general if a given structure of the Markov model suffers from identifiability. We use approximation methods to convert a nonstochastic matrix to a stochastic matrix. Using the HIV and advanced liver disease example, we show that our approach leads to less bias in model outcomes when compared with the traditional (incorrect) approach.

Conclusion: The traditional formula of converting transition probabilities to different cycle lengths leads to biased outcomes. We further highlight underlying challenges of finding unbiased outcomes and offer a unified framework that leads to more accurate outcomes than the traditional approach in medical decision models.

I-4. STRATEGIES FOR CALCULATING EVPPI EFFICIENTLY

11:15 AM - 11:30 AM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: MODEL INPUTS: HOW CAN WE CHOOSE THE BEST ONES?

***Jason Madan, MA, MSc, PhD**, University of Warwick, Coventry, United Kingdom, Nicky J. Welton, PhD, Bristol University, Bristol, United Kingdom and A. E. Ades, PhD, University of Bristol, Bristol, United Kingdom*

Purpose: To extend current available approaches for calculating the Expected Value of Partial Perfect Information (EVPPI) without requiring nested Monte Carlo simulation.

Method: Expected Value of Partial Perfect Information (EVPPI) provides an upper limit for the expected gains from carrying out further research to provide information on a focal subset of parameters in a cost-effectiveness model. Calculating EVPPI requires the estimation of an inner expected net benefit over the remaining (non-focal) parameters conditional on the focal parameters. This expectation is nested within an outer expectation over the focal parameters. Since the inner expectation can only be replaced by the unconditional means of the non-focal parameters in special cases, a common general approach is to use nested Monte Carlo simulation to obtain an estimate of EVPPI. This approach is computationally intensive, can lead to significant sampling bias if an inadequate number of inner samples are obtained, and incorrect results can be obtained if correlations

between parameters are not dealt with appropriately.We set out a range of methods for estimating EVPPI that avoid the need for nested simulation: reparameterisation of the net benefit function, Taylor series approximations, and restricted cubic spline estimation of conditional expectations.

Result: For each method, we set out the generalised functional form which net benefit must take for the method to be valid. By specifying this functional form, our methods are able to focus on components of the model where approximation is required, avoiding the complexities involved in developing statistical approximations for the model as a whole. Our methods also allow for any correlations that might exist between model parameters. We illustrate the methods using an example of fluid resuscitation in African children with severe malaria.

Conclusion: Careful consideration of the functional form of the net benefit function can allow EVPPI to be calculated in a single step in a wide range of situations. Where EVPPI can be calculated in a single step, avoiding nested Monte Carlo Simulation, this leads to marked improvements in speed and accuracy.

I-5. SET-VALUED DYNAMIC TREATMENT REGIMES FOR COMPETING OUTCOMES

11:30 AM - 11:45 AM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: MODEL INPUTS: HOW CAN WE CHOOSE THE BEST ONES?

*Eric B. Laber, PhD, North Carolina State University, Raleigh, NC and **Daniel J. Lizotte, PhD**, University of Waterloo, Waterloo, ON, Canada*

Purpose: We develop a method for constructing dynamic treatment regimes that accommodates competing outcomes by recommending sets of feasible treatments rather than a unique treatment at each decision point.

Method: Dynamic treatment regimes model sequential clinical decision-making using a sequence of decision rules, one for each clinical decision. Each rule takes as input up-to-date patient information and produces as output a single recommended treatment. Existing methods for estimating optimal dynamic treatment regimes, for example Q-learning, require the specification of a single outcome (e.g. symptom relief) by which the quality of a dynamic treatment regime is measured. However, this is an over-simplification of clinical decision making, which is informed by several potentially competing outcomes (e.g. symptom relief and side-effect burden.) Our method is motivated by the CATIE clinical trial of schizophrenic patients: it is aimed at patient populations that have high outcome preference heterogeneity, evolving outcome preferences, and/or impediments to preference elicitation. To accommodate varying preferences, we construct a sequence of decision rules that output a tailored set of treatments rather than a unique treatment. The set contains all treatments that are not dominated according to the competing outcomes. To construct these sets, we solve a non-trivial enumeration problem by reducing it to a linear mixed integer program.

Result: We illustrate the method using data from the CATIE schizophrenia study by constructing a set-valued dynamic treatment regime using measures of symptoms and weight gain as competing outcomes. The sets we produce offer more choice than a standard dynamic treatment regime while eliminating poor treatment choices.

Conclusion: Set-valued dynamic treatment regimes represent a new paradigm for data-driven clinical decision support. They respect both within- and between-patient preference heterogeneity, and provide more information to decision makers. Set-valued decision rules may be used when patients are unwilling or unable to communicate outcome preferences. The mathematical formalization of set-valued dynamic treatment regimes offers a new class of decision processes which generalize Markov Decision Processes in that the process involves two actors: a screener which maps states to a subset of available treatments, and a decision maker

which chooses treatments from this set. We believe this work will stimulate further investigation and application of these processes.

I-6. USING PROJECTIONS OF LIFE EXPECTANCY IN ECONOMIC DECISION MAKING

11:45 AM - 12:00 PM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: MODEL INPUTS: HOW CAN WE CHOOSE THE BEST ONES?

Petros Pechlivanoglou, PhD[1], *Mike Paulden, MA., MSc.*[1], *William W. L. Wong, Ph.D.*[1], *Sarah Bermingham, MSc*[2] *and Ba' Pham, MSc, PhD, (c)*[1], *(1)University of Toronto, Toronto, ON, Canada, (2)Health Quality Ontario, Toronto, ON, Canada*

Purpose: Current best practice guidelines for decision analytic modeling suggest the use of life tables for the derivation of all-cause mortality probabilities. These probabilities are typically assumed as fixed with no uncertainty over the model time horizon. The aim of this study is to investigate the impact of mortality projections using historical life tables on the health outcomes and the costs estimated through a decision analytic model.

Method: A previously published model on the cost-effectiveness of screening a cohort of male immigrants (average 35 years of age) for Chronic Hepatitis B in Canada has been updated using projected mortality probabilities. The Lee-Carter principal component and the random walk with drift methods were applied on historical life tables (1977-2002, Statistics Canada) to derive cohort-specific and time- specific projections of the mortality probabilities. Prediction uncertainty around the mortality probabilities was captured and was incorporated in the probabilistic sensitivity analysis of the decision analytic model. The impact of mortality projections on the model outcomes at different discount rates was assessed.

Result: When fixed mortality probabilities and a discount rate of 5% were assumed, screening of male immigrants was associated with an improvement in quality-adjusted life expectancy (0.024 QALYs), additional costs ($1,665) and an ICER of $69,209/QALY gained. When projected mortality probabilities, using the Lee-Carter method, and a discount rate of 5% were assumed, screening was associated with larger gains in QALYs (0.027 per person) while costs remained approximately the same ($1,666 per person) resulting in an ICER of $ 59,967/QALY. For a discount rate of 3.5% the impact of the assumption on the mortality probabilities was more profound on the ICER of screening vs no screening (fixed mortality: $50,507/QALY, projected mortality: $42,364/QALY). The results were similar for the random walk with drift method.

Conclusion: This study illustrates the importance of accounting for future gains in life expectancy within decision analytic models, especially when the costs of an intervention are incurred earlier in life and benefits are accrued across lifetime. In cases when the ICER estimates are compared to a threshold representing either an opportunity cost or a willingness to pay value, accounting for future gains in life expectancy could alter the interpretation of the cost-effectiveness results.

J. IMPROVING DECISIONS FOR CANCER CARE

« Previous Session | Next Session »

1:30 PM - 3:00 PM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Session Chairs:

- *Marilyn Schapira, MD, MPH*
- *Christopher R. Wolfe, Ph.D.*

Session Summary:

1:30 PM - 1:45 PM

J-1. RACIAL DIFFERENCES IN TREATMENT PREFERENCES AFTER USING A LOW VERSUS HIGH LITERACY PROSTATE CANCER DECISION AID

1:45 PM - 2:00 PM

J-2. CANCER SCREENING DECISIONS: THE IMPACT OF THE AFFECT HEURISTIC IN INTERPRETATION OF TEST RISKS AND BENEFITS

2:00 PM - 2:15 PM

J-3. ADDING NATURAL FREQUENCY DATA TO A DECISION AID FOR COLORECTAL CANCER SCREENING: RESULTS OF A RANDOMIZED TRIAL

2:15 PM - 2:30 PM

J-4. DECISION REGRET FOLLOWING TREATMENT FOR LOCALIZED BREAST CANCER: IS REGRET STABLE OVER TIME?

2:30 PM - 2:45 PM

J-5. DOES FRAMING OF CANCER SURVIVAL AFFECT PERCEIVED VALUE OF CARE? COMPARING RESPONDENTS WITH AND WITHOUT CANCER

2:45 PM - 3:00 PM

J-6. CHARACTERIZING SURGICAL TREATMENT DECISION INVOLVEMENT IN YOUNG WOMEN WITH BREAST CANCER

Abstracts:

J-1. RACIAL DIFFERENCES IN TREATMENT PREFERENCES AFTER USING A LOW VERSUS HIGH LITERACY PROSTATE CANCER DECISION AID

1:30 PM - 1:45 PM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: IMPROVING DECISIONS FOR CANCER CARE

Laura D. Scherer, PhD[1], *Peter A. Ubel, MD*[2], *Margaret Holmes-Rovner, PhD*[3], *David Rovner, MD*[4], *Stewart Alexander, PhD*[2], *James A. Tulsky, MD*[2], *Sara J. Knight, PhD*[5], *John T. Wei, MD, MS*[6], *Jeffrey Gingrich, MD*[7] *and Angela Fagerlin, PhD*[8], *(1)University of Missouri, Columbia, MO, (2)Duke University, Durham, NC, (3)Center for Ethics, E. Lansing, MI, (4)Michigan State University, East Lansing, MI, (5)Department of Veterans Affairs, Washington, DC, (6)University of Michigan, Ann Arbor, MI, (7)University of Pittsburgh, Pittsburgh, PA, (8)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

Purpose: Research has shown that racial minorities often have different treatment preferences than Whites. One question is whether this is the result of knowledge deficits, differences in literacy or numeracy levels, or any of a number of factors. In the present research, men receiving prostate cancer biopsies were given either a low or high literacy decision aid (DA), and then treatment preferences were assessed. The purpose of the present research was to explore racial differences in treatment preferences following exposure to low versus high literacy DAs.

Method: 1023 men from four VA hospitals were recruited at their prostate cancer biopsy appointment; 77% of the participants were White, and 23% were non-White (of which 92% were African American). At Time 1 participants were randomly assigned to receive either a low or high literacy prostate cancer decision aid. Literacy (using the REALM), and subjective numeracy were also assessed. At Time 2, which occurred after participants read the DA but just prior to receiving a prostate cancer diagnosis, men were asked to report their treatment preferences by indicating whether they were considering each treatment option. Knowledge about the treatment options was also assessed.

Result: Across both DAs, more White men were interested in active surveillance (41%) than non-White men (23%). However this effect was moderated by the type of DA, B=1.40, SE=.37, p=.02: Relative to the high literacy DA, the low literacy DA increased interest in active surveillance for Whites but not non-Whites. The low literacy DA also decreased interest in external beam radiation for Whites but not non-Whites, B=-1.29, SE=.55, p=.02. These interactions were still significant when controlling for numeracy, literacy, and knowledge. There were no effects involving race for interest in any other treatment option (i.e., surgery, brachytherapy).

Conclusion: Results showed that White men's preferences were influenced by the low literacy DA, but the preferences of non-White men stayed the same regardless of the DA type. Moreover, the effect of the different DAs did not change when controlling for numeracy, literacy, or knowledge. These results suggest that Whites may be more likely to change their treatment preferences in response to a lower-literacy DA, but the treatment preferences of racial minorities are rooted in other factors that were not identified from the current analysis.

J-2. CANCER SCREENING DECISIONS: THE IMPACT OF THE AFFECT HEURISTIC IN INTERPRETATION OF TEST RISKS AND BENEFITS

1:45 PM - 2:00 PM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: IMPROVING DECISIONS FOR CANCER CARE

***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: Recently, expert panels have advised many Americans to reduce the frequency of screening tests for various cancers (e.g. prostate, breast). However, these recommendations are often met with considerable resistance from the general public. One possible way to explain this resistance is that when people feel positively toward a given behavior, they assume that the benefits of that behavior are high and the risks are low—a phenomenon known as the affect heuristic. The purpose of the present research was to determine whether the affect heuristic results in systematic biases in interpretations of screening test information.

Method: 311 participants were recruited online and read information about the risks and benefits of a screening test (e.g. *this test may detect disease before it becomes dangerous, this test may lead to unnecessary further testing and treatments that are expensive and painful*). This risk and benefit information was identical for all participants, but the screening test label was experimentally varied; participants were told that the test was for an unspecified disease, an unspecified cancer, or colon cancer. Outcome measures included perceptions of risks and benefits of the test, and decisions to get screened or not.

Result: Participants who believed that the test was for colon cancer were significantly more likely to decided to get the test (57%) than participants who believed the test was for an unspecified disease (38%) or unspecified cancer (41%), $\chi^2(1)=4.67$, $p=.03$ They also perceived the benefits as higher ($M=6.38$) than participants in the unspecified disease and cancer conditions ($Ms=5.01$ and 5.36; $F(2,293)=10.39$, $p<.001$), and the risks as lower ($Ms=5.14$ vs. 6.11 and 6.10; $F(2,293)=6.94$, $p=.001$). When controlling for perceptions of risks and benefits, there was no longer a relationship between test label and screening decisions ($p=.61$).

Conclusion: Participants were more likely to get screened for colon cancer than an unspecified cancer or disease, even though the test information was identical for all participants. As predicted by the affect heuristic, participants considering a colon cancer test underweighted the risks and overweighed the benefits of the test, compared to participants who judged the same information with different labels. These results demonstrate that interpretations of screening test information may be systematically biased, and can help to explain the difficulty of communicating screening test recommendations to the public.

J-3. ADDING NATURAL FREQUENCY DATA TO A DECISION AID FOR COLORECTAL CANCER SCREENING: RESULTS OF A RANDOMIZED TRIAL

2:00 PM - 2:15 PM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: IMPROVING DECISIONS FOR CANCER CARE

***Peter H. Schwartz, MD, PhD**[1], Paul F. Muriello, BA[1], Susan M. Perkins, PhD[1], Karen K. Schmidt, RN[1] and Susan M. Rawl, RN, PhD[2], (1)Indiana University School of Medicine, Indianapolis, IN, (2)Indiana University School of Nursing, Indianapolis, IN*

Purpose: Guidelines recommend that decision aids provide natural frequency data regarding baseline risk, risk reduction, and chances of false positives and negatives. Such quantitative information may confuse patients, especially those with low numeracy. We conducted a randomized trial to compare effects of two colorectal cancer (CRC) screening decision aids – one with and one without natural frequency data.

Method: 108 patients, aged 50-75 years, who were at average risk for CRC and due for screening were recruited from primary care clinics. All subjects viewed a CRC screening decision aid (without numbers) and half (n=56) were randomized to view natural frequency data for two common screening tests. Participants completed questionnaires before and after viewing the decision aid that assessed subjective CRC risk, intent to be screened, and decisional conflict. At six months, screening behavior was assessed.

Result: Members of both groups showed significant increases in subjective CRC risk, intent to be screened, intent to undergo fecal immunochemical testing (FIT), intent to undergo colonoscopy, and reduction in overall decisional conflict score (all $p < 0.01$). However, no significant between-group differences in change scores were observed. Numeracy was a significant moderator. Among participants with numeracy scores above the median, those who viewed the natural frequency data had a significantly smaller increase in subjective CRC risk than those who did not view natural frequency data (-0.09 vs. 0.81, respectively, $p = .009$), and significantly greater intent to undergo FIT (1.00 vs. 0.1, respectively, $p = .01$). However, for those with numeracy scores below the median, no significant between-group differences were seen. At 6 months, a higher proportion of patients who viewed the natural frequency data had completed CRC screening compared to those who did not; however, this difference was not significant (39.3% vs. 26.9%, $p = 0.173$). Among patients with numeracy scores above the median, a higher uptake of FIT was observed among those who viewed the natural frequency data that approached significance (12.1% vs. 0%, $p = 0.148$); there were no significant between-group differences for those with below median numeracy.

Conclusion: Adding natural frequency data to a decision aid had a significant effect but only for patients with higher numeracy scores. More research is needed before making recommendations to present such data to all patients.

J-4. DECISION REGRET FOLLOWING TREATMENT FOR LOCALIZED BREAST CANCER: IS REGRET STABLE OVER TIME?

2:15 PM - 2:30 PM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: IMPROVING DECISIONS FOR CANCER CARE

***Kathryn A. Martinez, PhD, MPH**, Ann Arbor, MI, Ken Resnicow, PhD, University of Michigan School of Public Health, Ann Arbor, MI and Sarah T. Hawley, PhD, MPH, University of Michigan, Ann Arbor VA Health System, Ann Arbor, MI*

Purpose: Although studies suggest most women have little regret with their breast cancer treatment decisions, few (or no) studies have evaluated whether decision regret changes over time, particularly as women experience disease complications or recurrence.

Method: Women diagnosed with breast cancer between August 2005 and May 2007 reported to the Detroit, Michigan or Los Angeles County SEER registry completed surveys at two time points: nine months following diagnosis (time 1) and again approximately four years later (time 2). A decision regret scale (adapted from Brehaut, 2003) consisting of 5 items was completed at both time points. Item responses were summed to create a regret score at both nine months and four years (scales of 5 to 25 points; higher values indicate higher regret). We used multivariable linear regression to examine change in regret from nine months to four years. Primary independent variables included surgery type (breast conserving surgery, unilateral mastectomy, bilateral mastectomy), invasive versus non-invasive disease, and recurrence status (yes/no) at follow-up. We included an interaction between surgery type and recurrence status at time 2. The model controlled for patient demographic and clinical factors.

Result: The analytic sample included 1,497 women who responded to both surveys. Mean decision regret at nine months was 9.5 points; mean regret at four years was 10.1 points (range 5-25) (NS). Two-thirds (64%) of respondents had breast conserving surgery, 26% had unilateral mastectomy, and 9% had bilateral mastectomy. We found no impact of surgery type on change in decision regret in the overall sample. However, among the, 86 (6%) women who experienced a recurrence, those who underwent unilateral mastectomy reported significant reduction in decision regret over time relative to recurrent women who underwent breast conserving surgery (d= -6.76, p=0.024). Average change in regret among non-recurrent women was 0.52 points and was 2.7 points for women who recurred.

Conclusion: Decision regret in breast cancer is generally stable over time, yet changes in regret appear to be associated with disease trajectory and treatment received. Our results suggest that more extensive treatment is associated with a reduction in decision regret only when women experience a recurrence. Understanding patients' assessment of their own decisions related to treatment may be useful for informing future decision making processes.

J-5. DOES FRAMING OF CANCER SURVIVAL AFFECT PERCEIVED VALUE OF CARE? COMPARING RESPONDENTS WITH AND WITHOUT CANCER

2:30 PM - 2:45 PM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: IMPROVING DECISIONS FOR CANCER CARE

Pei-Jung Lin, Ph.D.[1], *Thomas W. Concannon, Ph.D.*[2], *Dan Greenberg, PhD*[3], *Joshua T. Cohen, Ph.D.*[1], *Gregory Rossi, Ph.D.*[4], *Jeffrey Hille, M.P.H.*[5], *Hannah R. Auerbach, M.S.*[1], *Chi-Hui Fang, M.P.H., M.S.*[6], *Eric S. Nadler, M.D., M.P.P.*[7] *and Peter J. Neumann, Sc.D.*[1], *(1)Tufts Medical Center, Boston, MA, (2)RAND Corporation, Boston, MA, (3)Ben-Gurion University of the Negev, Beer-Sheva, Israel, (4)AstraZeneca, Stockport, United Kingdom, (5)Genentech, San Francisco, CA, (6)Pfizer, Taipei, Taiwan, (7)Baylor University Medical Center, Dallas, TX*

Purpose: Message framing can affect patient comprehension of information and treatment decisions. We investigated the relationship between the framing of survival gains and the perceived value placed on cancer care, and examined whether the perceived value differ by prior cancer diagnosis.

Method: We conducted an internet-based, population survey of 2,050 U.S. adults (50% with cancer history). Respondents were randomized to one of two sets of hypothetical scenarios, each of which described the survival benefit for a new treatment as either an increase in median survival time (median survival), or an increase in the probability of survival for a given length of time (landmark survival), over standard therapy. Each respondent was presented with two randomly selected scenarios with different baseline and survival improvements, and asked about their willingness-to-pay (WTP) for the new treatments. We used a double-bounded, dichotomous-choice bidding game to elicit WTP and performed a two-part model to examine factors influencing WTP.

Result: Predicted WTP increased with survival benefits and respondents' income, regardless of how survival benefits were described. Framing therapeutic benefits in terms of improvements in landmark rather than median time survival increased the proportion of the population willing to pay for that gain by 11%-35%, and the mean WTP amount by 42%-72%. Respondents with a prior diagnosis of cancer were more likely to pay some amount for therapy that conferred survival benefit (OR=1.44, $p<0.01$), but their mean WTP did not differ from respondents with no history of cancer. 88% of cancer survivors stated that treatment success was a very important or important factor in deciding whether and how much to pay, compared to 84% among non-cancer

respondents (p<0.01). Approximately 80% indicated that affordability of treatment was a very important or important consideration, regardless of cancer history.

Conclusion: How survival benefits are described may influence the value people place on cancer care. People may be willing to pay more for therapy if benefits are described as an increase in landmark survival probability than they would if the benefit is described as an increase in median survival time. Although individuals with a prior cancer diagnosis may be more inclined to pay out-of-pocket for cancer treatment that confers additional survival advantage, the amount an individual would pay appeared to be independent of personal cancer history.

J-6. CHARACTERIZING SURGICAL TREATMENT DECISION INVOLVEMENT IN YOUNG WOMEN WITH BREAST CANCER

2:45 PM - 3:00 PM: Tue. Oct 22, 2013
Key Ballroom 5-6 (Hilton Baltimore)
Part of Session: IMPROVING DECISIONS FOR CANCER CARE

Shoshana Rosenberg, ScD, MPH[1], *Karen R. Sepucha, PhD*[2], *Kathryn J. Ruddy, MD, MPH*[3], *Rulla M. Tamimi, ScD*[1], *Shari Gelber, MS, MSW*[3], *Meghan E. Meyer, BS*[3], *Lidia Schapira, MD*[2], *Steven E. Come, MD*[4], *Virginia F. Borges, MD*[5] *and Ann Partridge, MD, MPH*[3], *(1)Harvard School of Public Health, Boston, MA, (2)Massachusetts General Hospital, Boston, MA, (3)Dana-Farber Cancer Institute, Boston, MA, (4)Beth Israel Deaconess Medical Center, Boston, MA, (5)University of Colorado-Denver, Denver, CO*

Purpose: Little is known about how young women make treatment decisions; a better understanding of these factors can potentially inform and improve the decision-making process. We sought to evaluate socio-demographic, clinical, and psychological factors in relation to surgical decisional involvement in very young women with breast cancer.

Method: As part of an ongoing multi-center cohort study enrolling women diagnosed with breast cancer at age ≤ 40, we evaluated 470 women with Stage 0-III disease. Women self-reported whether their final decision about surgical treatment was mainly their own, shared with their doctor, or mainly their doctor's. Multinomial logistic regression models were fit to assess factors associated with: 1) patient-driven vs. shared decisions; 2) physician-driven vs. shared decisions. Independent variables with a p-value ≤ 0.15 in bi-variate analyses were included in the final multivariable model.

Result: Median age at diagnosis was 37 (range: 17-40). Most women had stage I or II disease (82%), and estrogen receptor (ER) positive tumors (70%). 42% of women reported the decision about surgery was their own, 49% reported the decision was shared, and 9% reported the decision was mainly their physician's. Most women (452/470) were satisfied with their involvement in the decision, with only 3% indicating they would have preferred more involvement. In the multivariable analysis (Table 1), depressed women were less likely, while women who had bilateral mastectomies more likely, to report patient-driven decisions. Minority women were more likely, and women with bilateral mastectomies less likely, to report a physician-driven decision. Age at diagnosis, tumor size, nodal status, marital status, parity, radiation treatment, having a cancer-predisposing mutation, family history, and anxiety were not significantly associated with decisional involvement.

Conclusion: Our findings suggest that certain patient and clinical characteristics are associated with surgical decisional involvement in young women with breast cancer. These factors should be considered in an effort to promote quality decision-making while enhancing communication about these decisions between physicians and patients. **Table 1**. Multivariable analysis of factors associated with decisional involvement

	Patient vs. Shared	Physician vs. Shared
	OR (95% CI)	**OR (95% CI)**
Depression	0.40 (0.17-0.95)	2.18 (0.81-5.89)
Tumor size	1.27 (0.81-1.94)	1.49 (0.72-3.08)
Non-White non-Hispanic	1.43 (0.74-2.78)	2.73 (1.14-6.50)
Radiation	0.76 (0.46-1.25)	1.72 (0.69-4.28)
Surgery (ref=lumpectomy)		
Bilateral mastectomy	2.22 (1.26-3.93)	0.23 (0.06-0.89)
Unilateral mastectomy	0.80 (0.43-1.48)	1.88 (0.80-4.38)

K. WELL THAT WAS HARDÂ…DECISION MAKING IN COMPLEX CLINICAL ENCOUNTERS

« Previous Session | Next Session »

1:30 PM - 3:00 PM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Session Chairs:

- *Jane J. Kim, PhD*
- *Lawrence J. Cheskin, MD*

Session Summary:

1:30 PM - 1:45 PM

K-1. "WHAT WOULD YOU DO?": OBSTETRICIANS' AND NEONATOLOGISTS' RESPONSES TO STANDARDIZED PATIENT REQUESTS FOR ADVICE REGARDING WHETHER TO ATTEMPT NEONATAL RESUSCITATION AT 23 WEEKS GESTATION

1:45 PM - 2:00 PM

K-2. PARENTS' EXPECTATION TO RECEIVE ANTIBIOTIC PRESCRIPTIONS FOR CHILDREN

2:00 PM - 2:15 PM

K-3. CAN THE IMPORTANCE OF HERD IMMUNITY INFLUENCE PARENTS' INTENTIONS TO VACCINATE THEIR CHILDREN?

2:15 PM - 2:30 PM

K-4. SUPPORTING PATIENT VALUES: A SYSTEMATIC REVIEW OF VALUES CLARIFICATION EXERCISES

2:30 PM - 2:45 PM

K-5. SUBJECTIVE AND PHYSIOLOGICAL EMOTIONAL RESPONSES WHILE READING PATIENTS' NARRATIVES ABOUT COLORECTAL CANCER SCREENING

2:45 PM - 3:00 PM

K-6. FAITH IN DELIBERATION: ON THE IMPACT OF DELIBERATIVE VERSUS INTUITIVE STRATEGIES ON PATIENT DECISIONS

Abstracts:

K-1. "WHAT WOULD YOU DO?": OBSTETRICIANS' AND NEONATOLOGISTS' RESPONSES TO STANDARDIZED PATIENT REQUESTS FOR ADVICE REGARDING WHETHER TO ATTEMPT NEONATAL RESUSCITATION AT 23 WEEKS GESTATION

1:30 PM - 1:45 PM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: WELL THAT WAS HARDÂ…DECISION MAKING IN COMPLEX CLINICAL ENCOUNTERS

Brownsyne Tucker Edmonds, MD, MPH, MS[1], *Fatima McKenzie, MS*[1], *Amber E. Barnato, MD, MPH, MS*[2] *and Richard M. Frankel, PhD*[1], *(1)Indiana University School of Medicine, Indianapolis, IN, (2)University of Pittsburgh School of Medicine, Pittsburgh, PA*

Purpose: To qualitatively assess and compare obstetricians' and neonatologists' responses to patients asking: "What would you do?" when discussing treatment options and prognosis for potential delivery at 23 weeks gestation.

Method: We conducted an exploratory single-center simulation study. Fifteen obstetricians and 15 neonatologists counseled simulated patients (SPs) portraying a pregnant woman presenting with ruptured membranes at 23 weeks gestation. The SPs were instructed to ask, "What would you do?" if the physician presented more than one treatment option (e.g. comfort measures versus attempted neonatal resuscitation). We audio and video-recorded the simulations. Two investigators (BTE, FM) independently reviewed the video segments and iteratively developed codes to classify physician response categories.

Result: All but one encounter (29/30) included the SP's prompt. All 15 of the neonatologists and 6/14 (43%) obstetricians deflected the question, saying, "I don't know," either because: "I've never faced this decision before;" "I don't know what your values are;" or "It doesn't matter what I would do." One obstetrician ignored the question and 2 explicitly declined to answer it. After deflecting the question, physicians often restated the morbidity and mortality statistics; repeated the management options; or offered to provide the patient with additional information to help them make their own decision. Five of 14 (38%) obstetricians provided a personal preference, opinion, or recommendation; no neonatologists did. Several physicians discussed values indirectly by describing the decisions of other parents; emphasizing that "good parents" who make "loving decisions" have chosen either option. Only one of the physicians directly explored the patient's values. However, the majority of physicians (17/29, 58%) stated that it was a "personal decision" for which there were "no right answers." Many redirected patients to seek guidance from family, friends, and religious leaders, rather than the physician, to aid them in decision-making.

Conclusion: Obstetricians and neonatologists responsible for counseling women about "preference sensitive" treatment options in the face of periviable delivery typically avoided disclosing personal opinions or recommendations regarding resuscitation. Their efforts to respect autonomy and avoid biasing parental decision-making may have the unintended consequence of implicitly or explicitly communicating messages that could leave patients feeling abandoned or disregarded. "What would you do?" inquiries represented a missed opportunity for providers to facilitate values elicitation which could guide decision-making, with or without disclosing personal opinions.

K-2. PARENTS' EXPECTATION TO RECEIVE ANTIBIOTIC PRESCRIPTIONS FOR CHILDREN

1:45 PM - 2:00 PM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: WELL THAT WAS HARDÂ…DECISION MAKING IN COMPLEX CLINICAL ENCOUNTERS

***Nilanjana Dwibedi, MBA, PhD**, West Virginia University, School of Pharmacy, Morgantown, WV and Sujit S. Sansgiry, PhD, College of Pharmacy, University of Houston, Houston, TX*

Purpose: Physician's perception regarding parents' expectation to receive antibiotic prescription for their children is a significant predictor of overprescribing antibiotics for young children. The purpose of this study was to evaluate whether parents' level of expectation would change after manipulating their 'perceived barriers to visit doctors without any expectation of antibiotic prescription' and their 'perceived benefits of using antibiotics'.

Method: A prospective experimental study was conducted using a structured data-collection instrument to manipulate perceived barriers and perceived benefits using four scenarios and keep other factors of Health Belief Model constant. Scenarios were developed with the help of pediatricians and by conducting elicitation survey among parents of young children. Each subject viewed four scenarios. Parents' expectation to receive antibiotic prescription associated with each scenario was measured on a scale of 0 ('No Expectation') to 100 ('High Expectation'); a 100mm visual-analog-scale was used. Data were collected at public places (Houston, TX) from subjects who had at least one child (age≤5 years) during the study and who could speak, read and write English. Psychometric properties of the instrument were tested; descriptive and repeated measures mixed method covariance adjusted analyses were performed using SAS®9.3 with a 0.05 significance level.

Result: A total of 300 completed surveys were analyzed. Mean age of the sample was 30.3±7 years. The mean general expectation score (before reading any scenario) to receive antibiotic prescription for children was 53.6±25.7. The repeated measure mixed methods analyses indicated that there was 12-point reduction ($p<0.0001$) in expectation score after removing perceived barriers from the situational scenarios; 16-point

decrease (p<0.0001) in expectation score was observed after removing perceived benefits and 18-point decrease (p<0.0001) in expectation score after removing both perceived barriers and perceived benefits. Some covariates (general expectation toward an antibiotic prescription, training in the healthcare field and parents' preference for communication) had significant effect on parents' expectation.

Conclusion: There was significant effect of perceived barriers and perceived benefits on expectation scores. When both perceived barriers and perceived benefits were removed from the scenarios there was the highest decrease in the expectation score indicating the successful manipulation of both variables. Policy makers and intervention programs should consider these factors to enhance successful reduction of antibiotic expectations.

K-3. CAN THE IMPORTANCE OF HERD IMMUNITY INFLUENCE PARENTS' INTENTIONS TO VACCINATE THEIR CHILDREN?

2:00 PM - 2:15 PM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: WELL THAT WAS HARDÂ…DECISION MAKING IN COMPLEX CLINICAL ENCOUNTERS

***Kristin S. Hendrix, PhD**, S. Maria E. Finnell, MD, MS, Gregory D. Zimet, PhD, Lynne A. Sturm, PhD and Stephen M. Downs, MD, MS, Indiana University School of Medicine, Indianapolis, IN*

Purpose: Determine whether emphasizing benefits of the measles, mumps, and rubella (MMR) vaccine to the child recipient or to others in society beyond the child recipient (i.e., the concept of herd immunity) differentially impacts parents' intentions to vaccinate their infants for MMR.

Method: Parents (N=802) of infants less than 1 year of age responded to an online survey in the United States. Participants were randomized to receive 1 of 4 messages about the MMR vaccine: 1) the Centers for Disease Control and Prevention's Vaccine Information Statement (CDC VIS); 2) CDC VIS and information emphasizing the MMR vaccine's benefits to the child; 3) CDC VIS and information emphasizing the MMR vaccine's benefits to society; 4) CDC VIS and information emphasizing the MMR vaccine's benefits both to the child and to society. Parents then rated the likelihood of vaccinating their infants on an 11-point response scale ranging from 0 (extremely unlikely) to 100 (extremely likely) in 10-point increments. We also assessed medical trust, as well as attitudes and worries about immunization. We analyzed the data using linear regression models.

Result: Compared to receiving only the CDC VIS, respondents who received additional information emphasizing either 1) the vaccine's benefit to the child or 2) the vaccine's benefits both to the child and to society indicated higher levels of intention to vaccinate their infant for MMR (p=0.01 and p=0.03, respectively). Additional information emphasizing the MMR vaccine's benefits to society did not increase parents' intentions to vaccinate compared to the CDC VIS alone (p=0.97, ns). Additionally, parents with positive attitudes towards vaccination, high levels of medical trust, or low levels of worry that autism is caused by the MMR vaccine indicated greater vaccine intentions (p<0.01).

Conclusion: Unlike in previous research on adult intentions to be vaccinated, emphasizing additional information about a vaccine's benefits to society (i.e., herd immunity) did not increase parents' MMR vaccination intentions for their infants. Results suggest that health care providers who want to increase MMR vaccination rates should emphasize the direct benefits of vaccination to the child. Mention of the vaccine's benefits to society appears to have no added value but also does not interfere with message concerning benefits to the child.

K-4. SUPPORTING PATIENT VALUES: A SYSTEMATIC REVIEW OF VALUES CLARIFICATION EXERCISES

2:15 PM - 2:30 PM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: WELL THAT WAS HARDÂ…DECISION MAKING IN COMPLEX CLINICAL ENCOUNTERS

Holly O. Witteman, PhD[1], *Laura D. Scherer, PhD*[2], *Teresa Gavaruzzi, PhD*[3], *Arwen H. Pieterse, PhD*[4], *Andrea Fuhrel-Forbis*[5], *Nicole Exe, MPH*[5], *Valerie C. Kahn, MPH*[5], *Deb Feldman-Stewart, PhD*[6], *Nananda F. Col, MD, MPH, MPP, FACP*[7] *and Angela Fagerlin, PhD*[8], *(1)UniversitÃ© Laval, Quebec City, QC, Canada, (2)University of Missouri, Columbia, MO, (3)University of Leeds, Leeds, United Kingdom, (4)Leiden University Medical Center, Leiden, Netherlands, (5)University of Michigan, Ann Arbor, MI, (6)Division of Cancer Care and Epidemiology, Kingston, ON, Canada, (7)University of New England, Georgetown, ME, (8)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

Purpose: Values clarification is a key component of informed decision making and a core aspect of shared decision making, but there is little synthesis or consensus in this area, making it difficult for researchers who are developing values clarification exercises to look to established norms or best practices for guidance.

Methods: We conducted a systematic review of values clarification exercises, consulting electronic databases, reference lists, and expert contacts to identify articles describing the development, design and/or evaluation of exercises. We extracted data from included articles about decisions addressed, use of theory and guidelines, and development processes. We then developed a taxonomy of design features linked to relevant theories, used the taxonomy to catalogue exercises, and explored relationships between features. Finally, from articles reporting evaluations of exercises, we extracted data about heterogeneous outcomes, created a crude aggregate measure of overall effect, and explored associations between design features of exercises and overall effect.

Results: Out of 2145 articles eligible for screening, we identified 93 articles describing 81 values clarification exercises, of which 15 had been evaluated. Forty-one of 81 exercises (51%) addressed a decision between just two options. Most exercises (60%) were guided by neither theory nor guidelines. Development processes were described unevenly, with relatively little consultation with patients and infrequent reporting of methods that help make exercises easier for patients to use. The designs of exercises were extremely diverse. Only 56% of exercises were designed to be used independently by a patient. Most exercises (63%) were closed-ended, meaning that users could not add concerns that were not pre-specified in the exercise. Few exercises (11%) encouraged users to explore their values in an iterative discovery process. Users were presented with the implications of their stated values in 33% of exercises. Exploratory analyses suggested that exercises that showed users the implications of their expressed values were associated with positive overall effect ($p = .006$). Exercises based on relevant theory showed a trend toward overall positive effect ($p = .06$).

Conclusions: Values clarification exercises differ greatly in design. Many do not employ theories or guidelines. Many articles do not report development processes in detail. More research is needed to investigate the use of values clarification methods across decision contexts and to study the effects of different design features.

K-5. SUBJECTIVE AND PHYSIOLOGICAL EMOTIONAL RESPONSES WHILE READING PATIENTS' NARRATIVES ABOUT COLORECTAL CANCER SCREENING

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Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: WELL THAT WAS HARDÂ…DECISION MAKING IN COMPLEX CLINICAL ENCOUNTERS

Teresa Gavaruzzi, PhD[1], *Michela Sarlo, PhD*[2], *Francesca Giandomenico, MA*[2], *Francesca Polato, MD*[3], *Franca De Lazzari, MD*[3], *Rino Rumiati, MA*[2] *and Lorella Lotto, PhD*[2], *(1)University of Leeds, Leeds, United Kingdom, (2)University of Padova, Padova, Italy, (3)S. Antonio Hospital, Padova, Italy*

Purpose: Patient narratives or personal stories are often used in resources for patients, but there is a paucity of research on what their active ingredients are (Bekker et al., 2012; Shaffer & Zickmund-Fisher, 2013). This study investigated the emotions elicited, at both subjective and physiological level, while reading narratives about colorectal cancer screening.

Method: A mixed design was used, with a between-participants factor (group: emotion vs. no emotion) and a within-participants factor (type of narrative). Participants read an informative leaflet about fecal occult blood testing and three narratives. In the emotion condition the three characters explicitly reported their emotions at the end of their story, whereas in the no emotion condition they did not refer to their emotions. All narratives described the experience of a character who underwent testing and: a) was still waiting for the result (control narrative), b) had a negative result (reassuring narrative) and c) had a positive result and was successfully treated for early-stage cancer (anticipated regret narrative). Participants (N=39; 50% females; aged 45-50, *M*=48) read all the three narratives (in random order) on a computer screen while physiological measures (skin conductance and corrugator muscle activity) were recorded; then they evaluated the intensity of emotions evoked by each narrative.

Result: Relative to the control condition, the regret and the reassurance narratives elicited stronger and weaker negative emotions, respectively, regardless of the group manipulation. Fear and anxiety were the most intense negative emotions reported for all narratives. However, peace of mind was the most intense emotion overall. The group manipulation (emotion vs. no emotion) significantly affected the physiological responses while reading the narratives. Skin conductance, an index of physiological arousal, was significantly lower in the emotion condition than in the no emotion condition. EMG corrugator activity, which typically increases in response to unpleasant stimuli, comparably increased from baseline in both groups at the beginning of the narratives. However, in the second half, in the no emotion group EMG remained steady, while in the emotion group it decreased.

Conclusion: The regret narrative was the one eliciting the strongest self-reported negative emotions. Making explicit the emotions experienced by the character reduced the negative emotions unveiled by the physiological activation. These findings contribute to shed light on what makes narratives powerful and under which circumstances.

K-6. FAITH IN DELIBERATION: ON THE IMPACT OF DELIBERATIVE VERSUS INTUITIVE STRATEGIES ON PATIENT DECISIONS

2:45 PM - 3:00 PM: Tue. Oct 22, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: WELL THAT WAS HARDÂ…DECISION MAKING IN COMPLEX CLINICAL ENCOUNTERS

Laura Scherer, PhD*, VA HSR&D and University of Michigan, Ann Arbor, MI, Marieke de Vries, PhD, Tilburg University, Tilburg, Netherlands, Brian J. Zikmund-Fisher, PhD, University of Michigan, Ann Arbor, MI, Holly O. Witteman, PhD, UniversitÃ© Laval, Quebec City, QC, Canada and Angela Fagerlin, PhD, VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

Purpose: It is often assumed that deliberative decisions are better than intuitive ones, and this assumption has guided the development of patient decision aids. However, the psychological literature suggests that deliberation is not always superior to intuition. Hence, it is unclear how to best support patient decisions, and

the topic has generated considerable debate. The purpose of the present research is to clarify the impact of these decision strategies in the context of patient decision-making.

Method: In Study 1, 1470 participants were recruited online and made one of two hypothetical cancer treatment choices. The choice involved either a trade-off between the quantity and quality of their lives, or a choice between watchful waiting with a 5% chance of death, and surgery with a 10% chance of death. Participants were randomly assigned to make their decision (a) intuitively, (b) deliberatively, by writing about which decision is objectively best, (c) deliberatively, by writing about one's feelings, or (d) without instructions. In Study 2, 326 men (40-87 years) were recruited from the University of Michigan and Ann Arbor VA hospitals. They read an abbreviated prostate cancer decision aid, and were randomly assigned to make a hypothetical treatment decision (a) intuitively, (b) deliberatively, by writing about pros and cons, or (c) deliberatively, using a checklist exercise. Outcomes included choice, satisfaction, decision conflict, and attitudes toward the decision strategy. In Study 2, knowledge was also measured.

Result: In both studies, the decision strategies had no impact on treatment choice, however deliberators liked their decision strategy significantly more than intuitors, both $p<.01$. In Study 1, deliberators reported greater satisfaction ($F(3,1463)=26.30$, $p<.001$) and less conflict ($F(3,1466)=21.51$, $p<.001$) than intuitors. In Study 2 there were no effects involving satisfaction and conflict, and the deliberative writing condition reduced knowledge ($M=5.36$) compared to the intuition and checklist conditions ($Ms=6.00$ and 6.02), $F(2,289)=5.05$, $p<.01$.

Conclusion: Regardless of the specific decision or how deliberation was evoked, participants liked using deliberation better than intuition. However, there was no evidence that deliberation changed participants' decisions, and only partial evidence that it improved satisfaction and conflict. There was also some evidence that deliberation can reduce knowledge. These results indicate that deliberation may help people to feel better about their decision process, even if it does not change or improve decisions.

L. USING MODELING TO MAKE BETTER MEDICAL DECISIONS

« Previous Session | Next Session »

1:30 PM - 3:00 PM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Session Chairs:

- *Torbjorn Wisloff, MSc*
- *Michael W. Kattan, PhD*

Session Summary:

1:30 PM - 1:45 PM

L-1. EXTENDING THE METHODS FOR THE ANALYSIS OF (AND MAPPING BETWEEN) PATIENT REPORTED OUTCOME MEASURES

1:45 PM - 2:00 PM

L-2. DYNAMIC ABANDON/EXTRACT DECISIONS FOR FAILED CARDIAC LEADS

2:00 PM - 2:15 PM

L-3. OPTIMAL DESIGN OF NEW RESEARCH WHEN THERE ARE MULTIPLE COMPETING HEALTH TECHNOLOGIES: HOW MANY ARMS, AND WHICH TREATMENTS?

2:15 PM - 2:30 PM

L-4. METHODS FOR THE JOINT META-ANALYSIS OF MULTIPLE TESTS

2:30 PM - 2:45 PM

L-5. IMPROVING BIOPSY RECOMMENDATIONS FOLLOWING MAMMOGRAPHY USING RANDOM FORESTS

2:45 PM - 3:00 PM

L-6. MEASURING DECISION SENSITIVITY WITH MULTINOMIAL LOGISTIC REGRESSION METAMODELING

Abstracts:

L-1. EXTENDING THE METHODS FOR THE ANALYSIS OF (AND MAPPING BETWEEN) PATIENT REPORTED OUTCOME MEASURES

1:30 PM - 1:45 PM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: USING MODELING TO MAKE BETTER MEDICAL DECISIONS

*Caterina Conigliani, PhD, Universita' di Roma Tre, Roma, Italy, **Andrea Manca, PhD, MSc**, The University of York, York, United Kingdom and Andrea Tancredi, PhD, Universita' di Roma 'La Sapienza', Roma, Italy*

Purpose: This paper proposes a novel modelling strategy for the analysis of the EQ-5D responses, which recognises both the likely dependence between the five dimensions of the questionnaire at the patient level, and the fact that the severity levels of each dimension are naturally ordered. We also address the key problem of choosing an appropriate summary measure of agreement between predicted and observed data, when these models are used to develop mapping algorithms between patients reported outcome measures (PROMs).

Methods: Using data from the Health Survey for England (HSE) and the National Health Measurement Study (NHMS) we develop a multivariate ordered probit (MVOP) model for the analysis of the EQ-5D responses and

compare its performance against other approaches proposed in the literature, such as response mapping (eg. multinomial logit, ML) and univariate regression models (applied directly on the EQ-5D index score). Models goodness-of-fit assessment is carried out using the *Deviance Information Criteria (DIC)*, while their in-sample and out-of-sample predictive abilities (crucial when developing mapping algorithms) are assessed using Bayesian *proper scoring rules*. Departing from the use of measures based on the predicted mean such as the (root) mean squared error, scoring rules exploit instead the whole posterior predictive distribution of the parameters of the model, thus reflecting both central tendency and uncertainty in the prediction. The analysis is implemented within a Bayesian framework.

Results : The MVOP fits the two independent datasets better (DIC: 15,145 for the NHMS and 45,550 HSE) than the ML (DIC: 15,703 for the NHMS and 47,140 HSE) and of the independent ordered probit for each dimensions (DIC: 15,720 for the NHMS and 45,550 HSE). Assessment of their predictive posterior distribution shows that the MVOP has better coverage of the central tendency measure (in-sample validation), and better out-of-sample predictive ability (0.531 for the MVOP vs 0.513 for the independent univariate ordered probit vs 0.481 for the ML).

Conclusions: Explicit modelling of both correlation between the responses on each of the five dimensions of the EQ-5D and the natural ordering of the severity levels within each dimension yields more accurate predictions. Modelling at the response level, rather than at the index score, facilitates a more generalisable assessment of the EQ-5D responses which is not confounded by the valuation set used in each country.

L-2. DYNAMIC ABANDON/EXTRACT DECISIONS FOR FAILED CARDIAC LEADS

1:45 PM - 2:00 PM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: USING MODELING TO MAKE BETTER MEDICAL DECISIONS

Anahita Khojandi[1], *Lisa Maillart, PhD*[1], *Oleg Prokopyev, PhD*[1], *Mark S. Roberts, MD, MPP*[2] *and Samir Saba, MD*[1], *(1)University of Pittsburgh, Pittsburgh, PA, (2)University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA*

Purpose: Cardiac implantable electronic device (CIED) leads fail stochastically, requiring the immediate implantation of a new lead(s). Because the total number of concurrently implanted leads (both functioning and failed) is subject to a maximum (i.e., five leads according to current guidelines), whenever a lead fails, it may be beneficial to extract this lead and/or any previously abandoned leads. Extraction, however, carries small but real life-threatening risks that increase in lead dwell time. Therefore, a tradeoff exists between maintaining space for new leads and avoiding risky extractions. Furthermore, surgical lead procedures involve a risk of infection. If an infection occurs, all implanted leads must be extracted. Hence, choosing to leave leads in place at the time of failures may result in risky, mandatory extractions. The purpose of this study is to determine a patient-specific extraction policy to maximize the expected lifetime of a single chamber pacemaker patient using a Markov decision process (MDP) model.

Method: We develop a MDP model to dynamically make extraction decisions at the time of lead failures as a function of patient and all lead ages. We also simulate this process to obtain prediction intervals on measures of interest including the expected patient lifetime and the likelihood of CIED-related deaths (as opposed to natural causes). Finally, we conduct comparisons to three heuristics commonly used in practice.

Results: Under the optimal policy, the extraction decision for each lead only depends on its age, patient age, its rank among the lead ages and the total number of implanted leads, i.e., the decision does not depend on the exact ages of all implanted leads. Figure 1 illustrates the optimal lead maintenance policy for a specific, single

chamber pacemaker patient. Compared to the heuristic policies, the optimal policy significantly decreases CIED-related deaths and increases the expected lifetime, e.g., under the policy in Figure 1, a 60-year-old patient with failed leads of ages 20, 17, 12 and 2, observes an increase (decrease) of up to 1.5 years (7%) in their expected lifetime (likelihood of CIED-related deaths).

Conclusion: Cardiac leads are often referred to as Â“the weakest linkÂ” in implantable cardiac device treatment. Despite its importance, lead maintenance varies widely from practice to practice. We develop an approach that helps clinicians make patient-specific lead extraction/abandonment decisions optimally.

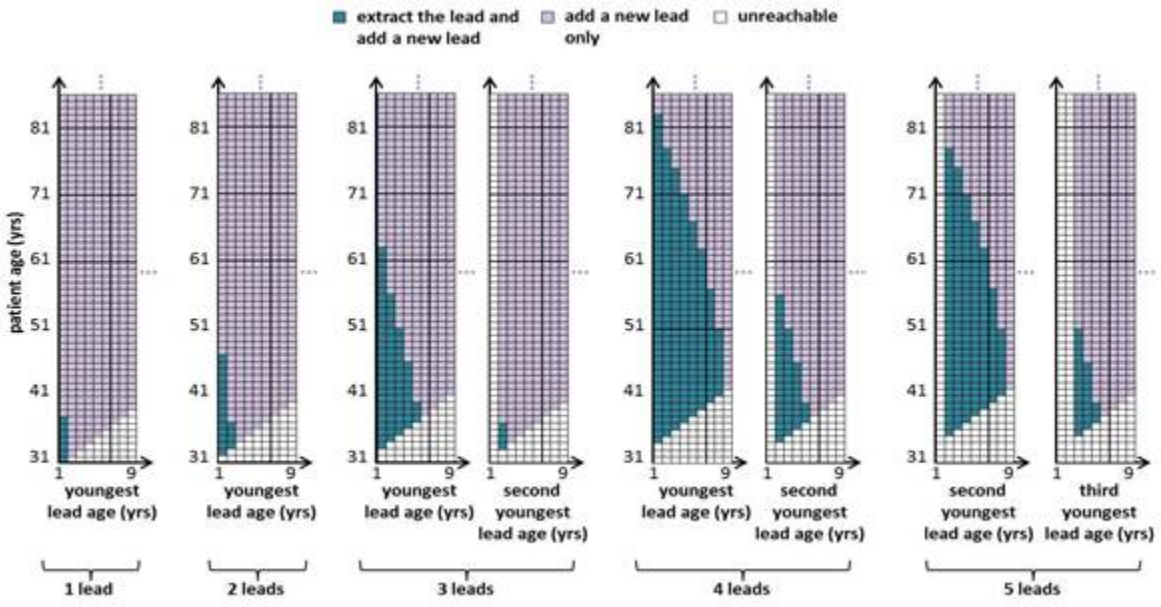


Figure 1: MDP-generated policy for a specific, single chamber pacemaker patient.

L-3. OPTIMAL DESIGN OF NEW RESEARCH WHEN THERE ARE MULTIPLE COMPETING HEALTH TECHNOLOGIES: HOW MANY ARMS, AND WHICH TREATMENTS?

2:00 PM - 2:15 PM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: USING MODELING TO MAKE BETTER MEDICAL DECISIONS

***Nicky J. Welton, PhD**, Bristol University, Bristol, United Kingdom*

Purpose: To illustrate how Expected Value of Sample Information (EVSI) can be used to assist the prioritisation of future randomised controlled trials when there are multiple competing health technologies. In particular, the decision as to how many arms and which technologies to include, as well as the sample size on each arm.

Methods: EVSI measures the expected net health gains from conducting a new research study given a proposed study design. EVSI relies on a synthesis of the current evidence available on treatment efficacy, and a cost-effectiveness model. Network Meta-Analysis (NMA) pools together evidence on relative efficacy of multiple competing health technologies that have been compared in Randomised Controlled Trials that form a connected network of comparisons. The results obtained from NMA provide a coherent basis on which to make comparisons across the entire set of treatments, and NMA is now commonly used to inform decision models to identify the most cost-effective treatment. We describe methods to evaluate EVSI when the efficacy outcome is binary and the net benefit function is linear on the absolute probability scale. We distinguish between absolute

effects (used in the decision model) and relative effects (which the RCT provides information on). The methods allow for heterogeneity in the existing NMA evidence, which forms a hierarchical prior for the result from the new study. We view this hierarchical prior structure as data so that we can obtain a posterior, given new data, in closed form. We use a Taylor series approximation to obtain the updated expectation of the net benefit given new data, without needing an inner simulation step.

Results: We illustrate the approach using as an example a network meta-analysis and cost-effectiveness analysis of 6 competing treatments for bipolar disorders, to identify the optimal number of arms and sample size per arm to include in a new study to inform this decision.

Conclusions: EVSI can be a valuable tool to assist in the prioritisation and optimal design of new research studies when there are multiple competing technologies.

L-4. METHODS FOR THE JOINT META-ANALYSIS OF MULTIPLE TESTS

2:15 PM - 2:30 PM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: USING MODELING TO MAKE BETTER MEDICAL DECISIONS

Thomas Trikalinos, MD[1]*, David Hoaglin, PhD*[2]*, Kevin Small, PhD*[3]*, Norma Terrin, PhD*[4] *and Christopher H. Schmid, PhD*[1]*, (1)Brown University, Providence, RI, (2)Sudbury, MA, Sudbury, MA, (3)NIH, Bethesda, MD, (4)Tufts Medical Center, Boston, MA*

Purpose: Existing methods for meta-analysis of diagnostic test accuracy focus primarily on a single index test rather than comparing two or more tests that have been applied to the same patients in paired designs. We develop novel methods for the joint meta-analysis of studies of diagnostic accuracy that compare two or more tests on the same participants.

Method: We extend existing bivariate meta-analysis methods to simultaneously synthesize multiple index tests. The proposed methods respect the natural grouping of data by studies, account for the within-study correlation (induced because tests are applied to the same participants) between the tests' true-positive rates (TPRs) and between their false-positive rates (FPRs), and allow for between-study correlations between TPRs and FPRs (such as those induced by threshold effects). We focus mainly on algorithms in the Bayesian setting, using discrete (binomial and multinomial) likelihoods. We use as an example a meta-analysis of 11 studies on the screening accuracy of detecting Down syndrome in liveborn infants using two tests: shortened humerus (arm bone), and shortened femur (thigh bone). Secondary analyses included an additional 19 studies on shortened femur only.

Result: In the application, separate and joint meta-analyses yielded very similar estimates. For example, in models using the discrete likelihood, the summary TPR for a shortened humerus was 35.3% (95% credible interval [CrI]: 26.9, 41.8%) with the novel method, and 37.9% (27.7 to 50.3%) when shortened humerus was analyzed on its own. The corresponding numbers for the summary FPR were 4.9% (2.8 to 7.5%) and 4.8% (3.0 to 7.4%). However, when calculating comparative accuracy, joint meta-analyses resulted in shorter credible intervals compared with separate meta-analyses for each test. In analyses using the discrete likelihood, the difference in the summary TPRs was 0.0% (-8.9, 9.5%; TPR higher for shortened humerus) with the novel method versus 2.6% (-14.7, 19.8%) with separate meta-analyses. The standard deviation of the posterior distribution of the difference in TPR with joint meta-analyses is half of that with separate meta-analyses.

Conclusion: The joint meta-analysis of multiple tests is feasible. It may be preferable to separate analyses for estimating measures of comparative accuracy of diagnostic tests, and therefore, of primary interest in

parameterizing models that compare diagnostic strategies. Simulation and empirical analyses are needed to better define the role of the proposed methodology.

L-5. IMPROVING BIOPSY RECOMMENDATIONS FOLLOWING MAMMOGRAPHY USING RANDOM FORESTS

2:30 PM - 2:45 PM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: USING MODELING TO MAKE BETTER MEDICAL DECISIONS

Joseph F. Levy[1], *David J. Vanness, Ph.D.*[2], *Yirong Wu, PhD*[1] *and Elizabeth S. Burnside, MD, MPH, MS*[1], *(1)University of Wisconsin-Madison, Madison, WI, (2)Department of Population Health Sciences, Madison, WI*

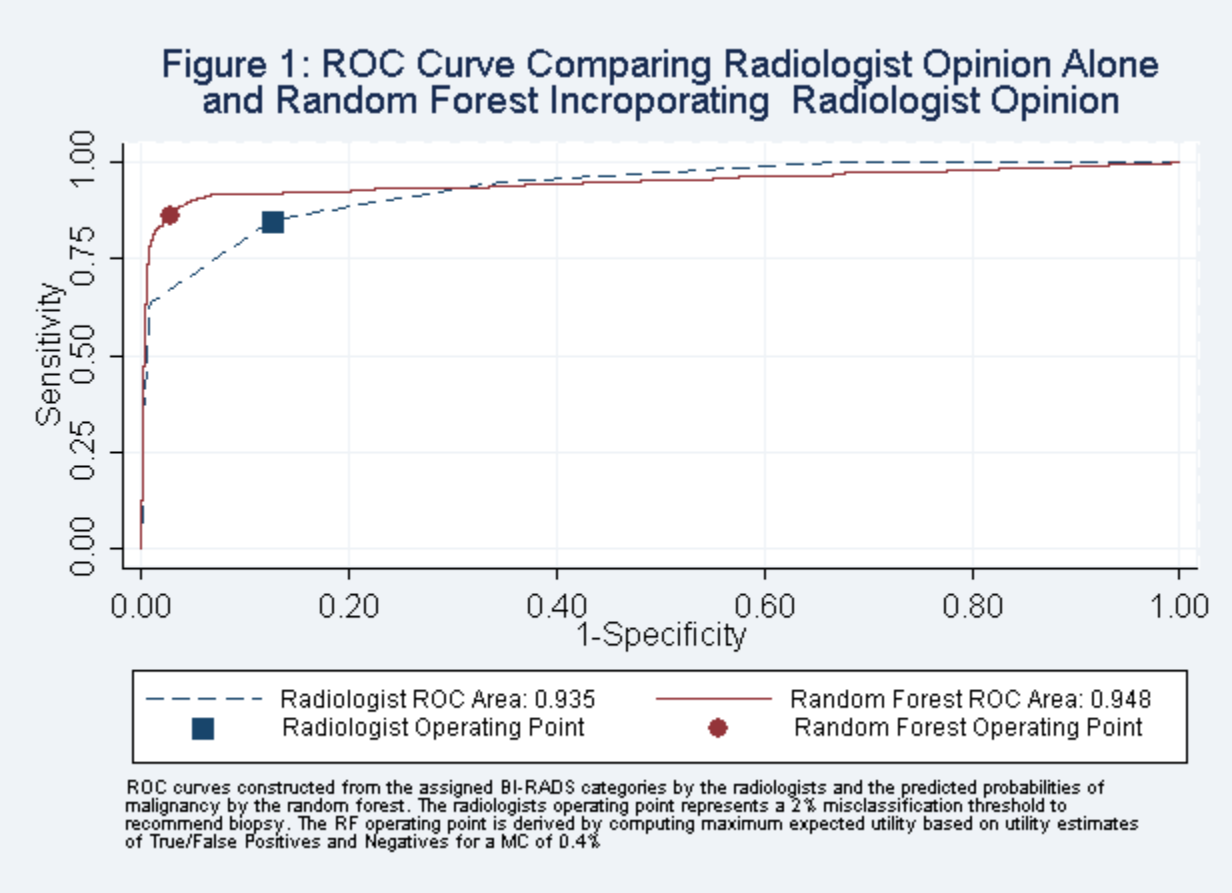
Purpose: To optimize recommendations for biopsy after mammography using random forests and maximum expected utility.

Methods: We used a dataset of 62,219 mammographic findings matched with cancer registry data to construct a random forest estimating the probability that each finding is malignant (positive). Random forests consist of an ensemble of classification trees constructed using randomly resampled data and randomly selected subsets of predictor variables and tuned to improve out-of-sample prediction. We used patient demographic risk factors, radiologist-observed standardized descriptors using the Breast Imaging-Reporting and Data System (BI-RADS) lexicon, radiologist subjective opinion (BI-RADS category 0-5, indicating increasing likelihood of malignancy) and the eventual outcomes (benign/malignant) of the finding to recursively partition the data into groups with different probabilities of malignancy. We applied previously reported estimates of utilities associated with false positives, true positives and false negatives (relative to true negative) to calculate expected utility associated with different thresholds and used the threshold that maximizes expected utility to determine the Â“optimalÂ” random forest.

Results: ROC curves were constructed from the BI-RADS categories assigned by the radiologists and the predicted malignancy probabilities of the random forest (Figure 1). The radiologists operating point is regularly considered at the BI-RADS category 3 corresponding to a threshold above which biopsy would be recommended (approximately 2% likelihood of malignancy). The random forest improved AUC overall (0.948 vs. 0.935), comparing the forest at the 2% classification threshold, improved sensitivity (85.4% vs. 85.3%) and specificity (97.55% vs. 88.1%). When considering maximum expected utility, the optimal threshold of predicted malignancy by the forest was 0.4%, altering sensitivity and specificity to 88.6% and 96.3% respectively.

Conclusion: Random forests have the potential to improve the accuracy of biopsy recommendations over standard practice. When accounting for the relative consequences of true and false positives and negatives, the

threshold for recommending biopsy using a random forest differs from regular threshold used by radiologists.



L-6. MEASURING DECISION SENSITIVITY WITH MULTINOMIAL LOGISTIC REGRESSION METAMODELING

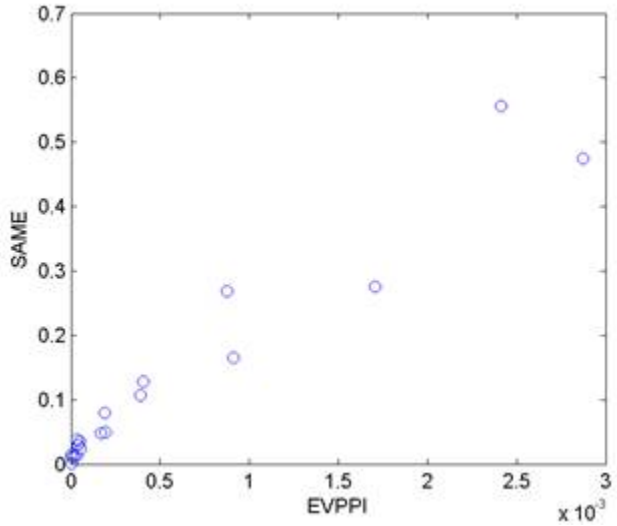
2:45 PM - 3:00 PM: Tue. Oct 22, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: USING MODELING TO MAKE BETTER MEDICAL DECISIONS

***Hawre Jalal, MD, MSc**, Michel Boudreaux, MSc and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

Purpose: Modelers lack a simple tool to examine decision sensitivity (i.e., the change in the probability of a strategy being optimal due to parameter uncertainty). We propose multinomial logistic regression (MNR) metamodeling to reveal decision sensitivity.

Methods: MNR is useful in analyses where the dependent varaible is categorical and not ordered. In this study, we apply MNR in a novel way to analyze the probabilistic sensitivity analysis (PSA) from a decision model in order to reveal decision sensitivity. We demonstrate our approach with a previously published decision model for treating a suspected case of herpes simplex encephalopathy. The model compares three strategies: treat everyone, biopsy, and do not treat or biopsy. We performed 10,000 PSA scenarios. For the MNR, we treated the model's input parameter values as independent variables and the optimal strategy in each iteration as the dependent variable. In this capacity the MNR is a second (meta) model. Because the regression coefficients are difficult to interpret, we report the marginal effects (ME) as a direct measure of decision sensitivity. The MEs measure the change in the probability of each strategy being optimal due to one unit change in each parameter.

Furthermore, we developed a new score, the sum of absolute marginal effects (SAME) to combine the ME of a parameter on all the strategies, and compared our results to expected value of partial perfect information (EVPPI).



Results: The probability of severe sequalae following biopsy was associated with the highest decision sensitivity. The ME of this parameter on biopsy was -0.28, indicating that the probability of biopsy being optimal decreases by 0.28 if the value of this parameter is increased by one standard deviation from its mean. Similarly, the importance of all the model parameters were ranked by their ME and SAME scores. In addition, the SAME scores were highly correlated with the EVPPI (correlation coefficient = 0.97) (see Figure).

Conclusion: Regression analsyis can be used to evaluate the impact of decision model parameters and is highly correlated with EVPPI results.

Wednesday, October 23, 2013

M. TRIALS AND INTERVENTIONS FOR RISK REDUCTION

« Previous Session | Next Session »

10:00 AM - 11:30 AM: Wed. Oct 23, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Session Chairs:

- *Holly O. Witteman, PhD*
- *Miriam Kuppermann, PhD, MPH*

Session Summary:

10:00 AM - 10:15 AM

M-1. ACCEPTABILITY AND EFFICACY OF A SYSTEMATIC SMOKING CESSATION INTERVENTION USING MOTIVATIONAL INTERVIEWING FOR SMOKERS HOSPITALIZED FOR ACUTE CORONARY SYNDROMES

10:15 AM - 10:30 AM

M-2. GENERAL PRACTITIONERS' USE OF ABSOLUTE RISK VERSUS INDIVIDUAL RISK FACTORS IN CARDIOVASCULAR DISEASE PREVENTION: AN EXPERIMENTAL STUDY

10:30 AM - 10:45 AM

M-3. DEVELOPMENT OF A WEB-BASED SIMULATION TOOL TO MODEL COST-EFFECTIVENESS OF DISEASE MANAGEMENT PROGRAMS IN CHRONIC HEART FAILURE

10:45 AM - 11:00 AM

M-4. HOW QUANTITATIVE RISK-REDUCTION INFORMATION INFLUENCES VACCINATION INTENTIONS: THE MEDIATING EFFECT OF MESSAGE CREDIBILITY

11:00 AM - 11:15 AM

M-5. A PILOT RANDOMIZED CONTROLLED TRIAL OF PERSONALIZED DECISION SUPPORT FOR OLDER PATIENTS WITH DIABETES

11:15 AM - 11:30 AM

M-6. RISK COMMUNICATION USING ABSOLUTE RISK REDUCTION OR PROLONGATION OF LIFE: DOES IT INFLUENCE REAL LIFE DECISIONS ABOUT CHOLESTEROL LOWERING MEDICATION?

Abstracts:

M-1. ACCEPTABILITY AND EFFICACY OF A SYSTEMATIC SMOKING CESSATION INTERVENTION USING MOTIVATIONAL INTERVIEWING FOR SMOKERS HOSPITALIZED FOR ACUTE CORONARY SYNDROMES

10:00 AM - 10:15 AM: Wed. Oct 23, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: TRIALS AND INTERVENTIONS FOR RISK REDUCTION

Reto Auer, MD[1], *Baris Gencer, MD*[2], *Rodrigo Tango, MD*[2], *David Nanchen, MD, MSc*[3], *Christian M. Matter, MD*[4], *Thomas F. LÃ¼scher, MD*[4], *FranÃ§ois Mach, MD*[2], *Jacques Cornuz, MD, MPH*[3], *Jean-Paul Humair, MD, MPH*[2] *and Nicolas Rodondi, MD, MAS*[5], *(1)University California San Francisco, San Francisco, CA, (2)University of Geneva, Geneva, Switzerland, (3)University of Lausanne, Lausanne, Switzerland, (4)University of ZÃ¼rich, ZÃ¼rich, Switzerland, (5)University of Bern, Bern, Switzerland*

Purpose: Current guidelines recommend smoking cessation interventions to all smokers hospitalized with acute coronary syndromes (ACS). In clinical practice, intensive smoking cessation interventions are not systematically proposed. A proactive strategy using motivational interviewing, a non-judgmental, patient-centered counseling, may be suited to approach all smokers regardless of their readiness to quit. We aimed at

testing the acceptability and efficacy of a systematic, intensive smoking cessation intervention using motivational interviewing to all smokers hospitalized for ACS.

Method: We compared counseling and one-year smoking cessation rates before and after implementation of systematic smoking cessation intervention in 2 Swiss university hospitals for 457 smokers hospitalized for ACS. We further compared smoking cessation rates in 96 smokers with ACS from a third Swiss university hospital not providing systematic smoking intervention during the entire study period. In the observation phase, clinicians requested a specialized smoking cessation intervention based on their appraisal of the patient's needs. In the intervention phase, a resident physician trained in motivational interviewing offered help for smoking cessation to all smokers. After discharge, smokers also received four telephone counseling sessions over two months.

Result: In the observational phase (August 2009 to October 2010), 24% (N=47/225) of smokers received a specialized smoking cessation intervention. In the intervention phase (November 2010 to February 2012), 84% (N=188/223) had an intervention ($p<0.001$) and 76% had at least one telephone counseling. In the intervention phase, less than 2% of smokers refused the intervention and 14% were discharged before the resident could approach them. The median duration of counseling in the hospital was 50 minutes (interquartile range 25 minutes). At one year, data on smoking status were available for 96% of participants, while abstinence was validated by expired CO measurement in 80% of quitters. In the observation phase 42% had stopped smoking vs. 52% in intervention phase ($p=0.05$). In the control hospital without systematic smoking intervention, contemporary smoking cessation rates at one year were 45% for the observation period and 40% for the intervention period ($p=0.6$).

Conclusion: A proactive strategy offering a specialized smoking cessation intervention based on motivational interviewing to all smoking patients hospitalized for ACS is well accepted. Compared to a reactive strategy, it significantly increases the delivery of smoking cessation interventions and smoking abstinence one year after an ACS.

M-2. GENERAL PRACTITIONERS' USE OF ABSOLUTE RISK VERSUS INDIVIDUAL RISK FACTORS IN CARDIOVASCULAR DISEASE PREVENTION: AN EXPERIMENTAL STUDY

10:15 AM - 10:30 AM: Wed. Oct 23, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: TRIALS AND INTERVENTIONS FOR RISK REDUCTION

Jesse Jansen, MA, PhD[1], *Carissa Bonner*[1], *Shannon McKinn*[1], *Les Irwig, MBBCh, PhD, FFPHM*[1], *Jenny Doust*[2], *Paul P. Glasziou*[2], *Armando Teixeira-Pinto*[1], *Andrew Hayen*[3], *Robin Turner, PhD*[1] *and Kirsten McCaffery, BSc(Hons), PhD*[1], *(1)University of Sydney, Sydney, Australia, (2)Bond University, Brisbane, Australia, (3)University of New South Wales, Sydney, Australia*

Purpose: The aim of this study was to understand general practitioners' (GPs) decisions about Cardiovascular Disease (CVD) risk management and the use of the widely recommended absolute risk approach versus individual risk factors.

Method: 144 currently practising GPs were recruited at 4 General Practice conferences in Australia. GPs completed a paper-based survey consisting of patient cases in which absolute risk and three key indicators related to absolute CVD risk (blood pressure, cholesterol and age) were varied.

Result: For patient cases in which the levels of absolute risk and individual risk factors were inconsistent, GPs seemed more likely to base their treatment decision on individual risk factors than absolute risk. More

specifically, GPs were *less* likely to prescribe medication for high absolute risk (i.e. >15% risk of a cardiovascular event over the next 5 years, the treatment threshold in Australia) if the case presented a patient with lower blood pressure in comparison with high blood pressure (4% vs 93%, p<0.001). In addition, GPs were *more* likely to prescribe blood pressure lowering medication for low or moderate absolute risk (<10%) if the patient case had high blood pressure in comparison with lower blood pressure (79% vs 0%, p<0.001). This pattern was less pronounced for cholesterol lowering drugs. There were no differences in the way GPs prescribed for patient cases ranging in ages from 45 to 72 years at similar risk. However, GPs prescribed less medication for patients aged 86 years compared to those aged 72 (e.g. cholesterol lowering drugs: 29% vs. 49%, p<0.001). GP characteristics (gender, age, years in practice, practice size, stated use of absolute risk) did not predict their pattern of prescribing.

Conclusion: GPs seem more likely to base their CVD treatment decision making on individual risk factors than absolute risk. This effect seems to be stronger for blood pressure lowering medication compared to cholesterol lowering drugs.

M-3. DEVELOPMENT OF A WEB-BASED SIMULATION TOOL TO MODEL COST-EFFECTIVENESS OF DISEASE MANAGEMENT PROGRAMS IN CHRONIC HEART FAILURE

10:30 AM - 10:45 AM: Wed. Oct 23, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: TRIALS AND INTERVENTIONS FOR RISK REDUCTION

Shelby D. Reed, PhD[1]*, Matthew P. Neilson, PhD*[2]*, Matthew Gardner*[3]*, Andrew Briggs, DPhil*[4]*, Yanhong LI, MS*[1]*, Sara Paul, RN, MSN, FNP*[5]*, David Whellan, MD*[6]*, Barbara J. Riegel, DNSc, RN, FAAN, FAHA*[7] *and Wayne C. Levy, M.D., F.A.C.C.*[8]*, (1)Duke Clinical Research Institute, Durham, NC, (2)Beatson Institute for Cancer Research, Glasgow G44 4SR, United Kingdom, (3)Duke Clinical Research Institute, dURHAM,, NC, (4)University of Glasgow, Glasgow, United Kingdom, (5)Hickory Cardiology Associates, Western Piedmont Heart Centers, Hickory, NC, (6)Jefferson University, Philadelphia, PA, (7)University of Pennsylvania, Philadelphia, PA, (8)University of Washington Medical Center, Seattle, WA*

Purpose: With support from the National Institute of Nursing Research (NINR), we sought to develop economic tools to assist researchers or healthcare managers to estimate costs and perform cost-effectiveness analyses of disease management programs in heart failure.

Methods: With guidance from a steering committee of potential users, we aimed to develop a flexible web-based simulation model that could be applied to various study designs (i.e. parallel groups, pre-post, or hypothetical cases to assist in designing a cost-effective DM program). The model would be designed to predict medical resource use, survival, quality of life and associated costs across time for simulated patients representing clinical characteristics and unit costs specified by the user.

Results: We developed the Tools for Economic Analysis of Patient Management Interventions in Heart Failure (TEAM-HF) Cost-Effectiveness Model. To generate simulated sets of patients defined by the user, we incorporated a multivariate distribution wherein the global correlation structure was derived from several randomized trials and prospective cohort studies in heart failure. We also used these empirical data to modify the Seattle Heart Failure Model (SHFM), an externally validated prognostic model that incorporates 15 demographic, clinical and laboratory variables, as well as benefits with evidence-based medications and devices, to generate long-term survival estimates. In our modification of the SHFM, we applied calibrated Gompertz-based hazard functions for competing causes of death (i.e. sudden death, heart failure, other cause). We used data from a recent randomized trial in heart failure (HF-ACTION) to generate model parameters for medical resource use and health utilities as a function of SHFM scores. The model applies Monte

Carlo simulations to generate patient-level estimates, which are then averaged across cohorts. To extend application of the TEAM-HF model to a broader user group, we developed a user-friendly, web-based interface that allows individuals to specify characteristics of their patient cohort(s), study design, DM program, unit costs and apply other options (e.g. discount rates, time horizons) relevant to conducting cost-effectiveness analyses.

Conclusion: The TEAM-HF Cost-Effectiveness Model is available at no cost at www.team-hf.org to assist users in estimating the long-term cost effectiveness of disease management programs in heart failure.

M-4. HOW QUANTITATIVE RISK-REDUCTION INFORMATION INFLUENCES VACCINATION INTENTIONS: THE MEDIATING EFFECT OF MESSAGE CREDIBILITY

10:45 AM - 11:00 AM: Wed. Oct 23, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: TRIALS AND INTERVENTIONS FOR RISK REDUCTION

Anthony D. Cox, Ph.D.[1], *Dena S. Cox, Ph.D.*[1] *and Jeffrey G. Cox, MA*[2], *(1)Indiana University, Indianapolis, IN, (2)Michigan State University, Carmel, IN*

Purpose: First, to examine how young women's intentions to receive the Human Papillomavirus (HPV) vaccine are influenced by quantitative information on the vaccine's absolute reduction of cervical-cancer risk (ARR). Second, to examine whether ARR information influences vaccination intention through a "central route" (mediated by estimates of risk-reduction benefit) or a "peripheral route" (wherein the mere presence of quantitative information enhances message credibility).

Method: A total of 1,456 young women ages 18-26, none of whom had received any HPV vaccine doses, were recruited from a national online survey panel to participate in the study. All participants were given basic non-quantitative information on cervical cancer, HPV infection and HPV vaccination, drawn from the CDC website. In addition, a subset of participants was randomly assigned to receive quantitative information on the absolute reduction in cervical cancer risk expected from HPV vaccination (i.e., for every 4,000 women receiving the HPV vaccine, about how many would be "saved" from cervical cancer) based on published clinical trial evidence. Next, all participants completed a questionnaire, in which they reported their intentions to receive the HPV vaccine, their estimates of the vaccine's absolute risk-reduction benefit, and their perceptions of the credibility of the information they received.

Result: Participants receiving quantitative ARR information, compared to those in the no-ARR control group, reported lower estimates of the HPV vaccine's absolute risk-reduction benefit ($t=-15.4$, $p<.001$) but higher intention to get vaccinated ($t=2.91$, $p=.004$). This paradoxical finding occurred because the mere presence of quantitative ARR information increased message credibility ($t=4.91$, $p<.001$). The positive impact of ARR information on vaccination intention was completely mediated by perceived credibility (Sobel (1982) test of mediation: $z=4.62$, $p<.001$). In contrast, participants' estimates of ARR had no effect on vaccination intentions, even among those scoring highest on numeracy.

Conclusion: ARR information increased vaccination intention, despite reducing estimates of risk reduction benefit. While participants generally understood the ARR information, they appeared to find it hard to evaluate (Hsee 1996). As noted by Halovorsen (2010) "…one may understand the calculus of risk reductions but still find it difficult to judge whether a particular risk reduction is good or bad." Instead, the mere presence of quantitative information (rather than the specific numbers) appears to serve as a peripheral cue to increase message credibility and vaccination intentions.

M-5. A PILOT RANDOMIZED CONTROLLED TRIAL OF PERSONALIZED DECISION SUPPORT FOR OLDER PATIENTS WITH DIABETES

11:00 AM - 11:15 AM: Wed. Oct 23, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: TRIALS AND INTERVENTIONS FOR RISK REDUCTION

Elbert S. Huang, MD, MPH[1], *Aviva G. Nathan, MPH*[1], *Jennifer Cooper, MPH*[1], *Sang Mee Lee, PhD*[1], *Anna Shin*[1], *Priya M. John, MPH*[2], *William Dale, MD, PhD*[1], *Nananda F. Col, MD, MPH, MPP, FACP*[3], *David O. Meltzer, MD, PhD*[1] *and Marshall H. Chin, MD, MPH*[1], *(1)University of Chicago, Chicago, IL, (2)Humana, Chicago, IL, (3)University of New England, Georgetown, ME*

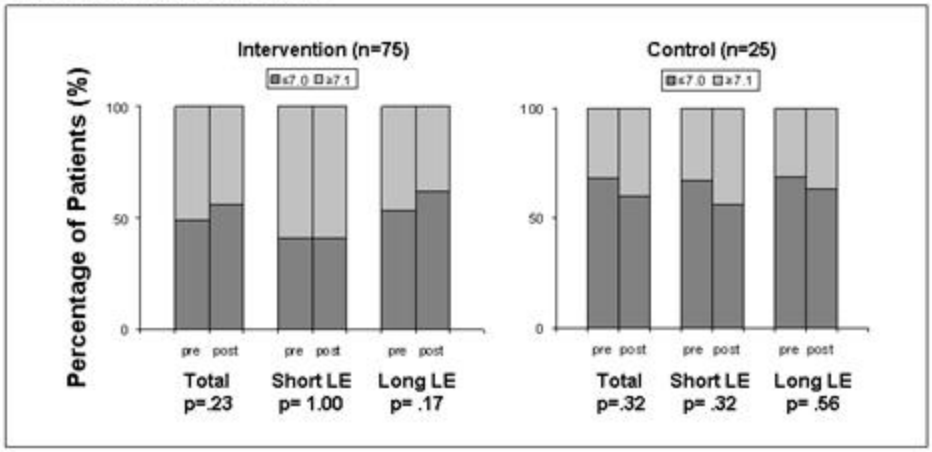
Purpose: Geriatric diabetes care guidelines encourage individualized glycemic targets (i.e., A1C goal) for older patients based on patient life expectancy (LE) and preferences. We pilot tested a web-based decision support tool which provides individualized prognostic information from a geriatric diabetes complication model, and elicits patient preferences.

Method: We randomized physicians and their patients to the decision support tool, with a 3:1 recruitment ratio. Patients were ≥ 65 years, had A1C ≥ 6.5%, and no dementia. Prior to a clinic visit, intervention patients interacted with the tool, which generated a summary for their physician that included individual patient's LE estimates, risks of developing complications, treatment preferences, and screening for geriatric conditions. Control patients received an educational pamphlet about A1C. Physicians and patients were surveyed before and after the visit.

Result: Intervention (N=75) and control patients (N=25) were similar by gender (77% female), age (mean 74 years), ethnicity/race (89% black) and diabetes duration (mean 16 years). Baseline knowledge of A1C goals by patients was low (35%). Compared to controls, intervention patients were more likely to have their physician report an A1C discussion during a visit (91% vs. 76%, p=0.06) and were more likely to have their physician report that the patient knew their A1C goal (81% vs. 60%, p=0.03). Patient decisional conflict scores declined more for intervention (52.7→24.5, p<0.01) than control patients (51.2→36.6, p=0.03). Compared to controls, more intervention patients had their physician shift their A1C goal by at least 0.5% (49% vs. 28%, p=0.06). Among the intervention patients, we found that the percentage with an intensive goal (A1C goal ≤ 7.0%) increased from 49% to 56% (p=0.23). The movement towards intensive goals occurred only in patients with longer LE (53% to 62%); no change occurred in patients with shorter LE (41%). Among the control patients, we found that the percentage with an intensive goal declined from 68% to 60%. This occurred in patients with both shorter and longer LE.

Conclusion: A personalized decision support tool incorporating prognostic information and patient preferences encouraged active discussion regarding A1C goal selection, decreased patients' decisional conflict, and had a tendency to increase appropriate personalization of A1C goals based on LE estimates. A larger, longitudinal clinical trial is needed to evaluate the intervention effects over time.

Figure 1: Movement of A1C goals



Short LE is ≤5, Long LE is >5 years

M-6. RISK COMMUNICATION USING ABSOLUTE RISK REDUCTION OR PROLONGATION OF LIFE: DOES IT INFLUENCE REAL LIFE DECISIONS ABOUT CHOLESTEROL LOWERING MEDICATION?

11:15 AM - 11:30 AM: Wed. Oct 23, 2013
Key Ballroom 8,11,12 (Hilton Baltimore)
Part of Session: TRIALS AND INTERVENTIONS FOR RISK REDUCTION

*Charlotte Gry Harmsen[1], **Jesper Bo Nielsen, PhD**[2], Ivar SÃ¸nbÃ¸ Kristiansen, MD, PhD, MPH[3], Adrian Edwards, MB, PhD[4], Jorgen Nexoe, MD, PhD[2] and Dorte Eig Jarbol, MD, PhD[2], (1)Institute of Public Health, University of Southern Denmark, 5000 Odense C, Denmark, (2)University of Southern Denmark, Odense, Denmark, (3)University of Oslo, Oslo, Norway, (4)Cardiff University, Cardiff, United Kingdom*

Purpose: Shared decision making requires that patients are informed about treatment options. However, it remains unclear how different risk reduction formats affect decisions made by real-life patients. The objective of this study was to assess the effect of using prolongation of life (POL) *versus*absolute risk reduction (ARR) to express effectiveness of cholesterol-lowering treatment on patients' redemptions of statin prescriptions, and on patients' confidence in their decision and satisfaction with the risk communication.

Methods: Fifty-six general practitioners (GPs) from 30 practices in Southern Denmark were cluster-randomized (using practices as clusters) to use either POL or ARR as effectiveness measures when informing patients about effectiveness of statin treatment for primary prevention cardiovascular disease (CVD). The prognosis without treatment was presented as life expectancy or 10-year mortality risk, respectively. Patients' redemption of statin prescriptions was recorded in regional prescription database three months after the

consultation. The COMRADE questionnaire was used to measure patients' confidence in their decision and satisfaction with the communication.

Results: Of 240 patients included in the study, 112 were allocated to POL-information and 128 to ARR. The groups were balanced with respect to patient as well as GP characteristics. Patients redeeming a statin prescription totaled 6 (5.4%) in the POL-group and 32 (25%) in the ARR-group ($p<0.001$). The mean scores of patients' confidence in decision on a scale from 1 to 5 were 4.17 (95% CI 4.00-4.34) for POL-patients and 4.05 (95% CI 3.89-4.22) for ARR-patients. The mean scores for satisfaction with communication in the consultation were 4.41 (95% CI 4.27-4.55) and 4.23 (95% CI 4.09-4.39) respectively.

Conclusion: The proportion of patients redeeming a statin prescription may be substantially lower when patients are informed about its effectiveness in terms of POL than ARR, but the level of confidence in decision and satisfaction with communication may not be influenced.

N. RESOURCES FOR THE FUTURE: PLANNING THE COSTS OF HEALTH CARE

« Previous Session | Next Session »

10:00 AM - 11:30 AM: Wed. Oct 23, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Session Chairs:

- *Tara A. Lavelle, MS, PhD*
- *Scott B. Cantor, PhD*

Session Summary:

10:00 AM - 10:15 AM

N-1. THE EFFECT OF THE DIFFUSION OF THE SURGICAL ROBOT ON THE HOSPITAL-LEVEL UTILIZATION OF PARTIAL NEPHRECTOMY

10:15 AM - 10:30 AM

N-2. HOSPITAL RESOURCE USE IN CHRONIC DISEASE COMBINATIONS: IS IT ENOUGH TO JUST ADD THEM UP?

10:30 AM - 10:45 AM

N-3. EFFECT OF MAGNITUDE OF WEIGHT LOSS ON ANNUAL ANTIHYPERTENSIVE, LIPID-LOWERING, AND ANTIDIABETIC MEDICATION COST IN OBESE AND OVERWEIGHT INDIVIDUALS

10:45 AM - 11:00 AM

N-4. TREAT, TEST, OR NEITHER? COST-EFFECTIVENESS OF CEREBROVASCULAR RESERVE IMAGING TO GUIDE TREATMENT OF CAROTID STENOSIS FOR STROKE PREVENTION

11:00 AM - 11:15 AM

N-5. THE IMPACT OF STATE HIV POLICY ON CLINICAL AND ECONOMIC OUTCOMES

11:15 AM - 11:30 AM

N-6. THE HEPATITIS C DRUG PIPELINE: COLLABORATION BETWEEN ACADEMIC AND HTA AGENCY PARTNERS TO DEVELOP AN EARLY ECONOMIC MODEL

Abstracts:

N-1. THE EFFECT OF THE DIFFUSION OF THE SURGICAL ROBOT ON THE HOSPITAL-LEVEL UTILIZATION OF PARTIAL NEPHRECTOMY

10:00 AM - 10:15 AM: Wed. Oct 23, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: RESOURCES FOR THE FUTURE: PLANNING THE COSTS OF HEALTH CARE

Ganesh Sivarajan, MD[1], *Glen Taksler, Ph.D.*[2], *Dawn Walter, MPH*[3], *Marc Bjurlin, MD*[1], *Cary P. Gross, MD*[4], *R. Ernest Eosa, MD*[1] *and Danil V. Makarov, MD, MHS*[2], *(1)New York University Langone Medical Center, New York, NY, (2)New York University School of Medicine, New York, NY, (3)Cancer Institute, New York, NY, (4)Yale University School of Medicine, New Haven, CT*

Purpose: The rapid diffusion of the surgical robot has been fraught with controversy because of the technology's high costs and disputed marginal benefit. Some, however, have suggested that adoption of the surgical robot has facilitated partial nephrectomy for renal malignancy, an underutilized procedure considered to be more challenging yet less morbid than radical nephrectomy. We sought to determine whether institutional acquisition of the surgical robot was associated with a higher local rate of partial nephrectomy.

Method: We used the 2001, 2005 and 2008 Health-care Cost and Utilization Project State In-patient Databases from 7 states to identify 21,569 surgical procedures for renal tumors. These patient-level records were aggregated to the hospital-level then merged with the American Hospital Association Survey and with publicly available data on timing of surgical robot acquisition. We used a difference-in-difference model to assess at the hospital-level whether robot acquisition was associated with an increase in the rate of partial nephrectomy, adjusting for total nephrectomy rate, year of surgery, year of robot acquisition, geographic state and several hospital-level factors. We also performed two sensitivity analyses to determine whether there was a time lag between robot acquisition and changes in the utilization of partial nephrectomy (because of a presumed necessity to develop requisite surgical skill) and to ensure no association existed between robot acquisition and

performance of an unrelated procedure (the presence of which might suggest than an unmeasured confounding characteristic, rather than robot acquisition, was the cause for increased surgical volume).

Result: In the multivariable adjusted differences-in-differences model (Figure 1), hospitals acquiring a robot between 2001-2005 performed more partial nephrectomies in both 2005 (31% increase) and 2008 (36% total increase) ($p<0.01$ for both). Hospitals acquiring a surgical robot in the time period between 2005-2008 also demonstrated higher rates of partial nephrectomy 2008 (16% increase) ($p=0.02$). Results of the secondary lag time analysis were not substantially different. As expected, there was no association between robot acquisition and utilization of an unrelated surgical procedure.

Conclusion: Hospital acquisition of the surgical robot is associated with increased utilization of partial nephrectomy, an underutilized, guideline-encouraged procedure. This is one of the few studies to suggest acquisition of the surgical robot was associated with improvement in quality of patient care.

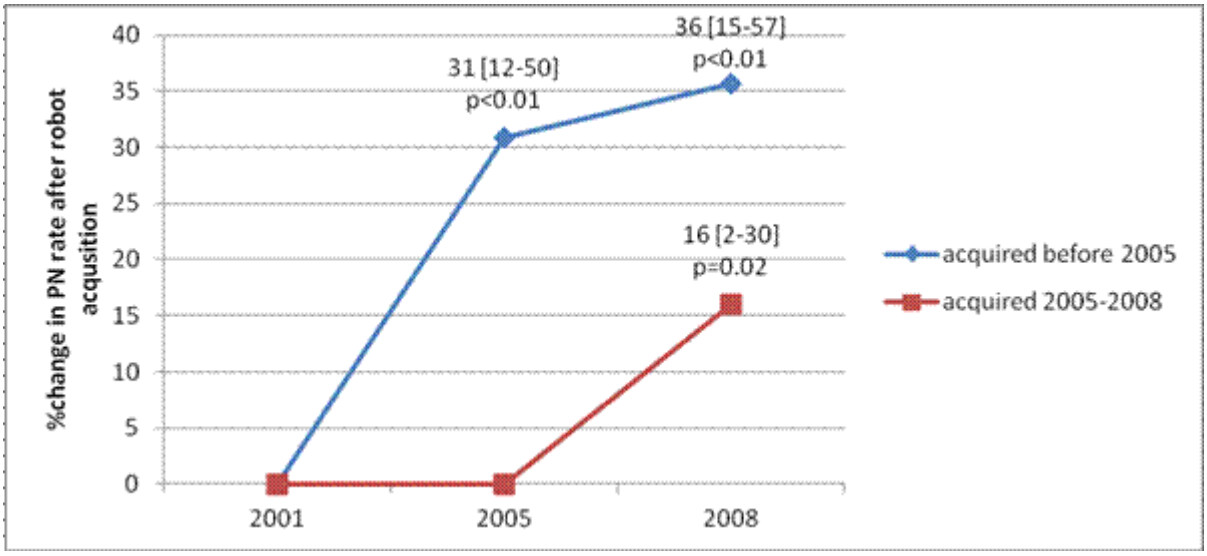


Figure 1

N-2. HOSPITAL RESOURCE USE IN CHRONIC DISEASE COMBINATIONS: IS IT ENOUGH TO JUST ADD THEM UP?

10:15 AM - 10:30 AM: Wed. Oct 23, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: RESOURCES FOR THE FUTURE: PLANNING THE COSTS OF HEALTH CARE

***Janelle Z. Seah, MSc**, Paula K. Lorgelly, PhD and Anthony Harris, M.A., M.Sc., Monash University, Melbourne, Australia*

Purpose: Chronic diseases often occur in combination, their interaction effects possibly leading to a non-linearity in healthcare costs that is often ignored in economic evaluations. This paper aims to quantify the comparative effect of single and multiple chronic diseases on hospital resource use.

Method: Using records of all admissions to public hospitals in the state of Victoria, Australia in 2010-2011 we estimate multiple regression models of hospital length of stay (and total annual discharges) for combinations of 11 chronic diseases. For length of stay we run separate models for patients with a 1 day stay and those with multiple day stays and adjust for observed and unobserved characteristics of patients.

Result: Having a higher chronic disease count decreases the odds of having a same-day hospitalization (day case) exponentially while some disease combinations increased these odds. Having ischemic heart disease (IHD) & dementia doubled the odds of a day case compared to a patient with dementia only. Among overnight stays, having a mental disease had the highest single disease effect on length of stay (LOS) – increasing LOS by 3-4 days. Some diseases when combined had non-additive effects (i.e. their combined effect was greater or less than the sum of their single disease effects) on LOS while others were additive. The interaction effect in a depression-renal failure combination added 3 more days to the sum of its single disease effects, while in cancer-osteoporosis it was -2 days. We observed that disease combinations that produced a positive interaction effect were usually unrelated diseases. The number of chronic diseases an individual had was found to be positively correlated with their number of admissions. Among single diseases, cancer had the highest effect on admissions – increasing admissions by 5. Having a combination of diseases was generally found to have a less-than-additive effect on the number of admissions.

Conclusion: Patients with chronic diseases have a resource use pattern that includes longer lengths of stays and more admissions. Combinations of unrelated diseases are particularly correlated with longer lengths of stay therefore it is the disease and combination type that is associated with higher lengths of stay and admitted episodes. Economic evaluations which assume additivity when estimating joint-disease costs could either overestimate or underestimate costs depending on the type of disease combination.

N-3. EFFECT OF MAGNITUDE OF WEIGHT LOSS ON ANNUAL ANTIHYPERTENSIVE, LIPID-LOWERING, AND ANTIDIABETIC MEDICATION COST IN OBESE AND OVERWEIGHT INDIVIDUALS

10:30 AM - 10:45 AM: Wed. Oct 23, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: RESOURCES FOR THE FUTURE: PLANNING THE COSTS OF HEALTH CARE

Lawrence J. Cheskin, MD[1], *Vincent Wu, BS*[2], *Sunil Karnawat, PhD*[3] *and Weiyu W. Liu, MHA*[3], *(1)Johns Hopkins Weight Management Center, Baltimore, MD, (2)Independent Contractor, San Francisco, CA, (3)VIVUS, Inc., Mountain View, CA*

Purpose: A substantial portion of the economic burden of obesity is the cost of medications to manage obesity-related comorbidities, including hypertension, dyslipidemia, and type 2 diabetes mellitus (T2DM). This post hoc analysis evaluated the effects of magnitude of weight loss (WL) on annual antihypertensive, lipid-lowering, and antidiabetic medication costs in obese/overweight subjects.

Methods: The CONQUER trial was a double-blind, Phase 3 study of 2487 obese/overweight subjects (body-mass index [BMI] ≥27 and ≤45 kg/m^2) with ≥2 weight-related comorbidities randomly assigned to placebo (n=994), phentermine (PHEN) 7.5mg/topiramate extended-release (TPM ER) 46mg (7.5/46; n=498), or PHEN 15mg/TPM ER 92mg (15/92; n=995) plus lifestyle modifications for 56 weeks. Subjects included in this post hoc analysis completed ≥12 weeks of therapy and received medications at baseline or endpoint for the treatment of ≥1 of the following comorbidities: hypertension (n=830), dyslipidemia (n=340), or T2DM (n=207). Annual antihypertensive, lipid-lowering, and antidiabetic medication costs were calculated at baseline and end of treatment by multiplying the unit cost (Medi-Span's PriceRx database) by number of doses per day and by 365. Subjects were stratified by magnitude of WL (<5%, ≥5%-<10%, ≥10%-<15%, and ≥15%), and changes in annual medication costs were evaluated from baseline to end of treatment.

Results: Most subjects were female (70%) and Caucasian (86%); mean weight was 103.1Â±17.9kg and mean BMI was 36.6Â±4.5kg/m^2. At treatment end, the majority of subjects with <5% WL were from the placebo group, while the majority of subjects achieving ≥5% WL were from the PHEN/TPM ER groups (Table). Compared with subjects losing <5% body weight, changes in annual medication cost for ≥5%-<10% WL were -$107.27, -$167.86, and -$76.18 for the treatment of hypertension, dyslipidemia, and T2DM, respectively. Similarly, changes in annual medication cost in subjects with ≥10%-<15% WL were -$99.54, -$242.83, and -$271.17, respectively, and for subjects with ≥15% WL were -$229.26, -$594.48, and -$244.94, respectively. Common treatment-emergent adverse events were constipation, dry mouth, and paraesthesia.

Conclusions: In this obese/overweight population, increasing magnitudes of WL were associated with greater reductions in annual medication costs for the treatment of hypertension, dyslipidemia, and T2DM. This suggests that ≥5% WL may have a meaningful and beneficial impact on the economic burden of obesity. Dr. Cheskin is a stockholder and member of the National Advisory Board of VIVUS, Inc.

Table. Mean Change in Annual Medica

Weight Loss.*†

Medications	Weight Loss Magnitude	Perc
		Placebo
Hypertensives	<5% (n=365)	78.8
	≥5-<10% (n=164)	11.3
	≥10-<15% (n=149)	5.9
	≥15% (n=152)	4.1
	<5% (n=131)	72.7

N-4. TREAT, TEST, OR NEITHER? COST-EFFECTIVENESS OF CEREBROVASCULAR RESERVE IMAGING TO GUIDE TREATMENT OF CAROTID STENOSIS FOR STROKE PREVENTION

10:45 AM - 11:00 AM: Wed. Oct 23, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: RESOURCES FOR THE FUTURE: PLANNING THE COSTS OF HEALTH CARE

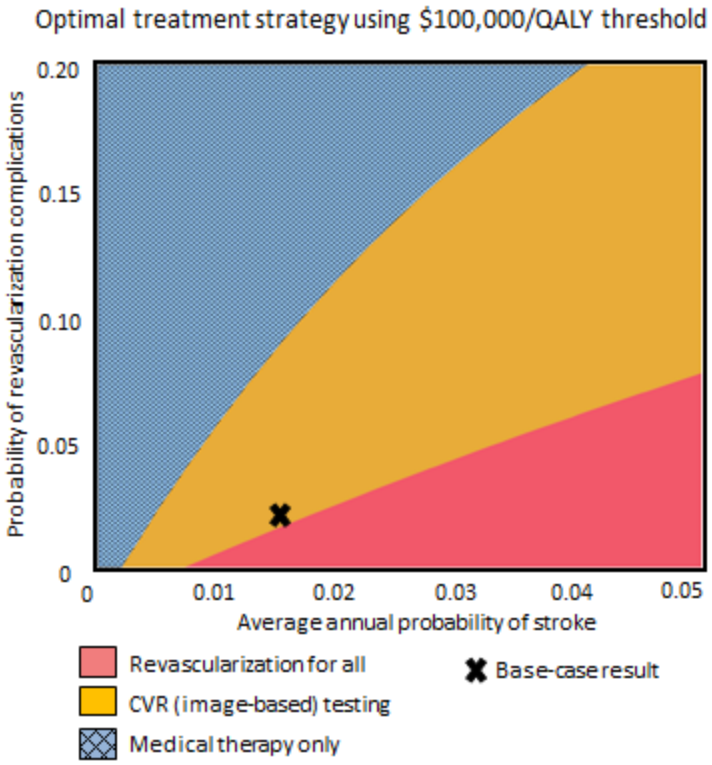
***Ankur Pandya, PhD**, Ajay Gupta, MD, Hooman Kamel, MD, Pina C. Sanelli, MD, MPH and Bruce R. Schackman, PhD, Weill Cornell Medical College, New York, NY*

Purpose: There are an estimated 400,000 patients over the age of 65 years in the United States with extracranial internal carotid artery stenosis, which accounts for 15-20% of ischemic strokes. Revascularization has been shown to decrease stroke risk by 45%, but this procedure carries substantial costs and risks. Carotid stenosis patients with image-determined cerebrovascular reserve (CVR) impairments have been shown to be at a four-fold increased risk of stroke. We projected health benefits, risks, and costs of three competing strategies (treat, test, or neither) for carotid stenosis patients.

Methods: We developed a decision analytic model to compare the following interventions for asymptomatic carotid stenosis patients (50-99% extracranial internal carotid artery blockage): 1) treat all with revascularization (carotid endarterectomy); 2) only perform revascularizations for those with image-determined (transcranial Doppler ultrasound [TCD]) CVR impairments, and use medical therapy alone for all others; and 3) medical therapy alone for all patients. Model input parameters were estimated from published sources. Healthcare costs for revascularization, TCD, acute stroke, and annual long-term stroke care were $14,130, $265, $65,800, and $31,000, respectively. Estimates for baseline annual risk of stroke and probability of revascularization complications (death, stroke, or myocardial infarction) were 1.5% and 2%, respectively. Discounted lifetime costs and health benefits (quality-adjusted life years [QALYs]) were projected for each strategy.

Results: The medical therapy alone strategy resulted in higher total costs ($47,000 per person, driven by stroke-related costs) and lower lifetime QALYs (11.379) compared to image-based CVR testing ($40,800, 11.535 QALYs) or revascularization for all ($44,800, 11.555 QALYs). The incremental cost-effectiveness ratio for the revascularization for all versus CVR testing strategy was $210,000/QALY. Cost-effectiveness results were most sensitive to plausible variations in revascularization risks, costs and benefits; strength of association between CVR impairment and future stroke; and baseline stroke risk. Figure 1 shows the two-way sensitivity analysis results for revascularization complication rates and baseline stroke risk. Model results were robust to variations in TCD costs; acute and long-term stroke costs; and stroke utility values.

Conclusions: CVR testing can be a cost-effective tool to identify asymptomatic carotid stenosis patients most likely to benefit from revascularization. The economic value of this tool depends on accurate assessments of baseline stroke risk and the likelihood of procedure complications, factors that vary by patient and provider.



N-5. THE IMPACT OF STATE HIV POLICY ON CLINICAL AND ECONOMIC OUTCOMES

11:00 AM - 11:15 AM: Wed. Oct 23, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: RESOURCES FOR THE FUTURE: PLANNING THE COSTS OF HEALTH CARE

*Yuri Sanchez, Ph.D.[1], **Timothy Juday, PhD**[2], Daniel Seekins, MD[2], John Romley, Ph.D.[3], Neeraj Sood, Ph.D.[3], Julia Thornton Snider, Ph.D.[1] and Dana P. Goldman[3], (1)Precision Health Economics, Los Angeles, CA, (2)Bristol-Myers Squibb, Plainsboro, NJ, (3)University of Southern California, Los Angeles, CA*

Purpose: To understand the likely impact on clinical and economic outcomes of changes to state policies governing access to combination antiretroviral therapy (cART) among low-income individuals living with HIV/AIDS

Method: Retrospective analyses of cART access were conducted on state Medicaid and AIDS Drug Assistance Programs (ADAP) policies, using data from ADAP Monitoring Reports, the Kaiser Family Foundation, and the Centers for Medicare and Medicaid Services over 2001-2010. The survival effects and lifetime health care expenditures for policies were quantified based on the clinical and cost-effectiveness literature. The effect of cART access on employment, disability and earnings were analyzed with probit and Poisson regression analyses of data from the HIV Cost and Service Utilization Study.

Result: As expected, stricter eligibility requirements based on income, assets or medical status, as well as the lack of a medically needy program, reduce the number of individuals with access to cART through ADAP and Medicaid. In turn, decreased cART use results in higher mortality by 1.4 quality-adjusted life years (QALYs) per beneficiary. For example, in a scenario in which the ADAP income eligibility cutoff is decreased by 50 percentage points nationally, there would be 4,876 fewer individuals with cART access. Based on a $34,900 cost per QALY from the literature, this policy would save $325 million in health care expenditures (2012 dollars), but result in 6,729 QALYs lost. Assuming a $100,000 value of a statistical life-year, the cost of

reduced cART access in terms of decreased QALYs would be 2.9 times as large as the benefits in terms of decreased health care spending. In addition, reduced access would lead to a 13% increase in work-limiting disabilities, an 11% decrease in employment, and a 3% decrease in individual earnings.

Conclusion: In the face of increasing budget pressures, state legislators may be considering cuts to programs that increase access to cART for low-income HIV/AIDS patients. While such an approach may be financially advantageous in the short term, it overlooks the longer term advantages not only to patients in terms of improved clinical outcomes, but the economic benefits that derive from increased employment and earnings and decreased disability.

N-6. THE HEPATITIS C DRUG PIPELINE: COLLABORATION BETWEEN ACADEMIC AND HTA AGENCY PARTNERS TO DEVELOP AN EARLY ECONOMIC MODEL

11:15 AM - 11:30 AM: Wed. Oct 23, 2013
Key Ballroom 7,9,10 (Hilton Baltimore)
Part of Session: RESOURCES FOR THE FUTURE: PLANNING THE COSTS OF HEALTH CARE

William W. L. Wong, Ph.D.[1], *Hong Anh Tu, PhD*[1], *Wendong Chen, MD, PhD*[1], *Jordan J. Feld, MD, MPH*[1], *Kristen Chelak, BSc, (Pharm), MSc, RPh*[2], *Karen M. Lee, MA*[2] *and Murray D. Krahn, MD, MSc*[3], *(1)University of Toronto, Toronto, ON, Canada, (2)Canadian Agency for Drugs and Technologies in Health (CADTH), Ottawa, ON, Canada, (3)Toronto Health Economics and Technology Assessment (THETA) Collaborative, Toronto, ON, Canada*

Purpose: Prior to 2011, pegylated interferon plus ribavirin (PR) was the standard therapy for chronic hepatitis C (CHC). In 2011, the first direct-acting antiviral agents (DAA) (boceprevir, telaprevir) were approved. More DAA currently under development and expected to receive market approval in the next few years. While these treatments appear to be more effective at achieving sustained virologic response in CHC patients; they are more expensive than PR and have different adverse event profile. These aspects need to be considered collectively when making reimbursement decisions. The objective of this study is to build a flexible model platform that can evaluate the cost-effectiveness of the pipeline of hepatitis C drugs for various treatment and patient scenarios once new treatments are available.

Method: We developed a flexible state transition model of CHC. Health states relate to treatment and adverse events, fibrosis stages (F0–F4), and CHC complications states. Our model was divided into a treatment and a natural history modules. The treatment module can be easily changed to reflect different treatment algorithms. The natural history module is a robust model that reflects the natural history of CHC and was validated against other published models. Simulated population can be stratified by CHC genotype, Interleukin-28B genotype, treatment status (naïve, experienced), age, and fibrosis stages. Disease progression parameters were from our published systematic review, which estimated the annual transition probabilities between fibrosis stages. The CHC-related costs were from our large published costing study using administrative data. Utility data were from our published study of CHC patients across different health states.

Result: As a preliminary test, we evaluated our model using data from the telaprevir clinical trials (ADVANCE, ILLUMINATE). Table 1 summarizes the outcomes associated with our base-case analysis (50-years, genotype 1, treatment naïve) stratified by fibrosis stages. Validation was done against QALY gained from other published models. Based on the current structure, the generated ICERs are congruent with other studies.

Conclusion: Our model platform provides a robust CHC natural history model while allowing for flexibility in changing treatment algorithms. When new agents are brought forward for approval, the model will be used to compare the relative cost-effectiveness of available CHC treatment strategies.

Table1:	Fibrosis	Strategy	Cost	QALYs	ICE
	Mild	PR	$112,534	11.36	
		Telaprevir	$137,995	11.73	$68,
	Severe	PR	$111,530	10.18	
		Telaprevir	$137,465	11.07	$29,

O. ON THE FRONTIER: ADVANCES IN METHODS RELEVANT TO COST-EFFECTIVENESS

« Previous Session | Next Session »

10:00 AM - 11:30 AM: Wed. Oct 23, 2013
Key Ballroom 3-4 (Hilton Baltimore)
Session Chairs:

- *Jesse D. Ortendahl, MS*
- *Karen M. Kuntz, ScD*

Session Summary:

10:00 AM - 10:15 AM

O-1. OPTIMAL INFORMATION ACQUISITION POLICIES WITH PARAMETERS THAT VARY ACROSS INTERVENTION COHORTS: APPLICATION TO HCV SCREENING

10:15 AM - 10:30 AM

O-2. ESTIMATING A COST EFFECTIVENESS THRESHOLD TO REFLECT OPPORTUNITY COSTS: THE CASE OF NICE IN THE UK

10:30 AM - 10:45 AM

O-3. MAKING THE MOST OF LIMITED DATA WITH UNCERTAINTY USING PROBABILISTIC ANALYSES: A CASE STUDY IN ONCOLOGY

10:45 AM - 11:00 AM

O-4. EXPANDING THE RANGE OF COMPARATORS FOR COST-EFFECTIVENESS ANALYSES OF VACCINES: THE EXAMPLE OF A POTENTIAL GROUP B STREPTOCOCCAL (GBS) VACCINE PROGRAM FOR PREGNANT WOMEN IN SOUTH AFRICA

11:00 AM - 11:15 AM

O-5. A COST-EFFECTIVENESS ANALYSIS OF TWO PATIENT-LEVEL REMINDER INTERVENTIONS TO INCREASE ADHERENCE TO HAART AMONG HIV PATIENTS IN MEXICO

11:15 AM - 11:30 AM

O-6. EXPECTED VALUE OF SAMPLE INFORMATION FOR CORRELATED DATA: A PRACTICAL APPROACH

Abstracts:

O-1. OPTIMAL INFORMATION ACQUISITION POLICIES WITH PARAMETERS THAT VARY ACROSS INTERVENTION COHORTS: APPLICATION TO HCV SCREENING

10:00 AM - 10:15 AM: Wed. Oct 23, 2013
Key Ballroom 3-4 (Hilton Baltimore)
Part of Session: ON THE FRONTIER: ADVANCES IN METHODS RELEVANT TO COST-EFFECTIVENESS

*Lauren E. Cipriano, MS[1], Shan Liu, S.M.[1], Thomas A. Weber, PhD[2] and **Jeremy D. Goldhaber-Fiebert, PhD**[1], (1)Stanford University, Stanford, CA, (2)Ecole polytechnique federale de Lausanne, Lausanne, Switzerland*

Purpose: CDC guidelines recommend hepatitis C virus (HCV) screening for the 1945-1965 birth cohorts. Since HCV prevalence is decreasing with birth-year, age-specific screening is less cost-effective in later cohorts. To inform the optimal time to discontinue screening, collecting additional information may be valuable, though when this information should be collected is unclear. Standard practice for value of information analyses does not include the option to delay information collection. However, delaying collection may be optimal when at least one model parameter is changing across cohorts as in this case.

Methods: We apply a Markov decision process framework to evaluate how long to continue HCV screening in US men. We identify the optimal information collection policy for two parameters assumed constant across cohorts - reductions in quality-of-life from awareness of HCV-positive status and the fibrosis-stage distribution at screen - detected diagnosis at age 50 - alone and in combination with information collection about HCV prevalence which is decreasing across cohorts. We estimate lifetime costs and benefits using a previously-developed HCV screening model and HCV prevalence dynamics derived from NHANES. The assumed willingness-to-pay threshold is $75,000 per QALY.

Results: The presence of a parameter which varies across cohorts influences the per-person value-of-information about both time-varying and static parameters. In these cases, we show analytically that it may be optimal to delay information collection. Given our prior beliefs, the optimal strategy is to collect sample information about the reduction in quality-of-life from awareness of HCV-positive status immediately and then, depending on the result of that study, collect information on HCV prevalence 3 to 20 years in the future. This strategy, less the cost of information collection, increases the expected incremental net monetary benefit (INMB) by $2.3 million compared to a strategy of collecting information about both immediately. The optimal

time to collect information about the fibrosis-stage distribution is in 12 years, increasing the expected INMB by $1.7 million compared to a strategy of collecting information about both immediately.

Conclusions: We demonstrate that when parameters vary across cohorts, the optimal information collection policy, for both time-varying and static parameters, may be to delay information collection until it is more likely to influence the decision. Our dynamic programming framework enables the consideration of delayed information collection in numerous contexts.

O-2. ESTIMATING A COST EFFECTIVENESS THRESHOLD TO REFLECT OPPORTUNITY COSTS: THE CASE OF NICE IN THE UK

10:15 AM - 10:30 AM: Wed. Oct 23, 2013
Key Ballroom 3-4 (Hilton Baltimore)
Part of Session: ON THE FRONTIER: ADVANCES IN METHODS RELEVANT TO COST-EFFECTIVENESS

*Karl Claxton, PhD[1], Steve Martin, PhD[1], Marta Soares, Msc[1], Nigel Rice, PhD[2], D. Eldon Spackman, PhD[1], Sebastian Hinde, MSc[1], Nancy Devlin, PhD[3], Peter C. Smith, PhD[4] and **Mark Sculpher, PhD**[1], (1)University of York, York, United Kingdom, (2)Centre for Health Economics, York, United Kingdom, (3)Office of Health Economics, London, United Kingdom, (4)Imperial College, London, United Kingdom*

Purpose: To develop a conceptual framework for estimating cost effectiveness thresholds in the context of health care systems with budget constraints. To use routinely available data in the English National Health Service to estimate a cost effectiveness threshold (in terms of cost per quality-adjusted life-year (QALY)) relevant to decisions made by the National Institute for Health and Care Excellence (NICE).

Method: Earlier econometric analysis estimated the relationship between differences in spending by local health care purchasers primary care trust (PCT) spending, across programme budgeting categories (PBCs), and associated disease-specific mortality. This research has been extended in several ways including estimating the impact of marginal increases or decreases in overall NHS expenditure on spending in each of the 23 PBCs. Further stages of work, using data sources including MEPS, link the econometrics to broader health effects in terms of QALYs.

Result: The most relevant 'central' threshold was estimated at £18,317 per QALY (2008 expenditure, 2008-10 mortality). Uncertainty analysis indicates that the probabilities that the threshold is less than £20,000 and £30,000 per QALY, respectively, are 0.64 and 0.92. Additional 'structural' uncertainty suggests, on balance, that the central or best estimate is, if anything, likely to be an overestimate. The health effects of changes in expenditure are greater when local purchasers are under more financial pressure and are more likely to be disinvesting than investing. This indicates that the central estimate of the threshold is likely to be an overestimate for all technologies which impose net costs on the NHS and the appropriate threshold to apply should be lower for technologies which have a greater impact on NHS costs.

Conclusion: The methods go some way to providing an empirical estimate of the scale of opportunity costs the NHS faces when considering whether the health benefits associated with new technologies are expected to offset the health that is likely to be lost elsewhere in the NHS. The study also starts to make the other NHS patients, who ultimately bear the opportunity costs of such decisions, less abstract and more ‘known’ in social decisions. This work has implications for the Government's proposals to move to a system of value-based pricing for new prescription pharmaceuticals.

O-3. MAKING THE MOST OF LIMITED DATA WITH UNCERTAINTY USING PROBABILISTIC ANALYSES: A CASE STUDY IN ONCOLOGY

10:30 AM - 10:45 AM: Wed. Oct 23, 2013
Key Ballroom 3-4 (Hilton Baltimore)
Part of Session: ON THE FRONTIER: ADVANCES IN METHODS RELEVANT TO COST-EFFECTIVENESS

***Jingshu Wang, PhD**, Ruifeng Xu, PhD, Keaven Anderson, PhD and James M. Pellissier, PhD, Merck Research Laboratories, North Wales, PA*

Purpose: Frequently in oncology drug development, model-based projections of treatment outcomes are sought that must be based on limited data from early-phase clinical trials. The assessment of treatment benefit may be improved by adjusting for baseline risk factors. Small sample sizes and inclusion of covariates implies small degrees of freedom, which makes probabilistic analyses very important. If probabilistic analyses are conducted by independently drawing parameters of the survival functions for progression-free survival (PFS) and overall survival (OS), the relationship between PFS and OS may not be realistic. This work presents an illustrative case study using bootstrapping in the context of fitted statistical models to assess treatment benefit and its uncertainty with respect to PFS and OS estimates for decision-analytic models.

Methods: A randomized phase II trial (PRECEDENT) evaluated the efficacy of vintafolide plus pegylated liposomal doxorubicin (V+PLD) vs. PLD alone in platinum-resistant ovarian cancer treatment. PRECEDENT showed the efficacy of V+PLD was present in patients who tested to have 100% folate receptor positive tumors (FR [100%]). For FR[100%] patients (n=37), median PFS were 24.0 vs. 6.6 weeks for V+PLD vs. PLD patients (HR 0.381; p=0.018). Our study sought to extend the estimation of the PFS and OS for use in modeling. Parametric Weibull survival models were estimated including treatment indicator and pre-specified baseline factors. Survival probabilities were estimated for all patients given a treatment and baseline covariates. The mean of all patients' calculated survival probabilities at each time point yielded estimated population survival curves, with area under the curve providing the mean survival time. Variability was assessed by repeatedly drawing samples with replacement from the trial data (bootstrapping).

Results: Modeled OS and PFS by group fit Kaplan-Meier curves well. Predicted means with confidence intervals are shown for 2-year results:

Mean time (months)	**PFS**	**95% CI**	**OS**	**95% CI**
PLD	2.6	(1.4, 5.7)	9.3	(5.3, 15.4)
V+PLD	6.8	(3.9, 10.9)	14.3	(11.0, 17.6)
Diff	4.1	(-0.8, 8.3)	5.0	(-2.9, 10.1)

Conclusions: This case study illustrates an approach to statistically fit and capitalize on bootstrapping to estimate and capture the uncertainty in modeling PFS and OS for a small, randomized Phase II trial. This methodology can also be used for other outcomes important to decision-analytic models. The techniques described will help modelers working with limited clinical data.

O-4. EXPANDING THE RANGE OF COMPARATORS FOR COST-EFFECTIVENESS ANALYSES OF VACCINES: THE EXAMPLE OF A POTENTIAL GROUP B STREPTOCOCCAL (GBS) VACCINE PROGRAM FOR PREGNANT WOMEN IN SOUTH AFRICA

10:45 AM - 11:00 AM: Wed. Oct 23, 2013
Key Ballroom 3-4 (Hilton Baltimore)
Part of Session: ON THE FRONTIER: ADVANCES IN METHODS RELEVANT TO COST-EFFECTIVENESS

Sun-Young Kim, PhD[1], *Louise B. Russell, PhD*[2], *Jeehyun Park, PhD*[2], *Jennifer R. Verani, MD*[3], *Shabir A. Madhi, MD, PhD*[4], *Clare L. Cutland, MBBCh*[4], *Stephanie J. Scharg, DPhil*[3] *and Anushua Sinha, MD, MPH*[5], *(1)University of Texas School of Public Health, San Antonio, TX, (2)Rutgers University, New Brunswick, NJ, (3)National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention, Atlanta, GA, (4)Medical Research Council: Respiratory and Meningeal Pathogens Research Unit and University of the Witwatersrand, Johannesburg, South Africa, (5)New Jersey Medical School, Rutgers University, Newark, NJ*

Purpose: In low-and middle-income countries, cost-effectiveness analyses of new vaccine introduction have typically compared vaccine against doing nothing. We illustrate the impact of competing new vaccines against other realistic prevention alternatives, using maternal GBS vaccination, which is currently in trials including in South Africa, as an example.

Method: We developed a probabilistic decision-analytic model for an annual cohort of pregnant women and their babies that simulates maternal GBS colonization status and the natural history of early onset (EOGBS) and late onset GBS disease (LOGBS) in infants. We compared four strategies: doing nothing; risk factor-based intrapartum antibiotic prophylaxis (RFB-IAP) which is used in some South African hospitals; the potential new maternal GBS vaccine; and vaccination plus RFB-IAP.

Result: Compared to doing nothing, RFB-IAP would prevent 10% of EOGBS/LOGBS cases in South African infants, vaccination 42%, and vaccination plus RFB-IAP 48%. Incremental comparisons show that RFB-IAP would cost $240 per DALY averted compared with doing nothing (2010 US$); at a vaccine price of $20/dose, RFB-IAP alone has the highest probability of being cost-effective when willingness-to-pay falls between $280 and $1,800. Vaccination alone would cost $1,998/DALY compared with RFB-IAP alone. Vaccination plus RFB-IAP would cost $596/DALY compared with vaccination alone. The weak domination of vaccination alone does not, in this case, point to a realistic policy alternative; vaccination is delivered months before delivery and RFB-IAP given at delivery, based on risk factors present at that time.

Conclusion: Vaccination would be very cost-effective in South Africa by World Health Organization's gross domestic product-based guidelines. Interpretation of this finding is influenced by inclusion of an alternative, RFB-IAP. Although it prevents only 10% of cases, RFB-IAP is the most cost-effective alternative to doing nothing. The combined strategy of vaccination plus RFB-IAP prevents more disease and costs more than vaccination alone, and is consistently very cost-effective. Realistic comparators in addition to doing nothing should be included in cost-effectiveness analyses of vaccines whenever possible, to provide low- and middle-income countries' decision makers with more complete information about policy alternatives.

O-5. A COST-EFFECTIVENESS ANALYSIS OF TWO PATIENT-LEVEL REMINDER INTERVENTIONS TO INCREASE ADHERENCE TO HAART AMONG HIV PATIENTS IN MEXICO

11:00 AM - 11:15 AM: Wed. Oct 23, 2013
Key Ballroom 3-4 (Hilton Baltimore)
Part of Session: ON THE FRONTIER: ADVANCES IN METHODS RELEVANT TO COST-EFFECTIVENESS

Amilcar Azamar-Alonso, MSc[1], *Sergio Bautista-Arredondo, MSc*[1], *Gilberto Sanchez-Gonzalez, MSc*[2] *and Juan Sierra-Madero, MD*[3], *(1)National Institute of Public Health, Cuernavaca, Mexico, (2)national Institute of Public Health, Cuernavaca, Mexico, (3)National Institute of Medical Sciences and Nutrition, Mexico, Mexico*

Purpose: The purpose of this study was to analyze two patient-level reminder interventions aimed to increase adherence levels to HAART IN Mexico. Clinical evidence shows that adherence levels ≥90% are required to maximize HAART effectiveness, lower levels increase the disease progression and therefore the probability of death on HIV patients. In Mexico, universal access to HAART; however, average adherence level is 79.8% (95% CI: 77.8-81.8).

Method: The study design was a cost-effectiveness analysis from the governmental perspective. All the costs were expressed in 2010 constant USD. A natural history of disease dynamic model for HIV was used to estimate the following parameters: CD4 and CD8 cell replication and cell mortality rates, as well as infectivity rates of individuals simulated. Also, we analyzed data from a national representative survey of HIV patients on HAART (N=2289) and presenting at 50 governmental hospital/clinics to obtain adherence levels. With these parameters we used a Markov model to estimate life expectancy, total patients' care costs, and therefore incremental cost-effectiveness ratios. Patients were classified as adherent (≥90%) and non-adherent (<90%). We evaluated two patient-level reminder interventions to increase adherence to HAART: (1) three reminder text messages (SMS) sent daily to the patient's cell phone, and (2) a pill bottle with alarm (pill reminder). Both were modeled throughout the patients' lives. We performed probabilistic sensitivity analysis for both adherence levels and costs.

Result: Of the 2289 patients, 26% were adherent (≥90%) (mean adherence level: 79.8%). We did not find statistically significant differences between adherents and non-adherents in sociodemographic characteristics. Seventy percent reported that HAART daily intake omission is the main reason for non-adherence. Interventions increase life expectancy by 2.6 years (SMS) and 3.1 years (pill reminder) with an incremental cost of $4050 and $5552, respectively. Incremental cost-effectiveness ratios are $207 and $637 per year life gained (3% annual discount rate).

Conclusion: Both interventions are below one GDP per capita in Mexico; therefore, they are cost-effective and could be considered for implementation in our country.

O-6. EXPECTED VALUE OF SAMPLE INFORMATION FOR CORRELATED DATA: A PRACTICAL APPROACH

11:15 AM - 11:30 AM: Wed. Oct 23, 2013
Key Ballroom 3-4 (Hilton Baltimore)
Part of Session: ON THE FRONTIER: ADVANCES IN METHODS RELEVANT TO COST-EFFECTIVENESS

Hawre Jalal, MD, MSc *and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

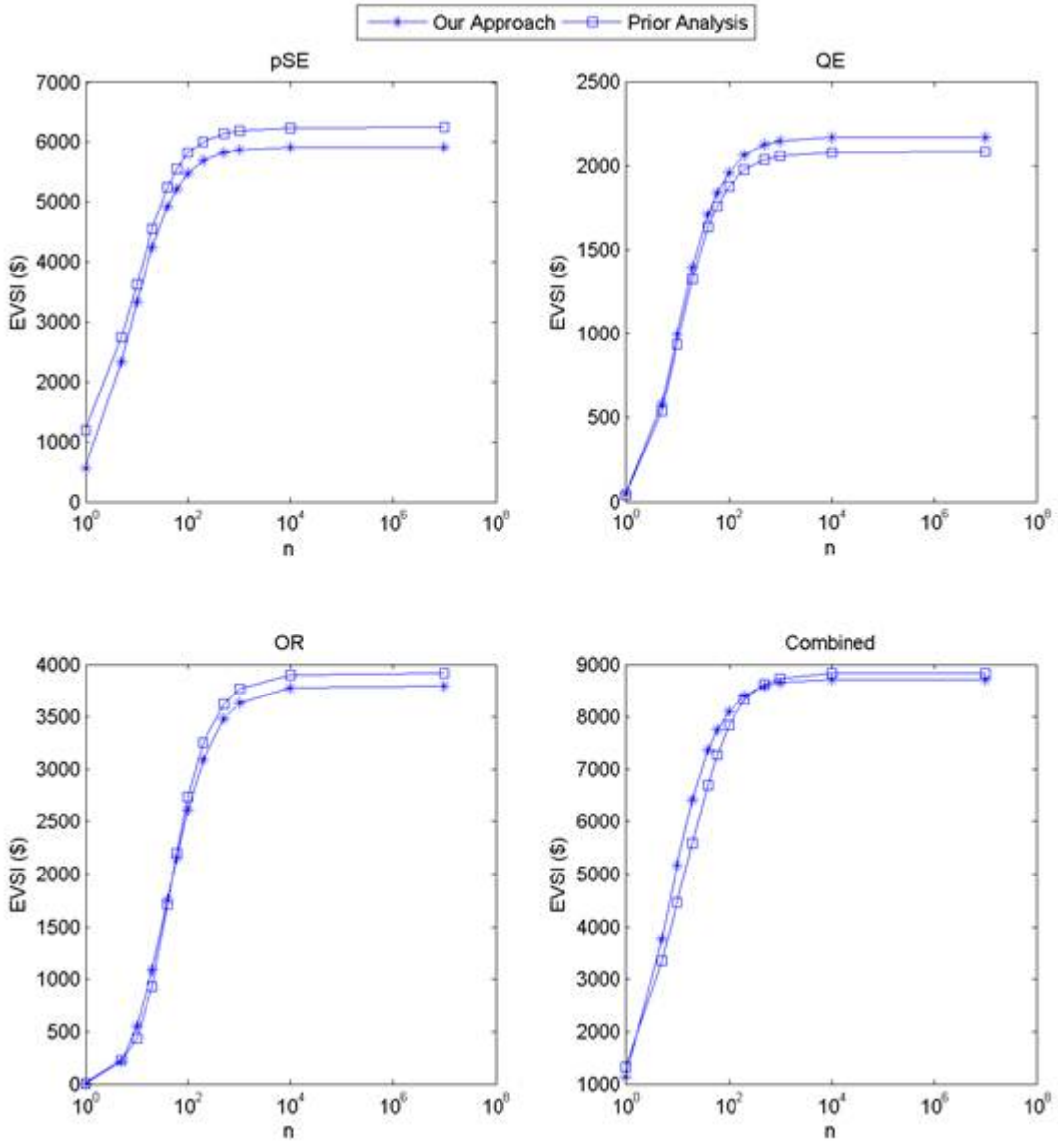
Purpose: Expected value of sample information (EVSI) is a key concept in Bayesian decision theory and illustrates the advantage of the decision-analytic framework over traditional statistical power calculations. We propose a simple and practical framework to compute measures of EVSI.

Methods: Our approach entails three steps: (1) conduct a probabilistic sensitivity analysis (PSA), (2) regress the model parameters on the incremental net benefit (INB) of the new intervention compared to the standard of care using linear regression metamodeling (LRM), and (3) compute EVSI using the unit normal loss integral (UNLI) method. The key concept in our approach is that EVSI relies on the correct estimation of the variance of the INB posterior to collecting new data from a new sample (n). We achieved this goal using LRM, which assumes

a linear relationship between the INB and the uncertain model parameters. Then we adopted the UNLI as a parametric approach to compute EVSI from the fraction of the INB variance explained by the parameters of interest. We illustrate our approach using a previously published decision model, which compared a new treatment to the standard of care for treating a serious condition. The new treatment is effective, but associated with additional risk of a critical event. The uncertain model parameters are (1) the probability of the critical event with the standard care (pC), the probability of side-effects following the new treatment (pSE), the number of quality-adjusted years after a critical event (QE), and the odds ratio of the efficacy of the new treatment compared to standard care (OR).

Results: The Figure shows the EVSI calculated using our approach and those from the published model for various sample sizes (n). The EVSI is shown for individual model parameters and for all the parameters combined.

Conclusion: Our results closely predicted the results from the published model. While PSA, LRM and UNLI are rooted in simulation studies, they have never been combined in this capacity to express EVSI. In addition, our approach avoids complex mathematical notations, requires one PSA, and allows for correlation among model



parameters.

Sunday, October 20, 2013 (Posters)

POSTER SESSION 1 AND WELCOME RECEPTION

« Previous Session | Next Session »

Key Ballroom Foyer (Hilton Baltimore)

Posters:

RANDOM EFFECTS META-ANALYSIS OF MULTINOMIAL DATA: A SIMPLE MODEL WITH MULTIPLE APPLICATIONS (MET)

*Issa J. Dahabreh, MD, MS and **Nira Hadar, MS**, Brown University, Providence, RI*

COST ANALYSIS OF SKELETAL RELATED EVENTS AMONG ELDERLY MEN WITH STAGE IV METASTATIC PROSTATE CANCER (AHE)

***Jinani C. Jayasekera, BSc, MA**[1], Ebere Onukwugha, PhD, MSc[1], Kaloyan Bikov, BS[1], C.Daniel Mullins, PhD[1], Brian Seal, RPh, MBA, PhD[2] and Arif Hussain, MD[1], (1)University of Maryland, Baltimore, MD, (2)Bayer HealthCare Pharmaceuticals, Inc., Pine Brook, NJ*

UNDERSTANDING THE PREFERENCE TO STAY WITH THE STATUS QUO (DEC)

***Liana Fraenkel, MD, MPH**[1], Meaghan Cunningham, MPH[1] and Ellen Peters, PhD[2], (1)Yale School of Medicine, New Haven, CT, (2)Ohio State University, Columbus, OH*

DO NUMBERS MAKE A DIFFERENCE? (DEC)

***Liana Fraenkel, MD, MPH**[1], Evan A. Wilhelms[2] and Valerie Reyna, PhD[2], (1)Yale School of Medicine, New Haven, CT, (2)Cornell University, Ithaca, NY*

UNDERSTANDING HOW PATIENTS APPROACH TRADE-OFFS (DEC)

***Liana Fraenkel, MD, MPH**[1], Meaghan Cunningham, MPH[1] and Kristin Mattocks, PhD[2], (1)Yale School of Medicine, New Haven, CT, (2)Yale School of Medicine, West Haven, CT*

DECISION-MAKING AT THE END OF LIFE: STOCHASTIC MODELING TO DETERMINE OPTIMAL LENGTH OF A TRIAL OF INTENSIVE CARE FOR POOR-PROGNOSIS PATIENTS (DEC)

Mark G. Shrime, MD, MPH[1], *Peggy S. Lai, MD, MPH*[2], *Bart S. Ferket, MD*[3], *Daniel Scott, PhD*[4], *Joon W. Lee, PhD*[5], *Leo A. Celi, MD, MPH, MS*[4] *and M.G. Myriam Hunink, MD, PhD*[6], *(1)Harvard University, Boston, MA, (2)Harvard School of Public Health, Boston, MA, (3)Erasmus MC, Rotterdam, Netherlands, (4)Massachusetts Institute of Technology, Cambridge, MA, (5)School of Public Health and Health Systems, University of Waterloo, Waterloo, ON, Canada, (6)Erasmus University Medical Center, Rotterdam, Netherlands*

NEW THERAPEUTIC OPTIONS IN METASTATIC CASTRATION-RESISTANT PROSTATE CANCER (MCRPC): CAN COST-EFFECTIVENESS ANALYSIS HELP IN TREATMENT DECISION? (AHE)

Jun Tang, Ph.D[1], *LiXian Zhong, Ph.D*[1], *Gregory Gipson, Pharm.D*[2], *Gregory Balani, B.S.*[1], *Pin Xiang, B.A.*[1], *Dawn Yu, Pharm.D*[1], *Sandy Srinivas, M.D.*[3] *and Leslie Wilson*[4], *(1)University of California: San Francisco, San Francisco, CA, (2)University of Washington, San Francisco, CA, (3)Stanford Cancer Institute, Stanford, CA, (4)University of California, San Francisco, San Francisco, CA*

INFLUENCE OF DISEASE PREVALENCE AND AN ALTERNATIVE EXPLANATION ON EARLY CANCER DETECTION IN FAMILY MEDICINE (DEC)

Olga Kostopoulou, PhD*, Miroslav Sirota, Shyamalee Samaranayaka and Thomas Round, MBChB, King's College London, London, United Kingdom*

COMPARATIVE EFFECTIVENESS OF QUALITY IMPROVEMENT INTERVENTIONS FOR PRESSURE ULCER PREVENTION IN HOSPITALS (HSP)

William V. Padula, MS[1], *Manish K. Mishra, MD, MPH, MA*[2], *Mary Beth Makic, PhD*[1], *Kavita V. Nair, PhD*[3], *Heidi Wald, MD, MPH*[1], *Jonathan D. Campbell, PhD*[3] *and Robert J. Valuck, PhD, RPh*[1], *(1)University of Colorado, Aurora, CO, (2)Dartmouth-Hitchcock Medical Center, Lebanon, NH, (3)University of Colorado School of Pharmacy, Aurora, CO*

COST-EFFECTIVENESS OF INTERSPINOUS SPACER DEVICES IN THE SURGICAL TREATMENT OF LUMBAR SPINAL STENOSIS (AHE)

Stephanie J. Tapp, PhD[1], *Brook I. Martin, PhD*[1], *Tor D. Tosteson, ScD*[1], *Jon D. Lurie, MD, MS*[1], *Richard A. Deyo, MD, MPH*[2], *Milton C. Weinstein, PhD*[3], *Sohail K. Mirza, MD, MPH*[4] *and Anna N.A. Tosteson, ScD*[1], *(1)Geisel School of Medicine at Dartmouth, Lebanon, NH, (2)Oregon Health and Science University, Portland, OR, (3)Harvard School of Public Health, Boston, MA, (4)Dartmouth Hitchcock Medical Center, Lebanon, NH*

USING BIVARIATE META-REGRESSION MODELS TO ANALYZE CERVICAL CANCER SCREENING TEST PERFORMANCE (HSP)

Nicole G. Campos, PhD *and Jane J. Kim, PhD, Harvard School of Public Health, Boston, MA*

THE COST-EFFECTIVENESS OF A MEDIA CAMPAIGN TO INCREASE ASPIRIN USE FOR PRIMARY PREVENTION OF CARDIOVASCULAR EVENTS (AHE)

Tzuyu Lin, MHA*, Hawre Jalal, MD, MSc, Jean M. Abraham, PhD, Alan T. Hirsch, MD, Sue Duval, PhD, Karen Miller, M.S.W., M.P.A and Russell V. Luepker, MD, University of Minnesota, Minneapolis, MN*

A SYSTEMATIC REVIEW OF THE INFLUENCE OF PATIENT DECISION AIDS ON COST, HEALTH OUTCOMES, AND COST-EFFECTIVENESS (DEC)

Logan Trenaman, BSc*, Stirling Bryan, PhD and Nick Bansback, PhD, University of British Columbia, Vancouver, BC, Canada*

THE VALUE OF PRIORITIZATION OF ANTIRETROVIRAL BASED PRE-EXPOSURE PROPHYLAXIS IN NEW YORK CITY (NYC) (HSP)

Jason Kessler, M.D., M.P.H*, Kimberly Nucifora, Christopher Toohey and R. Scott Braithwaite, MD, MSc, FACP, New York University School of Medicine, New York, NY*

MUCH ADO ABOUT NOTHING? A LONGITUDINAL RETROSPECTIVE STUDY OF PATIENTS WITH TYPE-2 DIABETES TREATED WITH INSULIN GLARGINE AND SWITCHED TO INSULIN DETEMIR (HSP)

W. Wei, PhD, MS, MBA[1]*, Steve Zhou, PhD*[2]*, Raymond Miao, MS*[2]*, Chunshen Pan*[3]*, Lin Xie*[4]*, Onur Baser, PhD*[4] *and Jasvinder Gill, MD*[2]*, (1)Sanofi US, Bridgewater, NJ, (2)Sanofi US, Inc., Bridgewater, NJ, (3)PRO Limited, Boca Raton, FL, (4)STATinMED, Ann Arbor, MI*

COST-EFFECTIVENESS ANALYSIS OF THE SEQUENTIAL APPLICATION OF TYROSINE KINASE INHIBITORS FOR THE TREATMENT OF CHRONIC MYELOID LEUKEMIA (AHE)

Ursula Rochau, MD, MSc[1]*, Gaby Sroczynski, MPH, Dr.PH*[2]*, Dominik Wolf, MD, PD*[3]*, Stefan Schmidt, Dr.*[4]*, Beate Jahn, PhD*[5]*, Annette Conrads-Frank, PhD*[5]*, David Stenehjem, PharmD*[6]*, Diana Brixner, RPh, PhD*[7]*, Jerald Radich, MD*[8]*, Guenther Gastl, MD, Univ.-Prof.*[4] *and Uwe Siebert, MD, MPH, MSc, ScD*[9]*, (1)UMIT - University for Health Sciences, Medical Informatics and Technology/ ONCOTYROL - Center for Personalized Cancer Medicine, Hall in Tyrol/ Innsbruck, Austria, (2)UMIT - University for Health Sciences, Medical Informatics and Technology, ONCOTYROL - Center for Personalized Cancer Medicine, Hall i.T., Austria, (3)Medical University Innsbruck/ University of Bonn, Innsbruck/ Bonn, Austria, (4)Medical University*

Innsbruck, Innsbruck, Austria, (5)UMIT - University for Health Sciences, Medical Informatics and Technology, Hall i.T., Austria, (6)University of Utah, Salt Lake City, UT, (7)UMIT - University for Health Sciences, Medical Informatics and Technology/ ONCOTYROL/ University of Utah, Hall in Tyrol/ Salt Lake City, Austria, (8)Fred Hutchinson Cancer Research Center, Seattle, WA, (9)UMIT/ ONCOTYROL/ Harvard School of Public Health/ Harvard Medical School, Hall, Austria

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FRAMING EFFECTS ON PHYSICIANS' JUDGMENT AND DECISION MAKING: A NATIONAL SURVEY OF INTERNAL MEDICINE PHYSICIANS IN THE UNITED STATES (DEC)

Jennifer Blumenthal-Barby, Ph.D.[1], *Thanh Bui, MD, DrPH*[2] *and Heather A. Krieger, BA*[1], *(1)Baylor College of Medicine, Houston, TX, (2)University of Texas Health Science Center, Houston, TX*

PREDICTORS FOR DOSE REDUCTION CAUSED BY HEMATOLOGICAL ADVERSE EVENTS IN PATIENTS WITH ADVANCED FIBROSIS RECEIVING PEGYLATED INTERFERON PLUS RIBAVIRIN FOR CHRONIC HEPATITIS C: A SYSTEMATIC REVIEW AND META-REGRESSION ANALYSIS (HSP)

Huaying Zhou, MD, PhD[1], *Weifang Dai*[2], *Guozhong Gong, MD, PhD*[1] *and* ***Wendong Chen, MD, PhD***[2], *(1)The Second Xiangya Hospital, Central South University, Changsha, China, (2)University of Toronto, Toronto, ON, Canada*

BASING TREATMENT RECOMMENDATIONS IN RHEUMATOID ARTHRITIS ON PATIENTS' RATHER THAN PHYSICIANS' JOINT ASSESSMENTS (HSP)

Yomei Shaw, MPP[1], *Daisy Bang, MD*[2], *Stephen R. Wisniewski, PhD*[3], *Marc C. Levesque, MD, PhD*[4] *and Mark S. Roberts, MD, MPP*[3], *(1)University of Pittsburgh, Graduate School of Public Health, Pittsburgh, PA, (2)University of Pittsburgh Department of Medicine, Pittsburgh, PA, (3)University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA, (4)University of Pittsburgh School of Medicine, Pittsburgh, PA*

DEVELOPMENT AND EVALUATION OF A DECISION AID ON MAMMOGRAPHY SCREENING FOR WOMEN AGED 75 AND OLDER (DEC)

Mara A. Schonberg, MD, MPH[1], *Mary Beth Hamel, MD, MPH*[1], *Roger B. Davis, ScD*[1], *Angela Fagerlin, PhD*[2] *and Edward R. Marcantonio*[3], *(1)Beth Israel Deaconess Medical Center, Brookline, MA, (2)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI, (3)Division of General Medicine and Primary Care, Brookline, MA*

DECISION SUPPORT FOR SCREENING MAMMOGRAPHY: EVALUATION OF A WEB-BASED DECISION AID FOR WOMEN IN THEIR 40'S (DEC)

Elena B. Elkin, PhD[1], *Margaret Polaneczky, MD*[2], *Valerie H. Pocus, BA*[1] *and Alvin I. Mushlin, MD, ScM*[2], *(1)Memorial Sloan-Kettering Cancer Center, New York, NY, (2)Weill Cornell Medical College, New York, NY*

COST-EFFECTIVENESS OF URATE LOWERING STRATEGIES FOR THE MANAGEMENT OF GOUT (AHE)

Eric Jutkowitz, *University of Minnesota School of Public Health, Minneapolis, MN, Hyon Choi, MD, DrPh, Boston University School of Medicine, Boston, MA, Laura Pizzi, PharmD, MPH, Thomas Jefferson University School of Pharmacy, Philadelphia, PA and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

UNDERSTANDING THE IMPACT OF NARRATIVES IN HEALTH NEWS: THE ROLE OF INDIVIDUAL DIFFERENCES (DEC)

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

PRIMARY CARE INTERNAL MEDICINE WORKLOAD OUTSIDE THE CLINIC ENCOUNTER: A VOLUME/TIME STUDY (HSP)

Lori Brown, MD[1], ***Jessica J. Chen, MD***[2], *Neil J. Farber, MD*[2] *and John Fontanesi, PhD*[3], *(1)Univeristy of California at San Diego, San Diego, CA, (2)University of California at San Diego, San Diego, CA, (3)UCSD School of Medicine, Solana Beach, CA*

IDENTIFICATION OF DOMAINS FOR THE DEVELOPMENT OF A DELIVERY-SPECIFIC UTILITY MEASURE IN OBSTETRICS (HSP)

Fania R. GÃ¤rtner, PhD[1], *Liv M. Freeman, M.D.*[1], *Marlies E. Rijnders, MSc*[2], *Johanna M. Middeldorp, M.D., PhD*[1], *Kitty W.M. Bloemenkamp, M.D., PhD*[1], *Anne M. Stiggelbout, PhD*[3] *and M. Elske van den Akker-van Marle, PhD*[1], *(1)Leiden University Medical Centre, Leiden, the Netherlands, Leiden, Netherlands, (2)TNO, Leiden, Netherlands, (3)Leiden University Medical Center, Leiden, Netherlands*

COMMUNICATING HEALTH RISKS TO ORTHOPEDIC AND TRAUMA SURGEONS WITH VISUAL AIDS (DEC)

Beate Hanson, MD, MPH, *AO Foundation, DÃ¼bendorf, Switzerland, Rocio Garcia-Retamero, PhD, University of Granada, Granada, Spain, Edward T. Cokely, PhD, Michigan Technological University, Houghton, MI and Barbara Wicki, PhD, MD, AO Foundation, Duebendorf, Switzerland*

COST-EFFECTIVENESS OF SCREENING-BASED STRATEGIES TO PREVENT MRSA TRANSMISSION AND INFECTION (HSP)

Courtney A. Gidengil, MD, MPH, *RAND Corporation, Boston, MA, Charlene Gay, BA, Harvard Pilgrim Health Care Institute, Boston, MA and Grace M. Lee, MD, MPH, Harvard Medical School, Boston, MA*

PERSONALIZED TREATMENT IN HEART FAILURE DISEASE MANAGEMENT IMPROVES OUTCOMES AND REDUCES COSTS (AHE)

Qi Cao, Msc., *Douwe Postmus, PhD, Hans L. Hillege, PhD, MD and Erik Buskens, PhD, University Medical Center Groningen, Groningen, Netherlands*

ORAL NUTRITION SUPPLEMENTS' IMPACT ON HOSPITAL OUTCOMES IN THE CONTEXT OF THE AFFORDABLE CARE ACT AND NEW MEDICARE REIMBURSEMENT POLICIES (HSP)

*Darius Lakdawalla, Ph.D.[1], **Julia Thornton Snider, PhD**[2], Daniella J. Perlroth, MD[3], Chris LaVallee, MS[2], Mark Thomas Linthicum, MPP[2] and Tomas J. Philipson, PhD[4], (1)University of Southern California, Los Angeles, CA, (2)Precision Health Economics, Los Angeles, CA, (3)Stanford University, Stanford, CA, (4)The Harris School, The University of Chicago, Chicago, IL*

COMPLICATIONS ASSOCIATED WITH NEW RADIOTHERAPY TECHNOLOGY (HSP)

Heather Taffet Gold, PhD, *NYU School of Medicine and Cancer Institute, New York, NY and Dawn Walter, MPH, Cancer Institute, New York, NY*

PREFERENCE ELICITATION TOOL FOR ABNORMAL UTERINE BLEEDING TREATMENT: A RANDOMIZED CONTROLLED TRIAL (DEC)

Lisa M. Hess, PhD, MA, MS, BA[1], *Abigail Litwiller, MD[2], John Byron, MD[3], John Stutsman, MD[4], Kelly Kasper, MD[4] and Lee A. Learman, MD, PhD[5], (1)Eli Lilly and Company/Indiana University, Indianapolis, IN, (2)Indiana University, Indianapolis, IN, (3)Southern Pines Womens Health Center, Southern Pines, NC, (4)Indiana University School of Medicine, Indianapolis, IN, (5)University of Indiana School of Medicine, Indianapolis, IN*

LONGER-TERM COST-EFFECTIVENESS OF A COGNITIVE-BEHAVIORAL PROGRAM FOR PREVENTING DEPRESSION IN AT-RISK ADOLESCENTS (AHE)

John F. Dickerson, MS[1], *Frances L. Lynch, PhD[2], Greg Clarke, PhD[2], Anirban Basu, PhD[3], Chuan-Fen Liu, PhD[4], Gary Chan, PhD[1], V. Robin Weersing, PhD[5], William Beardslee, MD[6], David A. Brent, MD[7], Steven D. Hollon, PhD[8], Giovanna Porta, MS[7], Tracy R. G. Gladstone, PhD[9], Lynn L. DeBar, PhD[2] and Judy Garber, PhD[8], (1)University of Washington, Seattle, WA, (2)Kaiser Permanente Center for Health Research, Portland,*

OR, (3)University of Washington, Seattle, Seattle, WA, (4)Center for Health Services Research and Development, VA Puget Sound Health Care System, Seattle, WA, (5)San Diego State University and University of California, San Diego, San Diego, CA, (6)Children's Hospital Boston and Judge Baker Children's Center, Boston, MA, (7)University of Pittsburgh School of Medicine, Pittsburgh, PA, (8)Vanderbilt University, Nashville, TN, (9)Wellesley College, Wellesley, MA

COMPLICATIONS AFTER BARIATRIC SURGERY: A SYSTEMATIC REVIEW AND META-ANALYSIS (HSP)

Su-Hsin Chang, PhD[1], *Carolyn R.T. Stoll, MPH, MSW*[2], *Jihyun Song, PhD*[3], *Amanda Calhoun*[1], *Nikki Freeman, MA*[1], *J. Esteban Varela, MD, MPH, FACS*[4], *Christopher J. Eagon, MD*[4] *and Graham A. Colditz, MD, DrPH*[1], *(1)Washington University School of Medicine, St. Louis, MO, (2)Division of Public Health Sciences, Washington University School of Medicine, St. Louis, MO, (3)Seoul National University, Seoul, South Korea, (4)Division of General Surgery, Washington University School of Medicine, St. Louis, MO*

PATIENT CENTERED APPROACHES FOR MEDICAL DECISION MAKING: FINDINGS FROM THE NATIONAL HEALTHCARE QUALITY AND DISPARITIES REPORTS (NHQR-DR) (HSP)

Barbara A. Barton, MPH*, Atlang Mompe, Ernest Moy, MD, MPH and Karen H. Chaves, MHS, Agency for Healthcare Research and Quality, Rockville, MD*

A TWO-PART MODEL FOR THE COSTS OF HEALTH RESOURCE UTILIZATION AMONG INDIVIDUALS WITH HIV/AIDS (AHE)

Bohdan Nosyk, Ph.D.[1], *Viviane D. Lima, PhD*[2], *Guillaume Colley, MSc*[3], *Benita Yip, BSc*[3], *Robert Hogg, PhD*[4] *and Julio Montaner, MD*[4], *(1)Simon Fraser University - Faculty of Health Sciences, Vancouver, BC, Canada, (2)BC Centre for Excellence in HIV-AIDS, Vancouver, BC, Canada, (3)BC Centre for Excellence in HIV/AIDS, Vancouver, BC, Canada, (4)Centre for Excellence in HIV/AIDS Research, Vancouver, BC, Canada*

THE VALUE OF REDUCING UNCERTAINTIES ABOUT VACCINATION PROGRAMS IN LOW- AND MIDDLE-INCOME COUNTRIES (MET)

Sun-Young Kim, PhD[1], *Louise B. Russell, PhD*[2], *Jeehyun Park, PhD*[2], *Jennifer R. Verani, MD*[3], *Shabir A. Madhi, MD, PhD*[4], *Clare L. Cutland, MBBCh*[4], *Stephanie J. Scharg, DPhil*[3] *and Anushua Sinha, MD, MPH*[5], *(1)University of Texas School of Public Health, San Antonio, TX, (2)Rutgers University, New Brunswick, NJ, (3)National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention, Atlanta, GA, (4)Medical Research Council: Respiratory and Meningeal Pathogens Research Unit and University of the Witwatersrand, Johannesburg, South Africa, (5)New Jersey Medical School, Rutgers University, Newark, NJ*

COMPARATIVE MEDICATION ADHERENCE RATES ACROSS THE DIFFERENT CLASSES OF RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM (RAS) ANTIHYPERTENSIVE DRUGS IN PATIENTS WITH HYPERTENSION (HSP)

Sandhya Mehta, PhD, *John Scoggins, PhD, Barton Jones, MS, Christie Teigland, PhD, Alexis Parente, MA, Zulkarnain Pulungan, PhD, Ping Chen, MD, Xiaoqin Yang, PhD, Bin Zhang, MS and Reshma Bhattacharjee, MPH, Inovalon, Bowie, MD*

NUMERACY AND THE USE AND MISUSE OF DENOMINATORS IN RISK PERCEPTIONS (DEC)

Ellen Peters, PhD, *Ohio State University, Columbus, OH and Liana Fraenkel, MD, MPH, Yale School of Medicine, New Haven, CT*

PHYSICIANS PREFERENTIALLY SEEK INFORMATION FOR CLINICAL DECISIONS FROM COLLEAGUES VERSUS OTHER SOURCES (HSP)

Seema S. Sonnad, PhD[1], J. Sanford Schwartz, MD[2] and ***Kimberly D. Williams, MPH[1]****, (1)Christiana Care Health System, Newark, DE, (2)University of Pennsylvania, Merion Station, PA*

CALIBRATION AND VALIDATION METHODS FOR AN AGENT-BASED SIMULATION TO MODEL CLOSTRIDIUM DIFFICILE TRANSMISSION DYNAMICS IN A HEALTHCARE INSTITUTION (MET)

James V. Codella, MEng, *University of Wisconsin - Madison, Madison, WI, Nasia Safdar, MD, University of Wisconsin School of Medicine and Public Health, Madison, WI and Oguzhan Alagoz, PhD, University of Wisconsin-Madison, Madison, WI*

ACCOUNTING FOR UNCERTAINTY OF UTILITY FUNCTION ESTIMATION FROM DATA IN DECISION MAKING (MET)

Phan H. Giang, PhD, *George Mason University, Fairfax, VA*

A CRITICAL APPRAISAL OF COST-EFFECTIVENESS ANALYSES OF HUMAN PAPILLOMAVIRUS TESTING IN CERVICAL SCREENING: APPROPRIATE COMPARISONS AND THE USEFUL INTERPRETATIONS OF RESULTS (AHE)

James O'Mahony, PhD, *Trinity College Dublin, Dublin, Ireland*

TRADE-OFFS BETWEEN EFFICACY AND CARDIAC TOXICITY OF ADJUVANT CHEMOTHERAPY IN EARLY-STAGE BREAST CANCER PATIENTS. DO COMPETING RISKS MATTER? (AHE)

Fernando Alarid, MSc, *Anne Blaes, MD and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

A REVIEW AND SUMMARY OF STUDIES OF THE COST-EFFECTIVENESS OF BIRTH COHORT HEPATITIS C TESTING IN THE UNITED STATES (AHE)

David Rein, PhD *and John Wittenborn, Wittenborn-John@norc.org, NORC at the University of Chicago, Atlanta, GA*

PATIENT PREFERENCES FOR CANCER TREATMENT: A SCOPING REVIEW (DEC)

Fabian Johnston, MD[1], *Xuan Yang, MPH*[2], *Danielle Bischof, MD*[1], *Susan Joy, MPH, MA*[2], *TImothy Pawlik, MD, PhD*[1] *and John F.P. Bridges, PhD*[2], *(1)Johns Hopkins University, Baltimore, MD, (2)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD*

ENVIRONMENTAL FACTORS ASSOCIATED WITH PRIMARY CARE PHYSICIANS' USE OF PATIENT-CENTERED COMMUNICATION (HSP)

Jennifer Elston Lafata, PhD[1], *L. Aubree Shay, MSW*[1], *Richard Street, PhD*[2] *and Richard F. Brown, PhD*[3], *(1)Virginia Commonwealth University, Richmond, VA, (2)Texas A&M University, College Station, TX, (3)Virginia Commonwealth University School of Medicine, Richmond, VA*

IDENTIFYING AND PRIORITIZING PARENTAL CONCERNS ASSOCIATED WITH DUCHENNE MUSCULAR DYSTROPHY USING BEST-WORST SCALING (DEC)

Holly Peay, MS, CGC[1], ***Ilene Hollin, MPH***[2], *Hadar Sheffer, MPH*[1] *and John F.P. Bridges, PhD*[2], *(1)Parent Project Muscular Dystrophy, Hackensack, NJ, (2)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD*

A PARADIGM SHIFT IN ANTICOAGULATION OR TOO SOON TO CONCLUDE ON COST-EFFECTIVENESS OF NEW ORAL ANTICOOAGULANTS? (AHE)

TorbjÃ¸rn WislÃ¸ff, M.Sc., *Gunhild Hagen, MPhil, B.A. and Marianne Klemp, MD, PhD, Norwegian Knowledge Centre for the Health Services, Oslo, Norway*

FORECASTING BODY MASS INDEX DISTRIBUTIONS AMONG THE US CHILDREN USING A LONGITUDINAL DATASET (HSP)

David D. Kim, MS, *University of Washington, Seattle, WA and Anirban Basu, PhD, University of Washington, Seattle, Seattle, WA*

Monday, October 21, 2013 (Posters)

POSTER SESSION 2 WITH CONTINENTAL BREAKFAST

« Previous Session | Next Session »

Key Ballroom Foyer (Hilton Baltimore)

Posters:

PARENTAL INTEREST IN OPTIONAL NEWBORN SCREENING: EFFECTS OF BOTH RELATED AND UNRELATED FAMILY HISTORY (DEC)

Sarah E. Lillie, PhD, *Beth A. Tarini, MD and Brian J. Zikmund-Fisher, PhD, University of Michigan, Ann Arbor, MI*

USING VALUE OF INFORMATION METHODS WHEN THE DISEASE IS RARE AND THE TREATMENT IS EXPENSIVE Â– THE EXAMPLE OF HEMOPHILIA A (AHE)

Lusine Abrahamyan, MD, MPH, PHD, *University of Toronto, Toronto, ON, Canada, Andrew R. Willan, PhD, SickKids Research Institute, Toronto, ON, Canada, Joseph Beyene, MSc, PhD, McMaster University, Hamilton, ON, Canada, Marjorie Mclimont, MSc, The Hospital for Sick Children Research Institute, Toronto, ON, Canada, Victor S. Blanchette, MD, FRCPC, The Hospital for Sick Children, University of Toronto, Toronto, ON, Canada and Brian M. Feldman, MD, MSc, FRCPC, The Hospital for Sick Children, Toronto, ON, Canada*

OPTIMAL PATIENT-CENTERED RESPONSE TO ACUTE PHYSIOLOGICAL DETERIORATION OF HOSPITALIZED PATIENTS (MET)

Muge Capan, M.Sc.[1], *Julie S. Ivy, Ph.D.*[1], *Jeanne Huddleston, MD, MS*[2] *and Thomas Rohleder, Ph.D.*[2], *(1)North Carolina State University, Raleigh, NC, (2)Mayo Clinic, Rochester, MN*

DUTCH VERSION OF THE SDM-Q-9 AND SDM-Q-DOC: GOOD RELIABILITY AND MIXED RESULTS REGARDING VALIDITY (DEC)

*Sumayah Rodenburg-Vandenbussche, MD[1], Arwen H. Pieterse, PhD[1], Trudy van der Weijden[2], Gre PM Luyten, MD, PhD[1], Roy F.P.M. Kruitwagen, MD, PhD[3], Albert M. Van Hemert, MD, PhD[1] and **Anne M. Stiggelbout, PhD**[1], (1)Leiden University Medical Center, Leiden, Netherlands, (2)Maastricht University, Maastricht, Netherlands, (3)Maastricht University Medical Center, Maastricht, Netherlands*

PATIENT DECISION AID STUDY FEEDS BACK TO THEORY: TESTS OF DIFFERENTIATION AND CONSOLIDATION (DEC)

***Deb Feldman-Stewart, PhD**[1], Christine Tong[2], Ola Svenson, Phd[3] and Michael Brundage, MD, MSc[2], (1)Division of Cancer Care and Epidemiology, Kingston, ON, Canada, (2)Queen's University, Kingston, ON, Canada, (3)University of Stockholm, Stockholm, Sweden*

COST-EFFECTIVENESS OF RAPID HCV AND HCV & HIV TESTING IN SUBSTANCE ABUSE TREATMENT PROGRAMS (AHE)

*Bruce R. Schackman, PhD[1], **Jared A. Leff, MS**[1], Devra M. Barter, MS[2], Madeline A. DiLorenzo, AB[3], Kenneth A. Freedberg, MD, MSc[3] and Benjamin P. Linas, MD, MPH[2], (1)Weill Cornell Medical College, New York, NY, (2)Boston Medical Center, Boston, MA, (3)Massachusetts General Hospital, Boston, MA*

CHANGES IN ANNUAL MEDICATION COSTS ASSOCIATED WITH WEIGHT LOSS INDUCED BY PHENTERMINE AND TOPIRAMATE EXTENDED-RELEASE ACROSS BODY-MASS INDEX LEVELS IN OBESE AND OVERWEIGHT INDIVIDUALS (AHE)

*Donna H. Ryan, MD[1], **Weiyu W. Liu, MHA**[2], Vincent Wu, BS[3] and Sunil Karnawat, PhD[2], (1)Pennington Biomedical Research Center, Baton Rouge, LA, (2)VIVUS, Inc., Mountain View, CA, (3)Independent Contractor, San Francisco, CA*

OPTIMIZING PATIENT TREATMENT DECISIONS IN AN ERA OF RAPID TECHNOLOGICAL ADVANCES (MET)

***Shan Liu, S.M.**, Jeremy D. Goldhaber-Fiebert, PhD and Margaret L. Brandeau, PhD, Stanford University, Stanford, CA*

DOES DOXYCYCLINE REDUCE THE RISK OF CLOSTRIDIUM DIFFICILE INFECTION IN PATIENTS WITH CELLULITIS? (DEC)

***Poonam Mathur, DO, MPH**, Doug Leslie, PhD, Amy Welch, MD, MSN, MSc, John J. Zurlo, MD and Cynthia H. Chuang, MD, MSc, Penn State/Milton S. Hershey Medical Center, Hershey, PA*

HOMELESS WOMEN'S DECISION COMPONENTS FOR CERVICAL CANCER SCREENING: ATTRIBUTES AND LEVELS FOR A DISCRETE CHOICE EXPERIMENT (DEC)

Eve Wittenberg, MPP, PhD[1], *Inez Adams, PhD*[1], *Monica Bharel, MD, MPH*[2], *Adrianna Saada, MPH*[1] *and Emely Santiago*[3], *(1)Harvard School of Public Health, Boston, MA, (2)Boston Health Care for the Homeless Program, Boston, MA, (3)Boston Health Care for the Homless Program, Boston, MA*

DECISION QUALITY AND THE USE OF CARDIAC RHYTHM REGULATING DEVICES IN OLDER ADULTS WITH COGNITIVE IMPAIRMENT (HSP)

Nicole R. Fowler, PhD, MHSA[1], *C. Elizabeth Sarles, MPH*[1], *Jie Li, MS*[1], *Charity G. Moore, PhD*[1], *Amber E. Barnato, MD, MPH, MS*[2] *and Samir Saba, MD*[1], *(1)University of Pittsburgh, Pittsburgh, PA, (2)University of Pittsburgh School of Medicine, Pittsburgh, PA*

STASTICAL METHODS TO SUPPORT MICROSIMULATIONS OF RISK-FACTOR INTERVENTIONS: RURAL CHINESE SCHOOL-BASED ANEMIA INTERVENTIONS (MET)

Diana M. Negoescu, MS, *Department of Management Science and Engineering, Stanford University, Stanford, CA, Sean Sylvia, Department of Agricultural and Resource Economics, University of Maryland, College Park, MD, Renfu Luo, PhD, Center for Chinese Agricultural Policy, Chinese Academy of Sciences, Beijing, China, Marcos Vera-HernÃ¡ndez, PhD, Department of Economics, University College London, London, United Kingdom, Grant Miller, PhD, Centers for Health Policy and Primary Care and Outcomes Research, Stanford University, Stanford, CA and Jeremy D. Goldhaber-Fiebert, PhD, Stanford University, Stanford, CA*

ECONOMIC EVALUATION OF MENINGOCOCCAL SEROGROUP B CHILDHOOD VACCINATION IN ONTARIO, CANADA (AHE)

Hong Anh Tu, PhD[1], *Shelley Deeks, MD, MHSc*[2], *Shaun Morris, MD, MPH*[3], *Lisa Strifler, MSc*[2], *Natasha Crowcroft, PhD*[2], *Frances Jamieson, MD, FRCPC*[4], *Jeff Kwong, MD, MSc*[5], *Peter C. Coyte*[1], *Murray D. Krahn, MD, MSc*[6] *and Beate Sander, PhD*[7], *(1)University of Toronto, Toronto, ON, Canada, (2)Public Health Ontario, Toronto, ON, Canada, (3)Division of Infectious Diseases, Hospital for Sick Children and Department of Pedatrics, University of Toronto, Toronto, ON, Canada, (4)Public Health Ontario Laboratories, Toronto, ON, Canada, (5)Institute for Clinical Evaluative Sciences, Toronto, ON, Canada, (6)Toronto Health Economics and Technology Assessment (THETA) Collaborative, Toronto, ON, Canada, (7)Ontario Agency for Health Protection and Promotion, Toronto, ON, Canada*

DEVELOPING THE BLADDER UTILITY SYMPTOM SCALE (BUSS): A MULTIATTRIBUTE HEALTH STATE CLASSIFICATION SYSTEM FOR BLADDER CANCER (DEC)

Kirstin E. Boehme, B.Sc. (Hons), M.Sc.[1], *Nathan Perlis, MD, BA*[2], *Antonio Finelli, MD, MSc, BSc*[3], *Shabbir MH Alibhai, MD, MSc*[1], *Girish Kulkarni, MD, PhD, BSc*[3] *and Murray D. Krahn, MD, MSc*[4], *(1)University Health Network, Toronto, ON, Canada, (2)Institute of Health Policy, Management and Evaluation, Toronto,*

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STRATEGIC INVESTMENT TO INCREASE UTILIZATION OF STROKE REHABILITATION SERVICES: INSIGHTS FROM A SYSTEM DYNAMICS MODEL (HSP)

Yuan Tian, M.Sc[1], *Gerald C. H. Koh, PhD*[2], *John Pastor Ansah, PhD*[1], *Sean Reed Love, BA*[1] *and David B. Matchar, MD*[1], *(1)Duke-NUS Graduate Medical School, Singapore, Singapore, (2)National University of Singapore, Singapore, Singapore*

IMPLEMENTING SHARED DECISION MAKING IN A COMMUNITY HEALTH CENTER: IMPACT ON PATIENT SATISFACTION WITH PHYSICIAN COMMUNICATION, CONFIDENCE IN DECISION AND ADHERENCE (DEC)

Adesuwa Olomu, MD, MS[1], *Venu Gourineni, MD*[1], *Steven J. Pierce, PhD*[2] *and* ***Margaret Holmes-Rovner, PhD***[3], *(1)Michigan State University College of Human Medicine, East Lansing, MI, (2)Michigan State University, East Lansing, MI, (3)Center for Ethics, E. Lansing, MI*

COST-EFFECTIVENESS OF METFORMIN + SITAGLIPTIN COMPARED TO METFORMIN + SULPHONYLUREA IN SWEDEN: ADJUSTING THE UNITED KINGDOM PROSPECTIVE DIABETES STUDIES (UKPDS) EQUATIONS FOR INCREASED SULPHONYLUREA DRUG-INDUCED CARDIOVASCULAR RISKS (AHE)

Vimalanand S. Prabhu, M.Mgmt, Ph.D.[1], *Johan Lundberg, M.Sc.*[2], *Kaan Tunceli, M.A., Ph.D.*[1] *and Jieling Chen, M.Sc., Ph.D.*[3], *(1)Merck, Whitehouse Station, NJ, (2)MSD Sweden, Sollentuna, Sweden, (3)MSD R&D (China) Co., Ltd, Beijing, China*

CAN PATIENT DECISION AIDS IMPROVE ADHERENCE AND BE COST EFFECTIVE? THE CASE OF OBSTRUCTIVE SLEEP APNEA (AHE)

Logan Trenaman, BSc*, Mohsen Sadatsafavi, MD, MHSc, PhD, Fernanda R. Almeida, DDS, MSc, PhD, Najib Ayas, MD, MPH, Stirling Bryan, PhD, Carlo A. Marra, PharmD, PhD and Nick Bansback, PhD, University of British Columbia, Vancouver, BC, Canada*

DOES IT TAKE LONGER TO DO BETTER INFORMED DECISION MAKING IN EARLY STAGE PROSTATE CANCER? (DEC)

Margaret Holmes-Rovner, PhD[1], *Valerie C. Kahn, MPH*[2], *David Rovner, MD*[3], *Kelly Davis*[4], *Stewart Alexander, PhD*[4], *Clarence H. Braddock III, MD, MPH*[5], *James Tulsky, MD*[4], *Peter A. Ubel, MD*[4] *and Angela Fagerlin, PhD*[6], *(1)Center for Ethics, E. Lansing, MI, (2)University of Michigan, Ann Arbor, MI, (3)Michigan*

State University, East Lansing, MI, (4)Duke University, Durham, NC, (5)Stanford University, Standord, CA, (6)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI

DISCRETE EVENT SIMULATION OF PATIENT ADMISSIONS TO A NEUROVASCULAR UNIT (MET)

Eric KH Chow, MS[1], *Shoshana hahn-Goldberg, PhD*[1], *Eva Appel, BSc*[2] *and Howard Abrams, MD*[1], *(1)University Health Network, Toronto, ON, Canada, (2)PIVINA Consulting Inc., Thornhill, ON, Canada*

EQ-5D AND SUBJECTIVE WELL-BEING: CONSTRUCT OVERLAP AND PROBLEMS WITH REGRESSION MODELING (DEC)

Kim Rand-Hendriksen, PhD., Cand.Psychol *and Liv Ariane Augestad, MD, PhD, University of Oslo, Oslo, Norway*

A NOVEL MULTI-BEHAVIOUR HEALTH ECONOMIC DECISION MODEL TO EVALUATE COST-EFFECTIVENESS OF PUBLIC HEALTH INTERVENTIONS IN THE UK (AHE)

Alan Brennan, BSc, MSc, PhD*, Jen Kruger, BSc, MSc, Mark Strong, Paul Norman and Tracy Epton, University of Sheffield, Sheffield, United Kingdom*

SEARCHING FOR STUDIES BEYOND PUBMED: WHAT IS THE BENEFIT OF SEARCHING MULTIPLE DATABASES? (HSP)

Christopher W. Halladay, BA*, Thomas A. Trikalinos, MD, PhD, Ian T. Schmid, BA, Christopher H. Schmid, PhD and Issa J. Dahabreh, MD, MS, Brown University, Providence, RI*

EVALUATION OF PHYSICIANS' COGNITIVE STYLES (DEC)

Benjamin Djulbegovic, MD, PhD[1], *Jason W. Beckstead, PhD*[2], *Shira Elqayam, PhD*[3], *Tea Reljic, BS*[4], *Ambuj Kumar, MD, MPH*[5], *Janis A. Cannon-Bowers, PhD*[4], *Stephanie Taylor, MD*[4], *Athanasios Tsalatsanis, PhD*[6], *Brandon M. Turner, PhD*[7] *and Charles N. Paidas, MD, MBA*[4], *(1)USF, Tampa, FL, (2)University of South Florida College of Nursing, Tampa, FL, (3)De Montfort University, Leicester, United Kingdom, (4)University of South Florida, Tampa, FL, (5)Center for Evidence Based Medicine, University of South Florids, Tampa, FL, (6)USF Health, Tampa, FL, (7)Stanford University, Stanford, CA*

REFERRING PHYSICIANS' DECISION MAKING FOR PEDIATRIC ANTI-REFLUX PROCEDURES (HSP)

Jonathan C. Papic, MD, *S. Maria E. Finnell, MD, MS, Charles M. Leys, MD, William E. Bennett Jr., MD and Stephen M. Downs, MD, MS, Indiana University School of Medicine, Indianapolis, IN*

OVERLAP AND THE EFFICIENCY OF DISCRETE-CHOICE EXPERIMENTS: EVIDENCE FROM A RANDOMIZED EXPERIMENT (DEC)

John F.P. Bridges, PhD[1], *Tom Prior*[1], *Ateesha Mohamed*[2] *and Dave Kaufman, PhD*[3], *(1)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, (2)RTI Health Solutions, Research Triangle Park, NC, (3)Johns Hopkins University, Washington, DC*

RETROSPECTIVE ANALYSIS OF EXENATIDE TWICE DAILY COMPARED TO LONG-ACTING INSULIN ANALOGS IN A VETERAN POPULATION (HSP)

Mark Bounthavong, Pharm.D., *Veterans Affairs San Diego Healthcare System, San Diego, CA, Josephine N. Tran, Pharm.D., MS, OptumRX, Irvine, CA, Shahrokh Golshan, Ph.D., UCSD, La Jolla, CA, Neill F. Piland, Dr.P.H., Idaho State University, Pocatello, ID, Candis M. Morello, Pharm.D., Skaggs School of Pharmacy and Pharmaceutical Sciences, Lo Jolla, CA, Amy Blickensderfer, Pharm.D., Novartis Pharmaceuticals, East Hanover, NJ and Jennie H. Best, Ph.D., Bristol-Myers Squibb, San Diego, CA*

DO PHYSICIANS WANT TO SHARE DECISION MAKING? (DEC)

Rocio Garcia-Retamero, PhD, University of Granada, Granada, Spain, Barbara Wicki, PhD, MD, AO Foundation, Duebendorf, Switzerland, Edward T. Cokely, PhD, Michigan Technological University, Houghton, MI and ***Beate Hanson, MD, MPH****, AO Foundation, DÃ¼bendorf, Switzerland*

EXTRAPOLATION OF TRIAL-BASED SURVIVAL CURVES: CONSTRAINTS BASED ON EXTERNAL INFORMATION (MET)

Patricia Guyot, Msc[1], *Nicky J. Welton, PhD*[1], *Matthew Beasley, PhD*[2], *Jeroen P. Jansen, PhD*[3] *and A. E. Ades, PhD*[4], *(1)Bristol University, Bristol, United Kingdom, (2)Bristol Haematology and Oncology Centre, Bristol, United Kingdom, (3)Mapi, Boston, MA, (4)University of Bristol, Bristol, United Kingdom*

DEVELOPING A DECISION AID TO HELP PROVIDE INFORMED CONSENT FOR RESEARCH; A USER-CENTERED DESIGN APPROACH (DEC)

Jamie C. Brehaut, PhD[1], ***Kelly Carroll***[1], *Glyn Elwyn, MB, BCh, MSc, FRCGP, PhD*[2], *Raphael Saginur, MD*[3], *Kaveh Shojania, MD*[4], *Jonathan Kimmelman, PhD*[5] *and Dean Fergusson, PhD*[1], *(1)Ottawa Hospital Research Institute, Ottawa, ON, Canada, (2)Dartmouth Center for Health Care Delivery Science, Hanover, NH, (3)The Ottawa Hospital, Ottawa, ON, Canada, (4)Sunnybrook Health Sciences Centre, Toronto, ON, Canada, (5)McGill University, Montreal, QC, Canada*

PERSONALIZED DECISION MAKING USING POPULATION REGISTRIES: A PRACTICAL APPROACH (MET)

Jarrod E. Dalton, PhD[1], *Michael W. Kattan, PhD*[1], *Jesse D. Schold, PhD*[1], *Daniel I. Sessler, MD*[1], *Thomas E. Love, PhD*[2] *and Neal V. Dawson, MD*[2], *(1)Cleveland Clinic, Cleveland, OH, (2)Case Western Reserve University at MetroHealth Medical Center, Cleveland, OH*

USE OF A VALUES CLARIFICATION EXERCISE ABOUT FERTILITY PRESERVATION LEADS TO MORE CLARITY ABOUT VALUES AND MORE KNOWLEDGE IN HEALTHY PARTICIPANTS (DEC)

M.M. Garvelink, MSc[1], *MM Ter Kuile, PhD*[1], ***Anne M. Stiggelbout, PhD***[1] *and Marieke de Vries, PhD*[2], *(1)Leiden University Medical Center, Leiden, Netherlands, (2)Tilburg University, Tilburg, Netherlands*

THE CLINICAL UTILITY OF NOVEL GENOMIC-BASED TEST ON MEDICAL DECISION MAKING FOR THE EVALUATION OF OBSTRUCTIVE CORONARY ARTERY DISEASE IN THE AMBULATORY CARE SETTING (DEC)

Joseph A. Ladapo, MD, PhD[1], *Heather Lyons-Hartnett, PhD*[2], *May Yau, MS*[3], *Paul Rich, MD*[4], *Dedra Newton, NP*[5], *Kofi Bruce-Mensah, MD*[6], *Andrea Johnson, PhD*[3], *Yunping Ping, PhD*[2], *Stephen Stemkowski, PhD*[2] *and Mark Monane, MD*[7], *(1)NYU School of Medicine, NY, NY, (2)Comprehensive Health Insights, Inc, Lousiville, KY, (3)CardioDx, Palo Alto, CA, (4)Comprehensive Physician Associates, Youngstown, OH, (5)Maringouin Medical Center, Maringouin, LA, (6)Triangle Primary Care, Wake Forest, NC, (7)CardioDx, Inc., Palo Alto, CA*

DECIDING TO UNDERGO A TRIAL OF LABOR AFTER A PREVIOUS CESAREAN: SOURCES OF INFLUENCE (DEC)

Michele M. Barry, B.A., *Rosemarie Whyte and Yasmine L. Konheim-Kalkstein, Ph.D, Mount Saint Mary College, Newburgh, NY*

EFFECTIVE COMMUNICATION TO IMPROVE DECISION MAKING ABOUT HEALTH CARE PLANS (DEC)

Mary Politi, PhD[1], *Kimberly Kaphingst, ScD*[2], *Matthew Kreuter, PhD, MPH*[3], *Enbal Shacham, PhD, MPE*[4] *and Timothy McBride, PhD*[3], *(1)Washington University School of Medicine, St. Louis, MO, (2)Washington University in St. Louis School of Medicine, St Louis, MO, (3)Washington University in St. Louis, St Louis, MO, (4)St. Louis University College for Public Health and Social Justice, St Louis, MO*

PHYSICIANS' ROLES IN TREATMENT DECISION MAKING AMONG PROSTATE CANCER PATIENTS WITH RISING PSA LEVELS (DEC)

Megan Johnson Shen, Ph.D.[1], *Matt Hall, M.A.*[1], *Christian J. Nelson, Ph.D.*[2], *Ellen Peters, PhD*[3] *and Michael A. Diefenbach, PhD*[4], *(1)Icahn School of Medicine at Mount Sinai, New York, NY, (2)Memorial Sloan-Kettering Cancer Center, New York, NY, (3)Ohio State University, Columbus, OH, (4)Mount Sinai School of Medicine, New York, NY*

ANTICIPATED REGRET IN SHARED MEDICAL DECISION-MAKING (DEC)

Kimberly S. Resnick, M.D., *Rebecca M. Speck, Ph.D, MPH, Mark D. Neuman, M.D., M.Sc., Barbara A. Mellers, Ph.D, M.A. and Lee A. Fleisher, M.D., University of Pennsylvania, Philadelphia, PA*

DOES VARIATION IN INDIVIDUALIZATION OF CARE CONTRIBUTE TO HEALTH DISPARITIES? (DEC)

David O. Meltzer, MD, PhD, *Xuejie Zhang, PhD and Elbert S. Huang, MD, MPH, University of Chicago, Chicago, IL*

TRANSLATION AND APPLICATION OF THE NUMERACY UNDERSTANDING IN MEDICINE INSTRUMENT IN JAPAN (DEC)

Masako Okamoto, Ph.D.[1], *Yasuchi Kyutoku, Ph.D.*[2], *Cynthia M. Walker, Ph.D.*[3], *Tamara Miller, PT, MS*[3], *Yurie Sugimoto*[4], *Lester Clowney*[5], *Ippeita Dan, Ph.D.*[2] *and* ***Marilyn Schapira, MD, MPH***[6], *(1)Obihiro University of Agriculture and Veterinary Medicine, Obihiro Hokkaido, Japan, (2)Chuo University, Tokyo, Japan, (3)University of Wisconsin, Milwaukee, WI, (4)Kyushu Institute of Technology, Tokyo, Japan, (5)Jichi Medical University, Tochigi, Japan, (6)University of Pennsylvania, Philadelphia, PA*

SEVERE THINNESS AND LIVE BIRTH OUTCOME FOLLOWING IN VITRO FERTILIZATION (HSP)

Lisa M. Pollack, MPT, MPH, *Washington University in St. Louis, St. Louis, MO and Emily Jungheim, M.D., M.S.C.I., Washington University School of Medicine, St. Louis, MO*

COST-EFFECTIVE ANALYSIS FOR IMAGING STRATEGIES FOLLOWING ACUTE WRIST TRAUMA: A COMPREHENSIVE CONCEPTUAL FRAMEWORK (AHE)

Sahar J Farahani, MD, MPH, *John Carrino, MD, MPH and Shadpour Demehri, MD, Johns Hopkins School of Medicine, Baltimore, MD*

EXAMINING THE EFFECT OF CORRELATED PARAMETERS ON REGRESSION METAMODELING (MET)

Hawre Jalal, MD, MSc[1], *Jeremy D. Goldhaber-Fiebert, PhD*[2] *and Karen M. Kuntz, ScD*[1], *(1)University of Minnesota, Minneapolis, MN, (2)Stanford University, Stanford, CA*

COST EFFECTIVENESS OF DRUG ELUTING STENTS IN THE PERCUTANEOUS TREATMENT OF STABLE CORONARY ARTERY DISEASE IN BRAZIL (AHE)

Steffan Frosi Stella, MD, *Institute for Health technology Assessment, Porto Alegre, Brazil and Carisi Anne Polanczyk, MD, ScD, Institute for Health Technology Assessment, Porto Alegre, Brazil*

MAPPING STANDARD GAMBLE AND TIME TRADE-OFF UTILITIES TO THE MEDICAL OUTCOMES STUDY-HIV HEALTH SURVEY AND PATIENT SYMPTOMS (DEC)

Soroush Mortaz Hedjri, MD, *Institute of Health Policy, Management and Evaluation, University of Toronto, Toronto, ON, Canada and Ahmed M. Bayoumi, MD, MSc, Centre for Research on Inner City Health, the Keenan Research Centre in the Li Ka Shing Knowledge Institute, Toronto, ON, Canada*

THE EDUCATION GRADIENT IN THE SUCCESS RATE OF IN VITRO FERTILIZATION IN DENMARK 1995 - 2009 (AHE)

Man Yee Mallory Leung, PhD, *Washington University School of Medicine, St. Louis, MO, Raul Santaeulalia-Llopis, PhS, Washington University in St Louis, St Louis, MO and Fane Groes, PhD, Copenhagen Business School, Copenhagen, Denmark*

CAN AN INTERACTIVE DECISION AID IMPROVE SHARED DECISION MAKING? PRELIMINARY RESULTS FROM DATES (DECISION AID TO TECHNOLOGICALLY ENHANCE SHARED DECISION MAKING) (DEC)

Masahito Jimbo, MD, PhD, MPH[1], *Melissa Plegue, MA*[1], *Ananda Sen, PhD*[1], *Sarah T. Hawley, PhD, MPH*[2], *Karen Kelly-Blake, PhD*[3] *and Mack Ruffin IV, MD, MPH*[1], *(1)University of Michigan, Ann Arbor, MI, (2)University of Michigan, Ann Arbor VA Health System, Ann Arbor, MI, (3)Michigan State University College of Human Medicine, East Lansing, MI*

EXAMINING THE IMPACT OF HOUSEHOLD SIZE ON HEALTH INSURANCE DECISIONS IN CAMBODIA: A CONJOINT ANALYSIS (DEC)

Sachiko Ozawa, MHS, PhD, *Simrun Grewal, MHS and John F.P. Bridges, PhD, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD*

REDUCING UNNECESSARY BIOPSIES FOR SUSPICION OF PROSTATE CANCER: SYSTEMATIC EXTENSION AND VALIDATION OF RISK CALCULATORS (HSP)

Moniek Vedder, MSc[1], *Monique J. Roobol*[2], *Daan Nieboer*[2], *Alain Houlgatte*[3], *SÃ©bastien Vincendeau*[4], *Massimo Lazzeri*[5], *Giorgio Guazzoni*[5], *Carsten Stephan*[6], *Axel Semjonow*[7], *Alexander Haese*[8], *Markus Graefen*[8] *and Ewout W. Steyerberg, PhD*[9], *(1)Erasmus MC, Rotterdam, Netherlands, (2)Erasmus MC - University Medical Center Rotterdam, Rotterdam, Netherlands, (3)HIA Du Val De Grace, Paris, France, (4)Hospital Pontchaillou, Rennes, France, (5)San Raffaele Hospital-Turro, Milan, Italy, (6)Charite-Universitatsmedizin, Berlin, Germany, (7)University Hospital Munster, Munster, Germany, (8)Martini-Clinic University Hamburg-Eppendorf, Hamburg, Germany, (9)Department of Public Health, AE 236, Rotterdam, Netherlands*

LEE B. LUSTED CANDIDATESÂ' MODERATED POSTER SESSION (CLOSED SESSION)

« Previous Session | Next Session »

Key Ballroom Foyer (Hilton Baltimore)

Posters:

A-2. INCREMENTAL HEALTHCARE COSTS OF ANXIETY DISORDERS IN THE AMBULATORY ADULT POPULATION OF THE UNITED STATES (AHE)

Elaheh Shirneshan, M.S.[1], *George Relyea, M.S.*[2] *and Lawrence LB Brown, PharmD, PhD*[1], *(1)University of Tennessee Health Science Center, Memphis, TN, (2)University of Memphis, Memphis, TN*

G-3. COST-EFFECTIVENESS OF SAME-DAY DISCHARGE AFTER ELECTIVE PERCUTANEOUS CORONARY INTERVENTION (AHE)

Sze-chuan Suen, MS[1], *Kimberly M. Brayton, MD, JD*[1], *Vishal G. Patel, MD*[2], *Douglas K. Owens, MD, MS*[3] *and Jeremy D. Goldhaber-Fiebert, PhD*[1], *(1)Stanford University, Stanford, CA, (2)University of Texas Southwestern Medical Center, Dallas, TX, (3)Veterans Affairs Palo Alto Health Care System and Stanford University, Stanford, CA*

G-4. COST-EFFECTIVENESS OF THE RELAX TRIAL OF COLLABORATIVE CARE FOR TREATING PANIC AND GENERALIZED ANXIETY IN PRIMARY CARE (AHE)

Tatiana K. Deveney, BA*, Bea Herbeck Belnap, Dr.Biol.Hum, Bruce L. Rollman, MD, MPH and Kenneth Smith, MD, MS, University of Pittsburgh School of Medicine, Pittsburgh, PA*

PERSONALIZED TREATMENT IN HEART FAILURE DISEASE MANAGEMENT IMPROVES OUTCOMES AND REDUCES COSTS (AHE)

Qi Cao, Msc., *Douwe Postmus, PhD, Hans L. Hillege, PhD, MD and Erik Buskens, PhD, University Medical Center Groningen, Groningen, Netherlands*

COST ANALYSIS OF SKELETAL RELATED EVENTS AMONG ELDERLY MEN WITH STAGE IV METASTATIC PROSTATE CANCER (AHE)

Jinani C. Jayasekera, BSc, MA[1], *Ebere Onukwugha, PhD, MSc*[1], *Kaloyan Bikov, BS*[1], *C.Daniel Mullins, PhD*[1], *Brian Seal, RPh, MBA, PhD*[2] *and Arif Hussain, MD*[1], *(1)University of Maryland, Baltimore, MD, (2)Bayer HealthCare Pharmaceuticals, Inc., Pine Brook, NJ*

NEW THERAPEUTIC OPTIONS IN METASTATIC CASTRATION-RESISTANT PROSTATE CANCER (MCRPC): CAN COST-EFFECTIVENESS ANALYSIS HELP IN TREATMENT DECISION? (AHE)

Jun Tang, Ph.D[1], *LiXian Zhong, Ph.D*[1], *Gregory Gipson, Pharm.D*[2], *Gregory Balani, B.S.*[1], *Pin Xiang, B.A.*[1], *Dawn Yu, Pharm.D*[1], *Sandy Srinivas, M.D.*[3] *and Leslie Wilson*[4], *(1)University of California: San Francisco, San Francisco, CA, (2)University of Washington, San Francisco, CA, (3)Stanford Cancer Institute, Stanford, CA, (4)University of California, San Francisco, San Francisco, CA*

TRADE-OFFS BETWEEN EFFICACY AND CARDIAC TOXICITY OF ADJUVANT CHEMOTHERAPY IN EARLY-STAGE BREAST CANCER PATIENTS. DO COMPETING RISKS MATTER? (AHE)

Fernando Alarid, MSc, *Anne Blaes, MD and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

LONGER-TERM COST-EFFECTIVENESS OF A COGNITIVE-BEHAVIORAL PROGRAM FOR PREVENTING DEPRESSION IN AT-RISK ADOLESCENTS (AHE)

John F. Dickerson, MS[1], *Frances L. Lynch, PhD*[2], *Greg Clarke, PhD*[2], *Anirban Basu, PhD*[3], *Chuan-Fen Liu, PhD*[4], *Gary Chan, PhD*[1], *V. Robin Weersing, PhD*[5], *William Beardslee, MD*[6], *David A. Brent, MD*[7], *Steven D. Hollon, PhD*[8], *Giovanna Porta, MS*[7], *Tracy R. G. Gladstone, PhD*[9], *Lynn L. DeBar, PhD*[2] *and Judy Garber, PhD*[8], *(1)University of Washington, Seattle, WA, (2)Kaiser Permanente Center for Health Research, Portland, OR, (3)University of Washington, Seattle, Seattle, WA, (4)Center for Health Services Research and Development, VA Puget Sound Health Care System, Seattle, WA, (5)San Diego State University and University of California, San Diego, San Diego, CA, (6)Children's Hospital Boston and Judge Baker Children's Center, Boston, MA, (7)University of Pittsburgh School of Medicine, Pittsburgh, PA, (8)Vanderbilt University, Nashville, TN, (9)Wellesley College, Wellesley, MA*

COST-EFFECTIVENESS OF URATE LOWERING STRATEGIES FOR THE MANAGEMENT OF GOUT (AHE)

***Eric Jutkowitz**, University of Minnesota School of Public Health, Minneapolis, MN, Hyon Choi, MD, DrPh, Boston University School of Medicine, Boston, MA, Laura Pizzi, PharmD, MPH, Thomas Jefferson University School of Pharmacy, Philadelphia, PA and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

CAN PATIENT DECISION AIDS IMPROVE ADHERENCE AND BE COST EFFECTIVE? THE CASE OF OBSTRUCTIVE SLEEP APNEA (AHE)

***Logan Trenaman, BSc**, Mohsen Sadatsafavi, MD, MHSc, PhD, Fernanda R. Almeida, DDS, MSc, PhD, Najib Ayas, MD, MPH, Stirling Bryan, PhD, Carlo A. Marra, PharmD, PhD and Nick Bansback, PhD, University of British Columbia, Vancouver, BC, Canada*

N-2. HOSPITAL RESOURCE USE IN CHRONIC DISEASE COMBINATIONS: IS IT ENOUGH TO JUST ADD THEM UP? (AHE)

***Janelle Z. Seah, MSc**, Paula K. Lorgelly, PhD and Anthony Harris, M.A., M.Sc., Monash University, Melbourne, Australia*

COST EFFECTIVENESS OF DRUG ELUTING STENTS IN THE PERCUTANEOUS TREATMENT OF STABLE CORONARY ARTERY DISEASE IN BRAZIL (AHE)

***Steffan Frosi Stella, MD**, Institute for Health technology Assessment, Porto Alegre, Brazil and Carisi Anne Polanczyk, MD, ScD, Institute for Health Technology Assessment, Porto Alegre, Brazil*

TRA2-4. THE IMPORTANCE OF SHARED DECISION MAKING TO PATIENTS SELECTING A SPECIALIST FOR CONSULTATION (DEC)

***Robert Dunlea, MD, MS** and Leslie Lenert, MD, MS, University of Utah, Salt Lake City, UT*

B-4. GOAL SETTING DURING PERIODIC HEALTH EXAMS: WHAT TYPES OF GOALS ARE SET AND WHAT IMPACT DOES IT HAVE ON THE VISIT? (DEC)

***Heather L. Morris, BA, MS** and Jennifer Elston Lafata, PhD, Virginia Commonwealth University, Richmond, VA*

N-1. THE EFFECT OF THE DIFFUSION OF THE SURGICAL ROBOT ON THE HOSPITAL-LEVEL UTILIZATION OF PARTIAL NEPHRECTOMY (DEC)

Ganesh Sivarajan, MD[1], *Glen Taksler, Ph.D.*[2], *Dawn Walter, MPH*[3], *Marc Bjurlin, MD*[1], *Cary P. Gross, MD*[4], *R. Ernest Eosa, MD*[1] *and Danil V. Makarov, MD, MHS*[2], *(1)New York University Langone Medical Center, New York, NY, (2)New York University School of Medicine, New York, NY, (3)Cancer Institute, New York, NY, (4)Yale University School of Medicine, New Haven, CT*

E-4. HOW SHOULD COMPLEX DATA BE PRESENTED TO HELP PATIENTS MAKE INFORMED DECISIONS? (DEC)

Sanghee Suh, BS, *Virginia Tech School of Medicine, Roanoke, VA, Ursula Guillen, MD, Christiana Neonatal Associates, Newark, DE and Haresh Kirpalani, MD, Children's Hospital of Philadelphia, Philadelphia, PA*

PATIENT PREFERENCES FOR CANCER TREATMENT: A SCOPING REVIEW (DEC)

Fabian Johnston, MD[1], *Xuan Yang, MPH*[2], *Danielle Bischof, MD*[1], *Susan Joy, MPH, MA*[2], *TImothy Pawlik, MD, PhD*[1] *and John F.P. Bridges, PhD*[2], *(1)Johns Hopkins University, Baltimore, MD, (2)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD*

DOES DOXYCYCLINE REDUCE THE RISK OF CLOSTRIDIUM DIFFICILE INFECTION IN PATIENTS WITH CELLULITIS? (DEC)

Poonam Mathur, DO, MPH, *Doug Leslie, PhD, Amy Welch, MD, MSN, MSc, John J. Zurlo, MD and Cynthia H. Chuang, MD, MSc, Penn State/Milton S. Hershey Medical Center, Hershey, PA*

A SYSTEMATIC REVIEW OF THE INFLUENCE OF PATIENT DECISION AIDS ON COST, HEALTH OUTCOMES, AND COST-EFFECTIVENESS (DEC)

Logan Trenaman, BSc, *Stirling Bryan, PhD and Nick Bansback, PhD, University of British Columbia, Vancouver, BC, Canada*

IDENTIFYING AND PRIORITIZING PARENTAL CONCERNS ASSOCIATED WITH DUCHENNE MUSCULAR DYSTROPHY USING BEST-WORST SCALING (DEC)

Holly Peay, MS, CGC[1], ***Ilene Hollin, MPH***[2], *Hadar Sheffer, MPH*[1] *and John F.P. Bridges, PhD*[2], *(1)Parent Project Muscular Dystrophy, Hackensack, NJ, (2)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD*

MAPPING STANDARD GAMBLE AND TIME TRADE-OFF UTILITIES TO THE MEDICAL OUTCOMES STUDY-HIV HEALTH SURVEY AND PATIENT SYMPTOMS (DEC)

Soroush Mortaz Hedjri, MD, *Institute of Health Policy, Management and Evaluation, University of Toronto, Toronto, ON, Canada and Ahmed M. Bayoumi, MD, MSc, Centre for Research on Inner City Health, the Keenan Research Centre in the Li Ka Shing Knowledge Institute, Toronto, ON, Canada*

ANTICIPATED REGRET IN SHARED MEDICAL DECISION-MAKING (DEC)

Kimberly S. Resnick, M.D., *Rebecca M. Speck, Ph.D, MPH, Mark D. Neuman, M.D., M.Sc., Barbara A. Mellers, Ph.D, M.A. and Lee A. Fleisher, M.D., University of Pennsylvania, Philadelphia, PA*

CAREGIVER DECISION-MAKING FOR ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) TREATMENT: PREFERENCE ELICITATION USING A DISCRETE CHOICE EXPERIMENT (DEC)

Xinyi Ng, BSc[1], *John F.P. Bridges, PhD*[2], *Emily J. Frosch, M.D.*[3], *Gloria M. Reeves, M.D.*[4] *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)Johns Hopkins School of Medicine, Baltimore, MD, (4)University of Maryland School of Medicine, Baltimore, MD*

ASSOCIATION OF METFORMIN USE WITH INCIDENCE AND MORTALITY OF PROSTATE CANCER: A META-ANALYSIS (DEC)

Chenchen Liu, MPH[1], *Vivian Fonseca, MD*[2], *Oliver Sartor, MD*[2], *Marie A. Krousel-Wood, MD*[1] *and Lizheng Shi, PhD*[1], *(1)Tulane University School of Public Health and Tropical Medicine, New Orleans, LA, (2)Tulane University School of Medicine, New Orleans, LA*

TRA1-2. MODELLING TO SUPPORT REVISED WHO HIV TREATMENT GUIDELINES: CHALLENGES OF SYNTHESIZING RESULTS ACROSS MULTIPLE MODELS (HSP)

Nicolas A. Menzies, MPH[1], *Jeffrey W. Eaton, PhD*[2], *Timothy B. Hallett, PhD*[2] *and Joshua A. Salomon, PhD*[3], *(1)Harvard University, Boston, MA, (2)Imperial College London, London, United Kingdom, (3)Harvard School of Public Health, Boston, MA*

TRA1-4. INCREMENTAL BENEFITS AND COST-EFFECTIVENESS OF A CATCH-UP HPV VACCINATION PROGRAM IN NORWAY (HSP)

Emily Burger, MPhil[1], *Stephen Sy, BS*[2], *Mari Nygard, MD, PhD*[3], *Ivar SÃ¸nbÃ¸ Kristiansen, MD, PhD, MPH*[1] *and Jane J. Kim, PhD*[2], *(1)University of Oslo, Oslo, Norway, (2)Harvard School of Public Health, Boston, MA, (3)Cancer Registry of Norway, Oslo, Norway*

C-1. SYNERGIES IN OUTCOMES FROM PUBLIC AND PRIVATE SECTOR TB AND MDR TB CONTROL INTERVENTIONS: AN INDIAN MICROSIMULATION MODELING STUDY (HSP)

Sze-chuan Suen, MS[1], *Eran Bendavid, MD, MS*[1], *Kimberly Babiarz, MA, PhD*[2] *and Jeremy D. Goldhaber-Fiebert, PhD*[1], *(1)Stanford University, Stanford, CA, (2)Centers for Health Policy and Primary Care and Outcomes Research, Stanford, CA*

C-3. EXPANDING THE NORWEGIAN HPV VACCINE PROGRAM TO INCLUDE BOYS (HSP)

Emily Burger, MPhil[1], *Stephen Sy, BS*[2], *Mari Nygard, MD, PhD*[3], *Ivar SÃ¸nbÃ¸ Kristiansen, MD, PhD, MPH*[1] *and Jane J. Kim, PhD*[2], *(1)University of Oslo, Oslo, Norway, (2)Harvard School of Public Health, Boston, MA, (3)Cancer Registry of Norway, Oslo, Norway*

C-2. UNEMPLOYMENT AND HEALTH OUTCOMES: MEDICARE'S IMPACT ON THE US HEALTHCARE INDUSTRY (HSP)

Lawrence Pellegrini, MSW, MPA, *University of Massachusetts, Amherst, Amherst, MA and Rosa Rodriguez-Monguio, PhD, University of Massachusetts, Amherst -School of Public Health and Health Sciences, Amherst, MA*

BASING TREATMENT RECOMMENDATIONS IN RHEUMATOID ARTHRITIS ON PATIENTS' RATHER THAN PHYSICIANS' JOINT ASSESSMENTS (HSP)

Yomei Shaw, MPP[1], *Daisy Bang, MD*[2], *Stephen R. Wisniewski, PhD*[3], *Marc C. Levesque, MD, PhD*[4] *and Mark S. Roberts, MD, MPP*[3], *(1)University of Pittsburgh, Graduate School of Public Health, Pittsburgh, PA, (2)University of Pittsburgh Department of Medicine, Pittsburgh, PA, (3)University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA, (4)University of Pittsburgh School of Medicine, Pittsburgh, PA*

SEARCHING FOR STUDIES BEYOND PUBMED: WHAT IS THE BENEFIT OF SEARCHING MULTIPLE DATABASES? (HSP)

Christopher W. Halladay, BA, *Thomas A. Trikalinos, MD, PhD, Ian T. Schmid, BA, Christopher H. Schmid, PhD and Issa J. Dahabreh, MD, MS, Brown University, Providence, RI*

D-3. DOUBLE READING OF MAMMOGRAMS: EFFECTIVELY PAIRING READERS WITH DIVERSE SKILLS TO IMPROVE PERFORMANCE (HSP)

Marwa Gadala, MASc, *Lorenzo Strigini, M.Eng, Andrey Povyakalo, PhD and Peter Ayton, PhD, City University London, London, United Kingdom*

H-6. FRESH VERSUS ELECTIVE FROZEN-THAWED EMBRYO TRANSFER FOR WOMEN UNDERGOING IN VITRO FERTILIZATION: A DECISION ANALYSIS (HSP)

Michael Honigberg, AB[1], *Anthony Imudia, MD*[2], *Thomas Toth, MD*[2] *and Anjali Kaimal, MD, MAS*[2], *(1)Harvard Medical School/Harvard Kennedy School, Boston, MA, (2)Massachusetts General Hospital, Harvard Medical School, Boston, MA*

D-5. MODELLING THE OCCURRENCE OF INVASIVE BREAST CANCER IN WOMEN AGED 50-59 AND SIMULATING THE STUDY AND CONTROL GROUPS OF WOMEN IN THE CANADIAN NATIONAL BREAST SCREENING STUDY-2 (HSP)

Laurent N. Caudrelier, B.Eng.[1], *Sharareh Taghipour, PhD*[2], *Anthony B. Miller, MD, FRCP, (C), FFPH, FACE*[1] *and Bart J. Harvey, MD, MSc, PhD, MEd, FACPM, FRCPC*[1], *(1)University of Toronto, Toronto, ON, Canada, (2)Ryerson University, Toronto, ON, Canada*

COMPARATIVE EFFECTIVENESS OF QUALITY IMPROVEMENT INTERVENTIONS FOR PRESSURE ULCER PREVENTION IN HOSPITALS (HSP)

William V. Padula, MS[1], *Manish K. Mishra, MD, MPH, MA*[2], *Mary Beth Makic, PhD*[1], *Kavita V. Nair, PhD*[3], *Heidi Wald, MD, MPH*[1], *Jonathan D. Campbell, PhD*[3] *and Robert J. Valuck, PhD, RPh*[1], *(1)University of Colorado, Aurora, CO, (2)Dartmouth-Hitchcock Medical Center, Lebanon, NH, (3)University of Colorado School of Pharmacy, Aurora, CO*

FORECASTING BODY MASS INDEX DISTRIBUTIONS AMONG THE US CHILDREN USING A LONGITUDINAL DATASET (HSP)

David D. Kim, MS, *University of Washington, Seattle, WA and Anirban Basu, PhD, University of Washington, Seattle, Seattle, WA*

TRA1-1. COMPARISON OF CONTROL ALGORITHMS FOR SCHEDULING TESTING VISITS (MET)

Greggory J. Schell, MSE[1], *Mariel S. Lavieri, Ph.D.*[1], *Jonathan E. Helm, Ph.D.*[2], *Mark P. Van Oyen, Ph.D.*[1], *David C. Musch, Ph.D., M.P.H.*[3] *and Joshua D. Stein, M.D., M.S.*[3], *(1)University of Michigan School of Engineering, Ann Arbor, MI, (2)Indiana University Kelley School of Business, Bloomington, IN, (3)University of Michigan Medical School, Ann Arbor, MI*

O-6. EXPECTED VALUE OF SAMPLE INFORMATION FOR CORRELATED DATA: A PRACTICAL APPROACH (MET)

Hawre Jalal, MD, MSc *and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

L-2. DYNAMIC ABANDON/EXTRACT DECISIONS FOR FAILED CARDIAC LEADS (MET)

Anahita Khojandi[1], *Lisa Maillart, PhD*[1], *Oleg Prokopyev, PhD*[1], *Mark S. Roberts, MD, MPP*[2] *and Samir Saba, MD*[1], *(1)University of Pittsburgh, Pittsburgh, PA, (2)University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA*

L-6. MEASURING DECISION SENSITIVITY WITH MULTINOMIAL LOGISTIC REGRESSION METAMODELING (MET)

Hawre Jalal, MD, MSc*, Michel Boudreaux, MSc and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

F-1. BAYESIAN LEARNING MODELS FOR ADAPTIVE TREATMENT DECISIONS IN THE PRESENCE OF NOISY FEEDBACK AND TREATMENT-DEPENDENT RATE OF RELAPSES: AN APPLICATION TO MULTIPLE SCLEROSIS (MET)

Diana M. Negoescu, MS[1], *Kostas Bimpikis, PhD*[2], *Margaret L. Brandeau, PhD*[3] *and Dan A. Iancu, PhD*[2], *(1)Department of Management Science and Engineering, Stanford University, Stanford, CA, (2)Graduate School of Business, Stanford University, Stanford, CA, (3)Stanford University, Stanford, CA*

I-3. CHANGING CYCLE LENGTHS IN DISCRETE-TIME MARKOV MODELS: CHALLENGES AND SOLUTIONS (MET)

Suren M. Jayasuriya, B.S., B.A., *Cornell University, Ithaca, NY, Elamin H. Elbasha, PhD, Merck Research Laboratories, North Wales, PA and Jagpreet Chhatwal, PhD, University of Pittsburgh, Graduate School of Public Health, Pittsburgh, PA*

L-5. IMPROVING BIOPSY RECOMMENDATIONS FOLLOWING MAMMOGRAPHY USING RANDOM FORESTS (MET)

Joseph F. Levy[1], *David J. Vanness, Ph.D.*[2], *Yirong Wu, PhD*[1] *and Elizabeth S. Burnside, MD, MPH, MS*[1], *(1)University of Wisconsin-Madison, Madison, WI, (2)Department of Population Health Sciences, Madison, WI*

H-5. LOGISTIC REGRESSION WITH FILTERED DATA TO IMPROVE PROGRESSION IDENTIFICATION (MET)

Greggory J. Schell, MSE[1], *Mariel S. Lavieri, Ph.D.*[1], *David C. Musch, Ph.D., M.P.H.*[2] *and Joshua D. Stein, M.D., M.S.*[2], *(1)University of Michigan School of Engineering, Ann Arbor, MI, (2)University of Michigan Medical School, Ann Arbor, MI*

OPTIMIZING PATIENT TREATMENT DECISIONS IN AN ERA OF RAPID TECHNOLOGICAL ADVANCES (MET)

Shan Liu, S.M., *Jeremy D. Goldhaber-Fiebert, PhD and Margaret L. Brandeau, PhD, Stanford University, Stanford, CA*

STASTICAL METHODS TO SUPPORT MICROSIMULATIONS OF RISK-FACTOR INTERVENTIONS: RURAL CHINESE SCHOOL-BASED ANEMIA INTERVENTIONS (MET)

Diana M. Negoescu, MS, *Department of Management Science and Engineering, Stanford University, Stanford, CA, Sean Sylvia, Department of Agricultural and Resource Economics, University of Maryland, College Park, MD, Renfu Luo, PhD, Center for Chinese Agricultural Policy, Chinese Academy of Sciences, Beijing, China, Marcos Vera-HernÃ¡ndez, PhD, Department of Economics, University College London, London, United Kingdom, Grant Miller, PhD, Centers for Health Policy and Primary Care and Outcomes Research, Stanford University, Stanford, CA and Jeremy D. Goldhaber-Fiebert, PhD, Stanford University, Stanford, CA*

EXTRAPOLATION OF TRIAL-BASED SURVIVAL CURVES: CONSTRAINTS BASED ON EXTERNAL INFORMATION (MET)

Patricia Guyot, Msc[1], *Nicky J. Welton, PhD*[1], *Matthew Beasley, PhD*[2], *Jeroen P. Jansen, PhD*[3] *and A. E. Ades, PhD*[4], *(1)Bristol University, Bristol, United Kingdom, (2)Bristol Haematology and Oncology Centre, Bristol, United Kingdom, (3)Mapi, Boston, MA, (4)University of Bristol, Bristol, United Kingdom*

CALIBRATION AND VALIDATION METHODS FOR AN AGENT-BASED SIMULATION TO MODEL CLOSTRIDIUM DIFFICILE TRANSMISSION DYNAMICS IN A HEALTHCARE INSTITUTION (MET)

James V. Codella, MEng, *University of Wisconsin - Madison, Madison, WI, Nasia Safdar, MD, University of Wisconsin School of Medicine and Public Health, Madison, WI and Oguzhan Alagoz, PhD, University of Wisconsin-Madison, Madison, WI*

Tuesday, October 22, 2013 (Posters)

POSTER SESSION 3 WITH CONTINENTAL BREAKFAST

« Previous Session | Next Session »

Key Ballroom Foyer (Hilton Baltimore)

Posters:

AUTOMATING QUALITY REVIEW FOR HEART FAILURE THROUGH A PERFORMANCE MEASUREMENT SYSTEM (DEC)

Tammy S. Hwang, BA[1], Susana B. Martins, MD, MSc[1], Samson W. Tu, MS[2], Dan Y. Wang, PhD[1], Paul Heidenreich, MD[3] and ***Mary K. Goldstein, MD, MS***[3]*, (1)VA Palo Alto Health Care System, Palo Alto, CA, (2)Stanford University, Stanford, CA, (3)VA Palo Alto Health Care System and Stanford University, Palo Alto, CA*

INFORMATION LOST AND FOUND: THE IMPACT OF ADDING AN EXERCISE ECG TO NUCLEAR IMAGING IN THE DIAGNOSIS OF CORONARY ARTERY DISEASE (MET)

William A. Benish, MD, MS*, Department of Veterans Affairs and Case Western Reserve University, Shaker Heights, OH*

ELICITING PREFERENCES FOR PRIORITIZING RARE DISEASES: THE ROLE OF OPPORTUNITY COSTS AND FRAMING EFFECTS (DEC)

Arna S. Desser[1]*, Jan Abel Olsen, MA, MSc, PhD[2] and Sverre Grepperud[1], (1)University of Oslo, Oslo, Norway, (2)University of TromsÃ¸, TromsÃ¸, Norway*

PRIORITIZING TREATMENT OF RARE DISEASES: ARE DOCTORS MORE WILLING TO MAKE HARD CHOICES THAN THE GENERAL PUBLIC? (DEC)

Arna S. Desser*, University of Oslo, Oslo, Norway*

IMPACT OF REWARDING RELATIVE PERFORMANCE ON HEALTH CARE QUALITY IN A PRIMARY CARE SETTING (AHE)

Aaron Smith-McLallen, PhD[1]*, Lorens A. Helmchen, PhD[2], Samantha Cruz, MS[1], Ravi Chawla, MBA[1], Candace Gunnarsson, EdD[3] and Somesh Nigam, PhD[1], (1)Independence Blue Cross, Philadelphia, PA, (2)George Mason University, Fairfax, VA, (3)S*[2] *Statistical Solutions, Inc., Cincinnati, OH*

REDUCTION IN HEALTH CARE COSTS IN OBESE/OVERWEIGHT SUBJECTS FROM WEIGHT LOSS INDUCED BY PHENTERMINE AND TOPIRAMATE EXTENDED-RELEASE (AHE)

Lisa M. Latts, MD, MSPH, MBA*, LML Health Solutions, LLC, Denver, CO and Barbara Troupin, MD, MBA, VIVUS, Inc., Mountain View, CA*

ACCOUNTING FOR HETEROGENEITY IN COST-EFFECTIVENESS ANALYSIS AND VALUE OF INFORMATION ANALYSIS: IVIG FOR SEVERE SEPSIS (MET)

***Nicky J. Welton, PhD**, Bristol University, Bristol, United Kingdom*

A SYSTEMATIC REVIEW, CRITICAL APPRAISAL AND ANALYSIS OF THE QUALITY OF ECONOMIC EVALUATIONS IN STROKE IMAGING (AHE)

***Kirsteen R. Burton, MBA, MSc, MD**[1], Nathan Perlis, MD, BA[2], Moira Kapral[1], Alan Moody, MBBS, FRCP, FRCR[1], Murray D. Krahn, MD, MSc[3] and Andreas Laupacis, MD, MSc[1], (1)University of Toronto, Toronto, ON, Canada, (2)Institute of Health Policy, Management and Evaluation, Toronto, ON, Canada, (3)Toronto Health Economics and Technology Assessment (THETA) Collaborative, Toronto, ON, Canada*

UNDERSTANDING DIFFERENCES BETWEEN BLACK AND WHITE PATIENTS' REACTIONS TO NEW TREATMENTS (DEC)

***Liana Fraenkel, MD, MPH**, Yale School of Medicine, New Haven, CT, Richard Street, PhD, Texas A&M University, College Station, TX and Ellen Peters, PhD, Ohio State University, Columbus, OH*

MODELING HIGH MEDICAL UTILIZATION (MET)

***Scott Zasadil, Ph.D.**, Pamela Peele, Ph.D. and Henry Zeringue, PhD, UPMC Health Plan, Pittsburgh, PA*

A DECISION SUPPORT INTERVENTION FOR PATIENTS AT-RISK FOR HEPATITIS C: IMPACT ON KNOWLEDGE, INFORMED DECISION MAKING, AND TESTING (DEC)

***Amy Leader, DrPH, MPH**[1], Anna M. Quinn, MPH, Candidate[1], Randa Sifri, MD[1], Constantine Daskalakis, DSc[1], Heidi Swan, MPH[1], Victor Navarro, MD[2] and Ronald E. Myers, PhD[1], (1)Thomas Jefferson University, Philadelphia, PA, (2)Albert Einstein Healthcare Network, Philadelphia, PA*

VARIATION IN THE TYPES OF PHYSICIANS VISITED AMONG MEN DIAGNOSED WITH STAGE IV PROSTATE CANCER (HSP)

*Ebere Onukwugha, PhD, MSc, University of Maryland, Baltimore, MD and **Candice Yong, BSPharm**, University of Maryland School of Pharmacy, Baltimore, MD*

DEVELOPMENT AND VALIDATION OF DAILY ACUTE BRAIN DYSFUNCTION PREDICTION MODEL IN THE INTENSIVE CARE UNIT (MET)

Eduard E. Vasilevskis, MD[1], *Pratik Pandharipande, MD, MSCI*[2], *Matthew Shotwell, PhD*[2], *Timothy Girard, MD, MSCI*[2], *Ayumi Shintani, MPH, PhD*[2] *and E. Wesley Ely, MD, MPH*[2], *(1)Vanderbilt University and the VA - Tennessee Valley, Nashville, TN, (2)Vanderbilt University, Nashville, TN*

HOW CAN MULTI-CRITERIA DECISION ANALYSIS (MCDA) LEND SUPPORT TO DECISION MAKING IN HEALTH TECHNOLOGY ASSESSMENT (HTA) (MET)

Vakaramoko Diaby, Ph.D., *Programs for Assessment of Technology in Health (PATH) Research Institute, Hamilton, ON, Canada and Ron Goeree, MA, McMaster University, Hamilton, ON, Canada*

PHARMACY COST OF MANAGING ANEMIA AMONG PATIENTS RECEIVING CHRONIC HEPATITIS C THERAPY (AHE)

Tandon Neeta, *Janssen Scientific Affairs, LLC, Titusville, NJ, Guy David, University of Pennsylvania, Philadelphia, PA, Michael Ryan, Statistical Solutions, Inc., Cincinnati, OH and Candace Gunnarsson, EdD, S*[2] *Statistical Solutions, Inc., Cincinnati, OH*

ARE HOSPITALS Â“KEEPING UP WITH THE JONESESÂ”?: ASSESSING THE SPATIAL AND TEMPORAL DIFFUSION OF THE SURGICAL ROBOT (HSP)

Huilin Li, PhD[1], *Mitchell H. Gail, MD, PhD*[2], *Heather Taffet Gold, PhD*[3], *Dawn Walter, MPH*[4], *R. Scott Braithwaite, MD, MSc, FACP*[1], *Mengling Liu, PhD*[1], *Cary P. Gross, MD*[5] *and* ***Danil V. Makarov, MD, MHS***[1], *(1)New York University School of Medicine, New York, NY, (2)National Cancer Institute, Bethesda, MD, (3)NYU School of Medicine and Cancer Institute, New York, NY, (4)Cancer Institute, New York, NY, (5)Yale University School of Medicine, New Haven, CT*

VALUATION OF DEPRESSION: DISCREPANCIES BETWEEN INDIVIDUALS WITH AND WITHOUT DEPRESSION (DEC)

Katerina Papageorgiou, MSc[1], *Maya J. Schroevers, PhD*[1], *Edwin van den Heuvel*[1], *Anne M. Stiggelbout, PhD*[2], *Erik Buskens, PhD*[3], *Paul Krabbe, PhD*[3], *Karin M. Vermeulen, PhD*[1] *and Adelita V. Ranchor, PhD*[1], *(1)University of Groningen, University Medical Center Groningen, Groningen, Netherlands, (2)Leiden University Medical Center, Leiden, Netherlands, (3)University Medical Center Groningen, Groningen, Netherlands*

CAREGIVER DECISION-MAKING FOR ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) TREATMENT: PREFERENCE ELICITATION USING A DISCRETE CHOICE EXPERIMENT (DEC)

Xinyi Ng, BSc[1], *John F.P. Bridges, PhD*[2], *Emily J. Frosch, M.D.*[3], *Gloria M. Reeves, M.D.*[4] *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)Johns Hopkins School of Medicine, Baltimore, MD, (4)University of Maryland School of Medicine, Baltimore, MD

THE MARGINAL UTILITY OF HEALTH: IS HEALTH MORE IMPORTANT WHEN YOU HAVE LESS? (DEC)

***Wilbert B. van den Hout**, Leiden University Medical Center, Leiden, Netherlands*

USE OF RETROSPECTIVE DATA TO FORWARD-SIMULATE COST-EFFICIENT PATHWAYS FOR INDIVIDUAL PATIENTS UNDERGOING OPEN VERSUS ENDOVASCULAR REPAIR OF NON-RUPTURED ABDOMINAL AORTIC ANEURYSM (HSP)

***Christopher Jones, D.Phil.**[1], Andrew C. Stanley, MD[2], Richie H. Spitsberg, M.S.[2] and Robert W. Everett, Ph.D.[3], (1)University of Vermont, College of Medicine, Burlington, VT, (2)University of Vermont - College of Medicine, Burlington, VT, (3)Univeristy of Vermont, Burlington, VT*

COST-EFFECTIVENESS OF IMAGE-BASED SCREENING METHODS FOR HEPATOCELLULAR CARCINOMA IN CIRRHOTIC PATIENTS: A SYSTEMATIC REVIEW (AHE)

*Zhengping Xiong, MD, PhD, Hunan Provincial Tumor Hospital, Changsha, China, **Wendong Chen, MD, PhD**, University of Toronto, Toronto, ON, Canada, Fang Huang, MD, The Third Xiangya Hospital, Central South University, Changsha, China and M. Sherman, MBBCH, PHd, University Health Network, Toronto, ON, Canada*

THE HARMS OF PRIMARY SCREENING FOR HUMAN PAPILLOMAVIRUS IN UNCONTROLLED SCREENING SITUATIONS (HSP)

***Steffie K. Naber, MSc**, Inge M.C.M. de Kok, PhD, Suzette M. Matthijsse, MSc and Marjolein van Ballegooijen, PhD, Erasmus MC, University Medical Center, Rotterdam, Netherlands*

THE GROWING COST BURDEN OF BIOLOGIC THERAPIES FOR OPHTHALMOLOGIC USE (HSP)

***David W. Hutton, PhD**[1], Paula Anne Casey-Newman, MD[2], Mrinalini Tavag[2] and Joshua D. Stein, M.D., M.S.[3], (1)University of Michigan School of Public Health, Ann Arbor, MI, (2)University of Michigan, Ann Arbor, MI, (3)University of Michigan Medical School, Ann Arbor, MI*

OPTIMAL BLENDED PHYSICIAN PAYMENT STRUCTURES (HSP)

***Ellen Green, PhD**, University Of Delaware, Newark, DE*

ECONOMIC BENEFITS OF SUBSIDIZING IN-VITRO FERTILIZATION FROM THE GOVERNMENT PERSPECTIVE IN BELARUS, KAZAKHSTAN, AND UKRAINE (AHE)

***Olena Mandrik, MSc**, Lviv Medical University /Erasmus University Rotterdam, Kiev, Ukraine, Saskia Knies, PhD, Dutch healthcare insurance board, Amsterdam, Netherlands, Olha Zalis'ka, PhD, DSci., Prof., Danylo Halytsky Lviv National Medical University, Lviv, Ukraine and Johan L. Severens, PhD, Erasmus University Rotterdam, Rotterdam, Netherlands*

TECHNICAL EFFICIENCY ANALYSIS ON THE PRODUCTION OF MAMMOGRAPHY STUDIES IN MEXICAN PUBLIC FACILITIES (HSP)

***David Contreras-Loya, BSc**, National Institute of Public Health, Cuernavaca, Mexico*

ASSESSING THE INCREMENTAL PREDICTIVE VALUE OF MARKERS: UNDERSTANDING MODERN RECLASSIFICATION MEASURES BY A NEW GRAPHICAL DISPLAY (MET)

***Ewout W. Steyerberg, PhD**, Department of Public Health, AE 236, Rotterdam, Netherlands, Moniek Vedder, MSc, Erasmus MC, Rotterdam, Netherlands, Douwe Postmus, PhD, University Medical Center Groningen, Groningen, Netherlands, Michael Pencina, PhD, Duke University, Durham, NC and Ben Van Calster, PhD, Katholieke Universiteit Leuven, Leuven, Belgium*

CHANGE IN ADHERENCE AND PERSISTENCE UNDER VARIOUS ASSUMPTIONS AND DEFINITIONS Â– ANALYSIS OF AN INFUSION BIOLOGIC SPECIALTY PHARMACEUTICAL (HSP)

***Robert Romanelli, PhD**[1], Angela Leahy, MS[1], Trevor Jukes, MS[1], Lorie Ellis, PhD[2], Michael P. Ingham, MS[2] and Denis Ishisaka, PharmD, MS[1], (1)Sutter Health, Sacramento, CA, (2)Janssen Scientific Affairs, LLC, Horsham, PA*

PATIENT-PROVIDER CONVERSATIONS ABOUT ADVANCE CARE PLANNING (DEC)

***Jane R. Schubart, PhD, MS, MBA**, Michael J. Green, MD, MS, Elana Farace, PhD, Megan M. Whitehead, BA, Kristin Macfarlane, MPH, Anne Dimmock, BA, Erik Lehman, MS and Benjamin H. Levi, MD, PhD, Penn State College of Medicine, Hershey, PA*

ASSESSING THE ACCEPTABILITY OF THE YORKSHIRE DIALYSIS DECISION AID TO PATIENTS (DEC)

Hilary L. Bekker, PhD, MSc, BSc[1], *Anna Winterbottom, PhD, MSc, BSc*[1], *Teresa Gavaruzzi, PhD*[1], *Andrew Mooney, PhD, MBChB*[2], *Martin Wilkie, PhD, MBChB*[3], *Simon Davies, MbChB*[4], *David Meads, Msc, BA*[1] *and Paul D. Baxter, PhD*[1], *(1)University of Leeds, Leeds, United Kingdom, (2)St James's University Hospital, Leeds, United Kingdom, (3)Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, United Kingdom, (4)University of Keele, Stoke-on-Trent, United Kingdom*

SHOULD PATIENT NARRATIVES BE USED TO SUPPORT PEOPLE'S TREATMENT DECISION MAKING: AN EXPERIMENTAL STUDY ABOUT DIALYSIS OPTIONS? (DEC)

Hilary L. Bekker, PhD, MSc, BSc[1], *Teresa Gavaruzzi, PhD*[1], *Barbara Summers, PhD, MBA, BSc*[1], *Gary Latchford, PhD, MSc, BSc*[1], *Andrew Mooney, PhD, MBChB*[2], *Martin Wilkie, PhD, MBChB*[3], *Anne M. Stiggelbout, PhD*[4] *and Anna Winterbottom, PhD, MSc, BSc*[1], *(1)University of Leeds, Leeds, United Kingdom, (2)St James's University Hospital, Leeds, United Kingdom, (3)Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, United Kingdom, (4)Leiden University Medical Center, Leiden, Netherlands*

WHAT KINDS OF FEEDBACK ARE GIVEN TO HEALTH CARE PROVIDERS? A SYSTEMATIC REVIEW (HSP)

Heather L. Colquhoun[1], *Jamie C. Brehaut, PhD*[1], *Anne Sales*[2], *Noah Ivers*[3], *Jeremy Grimshaw*[1], *Susan Michie*[4], *Kelly Carroll*[1], *Mathieu Chalifoux*[1] *and Kevin W. Eva*[5], *(1)Ottawa Hospital Research Institute, Ottawa, ON, Canada, (2)University of Michigan School of Nursing, Ann Arbor, MI, (3)Women's College Hospital, Toronto, ON, Canada, (4)University College London, London, United Kingdom, (5)University of British Columbia, Vancouver, BC, Canada*

EFFECTIVENESS OF A CLINICAL REASONING CURRICULUM TO IMPROVE KNOWLEDGE OF APPROPRIATE ANTIBIOTIC USE (DEC)

Vera P. Luther, MD[1], *John Petrocelli, PhD*[2], *Jim Beardsley, PharmD*[1], *Jim Johnson, PharmD*[1], *John Williamson, PharmD*[1] *and Christopher Ohl, MD*[1], *(1)Wake Forest Baptist Medical Center, Winston Salem, NC, (2)Wake Forest University, Winston Salem, NC*

VALUING TRIAL DESIGNS FROM A PHARMACEUTICAL PERSPECTIVE USING VALUE-BASED PRICING (AHE)

Penny R. Watson, MSc and ***Alan Brennan, BSc, MSc, PhD****, University of Sheffield, Sheffield, United Kingdom*

IDENTIFYING NON-STANDARDIZATION OF PHYSICIAN BEHAVIORS IN PATIENT-PHYSICIAN COMMUNICATION AND SHARED DECISION MAKING: A CLUSTERING ANALYSIS APPROACH (DEC)

Nan Kong, PhD*, Wenting Shi, Shuai Fang and Cleveland Shields, PhD, Purdue University, West Lafayette, IN*

IMPACT OF THE RATE OF RESCUE PERCUTANEOUS CORONARY INTERVENTION AFTER THROMBOLYSIS ON THE COST-EFFECTIVENESS OF ACUTE STEMI MANAGEMENT STRATEGIES FOR NON-URBAN COMMUNITIES (HSP)

Brian J. Potter, MDCM, SM[1], *Milton C. Weinstein, PhD*[1] *and Thomas Gaziano, MD, MSc*[2], *(1)Harvard School of Public Health, Boston, MA, (2)Harvard Medical School, Boston, MA*

COST-EFFECTIVENESS OF EDUCATION AND ACTIVATION, AND A REHABILITATION PROGRAM, COMPARED TO THE LEGISLATED STANDARD OF CARE FOR ACUTE WHIPLASH INJURY IN ONTARIO (AHE)

Gabrielle van der Velde, DC, PhD[1], *Lusine Abrahamyan, MD, MPH, PHD*[2], *Pierre CotÃ©*[3], *Eleanor Boyle*[4], *Heather Shearer, DC, FCCS(C), MSc*[3], *Maja Stupar*[3], *Craig Jacobs, DC, MSc, FCCS(C)*[3], *Jeffrey Hoch, PhD*[5], *Patrick Loisel*[2], *David Cassidy*[4], *Petros Pechlivanoglou, PhD*[2] *and Andrew R. Willan, PhD*[6], *(1)Toronto Health Economics & Technology Assessment (THETA) Collaborative, Toronto, ON, Canada, (2)University of Toronto, Toronto, ON, Canada, (3)UOIT-CMCC Centre for the Study of Disability Prevention and Rehabilitation, Toronto, ON, Canada, (4)University of Southern Denmark, Odense, Denmark, (5)Cancer Care Ontario, Toronto, ON, Canada, (6)SickKids Research Institute, Toronto, ON, Canada*

USE OF SULFONYLUREAS IS ASSOCIATED WITH HIGHER RISK OF READMISSION AMONG PATIENTS WITH TYPE 2 DIABETES (HSP)

Pamela C. Heaton, BSPharm, PhD[1], *Vibha Desai, MS, PhD, Candidate*[1] *and Swapnil Rajpathak, MD*[2], *(1)University of Cincinnati, Cincinnati, OH, (2)Merck, Whitehouse, NJ*

HEALTH UTILITY DURING ENGAGEMENT AND FOLLOWING DISCONTINUATION OF OPIOID SUBSTITUTION TREATMENT (DEC)

Bohdan Nosyk, Ph.D.[1], *Jared A. Leff, MS*[2], *Guillaume Colley, MSc*[3], *Maureen Hillhouse, PhD*[4], *Christie Thomas, PhD*[4] *and Bruce R. Schackman, PhD*[2], *(1)Simon Fraser University - Faculty of Health Sciences, Vancouver, BC, Canada, (2)Weill Cornell Medical College, New York, NY, (3)BC Centre for Excellence in HIV/AIDS, Vancouver, BC, Canada, (4)UCLA, Los Angeles, CA*

CHANGES IN PHYSICAL AND EMOTIONAL HRQOL IN A PEER-LEAD & TELEHEALTH INTERVENTIONS IN OLDER DIABETICS (HSP)

Margaret M. Byrne, PhD[1], *Lisset Oropesa*[2], *Ferdinando Andrade*[2], *Stuti Dang*[1], *Martha Pelaez*[3], *Robert Schwarzberg*[4] *and Hermes Florez*[1], *(1)University of Miami, Miami, FL, (2)Miami VA Healthcare System - GRECC, Miami, FL, (3)Health Foundation of South Florida, Miami, FL, (4)Sensei, Boca Raton, FL*

COMPARATIVE EFFECTIVENESS OF PEER-LEAD & TELEHEALTH INTERVENTIONS IN OLDER DIABETICS: EFFECT ON BMI AND GLYCEMIA (HSP)

Margaret M. Byrne, PhD[1], *Miriam Gutt*[1], *Lisset Oropesa*[2], *Ferdinando Andrade*[2], *Carmen Guanipa*[2], *Stuti Dang*[1], *Martha Pelaez*[3], *Robert Schwarzberg*[4] *and Hermes Florez*[1], *(1)University of Miami, Miami, FL, (2)Miami VA Healthcare System - GRECC, Miami, FL, (3)Health Foundation of South Florida, Miami, FL, (4)Sensei, Boca Raton, FL*

DIABETIC VETERANS' ATTITUDES REGARDING INNOVATIVE STRATEGIES FOR DIABETES PREVENTION AND MANAGEMENT (DEC)

Margaret M. Byrne, PhD[1], *Stuti Dang*[1], *Lisset Oropesa*[2], *Ferdinando Andrade*[2], *Willy Valencia*[2], *Luis Salgueiro*[2], *Damian Stanziano*[3], *Carmen Guanipa*[2], *Bernard A. Roos*[1] *and Hermes Florez*[1], *(1)University of Miami, Miami, FL, (2)Miami VA Healthcare System - GRECC, Miami, FL, (3)University of Indiana, Indianapolis, IN*

THE DIFFUSION OF PERCUTANEOUS BREAST BIOPSY OVER TIME (HSP)

Seema S. Sonnad, PhD*, Christiana Care Health System, Newark, DE, Peter W. Groeneveld, MD, MS, Philadelphia VA Medical Center, Philadelphia, PA and Judy Shea, PhD, University of Pennsylvania, Philadelphia, PA*

THE IMPACT OF INJECTABLE ONCOLOGY DRUG SHORTAGES ON PATIENT CARE IN THE UNITED STATES (HSP)

Jennifer C. Goldsack, MS[1], *Cynthia Reilly, B.S., Pharm*[2], *Colleen Bush*[2], *Mirar N. Bristol, MA*[3], *Sean Mcelligot*[3], *U. Nkiru Motanya*[3], *Michael Vozniak*[3], *Robert I. Field, PhD, MPH, JD*[4], *J. Sanford Schwartz, MD*[5] *and Susan M. Domchek, MD*[6], *(1)Christiana Care Health System, Newark, DE, (2)American Society of Health-System Pharmacists, Bethesda, MD, (3)University of Pennsylvania, Philadelphia, PA, (4)Drexel University School of Public Health, Philadelphia, PA, (5)University of Pennsylvania, Merion Station, PA, (6)University of Pennsylvania, Philadephia, PA*

INFORMATION SOURCES AND DECISION-MAKING PREFERENCES AMONG DIVERSE BREAST CANCER SURVIVORS (DEC)

Alejandra Hurtado-de-Mendoza, PhD*, Krista Highland, PhD and Vanessa Sheppard, PhD, Georgetown University, Washington, DC*

BUILDING CORRELATIONS AMONG MODEL PARAMETERS: A PRACTICAL APPROACH (MET)

Hawre Jalal, MD, MSc *and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

A COST-EFFECTIVENESS ANALYSIS OF THE IMPLEMENTATION OF ROUTINE ROTAVIRUS VACCINATION IN INDIA (AHE)

Andrew D. Pinto, MD CCFP FRCPC MSc*, St. Michael's Hospital, Toronto, ON, Canada, Cindy Gauvreau, PhD, Centre for Global Health Research, St. Michael's Hospital, Toronto, ON, Canada and Shaun Morris, MD, MPH, Division of Infectious Diseases, Hospital for Sick Children and Department of Pedatrics, University of Toronto, Toronto, ON, Canada*

THE ADDED VALUE OF THE PROSTATE CANCER ANTIGEN GENE (PCA3) AND KALLIKREIN PANEL TO THE ERSPC RISK CALCULATOR FOR PROSTATE CANCER IN PRESCREENED MEN (HSP)

Moniek Vedder, MSc[1]*, Esther de Bekker-Grob*[2]*, Ewout W. Steyerberg, PhD*[3] *and Monique J. Roobol*[2]*, (1)Erasmus MC, Rotterdam, Netherlands, (2)Erasmus MC - University Medical Center Rotterdam, Rotterdam, Netherlands, (3)Department of Public Health, AE 236, Rotterdam, Netherlands*

Wednesday, October 23, 2013 (Posters)

POSTER SESSION 4 WITH CONTINENTAL BREAKFAST

« Previous Session | Next Session »

Key Ballroom Foyer (Hilton Baltimore)

Posters:

I HAVE A SMOKING HISTORY: DO I THINK I'LL GET LUNG CANCER? AND DO I WANT TO BE SCREENED? (DEC)

Margaret M. Byrne, PhD[1]*, Richard Thurer, MD*[1]*, Mark S. Roberts, MD, MPP*[2] *and Jamie L. Studts, PhD*[3]*, (1)University of Miami, Miami, FL, (2)University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA, (3)University of Kentucky College of Medicine, Lexington, KY*

RACIAL DIFFERENCES IN SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) PATIENTS' TREATMENT PREFERENCES: A TWO-SITE STUDY (DEC)

Ernest R. Vina, MD, MS[1]*, Tammy Utset, MD, MPH*[2]*, Michael Hannon, MA*[1]*, Nicole Roberts, MA*[1]*, Christopher Masi, MD, PhD*[3] *and C. Kent Kwoh, MD*[4]*, (1)University of Pittsburgh, Pittsburgh, PA, (2)University of*

Chicago, Chicago, IL, (3)Northshore University Health System, Evanston, IL, (4)University of Pittsburgh and VAPHS, Pittsburgh, PA

IMPACT OF ILLICIT DRUG USE ON HEALTH UTILITY IN OPIOID DEPENDENT PATIENTS RECEIVING HIV TREATMENT (DEC)

Brandon Aden, MD, MPH[1], *Allison Dunning, MS*[1], *Bohdan Nosyk, Ph.D.*[2], *Eve Wittenberg, MPP, PhD*[3], *Jeremy Bray, PhD*[4], *Jared A. Leff, MS*[1] *and Bruce R. Schackman, PhD*[1], *(1)Weill Cornell Medical College, New York, NY, (2)Simon Fraser University - Faculty of Health Sciences, Vancouver, BC, Canada, (3)Harvard School of Public Health, Boston, MA, (4)RTI International, Research Triangle Park, NC*

EFFECT OF WEIGHT LOSS INDUCED BY PHENTERMINE AND TOPIRAMATE EXTENDED-RELEASE ON ANNUAL MEDICATION COSTS IN OBESE AND OVERWEIGHT INDIVIDUALS (AHE)

Timothy Church, MD, MPH, PhD[1], ***Sunil Karnawat, PhD***[2], *Vincent Wu, BS*[3] *and Weiyu W. Liu, MHA*[2], *(1)Pennington Biomedical Research Center, Baton Rouge, LA, (2)VIVUS, Inc., Mountain View, CA, (3)Independent Contractor, San Francisco, CA*

NUDGES TOWARD LONGER EXERCISE COMMITMENTS LEAD TO MORE EXERCISE: RESULTS OF A RANDOMIZED TRIAL OF COMMITMENT CONTRACT DESIGN (AHE)

Jeremy D. Goldhaber-Fiebert, PhD[1], *Alan M. Garber, MD, PhD*[2] *and Jay Bhattacharya, MD, PhD*[1], *(1)Stanford University, Stanford, CA, (2)Office of the President and Provost, Cambridge, MA*

A SOFTWARE PLATFORM TO SYNTHESIZE EVIDENCE FROM HETEROGENEOUS DATA SOURCES (MET)

Kenny Shum, PhD[1], *Pengfei Zheng, M.Sc*[1] *and Tuan Dinh, PhD*[2], *(1)Archimedes Inc, San Francisco, CA, (2)Archimedes Inc., San Francisco, CA*

DECISION COUNSELING ABOUT ACTIVE SURVEILLANCE AND ACTIVE TREATMENT FOR EARLY STAGE LOW RISK PROSTATE CANCER PATIENTS (DEC)

Anett Petrich, MSN, RN, *Anna M. Quinn, MPH, Candidate, Amy Leader, DrPH, MPH, Jean Hoffman-Censits, MD, Edouard Trabulsi, MD, Leonard Gomella, MD, Costas Lallas, MD, Adam Dicker, MD, PhD, Robert Den, MD, Constantine Daskalakis, DSc, James Crocroft, MA and Ronald E. Myers, PhD, Thomas Jefferson University, Philadelphia, PA*

FACTORS AFFECTING THE ADOPTION AND USE OF GENE EXPRESSION PROFILING BY ONCOLOGISTS IN CLINICAL PRACTICE (DEC)

Amalia M. Issa, PhD, MPH *and Dhaval S. Patil, University of the Sciences in Philadelphia, Philadelphia, PA*

FINANCIAL CONCERNS AND PSYCHOSOCIAL FACTORS ASSOCIATED WITH DECISION MAKING ABOUT CLINICAL TRIALS (DEC)

Yu-Ning Wong, MD, MSCE[1], *Mark D. Schluchter, PhD*[2], *Terrance Albrecht, PhD*[3], *Dawn Miller, MA*[2], *Anne Flamm, JD*[4], *Al Benson, MD*[5], *Eric Ross, PhD*[1], *Suzanne Miller-Halegoua, PhD*[1], *Sharon Manne, PhD*[6], *Tyler Kinzy, BA*[2], *Tasnuva Liu, BS*[2], *Michael Katz, MBA*[7], *Linda Fleisher, PhD*[8] *and Neal J. Meropol, MD*[2], *(1)Fox Chase Cancer Center, Philadelphia, PA, (2)University Hospitals Seidman Cancer Center, Case Comprehensive Cancer Center, Case Western Reserve University, Cleveland, OH, (3)Karmanos Cancer Institute, Wayne State University, Detroit, MI, (4)Cleveland Clinic, Case Comprehensive Cancer Center, Cleveland, OH, (5)Robert H. Lurie Comprehensive Cancer Center of Northwestern University, Chicago, IL, (6)Cancer Institute of New Jersey, New Brunswick, NJ, (7)International Myeloma Foundation, North Hollywood, CA, (8)Childrens Hospital of Philadelphia, Philadelphia, PA*

MISPERCEPTION OF CANCER RISK IN PATIENTS WITH NEUROFIBROMATOSIS 1 AND 2 (DEC)

Vanessa L. Merker, BS[1], *Kelly B. Smith, PhD*[2], *Daphne Wang, BS*[1], *Alona Muzikansky, MA*[1], *Scott R. Plotkin, MD, PhD*[1] *and Elyse R. Park, PhD*[1], *(1)Massachusetts General Hospital, Boston, MA, (2)University of British Columbia, Vancouver, BC, Canada*

GENERAL PRACTITIONERS' PREFERENCES FOR CLINICAL WORK IN THE PHYSICIAN'S OFFICE VERSUS PUBLIC HEALTH TASKS (HSP)

Peder A. Halvorsen, MD, PhD[1], *Ivar J. Aaraas, MD, PhD*[1], *Jan Abel Olsen, MA, MSc, PhD*[1], *Olaf GjerlÃ¸w Aasland, MD, MHA*[2] *and Ivar SÃ¸nbÃ¸ Kristiansen, MD, PhD, MPH*[3], *(1)University of TromsÃ¸, TromsÃ¸, Norway, (2)The Norwegian Medical Association, Oslo, Norway, (3)University of Oslo, Oslo, Norway*

UNRAVELING THE BIASES FROM USING AN IMPERFECT GOLD STANDARD FOR ANALYZING DIAGNOSTIC TEST ACCURACY (MET)

Charles E. Phelps, PhD*, University of Rochester, Gualala, CA*

ESTIMATING HETEROGENEITY IN THE SECONDARY IMPACT OF CHRONIC ILLNESS ON THE RATING SCALE VALUES OF FAMILY MEMBERS (DEC)

Tara A. Lavelle, MS, PhD[1], *Eve Wittenberg, MPP, PhD*[2], *Achamyeleh Gebremariam, MS*[1], *Kara Lamarand, MPH*[1] *and Lisa A. Prosser, M.S., Ph.D.*[1], *(1)University of Michigan, Ann Arbor, MI, (2)Harvard School of Public Health, Boston, MA*

DEVELOPMENT AND VALIDATION OF A COMPUTER-BASED ALGORITHM TO IDENTIFY FOREIGN-BORN PATIENTS WITH HIV INFECTION FROM THE ELECTRONIC MEDICAL RECORD (HSP)

Julie Levison, MD, MPHIL, MPH[1], *Virginia A. Triant, MD, MPH*[2], *Elena Losina, PhD*[1], *Erina Keefe*[2], *James Meigs, MD*[2], *Kenneth A. Freedberg, MD, MSc*[2] *and Susan Regan, PhD*[2], *(1)Massachusetts General Hospital and Brigham and Women's Hospitals, Boston, MA, (2)Massachusetts General Hospital, Boston, MA*

METHODOLOGICAL CHARACTERISTICS OF DECISION-ANALYTIC MODELING STUDIES FOR THE TREATMENT OF MULTIPLE MYELOMA (AHE)

Ursula Rochau, MD, MSc[1], *Beate Jahn, PhD*[2], *Vjollca Qerimi, Mr.Pharm.*[3], *Christina Kurzthaler, Bsc*[2], *Martina Kluibenschaedl, Bsc.*[2], *Annette Conrads-Frank, PhD*[2], *Wolfgang Willenbacher, Dr.*[4], *Guenther Gastl, MD, Univ.-Prof.*[4] *and Uwe Siebert, MD, MPH, MSc, ScD*[5], *(1)UMIT - University for Health Sciences, Medical Informatics and Technology/ ONCOTYROL - Center for Personalized Cancer Medicine, Hall in Tyrol/ Innsbruck, Austria, (2)UMIT - University for Health Sciences, Medical Informatics and Technology, Hall i.T., Austria, (3)UMIT - University for Health Sciences, Medical Informatics & Technology/ Faculty of Pharmacy, Ss. Cyril and Methodius University, Hall in Tyrol/ Skopje, Austria, (4)Medical University Innsbruck, Innsbruck, Austria, (5)UMIT/ ONCOTYROL/ Harvard School of Public Health/ Harvard Medical School, Hall, Austria*

WHAT INFORMATION IS MISSING FROM INFORMED CONSENT DOCUMENTS? (DEC)

Jamie C. Brehaut, PhD[1], *Kelly Carroll*[1], *Glyn Elwyn, MB, BCh, MSc, FRCGP, PhD*[2], *Raphael Saginur, MD*[3], *Kaveh Shojania, MD*[4], *Jonathan Kimmelman, PhD*[5] *and Dean Fergusson, PhD*[1], *(1)Ottawa Hospital Research Institute, Ottawa, ON, Canada, (2)Dartmouth Center for Health Care Delivery Science, Hanover, NH, (3)The Ottawa Hospital, Ottawa, ON, Canada, (4)Sunnybrook Health Sciences Centre, Toronto, ON, Canada, (5)McGill University, Montreal, QC, Canada*

DECISION MAKING IN DIABETES CARE IN ARMENIA (HSP)

Varduhi Petrosyan, MS, PhD *and Hripsime Martirosyan, MD, MPH, American University of Armenia, Yerevan, Armenia*

ABIRATERONE ACETATE AND PREDNISONE REFILL CONSISTENCY IN METASTATIC CASTRATION RESISTANT PROSTATE CANCER PATIENTS (HSP)

Lorie Ellis, PhD[1], *R. Scott McKenzie, MD*[1], *Chris Kozma, PhD*[2] *and Terra Slaton, MS*[3], *(1)Janssen Scientific Affairs, LLC, Horsham, PA, (2)C-K Consulting, St, Helena Island, SC, (3)Terra Slaton Consultant, West Columbia, SC*

MODELING DONOR-TYPE DECISION FOR PEDIATRIC KIDNEY TRANSPLANT CANDIDATES WITH A COMPATIBLE LIVING DONOR (DEC)

Eric K. Chow, MS[1], *Kyle Van Arendonk, MD, PhD*[1], *Nathan T. James, ScM*[1] *and Dorry L. Segev*[2], *(1)Johns Hopkins School of Medicine, Baltimore, MD, (2)Johns Hopkins Medical Institutions, Baltimore, MD*

UTILIZATION PATTERNS OF ADALIMUMAB, ETANERCEPT, AND GOLIMUMAB IN RHEUMATOID ARTHRITIS (HSP)

Lorie Ellis, PhD[1], *Roxanne Meyer, PhD*[1], *Susan C. Bolge*[1], *Joe Tkacz, MS*[2], *Peter Kardel, MA*[2] *and Charles Ruetsch, PhD*[2], *(1)Janssen Scientific Affairs, LLC, Horsham, PA, (2)Health Analytics, Columbia, MD*

SHORT-TERM ECONOMIC AND CLINICAL OUTCOMES OF CANAGLIFLOZIN COMPARED TO SITAGLIPTIN IN THE MANAGEMENT OF TYPE 2 DIABETES MELLITUS (AHE)

Varun U. Ektare[1], ***Janice MS Lopez***[2], *Silas Martin*[2], *Dipen Patel*[1], *Marcia F.T. Rupnow*[2] *and Marc Botteman*[1], *(1)Pharmerit International, Bethesda, MD, (2)Janssen Scientific Affairs, LLC, Raritan, NJ*

ASSOCIATION OF METFORMIN USE WITH INCIDENCE AND MORTALITY OF PROSTATE CANCER: A META-ANALYSIS (DEC)

Chenchen Liu, MPH[1], *Vivian Fonseca, MD*[2], *Oliver Sartor, MD*[2], *Marie A. Krousel-Wood, MD*[1] *and Lizheng Shi, PhD*[1], *(1)Tulane University School of Public Health and Tropical Medicine, New Orleans, LA, (2)Tulane University School of Medicine, New Orleans, LA*

A COST-EFFECTIVENESS ANALYSIS OF TOLVAPTAN TO SLOW PROGRESSION OF AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE (AHE)

Kevin F. Erickson, MD, MS[1], *Glenn M. Chertow, M.D., MPH*[2] *and Jeremy D. Goldhaber-Fiebert, PhD*[1], *(1)Stanford University, Stanford, CA, (2)Stanford University School of Medicine, Palo Alto, CA*

HOW TO DESIGN A RANDOMISED TRIAL FOR THE ESTIMATION OF TREATMENT, SELECTION AND PREFERENCE EFFECTS (DEC)

Robin Turner, PhD[1], *Stephen Walter, PhD*[2], *Petra Macaskill, PhD*[1], *Kirsten McCaffery, BSc(Hons), PhD*[1] *and Les Irwig, MBBCh, PhD, FFPHM*[1], *(1)University of Sydney, Sydney, Australia, (2)McMaster University, Hamilton, ON, Canada*

MEAN SURVIVAL CAN BE RELIABLY PREDICTED FROM MEDIAN SURVIVAL AFTER A CANCER DIAGNOSIS WITH POOR PROGNOSIS (AHE)

Henrik StÃ¸vring, MSc, PhD[1], *Mette L. Kronborg, BA*[1] *and Ivar SÃ¸nbÃ¸ Kristiansen, MD, PhD, MPH*[2], *(1)Aarhus University, Aarhus, Denmark, (2)University of Oslo, Oslo, Norway*

IMPACT OF FRAMING ON ACCEPTABILITY OF ACTIVE SURVEILLANCE FOR LOCALIZED PROSTATE CANCER (DEC)

Jennifer Blumenthal-Barby, Ph.D.[1], *Robert J. Volk, PhD*[2], *Patricia Mullen, DrPH*[3], *Scott B. Cantor, PhD*[2], *Stephanie McFall, PhD*[4], *Yen-Chi Le, MA, PhD*[5] *and Paul Swank, PhD*[5], *(1)Baylor College of Medicine, Houston, TX, (2)The University of Texas MD Anderson Cancer Center, Houston, TX, (3)UT Health Science Center at Houston, Houston, TX, (4)University of Essex, Colchester CO4 3SQ, United Kingdom, (5)University of Texas Health Science Center at Houston, Houston, TX*

IMPACT OF TREATMENT COMPLIANCE ON HBA1C IN PEOPLE WITH TYPE 2 DIABETES USING INSULIN (HSP)

Jamie O'Hara, MSc[1], *Andrea M. Leith, BSc*[1], *Jason Rotter*[2], ***Barrie Chubb***[2] *and Antonio RamÃrez de Arellano, PhD*[3], *(1)Adelphi Real World, Bollington, United Kingdom, (2)Novo Nordisk Ltd, Crawley, United Kingdom, (3)Novo Nordisk Pharma SA, Madrid, Spain*

DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF RHEUMATOID ARTHRITIS PATIENTS BEFORE INITIATING ADALIMUMAB, ETANERCEPT OR GOLIMUMAB (HSP)

Lorie Ellis, PhD[1], *Roxanne Meyer, PhD*[1], *Susan C. Bolge*[1], *Joe Tkacz, MS*[2], *Peter Kardel, MA*[2] *and Charles Ruetsch, PhD*[2], *(1)Janssen Scientific Affairs, LLC, Horsham, PA, (2)Health Analytics, Columbia, MD*

CENTRAL NERVOUS SYSTEM COMORBIDITIES IN PATIENTS WITH METASTATIC CASTRATE-RESISTANT PROSTATE CANCER (HSP)

Marie-Helene Lafeuille, PhD[1], *Jonathan Gravel, MS*[1], *Amanda Grittner, MS*[1], *Patrick Lefebvre, MS*[2], *Lorie Ellis, PhD*[3] *and R. Scott McKenzie, MD*[3], *(1)Groupe d'analyse, MontrÃ©al, QC, Canada, (2)Groupe d'analyse, Montreal, QC, Canada, (3)Janssen Scientific Affairs, LLC, Horsham, PA*

EXPLORING 'RISK-COMMUNICATION' IN INITIAL PRENATAL CARE VISITS (DEC)

Brownsyne Tucker Edmonds, MD, MPH, MS[1], *Fatima McKenzie, MS*[1], *Richard M. Frankel, PhD*[1] *and Judy C. Chang, MD, MPH*[2], *(1)Indiana University School of Medicine, Indianapolis, IN, (2)University of Pittsburgh, Pittsburgh, PA*

TECHNOLOGY USE AMONGST PATIENTS WITH AGE-RELATED MACULAR DEGENERATION IN ALBERTA, CANADA (HSP)

Trafford Crump, Ph.D., *University of British Columbia, Calgary, AB, Canada, Matthew Tennant, MD, FRCSC, University of Alberta, Faculty of Medicine and Dentistry, Edmonton, AB, Canada and Ezekiel Weis, MD, MPH, FRCSC, Department of Ophthalmology, Edmonton, AB, Canada*

PATIENT-REPORTED OUTCOMES: OPPORTUNITIES AND LIMITATIONS (HSP)

Trafford Crump, Ph.D., *University of British Columbia, Calgary, AB, Canada and Jason Sutherland, PhD, University of British Columbia, Vancouver, BC, Canada*

USING MEDICAID CLAIMS DATA TO GENERATE PERSONALIZED HEALTH MESSAGES IN A WEB-BASED SHARED DECISION MAKING TOOL (MYPSYCKES): PATIENT ENDORSEMENT OF INDIVIDUALLY TAILORED VERSUS STANDARDIZED MENTAL HEALTH MEDICATION TREATMENT CONCERNS (DEC)

Molly Finnerty, MD[1], *Elizabeth Austin, MPH*[1], *Qingxian Chen, MS*[2], *Edith Kealey, MSW*[1], *Krithika Rajagopalan, PhD*[3] *and Emily Leckman-Westin, PhD*[2], *(1)New York State Office of Mental Health, New York, NY, (2)New York State Office of Mental Health, Albany, NY, (3)Sunovion Pharmaceuticals Inc., Marlborough, MA*

ASSOCIATION BETWEEN PHYSICIAN-PATIENT RELATIONSHIP AND DECISIONAL REGRET, CONFLICT AND SATISFACTION ABOUT SURGICAL DECISIONS (DEC)

Jennifer C. Morgan, MPH, *UNC-Chapel Hill, Chapel Hill, NC and Christine Rini, PhD, University of North Carolina at Chapel Hill, Chapel Hill, NC*

BUDGET IMPACT ANALYSIS OF IMPLEMENTATION STRATEGIES IN IMPROVING HIV TESTING RATES (AHE)

Kee Chan, PhD, *Boston University, Boston, MA*

COST-EFFECTIVENESS OF ADVANCED CROSS-SECTIONAL IMAGING IN THE WORK-UP OF NEWLY DISCOVERED SOFT TISSUE MASSES (AHE)

Sahar J Farahani, MD, MPH, *Christian Meyer, MD., PHD and Laura Fayad, MD, Johns Hopkins School of Medicine, Baltimore, MD*

VARIATION IN GASTROSTOMY TUBE PROCEDURES: A FOUR-STATE COMPARISON OF PEDIATRIC MEDICAID DATA (HSP)

David Fox, MD, *University of Colorado, Denver, Aurora, CO, Allison Kempe, MD, MPH, Children's Outcome Research Program, Denver, CO and Doron Shmueli, MS, Childrens Hospital Colorado, Aurora, CO*

COMMUNITY UTILITIES ARE MUCH HIGHER THAN THOSE IN THE LITERATURE FOR A RANGE OF RADICULOPATHIES (DEC)

Seema S. Sonnad, PhD, *Christiana Care Health System, Newark, DE and Sherman Stein, MD, University of Pennsylvania, Philadelphia, PA*

VALUE AND ACCEPTABILITY OF SINGLE-ENTRY MODELS IN HEALTH CARE (HSP)

Zaheed Damani, BHSc, MSc, *Barbara Conner-Spady, PhD and Tom W. Noseworthy, MD, MSc, MPH, University of Calgary, Calgary, AB, Canada*

TRANSLATING KNOWLEDGE INTO ACTION: A COGNITIVE PERSPECTIVE ON THE INFORMATION NEEDS OF HEALTHCARE DECISION-MAKERS IN THE US (DEC)

Negin N. Fouladi, PhD, MPH, MS[1], *Stephen H. Linder, PhD*[2], *Charles E. Begley, PhD*[2] *and Robert O. Morgan, PhD*[2], *(1)University of Texas School of Pubic Health, Potomac, MD, (2)University of Texas School of Public Health, Houston, TX*

COST-EFFECTIVENESS ANALYSIS OF BREASTFEEDING PEER COUNSELING PROGRAM FOR LOW-INCOME WOMEN (HSP)

Olena A. Cherkasky, *University of Rochester Medical School, West Henrietta, NY*

DO PATIENTS GET WHAT THEY WANT: STABILITY OF PREFERENCES BEFORE AND FOLLOWING A PHYSICIAN VISIT (DEC)

Angela Fagerlin, PhD[1], *Margaret Holmes-Rovner, PhD*[2], *David Rovner, MD*[3], *Sara J. Knight, PhD*[4], *Stewart Alexander, PhD*[5], *James Tulsky, MD*[5], *Bruce Ling, MD, MPH*[6], *Valerie C. Kahn, MPH*[7], *Jeffrey Gingrich, MD*[6] *and Peter A. Ubel, MD*[5], *(1)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI, (2)Center for Ethics, E. Lansing, MI, (3)Michigan State University, East Lansing, MI, (4)Department of Veterans Affairs, Washington, DC, (5)Duke University, Durham, NC, (6)University of Pittsburgh, Pittsburgh, PA, (7)University of Michigan, Ann Arbor, MI*

DOES PUBLIC REPORTING HAVE AN IMPACT ON HEALTHCARE DISPARITIES? A SYSTEMATIC REVIEW OF CLAIMS AND EVIDENCE GAPS (HSP)

Zackary Berger, MD[1], ***Taruja Karmarkar, MPH***[2], *Emily Boss, MD, MPH*[1], *Susan Joy, MPH, MA*[2] *and John F.P. Bridges, PhD*[2], *(1)Johns Hopkins School of Medicine, Baltimore, MD, (2)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD*

ANALYZING THE OUTBREAK SURVEILLANCE AND RESPONSE SYSTEM IN ETHIOPIA USING DATA MINING TECHNIQUES (HSP)

Adamu Addissie, MD, MPH, MA*, Addis Ababa University, School of Public Health, Addis Ababa, Ethiopia*
