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The 34th Annual Meeting of the Society for Medical Decision Making
Oral & Poster Abstract Sessions

Wednesday, October 17, 2012

INF. INFORMS / SMDM JOINT PRESENTATIONS

Next Session »

1:30 PM - 5:45 PM: Wed. Oct 17, 2012
Phoenix Convention Center

Abstracts:

INF-1. INFORMS/SMDM APPLICATIONS JOINT CLUSTER

1:30 PM - 5:40 PM: Wed. Oct 17, 2012
Phoenix Convention Center
Part of Session: INFORMS / SMDM JOINT PRESENTATIONS

***Steven M. Shechter, PhD**, University of British Columbia, Vancouver, BC, Canada*

Click here to link to the INFORMS website for presentation details.

https://informs.emeetingsonline.com/emeetings/formbuilder/clustersessionlist.asp?clnno=2903&mmnno=220

Cluster Information

Title: INFORMS/SMDM Applications Joint Cluster
Chair: **Elisa Long**,Assistant Professor, Yale School of Management, New Haven CT 06520, United States of America, elisa.long@yale.edu
Co-Chair: **Steven Shechter**,Assistant Professor, University of British Columbia, Vancouver BC V6T 1Z2, Canada, steven.shechter@sauder.ubc.ca

Wednesday Oct 17, 13:30 - 15:00 : Implementing OR/IE/MDM in Practice
Chair: **Sheldon Jacobson**,Professor, University of Illinois, 201 N. Goodwin Avenue (MC258), Urbana IL 61801, United States of America, shj@illinois.edu
Co-Chair: **Dominick Frosch**,froschd@pamfri.org

Chair:

Wednesday Oct 17, 13:30 - 15:00 : Operations Research for Public Health

Chair: **Margaret Brandeau**,Stanford University, Huang Engineering Center, Stanford CA 94305, United States of America, brandeau@stanford.edu
James Stahl,jstahl@mgh-ita.org

Wednesday Oct 17, 15:20 - 16:50 : Decision Analytic and Patient-Centered Modeling in Medicine

Chair: **Jagpreet Chhatwal**,Assistant Professor, University of Pittsburgh, 130 De Soto St, Pittsburgh PA, United States of America, chhatwal@pitt.edu
Jeremy Goldhaber-Fiebert,Assistant Professor of Medicine, Stanford University School of Medicine, 117 Encina Commons, Room 217, Stanford CA 94305-6019, United States of America, jeremygf@stanford.edu

Wednesday Oct 17, 15:20 - 16:50 : Healthcare Operations Management

Chair: **Pinar Keskinocak**,Professor, Georgia Institute of Technology, School of Industrial and Systems Eng., 765 Ferst Drive, Atlanta GA 30332, United States of America, pinar@isye.gatech.edu
Joel Tsevat,joel.tsevat@uc.edu

Wednesday, October 17, 5:00pm-5:50pm - Plenary

E Block - Plenary Symposium
What Pilots and the Airline Industry Can Teach Clinicians and Hospitals About Patient Safety

The airline industry has made tremendous advanced in the safety of aviation over the past 30 years, and has successfully ingrained a culture of safety into operations. As reported by the Robert Wood Johnson Foundation, the formation of the Commercial Aviation Safety Team in the mid 1990's has reduced several types of airline fatalities to near zero. Unfortunately, after the landmark To Err Is Human report by the Institute of Medicine noted huge numbers of patients are harmed and die as a result of errors, no similar improvement has been witnessed in health care patient safety. This panel will explore how the successes of safety improvement in aviation can be translated into health care.

Mark S. Roberts, MD, MPP, Professor and Chair of Health Policy and Management and the Graduate School of Public Health, University of Pittsburgh; **Arnold Barnett**, PhD, is the George Eastman Professor of Management Science and a Professor of Statistics at the MIT Sloan School of Management; **Brent James**, MD, MStat, Chief Quality Officer, and Executive Director, Institute for Health Care Delivery Research at

Intermountain Healthcare, Salt Lake City, Utah.

Thursday, October 18, 2012

KEY. KEYNOTE PRESENTATION - NIRAV R. SHAH, MD, MPH, NEW YORK STATE HEALTH DEPARTMENT

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9:00 AM - 10:00 AM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)

Abstracts:

KEY-1. BUILDING A HEALTHCARE ECOSYSTEM

9:00 AM - 10:00 AM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: KEYNOTE PRESENTATION - NIRAV R. SHAH, MD, MPH, NEW YORK STATE HEALTH DEPARTMENT

***Nirav R. Shah, MD, MPH**, New York State Health Department, Albany, NY*

The healthcare delivery "system" largely exists as a series of distinct niches. Yet there is a convergence of forces that promote organization around outcomes and value, which will radically transform our approach to health and wellness. This ecosystem will ensure the smooth operation, resiliency, and survival of a healthcare system that is patient-centered, cost effective, and integrates data and evidence into practice.

TRA1. TOP-RANKED ABSTRACTS, CONCURRENT PRESENTATION 1

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10:30 AM - 12:00 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Session Chairs:

- *Ellen A. Lipstein, MD, MPH*
- *A. Scott LaJoie, PhD, MSPH*

Session Summary:

10:30 AM - 10:48 AM

TRA1-1. IMPROVING PHYSICIAN PRESCRIBING DECISIONS THROUGH USER INTERFACE REDESIGN

10:48 AM - 11:06 AM

TRA1-2. WHAT'S IN A NAME? THE INFLUENCE OF A DISEASE LABEL ON A PARENT'S DECISION TO MEDICATE A FUSSY BABY

11:06 AM - 11:24 AM

TRA1-3. THE EFFECT OF EMOTION AND PHYSICIAN COMMUNICATION BEHAVIORS ON SURROGATES' LIFE-SUSTAINING TREATMENT DECISIONS: A RANDOMIZED TRIAL

11:24 AM - 11:42 AM

TRA1-4. MODELING PERSONALIZED RANK ORDER OF PREVENTIVE CARE GUIDELINES

11:42 AM - 12:00 PM

TRA1-5. AN INFUENZA VACCINATION POLICY BASED ON A PREVIOUS YEAR'S ILLNESS

Abstracts:

TRA1-1. IMPROVING PHYSICIAN PRESCRIBING DECISIONS THROUGH USER INTERFACE REDESIGN

10:30 AM - 10:48 AM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT PRESENTATION 1

Sameer Malhotra, MD, MA[1], *Jessica Ancker, MPH, PhD*[1], *Curtis L. Cole, MD*[2], *J. Travis Gossey, MD, MPH*[1], *Rainu Kaushal, MD, MPH*[1] *and Adam D. Cheriff, MD*[1], *(1)Weill Cornell Medical College, New York, NY, (2)Weill Cornell. Medical College, New York, NY*

Purpose: Prescription medication costs represent more than 10% of American healthcare costs and are continuing to increase (CMS 2010). Substituting generic drugs in place of brand-name ones would result in considerable cost savings. Generics also have lower out-of-pocket expenses for patients and are associated with better adherence. Point-of-care electronic decision support in electronic health records (EHR) could affect clinician prescribing patterns. This study, however, is designed to evaluate a much simpler health information technology intervention, i.e., a user interface redesign.

Method: At our institution, the electronic prescribing interface was redesigned so that all medication searches defaulted to a generic equivalent if available, even if the provider had searched using a brand name. However, providers still had the option of selecting the brand medication through one extra mouse-click. In many domains, setting one option as the default markedly increases the chance it will be chosen (Johnson and Goldstein, *Science*2003). To determine whether this default setting would have as strong an effect among physicians in a practice setting, we conducted a retrospective before-after study of new outpatient prescriptions written during the year before and the year after the redesign.

Result: 886 clinicians wrote nearly 1 million new prescriptions during the two years. Generics made up 28.2% of newly prescribed medications before the change, more than doubling (65.2%) after the redesign. Only 2.1% of medications with generic equivalents were still prescribed as brands. The large increase in generic prescribing remained in regression models of the pre-post change that controlled for patient characteristics.

Conclusion: A relatively simple interface change led to a dramatic change in physician decision-making about generic drugs. Generic names are generally difficult to recall compared to strategically named, marketed and memorable brand-name drugs.The simple user interface redesign removed the onus of memorizing tedious generic names and offered a seamless workflow, steering clinicians towards generic equivalents. Further refinements are needed to ensure that physicians are not directed

toward the generic option when it is less than appropriate, for example, when the generic has a narrower therapeutic index than the brand option. Such well-designed "choice environments" (Thaler and Sunstein 2008) can facilitate optimal choices without adding the cognitive burden or distractions that are typically associated with electronic decision support alerts.

TRA1-2. WHAT'S IN A NAME? THE INFLUENCE OF A DISEASE LABEL ON A PARENT'S DECISION TO MEDICATE A FUSSY BABY

10:48 AM - 11:06 AM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT PRESENTATION 1

Laura Scherer, PhD[1]*, Brian J. Zikmund-Fisher, PhD*[2]*, Angela Fagerlin, PhD*[3] *and Beth A. Tarini, MD*[2]*, (1)VA HSR&D and University of Michigan, Ann Arbor, MI, (2)University of Michigan, Ann Arbor, MI, (3)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

Purpose: Reducing the prevalence of overdiagnosis and overtreatment has become a priority in light of rising healthcare costs. As one clinical example, otherwise healthy infants with excessive regurgitation and crying are often treated for Gastroesophageal Reflex Disease (GERD), even though symptoms usually resolve spontaneously and medications are no more effective than placebo. In light of these facts, it is unclear why the treatment of GERD persists. In the present research, we examined whether overtreatment persists in part because the physician's assessment of the symptoms—in particular, use of the diagnostic label "GERD"— increases parents' perceived need for medical interventions.

Method: 275 parents in the waiting room of a general pediatrics clinic were asked to read a scenario that described an infant who cried and spit up excessively. In the scenario, the infant either received a diagnosis of GERD, or the doctor referred to the symptoms as "this problem" with no mention of a formal diagnosis. Additionally, half of parents were told that existing medications are ineffective at treating symptoms, and the rest were given no effectiveness information. This resulted in a 2 (GERD diagnosis: present vs. absent) X 2 (Medicine ineffectiveness: present vs. absent) design. Outcome measures included parent interest in using medication, and beliefs about whether the infant would get better without medication.

Result: When parents received no GERD diagnosis, they were interested in using medications when they assumed that the medications were effective (M=2.45; scale=0-4), but were less interested when told that medications were not effective (M=1.42; F(1,86)=12.61, p=.001). By contrast, parents who received a GERD diagnosis were interested in using medications regardless of whether they were explicitly told that those medications were ineffective (M=2.55), or not (M=2.46; p=.70). Moreover, all parents were told that their infant would get better without medications, but parents were less likely to believe this when they were given a diagnosis (M=3.02) compared to when there was no diagnosis (M=3.48; F(1,171)=3.95, p<.05).

Conclusion: Labeling an otherwise normal infant as having a "disease" increased parents' interest in medicating their infant, and led parents to believe that medication was necessary regardless of stated treatment effectiveness. These findings suggest that doctors may inadvertently perpetuate the use of needless medical interventions by using diagnostic labels that increase demand for treatment.

TRA1-3. THE EFFECT OF EMOTION AND PHYSICIAN COMMUNICATION BEHAVIORS ON SURROGATES' LIFE-SUSTAINING TREATMENT DECISIONS: A RANDOMIZED TRIAL

11:06 AM - 11:24 AM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT PRESENTATION 1

Amber E. Barnato, MD, MPH, MS *and Robert M. Arnold, MD, University of Pittsburgh School of Medicine, Pittsburgh, PA*

Purpose: Surrogate decision makers for critically ill patients experience strong negative emotional states. Emotions influence risk perception, risk preferences, and decision making. We sought to explore the effect of emotional state and physician communication behaviors on surrogates' life-sustaining treatment (LST) decisions.

Method: We conducted a 5x2 between-subject randomized factorial experiment, administered via the web to community-based participants 35 and older who self-identified as the surrogate for a parent or spouse. The survey involved the hypothetical situation in which their spouse or parent has been admitted to the ICU and is receiving LST and included an interactive video meeting with an intensivist. We used block random assignment to emotional priming using a photo of the surrogate's spouse/parent versus no priming and each of 4 physician communication

behaviors during the meeting (emotion handling [yes/no], framing the decision maker [patient/surrogate], framing the default [no cardiopulmonary resuscitation (CPR)/CPR], framing the alternative to CPR [allow natural death (AND)/do not resuscitate (DNR)]). The primary outcome measure was the surrogate's code status decision (CPR vs. DNR/AND); seconary outcomes included surrogate short form profile of mood states (POMS), decisional conflict scale (DCS), confidence that the decision would be concordant with the spouse/parent's decision, and actual concordance.

Results: 256/373 (69%) respondents logged-in and were randomized. Their average age was 50, 70% were surrogates for a parent, 63.5% were women, 76% were white, 11% black, and 9% Asian, and 81% were college educated. When asked about code status, 56% chose CPR. Emotion priming increased depression-dejection (β=1.76 [0.58 – 2.94]), but did not influence CPR choice. Physician emotion handling and framing the decision as the patient's rather than the surrogate's did not influence CPR choice. Framing no CPR as the default rather than CPR resulted in fewer surrogates choosing CPR (48% vs. 64%, OR=0.52 [0.32-0.87]), as did framing the alternative to CPR as AND rather than DNR (49% vs. 61%, OR=0.58 [95% CI 0.35-0.96]). Surrogates who were randomized to the emotion priming condition were more confident in their code status decision if the physician used emotion handling language than if he didn't (OR=0.45, p = 0.036). None of the experimental conditions impacted decisional conflict or concordance.

Conclusion: Experimentally-induced emotional state did not influence code status decisions, although small changes in physician communication behaviors substantially influenced this decision.

TRA1-4. MODELING PERSONALIZED RANK ORDER OF PREVENTIVE CARE GUIDELINES

11:24 AM - 11:42 AM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT PRESENTATION 1

Glen Taksler, Ph.D.[1], *Melanie Keshner, NP*[1], *Angela Fagerlin, PhD*[2], *Negin Hajizadeh, MD, MPH*[1], *Heather Taffet Gold, PhD*[1] *and R. Scott Braithwaite, MD, MSc, FACP*[1], *(1)New York University School of Medicine, New York, NY, (2)University of Michigan, Ann Arbor, MI*

Purpose: The United States Preventive Services Task Force (USPSTF) makes recommendations for 60 distinct clinical services, but clinicians rarely have time to fully implement the recommendations. A systematic approach to prioritizing and personalizing guidelines for individual patients may improve outcomes.

Methods: We created a state transition Markov model for each of the 25 USPSTF Grade A and B guidelines for non-pregnant adults. For each guideline, we included factors to personalize the expected benefits and risks at the patient level, based on individual patient characteristics (e.g., smoking status, hypertension, and obesity), medical history, and family history. We personalized national life expectancy curves for a patient's age, race, and gender, to estimate how much longer an individual would be expected to live from following each preventive care recommendation. We rank-ordered recommendations based on expected number of life-years gained, to help identify the preventive care guidelines with the greatest benefit for each patient.

Results: For a 62 year-old obese (height=68 inches, weight=200 lbs., BMI=30.4) male smoker with high cholesterol (TC=300, LDL=250), hypertension (BP=150/90) and family history of colorectal cancer (≥2 family members), the model's rank order of recommendations would be to quit smoking (3.1 life-years gained), lose weight (16 lbs., +1.6 life-years), lower blood pressure (to 120/80, +0.8 life years), eat a healthier diet (+0.3 life-years), lower cholesterol (to TC=199, LDL=108, +0.3 life-years), use aspirin daily (+0.1 life-years), and undergo colonoscopy (every 10 years, +0.1 life-years). Therefore, quitting smoking would confer about 1.9x the life expectancy gain as losing weight and 3.7x the life expectancy gain as lowering blood pressure. Expected gains from colonoscopy and use of aspirin would be similar, about 0.1x the life expectancy gain as losing weight. For the same individual who also had uncontrolled type II diabetes (HbA1c=8), the model's top recommendation would be to get diabetes under control (to HbA1c≤7, +1.7 life-years). Quitting smoking would still confer about 1.9x the life expectancy gain as losing weight (+1.6 vs. +0.8 life-years), but now only 1.2x the life expectancy gain as lowering blood pressure (+1.6 vs. +1.3 life-years).

Conclusion: Quantitative models could help generate rank order recommendations of personalized preventive care. Future studies should consider patient adherence to recommendations and determine whether personalized preventive care would improve patient outcomes and save time for providers.

TRA1-5. AN INFUENZA VACCINATION POLICY BASED ON A PREVIOUS YEAR'S ILLNESS

11:42 AM - 12:00 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT PRESENTATION 1

*Dan Yamin, MSc[1], Arieh Gavious, PhD[1], Eyal Solnik, BSc[2], Nadav Davidovitch, MD, PhD[3] and **Joseph S. Pliskin, PhD**[4], (1)Ben Gurion University of the Negev, Beer Sheva, Israel, (2)Ben Gurion University of the Negev, Beer-Sheva, Israel, (3)Ben-Gurion University of the Negev, Beer Sheva, Israel, (4)Ben-Gurion University of the Negev, Be'er-Sheva, Israel*

Purpose: Vaccination is the most efficient and cost effective method to prevent influenza, reducing morbidity and mortality rates not only for those vaccinated, but also for the entire population by reducing the spread of the virus. In the context of contact network epidemiology, an individual who is located in the center of the network is more likely to become infected. Thus, vaccinating such individuals before others would be more efficient in reducing the influenza burden.

Method: We offer a practical way to identify the central people by using accessible data; we show that immunizing those who have been infected in the previous season, especially before the peak of the disease, can substantially reduce infection rates for a wide range of influenza viruses. It is achieved by running 2.1 million computerized simulations. Using the Susceptible Infected Recovered (SIR) compartmental model, each simulation reflected two successive influenza seasons over a 1.5 million population contact network based on the Portland population. The second season in each simulation was checked twice: when a Random Vaccination Policy (RVP) was applied and when using a vaccination policy prioritizing first those who were infected in the previous season especially before the peak (PFIP). The number of infected individuals in the two policies (RVP&PFIP) was calculated to determine the conditions where one policy is preferred to another.

Result: Results suggest that when no vaccination is offered, individuals who became infected in the previous season have a higher probability of becoming infected in the following season. Accordingly, PFIP can reduce the number of infected by up to 80% compared to RVP. Moreover, even if the cross-antigenisity rate between the viruses of two seasons is as high as 60-80%, a policy prioritizing those who became ill in the previous season is superior. We provide a simple managerial tool describing the conditions when each policy should be used.

Conclusion: No CDC recommendations have ever considered the effect of a previous season on an individual in determining a future vaccination policy for him. On a practical basis, applying the PFIP can be achieved easily by sending pamphlets,

telephone reminders or even family doctor recommendations to those who were diagnosed by the family doctor as suffering from influenza like illness (ILI) in the previous season.

TRA2. TOP-RANKED ABSTRACTS, CONCURRENT PRESENTATION 2

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10:30 AM - 12:00 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Session Chairs:

- *Beate Sander, PhD*
- *Steven M. Kymes, Ph.D.*

Session Summary:

10:30 AM - 10:48 AM

TRA2-1. REAL-TIME PREDICTIVE MODELING TO STRATIFY RISK FOR ALL ADULT INPATIENTS TO REDUCE HOSPITAL READMISSIONS

10:48 AM - 11:06 AM

TRA2-2. ESTIMATING THE COST-EFFECTIVENESS OF XPERT MTB/RIF: APPLYING A BAYESIAN CALIBRATION APPROACH TO A DYNAMIC TB-HIV EPIDEMIC MODEL

11:06 AM - 11:24 AM

TRA2-3. THE EFFECT OF PREHOSPITAL PROVIDER TRIAGE ACCURACY ON THE COST-EFFECTIVENESS HELICOPTER SCENE TRANSPORT FOR TRAUMA

11:24 AM - 11:42 AM

TRA2-4. USE OF BAYESIAN BIVARIATE RANDOM-EFFECTS META-ANALYSIS TO EXPLORE UNCERTAINTY IN THE TREATMENT EFFECT OF VITAMIN K ON BONE MINERAL DENSITY AND FRACTURES

11:42 AM - 12:00 PM

TRA2-5. CALIBRATION METHODS FOR EXPOSURE TO TIME-VARYING, MODIFIABLE RISK FACTORS: THE EXAMPLE OF SMOKING INITIATION AND QUITTING IN INDIA

Abstracts:

TRA2-1. REAL-TIME PREDICTIVE MODELING TO STRATIFY RISK FOR ALL ADULT INPATIENTS TO REDUCE HOSPITAL READMISSIONS

10:30 AM - 10:48 AM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT PRESENTATION 2

Eduard E. Vasilevskis, MD[1], *Henry J. Domenico*[2], *Daniel W. Byrne*[2], *Neal R. Patel*[2], *Julianne M. Morath*[2] *and Laura Beth Brown*[2], *(1)Vanderbilt University and the VA - Tennessee Valley, Nashville, TN, (2)Vanderbilt University, Nashville, TN*

Purpose: Effectiveness of interventions to reduce hospital readmissions is limited by inadequate risk-stratification at hospital admission. The aim of this research was to develop and validate a 30-day all-cause readmission model using electronic medical records (EMR) data available within 24 hours, followed by integration of readmission risk into the electronic medical record.

Methods: We performed a retrospective cohort study among patients at Vanderbilt University Medical Center (VUMC) who were discharged alive. Patients were included if ≥ 18 years of age and admitted to a medical or surgical unit from 7/1/2009 to 6/30/2010. The outcome was readmission within 30-days from hospital discharge. 388 variables were assessed as independent predictors, obtained exclusively from electronic databases, including: demographics, admission source, number of hospital admissions in the 6 months prior, and routine laboratory tests (e.g., CBC, BMP) from the first 24 hours of admission. We developed a logistic regression model of the relationship between independent variables and all-cause 30-day readmission using

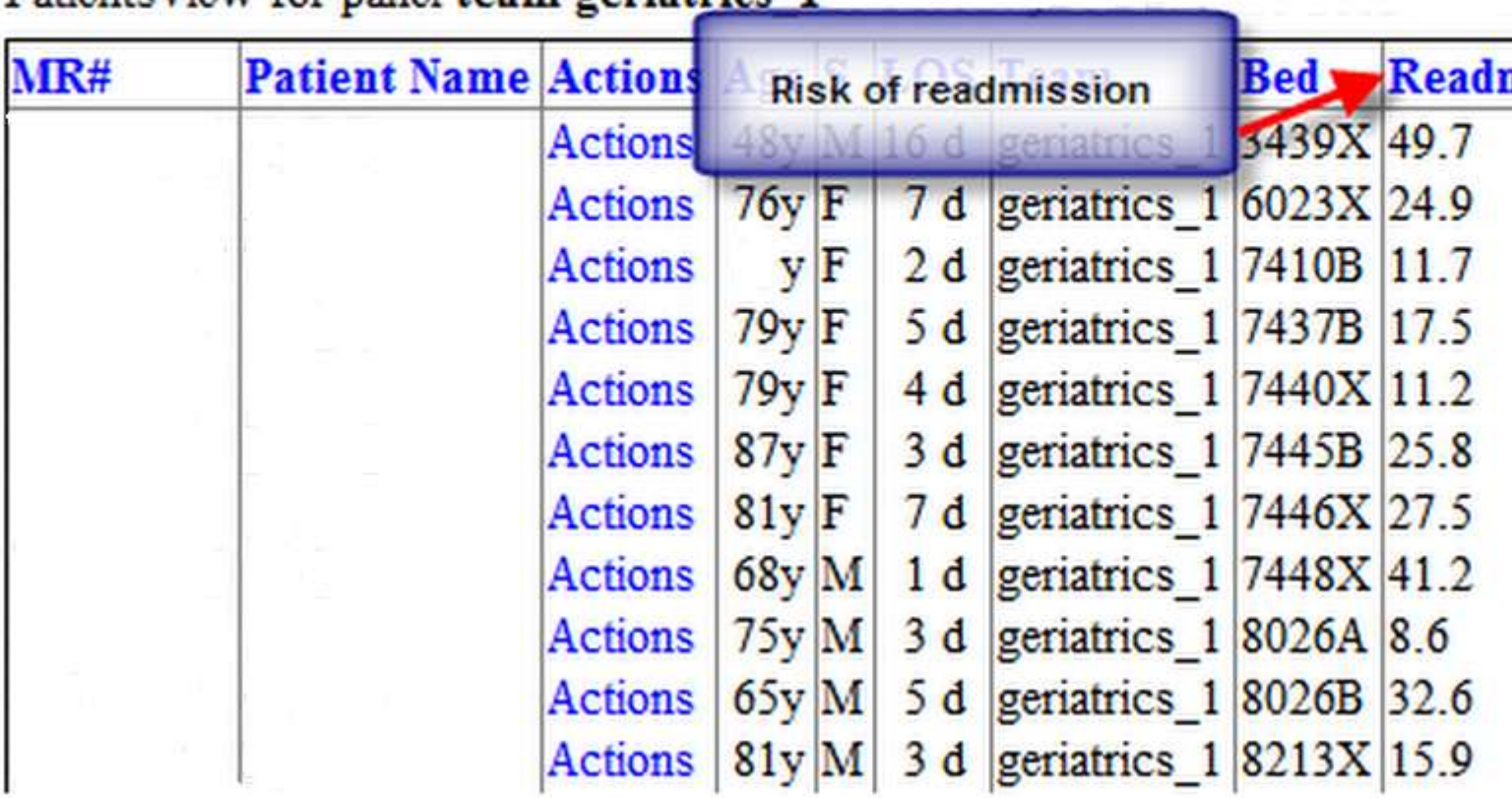
modern data reduction methods. Bootstrap validation was performed with 200 replicates. We assessed discrimination and calibration with the c-statistic, Brier's score, and Hosmer-Lemeshow statistic. Finally, we tested feasibility of real-time risk calculations in the EMR.

Results: A total of 20,718 patients met the inclusion criteria, 3172 (15.3%) were readmitted to VUMC within 30 days. Overall, patients were: 53.2% male, mean age 53.5, median LOS 3.6 days (IQR 2.0 to 6.3). The final model variables included: age, emergency department admission, number of hospital admissions in the prior 6 months, hemoglobin, MCV, RDW, WBC, CO2, Cl, and BUN. The model with 10 variables had a c-statistic of 0.646 and a Brier of 0.125. The model Hosmer-Lemeshow statistic was significant ($p < .0001$), however this could be due to large sample size as visual calibration appeared excellent. The bootstrap validation with 200 replicates indicated minimal bias due to overfitting (slope optimism =.019). Finally, incorporation into the EMR was successfully demonstrated (See Figure).

Conclusions: Development and implementation of an all-cause real-time predictive model for 30-day hospital readmission based on data available within the first 24 hours is feasible for the entire adult hospital population. Our future work will assess whether using this model to focus interventions leads to reduced hospital

readmissions.

Figure: Display of Readmission Risk Score (Probability*100) in t



MR#	Patient Name	Actions	Age	S	LOS	Team	Bed	Readm
		Actions	48y	M	16 d	geriatrics_1	3439X	49.7
		Actions	76y	F	7 d	geriatrics_1	6023X	24.9
		Actions	y	F	2 d	geriatrics_1	7410B	11.7
		Actions	79y	F	5 d	geriatrics_1	7437B	17.5
		Actions	79y	F	4 d	geriatrics_1	7440X	11.2
		Actions	87y	F	3 d	geriatrics_1	7445B	25.8
		Actions	81y	F	7 d	geriatrics_1	7446X	27.5
		Actions	68y	M	1 d	geriatrics_1	7448X	41.2
		Actions	75y	M	3 d	geriatrics_1	8026A	8.6
		Actions	65y	M	5 d	geriatrics_1	8026B	32.6
		Actions	81y	M	3 d	geriatrics_1	8213X	15.9

TRA2-2. ESTIMATING THE COST-EFFECTIVENESS OF XPERT MTB/RIF: APPLYING A BAYESIAN CALIBRATION APPROACH TO A DYNAMIC TB-HIV EPIDEMIC MODEL

10:48 AM - 11:06 AM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT PRESENTATION 2

***Nicolas A. Menzies, MPH**, Harvard University, Boston, MA, Ted Cohen, PhD, Division of Global Health Equity, Brigham and Women's Hospital, Boston, MA, Hsien-ho Lin, PhD, Graduate Institute of Epidemiology and Preventive Medicine, National Taiwan University, Taipei, Taiwan, Megan Murray, PhD, Department of Epidemiology, Harvard School of Public Health, Boston, MA and Joshua A. Salomon, PhD, Harvard School of Public Health, Boston, MA*

Purpose: The Xpert MTB/RIF test enables rapid detection of tuberculosis and rifampicin resistance. The World Health Organization recommends this recently developed test for initial diagnosis in people suspected of having multi-drug resistant TB or HIV-associated-TB, and many national TB programs are moving quickly to adopt Xpert. As roll-out proceeds, it is essential to understand the potential health impact and cost-effectiveness of Xpert-based diagnostic strategies.

Method: We evaluated potential consequences of Xpert adoption in five southern African countries—Botswana, Lesotho, Namibia, South Africa, and Swaziland—where drug resistance and TB-HIV coinfection are prevalent. Analyses were conducted using a dynamic mathematical model of TB epidemiology, designed to account for the development and propagation of TB drug resistance, and the influence of epidemic HIV on TB natural history. Prior information on many TB natural history parameters is poor, and to characterize uncertainty we adopted a Bayesian estimation approach, probabilistically calibrating the model to reported data on TB prevalence, incidence, and MDR-TB prevalence by country. Using the calibrated model, we compared the status quo diagnostic algorithm, which emphasizes sputum smear, to an algorithm incorporating Xpert for initial diagnosis.

Result: Compared to status quo, implementation of Xpert would avert an estimated 132 [95% posterior interval: 55 – 284] thousand TB cases and 182 [97 – 302] thousand TB deaths in southern Africa over the 10 years following introduction, and reduce prevalence by 20-30% by 2022, with more modest reductions in incidence. Health system costs are projected to increase substantially with Xpert, requiring an additional $US 460 [294-699] million over 10 years. Antiretroviral therapy for HIV represents a substantial fraction of these additional costs, a consequence of improved survival in TB/HIV-infected populations through better TB case-finding and treatment. Relative to status quo, the Xpert strategy has an estimated cost-effectiveness of US$959 [$633-$1,485] per DALY averted over 10 years following introduction. Across the five examined countries, cost-effectiveness ratios over the same period range from $792 [$482-$1,785] in Swaziland to $1,257 [$767-$2,276] in Botswana.

Conclusion: Adoption of Xpert has potential to produce substantial changes in TB morbidity and mortality, and offers high value for money based on conventional benchmarks for cost-effectiveness in resource-limited settings. However, the additional financial burden of adoption would be substantial, including significant increases in HIV treatment costs.

TRA2-3. THE EFFECT OF PREHOSPITAL PROVIDER TRIAGE ACCURACY ON THE COST-EFFECTIVENESS HELICOPTER SCENE TRANSPORT FOR TRAUMA

11:06 AM - 11:24 AM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT PRESENTATION 2

***M. Kit Delgado, MD**, Stanford University School of Medicine, Stanford, CA, Sharada Weir, Ph.D., University of Massachusetts Medical School, Shrewsbury, MA and Jeremy D. Goldhaber-Fiebert, PhD, Stanford University, Stanford, CA*

Purpose: A recent study of 223,475 severely injured patients transported from the scene to trauma centers found that helicopter transport was associated with a 15% relative risk reduction in mortality compared to ground ambulance transport. In 2010, 47% of U.S. helicopter scene transports had only minor injuries. We assessed the cost-effectiveness of helicopter transport given that overtriage of patients with minor injuries to helicopter transport does not improve their outcomes.

Method: Using a Markov model, we evaluated the cost-effectiveness of helicopter scene transport relative to ground transport given triage accuracy in current practice compared with the hypothetical case of perfect triage accuracy (all patients transported have severe injury). The model followed patients from injury through prehospital care, hospitalization, first year post-discharge, and the remainder of life. Patients were trauma victims (mean age: 43; range: 18-85) with Abbreviated Injury Scores (AIS) from 1-6. Costs and survival probabilities stratified by injury severity were derived from the National Study on the Costs and Outcomes of Trauma supplemented by the National Trauma Data Bank. Transport crash risks were derived from the published literature. Outcomes included costs (2009$), quality adjusted life-years (QALYs), and incremental cost-effectiveness ratios. We used second-order Monte Carlo simulations (10,000 samples) to estimate means and confidence intervals (CI) for all outcomes.

Result: With a 15% mortality reduction and current triage accuracy, helicopter transport costs $113,306 per QALY gained (95% CI: $98,732-131,544) compared to ground ambulance transport and is never dominated or cost-saving. If triage were performed perfectly, helicopter transport would cost $67,214 per QALY gained (95% CI: $59,799-75,700), a reduction of $48,201 per QALY gained. Assuming a 15% mortality reduction, overtriage of minor injury patients would have to be reduced from 47% to 31% for helicopter transport to have at least a 95% probability of costing less than $100,000 per QALY gained. Similarly, if current triage accuracy remains

the same, the mortality reduction provided by helicopter transport would need to be greater than 19%.

Conclusion: Unless overtriage of patients with minor injuries can be substantially reduced from its current level of 47%, or mortality reductions for seriously injured patients transported by helicopter are greater than was found in a recent large observational study, as currently used, helicopter scene transport is not cost-effective relative to ground transport.

TRA2-4. USE OF BAYESIAN BIVARIATE RANDOM-EFFECTS META-ANALYSIS TO EXPLORE UNCERTAINTY IN THE TREATMENT EFFECT OF VITAMIN K ON BONE MINERAL DENSITY AND FRACTURES

11:24 AM - 11:42 AM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT PRESENTATION 2

Olga Gajic-Veljanoski, MD, MSc[1]*, Angela M. Cheung, MD, PhD*[2]*, Ahmed M. Bayoumi, MD, MSc*[3] *and George Tomlinson, PhD*[1]*, (1)University of Toronto, Toronto, ON, Canada, (2)Osteoporosis Program, University Health Network, Toronto, ON, Canada, (3)Centre for Research on Inner City Health, the Keenan Research Centre in the Li Ka Shing Knowledge Institute, Toronto, ON, Canada*

Purpose: Systematic reviews that do not account for correlated outcomes may lead to biased estimates of treatment effects. We examined uncertainty in the estimate of treatment effects on two correlated outcomes in a Bayesian meta-analysis and explored how these results would alter a published cost-effectiveness analysis.

Method: We used data from a systematic review of 14 vitamin K trials that reported either bone mineral density (BMD) or fractures or both endpoints. We identified 3 trials, reporting both outcomes. We used Bayesian hierarchical random-effects meta-analysis and linear regression to sample incomplete data and model simultaneously 3 pairs of outcomes: lumbar spine BMD and all fractures; lumbar spine BMD and vertebral fractures; and, femoral neck BMD and non-vertebral fractures. We specified non-informative priors on the mean treatment effects and a Wishart prior on the inverse variance-covariance matrix. For each outcome, we estimated the population treatment effect in current trials and the predictive treatment effect in future trials. The between-study correlations and the probability that treatments jointly benefited both BMD and fractures were also calculated. We compared univariate with bivariate random-effects meta-analysis and used the population and predictive odds ratios as

input parameters into a model examining the cost-effectiveness of the K vitamins for preventing fractures in women initially without osteoporosis.

Result: While the bivariate and univariate random-effects meta-analysis pooled estimates were similar, the bivariate 95% credible intervals (CrIs) were narrower and excluded implausible values. The predictive distributions shrank the most. For example, the population and predictive odds ratios for the effect of vitamin K2 on vertebral fractures and lumbar spine BMD using bivariate methods were 0.81(95% CrI: 0.5-1.1) and 0.84(95% CrI: 0.4-1.5); the corresponding univariate estimates were 0.67(95% CrI: 0.2-1.5) and 1.20(95% CrI: 0.1-5.2). The probabilities of joint benefit were 89% (vitamin K2) and 12% (vitamin K1) for vertebral fractures and lumbar spine BMD and 49% (vitamin K2) and 75% (vitamin K1) for non-vertebral fractures and femoral neck BMD. Using the results from the univariate analysis, both vitamin K2 and K1 strategies cost less than $50,000/QALY; using predictive odds ratios from the bivariate analysis, vitamin K2 strategy cost more than $100,000/QALY and vitamin K1 was cost-saving.

Conclusion: Bivariate random-effects meta-analysis can yield more plausible estimates of treatment effects that can meaningfully change the results of an economic analysis.

TRA2-5. CALIBRATION METHODS FOR EXPOSURE TO TIME-VARYING, MODIFIABLE RISK FACTORS: THE EXAMPLE OF SMOKING INITIATION AND QUITTING IN INDIA

11:42 AM - 12:00 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: TOP-RANKED ABSTRACTS, CONCURRENT PRESENTATION 2

Jeremy D. Goldhaber-Fiebert, PhD *and Margaret L. Brandeau, PhD, Stanford University, Stanford, CA*

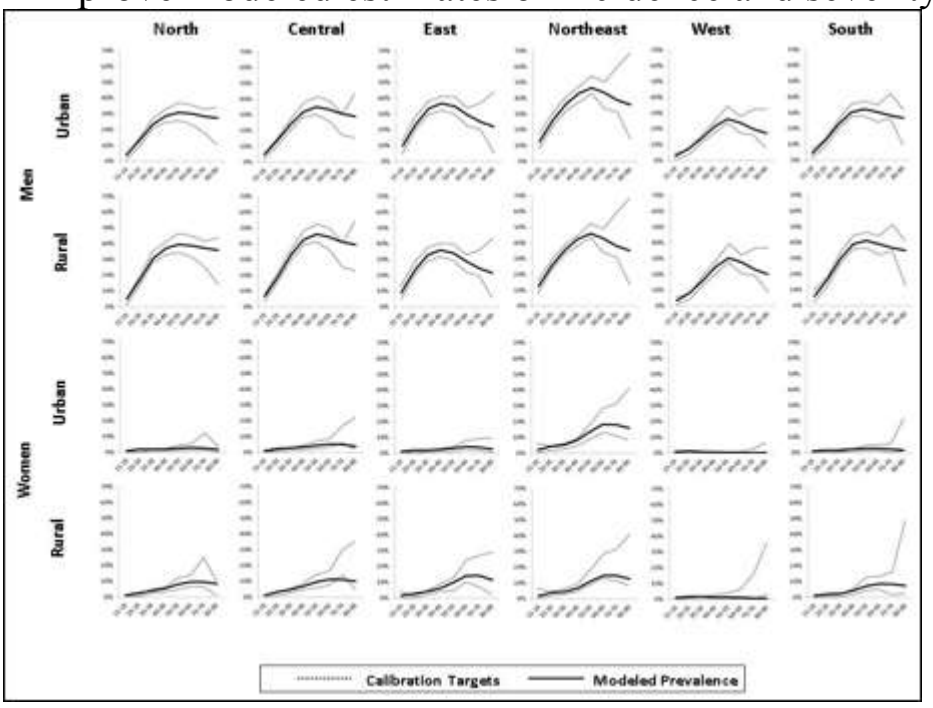
Purpose: Risk factors increase the incidence and severity of many chronic diseases. While some risk factors are fixed (e.g., genotypes), exposures to other risk factors (e.g., smoking) may change and are amenable to intervention. Accurate population health estimates require modeling these time-varying risk factors – a difficult task, as few longitudinal data are available. We developed a calibration procedure to infer time-varying exposures, exploiting available cross-sectional data.

Methods: We developed a simple Markov model structure that tracks the duration of continuous risk factor exposure (e.g., years as a smoker) or lack of exposure (e.g., years as a non-smoker). Risk factor exposure increases mortality risks, and exposure duration alters the probability of reducing exposure (e.g., quitting smoking); likewise, duration without exposure alters the probability of initiating exposure (e.g., starting smoking). These probabilities can vary by age and sex. The structure is deliberately simplified to facilitate incorporation into disease models (e.g., diabetes) via feasible stratifications. As an example, we calibrate sex-specific models of smoking to 10 Indian regions defined by geography and urbanicity. Indian data on sex, age, region-specific prevalence and smoking duration are derived from the Global Adult Tobacco Survey. Similarly-stratified mortality rates are derived from the Sample Registration System and age-specific smoking relative risks from the published literature. For each model, Neldor-Mead searches from 200,000 starting locations identify starting and quitting rates that minimize the difference between modeled and observed outcomes.

Results: Calibration yields close matches between modeled and observed outcomes for men and women in all regions. Generally, the probability of starting to smoke rises and falls with age (peak in teens/early 20s for men and early/mid 20s for women) while the probability of quitting smoking falls with age. Population life expectancy losses were 3-5 years for men with greater losses in higher-prevalence regions. For women, whose prevalence is 10x lower, losses were smaller. Accounting for differential starting and quitting rates based on exposure duration is potentially important as models without such variation produced greater estimates of life expectancy losses due to smoking.

Conclusions: Calibrating changes in rates of exposure for time-varying risk factors is feasible using widely-available, population-level, cross-sectional data. Incorporating

exposure-change rates can improve modeled estimates of incidence and severity of related chronic diseases.



RFF1. REPORTS FROM THE FIELD 1:

« Previous Session | Next Session »

12:45 PM - 1:30 PM: Thu. Oct 18, 2012
Sundance (Hyatt Regency)

Abstracts:

RFF1-1. REPORTS FROM THE FIELD, ONC HITECH - VISIONS FOR THE FUTURE OF HEALTH INFORMATION

12:45 PM - 1:00 PM: Thu. Oct 18, 2012
Sundance (Hyatt Regency)
Part of Session: REPORTS FROM THE FIELD 1:

***Kevin Larsen, MD, FACP**, ONC HITECH-Office of the National Coordinator for Health Information Technology, .*

In an era of austerity, funding for medical research has become increasingly difficult to secure. In addition, the focus of medical research is rapidly shifting towards research that explicitly includes stakeholder perspectives in the research design and studied outcomes.A clearer understanding of the inner workings of two major funding organizations, PCORI and AHRQ, as well as a major

stakeholder in the design and implementation of health information technology, ONC HITECH, will assist SMDM researchers in the design and framing of future research studies.

Representatives from ONC HITECH, PCORI and AHRQ will present an outline of the inner workings of their organizations, priorities for research of particular relevance for SMDM scientists, visions for the future direction of medical research and common pitfalls in research goals presented by investigators. The "Reports" will divided in two parts. Participants are welcome to join part or all of the presentations.

A. LUSTED FINALIST ABSTRACTS: DECISION PSYCHOLOGY AND SHARED DECISION MAKING

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1:30 PM - 3:00 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Session Chairs:

- *Ellen Peters, PhD*
- *Arwen H. Pieterse, PhD*

Session Summary:

1:30 PM - 1:45 PM

A-1. DEVELOPMENT OF AN INTERNET-BASED PATIENTS' DECISION AID FOR SURGICAL VERSUS NONSURGICAL MANAGEMENT OF KNEE OSTEOARTHRITIS

1:45 PM - 2:00 PM

A-2. WOMEN'S RESPONSES TO INFORMATION ABOUT OVERDIAGNOSIS IN MAMMOGRAPHY SCREENING

2:00 PM - 2:15 PM

A-3. RADICAL SURGERY VERSUS RADICAL RADIATION FOR ADVANCED BLADDER CANCER: A DECISION ANALYSIS

2:15 PM - 2:30 PM

A-4. THE EFFECT OF IMPLICIT VERSUS EXPLICIT DELIBERATIVE GUIDANCE AND THE ROLE OF PATIENTS' DELIBERATIVE STYLES IN INTERACTIVE ONLINE PATIENTS' DECISION AIDS

2:30 PM - 2:45 PM

A-5. PHYSICIAN INNUMERACY IS ASSOCIATED WITH MORE ENTHUSIASM FOR CANCER SCREENING

2:45 PM - 3:00 PM

A-6. INTEGRATING PATIENT PREFERENCES AND CLINICAL TRIAL DATA IN A BAYESIAN MODEL FOR QUANTITATIVE RISK-BENEFIT ASSESSMENT

Abstracts:

A-1. DEVELOPMENT OF AN INTERNET-BASED PATIENTS' DECISION AID FOR SURGICAL VERSUS NONSURGICAL MANAGEMENT OF KNEE OSTEOARTHRITIS

1:30 PM - 1:45 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: DECISION PSYCHOLOGY AND SHARED DECISION MAKING

Aubri S. Hoffman, PhD[1], *Hilary A. Llewellyn-Thomas, PhD*[1], *Anna N.A. Tosteson, ScD*[2], *Ivan Tomek, MD*[3], *Robert J. Volk, PhD*[4] *and Annette M. O'Connor, PhD*[5], *(1)The Geisel School of Medicine at Dartmouth, Lebanon, NH, (2)The Dartmouth Institute for Health Policy & Clinical Practice, Lebanon, NH, (3)Dartmouth Hitchcock Medical Center, Lebanon, NH, (4)The University of Texas MD Anderson Cancer Center, Houston, TX, (5)University of Ottawa, Ottawa, ON, Canada*

Purpose: The purpose of this study was to develop and evaluate an Internet-based patients' decision aid (PtDA) for surgical versus nonsurgical management of knee pain due to chronic osteoarthritis.

Method: We created an Internet-based PtDA that provided a) up-to-date, balanced clinical information, and b) decision support in four theory-based deliberative steps: 1) information comprehension; 2) values clarification; 3) consideration of personal resources; and 4) formation of an action plan. Clinical information was abstracted from original sources cited in existing paper- and video-based PtDAs for knee osteoarthritis, and updated to reflect current literature. Information was presented in lay language with optional audio narration. After pilot testing, patients were recruited who were eligible for and actively considering knee surgery. Participants were offered a computer in a private room at the clinic to complete and evaluate the PtDA in terms of: a) usability (5 items); b) post-PtDA Information Comprehension (5 items), Preparation for Decision Making, and Decision Self-efficacy; and c) pre/post-PtDA Decisional Conflict and treatment preferences.

Result: 126 patients participated. *Usability:* Participants reported that: the PtDA was easy to use (98%), the information was clear (90%), the length was appropriate (100%), it was appropriately detailed (90%), and it held their interest (97%). 100% of participants preferred using the PtDA on a home or public computer rather than at the clinic. *Post-PtDA Information Comprehension, Preparation for Decision Making, Decision Self-Efficacy:* Participants scored an average of 75% (min. 60%; max. 100%) correct responses. The median Preparation for Decision Making score was 74 (interquartile range = 30). The median Decision Self-efficacy score was 100 (interquartile range = 13.6). *Pre/post-PtDA Decisional Conflict, Treatment Preferences:* Viewing the PtDA reduced Decisional Conflict scores from 31.1 to 19.53 ($p < 0.01$). At baseline, 63.5% preferred nonsurgical therapies, 15.1% were unsure/no preference, and 21.4% preferred surgery; of those with a stated preference, 67.5% held that preference strongly, and 11.8% held it weakly. After viewing the PtDA, similar percentages of those who had been "unsure/no preference" shifted to the nonsurgical (42%) and the surgical (47%) preference sub-groups, and their strength of preference scores increased.

Conclusion: An Internet-based PtDA is usable and effective for patients considering surgical versus nonsurgical management of knee pain due to osteoarthritis.

A-2. WOMEN'S RESPONSES TO INFORMATION ABOUT OVERDIAGNOSIS IN MAMMOGRAPHY SCREENING

1:45 PM - 2:00 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: DECISION PSYCHOLOGY AND SHARED DECISION MAKING

***Jolyn Hersch, BLibStud(Hons), MAppSc**, Jesse Jansen, MA, PhD, Les Irwig, MBBCh, PhD, FFPHM, Alexandra Barratt, MBBS, MPH, PhD, FAFPHM, Nehmat Houssami, MBBS(Hons), MPH, PhD, MEd, FAFPHM, Haryana Dhillon, MA, PhD, Kirsten Howard, MAppSc, MPH, MHlthEcon, PhD and Kirsten McCaffery, BSc(Hons), PhD, University of Sydney, Sydney, Australia*

Purpose: We aimed to elicit women's responses to information about the nature and extent of overdiagnosis in screening mammography (detecting disease that would not present clinically during the woman's lifetime) and explore how awareness of this largely unfamiliar issue may influence screening attitudes and intentions.

Methods: Fifty women aged 40-79 years with no personal history of breast cancer, varying in screening participation and educational background, participated in eight age-stratified focus groups. Each session included a consumer-friendly audiovisual presentation to explain overdiagnosis in screening mammography, incorporating different published estimates of its rate of occurrence (1-10%, 30%, and 50% of cancers diagnosed among regularly screened women), as well as evidence-based information on the mortality benefit of screening. Participants engaged in group discussions, guided by a pair of moderators, exploring their attitudes towards overdiagnosis, reactions to the overdiagnosis estimates, the influence of this information on screening intentions, and views about different strategies for communicating about screening. Discussions were audio-recorded, transcribed, and analysed thematically.

Results: As expected, prior awareness of overdiagnosis was limited. However, after questions were addressed and clarifications offered, most participants gained an understanding of this complex issue. Learning about overdiagnosis made some women perceive a need for more careful personal decision-making about screening, particularly if further research were to confirm the highest estimate (around 50%). In contrast, the estimates of 1-10% and 30% overdiagnosis had limited impact. Many women felt strongly committed to screening, regardless of the level of overdiagnosis. For some women, the information raised concerns not about whether to screen but rather whether to treat a screen-detected cancer or consider alternative approaches

(e.g., ‘watchful waiting’). Most participants felt that the information presented was important and should be available to enable women to make informed choices, although many also wanted to be encouraged to screen.

Conclusions: Women had diverse responses to overdiagnosis and the different estimates of its magnitude. Some women would rethink their screening intentions at the 50% estimate but few at the lower or intermediate estimates. We found that lay women from a range of socioeconomic backgrounds can be informed about overdiagnosis, and that women valued the information. Providing information about overdiagnosis would facilitate better informed decisions about mammography screening. Future research should quantify any impact such information may have on screening participation.

A-3. RADICAL SURGERY VERSUS RADICAL RADIATION FOR ADVANCED BLADDER CANCER: A DECISION ANALYSIS

2:00 PM - 2:15 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: DECISION PSYCHOLOGY AND SHARED DECISION MAKING

Nathan Perlis, MD, BA[1], *Girish Kulkarni, MD, PhD, BSc*[2], *Antonio Finelli, MD, MSc, BSc*[2], *Murray Krahn, MD, MSc, BA*[2] *and David Naimark, MD, MSc, BSc*[2], *(1)Institute of Health Policy, Management and Evaluation - University of Toronto, Toronto, ON, Canada, (2)University of Toronto, Toronto, ON, Canada*

Purpose: To compare quality-adjusted survival between three treatment strategies for advanced bladder cancer that differ in side effects and survival. There exists considerable controversy over which factors should direct shared decision making for these patients.

Method: We evaluated three treatment strategies for advanced bladder cancer using a decision-analytic Markov model based on a formal literature review. The base case was assumed to be a 65-year-old person with newly diagnosed MIBC. The model used a patient perspective a lifetime time horizon, and one month cycle-length. Three strategies were evaluated: (1) immediate radical cystectomy followed by adjuvant chemotherapy for high risk (>=T3) findings on pathology (RC); 2. immediate neoadjuvant chemotherapy followed by radical cystectomy (NC&RC); 3. trimodal therapy consisting of immediate pelvic and nodal radiation therapy with concurrent

systemic chemotherapy followed by cystectomy for patients who do not enter remission (TMT). Outcomes were life expectancy (LE) and quality-adjusted life expectance (QALE).

Result: LE of 11.9 year was optimized with TMT treatment, while the discounted QALE of 8.3 years was maximized with NC&RC treatment. RC had the lowest LE (10.7 years) and QALE (7.6 years) compared to both other treatments, a difference that was sensitive to changes in both perioperative death from radical cystectomy and long term surgical complications. When we adjusted for effectiveness of BCG, remission rate post-TMT, and metastatic potential of the tumour, TMT maximized QALE over NC&RC.

Conclusion: For patients with newly diagnosed invasive bladder cancer, management with either neoadjuvant chemotherapy with radical cystectomy or radical radiation therapy with concurrent systemic chemotherapy with or without cystectomy offers improved life expectancy and quality-adjusted life expectancy compared to radical cystectomy alone. Thus, patients with localized, aggressive bladder cancer benefit from the use of systemic chemotherapy in addition to either radiotherapy or radical surgery early in their treatment. Deciding between surgical-based and radiation-based interventions is very sensitive to patient preferences.

A-4. THE EFFECT OF IMPLICIT VERSUS EXPLICIT DELIBERATIVE GUIDANCE AND THE ROLE OF PATIENTS' DELIBERATIVE STYLES IN INTERACTIVE ONLINE PATIENTS' DECISION AIDS

2:15 PM - 2:30 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: DECISION PSYCHOLOGY AND SHARED DECISION MAKING

Aubri S. Hoffman, PhD[1], *Hilary A. Llewellyn-Thomas, PhD*[1], *Anna N.A. Tosteson, ScD*[2], *Ivan Tomek, MD*[3], *Robert J. Volk, PhD*[4] *and Annette M. O'Connor, PhD*[5], *(1)The Geisel School of Medicine at Dartmouth, Lebanon, NH, (2)The Dartmouth Institute for Health Policy & Clinical Practice, Lebanon, NH, (3)Dartmouth Hitchcock Medical Center, Lebanon, NH, (4)The University of Texas MD Anderson Cancer Center, Houston, TX, (5)University of Ottawa, Ottawa, ON, Canada*

Purpose: Effective patients' decision aids (PtDAs) help patients understand clinical information and reduce decisional conflict. This study's purpose was to test whether PtDAs that also explicitly provide guidance through four "deliberative steps" yield

additional decision-making gains, and whether sub-groups of patients engage differently with the information and deliberative steps.

Method: We created two versions of a web-based PtDA regarding the surgical/nonsurgical management of chronic knee osteoarthritis. The Information-Provision version provided clinical information at an overview level (with optional "More Information" links to detail) and *implicit* deliberative guidance. The Information+Deliberation version provided the same clinical information and links, as well as *explicit* guidance through four deliberative steps: 1) information comprehension; 2) values clarification; 3) consideration of social resources; and 4) formation of an action plan. Each step offered an optional deliberative activity. In both versions, the program tracked selection of the information links; in the Information+Deliberation version, the program tracked engagement with the deliberative activities. Eligible participants (N = 126) were randomly assigned to one of the versions. Across-version analyses compared scores on self-reported post-PtDA Preparation for Decision Making, Decision Self-efficacy, and Decisional Conflict scales. Sub-groups using the "More Information" links and the deliberative activities were characterized.

Result: *Across-Group Differences*: There were no statistically significant across-version-group differences in mean Preparation for Decision Making, Decision Self-efficacy, or Decisional Conflict scores. *In both groups* (N = 126), 46% of participants engaged with the "More Information" links; they were primarily female, Caucasian, college-degreed, reported higher decisional conflict, and had viewed the Information+Deliberation version. *In the Information+Deliberation group* (n = 64), 43% engaged with the interactive deliberative activities. This sub-group was primarily female, Caucasian, college-educated, and reported higher levels of pain, higher decisional conflict scores, and greater familiarity with the decision. *Across-Sub-groups*: Increased engagement was significantly associated with increased self-efficacy (b = -9.08, p = 0.01) and decreased decisional conflict (b= -13.29, p = 0.007).

Conclusion: These results suggest that a) in chronic care, the effect of implicit versus explicit guidance may not vary, on average, b) sub-groups exist with differing "deliberative styles", and c) some deliberative styles may benefit more from interactive features that provide personalized decision support.

A-5. PHYSICIAN INNUMERACY IS ASSOCIATED WITH MORE ENTHUSIASM FOR CANCER SCREENING

2:30 PM - 2:45 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: DECISION PSYCHOLOGY AND SHARED DECISION MAKING

Tanner J. Caverly, MD[1], *Allan Prochazka, MD, MSc*[1], *Ingrid Binswanger, MD, MPH*[1], *Jean S. Kutner, MD, MSPH*[2] *and Dan Matlock, MD, MPH*[3], *(1)University of Colorado Denver, Denver, CO, (2)University of Colorado School of Medicine, Aurora, CO, (3)The University of Colorado, Aurora, CO*

Purpose: To evaluate the ability of a 6-item measure of physician numeracy (the ability to use numbers and numeric concepts in the context of taking care of patients) to predict enthusiasm for cancer screening.

Methods: We developed the content and design of the questionnaire through an iterative 8 month process supporting content validity. Our final measure consisted of 6 items which appeared to best predict accurate perceptions of the benefit of screening mammography on pilot testing: 2 items from the Medical Data Interpretation Test (MDIT) and 4 new items. To measure enthusiasm for cancer screening we modified items from a previous survey "Enthusiasm for Cancer Screening in the United States," (JAMA 2004). We distributed a paper survey to 139 internists and medicine sub-specialists attending an annual meeting. Numeracy scores were created on a scale from 0-6 based on the number of questions correct. Answers to the enthusiasm for cancer screening items were aggregated, higher scores indicating more enthusiasm for cancer screening. We calculated the Pearson correlation coefficient between the physician numeracy score and scores on the enthusiasm for screening scale. We used multiple regression to adjust for demographics.

Results: 88 participants returned completed surveys representing a 63% response rate. No question had more than one non-response. Numeracy scores ranged from 2-6 and with 63% scoring 6 out of 6 correct. Numeracy scores had a significant negative correlation with enthusiasm for cancer screening scores ($r=0.26$, $p=0.01$). This relationship remained significant after correcting for gender and year graduated from medical school.

Conclusions: We found that physician numeracy affects attitudes toward cancer screening. Different attitudes toward cancer screening could result in different styles of risk communication and medical decision-making.

Question	Answered Correctly

Calculate 2 absolute risk reductions from relative risk reductions and baseline risks and select the larger. (MDIT)	92%
Calculate absolute risk reduction from 2 absolute risks. (MDIT)	91%
Know that survival rates are a biased estimate of the benefits of cancer screening tests.	68%
Know that all-cause mortality benefits of treating a single disease will decrease with age.	90%
Know that a statement about relative risk reduction is not equivalent to a statement of absolute risk reduction.	68%
Know that pre-test probability affects the positive predictive value of a test.	67%

A-6. INTEGRATING PATIENT PREFERENCES AND CLINICAL TRIAL DATA IN A BAYESIAN MODEL FOR QUANTITATIVE RISK-BENEFIT ASSESSMENT

2:45 PM - 3:00 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: DECISION PSYCHOLOGY AND SHARED DECISION MAKING

Henk Broekhuizen, MSc.[1], *Karin G.M. Groothuis-Oudshoorn, PhD*[1], *A. Brett Hauber, PhD*[2] *and Maarten J. IJzerman, PhD*[1], *(1)University of Twente, Enschede, Netherlands, (2)RTI Health Solutions, Research Triangle Park, NC*

Purpose: Regulatory agencies show a growing interest in quantitative models for risk-benefit assessments to increase decision transparency. In addition, regulators increasingly incorporate the view of patients regarding benefit-risk trade offs. Although patient perspectives are sometimes taken into account through patient panels, little is known on how to integrate elicited preferences into the decision making process. There is also little knowledge on how to integrate these preferences with clinical performance data and how to use knowledge about the uncertainty surrounding both types of parameters (preference and performance). The objective of this study was to demonstrate how patient preferences can be integrated in a Bayesian framework for quantitative benefit-risk assessment.

Method: An MCDA model was developed that integrates clinical trial data, patient preference information and the uncertainty surrounding these estimates. Stochastic characteristics of preference weights and drug performance parameters can be approximated from stated preference studies (e.g. conjoint analysis or direct rankings obtained from MCDA studies) and clinical performance data estimated from systematic reviews or RCT's. Risk and benefit scores of drugs are then simulated

using approximated distributions. All simulations of a particular drug where the weighted benefits are higher than the weighted risks are considered acceptable. Then, the acceptability is calculated. Using value of information metrics, residual uncertainty and the impact of reducing uncertainty on parameters are calculated. A 'risk-benefit factsheet' with acceptability graphs is provided, to facilitate decision makers in their appraisal.

Result: We applied the method in two cases, namely a case with anti-depressants and a case on colorectal cancer screening. For both cases we demonstrate the potential utility of applying the MCDA framework to the decision-making process.

Conclusion: Using Bayesian statistics it is possible to include patient preference in a quantitative risk-benefit assessment model. The model allows integration of stochastic uncertainty as well as (preference) heterogeneity. The study also demonstrates that comprehensive presentation of the data is possible. The usefulness of the approach needs to be determined in real-life case studies.

B. GUIDELINES AND MEASUREMENT OF HEALTH DECISION MAKING

« Previous Session | Next Session »

1:30 PM - 3:00 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Session Chairs:

- *Andrew H. Briggs, DPhil*
- *Dominick Frosch, PhD*

Session Summary:

1:30 PM - 1:45 PM

B-1. OPTIMIZATION OF FOLLOW-UP GUIDELINES FOR CLINICAL MANAGEMENT OF PULMONARY NODULES USING A LUNG CANCER MODEL

1:45 PM - 2:00 PM

B-2. EXAMINING PARAMETERS THAT IMPACT INCREMENTAL COST-EFFECTIVENESS RATIOS

2:00 PM - 2:15 PM

B-3. ASK A DIFFERENT QUESTION, GET A DIFFERENT ANSWER: ISOLATING THE INFLUENCE OF VARIATION IN THE DESCRIPTIVE SYSTEMS OF THE EQ-5D AND SF-6D

2:15 PM - 2:30 PM

B-4. REFERRAL BIAS IN THE DIAGNOSTIC PERFORMANCE OF EXERCISE TESTING WITH IMAGING FOR CORONARY ARTERY DISEASE

2:30 PM - 2:45 PM

B-5. PSYCHOMETRIC PROPERTIES OF A NEW MEDICAL RISK SUBSCALE FOR DOSPERT

2:45 PM - 3:00 PM

B-6. A RANDOMIZED CONTROLLED TRIAL OF TWO PRINCIPLES OF DIAGNOSTIC SUPPORT

Abstracts:

B-1. OPTIMIZATION OF FOLLOW-UP GUIDELINES FOR CLINICAL MANAGEMENT OF PULMONARY NODULES USING A LUNG CANCER MODEL

1:30 PM - 1:45 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: GUIDELINES AND MEASUREMENT OF HEALTH DECISION MAKING

***Vidit Munshi, MA**, Michael E. Gilmore, MBA, Alexander Goehler, MD, MSc, MPH, G. Scott Gazelle, MD, MPH, PhD and Pamela McMahon, PhD, Massachusetts General Hospital, Boston, MA*

Purpose: Repeated follow-up imaging examinations for indeterminate pulmonary nodules can have a large impact on patient outcomes, radiation risk, and healthcare costs through resource utilization and physician burden. A pre-existing lung cancer model was used to assess comparative effectiveness and cost-effectiveness of an older follow-up program with standard Fleischner Society guidelines for management of pulmonary nodules, including and in the absence of screening.

Method: The Lung Cancer Policy Model (LCPM) is a microsimulation model that simulates individuals' lung cancer development, progression, detection, follow-up, and survival, while accumulating healthcare-related costs. Benign pulmonary nodules and risks of radiation-induced lung cancer from imaging exams are also simulated. Patients with CT or CXR-detected nodules (4-8mm diameter) undergo follow-up CTs at 1-, 3-, 6-, 9-, 12-, and 24-months. Using the LCPM, trial runs of 500,000 individuals born in 1930 (with US-representative smoking histories) were conducted utilizing the old follow-up program and a newly designed program based on Fleischner Society's recommendations. The baseline risk factor threshold (5 pack-years) in the Fleischner guidelines was varied to include 10, 20, and 30 pack-years. All programs were simulated with no screening, as well as with 1, 3, and 10-CT screen programs at yearly intervals beginning at age 65. We compared the outcomes of the various follow-up protocols on the basis of life-years saved and healthcare-related costs.

Result: In the absence of screening, the older follow-up program was strictly dominated by the Fleischner Society guidelines (all thresholds), which yielded 93,187 additional life years and reduced costs by over $996 million (baseline threshold, cohort size of 500,000). The total number of CTs for the cohort was reduced by 5.7% (422,763 to 398,684) by switching to the Fleischner follow-up. Fleischner guidelines also strictly dominated the old follow-up in the presence of screening, with gains in LY and more cost-savings (2.4%, 2.8%, and 3.5% decrease in total costs with 1.5%, 1.4%, and 1.3% increase in life-years for 1, 3, and 10-year screening programs respectively).

Conclusion: Follow-up strategies involving targeted management of pulmonary nodules dominate more aggressive strategies with numerous follow-up CTs, particularly in the presence of screening. While compliance to guidelines varies across institutions, models are an effective tool to compare current and hypothetical

guidelines for clinical and cost-effectiveness and develop efficient protocols for management of pulmonary nodules.

B-2. EXAMINING PARAMETERS THAT IMPACT INCREMENTAL COST-EFFECTIVENESS RATIOS

1:45 PM - 2:00 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: GUIDELINES AND MEASUREMENT OF HEALTH DECISION MAKING

Lauren A. Shluzas, PhD[1], *Mary K. Goldstein, MD, MS*[1], *Douglas K. Owens, MD, MS*[1] *and John P.A. Ioannidis, MD, PhD*[2], *(1)Veterans Affairs Palo Alto Health Care System and Stanford School of Medicine, Stanford, CA, (2)Stanford School of Medicine, Stanford, CA*

Purpose: This research examines cost-effectiveness analyses (CEAs) with comparable target populations, interventions, and comparators, yet disparate incremental cost-effectiveness ratios (ICERs). The goal of this research is to identify assumptions and parameters used to determine cost-effectiveness, in order to understand underlying differences in CEA outcomes.

Methods: From the CEA Registry, we identified three comparative health interventions, in which 11 to 24 CEAs had been conducted for each comparison. These included carotid artery stenting (CAS) vs. carotid endarterectomy (CAE); drug-eluting stents (DES) v. bare-metal stents (BMS); and verenicline (VAR) vs. bupropion (BUP) for smoking cessation therapy. Of the 46 CEAs identified, we reviewed 20 CEAs that used quality-adjusted life-years (QALYs) to represent health effects. For each study, we documented eight parameters to identify potential sources of variability among groups: clinical trial setting, patient randomization, trial duration, time horizon, the inclusion of direct vs. indirect costs, the inclusion of post-intervention costs, study perspective, and sponsorship. For each group, we computed the median ICER and interquartile range, and the percent of CEAs reporting cost-effective outcomes. We used Fischer's exact test to examine the strength of associations between variability parameters and cost-effectiveness.

Results: Table 1 presents the median ICER per group (measured by cost per QALY and standardized to US$ 2012), and the percent of studies reporting cost-effective

outcomes. The strongest association between study parameters and cost-effectiveness was seen with respect to industry sponsorship: 10 of 12 industry-sponsored studies reported cost-effective outcomes, in comparison to 1 of 7 studies without industry sponsorship ($p = 0.003$). Outcome variability was also associated with the inclusion vs. exclusion of post-intervention cost data: 11 of 17 analyses that included post-intervention costs reported cost-effective outcomes, in comparison to 0 of 3 studies that included short-term intervention costs only ($p = 0.074$).

Table 1: Summary of ICERs for comparative health interventions

	CAS v. CAE	DES v. BMS	VAR v. BUP
Studies Included, *n*	5	10	5
Studies Excluded, *n*	6	14	6
ICER, median (interquartile range), US$ 2012	-23 321 (-29 227, 8355)	70 150 (49 777, 1 058 042)	1075 (-336, 12 838)
Cost Effective at threshold, *n* (%)	1 (20)	5 (50)	5 (100)

Conclusions: This research highlights sources of variability in CEA analyses for three comparative health interventions, and the relationships between variability parameters and cost-effectiveness. The data indicate that industry sponsorship significantly influenced ICERs for the interventions examined. The findings from this study provide investigators with insight regarding the interpretation of CEAs with mixed outcomes, despite the use of standard methods for assessing cost-effectiveness. Views expressed in this abstract are those of the authors and not necessarily those of the Department of Veterans Affairs.

B-3. ASK A DIFFERENT QUESTION, GET A DIFFERENT ANSWER: ISOLATING THE INFLUENCE OF VARIATION IN THE DESCRIPTIVE SYSTEMS OF THE EQ-5D AND SF-6D

2:00 PM - 2:15 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: GUIDELINES AND MEASUREMENT OF HEALTH DECISION MAKING

David GT Whitehurst, PhD[1], *Richard Norman, MSc*[2], *John Brazier, PhD*[3] *and Rosalie C. Viney, PhD*[2], *(1)University of British Columbia, Vancouver, BC, Canada, (2)University of Technology, Sydney, Sydney, Australia, (3)School of Health and Related Research, Sheffield, United Kingdom*

Purpose: To explore the extent to which the application of a common scoring procedure ameliorates the comparability of EQ-5D and SF-6D responses. Poor agreement between preference-based health-related quality of life instruments has been widely-reported across patient and community-based samples. Between-measure discrepancies can be attributed to the descriptive systems of the respective instruments, the valuation techniques used to derive preference weights, or a combination of the two. Research comparing different valuation techniques (e.g. time-trade off (TTO) versus standard gamble (SG)) has demonstrated systematic differences in resulting index scores. Due to considerable methodological challenges, little research has attempted to isolate the effect of different descriptive systems with regard to the comparability of index scores.

Method: Scoring algorithms for the EQ-5D and SF-6D have been generated using the same discrete choice experiment (DCE) approach, using an Australia-representative online sample. Empirical analysis to examine the nature of the relationship between index scores comprised descriptive statistics, assessment of agreement (Bland-Altman plots, interclass correlation coefficient (ICC)) and explorative ordinary least squares regressions. The comparative assessment uses the same dataset that compared TTO-derived EQ-5D scores and SG-derived SF-6D scores across 7 patient/population groups, reported by Brazier and colleagues in 2004 (n=2112). This analytic framework enables the direct comparability of scenarios where both the descriptive and valuation systems differ (2004 study) and where only the descriptive systems differ (current study).

Result: DCE-derived EQ-5D scores were consistently higher than DCE-derived SF-6D scores, with mean differences exceeding 0.17 across each patient/population sample. ICC for the whole sample was 0.557, indicating 'fair' agreement, ranging from 0.373 to 0.638 within the subsamples. Comparable TTO/SG results: mean scores were within 0.10 in all 7 subsamples (with mean SF-6D scores greater than mean EQ-5D scores in 6 of 7 subgroups); whole sample ICC = 0.522 (ranging from 0.352 to 0.547).

Conclusion: A common scoring procedure did not reduce the level of disagreement between EQ-5D and SF-6D responses, indicating that the instruments provide substantially different ways for respondents to describe their health state. Accordingly, poor agreement between the instruments is inevitable. Normative unknowns relating to the descriptive components of preference-based measures (e.g. conceptual framing of questions and response options, length of recall etc.) require further attention. Reference: Brazier J, et al. Health Econ. 2004; 13(9): 873-84

B-4. REFERRAL BIAS IN THE DIAGNOSTIC PERFORMANCE OF EXERCISE TESTING WITH IMAGING FOR CORONARY ARTERY DISEASE

2:15 PM - 2:30 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: GUIDELINES AND MEASUREMENT OF HEALTH DECISION MAKING

Joseph A. Ladapo, MD, PhD[1], *Saul Blecker*[1], *Michael R. Elashoff*[2], *Jerome J. Federspiel*[3], *Mark Monane*[2], *Steven Rosenberg*[2], *Charles E. Phelps*[4] *and Pamela S. Douglas*[3], *(1)NYU School of Medicine, New York, NY, (2)CardioDx, Inc., Palo Alto, CA, (3)Duke University, Durham, NC, (4)University of Rochester, Gualala, CA*

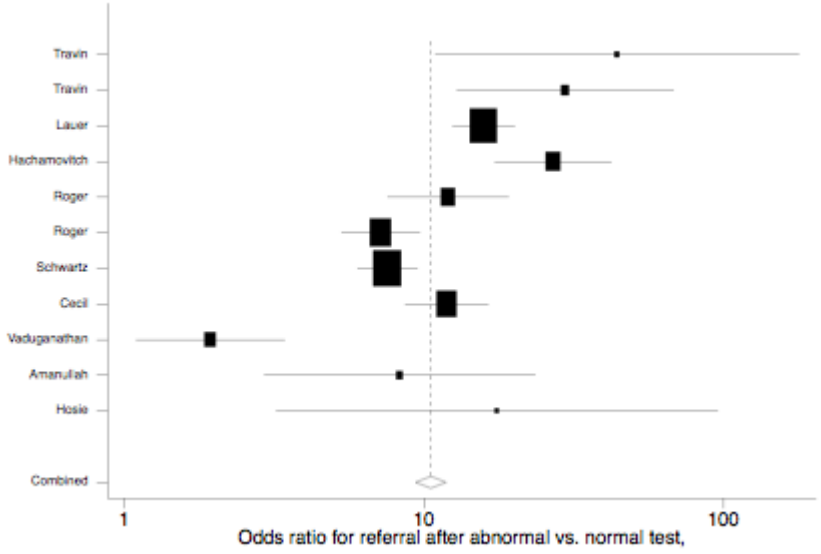
Purpose: Exercise testing with myocardial perfusion imaging (MPI) or echocardiography (ECHO) is widely used to risk-stratify patients with suspected coronary artery disease (CAD). However, reports of diagnostic performance do not routinely adjust for referral bias, which results from the preferential referral of higher-risk patients to cardiac catheterization, the gold standard. To understand how this practice may impact test characteristics and clinical decision-making, we systematically reviewed the literature on catheterization referral rates and estimated adjusted measures of diagnostic performance.

Method: We searched PubMed and EMBASE for studies reporting catheterization referral rates after normal or abnormal exercise MPI and ECHO. Findings were pooled with the Mantel-Haenszel fixed-effects model, and we used Bayesian methods developed by Begg and Greenes (Biometrics, 1993) to adjust exercise test diagnostic performance reported in a widely cited meta-analysis (Fleischmann et al, JAMA 1998). To evaluate the impact of referral bias on overall diagnostic performance, we constructed summary receiver operating characteristic (SROC) curves and calculated positive and negative predictive values over a range of pretest probabilities.

Result: Our literature search yielded 253 citations, of which 10 reported referral patterns in 16,799 patients. Mean age was 60.5 years, 40.3% were women, and 8% had prior history of myocardial infarction. Catheterization referral rates after normal and abnormal exercise tests were 2.3% (95% CI, 2.0%-2.6%) and 30.2% (95% CI, 29.1%-31.3%), respectively, with an odds-ratio for referral after an abnormal test of 10.5 ($p<0.001$) (**Figure**). After adjusting for referral, exercise ECHO sensitivity fell from 85% to 33% and specificity rose from 77% to 99%. Similarly, exercise MPI sensitivity fell from 87% to 36% and specificity rose from 64% to 97%. SROC curve

analysis demonstrated that the adjustment for referral reduced overall discriminatory power and diagnostic yield. While positive predictive value generally increased, the negative predictive value of a normal exercise test for intermediate risk patients (CAD pretest probability=25%) fell from approximately 93% to 81% for both imaging tests.

Conclusion: Exercise ECHO and MPI have lower diagnostic yield after adjusting for the referral process, and patients with normal test results are at risk for misclassification. Incorporating such adjustments into assessments of exercise test performance not only provides a more accurate evaluation of current and emerging diagnostic technologies, but may also significantly influence clinical decision-making and patient care.



B-5. PSYCHOMETRIC PROPERTIES OF A NEW MEDICAL RISK SUBSCALE FOR DOSPERT

2:30 PM - 2:45 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: GUIDELINES AND MEASUREMENT OF HEALTH DECISION MAKING

Alan Schwartz, PhD[1], *Shoshana Butler*[1], *Sam Lee*[2], *Adam Rosman, BA*[2] *and Maggie Garcia, BA*[2], *(1)University of Illinois at Chicago, Chicago, IL, (2)University of Illniois at Chicago, Chicago, IL*

Purpose: To evaluate the operation of the medical risk subscale for the Domain-Specific Risk Taking Scale (DOSPERT) proposed by Schwartz, et al. (2012), and test the hypothesis that medical risk attitudes are distinct from those measured in the DOSPERT health/safety subscale.

Method: Risk taking (RT), risk perception (RP), and benefit perception (BP) was measured using the 36-item DOSPERT scale with the new medical risk subscale (DOSPERT+M) administered to a US-representative online panel. Medical activities include donating blood, donating a kidney, participating in a clinical trial, taking daily allergy medication, knee replacement surgery, and general anesthesia in dentistry. To reduce respondent burden, each of 344 respondents was randomly assigned to two of the three tasks with task order counterbalanced (RT+RP n=108, RT+BP n=126, RP+BP n=110). We created composite scores for each task for each of the six DOSPERT+M domains (financial, social, ethical, health/safety, recreational, and medical), examined subscale reliability and correlations between the medical composites and other domain composites in each task, and fitted multiple linear regression models to assess the impact of demographic differences (gender, ethnicity, age, income, education, marital status) on medical composites.

Result: The medical subscale evinced moderate interitem consistency (Cronbach's alpha RT=0.56, RP=0.66, BP=0.74). As hypothesized, correlations between the medical and health/safety domains were small for risk-taking (r=.12, p=0.07), risk perception (r=.25, p<.001), and benefit perception (r<.01, p=0.99). In fact, the medical subscale were most strongly associated with attitudes and perceptions of social risks (RT r=0.41, RP r=0.46, BP r=0.53). We found no demographic differences in willingness to take medical risks. Hispanic respondents gave slightly higher average ratings of riskiness for medical activities than Caucasian respondents (standardized regression coefficient Beta=0.15, p=.04), and separated respondents gave higher ratings than married respondents (Beta=0.15, p=.04). Women gave higher average ratings of benefit for medical activities than men (Beta=.15, p=.023) as did respondents with higher household incomes (Beta=.17, p=0.29). These differ substantially from demographic associations with mean responses to the social risk scale.

Conclusion: The DOSPERT health/safety subscale does not appear to measure attitudes and perceptions associated with typical medical activities faced by patients. Instead attitudes toward medical activities appear to be associated with attitudes toward social risks, which may reflect the interpersonal impact of many medical decisions, but demonstrate different patterns of individual difference.

B-6. A RANDOMIZED CONTROLLED TRIAL OF TWO PRINCIPLES OF DIAGNOSTIC SUPPORT

2:45 PM - 3:00 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: GUIDELINES AND MEASUREMENT OF HEALTH DECISION MAKING

***Olga Kostopoulou, PhD**, Andrea Rosen, MSc, Thomas Round, MBChB, Ellen Wright, MBChB and Brendan C. Delaney, MD, King's College London, London, United Kingdom*

Purpose: To assess the effectiveness of two modes of diagnostic support in family medicine: 1) suggestion of relevant diagnoses to consider at the beginning of the clinical encounter ("suggesting") and 2) alert about diagnoses to exclude at the end of the encounter ("alerting").

Method: We designed 9 detailed patient scenarios presenting one of 3 commonly misdiagnosed complaints, in a 3x3x3 factorial design: experimental condition (control, suggesting, alerting) x complaint (chest pain, abdominal pain, dyspnea) x case difficulty (easy, moderate, difficult). The study was powered to detect a 10% increase in diagnostic accuracy over control (N=297). The scenarios were presented to family physicians on computer over the Internet, while they were on the phone with a researcher. After reading some initial patient information on their screen, physicians could request further information in order to diagnose. The researcher selected the answer from a list and this was displayed to the physician. The suggesting list was presented after the patient's main complaint and then disappeared (it could be recalled at will). The alerting list was presented only after physicians gave a diagnosis (they could change this following the alert).

Result: Current analyses based on 256 participants (86% of final sample) find a 5% overall increase in mean diagnostic accuracy with "suggesting" but no increase with "alerting" over control. In a logistic regression model that accounted for physician clustering and adjusted for case difficulty, the odds ratio of diagnosing correctly with "suggesting" was 1.3 (95% CI: 1.07–1.60, P=0.020). There was a significant correlation between the amount of information elicited and mean accuracy (Pearson r=0.40, P=<0.0001). There was no difference in the amount of information elicited between experimental conditions (P=0.67).

Conclusion: We found a modest effect of early suggestions of diagnoses to consider on family physicians' accuracy, without an increase in the amount of information gathered. An appropriately developed computerized diagnostic support system, integrated with the patient record, that would activate automatically once the reason for encounter is entered, has the potential to improve diagnostic accuracy. In contrast,

a system that monitors the information that the physician elicits during the encounter and alerts about further diagnoses to exclude is not likely to improve accuracy. It seems difficult to make physicians question their diagnosis once they have settled on it.

C. METHODOLOGICAL ADVANCES IN HEALTH DECISION MAKING

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1:30 PM - 3:00 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Session Chairs:

- *Anirban Basu, PhD*
- *Kerry Kilbridge, MD*

Session Summary:

1:30 PM - 1:45 PM

C-1. DON'T USE A LOT WHERE A LITTLE WILL DO: A MINIMAL INFORMATION DECISION-ANALYTIC APPROACH TO EARLY HTA OF DIAGNOSTIC TESTS

1:45 PM - 2:00 PM

C-2. MULTIPLE IMPUTATION METHODS FOR HANDLING MISSING DATA IN COST-EFFECTIVENESS ANALYSES: AN APPLICATION TO CLUSTER RANDOMISED TRIALS

2:00 PM - 2:15 PM

C-3. JOINTNESS BOX: A NOVEL METHOD TO CONTEMPLATE VALUE OF INDIVIDUALIZED CARE FROM TRADITIONAL TRIAL DATA

2:15 PM - 2:30 PM

C-4. NEW METHODS FOR INTEGRATING PATIENT PREFERENCES WITH CLINICAL EVIDENCE

2:30 PM - 2:45 PM

C-5. COMBINING RANDOM FORESTS AND BAYESIAN GLM FOR ESTIMATION OF HETEROGENEOUS TREATMENT EFFECTS

2:45 PM - 3:00 PM

C-6. PROBABILISTIC SENSITIVITY ANALYSIS WITH EFFICIENT SAMPLING TECHNIQUE IN PATIENT-LEVEL SIMULATION MODELS

Abstracts:

C-1. DON'T USE A LOT WHERE A LITTLE WILL DO: A MINIMAL INFORMATION DECISION-ANALYTIC APPROACH TO EARLY HTA OF DIAGNOSTIC TESTS

1:30 PM - 1:45 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: METHODOLOGICAL ADVANCES IN HEALTH DECISION MAKING

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Purpose: To extend the methods developed by Phelps and Mushlin (MDM, 1988) and demonstrate the power of a 'rapid' cost-effectiveness analysis of new diagnostic tests compared to existing tests based on minimal information and without having to develop a full decision-analytic modelling framework, which is often complex, time consuming and may be an inefficient use of resources.

Method: Using a simplified decision-analytic approach to the complete pathway of care from diagnosis to subsequent treatment, the cost-effectiveness of the diagnostic

test under consideration is expressed as a mathematical function of diagnostic accuracy, cost, burden, and the cost-effectiveness of treatment. This function only includes parameters likely to be available during the early stages of test development, and allows instantaneous estimation of cost-effectiveness, i.e. it does not require any simulation. Uncertainty in these parameters is accounted for by applying probabilistic sensitivity analysis. Using a clinical example, the cost-effectiveness of magnetic resonance angiography (MRA) compared with digital subtraction angiography (DSA) for the detection of new intracranial aneurysms is assessed in patients with previous subarachnoid hemorrhage.

Result: The simplified approach produced cost-effectiveness results in line with our previous and similar, but much more comprehensive, assessment of cost-effectiveness of MRA compared with DSA. The comprehensive assessment resulted in a net monetary benefit (NMB) of $1,910 (95%CI -1,809 to 5,565) and probabilities of effectiveness and cost-effectiveness of 98% and 87%, respectively, for a willingness-to-pay threshold of $50,000 per QALY. Our simplified approach returned a NMB of $1,779 (95%CI 1,170 to 2,477) with corresponding probabilities of effectiveness and cost-effectiveness of 100% and 98%, respectively. Hence, in our clinical example the simplified approach would provide sufficient information and a clear indication of the potential benefits of replacing DSA with MRA.

Conclusion: Given the increasing abundance of newly developed diagnostic tests a rapid approximation of the cost-effectiveness of new diagnostic tests compared with existing tests at minimal costs is highly valuable. The low-cost mathematical satisficing approach supports improved use of health care resources by indicating 1) which tests are promising and should be developed further, 2) which tests are not promising and could have their development discontinued, and 3) which tests require more rigorous and comprehensive economic evaluations to obtain improved estimates of cost-effectiveness but at a higher use of health care resources.

C-2. MULTIPLE IMPUTATION METHODS FOR HANDLING MISSING DATA IN COST-EFFECTIVENESS ANALYSES: AN APPLICATION TO CLUSTER RANDOMISED TRIALS

1:45 PM - 2:00 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: METHODOLOGICAL ADVANCES IN HEALTH DECISION MAKING

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Purpose: Multiple imputation (MI) is an attractive approach for addressing missing data in cost-effectiveness analyses (CEA). However, to provide appropriate inferences the imputation model must reflect the data's structure. CEA alongside cluster randomised trials (CRTs), tend to have complex patterns of missing data. Previous studies have ignored the missingness mechanisms and applied complete-case analysis (CCA) or single-level MI. This paper presents multilevel MI approach for CEA alongside CRTs, and compares the results to those from conventional methods.

Method: We compared the relative performance of alternative methods for handling missing data across a wide range of circumstances. We generated different scenarios with missing costs and health outcomes, using a CEA alongside a CRT with fully-observed data. The CRT (4252 patients, 14 clusters) evaluated an intervention to improve diagnosis of active labour in primiparous women. We constructed scenarios that differed, for example, according to the proportion with missing data (e.g. 30%, 50%) and the missingness mechanisms (e.g. Missing Completely at Random (MCAR) or Missing at Random (MAR)). We estimated incremental net benefits (INB) with each method, and compared these to the corresponding estimates from the fully-observed data, taken to be the 'true' INB.

Result: When costs and outcomes were MCAR, all methods gave INBs similar to the 'true' estimates. When endpoints were MAR, the CCA gave estimates which differed from the 'true' INBs. Across all these scenarios, the single-level MI provided misleading point estimates and understated the uncertainty surrounding the INBs. Unlike single-level MI, the multilevel MI provided both point estimates and precision consistently close to the 'true' values, even in more challenging settings, such as when there were high levels of missing data. For example, when 50% of observations had costs and outcomes MAR, the probabilities that the intervention was cost-effective were 0.55 [CCA], 0.50 [single-level MI], 0.40 [multilevel MI], compared to the 'true' estimate of 0.39.

Conclusion: MI methods can appropriately handle missing data in CEA, but it is fundamental that the imputation model recognises the structure of the cost-effectiveness data. In CEA that use CRTs, MI can only provide appropriate inferences if the approach reflects the inherent clustering.

C-3. JOINTNESS BOX: A NOVEL METHOD TO CONTEMPLATE VALUE OF INDIVIDUALIZED CARE FROM TRADITIONAL TRIAL DATA

2:00 PM - 2:15 PM: Thu. Oct 18, 2012
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Part of Session: METHODOLOGICAL ADVANCES IN HEALTH DECISION MAKING

Anirban Basu, PhD, University of Washington, Seattle, Seattle, WA and ***Rahber Thariani, PhD****, University of Washington, Seattle, WA*

Purpose: Presence of heterogeneity alone in the comparative effects of treatments is not enough to call for investments in Patient-Centered Outcome Research (PCOR). Even in the presence of heterogeneous effects, individual outcomes from one treatment can stochastically dominate outcomes from an alternative, which would imply that PCOR has minimal value. Here, we develop a simple and novel method, called the "Jointness Box (JB)" that may be used to contemplate the value of PCOR based on marginal distributions of counterfactual outcomes obtained in traditional studies, helping in the prioritization of PCOR.

Methods: Let Q_0 and Q_1 denote outcomes generated under two treatments. Data from a standard clinical trial, where patients are randomly allocated to one or the other treatment, can be used to identify the marginal distributions of Q_0 and Q_1, but not their joint distribution since we lack information on the dependence of Q_0 on Q_1 at the individual level. However, the identified supports (ranges) of the marginal distributions define a "Jointness Box" (henceforth, JB) representing the plausible spread of heterogeneous treatment effects. In a plot of Q_0 againt Q_1, where the 45-degree line represents the locus of equality for Q_0 and Q_1 at the individual–level, the JB represents an area where the joint-distribution of Q_0 and Q_1 lie. We study two features: 1) JB-dominance i.e. if the JB lies entirely above or below this 45-degree line. 2) JB-area i.e. the proportion of the full area within JB that falls above the 45-degree line. Using bootstrap methods, with attention to sampling order statistics, joint distributions of $\{Max(Q_0), Min(Q_0)\}$ and $\{Max(Q_1), Min(Q_1)\}$ are obtained and used to study (1) Likelihood of JB-dominance; and (2) the 95% CI for JB-area. Various microsimulation exercises are set up to study the relationship between the JB-dominance and JB-area criteria with the value of PCOR.

Results: We found that the likelihood of JB-dominance is negatively correlated with the value of PCOR, irrespective of the dependence between Q_0 and Q_1. Additionally the JB area has a u-shaped relationship with the value of PCOR, and also varies with

the nature of dependence between Q_0 and Q_1. The JB metrics are found to be useful tools to envision heterogeneity and prioritize PCOR.

Conclusion: Future work will apply JB metrics to various clinical applications.

C-4. NEW METHODS FOR INTEGRATING PATIENT PREFERENCES WITH CLINICAL EVIDENCE

2:15 PM - 2:30 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: METHODOLOGICAL ADVANCES IN HEALTH DECISION MAKING

***Nananda F. Col, MD, MPH, MPP, FACP**, University of New England, Georgetown, ME and James E. Quinlan, PhD, University of New England, Biddeford, ME*

Purpose: Choosing the best treatment is challenging when there is more than one reasonable option and each option has good and bad attributes that people may value differently. Our objective was to develop a practical approach to integrate patient preferences with clinical evidence in order to help patients more easily identify treatments most consistent with their preferences

Method: We developed a prototype that uses a vector space model to combine quantitative evidence about the impact of different treatment options with patient preferences. The evidence matrix defined by $P_{m\text{-}n}$ describes the impact of each treatment $T_{1\text{-}n}$ on each attribute $A_{1\text{-}m}$ affected by these treatments. For each pairwise combination of T within each A, weights are assigned to each T in proportion to the difference (D) between the 2 treatments' impact on each domain (D_{t1t2}). The preference attributes of greatest importance to elicit from patients are selected empirically, based on D_{t1t2}, and are framed consistently across attributes. Visual analog scales (ranging from 0 to 1) elicit patient preferences for each selected A, which are then normalized to create a unique preference vector. Treatments are rank ordered by multiplying the evidence matrix by the patient preference matrix. The evidence matrix can be easily updated to reflect new data, regional data, group-specific data, or different time horizons. Patient preferences can be obtained iteratively for additional attributes, as needed, to help distinguish among treatments.

Result: We created an algorithm that integrates evidence about the impact of treatments for low risk prostate cancer with individual patient preferences. Three treatments (active surveillance, radical prostatectomy, and radiation treatment) and

four attributes (surviving prostate cancer, incontinence, impotence, and rectal problems) are considered as a test case. Using data from a 2011 AHRQ Evidence Report, the most important attributes to query patients about their preferences are impotence (1st), rectal problems (2nd), and incontinence (3rd). If patients only valued survival, the preferred treatment is radiation therapy; if patients equally valued all four attributes, the preferred treatment is surveillance. The model is sensitive to small changes in preferences.

Conclusion: This new approach to combining individual preferences with evidence minimizes both patient burden and bias on the part of the decision support tool designer, and is generalizable to other preference-sensitive decisions.

C-5. COMBINING RANDOM FORESTS AND BAYESIAN GLM FOR ESTIMATION OF HETEROGENEOUS TREATMENT EFFECTS

2:30 PM - 2:45 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: METHODOLOGICAL ADVANCES IN HEALTH DECISION MAKING

***David J. Vanness, Ph.D.**, Department of Population Health Sciences, Madison, WI*

Purpose: To demonstrate the potential usefulness of a two-stage approach combining machine-learning and Bayesian techniques for the prediction of heterogeneous treatment effects in the presence of a large number of predictors with potential high-order interactions.

Method: 460 patients from the N9741 clinical trial of treatment in advanced colorectal cancer with complete response, toxicity and pharmacogenomic profiles were included. Survival was imputed for patients alive at last follow-up. In the first stage, random forest algorithms were used to predict survival separately for each treatment group as a function of age, sex, race (white vs. non-white), prior chemotherapy status and a set of 18 indicator variables containing information about single-nucleotide polymorphisms (SNPs). The resulting treatment-specific survival scores were included along with treatment assignment indicators in a second stage Bayesian GLM (gamma family, log-link) model predicting survival. The survival scores were designed to capture complex interactions of each treatment with individual characteristics, including genomic data. Given the large number of predictors and potential multi-way interactions, direct inclusion of treatment

interaction terms would not have been feasible. Counterfactual simulations were conducted by applying treatment-specific survival scores for treatments not received by each individual to posterior parameter estimates from the Bayesian GLM survival model.

Result: Treatment specific survival score parameter estimates for two of the three treatments were significantly positive at the 95% posterior probability level, strongly suggesting the presence of treatment effect heterogeneity determined by personal characteristics, including genomic profiles. While overall treatment effect estimates strongly suggested that one regimen was likely to be superior on average, counterfactual simulations predicted that 61 of the 460 patients had at least a 50% chance of benefiting more from one of the other two regimens in terms of expected survival.

Conclusion: A two-stage approach combining random forests and Bayesian GLM was able to identify and estimate treatment effect heterogeneity given set of predictors (and possible interactions) too large to include directly as regression interaction terms. A subset of patients were identified who were likely to benefit more from a treatment which was not predicted to be the most effective on average.

C-6. PROBABILISTIC SENSITIVITY ANALYSIS WITH EFFICIENT SAMPLING TECHNIQUE IN PATIENT-LEVEL SIMULATION MODELS

2:45 PM - 3:00 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: METHODOLOGICAL ADVANCES IN HEALTH DECISION MAKING

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

Purpose: Probabilistic sensitivity analysis (PSA) is a recommended approach by ISPOR-SMDM Modeling Good Research Practices Task Force and a necessary step for value of information analysis. However, conducting PSA can be computationally challenging and often impractical in large-scale patient-level simulation (PLS) models (e.g. microsimulation, discrete-event simulation, agent-based models). Our purpose was to conduct PSA using Latin Hypercube sampling and compare results with a commonly used approach of Monte Carlo sampling.

Method: We developed a Markov PLS model to conduct cost-effectiveness analysis of hepatitis C treatment where states included METAVIR fibrosis scores (F0-F4), decompensated cirrhosis, hepatocellular carcinoma, liver transplant, and liver-related death. We used 33 parameters to perform PSA which included state transition probabilities, utility weights and costs. We used two sampling techniques: random sampling (RS), and Latin Hypercube sampling (LHS), a type of stratified sampling technique. We ran PSA with different number of samples, n=100,1000 (2^{nd}-order uncertainty) resulting in RS100, RS1000, LHS100, LHS1000 strategies using 1000 iterations within each run (1^{st}-order uncertainty). Using independent initial random-seeds, we obtained 20 sets of results for each sampling strategy and estimated standard error (SE) in the mean cost, QALYs, incremental cost-effectiveness ratios (ICERs), and their lower and upper 95% confidence limits. We compared these outcomes with a "gold standard" (GS), an outcome of extensive random sampling of 100,000 PSA inputs. Finally, we identified influential inputs based on each method and plotted cost-effectiveness acceptability curves.

Result: No trend was observed using 100 samples. Using 1000 samples, SE with LHS decreased in comparison with RS by 35-43% in costs, 37-48% in QALYs, 13-40% in confidence-intervals of costs, and 27-49% in confidence-intervals of QALYs (table). The total bias in costs and QALYs obtained with all sampling strategies was less than 4% when compared to GS. However, ICERs obtained with RS100, LHS100, RS1000 and LHS1000 were higher than that obtained with GS by 44%, 72%, 42%, and 25%, respectively.

Conclusion: Compared with standard Monte Carlo sampling the bias in costs and QALYs may reduce substantially with Latin Hypercube sampling; however, large samples are needed to reduce bias in ICERs. Results with Latin Hypercube sampling are less dependent on initial random seed as compared to random sampling.

Sampling Strategy	Treatment 1		Treatment 2		ICE
	Cost (SE)	QALYs (SE)	Cost (SE)	QALYs (SE)	
RS100	33,808 (149)	16.28 (0.03)	49757 (121)	16.76 (0.03)	39,56
LHS100	34,253 (146)	16.24 (0.03)	49741 (134)	16.72 (0.03)	47,37
RS1000	33,904 (183)	16.31 (0.03)	49499 (179)	16.81 (0.02)	39,26
LHS1000	33,583 (119)	16.34 (0.02)	49678 (108)	16.89 (0.01)	34,41
GS	**32,842**	**16.50**	**49,433**	**17.16**	**27**

SYM1. INVITED SPEAKER SYMPOSIUM: HEALTH INFORMATION TECHNOLOGY CHALLENGES IN AGING PATIENTS

« Previous Session | Next Session »

3:15 PM - 4:30 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Session Chairs:

- *Cynthia Brandt, MD*

Session Summary:

3:15 PM - 3:16 PM

SYM1-1. HEALTH INFORMATION TECHNOLOGY CHALLENGES IN AGING PATIENTS

3:16 PM - 3:41 PM

SYM1-2. INFORMATICS CHALLENGES IN THE MANAGEMENT OF PATIENTS WITH MULTIPLE MORBIDITIES

3:41 PM - 4:06 PM

SYM1-3. INTEGRATION OF GENOMICS AND CLINICAL DECISION SUPPORT FOR AGING PATIENTS

4:06 PM - 4:30 PM

SYM1-4. SUMMARY AND DISCUSSION / QUESTIONS

Abstracts:

SYM1-1. HEALTH INFORMATION TECHNOLOGY CHALLENGES IN AGING PATIENTS

3:15 PM - 3:16 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: INVITED SPEAKER SYMPOSIUM: HEALTH INFORMATION TECHNOLOGY CHALLENGES IN AGING PATIENTS

***Cynthia Brandt, MD**, VA Connecticut Healthcare System/Yale University, West Haven, CT*

There are complex informatics issues involved in using HIT to improve delivery of care for aging patients with multiple comorbidities. A recent topic of interest in developing practice guidelines is consideration of patients with multiple medical conditions, an increasingly important issue as the population ages and many guidelines are developed for the management of a single disease. This session will discuss approaches to the informatics challenges to the management of patients with multiple morbidities.

SYM1-2. INFORMATICS CHALLENGES IN THE MANAGEMENT OF PATIENTS WITH MULTIPLE MORBIDITIES

3:16 PM - 3:41 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: INVITED SPEAKER SYMPOSIUM: HEALTH INFORMATION TECHNOLOGY CHALLENGES IN AGING PATIENTS

***Mary K. Goldstein, MD, MS**, VA Palo Alto Health Care System, Palo Alto, CA*

Patient-centered care calls for coordinating recommendations for the patient across multiple comorbidities, while taking account of patient preferences and prognoses for both life expectancy and also other patient-important outcomes such as mobility and functional status. Challenges and opportunities abound in developing new architectures to enable interaction of multiple disease guidelines and standardization of relevant patient data.

SYM1-3. INTEGRATION OF GENOMICS AND CLINICAL DECISION SUPPORT FOR AGING PATIENTS

3:41 PM - 4:06 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: INVITED SPEAKER SYMPOSIUM: HEALTH INFORMATION TECHNOLOGY CHALLENGES IN AGING PATIENTS

***Justin B. Starren, MD, PhD, FACMI**, Northwestern University Biomedical Research Center (NUBIC), at the Feinberg School of Medicine, , .*

Implicit in the vision for Personalized Genomic Medicine is that Genomic and other Omic (e.g. proteomic, metabolomics, etc.) data will need to be integrated into the Electronic Health Records (EHRs) of the future. Omic data breaks the conventional EHR paradigm in a number of ways. The greatest paradigm shifts is that next-generation sequencing allows the collection of large amount of data about a patient, before the clinical significance of that data is known. Another shift is that the raw data are essentially uninterruptable without the aid of computer analysis, even for a domain expert. The multiple comorbidities of most elderly patients and the interactions among the treatments for these conditions further complicate the picture. A number of groups, including the The Electronic Medical Records and Genomics (eMERGE) Network, the Pharmacogenomics Research Network (PGRN) and the HL7 Clinical Genomics Workgroup, as well as individual EHR vendors, are tackling these challenge. This talk will discuss both the challenges and the progress that has already been made in incorporation high throughput Omics into clinical care.

SYM1-4. SUMMARY AND DISCUSSION / QUESTIONS

4:06 PM - 4:30 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: INVITED SPEAKER SYMPOSIUM: HEALTH INFORMATION TECHNOLOGY CHALLENGES IN AGING PATIENTS

***Richard N. Shiffman, MD, MCIS**, Yale School of Medicine, New Haven, CT*

Practice guidelines represent an important knowledge resource for diminishing inappropriate practice variation. But most guidelines are developed for the management of a single disease, rather than for people with several diseases. Combining such guideline recommendations sometimes leads to conflicting recommendations for care. Clinical trials, which serve as the highest quality evidence sources for practice guidelines often eliminate multiple morbidity patients. Might large clinical databases that include information about patients with multiple morbidities over time serve as a preferable knowledge source for developing practice guidelines?

D. SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

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4:30 PM - 6:00 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Session Chairs:

- *Karen R. Sepucha, PhD*
- *James G. Dolan, MD*

Session Summary:

4:30 PM - 4:45 PM

D-1. TESTING THE ADDED VALUE OF DECISION AID COMPONENTS TO FACILITATE PATIENTS INFORMED DECISION MAKING ABOUT DIALYSIS TREATMENT OPTIONS

4:45 PM - 5:00 PM

D-2. AN INTELLIGENT TUTORING SYSTEM TO HELP WOMEN DECIDE ABOUT TESTING FOR GENETIC BREAST CANCER RISK

5:00 PM - 5:15 PM

D-3. CAN A DASHBOARD BE USED TO MONITOR INFORMED PATIENT CHOICE?

5:15 PM - 5:30 PM

D-4. USING INFORMATION TECHNOLOGY TO FACILITATE SHARED DECISION MAKING FOR PATIENTS ELIGIBLE FOR CANCER SCREENING

5:30 PM - 5:45 PM

D-5. NOVEL METHODS TO OVERCOME HEALTH LITERACY BARRIERS TO SHARED DECISION MAKING IN PROSTATE CANCER AMONG LOW-INCOME AFRICAN AMERICAN MEN

5:45 PM - 6:00 PM

D-6. DOES HEALTH COACHING AFFECT THE DECISION PROCESS FOR PATIENTS CHOOSING A SPINAL STENOSIS TREATMENT?

Abstracts:

D-1. TESTING THE ADDED VALUE OF DECISION AID COMPONENTS TO FACILITATE PATIENTS INFORMED DECISION MAKING ABOUT DIALYSIS TREATMENT OPTIONS

4:30 PM - 4:45 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

Hilary L. Bekker, PhD, MSc, BSc[1], *Teresa Gavaruzzi, PhD*[2], *Barbara Summers, PhD, MBA, BSc*[1], *Andrew Mooney, PhD, FRCP*[3], *Martin Wilkie, MD, FRCP*[4], *Gary Latchford, PhD, MSc, BSc*[1], *Anne M. Stiggelbout, PhD*[5] *and Anna Winterbottom, PhD, MSc, BSc*[1], *(1)University of Leeds, Leeds, United Kingdom, (2)University of Padova, Bologna, Italy, (3)St James's University Hospital, Leeds, United Kingdom, (4)Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, United Kingdom, (5)Leiden University Medical Center, Leiden, Netherlands*

Purpose: Patient decision aids (pDAs) are complex interventions designed to help patients make informed decisions by a) reducing bias and b) encourage active thinking. This research examined the added value of decision aid components, over and above the provision of evidence-based information, on people's decision making about dialysis options for established renal failure whilst developing the Yorkshire Dialysis Decision Aid (YoDDA).

Method: Staff and students from 30 UK Universities participated in five linked, web-based studies using experimental designs to test the added value of decision guidance, information structure and categorisation, value clarification, and patient narrative components, over and above evidence-based, accessible information. Electronic tracking and questionnaires assessed: information utilisation, treatment choice, decisional conflict, knowledge, values, perception of risk, others' opinion, and resource acceptability.

Result: Study 1 (n = 138) adding decision guidance (decision tree diagram + choice talk statements) to an information aid increased knowledge and reduced mixed feelings about the decision. Study 2 (n = 348) structuring treatment option information in parallel, and by attribute, with an even categorisation (2 haemodialysis options; 2 peritoneal dialysis options) supported people's dialysis decision making in a better way than treatment option information presented sequentially and with an uneven categorisation (1 hospital option; 3 home options). Study 3 (n = 351) using

value-clarification tasks about the importance of lifestyle activities (work, holidays, family, etc) rather than treatment attributes (location, blood, overnight, etc) enhanced the value-choice consistency more than treatment attribute tasks or no tasks. Study 4 (n = 406) providing a decision-outcome narrative, or a decision-guidance plus a decision-outcome narrative, encouraged participants to choose the treatment mentioned in the narrative than groups without a narrative. Two different decision-outcome narratives counterbalanced this effect. A decision-guidance narrative alone did not affect choices. Study 5 (n = 171) using a lifestyle activity value-clarification task may counterbalance the affect of narratives on choices more than other treatment attribute value-clarification tasks.

Conclusion: Explicit decision representation and guidance, and information structure and categorisation, enable people to evaluate more treatment option details before making a decision than providing evidence-based and accessible information alone. Patient narratives are more likely to bias participants' choices than facilitate informed decision making. Value-clarification tasks' contribution to pDAs may depend on the type of task and the timing of pDA evaluation.

D-2. AN INTELLIGENT TUTORING SYSTEM TO HELP WOMEN DECIDE ABOUT TESTING FOR GENETIC BREAST CANCER RISK

4:45 PM - 5:00 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

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

Purpose: To develop and test the efficacy of a web-based Intelligent Tutoring System (ITS) based on fuzzy-trace theory (FTT) that engages women in a tutorial dialogue to help them understand and make decisions about genetic testing for breast cancer risk.

Methods: This interactive tutorial of about one hour appears to be the first use of an ITS in medical decision-making. Tutorial dialogues address questions such as, "what should someone do if she finds out that she has inherited an altered BRCA gene?" Using a set of "expectations texts" and Latent Semantic Analysis, a conversational agent (avatar) tries to "understand" what participants are saying and respond

appropriately. Information pertaining to breast cancer and genetic risk was taken from the National Cancer Institute (NCI) web site, and vetted by medical experts. Three female avatars appearing to be of varying ethnicities present the information orally, visually, in brief video clips and in writing. The figure is a screen shot from the tutorial. The efficacy of the ITS was tested in a randomized, controlled experiment equating time on task. Participants were randomly assigned to one of three conditions: the ITS; studying pages from the NCI web site covering comparable materials; or studying irrelevant information (control). Participants were then given two tests of declarative knowledge about breast cancer and genetic risk, and twelve scenarios applying their knowledge assessing breast cancer risk. These tasks were first pilot tested and vetted by medical experts.

Results: In two tests of declarative knowledge about breast cancer, one from the research literature, and one on the NCI web site content, participants in the ITS group scored significantly higher than both comparison groups. The NCI group also scored significantly higher than the control group. Effect sizes are considered large following Cohen's conventions. Participants assessed breast cancer risk on twelve scenarios providing gist-based ordinal rankings (low, medium, high) of breast cancer including conditional probabilities. A multiple signal detection theory analysis provided independent measures of sensitivity to risk, (d') and criteria for distinguishing among risk levels. The ITS group was significantly more sensitive in distinguishing among all levels of risk than the control group.

Conclusions: This ITS may be fruitfully applied in educating laypeople and assisting their medical decision-making by enhancing gist-based comprehension and reducing class-inclusion interference. 

D-3. CAN A DASHBOARD BE USED TO MONITOR INFORMED PATIENT CHOICE?

5:00 PM - 5:15 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

Stephen Kearing, MS[1], *Susan Berg, MS, CGC*[2], *Kari Rosenkranz, MD*[2], *David Nalepinski*[2], *William Abdu, MD, MS*[2], *Ivan Tomek, MD*[2], *Karl Koenig, MD, MS*[2], *Charles Brackett, MD, MPH*[2], *Richard Wexler, MD*[3], *Megan Bowen*[3] *and Dale Collins Vidal, MD, MS*[2], *(1)Geisel School of Medicine, Lebanon, NH, (2)Dartmouth Hitchcock Medical Center, Lebanon, NH, (3)Informed Medical Decisions Foundation, Boston, MA*

Purpose: Patient decision aids (DAs) have been shown to help patients make informed healthcare decisions. Dashboards were developed as a business intelligence tool to monitor key performance indicators and provide insight into day-to-day operations. Our goal was to develop a dashboard that incorporates shared decision making (SDM) measures to monitor the effect of DAs on patient decision making in routine clinical care.

Method: Eligible patients are systematically referred to the Center for Shared Decision Making at Dartmouth Hitchcock Medical Center for decision support programs. Participants: 1) complete pre-DA questionnaire, 2) watch a condition specific video DA, 3) complete post-DA questionnaire. Measures: DA loan tracking (checkout/return dates, referring department/provider, distribution method), pre/post-video intention, and multiple choice knowledge quiz. DA topics: PSA screening, knee osteoarthritis, hip osteoarthritis, breast cancer surgery, breast reconstruction, herniated disc, and spinal stenosis. Clinical and SDM questionnaire data are summarized by topic into a single page html dashboard report and provided to clinicians on a monthly basis. The html dashboard can be e-mailed, posted on a website, or printed on paper.

Result: From November 2009 – April 2012, 7009 DAs were distributed. Across conditions, similar patterns emerged (Table 1). After watching the video decision aid: fewer patients were unsure about their decision (X^2, $p \leq .05$*) and most patients (65%) had acceptable knowledge scores. Historic and current DA referral counts are reported by department and provider to provide feedback to clinicians.

Table 1. DA title	**DA loans - n Returned SDM Questionnaire (%)**	**Unsure Patients**		**Knowledge Score (> 68%)**
		Before DA	**After DA**	**After DA**
PSA screening	2019 (28%)	28%	18%*	89%

Knee osteoarthritis	1343 (53%)	31%	24%*	64%
Hip osteoarthritis	758 (53%)	26%	23%*	64%
Breast cancer surgery	437 (53%)	38%	28%*	69%
Breast reconstruction	335 (45%)	15%	15%	72%
Spinal stenosis	1164 (34%)	35%	26%*	45%
Herniated disc	953 (46%)	27%	20%*	49%

Conclusion: Regular reporting of DA prescribing patterns and decision process measures can be used to monitor the impact of decision aids on informed patient choice in routine care. Dashboards also have the potential to identify 'missed opportunity' patients that could benefit from decision aids as well act as an instrument to assess continuous quality improvement in health care.

D-4. USING INFORMATION TECHNOLOGY TO FACILITATE SHARED DECISION MAKING FOR PATIENTS ELIGIBLE FOR CANCER SCREENING

5:15 PM - 5:30 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

*Charles Brackett, MD, MPH[1], **Stephen Kearing, MS**[2], W. Blair Brooks, MD[1] and Dale Collins Vidal, MD, MS[1], (1)Dartmouth-Hitchcock Medical Center, Lebanon, NH, (2)Geisel School of Medicine, Lebanon, NH*

Purpose: Decision aids (DAs) have been shown to facilitate shared decision making (SDM) about cancer screening. Pre-visit delivery to appropriate patients is challenging, but allows the patient to arrive at the visit better prepared to make their decision. Our goal was to use a web-based survey system to identify and provide prostate cancer screening (PSA) and colorectal cancer screening (CRC) DAs to appropriate patients prior to a preventive medicine visit.

Methods: Patients complete a web-based health history questionnaire before their preventive medicine appointment. Age and gender appropriate patients are asked further questions to determine eligibility for PSA or CRC screening. Screening-eligible patients are presented with a brief description of the screening decision to be made, asked their screening preference, and offered the choice of a video or print DA. Patients are then asked to complete questions assessing their knowledge and values

regarding the screening question. Feedback on incorrect answers to knowledge questions and another offer of further information are displayed on a written report given to the patient. Patients´ screening choice and responses to knowledge and values questions are fed forward to a clinician report available at the visit.

Results: From January 2008 – March 2011, 4384 PSA and 11493 CRC questionnaires were completed. The questionnaire properly identified patients eligible for screening: 2962 (68%) for PSA and 2187 (19%)for CRC. 15% of eligible patients requested a DA, with the majority of those preferring the written format over video. 16% of patients declined a DA because they preferred the doctor make the decision. Many patients declined a DA because they "already know enough to make their decision" (50% for PSA, 31% for CRC). PSA knowledge scores for patients who "already knew enough" were significantly higher than those requesting additional information (mean(SD): 79(21) vs. 63(32), T-test, $p < 0.0001$). This prior knowledge was due in large part to 41% of patients having received the PSA DA during a previous intervention.

Conclusions: A web based health history questionnaire provides an efficient means to identify patients eligible for cancer screening and offer them DAs before an appointment. Although many patients appropriately chose not to view a DA based on prior knowledge and experience, DA viewing rates among the remaining patients were lower than hoped.

D-5. NOVEL METHODS TO OVERCOME HEALTH LITERACY BARRIERS TO SHARED DECISION MAKING IN PROSTATE CANCER AMONG LOW-INCOME AFRICAN AMERICAN MEN

5:30 PM - 5:45 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

***Kerry Kilbridge, MD**, Massachusetts General Hospital & Beth Israel Deaconess Medical Center, Boston, MA, Lisa I. Iezzoni, MD, MSc, Mongan Institute for Health Policy, Massachusetts General Hospital, Boston, MA, Andrew M.D. Wolf, MD, University of Virginia, Charlottesville, VA, Aladee, R. Delahoussaye, MD, Peninsula Institute for Community Health, Newport News, VA, Chidi Achebe, MD, MPH, MBA, Harvard Street Community Health Center, Dorchester, MA, Gertrude Fraser, PhD, University of Virginia, Charlottesville, MA, Richard Gittens, Gittens Associates,*

Portsmouth, VA and Charles, P. Mouton, MD, MPH, Meharry Medical College, Nashville, TN

Purpose: To evaluate the performance of a standard decision aid (DA) in an underserved population with and without a scripted, low-literacy educational supplement.

Method: We assessed understanding of a standard DA on early stage prostate cancer treatment (Informed Medical Decisions Foundation) using scripted face to face interviews of African American men recruited from three low-income clinics. To avoid interfering in decision making with an untested intervention, men age ≥ 40 without a history of prostate cancer were included. Patients viewed the DA and then participated in a low-literacy educational supplement that did not rely on the patients' reading or math skills. The low-literacy supplement allowed patients to choose between colloquial and medical terms for genitourinary (GU) function to augment explanation of DA content. Symbols were used to explain treatment side effects using the patient's chosen language; chance wheels, poker chips, or cards served as tangible representations of the probabilities of treatment side effects. We measured decisional conflict, understanding of treatment side effects and prevalence of side effects, after patients viewed the DA, and after they received the low-literacy supplement.

Result: A total of 62 men were interviewed; 94% were African American. Average age was 50; median annual income $9,438. Most patients (53%) had a high school degree, 24% had less than a high school education, and 6% had a college degree. Median health literacy was 7^{th}-8^{th}grade measured by the Rapid Estimate of Adult Literacy in Medicine. Only 34% could calculate a simple fraction and percents. Participants generally did not understand the DA: 54% could name the cancer treatments discussed without prompting and 44% understood the icon arrays used to illustrate probabilities of treatment side effects. Comprehension of medical terms used in the DA was poor (e.g. only 15% knew the word "incontinence" and 60% understood "impotent"). Most patients preferred colloquial terms for GU function and anatomy. After participating in the low-literacy educational supplement, comprehension of treatment side effects and prevalence were improved to ≈90% or more ($p<0.05$); and decisional conflict decreased statistically significantly (from mean total 21.2 to 11.7).

Conclusion: DA content, including icon arrays, was poorly understood by most study patients. Comprehension of prostate cancer treatment side effects and decisional conflict was significantly improved by explicitly addressing health literacy.

D-6. DOES HEALTH COACHING AFFECT THE DECISION PROCESS FOR PATIENTS CHOOSING A SPINAL STENOSIS TREATMENT?

5:45 PM - 6:00 PM: Thu. Oct 18, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: SHARED DECISION MAKING AND DECISION SUPPORT INTERVENTIONS

Susan Berg, MS, CGC[1], *Stephen Kearing, MS*[2], *Jon Lurie, MD, MS*[1], *Sherry Thornburg, MPH*[3], *William Abdu, MD, MS*[1], *Sohail Mirza, MD, MPH*[1], *Martha Travis-Cook*[1] *and Dale Collins Vidal, MD, MS*[1], *(1)Dartmouth Hitchcock Medical Center, Lebanon, NH, (2)Geisel School of Medicine, Lebanon, NH, (3)The Dartmouth Institute, Center for Informed Choice, Lebanon, NH*

Purpose: Treatment options for lumbar spinal stenosis include surgical and non-surgical approaches. Decision support in the form of coaching may help patients deliberate about their treatment options. The goal of this study is to assess the impact of coaching on the decision process for patients considering their treatment options for spinal stenosis.

Method: Patients with spinal stenosis referred by a spine specialist for decision support are randomly assigned to either: decision aid (DA only, usual care) or decision aid + health coaching by telephone (DA+HC, intervention group). Enrolled participants complete questionnaires at: baseline, after watching the video decision aid, at two weeks after DA, and at 6 months. Measures - patient demographic characteristics (age, gender, and education), stage of decision making, treatment choice, treatments received, and decisional regret.

Result: To date, 117 participants have completed baseline and follow up questionnaires (58 DA only / 59 DA+HC). Average age 67.1 years, 49% female, 60% had at least some college. Both groups showed similar progress in decision making after watching the DA (Table 1). More patients in the coaching group had made a treatment decision at the two week follow up (DA+HC 75% vs. DA only 48%, p=0.001). The uptake of surgery was similar for both groups (DA only (11/58 - 19%) had surgery vs. DA+HC (12/59 - 20%); however at the 6 month follow-up point more coaching participants had implemented the treatment chosen at 2 weeks (64% of DA only participants followed through with their choice vs. 80% of DA+HC patients, p=0.03). Few patients indicated regret about their treatment (DA only, 5% vs. DA+HC 7%) at 6-month follow up.

Table 1.	Stage of Decision Making – Made a choice			Regret the treatment choice
Study Group	Baseline	After DA	2 weeks	6 months
DA only (n= 58)	8 (14%)	16 (29%)	28 (48%)	3 (5%)
DA + coaching (n=59)	11 (19%)	19 (32%)	44 (75%)	4 (7%)
Chi-square, p-value	0.45	0.67	**0.004**	0.71

Conclusion: The preliminary results from this ongoing study suggest similar treatment uptake and low levels of regret with treatment choice for both study groups. The addition of a telephone coaching session appears to help some participants arrive at a decision more quickly and follow through with their chosen option.

E. LUSTED FINALIST ABSTRACTS: APPLIED HEALTH ECONOMICS

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4:30 PM - 6:00 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Session Chairs:

- *David W. Hutton, PhD*
- *Jane J. Kim, PhD*

Session Summary:

4:30 PM - 4:45 PM

E-1. OPTIMAL INFORMATION ACQUISITION POLICY IN DYNAMIC HEALTHCARE POLICY: APPLICATION TO HCV SCREENING

4:45 PM - 5:00 PM

E-2. COST EFFECTIVENESS OF DIFFERENT INTERVENTIONS FOR TREATING PATIENTS WITH NEWLY-DIAGNOSED DIABETIC MACULAR EDEMA

5:00 PM - 5:15 PM

E-3. THE COST-EFFECTIVENESS OF MRI IN THE DIAGNOSIS OF ACUTE APPENDICITIS DURING PREGNANCY: A GUIDE FOR SURGICAL DECISION-MAKING

5:15 PM - 5:30 PM

E-4. COST EFFECTIVENESS OF STEREOTACTIC BODY RADIATION THERAPY FOR MEDICALLY OPERABLE STAGE I NON–SMALL CELL LUNG CANCER

5:30 PM - 5:45 PM

E-5. A COST-EFFECTIVENESS ANALYSIS OF STATINS FOR PREVENTING CARDIOVASCULAR DISEASE IN PATIENTS WITH CHRONIC KIDNEY DISEASE

5:45 PM - 6:00 PM

E-6. COST-EFFECTIVENESS OF INCREASING CERVICAL CANCER SCREENING COVERAGE AND EFFICIENCY IN LEBANON

Abstracts:

E-1. OPTIMAL INFORMATION ACQUISITION POLICY IN DYNAMIC HEALTHCARE POLICY: APPLICATION TO HCV SCREENING

4:30 PM - 4:45 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: APPLIED HEALTH ECONOMICS

***Lauren E. Cipriano, MS**, Stanford University, Stanford, CA and Thomas A. Weber, PhD, Ecole polytechnique federale de Lausanne, Lausanne, Switzerland*

Purpose: Several recent analyses (e.g., Ann. Intern. Med. 156(4):263, 2012) indicate that universal one-time screening for hepatitis C (HCV) is likely cost-effective for

individuals currently aged 40-60. Since the prevalence of HCV is decreasing with birth-year, screening future cohorts will be less cost effective. Maximizing social value of a HCV screening program requires lifecycle evaluation of its costs and benefits in the presence of the options to continue with or without costly information collection or to terminate the program.

Methods: We apply a Markov decision process framework to evaluate a policy of universal HCV screening. The incremental net monetary benefit of screening a single cohort is linear in the uncertain time-varying parameter, cohort prevalence. We estimated the lifetime cost and benefit of each screening outcome using an HCV natural history model (Liu et al., in prep.), HCV prevalence dynamics using regression to birth-cohort specific prevalence in NHANES, and the cost of information from the US National HIV Behavioral Surveillance System. The willingness-to-pay threshold is assumed $75,000/QALY. Value iteration yields the optimal HCV screening and information collection policy for US men and women.

Results: Without any information collection, the optimal time to stop universal one-time hepatitis C screening is in 36 years (95%CI: 30-41 years) for men and in 15 years (95%CI: 7-21 years) for women. For men, the value of collecting sample information about the HCV prevalence immediately likely does not exceed the cost of collecting information. For women, immediate sampling (n^*_{WOMEN}=2400) increases the expected value of an HCV screening policy from $259.2 million to $261.4 million. However, provided a standing option to collect sample information about prevalence the optimal policy is to screen men and women without information collection for 31 years and 11 years, respectively, and then to collect sample information (n^{**}_{MEN}=2000, n^{**}_{WOMEN}=2250) to inform the next action. The expected value of this strategy is $1.149 billion (cf. $1.145 billion with no information collection) and $265.1 million.

Conclusions: Maximizing social value from a health program, such as HCV screening, requires a complete policy lifecycle analysis. By incorporating the expected prevalence dynamics and solving the problem as a Markov decision process we were able to increase the expected value of an HCV screening program by identifying the optimal time to collect HCV prevalence information.

E-2. COST EFFECTIVENESS OF DIFFERENT INTERVENTIONS FOR TREATING PATIENTS WITH NEWLY-DIAGNOSED DIABETIC MACULAR EDEMA

4:45 PM - 5:00 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: APPLIED HEALTH ECONOMICS

David D. Kim, MS[1]*, Joshua D. Stein, MD, MS*[2]*, Paula Anne Newman-Casey, MD*[2]*, Kristen Harris Nwanyanwu, MD*[2]*, Mark W. Johnson, MD*[2] *and David W. Hutton, PhD*[1]*, (1)University of Michigan School of Public Health, Ann Arbor, MI, (2)University of Michigan, Ann Arbor, MI*

Purpose: To determine the most cost-effective treatment option for patients with newly-diagnosed clinically significant diabetic macular edema (CSDME): focal laser photocoagulation (L), focal laser plus intravitreal triamcinolone (L+T) injections, and intravitreal ranibizumab injections with the focal laser (L+R) or delayed laser with ranibizumab injections (DL+R).

Methods:

We developed a Markov decision analysis model to compare the incremental cost effectiveness ratio (ICER) of treating newly-diagnosed CSDME with L, L+R, DL+R or L+T. The model followed a hypothetical cohort of patients, 57 years of age with CSDME over a 25 year time horizon. Different levels of best corrected visual acuity (BCVA) were used as health states. The distribution of BCVA at the baseline, year 1 and year 2 or later were obtained from a recent DRCRnet randomized controlled trial. We used a societal perspective, measuring direct medical costs of treatment and long-term care of CSDME as well as quality-adjusted life years (QALYs) gained with 3% annual discount rates. Sensitivity analysis was conducted to test uncertainty in the model assumptions.

Results:

Under the base model with the use of ranibizumab, over 25 years the expected cost for a single patient with newly-diagnosed CSDME receiving L, L+R, DL+R, and L+T were $15505, $53750, $56917, and $19369, while the effectiveness were 10.43, 10.83, 10.99, and 9.57 QALYs, respectively. The ICER of DL+R over L was $71271/QALY, L+R over L was $89903/QALY and L dominated L+T. With the use of bevicizumab instead of ranibizumab, The ICER of DL+B over L was $11138/QALY and L continued to dominate L+T. L+B provided fewer QALYs at a higher cost per QALY than DL+B.

Conclusion: An interesting finding from our analysis is the impact of using bevicizumab instead of ranibizumab in the model. Although not approved by the FDA, many providers will treat CSDME using bevicizumab since it is considerably cheaper than ranibizumab ($348 vs. $2337 per injection) and is assumed to have similar efficacy. Given similar effectiveness, the price differential between these two

anti-VEGF agents can have a dramatic impact on the incremental cost effectiveness as observed in our analysis. The risk of cerebrovascular accident would need to be at least 1.5% greater among patients receiving bevicizumab relative to ranibizumab for ranibizumab to become the more cost-effective treatment alternative.

E-3. THE COST-EFFECTIVENESS OF MRI IN THE DIAGNOSIS OF ACUTE APPENDICITIS DURING PREGNANCY: A GUIDE FOR SURGICAL DECISION-MAKING

5:00 PM - 5:15 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: APPLIED HEALTH ECONOMICS

Zachary J. Kastenberg, MD[1], *Michael P. Hurley, MS*[1], *Anna Luan, BS*[1], *Vidya Vasu-Devan, BA*[1], *Douglas K. Owens, MD, MS*[2] *and Jeremy D. Goldhaber-Fiebert, PhD*[1], *(1)Centers for Health Policy & Primary Care and Outcomes Research, Stanford University, Stanford, CA, (2)Veterans Affairs Palo Alto Health Care System and Stanford University, Stanford, CA*

Purpose: Appendicitis is the most common indication for non-obstetric surgery in pregnant women with nearly 10,000 cases of appendicitis during pregnancy occurring annually. Displacement of the abdominal anatomy and the physiological changes of the second and third trimester decrease the accuracy of clinical diagnosis with reported negative appendectomy rates of approximately 40%. Diagnostic laparoscopy, CT, and MRI are the commonly employed strategies to confirm the diagnosis of appendicitis and are assessed here with a cost-effectiveness analysis.

Methods: We developed a decision-analytic Markov model to quantify the health outcomes and costs for the mother and fetus. Pregnant women who were suspected of having appendicitis underwent one of three diagnostic strategies: 1) Diagnostic laparoscopy; 2) MRI scan; 3) CT scan. All women with a positive MRI or CT and all women in the laparoscopy strategy then underwent an appendectomy with the risk of incurring a perioperative complication, including preterm delivery or fetal loss. Finally, due to fetal radiation exposure in the CT strategy, the model included the subsequent health outcomes and costs for children experiencing radiation-associated pediatric cancer. All model inputs were derived from the published literature. The analysis adopted a societal perspective, considering a lifetime horizon, and expressed

outcomes in terms of discounted costs, quality adjusted life years (QALY) for the mother and fetus, and incremental cost-effectiveness ratios.

Results: MRI cost $789 per additional QALY gained compared to diagnostic laparoscopy. The MRI strategy cost less and was more effective than CT when the cost of performing an MRI was below $5,395. In a setting where MRI was unavailable, CT cost $1,264 per QALY gained compared to diagnostic laparoscopy. Unless the prevalence of appendicitis was >98% in the screened population, imaging of any type prior to surgery was more cost-effective than diagnostic laparoscopy.

Conclusions: A high level of clinical diagnostic certainty must be reached prior to proceeding to operation without pre-operative imaging in the pregnant patient given the risks of preterm labor and fetal loss associated with operation. Depending on imaging costs and resource availability, both CT and MRI are potentially cost-effective strategies, with the risk of radiation-induced childhood cancer from CT having little impact on population-level outcomes.

E-4. COST EFFECTIVENESS OF STEREOTACTIC BODY RADIATION THERAPY FOR MEDICALLY OPERABLE STAGE I NON–SMALL CELL LUNG CANCER

5:15 PM - 5:30 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: APPLIED HEALTH ECONOMICS

Malek B. Hannouf[1]*, Richard M. Zur, Ph.D*[1]*, C. Elizabeth McCarron, Ph.D*[1]*, Alexander V. Louie, BSc, MD*[2]*, George B. Rodrigues, MD, FRCPC, MSc*[2] *and Gregory S. Zaric*[1]*, (1)University of Western Ontario, London, ON, Canada, (2)London Regional Cancer Program, London, ON, Canada*

Purpose: Currently, lobectomy (surgical resection) is the treatment of choice for medically operable Stage I non–small cell lung cancer (NSCLC) patients. A growing body of evidence suggests that stereotactic body radiation therapy (SBRT) may be considered as an option for these patients. We sought to investigate the cost effectiveness of using SBRT versus lobectomy for the management of patients with medically operable Stage I NSCLC from the perspective of the Canadian public healthcare system.

Methods: We developed a Markov model to project the lifetime clinical and economic consequences of operable Stage I NSCLC. We considered 12 scenarios

corresponding to male and female patients aged 65 or 70 with minor comorbidity and standard life risk, average comorbidity and light smoking, and major comorbidity and heavy smoking. We assumed that lobectomy is associated with short term postoperative mortality risk and reduction in quality of life. We assumed SBRT is associated with minimal treatment related toxicity and maintenance of quality of life as it has been shown in recent analyses. The model was parameterized using data from clinical trials, 10 year cost data obtained by linking Ontario Cancer Registry with administrative databases in Ontario, and secondary sources. Costs are presented in 2012 CAD. Future costs and benefits were discounted at 5%.

Results: In all scenarios, SBRT led to an increase in quality adjusted life years of survival (QALYs) and a decrease in cost resulting in SBRT being cost saving compared to lobectomy. QALYs gained and cost saving ranged from 0.018 QALY and $25,900 per person for a 65 year old female with minor comorbidities, and up to 0.032 QALY and $26,400 per person for a 70 year old male with major comorbidities and heavy smoking. Results were most sensitive to the changes in the quality of life associated with SBRT.

Conclusions: Our results suggest that SBRT is clinically and economically a promising treatment for patients with operable Stage I NSCLC. These results suggest that SBRT should be considered for adoption for operable Stage I NSCLC. However, ongoing assessment of SBRT effectiveness in real-world Canadian clinical practice is warranted especially with regards to quality of life in these patients.

E-5. A COST-EFFECTIVENESS ANALYSIS OF STATINS FOR PREVENTING CARDIOVASCULAR DISEASE IN PATIENTS WITH CHRONIC KIDNEY DISEASE

5:30 PM - 5:45 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: APPLIED HEALTH ECONOMICS

Kevin F. Erickson, M.D.[1], *Sohan Japa, MBA*[2], *Douglas K. Owens, MD, MS*[3], *Glenn M. Chertow, M.D., MPH*[4], *Alan Garber, MD, PhD*[5] *and Jeremy D. Goldhaber-Fiebert, PhD*[2], *(1)Stanford University School of Medicine, Stanford, CA, (2)Stanford University, Stanford, CA, (3)Veterans Affairs Palo Alto Health Care System and Stanford University, Stanford, CA, (4)Stanford University School of Medicine, Palo Alto, CA, (5)Office of the President and Provost, Cambridge, MA*

Purpose: Patients with chronic kidney disease (CKD) have an elevated risk for myocardial infarction (MI) and stroke. Although HMG Co-A reductase inhibitors ("statins") are effective at preventing cardiovascular (CV) events in patients with non-dialysis-requiring CKD, guidelines conflict on the use of statins in this population. The purpose of this study was to determine the cost-effectiveness of statins for primary cardiovascular prevention in patients with non-dialysis-requiring CKD.

Method: We developed a decision-analytic Markov model. Main outcomes included rates of MI and stroke, discounted quality adjusted life years (QALYs) and life time costs (2010 USD) and associated incremental cost-effectiveness ratios (ICER). Rates of CKD progression were modeled using longitudinal studies of patients with CKD. The possibility of myotoxicity from statins was included in the analysis. Costs of statin therapy included the cost of monthly generic pravastatin along with biannual laboratory monitoring.

Result: For 65 year-olds with mild hypertension and mild-moderate (stage 3) CKD, statin therapy increased lifetime costs in men by $6,210 and in women by $6,855 and led to a gain of 0.12 and 0.07 QALYs in men and women, respectively. Statin therapy reduced the combined rate of MI and stroke, improving outcomes at a cost of $53,085 per QALY for men and $105,788 per QALY in women. The health and economic benefits of statins varied according to age and baseline cardiovascular risk, with the cost per QALY gained higher in younger patients with lower cardiovascular risk.

Conclusion: Use of statins could lead to modest absolute reductions in cardiovascular disease in patients with CKD due to their high underlying risk of cardiac events; however, these gains are partially offset by a modest elevated risk of statin-induced rhabdomyolysis . Statin use in older men with CKD compares favorably to other interventions considered cost effective. In younger men and women with CKD, use of statins is less efficient due to their lower risk of CV events. Statin use is more favorable in all cohorts when low cost generics are available.

E-6. COST-EFFECTIVENESS OF INCREASING CERVICAL CANCER SCREENING COVERAGE AND EFFICIENCY IN LEBANON

5:45 PM - 6:00 PM: Thu. Oct 18, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: APPLIED HEALTH ECONOMICS

Monisha Sharma, ScM[1]*, Muhieddine Seoud, MD*[2] *and Jane J. Kim, PhD*[1]*,*
(1)Harvard School of Public Health, Boston, MA, (2)American University of Beirut Medical Center, Beirut, Lebanon

Purpose: While the estimated age-standardized cervical cancer (CC) rate in Lebanon is relatively low (3.8 per 100,000 women years), most cases are detected at later stages. There is no national organized CC screening program in Lebanon. Rather, screening is opportunistic and limited to women who can afford to pay out-of-pocket for exams. As a result, a small percentage of women receive frequent screening with annual cytology while the majority are never screened. We evaluated the health and economic effects of expanding screening coverage and extending screening intervals in Lebanon.

Method: We used an individual-based Monte Carlo simulation model that simulates the natural history of HPV and cervical disease, as well preventive interventions. Using a likelihood-based approach, we calibrated the model to primary epidemiological data from Lebanon, including CC incidence and HPV type distribution among women with lesions and cancer. Analyses were conducted using the 50 best-fitting parameter sets. We evaluated cytology screening strategies for women aged 25 to 60 years, varying coverage from 20-80% and frequency from annual to every five years. Lifetime costs included direct medical costs associated with screening, diagnosis, and treatment, as well as patient time and transportation. Sensitivity analyses were conducted to explore the effects of screening performance, screening modality, and cost.

Result: Repeated annual cytologic screening among 20% of screen-eligible women reduced CC incidence by only 14% and cost I$52,740 per quality-adjusted life year (QALY) gained, compared to triennial screening of the same population; this far exceeded Lebanon's gross domestic product (GDP) per capita (I$12,610), a common threshold for identifying strategies that are good value for money. Increasing screening coverage to 50% at triennial intervals resulted in a greater CC reduction (26%) and was cost-effective at I$8,040 per QALY. Further raising coverage levels to 70% with triennial screening yielded the highest CC reductions (43%) and was associated with a cost per QALY that fell just below Lebanon's GDP per capita. Increasing coverage of annual cytology was not found to be cost-effective under plausible scenarios.

Conclusion: Current screening practice in Lebanon of repeated cytology in a small percentage of women is very inefficient. Increasing screening coverage to 70% with

extended screening intervals provides greater health benefits at a reasonable cost and will likely lead to more equitable distribution of health gains.

F. RISK AND COST EFFECTIVENESS MODELING

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4:30 PM - 6:00 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Session Chairs:

- *M. Kit Delgado, MD*
- *Matthew S. Simon, MD*

Session Summary:

4:30 PM - 4:45 PM

F-1. COST-EFFECTIVENESS OF PNEUMOCOCCAL CONJUGATE VACCINATION IN THE IMMUNOCOMPROMISED

4:45 PM - 5:00 PM

F-2. SCREEN MORE OR SCREEN MORE OFTEN? USING MATHEMATICAL MODELS TO INFORM SYPHILIS CONTROL STRATEGIES

5:00 PM - 5:15 PM

F-3. COMBINING REGRESSION ANALYSES AND MARKOV MODELS TO INFER AGE-SPECIFIC MORTALITY RATES BY HEPATITIS C INFECTION AND RISK FACTOR STATUS

5:15 PM - 5:30 PM

F-4. COST-EFFECTIVENESS OF MORE FREQUENT HIV SCREENING OF POPULATIONS AT RISK

5:30 PM - 5:45 PM

F-5. AN ALGORITHM FOR STOCHASTICALLY SIMULATING THE CAUSE OF DEATH IN HEART FAILURE PATIENTS

5:45 PM - 6:00 PM

F-6. USING SIMULATED DATA TO VALIDATE BAYESIAN MIXED TREATMENT COMPARISON META-ANALYSIS FOR DIFFERENT EVIDENCE NETWORK PATTERNS AND NUMBERS OF STUDIES

Abstracts:

F-1. COST-EFFECTIVENESS OF PNEUMOCOCCAL CONJUGATE VACCINATION IN THE IMMUNOCOMPROMISED

4:30 PM - 4:45 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: RISK AND COST EFFECTIVENESS MODELING

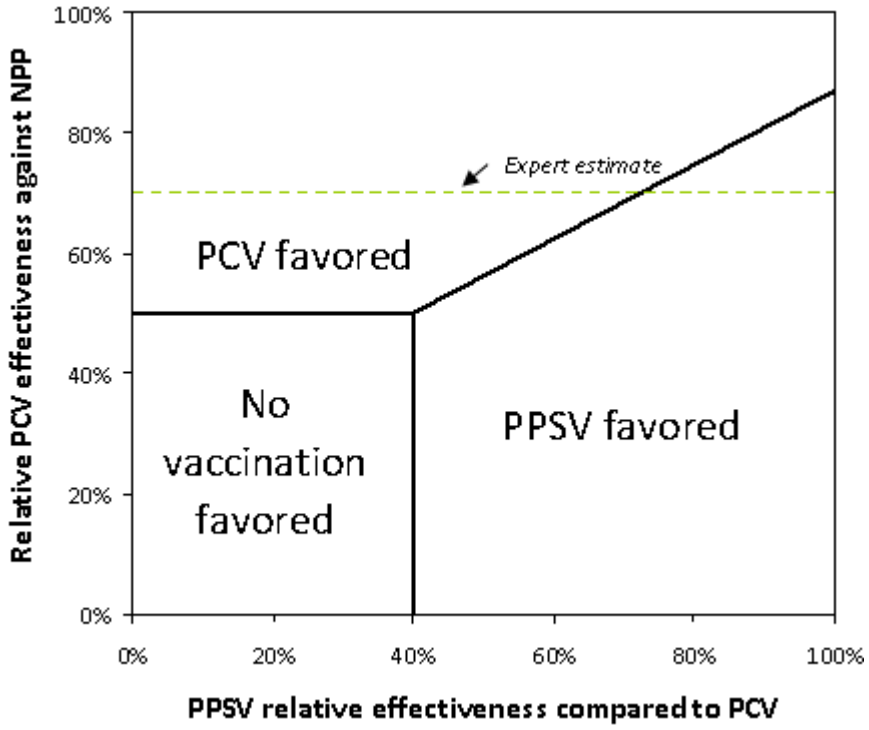
Kenneth J. Smith, MD, MS[1], *M. Patricia Nowalk, PhD*[2], *Mahlon Raymund, PhD*[2] *and Richard K. Zimmerman, MD, MPH*[2], *(1)University of Pittsburgh, Pittsburgh, PA, (2)University of Pittsburgh School of Medicine, Pittsburgh, PA*

Purpose: Pneumococcal disease is a leading cause of mortality and morbidity, particularly in immunocompromised persons, but the currently recommended pneumococcal polysaccharide vaccine (PPSV) has limited effectiveness in this group. Some evidence suggests that the pneumococcal conjugate vaccine (PCV), newly approved for adults and more costly than PPSV, is effective in the immunocompromised, but its cost-effectiveness is unknown.

Method: We used a Markov model to estimate the cost effectiveness of 4 vaccination strategies in immunocompromised persons: no vaccine, a single PPSV, two PPSV doses 5 years apart (the CDC recommendation), and a single PCV. We considered,

over a 15-year time horizon, immunocompromised persons aged 18-64 years (average life expectancy 11.7 years). Pneumococcal disease rates were obtained from US databases, as were childhood vaccination indirect effect projections. PCV effectiveness was estimated by a Delphi expert panel; PPSV protection was modeled relative to PCV effectiveness. In the model, both vaccines prevented invasive pneumococcal disease (IPD), but only PCV prevented nonbacteremic pneumococcal pneumonia (NPP), consistent with published data. Illness costs were obtained from the Nationwide Inpatient Sample and utilities taken from the literature. We used 2006 US costs, took a societal perspective, discounted costs and effectiveness 3%/yr, and used a $100,000/QALY cost-effectiveness criterion.

Result: Compared to no vaccination, PCV cost $70,900/QALY gained if PPSV relative effectiveness compared to PCV was <53%; if PPSV relative effectiveness is >72%, single-dose PPSV was favored. Extended dominance eliminated two-dose PPSV in all analyses. In HIV patients, who have longer life expectancy (22.5 years), PCV was favored unless PPSV effectiveness is >93% of PCV's. A major driver of results was PCV effectiveness against NPP, which is unclear, particularly in the immunocompromised; PCV is not favored in the base case if its NPP effectiveness relative to its IPD effectiveness was ≤49% (expert estimate 70%, dashed line in figure). The Figure depicts a 2-way sensitivity analysis, varying PPSV relative effectiveness (x-axis) and PCV effectiveness against NPP (y-axis). Probabilistic sensitivity analyses supported these results.



Conclusion: PCV in immunocompromised patients appears to be economically reasonable; however, the decision is sensitive to assumptions regarding overall PPSV effectiveness and PCV effectiveness against NPP. PCV is more strongly favored in HIV patients, due to their longer life expectancy. A two-dose PPSV strategy, as recommended by the CDC, is dominated.

F-2. SCREEN MORE OR SCREEN MORE OFTEN? USING MATHEMATICAL MODELS TO INFORM SYPHILIS CONTROL STRATEGIES

4:45 PM - 5:00 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: RISK AND COST EFFECTIVENESS MODELING

***Ashleigh Tuite**, University of Toronto, Toronto, Ontario, Toronto, ON, Canada, Sharmistha Mishra, Imperial College, London, United Kingdom and David N. Fisman, MD, MPH, University of Toronto, Toronto, ON, Canada*

Purpose: We created a mathematical model of syphilis transmission dynamics to inform optimal syphilis screening strategies in urban areas in Ontario, Canada.

Method: Given that the syphilis resurgence among men who have sex with men (MSM) continues despite attempts at heightened screening and testing, we developed an agent-based dynamic model representing a core population of 2,000 MSM, forming a network of sexual contacts along which syphilis transmission can occur. Model parameters describing the epidemiology of the current epidemic and syphilis disease natural history were drawn from Ontario surveillance data supplemented by literature-derived estimates. Model outputs for the pre-intervention period were compared to surveillance data to identify credible simulations. A total of 380 to 405 well-calibrated simulations were used for the analysis of each intervention. Evaluated strategies included: (i) increased frequency of syphilis screening; (ii) increasing coverage of annual syphilis screening; or (iii) a combination of (i) and (ii). Intervention impact was measured as the cumulative incidence of detected and total infectious syphilis cases per year over a 5-year time period.

Result: Model outputs indicated that increasing frequency of syphilis screening to every three months was most effective in reducing reported and total infectious syphilis infections. By contrast, increasing test numbers by increasing the fraction of individuals tested, without increasing test frequency, resulted in no appreciable change in syphilis incidence, as the reduction in the number of infectious individuals,

due to treatment, was counterbalanced by increased infectious syphilis in individuals who had previously had latent (non-infectious) infection.

Conclusion: Our model reproduced the (counterintuitive) persistence of elevated syphilis incidence that has been noted empirically in the face of screening "blitzes" targeting MSM at high risk of infectious syphilis. By contrast, strategies that focus on higher frequency of testing in smaller fractions of the population were more effective in reducing syphilis incidence in a simulated MSM population. These findings highlight how treatment-induced loss of protective immunity creates nuances in screening-based control strategies.

F-3. COMBINING REGRESSION ANALYSES AND MARKOV MODELS TO INFER AGE-SPECIFIC MORTALITY RATES BY HEPATITIS C INFECTION AND RISK FACTOR STATUS

5:00 PM - 5:15 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: RISK AND COST EFFECTIVENESS MODELING

Shan Liu, S.M.[1], *Lauren E. Cipriano, MS*[1] *and Jeremy D. Goldhaber-Fiebert, PhD*[2], *(1)Stanford University, Stanford, CA, (2)Centers for Health Policy & Primary Care and Outcomes Research, Stanford University, Stanford, CA*

Purpose: Nearly 2 million Americans are unaware that they are infected with chronic hepatitis C (HCV). HCV screening and treatment may be more efficient in identifiable subgroups with higher HCV prevalence, especially when coupled with programs to reduce mortality risks from comorbidities. No single study contains data needed to estimate subgroup-specific prevalence of HCV, risk factor status, and mortality risks. We developed a combined modeling approach to infer necessary risk-group-specific mortality rates for chronically HCV-infected U.S. adults.

***Method*:** We used logistic regression to estimate age-, sex-, and race-specific HCV infection and risk-factor prevalence using the 2001-08 National Health and Nutrition Examination Survey (NHANES). We defined high-risk status as prior injection drug use, transfusion before 1992, or >20 lifetime sex partners. We analyzed NHANES III (1988-94) linked mortality data using Cox proportional hazards model to obtain hazard ratios (HR) by sex, race, risk, and HCV infection status. We incorporated these estimates into a Markov model to infer the age-, sex-, race-, risk-, and HCV infection status-specific mortality rates that best fit overall age-specific population mortality rates (2006 life tables).

Result: We estimated HCV antibody prevalence for subgroups above age 40. For example, in 50-59 year-olds, prevalence is higher for blacks (7.3% males; 4.8% females) than for non-blacks (4.9% males; 3.2% females). Depending on subgroup, 15-31% are high-risk, and HCV antibody prevalence is higher for high-risk individuals (11-17%) compared to low-risk individuals (2-3%). Adjusting for age in a multivariate model, all-cause mortality rates are higher in men (HR: 1.3 [1.1-1.7]); blacks (HR: 1.7 [1.5-2.1]); high-risk individuals (HR: 1.4 [1.0-1.9]); and HCV infected individuals (HR: 3.5 [2.0-6.0]). We also estimated that for HCV-infected individuals, 20% of mortality is liver-related. Combining these estimates in a Markov model, we inferred sixteen life tables by sex, race, risk, and HCV infection status. Within each subgroup, the life expectancy of high-risk individuals is up to 3 years shorter; similarly, the life expectancy of chronically HCV-infected individuals is up to 9 years shorter.

***Conclusion*:** Quantifying mortality rates of high-risk HCV-infected individuals permits more accurate estimates of the potential benefits of HCV screening and treatment. With 5% of older Americans infected with HCV, cost-effectiveness analyses of expanded HCV screening and treatment require methods to appropriately quantify differential mortality risks.

F-4. COST-EFFECTIVENESS OF MORE FREQUENT HIV SCREENING OF POPULATIONS AT RISK

5:15 PM - 5:30 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: RISK AND COST EFFECTIVENESS MODELING

Angela Hutchinson, PhD, MPH*[1], *Stephanie Sansom, PhD*[2] *and Paul G. Farnham, Ph.D.*[2], *(1)Division of HIV/AIDS Prevention, Atlanta, GA, (2)Centers for Disease Control and Prevention, Atlanta, GA

Purpose: Recent data showing a high incidence of HIV infection among men who have sex with men (MSM) and other groups at high risk for acquiring HIV suggest that HIV screening more frequently than annually may be warranted. We assessed the cost-effectiveness of HIV screening for MSM, high risk heterosexuals (HRH) and injection drug users (IDUs) at 3 and 6 month intervals compared with annual screening.

Methods: We used a published mathematical model of HIV transmission to evaluate screening intervals for each population using cohorts of 10,000 MSM, HRH and IDU ages 14-64. We incorporated HIV transmissions averted due to serostatus awareness for each screening interval, as well as HIV testing costs and treatment costs saved from averted transmissions. Using surveillance and demographic data, we estimated HIV incidence to be 1.27% for MSM, 0.39% for IDU and 0.08% for HRH and conducted threshold analyses on incidence. We assumed conventional testing and 80% receipt of results.

Results: For MSM, HIV screening was cost-saving for both 6-month compared to annual screening, and quarterly compared to 6-month screening. Threshold values for HIV at which screening MSM was <$100,000 per QALY saved was 0.08% and 0.3% at the 6-month and quarterly screening intervals, respectively. Cost-effectiveness was below $100,000 per QALY saved for screening IDUs and greater than $100,000 per QALY saved for screening HRHs at 6-month intervals. For IDU and HRH the incidence threshold at which 6-month screening was <$100,000 per QALY saved was .12% for IDU and .10% for HRH.

Conclusion: HIV screening as frequently as quarterly for MSM and every 6-months for IDU populations is very cost-effective, while more frequent screening for HRH was greater than $100,000 per QALY saved. Reexamination of HIV screening intervals for MSM and IDU populations should be considered on the basis of the economic evidence. Table: Cost-effectiveness of HIV Screening at Different Intervals for MSM, IDU and HRH

	MSM		IDU		HRH	
	6 months†	Quarterly‡	6 months†	Quarterly‡	6 months†	Quarterly‡
HIV Screening Costs,$	97,300	187,200	93,600	185,300	92,700	184,900
QALYs Saved	10.63	5.31	1.52	.76	.08	.04
HIV Treatment,$ Costs Saved	(606,400)	(305,200)	(86,700)	(43,300)	(30,600)	(15,300)
Incremental Cost per QALY,$	Cost Saving	Cost Saving	4,500	187,000	116,000	633,100

†Compared to annual screening
‡Compared to screening every 6 months

F-5. AN ALGORITHM FOR STOCHASTICALLY SIMULATING THE CAUSE OF DEATH IN HEART FAILURE PATIENTS

5:30 PM - 5:45 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: RISK AND COST EFFECTIVENESS MODELING

Matthew P. Neilson, PhD[1]*, Andrew Briggs, DPhil*[1]*, Wayne C. Levy, M.D., F.A.C.C.*[2] *and Shelby Reed, PhD*[3]*, (1)University of Glasgow, Glasgow, United Kingdom, (2)University of Washington Medical Center, Seattle, WA, (3)Duke Clinical Research Institute, Durham, NC*

Purpose: To develop an algorithm that extends survival probabilities based on the Seattle Heart Failure Model (SHFM) to generate estimates of survival time and mode of death for its integration in a customizable model designed to evaluate the cost-effectiveness of patient-centered interventions for heart failure (TEAM-HF).

Method: The SHFM is a multivariate risk model that has been shown to provide accurate 1-, 2-, and 3-year estimates for the survival of heart failure patients. These estimates are obtained by first calculating a SHFM score, which is based on various demographic, clinical and laboratory characteristics, and then using this score within an exponential hazard function. Since medical costs incurred from sudden cardiac death differ from other non-sudden modes of death, it is desirable to have the capability of accounting for different modes of death in the TEAM-HF model. To accomplish this, we made the immediate modification of declaring a cause-specific hazard function in a competing risks setting. Furthermore, in an effort to obtain more realistic long-term projections, we replaced the standard exponential hazard function with a Gompertz-based hazard function. Model parameters were then calibrated using the pooled data from several randomized trials and prospective cohort studies of heart failure patients.

Result: Our model suggests that the predicted mode of death changes across survival time and SHFM scores. We have integrated this procedure within the TEAM-HF cost-effectiveness model that generates virtual cohorts of patients by sampling sets of patient characteristics from a multivariate distribution, wherein each characteristic is defined in terms of its mean and standard deviation, and the global correlation structure is derived from a known target population. For a particular SHFM score, the model calculates the expected survival time, as well as the conditional and unconditional probabilities of death associated with each cause of death. For simulated patients with a particular SHFM score in the cost-effectiveness model, their mode of death is probabilistically sampled conditional on their randomly sampled survival time within a Monte Carlo framework.

Conclusion: The integration of this survival modeling procedure within the TEAM-HF cost-effectiveness model allows it to more accurately make cost and survival predictions for various heart failure interventions (e.g. implantable cardioverter defibrillators) that may differentially impact a patient's mortality risk and their mode of death.

F-6. USING SIMULATED DATA TO VALIDATE BAYESIAN MIXED TREATMENT COMPARISON META-ANALYSIS FOR DIFFERENT EVIDENCE NETWORK PATTERNS AND NUMBERS OF STUDIES

5:45 PM - 6:00 PM: Thu. Oct 18, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: RISK AND COST EFFECTIVENESS MODELING

Tania Wilkins, MS[1]*, Daniel E. Jonas, MD, MPH*[1]*, Gerald Gartlehner, MD, MPH*[2] *and Srikant Bangdiwala, PhD*[1]*, (1)University of North Carolina, Chapel Hill, NC, (2)Danube University, Vienna, Austria*

Purpose: Bayesian mixed treatment comparison (MTC) meta-analysis is becoming a popular method for use in comparative effectiveness reviews when head-to-head data are limited. The aim of this research was to examine how findings of Bayesian MTC meta-analyses compare when there are different numbers of studies available and for different network patterns.

Method: We used simulated data to examine the Bayesian MTC method's ability to produce valid results for two data scenarios. Each data scenario included four drugs and was constructed by random draws from a binomial distribution, with pre-determined response rates for each drug in the evidence network. Within each data scenario, we sampled a subset of studies to create analysis datasets with a varying number of studies, representing networks where there are one, two, three, five, or ten studies available for each drug comparison. These analysis datasets were created for four common types of network patterns: star, loop, one closed loop, and ladder. We compiled results from 40,000 analyses to generate a distribution of the probability of best treatment under each sample size and network pattern scenario. We compared these distributions to the pre-determined response rates to assess the validity of findings.

Result: Our simulations supported the validity of Bayesian MTC methods for star and ladder network patterns but raised some concerns about one closed loop, and possibly loop, network patterns. Simulations generally found similar results for scenarios when

only one study was available for each comparison and those when more studies (two, three, five, or ten) were available. However, in certain cases, small but statistically significant changes occurred between results when only one study was available for each comparison and those when two or more studies were available.

Conclusion: Our findings raise some concerns about the validity of the results of Bayesian MTC methods for one closed loop, and possibly loop, network patterns. For star and ladder network patterns, our findings support validity. Analyses based on one study for each comparison were usually similar to those based on two or more studies, supporting the use of Bayesian MTC meta-analysis even when data are relatively sparse. Further research is needed to explore additional simulations to determine if our findings are generalizable and to better understand the validity of Bayesian MTC methods under different scenarios.

Friday, October 19, 2012

PRES. PRESIDENTIAL ADDRESS - OPEN TO ALL ATTENDEES

« Previous Session | Next Session »

8:15 AM - 8:45 AM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)

Abstracts:

SMDM: IN QUEST OF QUALITY

8:15 AM - 8:30 AM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: PRESIDENTIAL ADDRESS - OPEN TO ALL ATTENDEES

***Anne M. Stiggelbout, PhD**, Leiden University Medical Center, Leiden, Netherlands*

The history of Medical Decision Making has strong parallels with the history of Quality of Care. I would like to discuss some of these, with a particular emphasis on the role of patient preferences and patient-centeredness. I will illustrate how SMDM as a Society is in continuous search for quality, not only in research (and the impact of its results on health care), but also in the Society's functioning as a professional home for our members.

AWD1. SMDM LEADERSHIP AWARDS - OPEN TO ALL ATTENDEES

« Previous Session | Next Session »

8:45 AM - 9:45 AM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)

Session Summary:

8:45 AM - 9:05 AM

AWD1-1. SMDM CAREER ACHIEVEMENT AWARD

9:05 AM - 9:25 AM

AWD1-2. SMDM EUGENE L. SAENGER AWARD FOR DISTINGUISHED SERVICE

9:25 AM - 9:45 AM

AWD1-3. SMDM JOHN M. EISENBERG AWARD FOR PRACTICAL APPLICATION OF MEDICAL DECISION MAKING RESEARCH

Abstracts:

AWD1-1. SMDM CAREER ACHIEVEMENT AWARD

8:45 AM - 9:05 AM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: SMDM LEADERSHIP AWARDS - OPEN TO ALL ATTENDEES

Annette O'Connor, RN, PhD, FCAHS *, Ottawa Health Research Institute, Ottawa, ON, Canada*

The **Career Achievement Award** recognizes distinguished senior investigators who have made significant contributions to the field of medical decision making. **The 2012 award is presented to Annette O'Connor, RN, PhD, FCAHS, Ottawa Health Research Institute**

AWD1-2. SMDM EUGENE L. SAENGER AWARD FOR DISTINGUISHED SERVICE

9:05 AM - 9:25 AM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: SMDM LEADERSHIP AWARDS - OPEN TO ALL ATTENDEES

***Scott B. Cantor, PhD**, The University of Texas MD Anderson Cancer Center, Houston, TX*

The **Eugene L. Saenger Award for Distinguished Service to SMDM** recognizes service to SMDM in terms of leadership, role in the operations of the Society, and contributions to the scientific and educational activities of the Society. **The 2012 award is presented to Scott Cantor, PhD, University of Texas MD Anderson Cancer Center**

AWD1-3. SMDM JOHN M. EISENBERG AWARD FOR PRACTICAL APPLICATION OF MEDICAL DECISION MAKING RESEARCH

9:25 AM - 9:45 AM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: SMDM LEADERSHIP AWARDS - OPEN TO ALL ATTENDEES

***Michael Drummond, PhD**, University of York, York, United Kingdom*

The **John M. Eisenberg Award for Practical Application of Medical Decision Making Research** recognizes an individual or organization that has demonstrated sustained leadership in translating medical decision making research into practice, and that has taken exceptional steps to communicate the principles and/or substantive findings of medical decision making research to policy makers, to clinical decision makers, and to the general public. **The 2012 award is presented to Michael Drummond, PhD University of York Centre for Health Economics**

SYM2. INVITED SPEAKER SYMPOSIUM: BIOMEDICAL INFORMATICS TO ENHANCE CLINICAL AND PUBLIC HEALTH DECISION MAKING

« Previous Session | Next Session »

10:00 AM - 11:30 AM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Session Chairs:

- *Matthew Scotch, PhD, MPH*

Session Summary:

10:00 AM - 10:01 AM

SYM2-1. BIOMEDICAL INFORMATICS TO ENHANCE CLINICAL AND PUBLIC HEALTH DECISION MAKING

10:01 AM - 10:30 AM

SYM2-2. PUBLIC HEALTH INFORMATICS TO SUPPORT PUBLIC HEALTH DECISION MAKING

10:30 AM - 11:00 AM

SYM2-3. NATURAL LANGUAGE PROCESSING FOR AUTOMATIC COHORT SELECTION

11:00 AM - 11:30 AM

SYM2-4. LABORATORY TO PROMOTE/DEVELOP BETTER USABILITY OF CLINICAL SYSTEMS, INTERFACES, EFFECTIVENESS, AND INCORPORATION OF DECISION SUPPORT FOR IMPROVED CARE COORDINATION AND CONTINUITY

Abstracts:

SYM2-1. BIOMEDICAL INFORMATICS TO ENHANCE CLINICAL AND PUBLIC HEALTH DECISION MAKING

10:00 AM - 10:01 AM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: INVITED SPEAKER SYMPOSIUM: BIOMEDICAL INFORMATICS TO ENHANCE CLINICAL AND PUBLIC HEALTH DECISION MAKING

***Matthew Scotch, PhD, MPH**, Arizona State University, Scottsdale, AZ*

The field of biomedical informatics encompasses the acquisition, management, and analysis of biomedical data, information, and knowledge to improve human health and well-being. Research within this diverse field can include clinical informatics, focusing on the individual patient, and public health informatics, focusing on the population as the patient. In addition, cross-cutting areas such as Natural Language Processing (NLP) can be utilized across these different disciplines to promote problem solving and decision making. This session will discuss various research efforts in biomedical informatics to promote decision making within clinical and public health environments.

SYM2-2. PUBLIC HEALTH INFORMATICS TO SUPPORT PUBLIC HEALTH DECISION MAKING

10:01 AM - 10:30 AM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: INVITED SPEAKER SYMPOSIUM: BIOMEDICAL INFORMATICS TO ENHANCE CLINICAL AND PUBLIC HEALTH DECISION MAKING

***Matthew Scotch, PhD, MPH**, Arizona State University, Scottsdale, AZ*

Public health departments often utilize counts of reported disease cases for surveillance and monitoring . This is especially true for zoonotic diseases, infectious diseases transmittable between animals and humans. As an alternative to this traditional public health data, “translational public health” is a concept that is modeled after translational medicine and the need to translate data from the laboratory bench into knowledge that can be used at the bedside for personalized medicine and clinical decision-making. However, in translational public health, the “patient” is not an individual, but rather the population as a whole. This talk will focus on the potential of translational public health to support public health surveillance and decision making by developing an informatics system that brings sequence data of zoonotic viruses (generated from laboratories) to the forefront of public health decision-making at health departments, agriculture departments, and wildlife agencies. The system will enable these agencies to better understand the spread of disease and risk of transmission between animals and humans.

SYM2-3. NATURAL LANGUAGE PROCESSING FOR AUTOMATIC COHORT SELECTION

10:30 AM - 11:00 AM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: INVITED SPEAKER SYMPOSIUM: BIOMEDICAL INFORMATICS TO ENHANCE CLINICAL AND PUBLIC HEALTH DECISION MAKING

***Graciela Gonzalez** and Soumya Panchanathan, Arizona State University, Scottsdale, AZ*

All medical research starts with the selection of a cohort of patients with the disease or finding of interest. Currently this is done through the selection of appropriate ICD9 and CPT codes, which are discrete data fields in the electronic medical record. However, sole reliance on diagnosis based and procedure related codes for cohort identification leads to missing cases of interest due to the inherent inadequacies and limited scope of these coding tools. Not only do codes not exist for every concept which might be investigated by a clinical researcher, but since these codes are applied within the clinical context for billing purposes, they may be incompletely applied. We present the framework of a natural language processing module (NLP) to extract relevant patient cohorts using the narrative text of pediatric emergency room encounters, and to test the accuracy and expressiveness of the approach to extract cohorts as compared to traditional ICD code-based queries. As a proof of concept, we chose to study concepts that could be coded, as well as those that do not have an existing code. Defining cohorts beyond the limitations of coding could have a profound impact on the development of prevention strategies and health policy initiatives. We will examine the extent to which reliance on ICD 9 and CPT codes for cohort selection under or over-estimates cohort size in clinical research.

SYM2-4. LABORATORY TO PROMOTE/DEVELOP BETTER USABILITY OF CLINICAL SYSTEMS, INTERFACES, EFFECTIVENESS, AND INCORPORATION OF DECISION SUPPORT FOR IMPROVED CARE COORDINATION AND CONTINUITY

11:00 AM - 11:30 AM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: INVITED SPEAKER SYMPOSIUM: BIOMEDICAL INFORMATICS TO ENHANCE CLINICAL AND PUBLIC HEALTH DECISION MAKING

***Robert Greenes, MD, PhD**, Arizona State University, Scottsdale, AZ*

Mayo Clinic is in the process of establishing an "Advanced Development Projects Lab", to serve as an interdisciplinary prototyping, usability testing, and evaluation environment for optimizing clinician performance, satisfaction, and patient safety with advanced electronic tools and workflows. This Mayo Clinic lab will be managed, staffed, and funded through the Mayo Clinic Center for the Science of Healthcare Delivery, with close collaboration with the Center for Innovation, the Clinical Practice Committee, and the Office of Information and Knowledge Management, and with Arizona State University's Department of Biomedical Informatics. Mayo Clinic core EMR vendors will supply software instances as the base upon which to develop prototypes initially, with the intent to expand the system platforms subsequently. Closely coupled with this is a joint ASU-Mayo interoperable app "sandbox" initiative to encourage innovation and support for agile creation and testing of apps that can work with underlying EHR systems and middleware. Examples of the foci of this laboratory will be discussed. Authors: Keith A. Frey, MD, MBA, and Robert A. Greenes, MD, PhD. Dr. Frey is Professor of Family Medicine, Mayo Cliic, Scottsdale, AZ. Dr Greenes is Ira A. Fulton Chair and Professor, Department of Biomedical Informatics, Arizona State University, Scottsdale, AZ.

RFF2. REPORTS FROM THE FIELD 2:

« Previous Session | Next Session »

11:45 AM - 12:45 PM: Fri. Oct 19, 2012
Sundance (Hyatt Regency)

G. RISK COMMUNICATION AND INDIVIDUAL DECISION MAKING EXPERIENCES

« Previous Session | Next Session »

1:00 PM - 2:30 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Session Chairs:

- *Laura D. Scherer, PhD*
- *Danielle R.M. Timmermans, PhD*

Session Summary:

1:00 PM - 1:15 PM

G-1. BLOCKS, OVALS, OR PEOPLE: DOES ICON TYPE IN PICTOGRAPHS INFLUENCE THE CORRELATION BETWEEN PERCEIVED AND ACTUAL RISK?

1:15 PM - 1:30 PM

G-2. WHY DO I KNOW MORE ABOUT THE LOTTO THAN I DO ABOUT MY MEDICATIONS? NUMBERS MATTER TO INFORMED PATIENT CHOICES

1:30 PM - 1:45 PM

G-3. PARENTS' ATTITUDES ABOUT THE USE OF RESIDUAL NEWBORN BLOOD SPOTS FOR RESEARCH

1:45 PM - 2:00 PM

G-4. DOES KEEPING IT SIMPLE ACTUALLY HELP? TESTING THE IMPACT OF THE READING LEVEL OF A DECISION AID ON PROSTATE CANCER DECISION MAKING

2:00 PM - 2:15 PM

G-5. WOMEN'S PREFERENCES REGARDING PRENATAL TESTING FOR A RANGE OF GENETIC DISORDERS OF VARYING SEVERITY

2:15 PM - 2:30 PM

G-6. DETERMINING THE RELATIONSHIP BETWEEN PATIENT LITERACY AND THE DECISION MAKING EXPERIENCE OF PATIENTS WITH PROSTATE CANCER

Abstracts:

G-1. BLOCKS, OVALS, OR PEOPLE: DOES ICON TYPE IN PICTOGRAPHS INFLUENCE THE CORRELATION BETWEEN PERCEIVED AND ACTUAL RISK?

1:00 PM - 1:15 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: RISK COMMUNICATION AND INDIVIDUAL DECISION MAKING EXPERIENCES

Brian J. Zikmund-Fisher, PhD[1], *Holly O. Witteman, PhD*[1], *Mark Dickson, MA*[1], *Andrea Fuhrel-Forbis*[1], *Valerie C. Kahn, MPH*[1], *Nicole L. Exe, MPH*[1], *Melissa Valerio, PhD*[1], *Lisa G. Holtzman, MPH*[1], *Laura D. Scherer, PhD*[2] *and Angela Fagerlin, PhD*[2], *(1)University of Michigan, Ann Arbor, MI, (2)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

Purpose: Over the past 10 years, numerous research studies have demonstrated that icon arrays (also called "pictographs") are an effective method of communicating risk statistics, especially to less numerate and less graphically literate people. Yet almost no research has studied which icons should be used in these arrays. We sought to assess whether icon type affects perceived likelihood, risk recall, and/or preferences.

Methods: We surveyed 1504 people age 35 to 75 from an online panel and had them complete a cardiovascular risk calculator based on Framingham data using their actual age, weight, and other health data. Participants received their risk calculator output in an icon array (as well as numerical form). Icon type was randomly varied between participants from among 6 types: large rectangular blocks (often used in past research), filled ovals, male/female bathroom icons (gender matched to participant), smiley/frowny faces, a head and shoulders grey outline figure, or actual head and shoulder photographs. In this last condition, the photographs showed multiple faces of people of different races (gender matched). Events were shown by blue versus grey icons (blue vs. grey shirt color in the photo condition). We then measured perceived likelihood, perceived risk magnitude, gist recall, and preferences regarding the icon arrays. In addition, we assessed both subjective numeracy and an abbreviated form of graphical literacy.

Results: Correlations between participants' perceived likelihood of heart disease or stroke and the displayed risk information varied from a high of 0.30 for ovals to a low of 0.10 for grey outline figures. Similar patterns were observed for perceived risk magnitude. When controlling for risk level, numeracy, and graphical literacy, gist recall was significantly higher when respondents viewed person-like icons (bathroom icons ($p<0.01$), outline figures ($p<0.06$), or photos ($p<0.02$)) versus blocks. Participants who viewed bathroom icons and photos gave higher graph preference ratings than participants viewing blocks.

Conclusions: Icon type can significantly alter people's responses to risk information presented in pictographs. While person-like icons resulted in better recall and generally higher preference ratings, ovals resulted in higher correlations between perceived likelihood and the presented risk information. More research is clearly needed before definitive guidance can be provided to risk communicators and decision aid developers regarding which icons are most effective.

G-2. WHY DO I KNOW MORE ABOUT THE LOTTO THAN I DO ABOUT MY MEDICATIONS? NUMBERS MATTER TO INFORMED PATIENT CHOICES

1:15 PM - 1:30 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: RISK COMMUNICATION AND INDIVIDUAL DECISION MAKING EXPERIENCES

Ellen Peters, PhD[1]*, P. Sol Hart, M.S.*[2]*, Martin Tusler, M.A.*[1] *and Liana Fraenkel, MD, MPH*[3]*, (1)Ohio State University, Columbus, OH, (2)American University, School of Communication, Washington, DC, (3)Yale School of Medicine, New Haven, CT*

Purpose: To determine how people who differ in numeracy and age perceive risks and report intentions to use a prescribed medication when presented with numeric and/or non-numeric information about the likelihood of side effects.

Methods: An internet sample of 1,527 participants was given side-effect information in one of six formats (the list format used in the US, verbal labels recommended in Europe, percentage, frequency, verbal labels plus percentage, verbal labels plus frequency). They responded to two risk perception questions, one likelihood-to-take-the-drug question on a 7-point scale, and stated the main reason for their likelihood rating.

Results: Given non-numeric risk information, 70-80% of participants overestimated risks compared to12-37% in numeric conditions. Non-numeric participants also reported being less likely to take the medication than numeric participants. Those in the US-list condition, in particular, were more likely to state that the rare severe side effect was the main reason for their likelihood rating than other participants who were more likely to state that side effects were neither likely nor severe. Of import, differences between numeric and non-numeric formats were greater for the highly numerate, but were also shown by the less numerate–an unexpected finding based on prior speculation. Age differences existed, with less numerate older adults not showing the same numeric advantage. Providing verbal labels (common, rare) with numeric information attenuated numeracy differences and reduced risk overestimation compared to all other conditions.

Conclusions: The US-list format for presenting side effects led to the greatest risk overestimation and focus on severe side effects relative to all other tested formats. The provision of risk in numeric formats compared to non-numeric ones had similar effects across numeracy levels. However, the effect of providing numbers may be more problematic for older less numerate adults, perhaps due to lower comprehension of numbers or number meaning or increased anxiety in the presence of unfamiliar numbers. Overall, this study revealed that providing numeric plus verbal likelihoods for side effects in decision aids and patient medication information is likely to generate more accurate risk perceptions across numeracy and age groups, which in turn may lead to better health outcomes. More research is needed to better understand how less numerate older populations react to the provision of numeric information.

G-3. PARENTS' ATTITUDES ABOUT THE USE OF RESIDUAL NEWBORN BLOOD SPOTS FOR RESEARCH

1:30 PM - 1:45 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: RISK COMMUNICATION AND INDIVIDUAL DECISION MAKING EXPERIENCES

***Kristin S. Hendrix, PhD**, Aaron E. Carroll, MD, MS, Eric M. Meslin, PhD and Stephen M. Downs, MD, MS, Indiana University School of Medicine, Indianapolis, IN*

Purpose: Ethical and policy considerations are associated with the research use of residual dried blood spots (DBS) collected as part of nationwide mandatory newborn screening. The objective of this study is to quantify the relative importance of the following considerations to parents' attitudes about the research use of their children's residual DBS: 1) who is conducting the research; 2) whether the child's identity is linked to his/her DBS; and 3) whether consent is sought from parents for the research.

Method: Survey respondents rated the acceptability of 13 hypothetical research scenarios involving the use of DBS samples in which several factors were systematically varied, including: whether university researchers or a drug company would be conducting the research using the DBS; whether their child's identity would be linked to the DBS; and whether the caregivers' consent would be sought before the research began, and if so, whether that consent would be sought only one time for all research involving the DBS or sought for each and every study using their child's DBS. Eligible respondents were 18 or older, fluent in English, and primary caregiver to at least one child under 17 years old born in Indiana.

Result: The sample (N=506) included caregivers 18-60 years old, who were predominantly mothers. Full-profile ratings-based conjoint analysis indicates strong model fit (Pearson's R=.998, p<.001). Consent emerged as the most important factor in caregivers' ratings of acceptability of scenarios presented in the survey (importance score=64.9). Second most important in acceptability ratings was whether their child's identity was linked to the DBS (importance score=19.4), followed by the researcher who would be using their child's DBS (importance score of=14.6). Part-worth utilities show that respondents preferred being asked for their consent for each study in which their child's DBS would be used, that the child's identity not be linked the DBS, and that the researchers be from a university.

Conclusion: This research quantifies the relative importance of factors impacting what caregivers' consider acceptable/unacceptable parameters for using their

children's DBS in research. Consent emerged as the most important factor driving attitudes in this study. Entities overseeing the storage of residual DBS, researchers intending to use DBS, as well as policymakers should consider adopting consent protocols.

G-4. DOES KEEPING IT SIMPLE ACTUALLY HELP? TESTING THE IMPACT OF THE READING LEVEL OF A DECISION AID ON PROSTATE CANCER DECISION MAKING

1:45 PM - 2:00 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: RISK COMMUNICATION AND INDIVIDUAL DECISION MAKING EXPERIENCES

Angela Fagerlin, PhD[1], *Margaret Holmes-Rovner, PhD*[2], *David Rovner, MD*[3], *Stewart Alexander, PhD*[4], *Valerie Kahn, MPH*[5], *Sara J. Knight, PhD*[6], *Bruce Ling, MD, MPH*[7], *James A. Tulsky, MD*[4], *Julie E. Tobi, MA*[5] *and Peter A. Ubel, MD*[4], *(1)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI, (2)Center for Ethics, E. Lansing, MI, (3)Michigan State University College of Human Medicine, East Lansing, MI, (4)Duke University, Durham, NC, (5)University of Michigan, Ann Arbor, MI, (6)San Francisco VA Medical Center, San Francisco, CA, (7)University of Pittsburgh, Pittsburgh, PA*

Purpose: To compare the impact of a plain language versus a higher reading level decision aid for localized prostate cancer on patients' knowledge, preference for shared decision making, perceived patient-physician communication, and treatment choice.

Methods: 1015 men were recruited from 4 VA hospitals, either before or after receiving a prostate biopsy because of suspicion of prostate cancer. Men were randomized to either receive a plain language decision aid (7th grade reading level) or a higher reading level decision aid (12th grade reading level). Participants completed measures at three time periods: biopsy (Time 1), immediately before receiving their cancer diagnosis (Time 2), and one week following diagnosis (Time 3). Only those patients with a positive biopsy result indicating localized prostate cancer (PSA<20, Gleason score of 6 or 7) were eligible to complete Time 2 and 3 measures (N = 335).

Results: Participants receiving the plain language decision aid showed higher knowledge at Time 2 (64% correct vs. 57% correct; F=11.7, p=0.001), were more interested in shared decision making at Time 2 (2.53 vs. 2.35, F=6.37, p<0.02), and were more interested in active surveillance prior to talking with their doctor (Time 2: 43.0% vs. 30.6%, p<0.05) compared with those receiving a higher reading level decision aid. There were no differences between groups in treatment preferences after speaking with their doctor (Time 3) or the treatment they actually received (determined by medical record review).

Conclusions: Although developing plain language decision aids is an expensive and time-consuming task, it has significant impact on patients' initial treatment preferences and key components of the decision making process. Between the time that the patient read the decision aid and when he found out his diagnosis, those with the plain language decision aid were more interested in shared decision making and in less invasive treatments. They also had a more positive perception of the decision aid. These results suggest that using plain language principles in designing decision aids has important implications for medical decision making.

G-5. WOMEN'S PREFERENCES REGARDING PRENATAL TESTING FOR A RANGE OF GENETIC DISORDERS OF VARYING SEVERITY

2:00 PM - 2:15 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: RISK COMMUNICATION AND INDIVIDUAL DECISION MAKING EXPERIENCES

Miriam Kuppermann, PhD, MPH[1], *Bogdana Kovshilovskaya*[1] *and Mary E. Norton, MD*[2], *(1)University of California, San Francisco, San Francisco, CA, (2)Stanford University, Stanford, CA*

Purpose: An ever-increasing number of genetic tests are clinically available. Typically, disease incidence and severity, as well as the availability of an effective screening test, will culminate in "expert opinion" that testing for a given disorder should be recommended on a population basis, with no incorporation of evidence regarding the preferences of the target population. We sought to assess the perspective of reproductive-aged women regarding testing for several categories of genetic disorders.

Method: We interviewed women who had given birth to healthy infants within the past year. Sociodemographic information was collected by questionnaire, and preferences (utilities) for potential outcomes of prenatal testing for Down syndrome (DS), Fragile X (FraX), cystic fibrosis (CF), spinal muscular atrophy (SMA), phenylketonuria (PKU) and congenital heart defects (CHD) were elicited using the time trade-off metric. We also assessed attitudes toward screening tests, diagnostic tests and termination for affected pregnancies in the context of each of these conditions.

Result: 95 women aged 21 to 48 years participated, of whom 60% were Caucasian, 23% were Asian, 10% were Latina and 7% were African American. Most of the participants (82%) were college graduates. Most participants indicated that they would opt to have a screening test for each of these conditions (95-98% depending on the specific test), and the majority also indicated that they would have amniocentesis (64% for PKU to 72% for SMA). Inclinations regarding pregnancy termination varied substantially by condition: while only 10% of the participants indicated they would choose to terminate a pregnancy for CHD, 41% would be inclined to do so for DS and 62% for SMA. Utilities for having a child with these conditions ranged from 0.42 for SMA to 0.70 for CHD.

Conclusion: While most women in this cohort would choose to undergo screening for all of the conditions we presented to them, the majority would do so without intent to terminate an affected pregnancy. Women view treatable disorders (PKU, CHD) as preferable to those associated with intellectual disability (DS, FraX). Lethal disorders (SMA) or medical disorders with shortened life expectancy (CF) had the lowest utility. Data on preferences and utilities collected from diverse populations should be incorporated into policy decisions regarding prenatal genetic screening.

G-6. DETERMINING THE RELATIONSHIP BETWEEN PATIENT LITERACY AND THE DECISION MAKING EXPERIENCE OF PATIENTS WITH PROSTATE CANCER

2:15 PM - 2:30 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: RISK COMMUNICATION AND INDIVIDUAL DECISION MAKING EXPERIENCES

*Valerie C. Kahn, MPH[1], Peter A. Ubel, MD[2], Margaret Holmes-Rovner, PhD[3], David Rovner, MD[4], Stewart Alexander, PhD[2], Sara J. Knight, PhD[5], Bruce Ling, MD, MPH[6], James A. Tulsky, MD[2], Julie E. Tobi[1] and **Angela Fagerlin, PhD**[7],*

(1)University of Michigan, Ann Arbor, MI, (2)Duke University, Durham, NC, (3)Center for Ethics, E. Lansing, MI, (4)Michigan State University College of Human Medicine, East Lansing, MI, (5)San Francisco VA Medical Center, San Francisco, CA, (6)University of Pittsburgh, Pittsburgh, PA, (7)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI

Purpose: To determine the relationship between patient literacy level and anxiety, knowledge, preference for shared decision making, perceived patient-physician communication, and treatment choice.

Method: 1015 men undergoing a prostate biopsy were recruited from 4 VA hospitals either before or after receiving their biopsy, as a part of a study examining prostate cancer decision aids. Participants completed measures at 3 timepoints: biopsy (Time 1), immediately before receiving their cancer diagnosis (Time 2), and one week post-diagnosis (Time 3). Only patients with positive biopsy results indicating localized cancer were eligible to complete Time 2 and 3 measures (N=335). Literacy was measured using the Rapid Estimates of Adult Literacy in Medicine (REALM).

Result: 72.6% of participants were classified as having adequate literacy ($\geq 9^{th}$ grade reading level), while 27.4% were classified as having inadequate literacy ($\leq 8^{th}$ grade reading level). Participants with inadequate literacy had higher levels of anxiety at each timepoint (p's<0.01) and had marginally lower knowledge at Time 2 (57% correct vs. 62% correct; p=0.09). Participants with inadequate literacy were less interested in shared decision making at Time 1 (2.25 vs. 2.38; p<0.01), but this difference disappeared after they received a decision aid (Times 2 and 3), with their interest in shared decision making increasing over time (M's = 2.25, 2.42, 2.50). Before meeting with their urologist, participants with inadequate literacy were less interested in active surveillance (23.8% versus 41.8%; p<0.02) and more interested in surgery (55.6% versus 37.5%; p<0.04), compared to those with adequate literacy. There were no differences between groups in treatment preferences after patients had spoken with their urologists (Time 3), nor in the treatment they ultimately received (determined via medical records). Participants' perception of the quality of patient-physician communication did not differ by literacy level.

Conclusion: These results demonstrate that patient literacy is related to patients' decision making experiences. Patients with inadequate literacy exhibited higher anxiety, were initially less interested in shared decision making, and were more likely to prefer more invasive treatment. These results suggest that patients with varying literacy levels may experience the decision making process differently. These results highlight the need for decision aids that are written with lower literacy readers in

mind and suggest that lower literacy patients may need additional services to help them during the decision making process.

H. METHODS FOR COMPARATIVE EFFECTIVENESS RESEARCH

« Previous Session | Next Session »

1:00 PM - 2:30 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Session Chairs:

- *Bruce R. Schackman, PhD*
- *Lisa A. Prosser, M.S., Ph.D.*

Session Summary:

1:00 PM - 1:15 PM

H-1. INFORMING CONSUMERS CHOICE OF HIGH QUALITY FACILITIES FOR ELECTIVE SURGERY: COMPARING HEALTH PLAN CENTERS-OF-EXCELLENCE DESIGNATIONS WITH PUBLICLY REPORTED QUALITY METRICS

1:15 PM - 1:30 PM

H-2. META-ANALYSIS OF REAL-WORLD STUDIES OF INITIATING INSULIN GLARGINE VIA DISPOSABLE PEN VERSUS VIAL/SYRINGE AMONG PATIENTS WITH TYPE 2 DIABETES: APPLYING A COMMON DATA STRUCTURE TO A UNIQUE EVIDENCE SYNTHESIS PLATFORM

1:30 PM - 1:45 PM

H-3. A PNEUMONIA MORTALITY MODEL BASED ON HIGHLY DETAILED ADMINISTRATIVE DATA

1:45 PM - 2:00 PM

H-4. WHY THE FINDINGS OF PUBLISHED BIOLOGIC TREATMENT FOR RHEUMATOID ARTHRITIS MULTIPLE TREATMENT COMPARISON META-ANALYSES ARE DIFFERENT: AN OVERVIEW OF RECURRENT METHODOLOGICAL SHORTCOMINGS

2:00 PM - 2:15 PM

H-5. AN INTEGRATED APPROACH TO EVALUATING ALTERNATIVE RISK PREDICTION STRATEGIES: A CASE STUDY COMPARING ALTERNATIVE APPROACHES FOR PREVENTING INVASIVE FUNGAL DISEASE

2:15 PM - 2:30 PM

H-6. BARIATRIC SURGERY: A SYSTEMATIC REVIEW AND META-ANALYSIS, 2003-PRESENT

Abstracts:

H-1. INFORMING CONSUMERS CHOICE OF HIGH QUALITY FACILITIES FOR ELECTIVE SURGERY: COMPARING HEALTH PLAN CENTERS-OF-EXCELLENCE DESIGNATIONS WITH PUBLICLY REPORTED QUALITY METRICS

1:00 PM - 1:15 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: METHODS FOR COMPARATIVE EFFECTIVENESS RESEARCH

*Jennifer Schneider Chafen, M.D., M.S.[1], Daniella J. Perlroth, MD[2], Cathie Markow, MBA, RN[1] and **Dena M. Bravata, MD, MS**[1], (1)Castlight Health, San Francisco, CA, (2)Stanford University, Stanford, CA*

Purpose: Health plans are increasingly offering procedure-specific hospital designations (e.g., Centers-of-Excellence [COE]) to signify high quality care. Further, many self-insured employers are instituting benefit designs to incentivize employees to preferentially utilize these centers. Consumers often seek publicly

available quality information when choosing a facility for elective surgical procedures. If these data conflict with COE designations, consumer confusion could increase. The purpose of this study is to evaluate the publicly reported quality metrics for facilities designated as COEs.

Methods: We evaluated two publicly-reported quality metrics from the healthcare.gov consumer website on patient satisfaction and surgical safety practices for COE-designated facilities for a self-insured employer for five elective surgical procedures (hip replacement, knee replacement, spinal fusion, disc surgery, and bariatric surgery). The patient satisfaction measure used was the percent of patients responding "would definitely recommend this hospital" on the 2011 Hospital Consumer Assessment of Healthcare Providers and Systems [HCAHPS] survey. We only included those facilities in the HCAHPS evaluation if at least 100 patients responded to the survey. The surgical safety measure was a weighted composite score from the 2011 Surgical Care Improvement Project [SCIP]. We only included those facilities in the SCIP composite measure evaluation if at least 30 patients provided data for at least 7 out of 9 measures.

Results: 3,089 facilities met inclusion criteria for the HCAHPS comparison. 25% of the COEs for all five procedures were in the 0-25th percentile of patient satisfaction (range: 8% for disc surgery to 50% for bariatric surgery). 4% of the COEs for all five procedures were in the 95th-100th percentile (range: 0% for bariatric surgery to 6% for disc surgery and hip replacement). 2,455 facilities met inclusion criteria for the SCIP composite score. 1% of disc surgery and spinal fusion COEs and 11% of bariatric surgery COEs were in the 0-5th percentile. None of the bariatric surgery COEs and 9% of spinal fusion COEs were above the 95th percentile.

Conclusions: Health plan COE designations are inconsistent with publicly reported quality metrics—with some COEs performing among the worst facilities in the US. To avoid consumer confusion, employers implementing COE programs should carefully communicate with their employees about how the COEs are selected and how best to incorporate COE designations and publicly reported quality metrics in their decision making.

H-2. META-ANALYSIS OF REAL-WORLD STUDIES OF INITIATING INSULIN GLARGINE VIA DISPOSABLE PEN VERSUS VIAL/SYRINGE AMONG PATIENTS WITH TYPE 2 DIABETES: APPLYING A COMMON DATA STRUCTURE TO A UNIQUE EVIDENCE SYNTHESIS PLATFORM

1:15 PM - 1:30 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: METHODS FOR COMPARATIVE EFFECTIVENESS RESEARCH

W. Wei[1]*, J. Frimpter*[1]*, K. Edwardson*[2]*, D. Mitchell*[1] *and MG Savella*[2]*, (1)Sanofi US, Bridgewater, NJ, (2)Doctor Evidence, LLC, Santa Monica, CA*

Purpose: To synthesize real-world evidence on outcomes among patients with type 2 diabetes mellitus (T2DM) who initiated insulin glargine via disposable pen versus vial/syringe.

Method: We performed a meta-analysis of previously reported retrospective studies conducted in 4 different databases with a common data structure framework (consistently defined study design and measures). All four studies included adult T2DM patients previously treated with oral anti-diabetes drugs and/or glucagon-like peptide-1 therapy only, who initiated insulin glargine via disposable pen (GLA-P) or vial/syringe (GLA-V) between 2007 and 2009. All patients had to have continuous health plan enrollment 6 months prior to insulin initiation (baseline), and 12 months after (follow-up). In each study, baseline differences between GLA-P and GLA-V patients were balanced using stringent 1:1 propensity score matching. Study measures defined consistently across all four studies included 1-year follow-up treatment persistence and adherence, healthcare utilization, and hypoglycemia events. Data was analyzed with random effects modeling, using a unique evidence synthesis platform (Doctor Evidence®, Santa Monica, CA), with I^2 to indicate degree of heterogeneity across studies.

Result: A total of 22,234 patients were pooled, and baseline characteristics for GLA-P (N=11,117) and GLA-V (N=11,117) patients were similar across each individual study. During 1 year follow-up, GLA-P patients were 25% more likely to be persistent (39.5% vs. 31.5%, $p<0.0001$, relative risk (RR) = 1.25, 95% Confidence Interval (CI) 1.15-1.37, $I^2 = 85.7\%$) and adherent (mean difference = 0.04, 95% CI 0.03-0.05; $I^2 = 10.24\%$), averaging an additional 30.3 days on treatment (95% CI 21.64-38.99; $I^2 = 81.8\%$). GLA-P patients were also 24% less likely to have hypoglycemic events (6.4% vs 8.5%; RR=0.76, 95% CI 0.69-0.83; $I^2 = 0\%$) and 15% less likely to have hospital visits (21.7% vs 25.7%; RR=0.85, 95% CI 0.81-0.89; $I^2 = 22.61\%$), but 26% more likely to have endocrinologist visits (22% vs. 17%, RR=1.26, 95% CI 1.1-1.45; $I^2 = 83.76\%$). Heterogeneity varied across analyses. Sensitivity analyses yielded consistent results with the primary analysis.

Conclusion: This meta-analysis supports previous findings from individual studies, suggesting improved outcomes associated with disposable pen versus vial/syringe for

T2DM patients initiating insulin glargine therapy. Additionally, application of a common data structure across studies, combined with the unique evidence synthesis platform, enables reliable pooling of retrospective database studies and facilitates synthesis of real-world evidence.

H-3. A PNEUMONIA MORTALITY MODEL BASED ON HIGHLY DETAILED ADMINISTRATIVE DATA

1:30 PM - 1:45 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: METHODS FOR COMPARATIVE EFFECTIVENESS RESEARCH

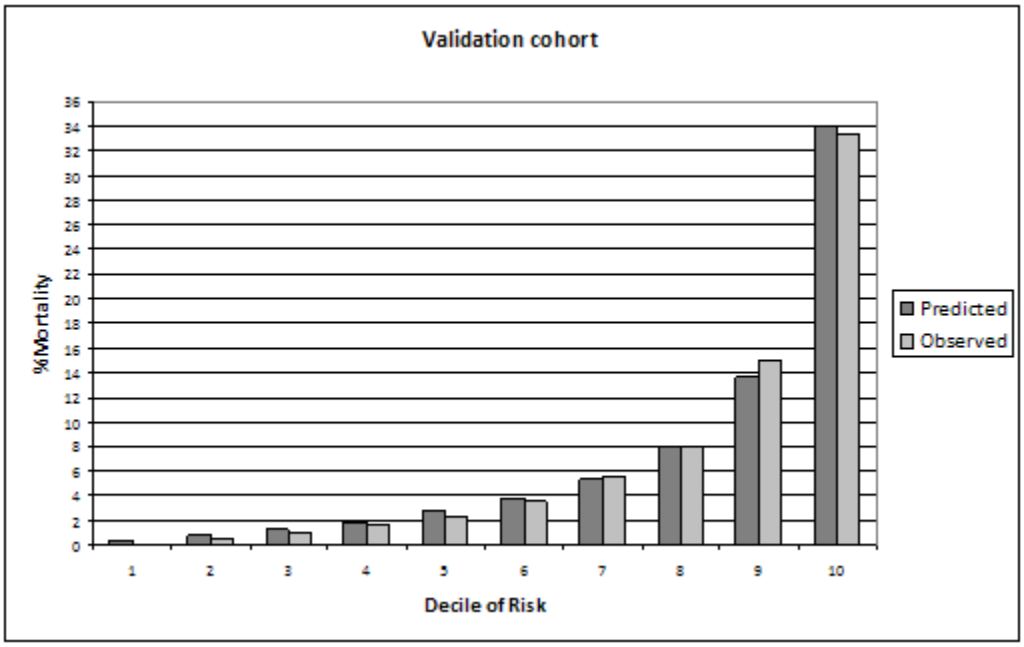
Michael Rothberg, MD, MPH[1], *Penelope Pekow, PhD*[2], *Aruna Priya, MA, MSc*[2], *Marya Zilberberg, MD, MPH*[3], *Raquel Belforti, DO*[2], *Richard Brown, MD*[2], *Daniel Skiest, MD*[2] *and Peter K. Lindenauer, MD, MSc*[2], *(1)Department of Medicine, Springfield, MA, (2)Baystate Medical Center (Tufts University), Springfield, MA, (3)University of Massachusetts, Amherst, MA*

Purpose: Clinical prediction instruments generally incorporate clinical data, whereas models derived from administrative data make use of information coded at discharge. We constructed a mortality model derived from highly detailed administrative data acquired during the first 48 hours of admission.

Methods: Our dataset included information on all patients aged ≥18 years with a principal diagnosis of pneumonia or a secondary diagnosis of pneumonia paired with a principal diagnosis of sepsis, respiratory failure/arrest or influenza, who were admitted between 07/01/07 and 06/30/10 to 347 hospitals that participated in Premier's Perspective database. The dataset was divided into a derivation and validation set. We derived an HGLM inpatient mortality model that included patient demographics, co-morbidities, acute and chronic medications, therapies and diagnostic tests administered in the first 48 hours of admission as well as interaction effects. The final model was applied to the validation set.

Results: The dataset included 200,870 patients in the derivation cohort and 50,037 patients in the validation cohort. In the final multivariable model, 3 demographic factors, 27 comorbidities, 40 medications, 8 diagnostic tests and 10 treatments within the first 48 hours were associated with mortality. The strongest predictors of mortality were early vasopressors (OR 1.79), early non-invasive ventilation (OR 1.59), and early bicarbonate treatment (OR 1.70). The model had a c-statistic of 0.85

in both the derivation and validation cohorts. In the validation cohort, deciles of predicted risk ranged from 0.4% to 33.9% with observed risk over the same deciles from 0.1% to 33.4%.



Conclusions: A multivariable mortality model based on highly detailed administrative data available during the first 48 hours of hospitalization had good discrimination and calibration. The model could be used for risk-adjustment in observational studies.

H-4. WHY THE FINDINGS OF PUBLISHED BIOLOGIC TREATMENT FOR RHEUMATOID ARTHRITIS MULTIPLE TREATMENT COMPARISON META-ANALYSES ARE DIFFERENT: AN OVERVIEW OF RECURRENT METHODOLOGICAL SHORTCOMINGS

1:45 PM - 2:00 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: METHODS FOR COMPARATIVE EFFECTIVENESS RESEARCH

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

Purpose: To methodologically review the published literature on rheumatoid arthritis multiple treatment comparison meta-analysis (MTCs). To identify methodological issues that can explain the substantial discrepancies in the findings of these MTCs.

Methods: We searched MEDLINE for rheumatoid arthritis multiple treatment comparisons. Following the PRISMA guidelines, we extracted a large set of methodological items from the identified reviews. These included, but were not limited to, inclusion/exclusion criteria, information sources (e.g., MEDLINE), choice of efficacy outcomes, approaches to dealing with differing response profiles to available treatments (e.g., DMARD-naïve vs DMARD inadequate response (IR)), approaches to monotherapies versus combination therapies, and approaches to dealing with potential covariate effect modifiers (i.e., sources of heterogeneity).

Results: We identified 13 published MTC, of which 9 were published since 2009. We identified major discrepancies in the estimated treatment effects across MTCs. For example, some treatments with almost identical effect estimates in one MTC could be significantly different in another. We identified major discrepancies in the inclusion of trials, despite highly similar eligibility criteria and literature searches. The number of included trials was typically much smaller than number of eligible trials at the time of publication. Six MTCs included patients of differing response profiled, and 3 of these inappropriately lumped DMARD-naïve and DMARD-IR patients in the analyses. Eight MTCs included considered both patients mono-therapy and combination therapy (ie, concomitant DMARD), but only 4 adjusted for the potential effect modification of giving concomitant DMARD Approximately half of the identified MTCs did not explore potential sources of heterogeneity. Among those that did, the explored sources were inconsistent. Lastly, most MTC only included one or two efficacy outcomes (e.g., ACR50) and only two considered health related quality of life outcomes (e.g., HAQ and DAS)

Conclusions: Major inconsistencies exist in the findings of published rheumatoid arthritis MTCs. The identified methodological shortcomings and inconsistencies may explain these inconsistencies. Further, there are many lessons to be learned from the identified shortcomings and the previous publications which can potentially strengthen the evidence base on comparative effectiveness between biologics for the treatment of rheumatoid arthritis.

H-5. AN INTEGRATED APPROACH TO EVALUATING ALTERNATIVE RISK PREDICTION STRATEGIES: A CASE STUDY COMPARING ALTERNATIVE APPROACHES FOR PREVENTING INVASIVE FUNGAL DISEASE

2:00 PM - 2:15 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: METHODS FOR COMPARATIVE EFFECTIVENESS RESEARCH

M.Z. Sadique, PhD[1]*, Richard Grieve, PhD*[1]*, D.A. Harrison, PhD*[2]*, Mark Jit, PhD*[3]*, Elizabeth Allen, PhD*[4] *and K. Rowan, PhD*[2]*, (1)London School of Hygiene and Tropical Medicine, London, United Kingdom, (2)Intensive Care National Audit & Research Centre, London, United Kingdom, (3)Health Protection Agency, London, United Kingdom, (4)London School of Hygiene & Tropical Medicine, London, United Kingdom*

Purpose: Health care interventions are often targeted using risk prediction models. However, there is a lack of work, that both develops and evaluates the cost-effectiveness of alternative risk prediction strategies, within a single study. This paper develops new risk prediction models, and evaluates whether using the risk models in prevention strategies is cost-effective. We illustrate this approach in the Fungal Infection Risk Evaluation (FIRE) study, which developed and validated risk models to identify non-neutropenic, critically ill adult patients at high risk of invasive fungal disease (IFD).

Method: A decision-analytical model was developed to compare alternative strategies to prevent IFD. The alternative prevention strategies, comprised assessment according to predicted risk of IFD at up to three decision time points (critical care admission, after 24 hours, end of day 3), with antifungal prophylaxis for those judged 'high' risk according to three thresholds, versus no formal risk assessment or prophylaxis, which is UK current practice. Data on risk factors were available for 54,289 eligible admissions to 96 UK adult, general critical care units. Risk models were developed and validated to predict the risk of IFD before hospital discharge. The decision model was populated with estimates of positive predictive value (PPV) and negative predictive value (NPV) from the best fitting risk model at each time point. Estimates of the effectiveness of antifungal prophylaxis were taken from a systematic review of published RCTs. We projected lifetime cost-effectiveness and the value of further information for groups of parameters (VOPPI).

Result: The baseline risk of IFD was low (0.4%). The best fitting prognostic model, gave PPVs and NPVs that varied across strategies from 0.57%-1.94% and 99.65%-99.95% respectively. Incremental Quality-Adjusted Life Years (QALY) of the risk assessment strategies compared with current practice were positive but small, versus incremental costs. Current practice was the strategy with the highest probability of being cost-effectiveness (between 40%-80%). The VOPPIs were relatively high for PPV or NPV (£4m-£13m) and QALYs (£4m-£12m).

Conclusion: It is effective but not cost-effective to formally assess the risk of IFD for non-neutropenic, critically ill adult patients, but the value of further research is high.

This integrated approach to developing, and evaluating risk models within the same study is useful for informing clinical practice and future research investment. Grant Acknowledgement: NIHR Health Technology Assessment Programme

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H-6. BARIATRIC SURGERY: A SYSTEMATIC REVIEW AND META-ANALYSIS, 2003-PRESENT

2:15 PM - 2:30 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: METHODS FOR COMPARATIVE EFFECTIVENESS RESEARCH

Su-Hsin Chang, PhD[1], *Carolyn R.T. Stoll, MPH, MSW*[1], *Jihyun Song, PhD*[1], *Esteban J. Varela, MD*[2], *Christopher J. Eagon, MD*[2] *and Graham A. Colditz, MD, DrPH*[1], *(1)Division of Public Health Sciences, Washington University School of Medicine, St. Louis, MO, (2)Division of General Surgery, Washington University School of Medicine, St. Louis, MO*

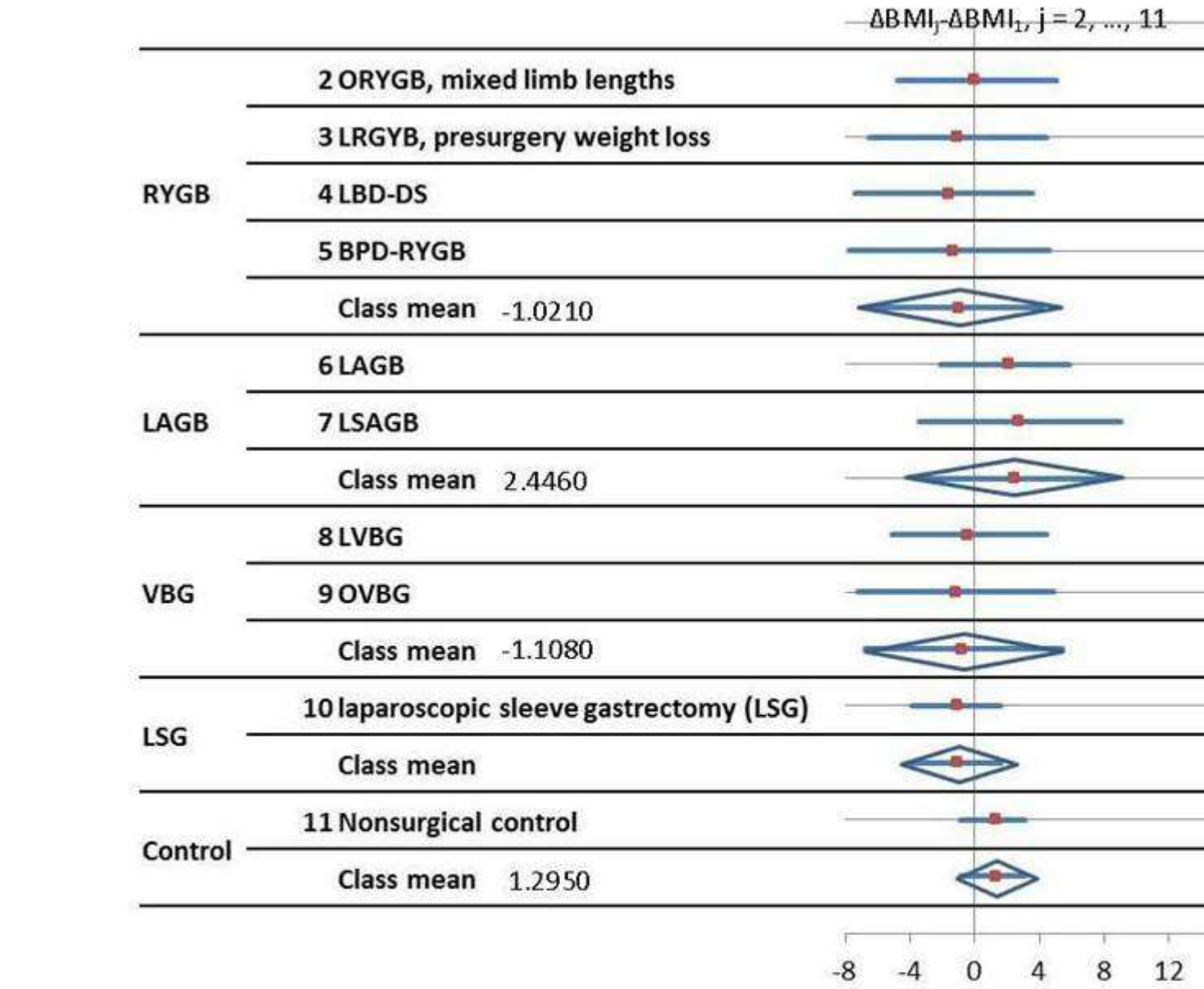
Purpose: To examine and generalize the risks and effectiveness of bariatric surgery using updated data and sophisticated meta-analysis techniques to compare different types of surgery.

Method: This study was conducted according to the established guidelines for meta-analysis. Surgery types considered were Roux-en-Y gastric bypass (RYGB), laparoscopic adjustable gastric banding (LAGB), vertical banded gastroplasty (VBG), and sleeve gastrectomy (SG). Literature searches of Medline, Embase, Scopus, Current Contents, Cochrane Library, and the Clinicaltrials.gov databases between 2003 and 2012 were performed. Articles were screened for both exclusion and inclusion criteria before data extraction occurred. A mixed treatment comparison meta-analysis was conducted for body mass index (BMI) change to take advantage of data reported at different study time points. For the other surgical outcomes – operative mortality, complication, reoperation rates, and percentage of remission of the obesity-attributable comorbidities, both Bayesian hierarchical models and meta-analysis of rare binary event data were used because the number of zero cells for such data is large.

Result: Peri- (< 30 days) and post-operative (≥ 30 days) mortality rates were 17 and 31 deaths out of 10,000 patients, respectively. Complication rates were 16% and 11% for randomized trials (RCTs) and observational studies (OBs), respectively. Reoperation rates were 7.6% (RCTs) and 5.9% (OBs). RYGB had the lowest peri-

operative mortality and reoperation rates. LAGB had the lowest post-operative mortality and complication rates. The first 3-year post-surgery BMI loss, in general, were 16, 13, and 13 kg/m^2 (approximately 36%, 29%, 29% BMI loss for an individual with a pre-surgery BMI of 45 kg/m^2). RYGB was the most effective in terms of weight loss (Figure 1), followed by SG, VBG, and LAGB. Remission rates of the obesity comorbidities were high: type 2 diabetes – 92% for RCTs and 86% for OBs; hypertension – 74% for RCTs and 69% for OBs; and dyslipidemia – 76% for RCTs and 56% for OBs. Effectiveness of the various types of surgery in improving comorbidities correspond with their effectiveness in weight loss.

Conclusion: This study provides evidence suggesting that the mortality risk of bariatric surgery is low. It is also effective in weight loss and improvement in obesity-related comorbidities. Compared with RYGB, LAGB has lower weight loss efficacy and less effective comorbidity remission outcomes, but also leads to a lower rate of complications.



ΔBMIj: mean post-surgery BMI minus mean pre-surgery BMI for patients undergoing type j surgery,
gastric bypass; ORYGB: open Roux-en-Y gastric bypass; LRYGB: laparoscopic Roux-en-Y gastric bypa
group); LBD-DS: laparoscopic biliopancreatic diversion with duodenal switch; LAGB: laparoscopic ad
banding; LSAGB: LAGB, pars flaccida technique, single bolus filling; LVBG: laparoscopic vertical ban
OVBG: open vertical banded gastroplasty; LSG: laparoscopic sleeve gastrectomy; BPD-RYGB: biliopa

Figure 1 Post-surgery BMI change for various types of surgery compared with laparoscopic Ro

I. LUSTED FINALIST ABSTRACTS: QUANTITATIVE METHODS

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1:00 PM - 2:30 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Session Chairs:

- *Karen M. Kuntz, ScD*
- *Y. Claire Wang, MD, ScD*

Session Summary:

1:00 PM - 1:15 PM

I-1. ROBUSTNESS OF OPTIMAL MATCHING FOR USE IN EVIDENCE-BASED DECISION ALGORITHMS

1:15 PM - 1:30 PM

I-2. OPTIMIZING GUIDELINES FOR TIMING OF ARTERIOVENOUS FISTULA CREATION IN CHRONIC KIDNEY DISEASE

1:30 PM - 1:45 PM

I-3. FULLY ADAPTIVE DESIGNS FOR CLINICAL TRIALS: SIMULTANEOUS LEARNING FROM MULTIPLE PATIENTS

1:45 PM - 2:00 PM

I-4. CALIBRATION METHODS FOR INFERRING TRANSITION PROBABILITIES FROM CROSS-SECTIONAL STUDIES

2:00 PM - 2:15 PM

I-5. OPTIMAL SCREENING STRATEGIES OF PATIENTS ON THE KIDNEY TRANSPLANT WAITING LIST

2:15 PM - 2:30 PM

I-6. OPTIMAL HEALTH PROGRAM INTERVENTION AND INFORMATION ACQUISITION POLICY

Abstracts:

I-1. ROBUSTNESS OF OPTIMAL MATCHING FOR USE IN EVIDENCE-BASED DECISION ALGORITHMS

1:00 PM - 1:15 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: QUANTITATIVE METHODS

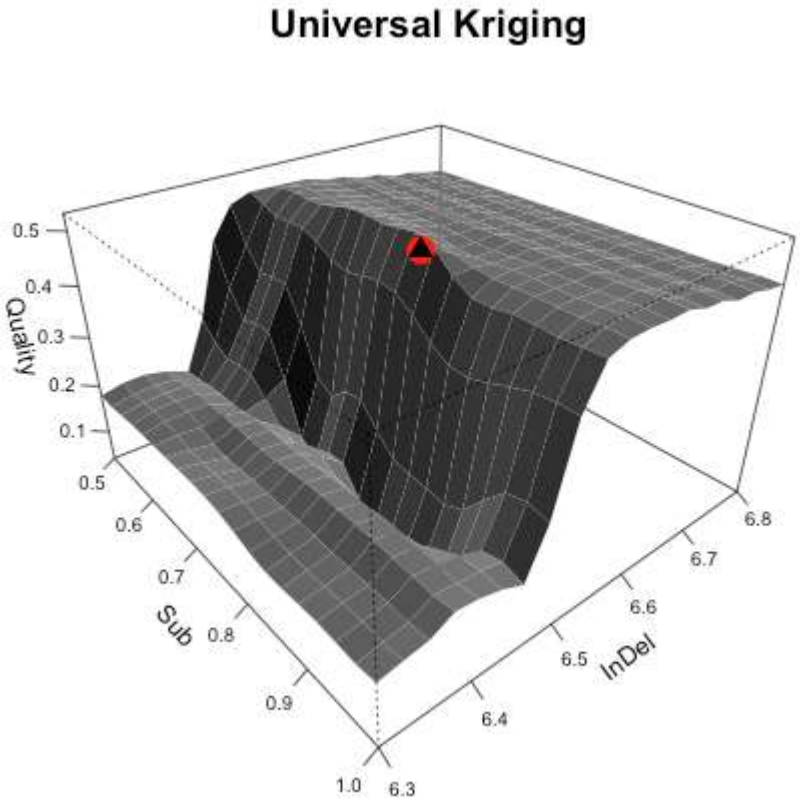
Michael A. Vedomske, M.S. *and Donald E. Brown, Ph.D, University of Virginia, Charlottesville, VA*

Purpose: Automated evidence-based methods exploiting widely available electronic health records (EHR) for understanding congestive heart failure (CHF) patient treatment histories require methods robust to treatment variability. The goal of this paper is to test the optimal matching algorithm for finding high "quality" representatives of CHF patient groups.

Method: Optimal Matching (OM) originates in genomics by matching like-sequences and was generalized by social scientists to generic sequences. The algorithm runs in R [1] by the package TraMineR [2] with a fixed subset of 100 patients from UVA's Clinical Database Repository each with sequences of length 19 (median for the original dataset). The input parameters to the algorithm are the substitution and insertion/deletion costs. Patient groups are formed by hierarchical clustering using percent overlap of procedures between patients with the Dunn index determining the number of groups. Representative sequences are the patient treatment histories, which best represent the remaining cluster members in terms of "quality" as mathematically defined in TraMineR documentation. The representatives reveal the procedural makeup of the cluster. Such insight is useful in automated evidence-based approaches to understanding CHF as it shows decision makers how the health system has responded to patients of similar treatment. To obtain the best input parameters a Kriging response surface of 100 grid points (cost combinations) was created and plotted.

Result: The optimal input combination was (Sub, InDel) = (0.722, 0.658) with corresponding quality 0.503 and is shown in the figure. Kriging output suggests that costs and quality are nonlinear and non-smooth in relation. Small input changes result in non-smooth output changes (see figure).

Conclusions: Automated methods of analysis require predictable outputs in order to be repeatable and reliable. As the response surface showed significant non-smoothness, the "quality" measure from OM must be better explored in relation to EHR data in order to exploit this algorithm's desirable properties and rich research body in other fields. Future research is needed to define the conditions and properties for which EHRs may be used with OM to be able to exploit its properties for evidence-based methods of inquiry. Research supported by NSF Graduate Research Fellowship. [1] R. D. C. Team, "R," 2011. [2] A. Gabadinho et al., "Analyzing and visualizing state sequences in r with TraMineR," 2011.



I-2. OPTIMIZING GUIDELINES FOR TIMING OF ARTERIOVENOUS FISTULA CREATION IN CHRONIC KIDNEY DISEASE

1:15 PM - 1:30 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: QUANTITATIVE METHODS

***M. Reza Skandari, MS**, Steven M. Shechter, PhD and Nadia Zalunardo, MD, SM, FRCP(C), University of British Columbia, Vancouver, BC, Canada*

Purpose: To develop data-driven, evidence-based guidelines for deciding when to initiate arteriovenous fistula (AVF) creation in individuals with progressive chronic kidney disease (CKD).

Method: We developed a Monte Carlo simulation model to evaluate existing and alternative guidelines to determine optimal timing of referral for AVF creation with respect to quality-adjusted life expectancy, proportion of CKD patients starting HD with an AVF or central venous catheter (CVC), and proportion of patients who have a functional AVF that goes unused. Based on estimated glomerular filtration rate (eGFR) measurements for a cohort of 860 CKD patients, we fit patient-specific regression models so as to simulate eGFR values over time. We combined primary data on AVF referral-until-surgery time and literature estimates of fistula failure rates to model if or when an AVF can be used to support HD. We used health state utility estimates from the literature to evaluate quality-adjusted life expectancy.

Result: Guidelines that recommend AVF referral within a 9-12 month window of anticipated HD start time appear optimal, improving upon eGFR threshold-based guidelines by between 5.6 to 22.3 quality-adjusted life days depending on which threshold is considered. A policy that waits until HD is needed before referring patients for AVF yields an average decrease of 31.9 quality-adjusted life days per patient relative to the optimal policy. A 12 month preparation window would result in 8.5% of 50-60 year olds having a wasted functional AVF, with the percentage more than doubling to 18.4% for patients 80-90 years old.

Conclusion: Our results consistently demonstrate that guidelines based on initiating AVF within a time window of the anticipated dialysis start date outperform guidelines based on eGFR falling below some threshold. There is a higher chance the elderly will have unused AVFs, and therefore separate guidelines might be considered for that subpopulation.

I-3. FULLY ADAPTIVE DESIGNS FOR CLINICAL TRIALS: SIMULTANEOUS LEARNING FROM MULTIPLE PATIENTS

1:30 PM - 1:45 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: QUANTITATIVE METHODS

Vishal Ahuja, B.E., M.A.Sc *and John Birge, A.B., M.S., Ph.D., University of Chicago, Chicago, IL*

Purpose : Traditional clinical trials are randomized, i.e., allocation of patients to treatments is purely random (e.g. fair coin-toss) and the goal is to maximize learning about treatment efficacy. Adaptive trial designs, on the other hand, allow clinicians to learn about drug effectiveness during the course of the trial. An ideal adaptive design is one where patients are treated as effectively as possible without sacrificing any learning. We propose such an adaptive design, one that uses forward-looking algorithms to fully exploit learning from multiple patients simultaneously.

Methods : The class of problems involving adaptive designs has its roots in the multi-armed bandit problem that exemplifies the tradeoff between the cost of gathering information and the benefit of exploiting information already gathered. The setup is in the form of a Markov Decision Process (MDP) with one major difference: in our setup, the transition probabilities are unknown. Instead, we assume a parametric distribution on the transition probabilities prior to the trial, where the parameters of the assumed distribution represent our beliefs on the outcome probabilities for each treatment. As the trial progresses, we update the beliefs dynamically in a Bayesian fashion using information observed during the trial (see transition diagram below). We assume that patients are homogenous and patient responses are available immediately.

Results : The Jointly Optimal design that we propose yields better patient outcomes compared to existing implementable adaptive designs. This is because our design incorporates previous responses of all patients when making decisions and naturally allows for mixtures of treatments without imposing constraints artificially. Under the scenarios we consider, our design provides an improvement, measured as an increase in expected proportion of successes, of up to 8.64% compared to the best existing adaptive design. Subsequently, we validate our design in a real setting by implementing it ex-post on a recently conducted stent study, a two-armed, randomized trial. We find that implementing our adaptive design would cause the total number of patient failures to decrease by 15 or over 32%, in expectation, where a failure is defined as 30-day rate of stroke or death.

Conclusions : Adaptive designs that learn from multiple patients, such as our proposed design, result in improved patient outcomes compared to randomized

designs or existing adaptive designs. We quantify this improvement under various

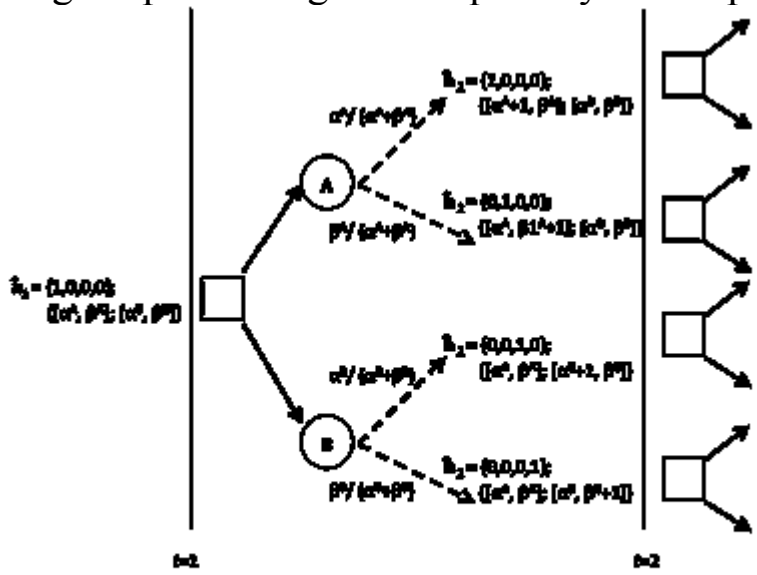


Figure: Transition diagram associated with the MDP setup for a single patient
Notes: (a) (1,0,0,0) is the physical state at t=1; (b) [α,β] are beta hyperparameters representing starting priors for the treatment j={A,B}; (c) □ represent decision points and ○ represent random outcomes.

scenarios.

I-4. CALIBRATION METHODS FOR INFERRING TRANSITION PROBABILITIES FROM CROSS-SECTIONAL STUDIES

1:45 PM - 2:00 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: QUANTITATIVE METHODS

Eva Enns, MS[1]*, Suzann Pershing, M.D.*[1]*, Yang Wang, MS*[1] *and Jeremy D. Goldhaber-Fiebert, PhD*[2]*, (1)Stanford University, Stanford, CA, (2)Centers for Health Policy & Primary Care and Outcomes Research, Stanford University, Stanford, CA*

Purpose: Simulation modelers require transition probabilities between disease states that are often not directly observed. While data may be collected on timescales of years or even decades, underlying disease dynamics evolve at much shorter timescales. Accurate transition probability estimates are difficult to obtain, and may require solving complex mathematical optimization problems.

Method: We consider a cohort model over time. Disease dynamics evolve according to $x_{t+1} = Ax_t$, where x_t describes the proportion of the population in a finite number of categories, and A is the transition matrix. The transition probabilities must be estimated from cross-sectional samples of the state of the cohort at a subset of time points. This gives rise to equations: $x_{t+L} = A^L x_t$, where L is the interval between

samples. In the general case, samples could be unevenly-spaced and A could vary across different sample intervals. Our goal is to find an A that best fits the observations, given the observations' precision and assumptions about disease progression and regression. We develop an iterative algorithm using a sequence of simple optimizations. We select arbitrary initial values for A and estimate the cohort states $x_0, \ldots, x_{t+L}$ (including values at unobserved time points) that minimize the sum of residuals $\sum_{t=0,\ldots,L-1} (x_{t+1} - Ax_t)^2$, subject to constraints. Then, we fix the cohort states $x_0, \ldots, x_{t+L}$ to our estimated values, and solve for the transition matrix A that again minimizes the residuals. We repeat this procedure until the estimated probabilities in A converge.

Result: We apply our method to a previously-developed model of progressive, diabetic macular edema to infer monthly transition probabilities between visual acuity levels from cross-sectional data measured at 5-year intervals. We compare our iterative approach to a traditional Nelder-Mead algorithm, running both algorithms from 1,000 random starting locations. While Nelder-Mead identified a slightly better fit overall than the iterative algorithm, the iterative algorithm achieved a better mean fit with lower variability, identifying a solution within 15% of the best-fit residual for over 90% of starting points; Nelder-Mead only did so for 8% of starting locations.

Conclusion: A fundamental problem faced across a range of modeling applications is how to consistently infer transition probabilities from multiple cross-sectional prevalence estimates. We describe an iterative algorithm that produces accurate and consistent solutions.

I-5. OPTIMAL SCREENING STRATEGIES OF PATIENTS ON THE KIDNEY TRANSPLANT WAITING LIST

2:00 PM - 2:15 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: QUANTITATIVE METHODS

***Alireza Sabouri**, Steven M. Shechter, PhD and Tim Huh, PhD, University of British Columbia, Vancouver, BC, Canada*

Purpose: Patients on the kidney transplant waiting list are at significant risk of developing cardiovascular disease (CVD) during the time they wait for a kidney offer, and transplant centers want to avoid performing risky transplant operations on such

patients. We develop data-driven, evidence-based CVD screening guidelines that minimize this risk.

Methods: To develop effective screening guidelines, we use an optimization model and a discrete-event simulation program to determine the optimal times to screen a particular patient for possible development of CVD, taking into account the tradeoffs between more frequent screenings (incurring high resource costs and patient inconvenience) and less frequent ones (increasing the risk a donated kidney goes to a patient with CVD).

Results: In comparing our analytically derived optimal policies with those currently used by the British Columbia Transplant Society, we find that by scheduling few screening opportunities at the optimal times, we can not only improve the transplant outcomes, but also utilize the screening resources more efficiently. In particular, the current policy suggests annual screening of the high risk patients. Under this policy, the probability of performing a transplant on a patient with CVD is 0.077 and the expected number of screenings performed is 1.56. On the other hand, the optimal scheduling of 3 screening times reduces the probability of adverse event by 0.035 for a slightly smaller expected number of screenings. Furthermore, we show that fixed interval screening policies, which are common in practice, are dominated by the efficient frontier curve (for likelihood of successful transplant vs. average number of screenings performed) generated by our optimal screening policies. Our results also suggest that waiting time of the patients on the waiting list is a more important factor in determining the optimal screening times than the CVD risk.

Conclusions: Our results demonstrate that efficiencies can be achieved in both transplant outcomes and resource usage by adopting the variable interval screening policies obtained from our optimization model. Furthermore, our results indicate that factors which affect the waiting time of the patients (e.g., rank on the waiting list, blood type, etc.) must be considered in designing the screening guidelines.

I-6. OPTIMAL HEALTH PROGRAM INTERVENTION AND INFORMATION ACQUISITION POLICY

2:15 PM - 2:30 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS: QUANTITATIVE METHODS

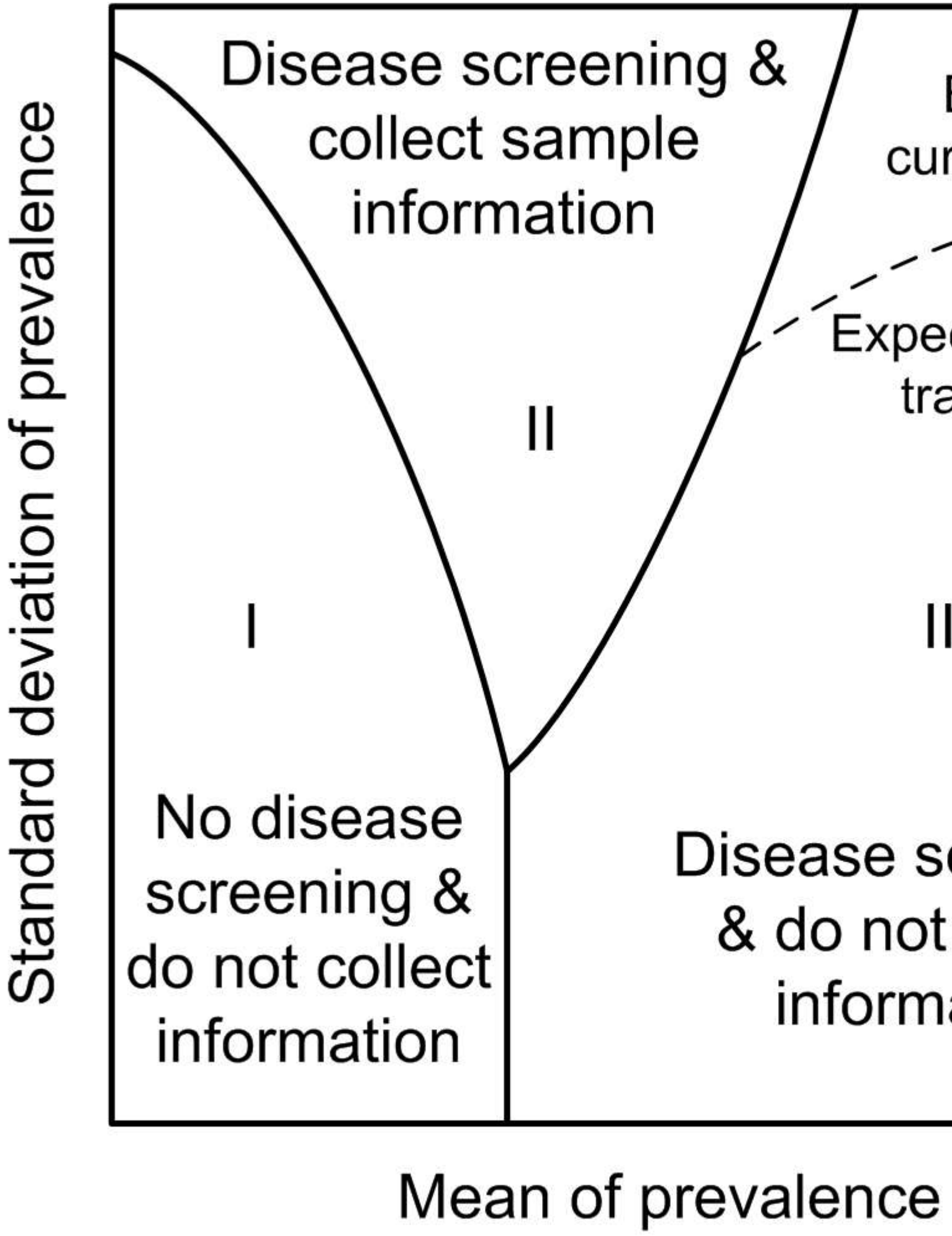
***Lauren E. Cipriano, MS**, Stanford University, Stanford, CA and Thomas A. Weber, PhD, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland*

Purpose: Standard methods of health-policy evaluation assume that future cohorts are similar to the modeled cohort. Moreover, standard value-of-information (VOI) calculations regard per-person VOI constant across cohorts and do not consider the option to collect information in the future. We show that when model parameters vary across cohorts it may be optimal to delay information collection. We provide a framework for evaluating the marginal value of sample information and thus the optimal timing and scale of information acquisition.

Methods: The value of a disease screening program is evaluated for future cohorts. Disease prevalence for future cohorts is (imperfectly) observable by collecting costly sample information and otherwise evolves randomly with drift across periods. We formulate a Markov decision problem with linear stochastic dynamics and a hidden state. The incremental net monetary benefit is assumed linear in the uncertain parameter which, itself, is decreasing in expectation. Using a dynamic-programming approach it is possible to determine decision rules for optimal continuation and information acquisition policies that govern the dynamic implementation (and eventual discontinuation) of the health program.

Results: The optimal policy is characterized by a map from the state space to actions, featuring three regions (Figure). In region III, the expected prevalence is above the upper threshold and the optimal policy is to continue the disease-screening intervention without information acquisition. In region I, the expected prevalence is below the lower threshold and it is optimal to terminate the disease-screening program. Between the two thresholds, it is optimal to continue the disease-screening program and collect information about the current cohort's disease prevalence. Further, for any initial belief about cohort prevalence, we can numerically calculate the expected value of sample information given the possibility of collecting information in the future. The results of this analysis are provided in a ready-to-use format for decision makers so as to quickly determine the currently optimal policy, the length its implementation horizon, and the subsequent action (which then leads to

a state update).


Disease screening & collect sample information
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Standard deviation of prevalence
Mean of prevalence

Conclusions: When cohort or intervention characteristics vary over time, the recurrent intervention and information-collection decisions can be determined by solving a stochastic dynamic program. Evaluating VOI without considering the possibility of collecting information in future periods, when the information may be more valuable, may result in sub-optimal actions.

J. VALUES, PREFERENCE ELICITATION AND UTILITY ASSESSMENT

« Previous Session | Next Session »

4:00 PM - 5:30 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Session Chairs:

- *Sara J. Knight, PhD*
- *Margaret M. Byrne, PhD*

Session Summary:

4:00 PM - 4:15 PM

J-1. BRIEF EDUCATION AND COMPLETING A CONJOINT VALUATION SURVEY REDUCE DECISIONAL CONFLICT REGARDING LUNG CANCER SCREENING AMONG INDIVIDUALS AT-RISK FOR LUNG CANCER

4:15 PM - 4:30 PM

J-2. HOLD MY HAND: EXPLICITLY SHOWING TRADEOFFS AND FIT BETWEEN VALUES AND OPTIONS HELPS PEOPLE MAKE CHOICES CONCORDANT WITH THEIR STATED VALUES

4:30 PM - 4:45 PM

J-3. INFORMING ADVANCE DIRECTIVES BY EXPLICITLY SIMULATING CARE TRAJECTORIES

4:45 PM - 5:00 PM

J-4. MEASURING FAMILY HRQOL SPILLOVER EFFECTS USING DIRECT HEALTH UTILITY ASSESSMENT

5:00 PM - 5:15 PM

J-5. WHAT FACTORS EXPLAIN WILLINGNESS TO TRADE TIME IN THE TIME TRADE-OFF EXERCISES, AND WHAT FACTORS ARE IMPORTANT?

5:15 PM - 5:30 PM

J-6. ANXIETY AND ACTION BIAS AS PREDICTORS OF PROSTATE CANCER TREATMENT PREFERENCES AND TREATMENT DECISIONS

Abstracts:

J-1. BRIEF EDUCATION AND COMPLETING A CONJOINT VALUATION SURVEY REDUCE DECISIONAL CONFLICT REGARDING LUNG CANCER SCREENING AMONG INDIVIDUALS AT-RISK FOR LUNG CANCER

4:00 PM - 4:15 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: VALUES, PREFERENCE ELICITATION AND UTILITY ASSESSMENT

*Jamie L. Studts, PhD[1], Richard Thurer, MD[2], Mark S. Roberts, MD, MPP[3] and **Margaret M. Byrne, PhD**[2], (1)University of Kentucky College of Medicine, Lexington, KY, (2)University of Miami, Miami, FL, (3)University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA*

Purpose: This study explored whether receiving information about lung cancer screening (LCS) and completing a values clarification exercise affects decisional conflict regarding LCS among individuals with a significant history of cigarette smoking.

Method: Participants were drawn from the Knowledge Networks panel. Of 223 eligible respondents, 210 (94%) consented and participated. Participants had a high risk of lung cancer (40±20 pack years) and were an average age of 61 (±8) years. The sample included 109 (52%) women, 51 (24%) African Americans, and 59 (28%) Hispanic Americans. Prior to receiving a brief description of LCS and completing the conjoint exercise, participations were administered the 10-item low literacy version of the Decisional Conflict Scale (DCS-LL). The brief LCS description provided information regarding options and potential risks/benefits. The conjoint exercise, which was used for values clarification, included 20 scenarios depicting 5 attributes and 17 levels. Participants were asked to respond to each scenario regarding how likely it was that s/he would be screened using response options that ranged from 1 (definitely would not get screened) to 9 (definitely would get screened). Additionally, participants completed 20 survey items that asked them to rate the importance of LCS attributes on a screening decision using a 1-10 scale. Participants then completed the DCS-LL again.

Result: At baseline, participants reported a high level of decisional conflict regarding LCS (M=46.96±27.03, Range: 0 to 100). However, decisional conflict was significantly reduced following the brief LCS introduction and the conjoint exercise (M=17.55±21.40: Range 0 to 100), $t(192)=15.54$, $p<.001$, d=1.14. Examination of change in DCS subscales also demonstrated significant differences across all four subscales: uncertainty $t(192)=10.06$, $p<.001$, d=.73, informed $t(192)=15.99$, $p<.001$, d=1.17, values clarity $t(192)=11.78$, $p<.001$, d=.86, and support $t(192)=9.26$, $p<.001$, d=.68.

Conclusion: These data suggest that individuals at high risk for lung cancer were generally unprepared to make informed decisions about LCS, but brief educational material combined with a values clarification exercise dramatically reduced decisional conflict. These data support the value of developing a patient decision aid to promote informed decision making about LCS. Future work is needed to design and evaluate a patient decision aid that integrates a risk assessment tool and promotes shared decision making with health care providers.

J-2. HOLD MY HAND: EXPLICITLY SHOWING TRADEOFFS AND FIT BETWEEN VALUES AND OPTIONS HELPS PEOPLE MAKE CHOICES CONCORDANT WITH THEIR STATED VALUES

4:15 PM - 4:30 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)

Part of Session: VALUES, PREFERENCE ELICITATION AND UTILITY ASSESSMENT

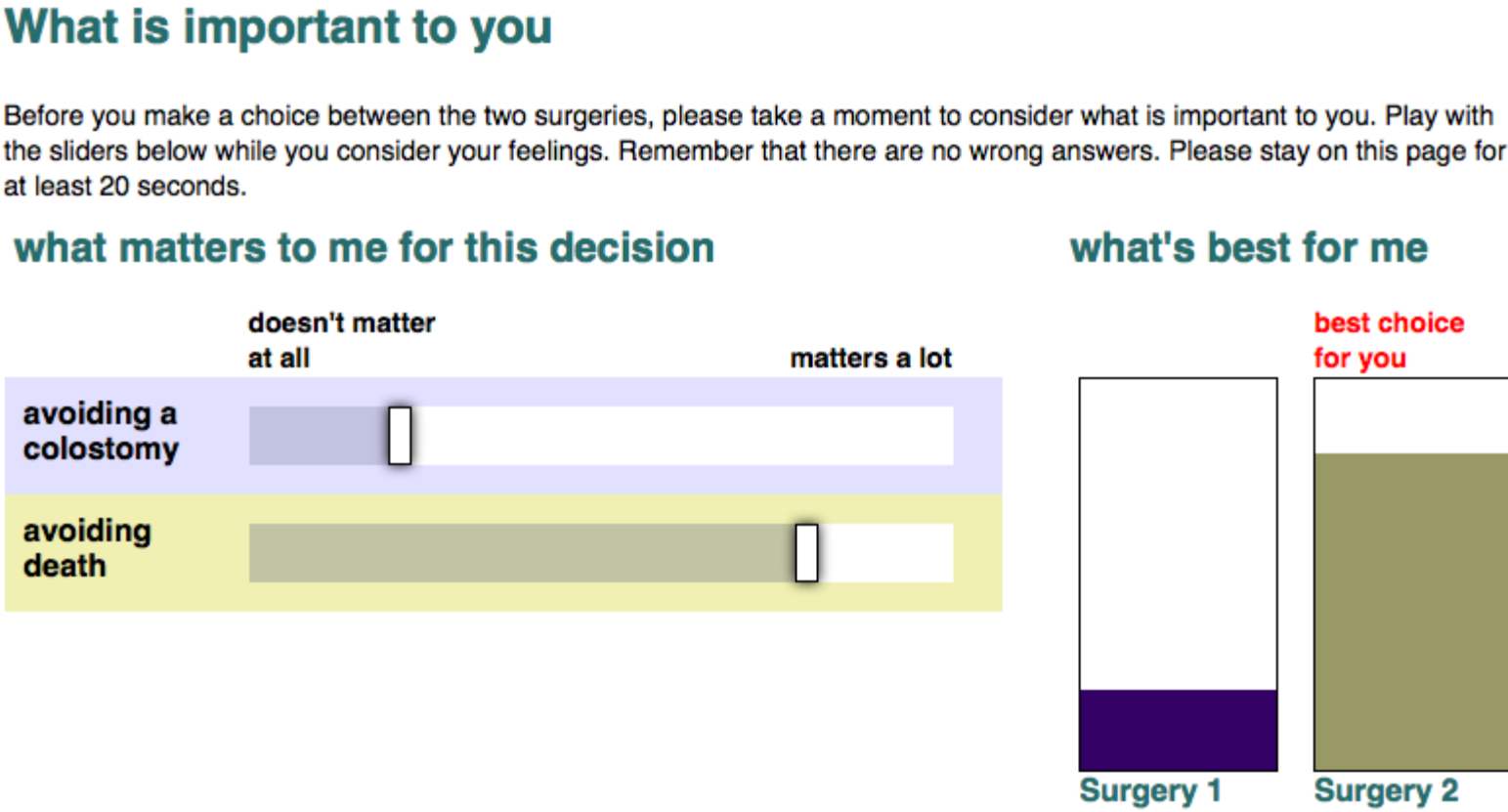
Holly O. Witteman, PhD[1], *Laura D. Scherer, PhD*[2], *Andrea M. Angott, PhD*[3], *Peter A. Ubel, MD*[3], *Mark Dickson, MA*[1], *Lisa G. Holtzman, MPH*[1], *Nicole L. Exe, MPH*[1] *and Brian J. Zikmund-Fisher, PhD*[1], *(1)University of Michigan, Ann Arbor, MI, (2)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI, (3)Duke University, Durham, NC*

Purpose: People frequently make choices that are at odds with their stated values. This study tested whether interactive, dynamic online values clarification exercises that explicitly showed 1) tradeoffs inherent in a decision and 2) fit between expressed values and possible options could help people make treatment choices more in line with their stated values.

Method: We conducted a between-subjects online randomized experiment in a demographically diverse population (n=2033, 46% male, 82% white, age range 18-68, 57% no college degree.) We first asked participants: if they had to choose, would they rather die or have a colostomy? Participants were then asked to imagine that they had been diagnosed with colon cancer and faced a choice between two surgeries differing only in that one had a 4% chance of colostomy while the other had a 4% additional chance of death. Participants in the control group proceeded immediately to the surgery choice; other participants interacted with one of four versions of a values clarification exercise. All four versions had two sliders, one labeled, "avoiding colostomy," the other, "avoiding death." Participants moved the sliders to express how much they valued each outcome. Exercises showed tradeoffs, fit, both, or neither. To show tradeoffs, as the participant moved one of the two sliders, the other slider automatically moved equally in the opposite direction. Without this constraint, each slider moved independently of the other. To show fit, we presented two dynamic vertical bars modeling a simple linear relationship between the surgeries and the participant's slider settings. As the user moved the sliders, the vertical bars moved in relation to the sliders. The relationship between sliders and vertical bars was emphasized by matching color cues. (See figure.)

Result: Consistent with our prior research, in the control arm, 22% of people made surgery choices that were discordant with their previously stated values. After interacting with a values clarification exercise that showed neither tradeoffs nor fit, discordance was 23%. Showing tradeoffs reduced discordance to 17%, showing fit reduced it to 18%, and showing both together lowered discordance to 14% (Chi-squared (4) = 13.90, p = .003).

Conclusion: Explicitly showing the tradeoffs inherent in a decision and the fit between values and options can help people make choices more in line with their stated values.



J-3. INFORMING ADVANCE DIRECTIVES BY EXPLICITLY SIMULATING CARE TRAJECTORIES

4:30 PM - 4:45 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: VALUES, PREFERENCE ELICITATION AND UTILITY ASSESSMENT

***Negin Hajizadeh, MD, MPH**, New York University School of Medicine, NY, NY and R. Scott Braithwaite, MD, MSc, FACP, New York University School of Medicine, New York, NY*

Advance directives describe the choices patients would make in the event of critical illness in order to facilitate surrogate decision making. However, these directives are often under-informed due to a lack of disease-specific prognostic information, including outcomes beyond in-hospital survival. A decision model that explicitly simulates probable care trajectories with alternate treatments may inform these decisions.

Purpose: To inform advance directive decisions for patients with severe COPD by comparing probable care trajectories

Methods: We designed a Markov model of patients with severe COPD hospitalized for acute respiratory failure, to estimate the probable trajectories resulting from two alternative advance directives, *Do Not Intubate* (*DNI*, no invasive mechanical ventilation) vs. *Full Code* (all treatments permitted, including invasive mechanical ventilation). We included 5 Markov states: *hospitalized with acute respiratory failure*; *living in the community*; *living in long-term care extended care facilities* (long-term ECF); *living in a short term ECF* and *dead*. Outcome measures were 1-year survival, place of discharge, number of re-hospitalizations and a proxy for place of death. Variable estimates were based on published data or expert opinion. Homogeneous data (Q-statistic of >0.10, I-statistic of <25% and p-value <0.05, with no significant outliers on Forest plot) were pooled using Dersimonian and Laird random effects model. One-way and multi-way probabilistic sensitivity analyses were performed to test the model's robustness and to identify influential variables.

Results: Patients endorsing the *Full Code* directive had marginally increased 1-year survival (*Full Code* vs. *DNI*, 46% vs. 43%). However, *Full Code* patients were more likely to be residing in a long-term ECF (*Full Code* vs. *DNI*, 15% vs. 4%) and to be re-hospitalized (*DNI* vs. *Full Code*, 48% vs. 39%). *Full Code* patients were also more likely to die while living in a long-term ECF (*Full Code* vs. *DNI,* 14% vs. 1%). Trajectories were sensitive to the probability of complications of invasive mechanical ventilation and the probability of failing non-invasive mechanical ventilation.

Conclusions: Choosing a *Full Code* directive may result in a tradeoff between survival versus increased likelihood of recurrent hospitalizations and institutionalization. Making these alternate care trajectories explicit using modeling may better inform advance directive choices for patients with severe COPD.

J-4. MEASURING FAMILY HRQOL SPILLOVER EFFECTS USING DIRECT HEALTH UTILITY ASSESSMENT

4:45 PM - 5:00 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: VALUES, PREFERENCE ELICITATION AND UTILITY ASSESSMENT

Lisa A. Prosser, M.S., Ph.D.[1], *Kara Lamarand, MPH*[1], *Achamyeleh Gebremariam, MS*[1] *and Eve Wittenberg, PhD, MPP*[2], *(1)University of Michigan, Ann Arbor, MI, (2)Center for Health Decision Science, Boston, MA*

Purpose: To measure the spillover effects on HRQOL of having a family member with a chronic illness using direct health utility assessment methods.

Method: Using a national sample of US adults, we conducted two cross-sectional surveys in December 2011-January 2012: one version that asked respondents to value hypothetical health states describing the experience of having a family member with a chronic illness (community sample) and one version that asked respondents to value their own experience as the family member of a person with a chronic illness (experienced sample). Chronic illnesses in the survey included Alzheimer's disease/dementia, arthritis, cancer, cerebral palsy, and depression. Specific illness included in each survey depended on the age of the hypothetical ill individual (child, adult, senior). Respondents for the experienced sample were identified as having a household member with one of these conditions. Using standard gamble questions, respondents were asked to value the spillover effects of a family member's illness for either hypothetical vignettes or for their own experience as a family member of an ill individual. Disutility is defined as the loss in utility. We used regression analysis to evaluate the disutility associated with having a family member with a chronic illness varied by condition or type of relationship controlling for respondent's own conditions and sociodemographic characteristics. For the community sample, we also adjusted for multiple observations per respondent.

Result: For the community sample (n=1205), median (95th % CI) spillover disutilities ranged from 0.15 (0.12, 0.25) for cerebral palsy to 0.20 (0.17, 0.26) for cancer. Regression analyses indicated that higher spillover disutility was associated with type of relationship (spouse), lower socioeconomic status, and caregiver experience for the community sample. For the experienced sample (n=1389), median spillover disutilities ranged from 0.06 (0.001, 0.51) for cerebral palsy to 0.27 (0.12, 0.39) for cancer. Regression analyses also suggested higher spillover disutility was associated with lower socioeconomic status but not with type of relationship for the experienced sample.

Conclusion: The effects of illness extend beyond the individual patient to include effects on caregivers of patients, parents of ill children, spouses, and other close family and household members. Cost-effectiveness analyses should consider the inclusion of HRQOL spillover effects in addition to caregiving time costs incurred by family members of ill individuals.

J-5. WHAT FACTORS EXPLAIN WILLINGNESS TO TRADE TIME IN THE TIME TRADE-OFF EXERCISES, AND WHAT FACTORS ARE IMPORTANT?

5:00 PM - 5:15 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: VALUES, PREFERENCE ELICITATION AND UTILITY ASSESSMENT

Liv Ariane Augestad, MD[1], *Kim Rand-Hendriksen, Cand.Psychol*[1], *Knut Stavem*[1] *and Ivar Sønbø Kristiansen, MD, PhD, MPH*[2], *(1)Akershus University Hospital, Lørenskog, Norway, (2)University of Oslo, Oslo, Norway*

Purpose: A frequently used valuation method for health state valuation is the time trade- off (TTO) method. Typically, valuation studies control for individual characteristics focusing on demographic variables like age, sex, education, and geography. We hypothesized that valuation of hypothetical health states are more prone to variance along other individual variables, including personality, beliefs, attitudes, and personal experience. The purpose of the study was to compare the impact of typical demographic variables to the impact of candidate variables from these other domains.

Method: 511 respondents participated in a web survey. The participants were fairly representative for the Norwegian population with respect to age and sex. Each participant valued eight health states of varying severity as described with the EQ-5D system. Additionally we asked questions about factors we hypothesized could affect their general willingness to trade away time: Agreement with euthanasia, number of children, the personality trait neuroticism, and the extent to which they considered themselves to be religious, to which extent they believed in a life after death. In a multivariate regression we used the TTO value as dependent variable and demographic variables and the other factors with potential influence as independent variables.

Result:

Linear regression of TTO scores on individual variables

	Coeff	Beta	p
Intercept	0.299		<.001
sex (1 = female)	-0.02	-0.019	0.322
age (years)	-0.001	-0.021	0.314

9-12 years of education	-0.046	-0.04	0.28
>12 years of education	-0.024	-0.022	0.554
Marital status (single vs. attached)	-0.014	-0.012	0.561
Children under 18 (dummy)	**0.048**	**0.043**	**0.036**
Belief in life after death (dummy)	0.01	0.02	0.326
Religiousity (5 point scale of agreement)	0.001	0.001	0.947
Attitudes toward euthanasia (mean of three 5 point scales)	**-0.074**	**-0.141**	**<.001**
Neuroticism (normalized Z scores)	**-0.028**	**-0.049**	**0.012**

Conclusion: Typical demographic variables did not significantly influence TTO values. However, having children in the home, attitudes toward euthanasia, and the personality trait neuroticism appear to significantly influence valuation of hypothetical health states. These variables were selected from their respective domains as likely candidates, and suggest that valuation of health states may be informed more by attitudes, personality, and experiences than the usual demographic variables. Variable relevance should be carefully considered.

J-6. ANXIETY AND ACTION BIAS AS PREDICTORS OF PROSTATE CANCER TREATMENT PREFERENCES AND TREATMENT DECISIONS

5:15 PM - 5:30 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: VALUES, PREFERENCE ELICITATION AND UTILITY ASSESSMENT

Laura Scherer, PhD[1], *Margaret Holmes-Rovner, PhD*[2], *David Rovner, MD*[3], *Peter A. Ubel, MD*[4], *Stewart Alexander, PhD*[4], *Sara J. Knight, PhD*[5], *Bruce Ling, MD, MPH*[6], *James A. Tulsky, MD*[4], *Valerie Kahn, MPH*[7] *and Angela Fagerlin, PhD*[8], *(1)VA HSR&D and University of Michigan, Ann Arbor, MI, (2)Center for Ethics, E. Lansing, MI, (3)Michigan State University College of Human Medicine, East Lansing, MI, (4)Duke University, Durham, NC, (5)San Francisco VA Medical Center, San Francisco, CA, (6)University of Pittsburgh, Pittsburgh, PA, (7)University of Michigan, Ann Arbor, MI, (8)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

Purpose: In a study of men undergoing biopsy and treatment for prostate cancer, we examined whether pre-existing Cancer Anxiety and preferences for active medical interventions (Action Bias) influence treatment preferences and decisions. We used

an established measure of Anxiety and a new measure of Action Bias to explore how these pre-existing individual differences impact decisions at different points in the decision-making process.

Method: 1015 men, with suspicion of prostate cancer, were recruited from 4 VA hospitals at the time of biopsy, as a part of a study of prostate cancer decision aids (DA). Prior to reading a DA, patients completed a questionnaire that assessed their prostate cancer anxiety (Memorial Anxiety Scale for Prostate Cancer), and their bias toward active treatment options (e.g. "Doing everything to fight cancer is the right choice"). These baseline measures were used to predict (1) *treatment preferences* expressed after reading the DA, but prior to diagnosis, (2) *treatment decisions* following the urologist visit for diagnosis, and (3) *treatment received*according to medical records.

Result: For preferences expressed prior to diagnosis, patients who preferred surgery had greater pre-existing Action Bias than those who did not (M=6.40 vs. 6.02, p<.01) and patients who preferred active surveillance had less Action Bias than those who did not (M=5.85 vs. 6.34, p<.01). Anxiety was not predictive. Later, after prostate cancer was diagnosed, both Action Bias and Anxiety predicted treatment decisions among patients who had definitively decided upon a course of action: Those who selected active surveillance had less Action Bias (M=5.81) and Anxiety (M=.64) than those who selected surgery (M(action)=6.50; M(anxiety)=1.12) or radiation (M(action)=6.64; M(anxiety)=1.31; all p<.01). Finally, patients who actually received surgery had greater pre-existing Anxiety (M=1.09) than those who received active surveillance (M=.80), but this difference did not reach significance (p=.07). Action Bias was not predictive of treatment received (p=.54).

Conclusion: Prior to diagnosis, patients' treatment preferences were related to Action Bias but not Anxiety. After diagnosis, treatment decisions were related to both Action Bias and Anxiety. Finally, treatment received was marginally related to Anxiety but not Action Bias. Together these findings reveal that relatively uninformed, preexisting individual differences can play a significant role in treatment decision-making, and that these factors may have varying degrees of impact at different points in the decision making process.

K. COST-EFFECTIVENESS ANALYSIS: IMPLICATIONS FOR PREVENTION AND TREATMENT OF DISEASE

« Previous Session | Next Session »

4:00 PM - 5:30 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Session Chairs:

- *Kenneth J. Smith, MD, MS*
- *Crystal M. Smith-Spangler, MD, MS*

Session Summary:

4:00 PM - 4:15 PM

K-1. THE COST-EFFECTIVENESS OF INTEGRATED CERVICAL CANCER PREVENTION STRATEGIES IN THE ONTARIO SETTING – CAN WE DO BETTER?

4:15 PM - 4:30 PM

K-2. CERVICAL CANCER SCREENING AND HUMAN PAPILLOMAVIRUS VACCINATION IN ITALY: A COST-EFFECTIVENESS ANALYSIS

4:30 PM - 4:45 PM

K-3. IS REFUSAL TO TAKE FRACTURE PREVENTION MEDICATION SOMETIMES A RATIONAL DECISION? AN EXPLORATORY ANALYSIS THROUGH THE LENS OF COST-EFFECTIVENESS

4:45 PM - 5:00 PM

K-4. MULTIFACTORIAL DECISION MAKING FOR CHEMOTHRAPY IN EARLY-STAGE BREAST CANCER: A COST-EFFECTIVENESS ANALYSIS OF ONCOTYPE DX

5:00 PM - 5:15 PM

K-5. COST-EFFECTIVENESS ANALYSIS OF UGT1A1 GENETIC TESTING TO INFORM INITIAL ANTIRETROVIRAL PRESCRIBING FOR TREATMENT OF HIV IN THE US

5:15 PM - 5:30 PM

K-6. COST-EFFECTIVENESS OF METAL-ON-METAL HIP RESURFACING COMPARED TO CONVENTIONAL TOTAL HIP ARTHROPLASTY

Abstracts:

K-1. THE COST-EFFECTIVENESS OF INTEGRATED CERVICAL CANCER PREVENTION STRATEGIES IN THE ONTARIO SETTING – CAN WE DO BETTER?

4:00 PM - 4:15 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: COST-EFFECTIVENESS ANALYSIS: IMPLICATIONS FOR PREVENTION AND TREATMENT OF DISEASE

Beate Sander, PhD[1], *Orges Ormanidhi, MSc*[2], *Lawrence Paszat, MD, MSc*[3], *Karen Atkin, MSc*[4], *Joan Murphy, MD*[2], *Murray D. Krahn, MD, MSc*[2] *and Shelley Deeks, MD, MHSc*[1], *(1)Public Health Ontario, Toronto, ON, Canada, (2)University of Toronto, Toronto, ON, Canada, (3)Institute for Clinical Evaluative Sciences, Toronto, ON, Canada, (4)Cancer Care Ontario, Toronto, ON, Canada*

Purpose: A universal, publicly funded, school-based human papillomavirus (HPV) vaccination program in girls was initiated in Ontario in 2007, prompting an economic assessment of prevention programs.

Method: A cost-utility analysis of cervical cancer prevention from the healthcare payer perspective was performed based on linked HPV transmission and disease history models. The heterosexual network model of HPV transmission predicted age-specific incidence of infection over time by HPV type. The disease history model predicted HPV infection-related health outcomes (cervical cancer, mortality). Data on sexual behavior, disease history, quality of life, screening test performance, and vaccine effectiveness were obtained from the literature. Information on vaccination coverage and screening uptake was obtained from surveys and administrative data. Direct medical costs attributable to HPV infection, cervical intraepithelial neoplasia

and invasive cervical cancer were estimated using Ontario population-based linked health administrative datasets. *Interventions:*Combinations of 2 vaccination scenarios (conservative and optimistic, based on coverage, vaccine effectiveness and duration of protection), and 900 screening scenarios (screening start age: 21-70 years, screening interval: 3-20 years; 1-year time steps). Current schedule: screening start age 21 years, screening interval 3 years. *Primary outcomes:*expected lifetime cost, quality-adjusted life years (QALYs), incremental cost-effectiveness ratios and net benefit (NB) at λ=1xGDP/capita (~C$40,000/QALY). *Analyses*: (1) first vaccinated cohort (low herd-immunity), and (2) steady state, i.e. all cohorts were vaccinated (high herd-immunity).

Result: The NB of vaccination only was similar (conservative assumptions) or higher (optimistic assumptions) than screening only. Adding vaccination to the current screening schedule was highly cost-effective (<C$10,000/QALY). Delaying screening start and/or extending screening intervals reduced both expected QALYs and cost. Incidence of infection and disease is lower in steady state analysis and under optimistic vaccination scenarios, impacting optimal screening schedules. For first cohorts and steady state/conservative vaccination scenarios delaying screening start to 25 years increases NB; for the steady state/optimistic vaccination scenario delaying screening start to 30 years increases NB while maintaining 3 year screening intervals. However, given vaccination, differences in NB across screening scenarios are small and several screening scenarios increase NB.

Conclusion: Delaying screening start age and/or extending screening intervals in vaccinated cohorts is likely to be cost-effective. Consideration should be given to short-term implications of long-term health policy decisions, particularly for infectious disease interventions that require long time intervals to reach steady state.

K-2. CERVICAL CANCER SCREENING AND HUMAN PAPILLOMAVIRUS VACCINATION IN ITALY: A COST-EFFECTIVENESS ANALYSIS

4:15 PM - 4:30 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: COST-EFFECTIVENESS ANALYSIS: IMPLICATIONS FOR PREVENTION AND TREATMENT OF DISEASE

Gabriele Accetta, PhD[1], *Annibale Biggeri*[2], *Giuseppe Lippi*[3], *Francesca Carozzi*[1], *Massimo Confortini*[1], *Marco Zappa*[1] *and Eugenio Paci*[1], *(1)ISPO Cancer Research and Prevention Institute, Florence, Italy, (2)University of Florence and ISPO Cancer*

Research and Prevention Institute, Florence, Italy, (3)Local Health Authority, Ospedale Santa Maria Annunziata, Florence, Italy

Purpose: Vaccine cross-protection and the tendency to offer free-of-charge vaccination to older women demand a new evaluation of the cost-effectiveness of cervical screening and HPV vaccination in Italy.

Method: In Italy the non-mandatory vaccination is available free of charge to preadolescent girls. Each region has its own vaccination program in addition to the national one. We used our previously developed Markov model to describe the natural history of HPV infections and carcinogenesis of cervical cancer. The model was calibrated to fit to empirical age-specific HPV prevalence and incidence of cervical cancer observed in Italy. We simulated 10 million individual life histories using a Monte Carlo micro simulation. If the simulated woman undergoes a preventive strategies her life history can change. These changes represent the effects of the intervention. Strategies are defined by varying the type of first screening test, use of triage, the frequency of the screening program, screening age. Each scenario was evaluated without vaccination, with vaccination at age 11 years or 25 years. Vaccine assumptions: 100% coverage, 75.6% effective against HPV 16/18 infection, and 11% effective against high-risk HPV non 16/18. We compared alternatives strategies using incremental cost-effectiveness ratio (ICER). Discount rate was 3%.

Result: Vaccination at age 25 years was always dominated by strategies without vaccination.

Table. ICER for strategies in the efficiency frontier for women who are eligible to be vaccinated at age 11 years.

Preventive strategy	Vaccine	Screening frequency (yrs)	Screening age	ICER (EURO)
No screening, non vaccine	No	-	-	-
HPV DNA test+Pap test triage	No	7	30 to 65 (to 50 for negative women)	3269
HPV DNA test+Pap test triage	No	7	30 to 65	6581
HPV DNA test+Pap test triage	Yes	9	25 to 65	12656
HPV DNA test+Pap test triage	Yes	7	30 to 65	13617
HPV DNA test+Pap test	Yes	5	30 to 65 (to 50 for negative	31982

triage			women)	
HPV DNA test+Pap test triage	Yes	3	30 to 65 (to 50 for negative women)	151732

Conclusion: Under the assumption that vaccination is ineffective in previous infected women, HPV vaccination in women aged 25 years is highly questionable and cost-ineffective. The prolongation of screening interval as well as narrowing the screening age range for women vaccinated at 11 years of age may be acceptable.

K-3. IS REFUSAL TO TAKE FRACTURE PREVENTION MEDICATION SOMETIMES A RATIONAL DECISION? AN EXPLORATORY ANALYSIS THROUGH THE LENS OF COST-EFFECTIVENESS

4:30 PM - 4:45 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: COST-EFFECTIVENESS ANALYSIS: IMPLICATIONS FOR PREVENTION AND TREATMENT OF DISEASE

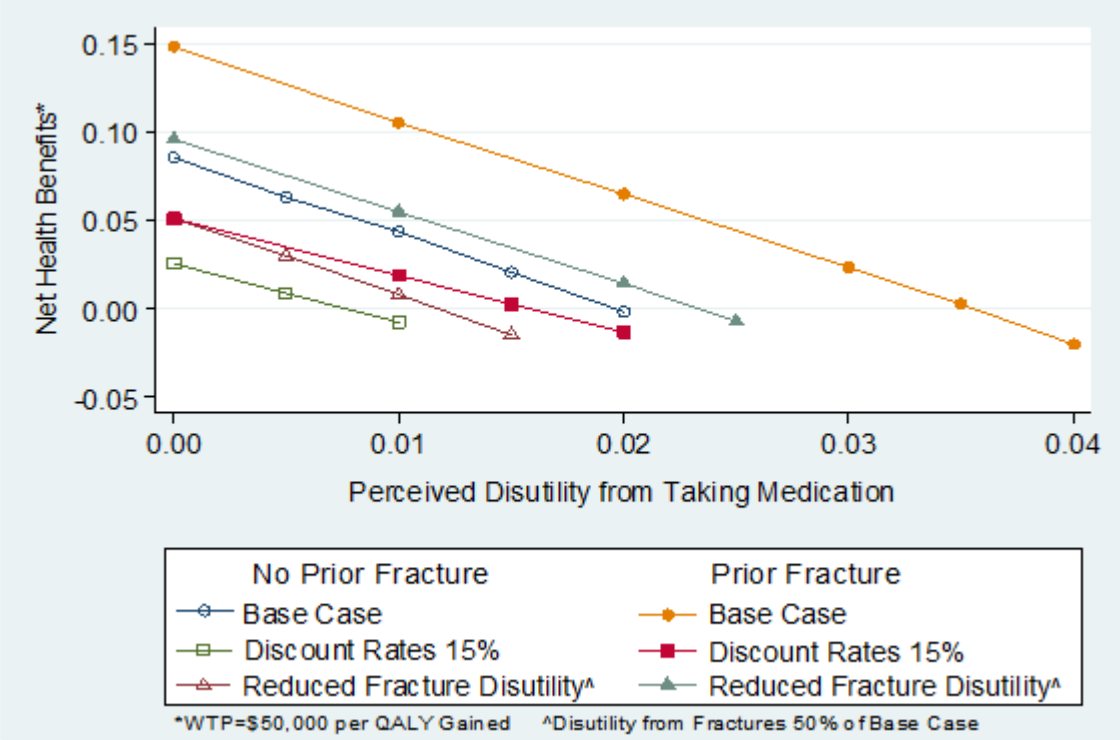
***John Schousboe, MD, PhD**, Park Nicollet Health Services; University of Minnesota, Minneapolis, MN*

Purpose: To estimate the change in net health benefits of medication to prevent osteoporotic fracture if patients perceive a small disutility from having to take medication.

Methods: Fifty percent of those treated to prevent osteoporotic fracture stop the medication prematurely within one year. A significant subset of patients dislike taking medication even if they have no side effects due to a sense of being dependent on them, altered personal identity, and/or fear of harm from taking them. A substantial number of osteoporosis patients need to be treated to prevent one fracture. We hypothesized that even a small decrement in quality of life from taking medication would significantly alter the cost-effectiveness of fracture prevention therapy. We used a previously validated Markov microsimulation model using the patient perspective to assess the lifetime net health benefits and costs per QALY gained for five years of bisphosphonate therapy compared to no therapy for two 65 year old Caucasian women with a femoral neck T-score of -2.5; one with no history of fracture, and another with a history of a prior fracture. For the base case analyses, we assumed willingness to pay per QALY gained of $50,000, discount rates of 3%, yearly out of pocket drug cost of $60, that patients out of pocket costs for fracture care would be 10% of total costs, and previously published rates, costs, and disutility

estimates for hip, clinical vertebral, morphometric vertebral, wrist, and other fractures. We ran several models varying the assumed disutility from taking medication from zero to 0.04 QALY. We repeated these model runs assuming a) discount rates of 15%, and b) disutility estimates for fractures one half that of the base case.

Results: With no disutility from taking medication, treatment was dominant over no treatment. Net health benefits are diminished with increasing disutility from taking medication (figure), and become zero with disutilities ranging from 0.008 QALY (no prior fracture, discount rates 15%) to 0.036 (prior fracture, discount rates 3%).



Conclusion: Perceived disutility from taking medication even in the absence of actual medication adverse events could substantially alter the cost-effectiveness of fracture prevention medication. More research is needed to characterize the implicit utility function patients employ when deciding whether or not to take fracture prevention medication.

K-4. MULTIFACTORIAL DECISION MAKING FOR CHEMOTHRAPY IN EARLY-STAGE BREAST CANCER: A COST-EFFECTIVENESS ANALYSIS OF ONCOTYPE DX

4:45 PM - 5:00 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: COST-EFFECTIVENESS ANALYSIS: IMPLICATIONS FOR PREVENTION AND TREATMENT OF DISEASE

Shelby Reed, PhD[1]*, Michaela A. Dinan, PhD*[1]*, Kevin A. Schulman, MD*[1] *and Gary H. Lyman, M.D., M.P.H.*[2]*, (1)Duke Clinical Research Institute, Durham, NC, (2)Duke University Medical Center, Durham, NC*

Purpose: New evidence from two recently-published studies was applied to reevaluate the cost-effectiveness of the 21-gene Recurrence Score (RS) assay (Onco*type* DX) in the context of multifactorial decision making to guide the use of chemotherapy for node-negative, estrogen receptor–positive breast cancer in the United States from the societal and healthcare system perspectives.

Methods: In order to cross-classify hypothetical patients by clinicopathologic characteristics according to the Adjuvant! decision aid and 21-gene RS risk groups, we developed a probabilistic decision-analytic model to generate estimates of long-term costs, survival, and quality-adjusted survival for the RS-guided and non–RS-guided strategies. In addition to costs for the 21-gene assay, we assigned attributable costs for chemotherapy, hormonal therapy, monitoring for disease recurrence, and distant recurrence. For the societal perspective, we also considered incremental patient time costs. Costs and survival were discounted at 3% annually.

Results: With the RS-guided strategy, 40.4% of patients were expected to receive chemotherapy relative to 47.3% in the non–RS-guided strategy. Estimated rates of recurrence at 10 years were 6.8% with the RS-guided strategy and 8.9% with the non-RS guided strategy. Targeted use of chemotherapy in the RS-guided strategy was expected to increase survival by 0.19 years (95% CI, 0.09 to 0.32) and 0.16 QALYs (95% CI, 0.08 to 0.28). Lifetime direct medical costs were expected to be $2692 (95% CI, 1546 to 3821) higher with the RS-guided strategy. The incremental cost-effectiveness ratios (ICERs) were $14,059 per life-year saved (95% CI, $6840-$28,912) and $16,677 per QALY (95% CI, $7613-$37,219). When incorporating lower patient time costs of $950 per patient, the ICERs were $9095 per life-year saved (95% CI, dominant-$23,397) and $10,788 per QALY (95% CI, $6840-$30,265). In probabilistic sensitivity analysis, more than 99% of the ICERs were less than $50,000 per life-year saved and per QALY. Numerous sensitivity analyses were conducted to evaluate the impact of varying assumptions regarding the use of chemotherapy in lower-risk and higher-risk women and varying model parameters pertaining to costs, health utilities, and disease recurrence. Across sensitivity analyses, ICERs remained below $22,000 per QALY.

Conclusions: Our updated cost-effectiveness estimates are supportive of the economic value of the 21-gene RS assay in the setting of node-negative, estrogen receptor–positive breast cancer.

K-5. COST-EFFECTIVENESS ANALYSIS OF UGT1A1 GENETIC TESTING TO INFORM INITIAL ANTIRETROVIRAL PRESCRIBING FOR TREATMENT OF HIV IN THE US

5:00 PM - 5:15 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: COST-EFFECTIVENESS ANALYSIS: IMPLICATIONS FOR PREVENTION AND TREATMENT OF DISEASE

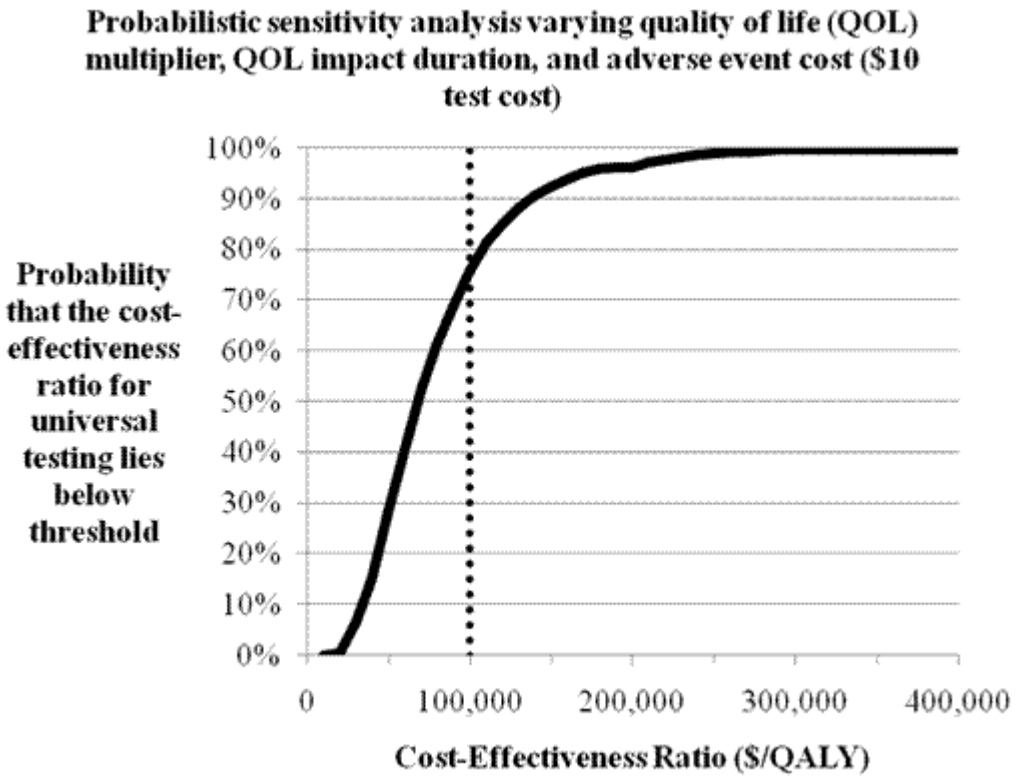
*Bruce R. Schackman, PhD[1], David W. Haas, MD[2], Jessica E. Becker, AB[3], **Bethany K. Berkowitz, BA**[3], Paul E. Sax, MD[4], Eric S. Daar, MD[5], Heather J. Ribaudo, PhD[6] and Kenneth A. Freedberg, MD, MSc[3], (1)Weill Cornell Medical College, New York, NY, (2)Vanderbilt University School of Medicine, Nashville, TN, (3)Massachusetts General Hospital, Boston, MA, (4)Brigham and Women's Hospital, Boston, MA, (5)Los Angeles Biomedical Research Institute at Harbor-UCLA Medical Center, Torrance, CA, (6)Harvard School of Public Health, Boston, MA*

Purpose: We assessed the potential cost-effectiveness of *UGT1A1* genetic testing to inform choice of the initial protease inhibitor-containing regimen in antiretroviral therapy (ART)-naïve HIV-infected individuals. Homozygosity for *UGT1A1*28/*28* (Gilbert's variant) has been reported to predict abnormal liver tests and mild jaundice (hyperbilirubinemia) associated with the protease inhibitor drug atazanavir and premature atazanavir discontinuation.

Methods: The Cost-Effectiveness of Preventing AIDS Complications (CEPAC) computer simulation model projected quality-adjusted life years (QALYs) and lifetime costs (2009 US dollars) for atazanavir-based ART with or without *UGT1A1* testing, using the protease inhibitor darunavir rather than atazanavir when indicated. We assumed *UGT1A1*-associated atazanavir discontinuation rates as reported in the Swiss HIV Cohort study, a **28/*28* frequency of 14.9%, equal efficacy and cost of atazanavir and darunavir, and genetic assay cost of $107. Sensitivity analyses varied these inputs, hyperbilirubinemia impact on quality of life, and loss to follow-up (LTFU). Costs and QALYs were discounted at 3% annually.

Results: Initiating atazanavir-based ART among patients eligible for ART (<500 CD4 cells/mm^3) without *UGT1A1* testing had an average discounted life expectancy of 16.02 QALYs and $530,700 discounted lifetime cost. Testing for *UGT1A1* increased QALYs by 0.49 per 10,000 patients tested, and was not cost-effective

(>$100,000/QALY) in the base case. Testing for *UGT1A1* was cost-effective



(<$100,000/QALY)

Conclusions: Testing for *UGT1A1* may be cost effective if assay cost is low and if testing improves retention in care, but only if the comparator regimens have the same drug cost and efficacy.

K-6. COST-EFFECTIVENESS OF METAL-ON-METAL HIP RESURFACING COMPARED TO CONVENTIONAL TOTAL HIP ARTHROPLASTY

5:15 PM - 5:30 PM: Fri. Oct 19, 2012
Regency Ballroom C (Hyatt Regency)
Part of Session: COST-EFFECTIVENESS ANALYSIS: IMPLICATIONS FOR PREVENTION AND TREATMENT OF DISEASE

Maarten J. IJzerman, PhD[1], *Sanne Heintzbergen, MSc*[2], *Nathalie A. Kulin, MSc*[3], *Lotte Steuten, PhD*[4], *Jason Werle, MD*[3] *and Deborah Marshall, PhD*[3], *(1)University of Twente, Enschede, Netherlands, (2)Netherlands Cancer Institute, Amsterdam, Netherlands, (3)University of Calgary, Calgary, AB, Canada, (4)University of Twente, AE Enschede, Netherlands*

Purpose: Advanced hip osteoarthritis (OA) is a common chronic condition causing severe joint pain and loss of joint function. Since 2004,the Alberta Hip Improvement

Project (HIP) has been prospectively collecting data on the effectiveness and safety of metal-on-metal hip resurfacing arthroplasty (HRA) and conventional total hip arthroplasty (THA) in younger hip OA patients. The most common hip resurfacing method used in Alberta is Birmingham hip resurfacing, and thus in this study we evaluate the cost-effectiveness of the Birmingham HRA compared to THA.

Methods: A probabilistic Markov decision analytic model was constructed to compare the quality-adjusted-life years (QALYs) and costs of HRA vs THA over a 15-year time horizon from a healthcare perspective. The base case cohort was 50-year old advanced hip OA patients. Data inputs were derived from HIP and the literature. Sensitivity analyses evaluated cohort ages for hip replacement, utilities, failure probabilities, and treatment costs.

Results: In the base case, HRA was less costly and associated with better outcomes, thus HRA dominated THA. THA remained dominated when either only males were assessed or the cohort age decreased to 40y from the base case value of 50y. When either only females were assessed or the cohort age increased to 60y, THA dominated HRA. Threshold analyses determined the percent change of selected variables needed for THA appear on the efficiency frontier rather than being dominated by HRA. Primary HRA surgery costs needed to increase 2.5% from the base case value of $14,746 to $15,115. HRA revision surgery cost or HRA revision probability needed to increase 44% from the base case values of $21,916 and 1.22% ($1^{st}$ y revision probability shown as example—revision probability changes per year) to $31,449 or 6.09%, respectively.

Conclusions: In a cohort of 50-year old patients THA is dominated by HRA. The results of this study, the first to use costs from an observational trial and the first Canadian study, confirm results reported in other studies that HRA is more cost-effective for males and younger patients.

L. LUSTED FINALIST ABSTRACTS D: HEALTH SERVICES & POLICY RESEARCH

« Previous Session | Next Session »

4:00 PM - 5:30 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Session Chairs:

- *David O. Meltzer, MD, PhD*
- *Dominick esposito*

Session Summary:

4:00 PM - 4:15 PM

L-1. COMPARATIVE EFFECTIVENESS AND COST-EFFECTIVENESS OF ANTIRETROVIRAL THERAPY AND PRE-EXPOSURE PROPHYLAXIS FOR HIV PREVENTION IN SOUTH AFRICA

4:15 PM - 4:30 PM

L-2. DYNAMIC TRANSMISSION MICROSIMULATION OF TUBERCULOSIS IN INDIA TO ASSESS THE FUTURE IMPACT OF TREATMENT PROGRAMS

4:30 PM - 4:45 PM

L-3. COMPARING FIFTEEN APPROACHES OF ASSESSING CARDIOVASCULAR DISEASE RISK USING RECEIVER OPERATING CHARACTERISTIC (ROC) CURVE ANALYSIS

4:45 PM - 5:00 PM

L-4. THE WELFARE CONSEQUENCES OF THE DONOR PRIORITY RULE

5:00 PM - 5:15 PM

L-5. COST-EFFECTIVENESS OF SCREENING RESISTANT HYPERTENSIVE PATIENTS FOR PRIMARY ALDOSTERONISM

5:15 PM - 5:30 PM

L-6. COST-EFFECTIVENESS OF BLOOD DONOR SCREENING FOR BABESIOSIS IN ENDEMIC REGIONS

Abstracts:

L-1. COMPARATIVE EFFECTIVENESS AND COST-EFFECTIVENESS OF ANTIRETROVIRAL THERAPY AND PRE-EXPOSURE PROPHYLAXIS FOR HIV PREVENTION IN SOUTH AFRICA

4:00 PM - 4:15 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS D: HEALTH SERVICES & POLICY RESEARCH

***Sabina S. Alistar, MS**, Philip M. Grant, MD and Eran Bendavid, MD, MS, Stanford University, Stanford, CA*

Purpose: Recent evidence shows both antiretroviral therapy (ART) and oral pre-exposure prophylaxis (PrEP) are effective in reducing HIV transmission in heterosexual adults in resource-limited settings. The epidemiologic impact and cost-effectiveness of combined prevention approaches remain unclear.

Method: We develop a dynamic mathematical model of the adult South African HIV epidemic. We consider 3 disease stages: early (CD4 > 350 cells/μL), late (200-350 cells/μL) and advanced (< 200 cells/μL). Infectiousness is based on disease stage, number of sexual partnerships, ART, and PrEP. We assume ART reduces HIV transmission by 95% and PrEP by 60%. We model 2 ART strategies: scaling up access for those with CD4 counts ≤ 350 cells/μL (Guidelines) and for all identified HIV-infected individuals (Universal). PrEP strategies include use in the general population (General) and in high-risk individuals (Focused). We consider strategies where ART, PrEP, or both are scaled up to recruit 25%, 50%, 75% or 100% of remaining eligible individuals yearly. We assume annual costs of $150 for ART and $80 for PrEP. We measure infections averted, quality-adjusted life-years (QALY) gained and incremental cost-effectiveness ratios over 20 years.

Result: Scaling up ART to 50% of eligible individuals in South Africa averts 1,513,000 infections over 20 years using the Guidelines and 3,591,000 infections using a Universal strategy. Universal ART is more cost-effective than Guidelines ($310-$340/QALY gained compared with status quo). Expanding Guidelines ART to recruit 50% of those eligible yearly costs $410/QALY gained versus status quo, and this estimate is stable with higher coverage rates. General PrEP is costly and provides relatively small benefits beyond those of ART scale-up. Cost-effectiveness of General PrEP becomes less favorable when ART is given more widely ($1,050-$2,800/QALY

gained). However, Focused PrEP is cost saving compared with the status quo and when added to any ART strategies except 75% or 100% Universal, where it is highly cost-effective.

Conclusion: Expanded ART coverage to individuals in early disease stages is more cost-effective than expansion of treatment per current guidelines. PrEP can be cost-saving if it can be delivered to individuals at increased risk of infection.

L-2. DYNAMIC TRANSMISSION MICROSIMULATION OF TUBERCULOSIS IN INDIA TO ASSESS THE FUTURE IMPACT OF TREATMENT PROGRAMS

4:15 PM - 4:30 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS D: HEALTH SERVICES & POLICY RESEARCH

***Sze-chuan Suen, BS, BA**, Stanford University, Palo Alto, CA, Eran Bendavid, MD, MS, Stanford University, Stanford, CA and Jeremy D. Goldhaber-Fiebert, PhD, Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Stanford University, Stanford, CA*

Purpose: Tuberculosis (TB) continues to be a public health challenge in India, which accounts for a quarter of global incident cases. Disease control is complicated by a growing burden of multi-drug resistant (MDR) TB. Understanding the drivers of India's future TB and MDR-TB epidemic is crucial to disease control. We used simulation modeling to assess India's future TB trends and the potential impacts of treatment programs.

Method: We developed a dynamic transmission microsimulation model of TB in India. Individuals were characterized by age, sex, smoking status, TB infection and disease, and whether they had drug-sensitive (DS) or MDR-TB. The model incorporated DOTS and DOTS+ treatment algorithms for DS-TB and MDR-TB respectively and empirically-observed patterns of coverage and treatment uptake. Data sources included: the United Nations Population Division, India's National Family and Health Survey and Revised National Tuberculosis Control Program, and the published literature. We calibrated the model to India's demographic patterns, age- and sex-specific smoking prevalence rates, overall force of TB infection, and annual estimates of TB prevalence and incidence both before and during DOTS and

DOTS+ ramp-up. We examined the role played by the coverage and quality of DOTS and DOTS+ on future prevalence and incidence of MDR-TB.

Result: The model achieved good calibration for 1996-2011. Compared to a counterfactual without any DOTS, we estimated that DOTS has averted 100 million latent DS-TB infections and 3 million active TB cases in India to date. These effects differed by smoking, age, and sex. DOTS was also associated with 7 million latent MDR-TB infections and 800,000 active MDR-TB cases through treatment default and incomplete treatment. We estimate that MDR-TB prevalence will increase by 150% by 2036 without any changes to DOTS or DOTS+. Improving DOTS quality now could avert >80% of incident MDR-TB cases. The timing of quality improvement is influential, because over time a decreasing number of new MDR-TB cases are due to incomplete treatment and more cases result directly from transmission.

Conclusion: In India, DOTS has been associated with reducing overall TB incidence but increasing MDR-TB incidence. At the current quality of treatment programs, MDR-TB is expected to increase in India. Dynamic simulation models stratified by demographic and risks factors can provide timely insights to inform policymaking.

L-3. COMPARING FIFTEEN APPROACHES OF ASSESSING CARDIOVASCULAR DISEASE RISK USING RECEIVER OPERATING CHARACTERISTIC (ROC) CURVE ANALYSIS

4:30 PM - 4:45 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS D: HEALTH SERVICES & POLICY RESEARCH

Ankur Pandya, PhD[1], *Milton C. Weinstein, PhD*[2], *Joshua A. Salomon, PhD*[2] *and Thomas Gaziano, MD, MSc*[3], *(1)Weill Cornell Medical College, (2)Harvard School of Public Health, Boston, MA, (3)Harvard Medical School, Boston, MA*

Purpose: Receiver operating characteristic (ROC) curves are commonly used to evaluate diagnostic tests, but many diseases have multiple risk factors or tests that could be used to perform these analyses. We compared ROC curves for 15 approaches (involving single or multiple risk factors or tests) of assessing cardiovascular disease (CVD) risk.

Method: We calculated 15 rankings of risk for 3,501 men and 2,498 women in the NHANES III population (baseline values 1988-1994) to compare ROC curves using

10-year CVD death as the outcome of interest. There were five categories of approaches evaluated: 1) Single risk factor (age, cholesterol, body-mass index [BMI], systolic blood pressure [SBP]); 2) Number (0-7) of dichotomous risk factors (age>55 years, LDL cholesterol>130 mg/dL, SBP>140 mmHg, BMI>30 kg/m^2, diabetes, smoking, SBP treatment) with single risk factors as tiebreakers (age, cholesterol, BMI, SBP); 3) Total CVD risk (based on Framingham or non-laboratory-based risk scores); 4) Multistage (Framingham risk only available for 75%, 50% or 25% of population at intermediate risk, non-laboratory-based risk used for others); and 5) Combination of Framingham and non-laboratory-based risk (additive or multiplicative) for all individuals. Categories 1 and 2 relied on dichotomous and/or single risk factors, while Categories 3, 4 and 5 involved total risk scores. Categories 2, 4 and 5 consisted of multiple tests.

Result: In men, area under the ROC curve (AUC) results ranged from 0.474 (BMI single risk factor) to 0.782 (additive combination of Framingham and non-laboratory-based total risk scores). In women, this range was 0.556 (BMI single risk factor) to 0.834 (Framingham total risk score). All of the Category 1, 2, and 3 scores were statistically significantly worse ($p<0.05$) compared to the best score in each sex, except for age alone in men (AUC = 0.772), Category 2 tests with cholesterol or SBP as tiebreakers in women (AUCs of 0.807 and 0.827, respectively), and the non-laboratory-based total risk score in men (AUC = 0.782). AUCs for multistage tests ranged from 0.774-0.780 and 0.812-0.827 in men and women, respectively.

Conclusion: Tests involving total risk scores generally performed better than dichotomous and/or single risk factor-based tests. In men, age as a single risk factor performed comparably to the best scores (particularly at stricter positivity thresholds). In women, additional risk factor information beyond age significantly improved AUC results.

L-4. THE WELFARE CONSEQUENCES OF THE DONOR PRIORITY RULE

4:45 PM - 5:00 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS D: HEALTH SERVICES & POLICY RESEARCH

***Tinglong Dai**, Ronghuo Zheng and Katia Sycara, PhD, Carnegie Mellon University, Pittsburgh, PA*

Purpose: Deceased donors constitute the major source of transplanted organs in the U.S., but the current system for cadaveric organ donation and allocation is not effectively converting the public's high approval of donating organs into satisfactory organ donation rates. One proposed policy change (hereafter referred to as "donor priority rule") is to endow registered organ donors with the priority of receiving organs when in need for a cadaveric organ. This research aims to investigate the social welfare consequences of the donor priority rule.

Method: We build an analytic model of the current organ donation and allocation system using Queueing and Game Theoretic frameworks. In our model, each candidate's utility is positively associated with the quality-adjusted life expectancy (QALE), which is determined by life expectancies before and after transplantation, quality-of-life scores before and after transplantation, and probability of receiving of an organ (as opposed to dying while on the waiting list). One significant aspect of our model is that we use rigorous heavy-traffic queueing approach to model candidates' waiting time when the demand for organs far exceeds the sparse and random supply. This allows us to capture each individual's decision to register as an organ donor. We characterize the equilibrium before and after adopting the policy.

Result: Different from popular beliefs and extant research findings (cf. Kessler and Roth 2012) about the role of the donor priority rule, we show that if the health status of the population is sufficiently heterogeneous, the social welfare can be reduced as a result of the donor priority rule. The main reason is that individuals with low health status might have a higher incentive to become organ donors, leading to a distorted pool of organ supply.

Conclusion: Our model is among the first to analyze individuals' decisions to become registered organ donors. We show that although the donor priority rule invariably increases the size of the donor registry, the overall social welfare can be worse off after adopting the donor priority rule if the population is differentially healthy. Nevertheless, the social welfare will be increased when the variance of individual health status is low enough.

L-5. COST-EFFECTIVENESS OF SCREENING RESISTANT HYPERTENSIVE PATIENTS FOR PRIMARY ALDOSTERONISM

5:00 PM - 5:15 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)

Part of Session: LUSTED FINALIST ABSTRACTS D: HEALTH SERVICES & POLICY RESEARCH

Carrie C. Lubitz, MD, MPH[1], *Milton C. Weinstein, PhD*[2], *G. Scott Gazelle, MD, MPH, PhD*[1], *Pamela McMahon, PhD*[1] *and Thomas Gaziano, MD, MSc*[3], *(1)Massachusetts General Hospital, Boston, MA, (2)Harvard School of Public Health, Boston, MA, (3)Harvard Medical School, Boston, MA*

Purpose: Patients with primary aldosteronism (PA) comprise 17-23% of the resistant hypertensive population. Consensus guidelines for the screening and diagnosis of unilateral PA vary. We aimed to identify cost-effective strategies, including the use of CT and adrenal venous sampling (AVS), for identifying surgically correctable PA patients.

Method: A decision-analytic model (TreeAge 2009 Software, Williamstown, MA) was used to compare the costs (testing, imaging, surgery, and discounted life-time costs of spironolactone to treat non-surgical PA) and effectiveness (SBP reduction) of six screening and lateralization (i.e. identification of surgically correctable PA) strategies for PA in 55-year-old resistant hypertensive patients with and without the use of confirmatory saline-infusion test (SIT, following positive screening aldosterone to renin ratio), abdominal CT, and/or adrenal venous sampling (AVS). Patients diagnosed with unilateral PA underwent laparoscopic adrenalectomy; patients identified to have PA but who did not lateralize were given spironolactone. Estimates of differential changes in SBP for patients undergoing surgery or adding spironolactone and for those with PA versus non-PA resistant hypertension were based on prospective data from the literature. Costs were based on 2011 Medicare reimbursement schedules and *Red Book*: *PDR*. The primary outcome was cost (2011 US$) per change in SBP (mmHg). Sensitivity analyses were performed.

Result: Strategies with AVS strongly dominated strategies without AVS (Table 1). Three AVS strategies were on the efficient frontier. Although no conventional willingness to pay threshold for cost per change in SBP exists, proceeding to AVS following a positive screen for PA is cost-effective at a threshold of $1661.39 per mmHg or more. The strategies on the efficient frontier were stable across ranges of effectiveness (changes in SBP) and diagnostic accuracy.

Conclusion: Of the tested surgical strategies, proceeding directly to lateralization with AVS from a positive screening test yields the most SBP reduction, but a strategy

of using CT prior to AVS was also efficient.

Table 1. Competing choices for preferred surgical strategy.

Strategy*	Cost (US$)	Reduction in SBP (mmHg)	Δ Cost	Δ↓SBP	ΔCost/ Δ↓ SBP	On Frontier?
SIT → CT → AVS → SURGERY	1191.12	3.19				Yes
SIT → AVS → SURGERY	1290.97	3.33				No. Weakly dominated
SIT → CT → SURGERY	1297.90	3.18				No. Strongly dominated
CT → AVS → SURGERY	1678.98	4.81	487.86	1.62	301.15	Yes
CT → SURGERY	1838.24	4.80				No. Strongly dominated
AVS → SURGERY	1978.03	4.99	299.05	0.18	1661.39	Yes

* SIT – Saline-infusion test; CT – abdominal CT; AVS – adrenal venous sampling.

L-6. COST-EFFECTIVENESS OF BLOOD DONOR SCREENING FOR BABESIOSIS IN ENDEMIC REGIONS

5:15 PM - 5:30 PM: Fri. Oct 19, 2012
Regency Ballroom D (Hyatt Regency)
Part of Session: LUSTED FINALIST ABSTRACTS D: HEALTH SERVICES & POLICY RESEARCH

Matthew S. Simon, MD[1], *Jared A. Leff, MS*[1], *Melissa M. Cushing, MD*[1], *Beth Shaz, MD*[2], *David P. Calfee, MD*[1] *and Alvin I. Mushlin, MD, ScM*[1], *(1)Weill Cornell Medical College, New York, NY, (2)New York Blood Center, New York, NY*

Cost-Effectiveness of Blood Donor Screening for Babesiosis in Endemic Regions

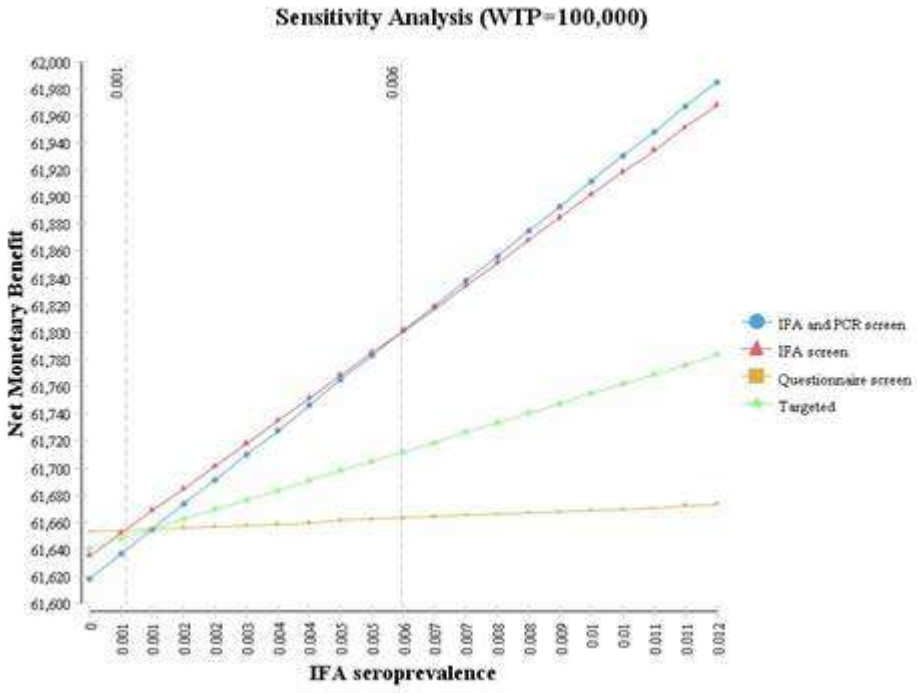
Purpose: Babesiosis is the most common transfusion-transmitted infection in the US and frequently results in severe or fatal illness in immunocompromised blood recipients. Blood donor screening assays are currently investigational and not widely employed in endemic areas. We evaluated the cost-effectiveness of 4 screening strategies for prevention of transfusion-transmitted babesiosis.

Methods: A decision analytic model compared the cost-effectiveness of screening using (1) questionnaire (status quo) (2) universal immunofluorescence antibody (IFA) assay (3) universal IFA and polymerase chain reaction (PCR) and (4) recipient risk-based targeting whereby a proportion of blood is IFA/PCR screened and reserved for immunocompromised recipients. Data were from published sources, including the recently published 1 year experience of risk-based targeting at the Rhode Island Blood Center. A societal perspective with a time horizon of 1 year was adopted. Outcomes

included screening and treatment costs, quality-adjusted life years (QALYs), and incremental cost-effectiveness (CE) ratios ($/QALY). Uncertainty was evaluated through 1-way, 2-way and probabilistic sensitivity analysis.

Results: In the base case, IFA screening had a CE ratio of $12,400 compared to status quo, IFA and PCR had an incremental CE ratio of $103,700 and the targeted strategy was excluded due to extended dominance. In 1-way sensitivity analyses the optimal screening strategy was sensitive to prevalence, testing costs, and the likelihood of donor window period infection. In probabilistic sensitivity analysis at a threshold of $100,000/QALY, IFA/PCR screening had a 55.7% probability of being the optimal strategy at 0.58% base case prevalence versus 2.1% at 0.1% prevalence and 91.5% at 1.4% prevalence.

Conclusions: Where babesia prevalence exceeds 0.1%, the CE ratio for IFA screening provides significantly better value for money than questionnaire and at prevalence exceeding 0.6% the incremental CE ratio for IFA/PCR screening is more attractive than many currently adopted blood safety interventions (Figure). More information on epidemiology and the accuracy of screening assays is needed to inform the optimal strategy for a national policy, but our results demonstrate a cost-effective means to improve blood safety in endemic areas.



AWD2. SMDM EARLY CAREER AWARDS - OPEN TO ALL ATTENDEES

« Previous Session | Next Session »

5:30 PM - 6:15 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)

Session Summary:

5:30 PM - 5:45 PM

AWD2-1. EUROPEAN 2012 MEETING AWARD FOR OUTSTANDING PAPER BY A YOUNG INVESTIGATOR

5:45 PM - 6:00 PM

AWD2-2. US 2012 AWARD FOR OUTSTANDING PAPER BY A YOUNG INVESTIGATOR

6:00 PM - 6:15 PM

AWD2-3. SMDM LEE B. LUSTED STUDENT PRIZE AWARD

Abstracts:

AWD2-1. EUROPEAN 2012 MEETING AWARD FOR OUTSTANDING PAPER BY A YOUNG INVESTIGATOR

5:30 PM - 5:45 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: SMDM EARLY CAREER AWARDS - OPEN TO ALL ATTENDEES

***Koonal K. Shah**, Office of Health Economics (OHE), London, United Kingdom*

Valuing Health at the End of Life: An Empirical Study of Public Preferences
K.K. Shah, A. Tsuchiya, A.J. Wailoo

Background:
In 2009, the National Institute for Health and Clinical Excellence (NICE) issued supplementary advice to its Appraisal Committees to be taken into account when appraising life-extending, ‘end of life’ treatments. This indicated that if certain criteria

are met, it may be appropriate to recommend the use of such treatments even if their reference case incremental cost-effectiveness ratios exceed the upper end of the range normally considered acceptable. However, the public consultation carried out by NICE revealed concerns that there is little scientific evidence to support the premise that society is prepared to find life-extending treatments that would not meet the cost-effectiveness criteria used for other treatments.

Objective:T
his study seeks to examine whether there is public support for giving greater priority to life extending, end of life treatments than to other types of treatment.

Methods:
The survey used six scenarios to address the research question posed, each of which involved asking respondents to choose which of two hypothetical patients they would prefer to treat, assuming that the health service has enough funds to treat one but not both of them. The various scenarios were designed so as to control for age- and time-related preferences, and to examine the trade-off between giving end of life patients a life extension and an improvement in quality of life. The survey was administered using face-to-face interviews.

Results:
Interviews were completed by a sample of 50 members of the general public in England. We found some weak evidence of support for giving priority to the patient with shorter remaining life expectancy, but note that a sizeable minority of respondents expressed the opposite preference. Very few respondents expressed indifference or unwillingness to choose between the two patients.

Discussion:
Whilst the heterogeneous nature of the preference data elicited means that there cannot be described to be a ‘consensus’ set of preferences, the results suggest that the current NICE policy may be insufficient as it does not distinguish between sudden and non-sudden disease progression, and does not involve giving greater weight to quality of life-improving treatments for those at the end of life.

AWD2-2. US 2012 AWARD FOR OUTSTANDING PAPER BY A YOUNG INVESTIGATOR

5:45 PM - 6:00 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: SMDM EARLY CAREER AWARDS - OPEN TO ALL ATTENDEES

***Ashleigh Tuite**, University of Toronto, Toronto, Ontario, Toronto, ON, Canada*

The US 2012 **Award for Outstanding Paper by a Young Investigator** is presented for a paper published in the year prior to the award. The definition of a "young investigator" is contained in the call for nominations distributed in the fall of each year. **The 2012 award is presented to Ashleigh R. Tuite, MSc, MPH for** *Cholera Epidemic in Haiti, 2010: Using a Transmission Model to Explain Spatial Spread of Disease and Identify Optimal Control Interventions. (Ann Intern Med. 2011;154:593-601)*

AWD2-3. SMDM LEE B. LUSTED STUDENT PRIZE AWARD

6:00 PM - 6:15 PM: Fri. Oct 19, 2012
Regency Ballroom A/B (Hyatt Regency)
Part of Session: SMDM EARLY CAREER AWARDS - OPEN TO ALL ATTENDEES

***. to be announced**, ., .*

The **Lee B. Lusted Student Prize Award**. Each year the Lee B. Lusted Prize Student Fund recognizes students' original research in medical decision making in order to attract the best and brightest young minds to SMDM. The prize provides a cash awards to be given to the top two scoring finalists in each category, for a total of four awards to be presented. Recipients will be chosen during the Annual Meeting.

DIN. STAKEHOLDER DINNER SYMPOSIUM, PRE-REGISTRATION REQUIRED

« Previous Session | Next Session »

6:15 PM - 10:00 PM: Fri. Oct 19, 2012
Phoenix Ballroom (Hyatt Regency)
Session Chairs:

- *Harold Sox, MD*

Saturday, October 20, 2012

BUS. SMDM ANNUAL BUSINESS MEETING - OPEN TO ALL ATTENDEES

« Previous Session | Next Session »

7:30 AM - 9:00 AM: Sat. Oct 20, 2012
Regency Ballroom C (Hyatt Regency)

Wednesday, October 17, 2012 (Posters)

POSTER SESSION 1

« Previous Session | Next Session »

The Atrium (Hyatt Regency)

Posters:

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1. COST-EFFECTIVENESS OF FOUR DIFFERENT STRATEGIES FOR EVALUATION OF FEVER IN INFANTS LESS THAN 60 DAYS OF AGE (INF, AHE)

***Eileen Murtagh Kurowski, MD**, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, Daniel P. Schauer, MD, MSc, Internal Medicine, Cincinnati, USA and Mark H. Eckman, MD, MS, University of Cincinnati, Cincinnati, OH*

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2. COST-EFFECTIVENESS OF ROUTINE USE OF MAGNESIUM SULFATE FOR SEIZURE PROPHYLAXIS IN MILD PREECLAMPSIA (INF, AHE)

***Jonathan Glazer Shaw, MD**[1], Jeremy D. Goldhaber-Fiebert, PhD[2], Mackensie Yore[3], Serena Faruque, MS[3], Aaron B. Caughey, MD, MPP, MPH, PhD[4] and Douglas K. Owens, MD, MS[1], (1)Veterans Affairs Palo Alto Health Care System and Stanford University, Stanford, CA, (2)Centers for Health Policy & Primary Care and Outcomes Research, Stanford University, Stanford, CA, (3)Stanford University, Stanford, CA, (4)Oregon Health & Sciences University, Portland, OR*

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3. IMPLICATIONS OF USING EFFECTIVENESS INSTEAD OF EFFICACY ON THE COST-EFFECTIVENESS OF BIOLOGICS IN RHEUMATOID ARTHRITIS: A MULTI-STUDY SENSITIVITY ANALYSIS (INF, AHE)

***Hawre Jalal, MD, MSc**[1], Kaleb D. Michaud, PhD[2], Frederick Wolfe, M.D.[3] and Karen M. Kuntz, ScD[1], (1)University of Minnesota, Minneapolis, MN, (2)University of Nebraska Medical Center (UNMC), Omaha, NE, (3)National Data Bank for Rheumatic Diseases, Wichita, KS*

4. LINEAR REGRESSION METAMODELING AS A TOOL TO SUMMARIZE AND PRESENT SIMULATION MODEL OUTPUTS (INF, AHE)

***Hawre Jalal, MD, MSc**, Bryan E. Dowd, PhD, François Sainfort, PhD and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

5. THE ECONOMIC BURDEN OF CHILDHOOD AUTISM SPECTRUM DISORDERS (AHE)

***Tara A. Lavelle, MS, PhD**[1], Milton C. Weinstein, PhD[2], Joseph P. Newhouse, PhD[1], Kerim Munir, MD, MPH, ScD[3], Karen A. Kuhlthau, PhD[4] and Lisa A. Prosser, M.S., Ph.D.[5], (1)Harvard University, Cambridge, MA, (2)Harvard School of Public Health, Boston, MA, (3)Children's Hospital Boston, Boston, MA, (4)Massachusetts General Hospital, Boston, MA, (5)University of Michigan, Ann Arbor, MI*

6. COST-EFFECTIVENESS ANALYSIS OF NEW DIRECT-ACTING ANTIVIRALS (DAAS) THERAPY FOR PATIENTS WITH UNTREATED CHRONIC HEPATITIS C GENOTYPE 1 INFECTION IN THE VETERANS HEALTH ADMINISTRATION (INF, AHE)

***Kee Chan, PhD**[1], Mai Ngan Lai, BS[2], Erik Groessl, PhD[2], Amresh Hanchate, PhD[1], John Wong, MD[3], Jack Clark, PhD[1], Steven Asch, PhD[4], Allen Gifford, MD[5] and Samue Ho, MD[6], (1)Boston University, Boston, MA, (2)University of California, San Diego, La Jolla, CA, (3)Tufts Medical Center, Boston, MA, (4)HSR&D Center for Health Care Evaluation, Menlo Park, CA, (5)Bedford Center for Health Quality, Outcomes & Economic Research, Bedford, MA, (6)Gastroenterology, San Diego, CA*

7. COST EFFECTIVENESS OF FIRST LINE CHEMOTHERAPY FOR PATIENTS WITH ADVANCED OR METASTATIC NON SMALL CELL LUNG CANCER (INF, AHE)

***Adrian Bagust, BA, MSc**, Angela Boland, BA, MSc, PhD and Rumona Dickson, PhD, University of Liverpool, Liverpool, United Kingdom*

8. THE VALUE OF INFORMATION OF ADDITIONAL RESEARCH REGARDING BIRTH-COHORT SCREENING FOR HEPATITIS C (INF, AHE)

David Rein, PhD[1]*, John Wittenborn, Wittenborn-John@norc.org*[1] *and Bryce Smith, PhD*[2]*, (1)NORC at the University of Chicago, Atlanta, GA, (2)CDC, Atlanta, GA*

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9. COST-EFFECTIVENESS OF ROTAVIRUS VACCICINATION IN A MIDDLE INCOME COUNTRY: A DYNAMIC MODELLING APPROACH (INF, AHE)

Ivar Sønbø Kristiansen, MD, PhD, MPH *and Birgitte Freiesleben de Blasio, PHD, University of Oslo, Oslo, Norway*

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10. COST-EFFECTIVENESS ANALYSIS AND BUDGET IMPACT ASSESSMENT: COMBINING THE TWO FOR THE AID OF DECISION MAKERS (INF, AHE)

Mike Paulden, MA., MSc. *and Ba Pham, MSc, University of Toronto, Toronto, ON, Canada*

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11. ADVANCING THE METHODS OF COST-EFFECTIVENESS ANALYSIS: WHY IT'S TIME TO MOVE ON FROM ICERS AND THRESHOLDS (INF, AHE)

Mike Paulden, MA., MSc.*, University of Toronto, Toronto, ON, Canada*

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12. PROJECTED COST-EFFECTIVENESS OF A BARBERSHOP-BASED INTERVENTION TO REDUCE HYPERTENSION IN BLACK MEN (INF, AHE)

Nrupen A. Bhavsar, PhD[1]*, Joseph E. Ravenell*[2]*, Gbenga Ogedegbe*[2]*, Jason A. Roy*[3]*, R. Scott Braithwaite, MD, MSc, FACP*[2] *and Joseph A. Ladapo, MD, PhD*[2]*, (1)Johns Hopkins University School of Medicine, Baltimore, MD, (2)New York University School of Medicine, New York, NY, (3)University of Pennsylvania School of Medicine, Philadelphia, PA*

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13. COST-EFFECTIVENESS OF ENHANCED DEPRESSION CARE FOR PATIENTS WITH ACUTE CORONARY SYNDROME AND DEPRESSIVE SYMPTOMS: RESULTS OF THE COPES RANDOMIZED CONTROLLED TRIAL (INF, AHE)

Joseph A. Ladapo, MD, PhD[1]*, Jonathan A. Shaffer, PhD*[2]*, Yixin Fang, PhD*[1]*, Lauren M. Uhler, BA*[1]*, Siqin Ye, MD*[2] *and Karina W. Davidson, PhD*[2]*, (1)New York*

University School of Medicine, New York, NY, (2)Columbia University College of Physicians and Surgeons, New York, NY

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14. A COST-EFFECTIVENESS ANALYSIS COMPARING TWO ALTERNATIVE DEBRIDEMENT THERAPIES FOR NECROTIC PRESSURE ULCERS IN A LONG-TERM CARE SETTING (INF, AHE)

***Curtis Waycaster, PhD**, Healthpoint Biotherapeutics, Fort Worth, TX*

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15. ESTIMATING LIFETIME HIV TREATMENT COSTS IN THE UNITED STATES: EARLY VERSUS LATE ENTRY INTO CARE (AHE)

***Paul G. Farnham, Ph.D.**[1], Chaitra Gopalappa, Ph.D.[1], Stephanie Sansom, PhD[1] and Angela Hutchinson, PhD, MPH[2], (1)Centers for Disease Control and Prevention, Atlanta, GA, (2)Division of HIV/AIDS Prevention, Atlanta, GA*

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16. WHO INITIATES CANCER SYMPTOM MANAGEMENT DISCUSSIONS? FACTORS ASSOCIATED WITH PATIENT VS. CLINICIAN INITIATION IN WOMEN WITH OVARIAN CANCER (DEC)

***Yun Jiang, BSN, MS, RN**[1], Paula R. Sherwood, PhD, RN[1], Susan M. Sereika, PhD[1], Robert P. Edwards, MD[2] and Heidi S. Donovan, PhD, RN[1], (1)University of Pittsburgh Schoool of Nursing, Pittsburgh, PA, (2)University of Pittsburgh Medical Center Magee Women's Hospital, Pittsburgh, PA*

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17. ADOPTING CLINICAL PRACTICE GUIDELINES NEGATIVELY IMPACT SHARING DECISIONS WITH PATIENTS BUT TRAINING HEALTH PROFESSIONALS IN SDM CANCELS THIS IMPACT (DEC)

***Mireille Guerrier, Msc**, Research Center of the CHUQ, Québec, Quebec, QC, Canada, Michel Labrecque, MD, PhD, Universite Laval, Quebec, QC, Canada, Stéphane Turcotte, M.Sc., CHUQ Research Center-Hospital St-François d'Assise, Knowledge Transfer and Health Technology Assessment, Québec, QC, Canada, Louis-Paul Rivest, PhD, Dpt of Mathematics and Statistics, Université Laval, Quebec, QC, Canada and France Légaré, MD, PhD, CHUQ Research Center-Hospital St-*

François d'Assise, Knowledge Transfer and Health Technology Assessment, Quebec, QC, Canada

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18. DETERMINANTS OF COUNSELING REGARDING TRIAL OF LABOR AFTER CESAREAN: THE IMPACT OF PROVIDER CHARACTERISTICS (DEC)

Katharine Newman, MD, Brigham and Women's Hospital/Massachusetts General Hospital Integrated Residency in Obstetrics and Gynecology, Boston, MA, Bruce Feinberg, MD, Brigham and Women's Hospital, Boston, MA and ***Anjali Kaimal, MD, MAS****, Massachusetts General Hospital, Harvard Medical School, Boston, MA*

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19. EFFECTS OF DECISION AMBIGUITY AND CONFLICTS OF INTEREST ON PERCEIVED VALUE OF A MEDICAL SERVICE (DEC)

Sorapop Kiatpongsan, MD*, Harvard Interfaculty Initiative in Health Policy, Cambridge, MA, Anjali Kaimal, MD, MAS, Massachusetts General Hospital, Harvard Medical School, Boston, MA, Michael I. Norton, PhD, Harvard Business School, Boston, MA and Milton C. Weinstein, PhD, Harvard School of Public Health, Boston, MA*

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20. WHAT ATTRIBUTES OF A LUNG CANCER SCREENING TEST AFFECT INTEREST IN BEING SCREENED? (DEC)

Margaret M. Byrne, PhD*[1], Richard Thurer[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*

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21. WILLINGNESS TO CHANGE TREATMENT SHOULD BE ASSESSED AT MULTIPLE TIME POINTS (DEC)

Paul R. Falzer, PhD, Yale School of Medicine, West Haven, CT and ***Liana Fraenkel, MD, MPH****, Yale School of Medicine, New Haven, CT*

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22. INFORMATION-SEEKING BEHAVIOR AND DECISION MAKING IN PATIENTS UNDERGOING ELECTIVE CARDIAC PROCEDURES (DEC)

Grace A. Lin, MD, MAS[1], *Katherine Hicks, B.A.*[1], *Julie Bynum, M.D., M.P.H.*[2], *Carol Cosenza, MSW*[3], *Karen R. Sepucha, PhD*[4], *Kim Smolderen, PhD*[5] *and R. Adams Dudley, MD, MBA*[1], *(1)University of California, San Francisco, San Francisco, CA, (2)Dartmouth Medical School, Lebanon, NH, (3)University of Massachusetts Boston, Boston, MA, (4)Massachusetts General Hospital, Boston, MA, (5)St. Luke's Hospital, Kansas City, MO*

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23. SUPPORTING PATIENT DECISION-MAKING FOR SURGERY VERSUS PROLONGED CONSERVATIVE TREATMENT FOR HERNIATED DISK: EVALUATION OF ENRICHED VIDEO AND TEXTUAL WEB-BASED PATIENT DECISION AIDS IN A MULTI-CENTER RANDOMIZED TRIAL (DEC)

Marieke de Vries, PhD[1], *Monique C.M. Baas-Thijssen*[2], *Anne M. Stiggelbout, PhD*[2], *Carmen Vleggeert, MD*[2] *and Wilco C. Peul, MD, MSc*[2], *(1)Leiden University Medical Center & Tilburg University, Leiden, Netherlands, (2)Leiden University Medical Center, Leiden, Netherlands*

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24. PATIENT'S DESIRE FOR INFORMATION: A STUDY IN THE ADVANCED CANCER SETTING (DEC)

Linda J.M. Oostendorp, MSc*, Petronella B. Ottevanger, MD, PhD, Winette T.A. Van der Graaf, Prof, MD and Peep F.M. Stalmeier, PhD, Radboud University Nijmegen Medical Center, Nijmegen, Netherlands*

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25. RESULTS FROM A DECISION MAKING SURVEY OF LATINA BREAST CANCER PATIENTS (DEC)

Sandra Feibelmann, M.P.H.[1], ***Karen R. Sepucha, PhD***[1], *Sarah Hewitt, B.A.*[1] *and Argyrios Ziogas, Ph.D.*[2], *(1)Massachusetts General Hospital, Boston, MA, (2)University of California Irvine, School of Medicine, Irvine, CA*

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26. RACE AND TOTAL JOINT REPLACEMENT (TJR) CONSIDERATION: THE ROLE OF SOCIAL SUPPORT (DEC)

Ernest R. Vina, MD, MS[1], *Yona K. Coonan, PhD*[2], *Said Ibrahim, M.D., M.P.H.*[3], *Michael J. Hannon, MA*[2], *Robert M. Boudreau, PhD*[2] *and C. Kent Kwoh, MD*[1], *(1)University of Pittsburgh and VAPHS, Pittsburgh, PA, (2)University of Pittsburgh, Pittsburgh, PA, (3)University of Pennsylvania, Philadelphia, PA*

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27. DEVELOPING A THEORY-BASED MEASURE OF PATIENT SHARED DECISION MAKING COMMUNICATION BEHAVIORS (INF, DEC)

Dominick Frosch, PhD[1], *Jared R. Adams, MD, PhD*[1], *France Legare, MD, PhD, CCFP, F*[2], *Caroline Tietbohl, BA*[1] *and Glyn Elwyn, MD, PhD*[3], *(1)Palo Alto Medical Foundation Research Institute, Palo Alto, CA, (2)Laval University, Quebec, QC, Canada, (3)Dartmouth Center for Healthcare Delivery Science, Hanover, NH*

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28. ON STRATEGIES TO CONTROL HEALTHCARE COSTS: INFLUENCING PATIENTS TO "SELF-RATION" BY COMMUNICATING THE SOCIAL IMPLICATIONS OF OVERUSE (DEC)

Laura Scherer, PhD[1], *Peter A. Ubel, MD*[2], *Darin Zahuranec*[3], *James Burke*[3], *Sameer Saini, MD, MS*[3] *and Angela Fagerlin, PhD*[4], *(1)VA HSR&D and University of Michigan, Ann Arbor, MI, (2)Duke University, Durham, NC, (3)University of Michigan, Ann Arbor, MI, (4)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

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29. PHYSICIAN OVERUTILIZATION OF SLEEP STUDIES IN PREDICTING PATIENT IMPROVEMENT USING CPAP (DEC)

Robert M. Hamm, PhD[1], *Rory Ramsey, MD*[2], *Neal V. Dawson, MD*[3], *William A. Whitelaw, MD*[4], *Ward W. Flemons, MD*[4], *Rollin F. Brant, MD*[5] *and Kingman P. Strohl, MD*[6], *(1)University of Oklahoma Health Sciences Center, Oklahoma City, OK, (2)St. Alphonsis Regional Medical Center, Boise, ID, (3)Case Western Reserve University at MetroHealth Medical Center, Cleveland, OH, (4)University of Calgary, Calgary, AB, Canada, (5)University of British Columbia, Vancouver, BC, Canada, (6)Case Medical Center, Cleveland, OH*

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30. LONG-TERM BREAST CANCER SURVIVORS' PERCEPTIONS OF CANCER RISK: A MENTAL MODELS STUDY (DEC)

*Christopher A. Harle, PhD, Jessica R. Schumacher, PhD, **Damian M. Everhart, MS**, Lori A. Bilello, MS and Merry-Jennifer Markham, MD, University of Florida, Gainesville, FL*

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31. IDENTIFYING FACTORS ASSOCIATED WITH STATE PSYCHIATRIC HOSPITAL USE TO INFORM ADMISSION, REFERRAL, AND POLICY DECISION-MAKING (HSP)

Elizabeth Holdsworth La, MSE[1], *Kristen Hassmiller Lich, PhD*[1], *Ruoqing Zhu*[1], *Alan R. Ellis, MSW*[2], *Marvin Swartz, MD*[3], *Michael R. Kosorok, PhD*[1] *and Joseph Morrissey, PhD*[1], *(1)University of North Carolina at Chapel Hill, Chapel Hill, NC, (2)Cecil G. Sheps Center for Health Services Research, Chapel Hill, NC, (3)Duke University, Durham, NC*

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32. MODELING THE ADDED PREDICTIVE VALUE OF A NOVEL CARDIOVASCULAR RISK MARKER WITH A SIMPLE MARKOV MODEL (INF, HSP)

Bart S. Ferket, MD[1], *Bob J.H. van Kempen, MSc*[1], *Ewout W. Steyerberg, PhD*[2], *Oscar H. Franco, MD, PhD, FESC, MFPH*[3], *Wendy Max, PhD*[4], *Kirsten E. Fleischmann, MD, MPH*[5] *and M.G. Myriam Hunink, MD, PhD*[6], *(1)Erasmus MC, Rotterdam, Netherlands, (2)Department of Public Health, AE 236, Rotterdam, Netherlands, (3)Erasmus MC, University Medical Center Rotterdam, Rotterdam, Netherlands, (4)University of California, San Francisco, San Francisco, CA, (5)UCSF Medical Center, San Francisco, CA, (6)Erasmus University Medical Center, Rotterdam, Netherlands*

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33. OPTIMIZING CERVICAL CANCER SCREENING PARTICIPATION (HSP)

Emily A. Burger, MPhil[1], *Ivar Sønbø 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*

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34. COST-EFFECTIVENESS OF TREATMENT OPTIONS FOR DIABETIC MACULAR EDEMA (INF, HSP)

Suzann Pershing, M.D.[1], *Brian Matesic*[1], *Eva Enns, MS, PhD, Candidate*[1], *Douglas K. Owens, MD, MS*[2] *and Jeremy D. Goldhaber-Fiebert, PhD*[1], *(1)Stanford University, Stanford, CA, (2)Veterans Affairs Palo Alto Health Care System and Stanford University, Stanford, CA*

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35. PROGNOSTIC MODEL OF MORTALITY FOLLOWING HUMAN INFLUENZA (A) H5N1 INFECTION (HSP)

Rita B. Patel, MD, MPH[1], *Maya Mathur*[1], *Yoshi Gillaspie, BA*[1], *Yang Xiao, PhD*[2] *and Nayer Khazeni, MD, MS*[1], *(1)Stanford University, Stanford, CA, (2)University of California, Davis, Davis, CA*

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36. CHARACTERIZING THE FLOW OF SHORT-STAY PATIENTS IN THE INTENSIVE CARE UNIT (HSP)

Kusum S. Mathews, MD, MPH[1], *Grace Y. Jenq, MD*[1], *Margaret A. Pisani, MD, MPH*[1] *and Elisa F. Long, PhD*[2], *(1)Yale School of Medicine, New Haven, CT, (2)Yale University, New Haven, CT*

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37. CREATION OF A GENOMIC PRESCRIBING SYSTEM FOR DELIVERY OF PHARMACOGENOMIC RESULTS AND PERSONALIZED PRESCRIPTION DECISION-MAKING (HSP)

Peter H. O'Donnell, M.D., *Angela Bush, Jared Spitz, Keith Danahey, Don Saner, Soma Das, Nancy J. Cox and Mark J. Ratain, MD, The University of Chicago, Chicago, IL*

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38. IMPACT OF MULTIPLE MEDICATION COMPLIANCE ON DISEASE BURDEN IN A CALIFORNIA MEDICAID POPULATION WITH COMORBID TYPE II DIABETES AND CARDIOVASCULAR DISEASE (HSP)

Joanne Wu, MD, MS *and Michael B. Nichol, PhD, University of Southern California, Los Angeles, CA*

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39. PATTERNS AND CORRELATES OF LINKAGE TO APPROPRIATE HIV CARE FOLLOWING HIV DIAGNOSIS IN THE UNITED STATES MEDICAID POPULATION (HSP)

*Stephen S. Johnston, MA[1], **Timothy Juday, PhD**[2], Daniel Seekins, MD[2], Tony Hebden, PhD[2], Nicole Fulcher, MA[3], Amanda Farr, MPH[1], Bong-Chul Chu, PhD[4] and C.Daniel Mullins, PhD[5], (1)Thomson Reuters, Washington, DC, (2)Bristol-Myers Squibb, Plainsboro, NJ, (3)Thomson Reuters, Cambridge, MA, (4)Thomson Reuters, Santa Barbara, CA, (5)University of Maryland School of Pharmacy, Baltimore, MD*

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40. NET EFFECT OF CURRENT PATTERNS OF ORAL CONTRACEPTIVE USE ON POTENTIALLY FATAL OUTCOMES IN THE UNITED STATES (HSP)

***Evan R. Myers, MD, MPH**[1], Laura J. Havrilesky, MD[1], Jennifer Gierisch, PhD, MPH[1], Patricia G. Moorman, PhD[1], Michaela A. Dinan, PhD[2], Remy R. Coeytaux, MD, PhD[1], Rachel P. Urrutia, MD[3], William J. Lowery, MD[1], Vic Hasselblad, PhD[1], Amanda J. McBroom, PhD[2] and Gillian D. Sanders, PhD[1], (1)Duke University School of Medicine, Durham, NC, (2)Duke Clinical Research Institute, Durham, NC, (3)UNC School of Medicine, Chapel Hill, NC*

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41. USING NET BENEFITS AND ACCEPTABILITY CURVES TO QUANTIFY UNCERTAINTY ABOUT TRADEOFFS BETWEEN HARMS AND BENEFITS OF ORAL CONTRACEPTIVES (INF, HSP)

***Evan R. Myers, MD, MPH**[1], Laura J. Havrilesky, MD[1], Jennifer Gierisch, PhD, MPH[1], Patricia G. Moorman, PhD[1], Michaela A. Dinan, PhD[2], Remy R. Coeytaux, MD, PhD[1], Rachel P. Urrutia, MD[3], William J. Lowery, MD[1], Vic Hasselblad, PhD[1], Amanda J. McBroom, PhD[2] and Gillian D. Sanders, PhD[1], (1)Duke University School of Medicine, Durham, NC, (2)Duke Clinical Research Institute, Durham, NC, (3)UNC School of Medicine, Chapel Hill, NC*

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42. ABSTRACT WITHDRAWN - HEALTH IMPACT OF MATERNAL GROUP B STREPTOCOCCAL VACCINATION ON NEONATAL SEPSIS AND MENINGITIS IN SOUTH AFRICA (HSP)

***Sun-Young Kim, PhD**[1], Jeehyun Park, PhD[2], Louise B. Russell, PhD[2] and Anushua Sinha, MD, MPH[3], (1)P3S Corporation, Leesburg, VA, (2)Rutgers University, New*

Brunswick, NJ, (3)University of Medicine and Dentistry of New Jersey - New Jersey Medical School, Newark, NJ

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43. ABSTRACT WITHDRAWN - USE OF A CLINICAL DECISION SUPPORT TOOL TO IMPROVE ADHERENCE TO NATIONAL GUIDELINES FOR DRUG-LABORATORY MONITORING (HSP)

Emily Beth Devine, PhD, PharmD, MBA[1], *Bernie Lau, MPH*[1] *and Casey L. Overby, MBiot, PhD*[2], *(1)University of Washington, Seattle, WA, (2)Columbia University, New York, NY*

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44. OPPORTUNITIES AND CHALLENGES IN USING ADMINISTRATIVE DATA FOR CROSS-COUNTRY COMPARISONS OF HEALTH CARE COSTS (HSP)

Karen E. Bremner, BSc[1], *Murray D. Krahn, MD, MSc*[2], *K. Robin Yabroff, PhD*[3], *Jeffrey S. Hoch, PhD*[4], *Lisa Barbera, MD*[2], *Ning Liu*[5], *Michael J. Barrett*[6] *and Joan L. Warren, PhD*[3], *(1)University Health Network, Toronto, ON, Canada, (2)University of Toronto, Toronto, ON, Canada, (3)National Cancer Institute, Bethesda, MD, (4)Li Ka Shing Knowledge Institute, St Michael's Hospital, Toronto, ON, Canada, (5)Institute for Clinical Evaluative Sciences, Toronto, ON, Canada, (6)Information Management Services, Silver Spring, MD*

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45. USING THE NET MONETARY BENEFIT FRAMEWORK FOR THE OPTIMAL DICHOTOMIZATION OF DIAGNOSTIC TESTS: A CASE STUDY OF A DYSGLYCEMIA SCREENING PROGRAM (INF, MET)

Gimon de Graaf*, Douwe Postmus, PhD and Erik Buskens, PhD, University Medical Center Groningen, Groningen, Netherlands*

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46. USING PROBABILITY ELICITATION TO PERFORM EARLY HEALTH ECONOMIC EVALUATIONS OF NEW MEDICAL PRODUCTS (MET)

Qi Cao, Msc.*, Douwe Postmus, PhD, Hans Hillege, PhD, MD and Erik Buskens, PhD, University Medical Center Groningen, Groningen, Netherlands*

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47. OPTIMIZATION OF HYPERGLYCEMIA TREATMENT INTENSIFICATION FOR PATIENTS WITH TYPE 2 DIABETES (MET)

Yuanhui Zhang, M.O.R[1], *Jennifer E. Mason, MS*[1], *Brian T. Denton, PhD*[1], *Nilay D. Shah, PhD*[2] *and Steven Smith, MD*[3], *(1)North Carolina State University, Raleigh, NC, (2)Mayo Clinic, Rochester, MN, (3)Mayo Clinic College of Medicine, Rochester, MN*

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48. MULTIPLE SIGNAL DETECTION APPLIED TO GIST-BASED DISCRIMINATION OF GENETIC RISK IN BREAST CANCER (MET)

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

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49. BAYESIAN CONTACT TRACING FOR COMMUNICABLE RESPIRATORY DISEASE (INF, MET)

Ayman M. Shalaby, M.Eng *and Daniel J. Lizotte, PhD, University of Waterloo, Waterloo, ON, Canada*

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50. SIMULATING COLLATERAL WEIGHT LOSS WITHIN SOCIAL NETWORKS: CAPITALIZING ON SPILLOVER EFFECTS TO IMPROVE HEALTH (INF, MET)

Davene R. Wright, PhD*, Harvard University, Boston, MA, Jane J. Kim, PhD, Harvard School of Public Health, Boston, MA and Lisa A. Prosser, M.S., Ph.D., University of Michigan, Ann Arbor, MI*

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51. COST-EFFECTIVENESS ANALYSIS WITH MARKOV DECISION PROCESSES (INF, MET)

Jagpreet Chhatwal, PhD*, University of Pittsburgh, Graduate School of Public Health, Pittsburgh, PA, Maryam H. Mofrad, MS, University of Pittsburgh, Pittsburgh, PA and Mark S. Roberts, MD, MPP, University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA*

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52. RANDOM REGRET MINIMIZATION: A NEW DISCRETE CHOICE MODEL FOR HEALTH ECONOMICS (INF, MET)

***Esther W. de Bekker-Grob, PhD**, Erasmus MC - University Medical Center Rotterdam, Rotterdam, Netherlands and Caspar G. Chorus, PhD, Delft University of Technology, Delft, Netherlands*

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53. SENSITIVITY ANALYSIS METHODS FOR DECISION MODELS: A REVIEW AND TWO NOVEL TECHNIQUES (INF, MET)

***François Sainfort, PhD** and Hawre Jalal, MD, MSc, University of Minnesota, Minneapolis, MN*

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54. NON-ADDITIVE MEASURES IN MEDICAL DECISION MAKING (INF, MET)

***Francois P. Modave, Ph.D.** and Navkiran S. Shokar, MD, /, MPH, Texas Tech University HSC at El Paso, El Paso, TX*

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55. TOO MUCH OF A GOOD THING? WHEN TO STOP CATCH-UP VACCINATION (INF, MET)

***David W. Hutton, PhD**, University of Michigan School of Public Health, Ann Arbor, MI and Margaret L. Brandeau, PhD, Stanford University, Stanford, CA*

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56. DECISION MAKING IN HETEROGENEOUS UNCERTAINTY ENVIRONMENT (INF, MET)

***Phan H. Giang, PhD**, George Mason University, Fairfax, VA*

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57. ESTIMATING THE EXPECTED VALUE OF PERFECT PARAMETER INFORMATION (EVPPI): APPLICATIONS OF SHORT-CUT ALGORITHMS (INF, MET)

***John Wittenborn, Wittenborn-John@norc.org**, NORC at the University of Chicago, Morrisville, NC and David Rein, PhD, NORC at the University of Chicago, Atlanta, GA*

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58. ABSTRACT WITHDRAWN - METHODOLOGICAL CHALLENGES IN MAPPING A DISEASE SPECIFIC PSYCHOMETRIC INSTRUMENT TO A DISEASE SPECIFIC UTILITY INSTRUMENT: THE EFFECT OF ALTERNATE UTILITY TRANSFORMATIONS AND WITHIN-INSTRUMENT SUB-SCALE CORRELATIONS ON MODEL FIT (MET, INF)

***Nicholas Mitsakakis, MSc, PhD**[1], Karen E. Bremner, BSc[2] and Murray D. Krahn, MD, MSc[1], (1)University of Toronto, Toronto, ON, Canada, (2)University Health Network, Toronto, ON, Canada*

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59. GROWING WISER AND WIDER: THE COST-BENEFIT OF UNIVERSAL DESIGN IN MITIGATING LIMITED MOBILITY IN URGENT CARE SETTING (HSP)

***Lynn Huynh, MBA, MPH**, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD and James Stahl, MD, CM, MPH, Massachusetts General Hospital, Boston, MA*

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60. COST-EFFICIENT DESIGN OF EPIDEMIOLOGICAL STUDIES USING DISCRETE EVENT SIMULATION MODEL – EPISOL STUDY SIMULATOR 1.0 (INF, MET)

***Lynn Huynh, MBA, MPH**[1], Kevin D. Frick, PhD[1], Milo A. Puhan, MD, PhD[1] and James Stahl, MD, CM, MPH[2], (1)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, (2)Massachusetts General Hospital, Boston, MA*

POSTER SESSION 2

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The Atrium (Hyatt Regency)

Posters:

1. COST-EFFECTIVENESS OF STROKE PREVENTION THERAPIES IN ATRIAL FIBRILLATION PATIENTS: A NEW GENERATION OF DRUGS (INF, AHE)

Amy Tawfik, HBSc, PhD, Candidate[1], *Walter Wodchis, PhD*[1], *Jeffrey Hoch, PhD*[2] *and Murray D. Krahn, MD, MSc*[1], *(1)University of Toronto, Toronto, ON, Canada, (2)Cancer Care Ontario, Toronto, ON, Canada*

2. ECONOMIC EVALUATION OF HLA-B*1502 GENE SCREENING FOR THE PREVENTION OF CARBAMAZEPINE-INDUCED TOXIC EFFECTS IN TAIWAN (AHE)

Chih-Sheng (Jason) Hsu, Ph.D., *Harvard Medical School, Boston, MA, Natasha K. Stout, Ph.D., Department of Population Medicine, Boston, MA and Kin-Wei (Arnold) Chan, Sc.D., Harvard School of Public Health, Boston, MA*

3. ABSTRACT WITHDRAWN - ECONOMIC EVALUATION OF 21-GENE ASSAY FOR EARLY STAGE BREAST CANCER PATIENTS FROM A PERSPECTIVE OF CHINESE HEALTH CARE SYSTEM (AHE)

Mi Zhou, M.S., *Michael Goodman, M.S., PHD, Joseph E. Biskupiak, MBA, PHD and David Stenehjem, PharmD, University of Utah, Salt Lake City, UT*

4. DIRECT COSTS OF HEAD AND NECK CANCER IN THE UNITED STATES: ESTIMATES FROM THE 2005-2009 MEDICAL EXPENDITURE PANEL SURVEY (MEPS) (AHE)

Monisha Sharma, ScM *and Jane J. Kim, PhD, Harvard School of Public Health, Boston, MA*

5. THE COST-EFFECTIVENESS OF SULINDAC-DIFLUOROMETHYLORNITHINE FOR THE PREVENTION OF COLORECTAL CANCER (INF, AHE)

Brian J. Wells, MD, PhD[1], *Gregory S. Cooper, MD*[2], *Siran Koroukian, PhD*[2], *Leila Jackson, PhD*[2], *Michael W. Kattan, PhD*[1] *and Mendel E. Singer, PhD*[2], *(1)Cleveland Clinic, Cleveland, OH, (2)Case Western Reserve University, Cleveland, OH*

6. TO INVEST OR NOT TO INVEST: A STAKEHOLDER-DRIVEN APPROACH TO EARLY CYCLE ECONOMIC EVALUATION OF DIAGNOSTIC TECHNOLOGIES (INF, AHE)

***Mark E. Bensink, PhD, MSc, MEd**, Fred Hutchinson Cancer Research Center, Seattle, WA, Scott Ramsey, MD, PhD, Fred Hutchinson Cancer Research Center/ University of Washington, Seattle, WA, Robert A. Dann, MBA, MA, GE Healthcare, Bucks, United Kingdom and Carolyn E. Bodnar, MSc, GE Healthcare, Chalfont St Giles, United Kingdom*

7. SURVEILLANCE GUIDELINES FOR LOW GRADE NON-INVASIVE BLADDER CANCER: A COST COMPARISON (AHE)

***Matthew Nielsen, MD**[1], Angela B. Smith, MD[2], Raj Pruthi, MD[1], Michael Pignone, MD, MPH[3] and Evan R. Myers, MD, MPH[4], (1)University of North Carolina, Chapel Hill, NC, USA, Chapel Hill, NC, (2)UNC Chapel Hill School of Medicine, Chapel Hill, NC, (3)University of North Carolina at Chapel Hill, Chapel Hill, NC, (4)Duke University School of Medicine, Durham, NC*

8. HEALTHCARE COSTS OF MEDICALLY-ATTENDED ADVERSE EFFECTS IN MEDICAID HIV PATIENTS ON ATAZANAVIR- AND DARUNAVIR-BASED ANTIRETROVIRAL THERAPY (AHE)

*Stephen Johnston, MA[1], **Timothy Juday, PhD**[2], Stephen Esker, PharmD[2], Derek Espindle, MA[3], Bong-Chul Chu, PhD[4], Tony Hebden, PhD[2] and Jonathan Uy, MD[2], (1)Thomson Reuters, Washington, DC, (2)Bristol-Myers Squibb, Plainsboro, NJ, (3)Thomson Reuters, Cambridge, MA, (4)Thomson Reuters, Santa Barbara, CA*

9. THE COST EFFECTIVENESS OF PRIMARY STROKE PREVENTION IN CHILDREN WITH SICKLE CELL DISEASE: AN ECONOMIC EVALUATION (INF, AHE)

***Adrian Bagust, BA, MSc**[1], Mary Gemma Cherry, BSc[1], Angela Boland, BA, MSc, PhD[1], Janette Greenhalgh, BSc, PhD[1], Meena Venkatachalam[2] and Rumona Dickson, PhD[1], (1)University of Liverpool, Liverpool, United Kingdom, (2)Matrix Knowledge Group, London, United Kingdom*

10. ASSESSING THE EFFECTS OF SCREENING START/END AGE AND FREQUENCY FOR CHLAMYDIA TRACHOMATIS (CT) IN WOMEN: A COST-EFFECTIVENESS ANALYSIS (INF, AHE)

Nan Kong, PhD[1], *Yu Teng, BS*[1] *and Wanzhu Tu, PhD*[2], *(1)Purdue University, West Lafayette, IN, (2)Indiana University School of Medicine, Indianapolis, IN*

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11. THE COST-EFFECTIVENESS OF SAAF-T: A SUBSTANCE ABUSE PREVENTION INTERVENTION AIMED AT RURAL AFRICAN-AMERICAN ADOLESCENTS (INF, AHE)

Justin B. Ingels, MS, MPH*, University of Georgia, Athens, GA and Phaedra Corso, PhD, College of Public Health, Athens, GA*

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12. DEVELOPMENT AND EVALUATION OF AN ANALYTICAL POLICY TOOL (INF, AHE)

Zhuo Yang, Masters*, Joy Melnikow, MD, MPH, Dominique Ritley, MPH and Meghan Soulsby, MPH, Center for Healthcare Policy and Research, Sacramento, CA*

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13. COST-EFFECTIVENESS ESTIMATES IN A DOUBLY RANDOMIZED PREFERENCE DESIGN (INF, AHE)

Quang A. Le, PharmD, PhD*, Western University of Health Sciences, Pomona, CA, Jason N. Doctor, PhD, University of Southern California, Los Angeles, CA, Lori Zoellner, PhD, University of Washington, Seattle, WA and Norah Feeny, PhD, Case Western Reserve University, Cleveland, OH*

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14. HUMAN PAPILLOMAVIRUS GENOTYPE PREVALENCE IN ITALY AFTER NATIONWIDE VACCINATION: A DYNAMIC TRANSMISSION MODEL (AHE)

Gabriele Accetta, PhD*, ISPO Cancer Research and Prevention Institute, Florence, Italy, Lorenzo Cecconi, University of Florence, Florence, Italy, Gianpaolo Scalia-Tomba, University of Rome Tor Vergata, Rome, Italy and Annibale Biggeri,*

University of Florence and ISPO Cancer Research and Prevention Institute, Florence, Italy

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15. THE SURE TOOL: SCREENING FOR DECISIONAL CONFLICT IN PRIMARY CARE (DEC)

***Audrey Ferron Parayre, LL.B., M.Sc.**, Research Center-Hospital St-François d'Assise, Knowledge Transfer and Health Technology Assessment, Quebec, QC, Canada, Quebec, QC, Canada, Michel Labrecque, MD, PhD, Laval University, Quebec, QC, Canada, Michel Rousseau, Ph.D, Université du Québec à Trois-Rivières, Quebec,Canada, Québec, QC, Canada, Stéphane Turcotte, MSc, CHUQ Research Center-Hospital St-François d'Assise, Knowledge Transfer and Health Technology Assessment, Québec, QC, Canada and France Légaré, MD, PhD, CHUQ Research Center-Hospital St-François d'Assise, Knowledge Transfer and Health Technology Assessment, Quebec, QC, Canada*

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16. A SYSTEMATIC REVIEW OF PHYSICIANS' STATED ATTITUDES TOWARD SHARED DECISION-MAKING (DEC)

***Samantha Pollard, MSc.**, Nick Bansback, PhD and Stirling Bryan, PhD, University of British Columbia, Vancouver, BC, Canada*

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17. USING THE OPTION INSTRUMENT TO ASSESS THE EXTENT TO WHICH HEALTH PROFESSIONALS INVOLVE PATIENTS IN DECISION MAKING: A SYSTEMATIC REVIEW (DEC)

*Nicolas Couët, MA, MSc(c)[1], Sophie Desroches, RD, PhD[2], Hubert Robitaille, PhD[3], Hugues Vaillancourt, RD, MSc(c)[2], Annie Leblanc, PhD[4], Stéphane Turcotte, MSc[3], Glyn Elwyn, MD, PhD[5] and **France Légaré, MD, PhD**[3], (1)Université Laval, Québec, QC, Canada, (2)Institute of Nutraceuticals and Functional Foods (INAF), Université Laval, Québec, QC, Canada, (3)CHUQ Research Center-Hospital St-François d'Assise, Knowledge Transfer and Health Technology Assessment, Québec, QC, Canada, (4)Mayo Clinic, Rochester, MN, (5)Dartmouth Center for Healthcare Delivery Science, Hanover, NH*

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18. SHOULD VALUE CLARIFICATION EXERCISES IN DECISION AIDS ENCOURAGE COMPENSATORY STRATEGIES? (DEC)

Nick Bansback, PhD, *Stirling Bryan, PhD, Larry D. Lynd, PhD and Linda Li, PhD, University of British Columbia, Vancouver, BC, Canada*

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19. ENHANCING DECISION AIDS: DEVELOPMENT AND USER-TESTING OF A DYNAMIC COMPUTER-INTERACTIVE DECISION APPLICATION (DCIDA) (DEC)

Nick Bansback, PhD, *Linda Li, PhD, Larry D. Lynd, PhD and Stirling Bryan, PhD, University of British Columbia, Vancouver, BC, Canada*

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20. MEASURING PREFERENCES AROUND MODES OF DEATH, THE CASE OF IMPLANTABLE CARDIOVERTER-DEFIBRILLATORS (DEC)

Dan D. Matlock, MD[1], *Amy Jenkins, MS*[1], *Fred Masoudi, MD, MSPH*[1], *David Bekelman, MD*[2], *David J. Magid, MD, MPH*[3], *Karen R. Sepucha, PhD*[4] *and Jean S. Kutner, MD, MSPH*[1], *(1)University of Colorado School of Medicine, Aurora, CO, (2)The Denver VA Medical Center, Denver, CO, (3)The Kaiser Institute for Health Research, Denver, CO, (4)Massachusetts General Hospital, Boston, MA*

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21. FACTORS IMPACTING STAKEHOLDERS' MOTIVATION FOR IMPLEMENTING NATIONAL LIVER CANCER CONTROL PLANS IN 12 COUNTRIES (DEC)

John F.P. Bridges, PhD[1], *Susan Joy, MPH, MA*[1], *Barri M. Blauvelt, MBA*[2], *Weili Yan, MD, PhD*[1] *and Jill A. Marsteller, PhD, MPP*[1], *(1)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, (2)University of Massachusetts, Hadley, ME*

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22. A TARGETED DECISION AID FOR MINORITY PARTICIPATION IN CANCER CLINICAL TRIALS: EFFECT ON KNOWLEDGE, PREPAREDNESS FOR DECISION-MAKING, SELF-EFFICACY, AND WILLINGNESS TO PARTICIPATE (DEC)

Margaret M. Byrne, PhD[1], *Jamie L. Studts, PhD*[2], *Sarah T. Hawley, PhD, MPH*[3], *Colleen Bauza*[4], *Heraldo D'Almeida*[1], *Angela Fagerlin, PhD*[5], *Stefan Gluck, MD, PHD*[1], *Martha Gonzalez*[1], *Kenneth Goodman*[1], *Judith Hurley, MD*[1], *Susan Schmitz*[1], *Sue Stableford*[6], *Andrea Vinard*[1] *and NIcole Whitehead*[1], *(1)University of Miami,*

Miami, FL, (2)University of Kentucky College of Medicine, Lexington, KY, (3)University of Michigan, Ann Arbor VA Health System, Ann Arbor, MI, (4)University of Miami, MIami, FL, (5)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI, (6)University of New England, Portland, ME

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23. HOW PATIENTS DISCUSS RISKS: WORDS AND NUMBERS (DEC)

Jessica Ancker, MPH, PhD[1], *Elke Weber, PhD*[2] *and Rita Kukafka, DrPH*[2], *(1)Weill Cornell Medical College, New York, NY, (2)Columbia University, New York, NY*

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24. PATIENTS' PREFERENCES TO INFORM DRUG DEVELOPMENT (DEC)

Liana Fraenkel, MD, MPH[1], *Charles Cunnigham, PhD*[2] *and Lisa G. Suter*[1], *(1)Yale School of Medicine, New Haven, CT, (2)McMaster University, Hamilton, ON, Canada*

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25. PROVIDER PERSPECTIVES ON DECISION-MAKING IN JUVENILE IDIOPATHIC ARTHRITIS (DEC)

Ellen A. Lipstein, MD, MPH, *William B. Brinkman, MD, MEd, Jessica Sage, Carole M. Lannon, MD, MPH and Esi Morgan DeWitt, MD, MSCE, Cincinnati Children's Hospital Medical Center, Cincinnati, OH*

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26. DEVELOPMENT AND USABILITY TESTING OF ANSWER: A WEB-BASED METHOTREXATE DECISION AID FOR PATIENTS WITH RHEUMATOID ARTHRITIS (DEC)

Linda C. Li, PhD[1], *Paul M. Adam, MSW*[2], *Anne F. Townsend, PhD*[1], *Diane Lacaille, MD, MHSc, FRCPC*[3], *Charlene Yousefi, MA*[4], *Dawn Stacey, PhD*[5], *Shawn Turnau, MSc(PT)*[1], *Tamara Rader, MLIS*[5], *Peter Tugwell, MD*[5], *Catherine L. Backman, PhD*[6] *and* ***Nick Bansback, PhD***[1], *(1)University of British Columbia, Vancouver, BC, Canada, (2)Mary Pack Arthritis Program, Vancouver General Hospital, Vancouver, BC, Canada, (3)University of British Columbia; Arthritis Research Centre of Canada, Vancouver, BC, Canada, (4)Arthritis Research Centre of Canada, Vancouver, BC, Canada, (5)University of Ottawa, Ottawa, ON, Canada, (6)University of British Columbia, Arthritis Research Centre of Canada, Vancouver, BC, Canada*

27. DEVELOPMENT AND EVALUATION OF THE "EMERGENCY MEDICAL ALLIANCE FOR TOTAL COODINATION IN HEALTHCARE (E-MATCH)" TO PROMOTE SHARED DECISION MAKING BETWEEN EMTS AND MEDICAL FACILITIES (DEC)

Michi Sakai, PhD[1], *Sachiko Ohta, MD*[2], *Hidetada Fukushima, MD*[3], *Fumio Takesue, MD*[4], *Kazuo Okuchi, MD*[3], *Akinobu Tachibana*[5], *Eiji Higashi*[6] *and Noriaki Aoki, MD*[7], *(1)Center for Health Service, Outcomes Research and Development – Japan (CHORD-J), Minato-KU, Japan, (2)Health Informatics and Management Professionals (HIMAP) General Association, Tokyo, Japan, (3)Nara Medical University, Tokyo, Japan, (4)Nara Prefecture Government, Tokyo, Japan, (5)Ikoma Fire Department, Tokyo, Japan, (6)Nara Fire Bureau, Tokyo, Japan, (7)University of Texas - Houston, Houston, TX*

28. DECISION SUPPORT NEEDS TO BE TAILORED TO THE INDIVIDUAL PATIENT: ADJUVANT ENDOCRINE THERAPY FOR POST-MENOPAUSAL WOMEN WITH RECEPTOR-POSITIVE EARLY-STAGE BREAST CANCER (DEC)

Deb Feldman-Stewart, PhD[1], *Christine Tong*[2], *Yolanda Madarnas, MD*[2], *Mihaela Mates, MD*[2], *Melissa TeBrake, MSc*[2], *Michael Brundage, MD, MSc*[2], *Eva Grunfeld, MD, DPhil*[3] *and Shailendra Verma, MD*[4], *(1)Division of Cancer Care and Epidemiology, Kingston, ON, Canada, (2)Queen's University, Kingston, ON, Canada, (3)University of Toronto, Toronto, ON, Canada, (4)Ottawa Hospital Cancer Centre, Ottawa, ON, Canada*

29. INTERNATIONAL WORKING GROUP ON CORE COMPETENCIES FOR TRAINING HEALTH PROFESSIONALS IN SHARED DECISION MAKING HIGHLIGHTS THE HETEROGENEITY OF CURRENT PROGRAMS (DEC)

France Légaré, MD, PhD[1], *Nora Ferdjaoui-Moumjid, PhD*[2], *Renée Drolet, PhD*[3], *Dawn Stacey, PhD*[4], *Martin Haerter*[5], *Hilda Bastian*[6], *Marie-Dominique Beaulieu, Md, MSc*[7], *Francine Borduas, MD*[8], *Cathy Charles, PhD*[9], *Angela Coulter, PhD*[10], *Sophie Desroches, RD, PhD*[11], *Gwendolyn Friedrich, MSc*[12], *Amiram Gafni, PhD*[9], *Michel Labrecque, MD, PhD*[13], *Annie Leblanc, PhD*[14], *Jean Legare*[15], *Mary Politi, PhD*[16], *Joan Sargeant, PhD*[17] *and Richard Thomson, MD*[18], *(1)CHUQ Research Center-Hospital St-François d'Assise, Knowledge Transfer and Health Technology Assessment, Quebec, QC, Canada, (2)Lyon 1 University, Lyon, France, (3)Research*

Center of Centre Hospitalier Universitaire de Québec, Hopital St-François D'Assise, Québec, QC, Canada, (4)University of Ottawa, Ottawa, ON, Canada, (5)Universitätsklinikum Hamburg-Eppendorf, Hamburg, Germany, (6)National Center for Biotechnology Information, National Library of Medicine, National Institutes of Health, Bethesda, MD, (7)Institut national d'excellence en santé et en services sociaux, (INESSS), Montreal, QC, Canada, (8)Universite Laval, Quebec, QC, Canada, (9)McMaster University, Hamilton, ON, Canada, (10)Informed Medical Decision Foundation, Oxford, United Kingdom, (11)Université Laval; CHUQ Research Center-Hôpital St-François d'Assise, Quebec, QC, Canada, (12)Ministry of Health, Saskatchewan, Regina, SK, Canada, (13)Laval University, Quebec, QC, Canada, (14)Mayo Clinic, Rochester, Minnesota, USA, Rochester, MN, (15)Arthritis Society, Quebec, QC, Canada, (16)Washington University School of Medicine, St. Louis, MO, (17)Dalhousie University, Halifax, NS, Canada, (18)University of Newcastle upon Tyne, Newcastle upon Tyne, United Kingdom

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30. HEALTHCARE PROVIDERS' INTENTIONS TO ENGAGE IN AN INTERPROFESSIONAL APPROACH TO SHARED DECISION MAKING IN HOME CARE PROGRAMS: A MIXED METHODS STUDY (DEC)

***France Légaré, MD, PhD**, CHUQ Research Center-Hospital St-François d'Assise, Knowledge Transfer and Health Technology Assessment, Quebec, QC, Canada, Dawn Stacey, PhD, University of Ottawa, Ottawa, ON, Canada, Nathalie Briere, PhD, Centre de santé et de services sociaux de la Vieille-Capitale, Quebec, QC, Canada, Kimberley Fraser, RN, PhD, University of Alberta, Edmonton, AB, Canada, Sophie Desroches, RD, PhD, Université Laval; CHUQ Research Center-Hôpital St-François d'Assise, Quebec, QC, Canada, Serge Dumont, PhD, Universite Laval, Quebec, QC, Canada, Anne Sales, Rn, PhD, VA Center for Clinical Management Research, Ann Arbor, MI and Denise Aube, MD, INSPQ, Quebec, QC, Canada*

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31. RCT OF MCDA TO PERSONALISE PREVENTIVE HEALTH DECISIONS (DEC)

***Lyndal Trevena, MBBS, MPH, PhD**[1], Jack Dowie, PhD[2], Siranda Torvaldsen, PhD[3], Alexandra Barratt, MBBS, MPH, PhD, FAFPHM[1], Kirsten McCaffery, BSc(Hons), PhD[1], Christopher del Mar, MBBChir, MA, MD[4] and Timothy Dobbins[1], (1)University of Sydney, Sydney, Australia, (2)London School of Hygiene and Tropical Medicine, London, United Kingdom, (3)The University of Sydney, University of Sydney, Australia, (4)Bond University, Gold Coast, Australia*

32. SPREADING THE HEALTH: AMERICANS' ESTIMATED AND IDEAL DISTRIBUTIONS OF HEALTH AND HEALTHCARE (HSP)

***Sorapop Kiatpongsan, MD**, Harvard Interfaculty Initiative in Health Policy, Cambridge, MA and Michael I. Norton, PhD, Harvard Business School, Boston, MA*

33. PRE-AUTHORIZATION: AN EFFECTIVE MEANS OF REDUCING OVERUTILIZATION? (HSP)

***Grace E. Hunter, BA, MSc.**[1], Sophie Pinkard, MBA[2], Dena M. Bravata, MD, MS[2] and Jennifer Schneider Chafen, MD, MS[2], (1)Stanford University School of Medicine, Stanford, CA, (2)Castlight Health, San Francisco, CA*

34. LONG DISTANCE TRIAGE: ASSESSING PATIENT RISK FOR INTER-HOSPITAL TRANSFER PATIENTS (HSP)

***David R. Anderson**[1], Mangla Gulati, M.D.[2], Bruce L. Golden, Ph.D.[1], Majid Cina, M.D.[3], Ryan Scilla, M.D.[2], Robert Habicht, M.D.[4], Kathryn N. Silva, M.D.[4] and Ed Wasil, Ph.D.[5], (1)Robert H. Smith School of Business, College Park, MD, (2)School of Medicine, Baltimore, MD, (3)Anne Arundel Medical Center, Annapolis, MD, (4)University of Maryland, Baltimore, MD, (5)American University, Washington, DC*

35. OPTIMAL COLORECTAL CANCER SCREENING TO BALANCE LIFE-YEAR SAVINGS AND COSTS (INF, HSP)

***Fatih S. Erenay, Ph.D.**, University of Waterloo, Kitchener, ON, Canada, Oguzhan Alagoz, PhD, University of Wisconsin-Madison, Madison, WI and Adnan Said, MD, University of Wisconsin, Madison, WI*

36. CHOLINESTERASE INHIBITORS: A POPULATION-BASED ASSESSMENT OF RESOURCE UTILIZATION FOR PATIENTS WITH ALZHEIMER'S DEMENTIA (HSP)

***Raymond K. Fong, BASc, MSc**, Sudeep S. Gill, MD, MSc and Ana P. Johnson, PhD, Queen's University, Kingston, ON, Canada*

37. DYNAMICALLY OPTIMIZING THE ADMINISTRATION OF VACCINES FROM MULTI-DOSE VIALS (HSP)

***Lisa Maillart, PhD**, Maryam Mofrad, Bryan Norman and Jayant Rajgopal, University of Pittsburgh, Pittsburgh, PA*

38. USING A NET-BENEFIT REGRESSION APPROACH TO CONDUCT A REAL-WORLD COST-EFFECTIVENESS OF POTENTIALLY CURATIVE TREATMENTS FOR HEPATOCELLULAR CARCINOMA (INF, HSP)

***Hla-Hla Thein, MD, MPH, PhD**, Dalla Lana School of Public Health, Toronto, ON, Canada, Wanrudee Isaranuwatchai, PhD, Centre for Addiction and Mental Health, Toronto, ON, Canada and Craig Earle, MD, MSc, Institute for Clinical Evaluative Sciences, Toronto, ON, Canada*

39. PROGNOSTIC MODEL FOR PREDICTING PATIENTS AT HIGH RISK OF EMERGENT HOSPITAL READMISSION WITHIN 30 DAYS AFTER DISCHARGE USING ADMINISTRATIVE DATA (INF, HSP)

***Yan Sun, PhD**, National Healthcare Group, Singapore, Singapore and Bee Hoon Heng, MBBS, National Healthcare group, Singapore, Singapore*

40. ABSTRACT WITHDRAWN - PHASE-SPECIFIC AND LONG-TERM COSTS OF CANCER CARE IN ONTARIO (HSP)

***Claire de Oliveira, PhD**[1], Karen E. Bremner, BSc[1], Nadia Gunraj[2], Kelvin Chan[3] and Murray D. Krahn, MD, MSc[4], (1)University Health Network, Toronto, ON, Canada, (2)Institute for Clinical Evaluative Sciences, Toronto, ON, Canada, (3)Sunnybrook Health Sciences Centre, Toronto, ON, Canada, (4)University of Toronto, Toronto, ON, Canada*

41. POSTAL OR WEB-BASED? POPULATION REPRESENTATIVENESS IN HEALTH SURVEY SETTINGS (HSP)

Kim Rand-Hendriksen, Cand.Psychol[1], *Liv Ariane Augestad, MD*[1], *Knut Stavem*[1] *and Ivar Sønbø Kristiansen, MD, PhD, MPH*[2], *(1)Akershus University Hospital, Lørenskog, Norway, (2)University of Oslo, Oslo, Norway*

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42. IMPROVING POPULATION HEALTH THROUGH OPTIMIZING COLON CANCER SCREENING (HSP)

Samir Soneji, PhD[1], *Valerie Lewis, PhD*[1], *Katrina Armstrong, MD, MSCE*[2] *and David A. Asch, MD, MBA*[3], *(1)Dartmouth College, Lebanon, NH, (2)University of Pennsylvania, Philadelphia, PA, (3)University of Pennsylvania School of Medicine, Philadelphia, PA*

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43. PHYSICIAN PREFERENCES FOR THE CONDUCT AND PRESENTATION OF COMPARATIVE EFFECTIVENESS RESEARCH (HSP)

Seema S. Sonnad, PhD[1], *J. Sanford Schwartz, MD*[2] *and Morgan A. Berman*[1], *(1)University of Pennsylvania, Philadelphia, PA, (2)University of Pennsylvania, Merion Station, PA*

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44. MODELING THE EFFECTIVENESS OF INITIAL MANAGEMENT STRATEGIES FOR DUCTAL CARCINOMA IN SITU (HSP)

Djora Ingele Soeteman, Dr., *Harvard School of Public Health, Boston, MA, Natasha K. Stout, Ph.D., Program in Health Decision Sciences, Boston, MA, Elissa M. Ozanne, PhD, University of California, San Francisco, San Francisco, CA and Rinaa Punglia, MD, Dana-Farber Cancer Institute/Brigham and Women's Hospital/Harvard Medical School, Boston, MA*

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45. COMPARING THE EFFECTIVENESS OF ATORVASTATIN AND ROSUVASTATIN FOR MANAGING ELEVATED CHOLESTEROL IN CLINICAL PRACTICE SETTINGS: A SIMULATED STUDY (HSP)

Andrew van Herick, MA[1], *C. Andy Schuetz, PhD*[1], *Peter Alperin, MD*[1], ***Sanjeev Balu, PhD, MBA***[2] *and Sanjay K. Gandhi, PhD*[3], *(1)Archimedes Inc., San Francisco, CA, (2)AstraZeneca Pharmaceuticals, Wilmington, DE, (3)AstraZeneca, Wilmington, DE*

46. AUTOMATING CLINICAL DATA EXTRACTION TO SUPPORT COMPARATIVE EFFECTIVENESS RESEARCH (HSP)

***Erik G. Van Eaton, MD**, Meliha Yetisgen-Yildiz, PhD, Allison D. Rhodes, MS, Daniel Capurro, MD, Emily Beth Devine, PhD, PharmD, MBA, Rafael Alfonso, MD, David R. Flum, MD, MPH and Peter Tarczy-Hornoch, MD, University of Washington, Seattle, WA*

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47. COMPARATIVE EFFECTIVENESS AND SAFETY OF ANTI-VASCULAR ENDOTHELIAL GROWTH FACTOR AGENTS IN DIABETIC MACULAR EDEMA: A SYSTEMATIC REVIEW AND META-ANALYSIS OF THE EVIDENCE (HSP)

***Jennifer A. Colby, PharmD**[1], Daniel A. Ollendorf, MPH, ARM[1], Kristen Migliaccio-Walle, BS[1] and Steven D. Pearson, MD, MS, FRCP[2], (1)Institute for Clinical and Economic Review, Boston, MA, (2)Massachusetts General Hospital, Boston, MA*

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48. DETERMINING OPTIMAL INFORMATIONAL INTERVENTION BUNDLES TO MAXIMIZE HEALTH OUTCOMES (MET)

***Serena Faruque**[1], Aparna G. Hegde, M.D.[2] and Jeremy D. Goldhaber-Fiebert, PhD[1], (1)Stanford University, Stanford, CA, (2)Cleveland Clinic Florida, Weston, FL*

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49. STOCHASTIC MODELING AND DEVELOPMENT OF A DECISION SUPPORT TOOL TO FACILITATE TRANSITIONAL CARE DECISION MAKING (MET)

***Sabrina Casucci, MBA**, University at Buffalo, SUNY, Cheektowaga, NY, Li Lin, PhD, University at Buffalo, SUNY, Amherst, NY and Alexander Nikolaev, PhD, University at Buffalo, SUNY, Buffalo, NY*

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50. HIV TREATMENT AND PREVENTION: A SIMPLE MODEL TO DETERMINE OPTIMAL INVESTMENT (MET)

*Jessie L. Juusola, MS and **Margaret L. Brandeau, PhD**, Stanford University, Stanford, CA*

51. ITERATIVE CALIBRATION OF MONTE-CARLO MARKOV MODELS USED FOR EVALUATING THE IMPACT OF UPDATING TRADITIONAL CARDIOVASCULAR RISK PREDICTIONS WITH NOVEL RISK MARKERS (INF, MET)

*Bob JH Kempen, MSc[1], **Bart S. Ferket, MD**[1], Ewout W. Steyerberg, PhD[2], Oscar H. Franco, MD, PhD, FESC, MFPH[3], Wendy Max, PhD[4], Kirsten E. Fleischmann, MD, MPH[5] and M.G. Myriam Hunink, MD, PhD[6], (1)Erasmus MC, Rotterdam, Netherlands, (2)Department of Public Health, AE 236, Rotterdam, Netherlands, (3)Erasmus MC, University Medical Center Rotterdam, Rotterdam, Netherlands, (4)University of California, San Francisco, San Francisco, CA, (5)UCSF Medical Center, San Francisco, CA, (6)Erasmus University Medical Center, Rotterdam, Netherlands*

52. A PARALLEL SLIDING REGION ALGORITHM TO MAKE AGENT-BASED MODELING POSSIBLE FOR LARGE-SCALE SIMULATION (MET)

***William W. L. Wong, Ph.D.**, University of Toronto, Toronto, ON, Canada*

53. META-ANALYSIS OF STUDIES COMPARING ADJUVANT CHEMOTHERAPY WITH SURGERY ALONE IN NON-SMALL CELL LUNG CANCER (MET)

***Helmut Sitter, PhD**, University Marburg, Marburg, Germany, Eva Schmutz Jr., Institute of Surgical Research, Marburg, Germany and Gerd Goeckenjan Sr., Professor, Dr., Clinic for Pneumology, Kassel, Germany*

54. CHARACTERIZATION OF PULMONARY FUNCTION DECLINE FOR SUSCEPTIBLE AND NON-SUSCEPTIBLE SMOKERS (MET)

***Amory B. Schlender, BA**, Archimedes, Inc., San Francisco, CA*

55. MODELING FOODBORNE OUTBREAKS: CHALLENGES FOR PUBLIC HEALTH INVESTIGATION (MET)

***SAMIT Bhattacharyya, Ph.D.**, University of Utah, Salt Lake City, UT, Willy Ray, University of Utah, Salt Lake City, UT. VA Salt LAke City Health Care System, SLC,*

UT, Salt Lake City,, UT and Matthew Samore, University of Utah, Salt Lake City, UT. VA Salt LAke City Health Care System, SLC, UT, Salt Lake City, UT

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56. THE NEED FOR PROBABILISTIC SENSITIVITY ANALYSIS IS NOT A REASON TO PREFER COHORT MODELS TO MICROSIMULATION (INF, MET)

***Pelham M. Barton, PhD**, University of Birmingham, Birmingham, United Kingdom*

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57. USING STOCHASTIC MULTI-CRITERIA ACCEPTABILITY ANALYSIS TO SUPPORT DECISION MAKING ON THE REIMBURSEMENT OF MEDICAL INTERVENTIONS (INF, MET)

***Douwe Postmus, PhD**[1], Gert van Valkenhoef, MSc[1], Qi Cao, Msc.[2], Gimon de Graaf[1] and Erik Buskens, PhD[1], (1)University Medical Center Groningen, Groningen, Netherlands, (2)University Medical Centre Groningen, Groningen, Netherlands*

Friday, October 19, 2012 (Posters)

POSTER SESSION 3

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The Atrium (Hyatt Regency)

Posters:

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1. THE IMPLEMENTATION OF PATIENT DECISION SUPPORT INTERVENTIONS INTO ROUTINE CLINICAL PRACTICE: A SYSTEMATIC REVIEW (DEC)

***Caroline Tietbohl, BA**[1], Glyn Elwyn, MD, PhD[2], Isabelle Scholl, Dipl.-Psych.[3], Mala Mann, MInfSc[4], Adrian Edwards, MB, PhD[4], Catharine F. Clay, MA, BSN[5], France Legare, MD, PhD, CCFP, F[6], Trudy Van der Weijden, MD, PhD[7], Carmen Lewis, MD, MPH[8], Richard Wexler, MD[9] and Dominick Frosch, PhD[1], (1)Palo Alto Medical Foundation Research Institute, Palo Alto, CA, (2)Dartmouth Center for Healthcare Delivery Science, Hanover, NH, (3)University Medical Center Hamburg-Eppendorf, Hamburg, Germany, (4)Cardiff University, Cardiff, United Kingdom, (5)The Dartmouth Center for Health Policy and Clinical Practice, Lebanon, NH, (6)Laval*

University, Quebec, QC, Canada, (7)Maastricht University, Maastricht, Netherlands, (8)University of North Carolina at Chapel Hill, Chapel Hill, NC, (9)The Foundation for Informed Medical Decision Making, Boston, MA

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2. AN AUTOMATED TELEPHONIC SCREENING AND MONITORING SYSTEM FOR DEPRESSION CARE MANAGEMENT: PRELIMINARY FINDINGS FROM A CLINICAL TRIAL (HSP)

Shinyi Wu, PhD[1], *Kathleen Ell, DSW*[1], *Jeffrey Guterman, MD*[2], *Pey-jiuan Lee, MS*[1], *Irene Vidyanti, MS*[1], *Caitlin Hawkins, MS*[1] *and Pai Liu, MS*[1], *(1)University of Southern California, Los Angeles, CA, (2)Los Angeles County Department of Health Services, Los Angeles, CA*

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3. TREATMENT PREFERENCES DERIVED USING ADAPTIVE BEST-WORST CONJOINT (ABC) ANALYSIS (DEC)

Ely Dahan, PhD[1], *Sylvia Lambrechts, MPH, MA*[1], *Robert M. Kaplan, PhD*[2], *Catherine M. Crespi, PhD*[1], *Elizabeth Garcia, BS*[1] *and Christopher S. Saigal, MD, MPH*[1], *(1)UCLA, Los Angeles, CA, (2)University of California Los Angeles, Los Angeles, CA*

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4. USING SOCIAL MEDIA TO GAUGE REACTION TO THE USPSTF REPORT ON PROSTATE CANCER SCREENING: TWITTER AS AN INVESTIGATIVE TOOL (HSP)

Vinay Prabhu[1], *Ted Lee*[1], *Herbert Lepor, MD*[1], *Heather Taffet Gold, PhD*[1], *John H. Holmes, PhD*[2] *and Danil Victor Makarov, MD, MHS*[1], *(1)New York University School of Medicine, New York, NY, (2)University of Pennsylvania School of Medicine, Philadelphia, PA*

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5. REACTIONS TO A TARGETED DECISION AID FOR MINORITY PARTICIPATION IN CANCER CLINICAL TRIALS AND ITS EFFECT ON ATTITUDES TOWARDS PARTICIPATION (DEC)

Margaret M. Byrne, PhD[1], *Jamie L. Studts, PhD*[2], *Sarah T. Hawley, PhD, MPH*[3], *Colleen Bauza*[4], *Heraldo D'Almeida*[1], *Angela Fagerlin, PhD*[5], *Stefan Gluck, MD, PHD*[1], *Martha Gonzalez*[1], *Kenneth Goodman*[1], *Judith Hurley, MD*[1], *Susan Schmitz*[1],

Sue Stableford[6], Andrea Vinard[1] and NIcole Whitehead[1], (1)University of Miami, Miami, FL, (2)University of Kentucky College of Medicine, Lexington, KY, (3)University of Michigan, Ann Arbor VA Health System, Ann Arbor, MI, (4)University of Miami, MIami, FL, (5)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI, (6)University of New England, Portland, ME

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6. DETERMINING MINIMAL CLINICALLY IMPORTANT DIFFERENCE FOR THE PREFERENCE-BASED INSTRUMENTS EUROQOL (EQ-5D) AND QUALITY OF WELL-BEING (QWB) IN POST-TRAUMATIC STRESS DISORDER (PTSD) PATIENTS (DEC)

***Quang A. Le, PharmD, PhD**, Western University of Health Sciences, Pomona, CA, Jason N. Doctor, PhD, University of Southern California, Los Angeles, CA, Lori Zoellner, PhD, University of Washington, Seattle, WA and Norah Feeny, PhD, Case Western Reserve University, Cleveland, OH*

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7. CENTERING PREGNANCY FOR THE PREVENTION OF PRETERM BIRTH: A COST-EFFECTIVENESS ANALYSIS (INF, AHE)

***Mika Ohno, MD**, Santa Clara Valley Medical Center, San Jose, CA, Maria I. Rodriguez, MD, MPH, Oregon Health and Science University, Portland, OR, Sharon Wiener, CNM, UCSF, San Francisco, CA and Aaron B. Caughey, MD, MPP, MPH, PhD, Oregon Health & Sciences University, Portland, OR*

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8. FACE-TIME VERSUS TEST ORDERING: IS THERE A TRADE-OFF? (HSP)

***James Stahl, MD, CM, MPH**, Massachusetts General Hospital, Boston, MA and Mark A. Drew, BID, Massacuhsetts General Hospital, Boston, MA*

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9. OPTIMIZING OUTPATIENT RESIDENCY TRAINING: BALANCING CLINICAL EXPERIENCE WITH ACCESS TO CARE (INF, HSP)

*Steven D. Overko, MS[1], Hari Balasubramanian, PhD[1], Blair W. Fosburgh, MD[2] and **James Stahl, MD, CM, MPH**[2], (1)University of Massachusetts, Amherst, MA, (2)Massachusetts General Hospital, Boston, MA*

10. ELECTRONIC REPORTING TO ASSESS AND IMPROVE VENOUS THROMBOEMBOLISM PROPHYLAXIS (HSP)

*Ximin Li, BMed, MPH, Gail Grant, MD, MPH, MBA, Richard Riggs, MD, Paul Silka, MD and **Joshua Pevnick, MD, MSHS**, Cedars-Sinai Medical Center, Los Angeles, CA*

11. HOW ILLNESS AFFECTS FAMILY MEMBERS: DOMAINS OF WELL-BEING AFFECTED BY "SPILLOVER" (DEC)

***Eve Wittenberg, PhD, MPP**, Center for Health Decision Science, Boston, MA, Adrianna Saada, MPH, Harvard School of Public Health, Boston, MA and Lisa A. Prosser, M.S., Ph.D., University of Michigan, Ann Arbor, MI*

12. ABSTRACT WITHDRAWN - ELDER ABUSE DECISION SUPPORT SYSTEM (DEC)

***Kendon J. Conrad, PhD**, Chestnut Health Systems, Oak Park, IL, Madelyn Iris, PhD, CJE Senior Life, Chicago, IL and Jessica Mazza, MSPH, University of Illinois at Chicago, Chicago, IL*

13. IMPACT OF CAREGIVER STATUS ON HEALTH STATE VALUATIONS (DEC)

***Joseph Johnston**[1], Louis Matza[2], Kristina Boye[1], Lee Bowman[1], Kelly McDaniel[2], Jessica Jordan[2] and David Feeny[3], (1)Eli Lilly, Indianapolis, IN, (2)United BioSource Corporation, Bethesda, MD, (3)University of Alberta and Health Utilities Incorporated, Portland, OR*

14. ALCOHOLISM IS NOT A LIMITING FACTOR TO PATIENT REGISTRATION FOR LIVER TRANSPLANTATION: THE ROLE OF PHYSICIANS OF NON TEACHING PUBLIC HOSPITAL (HSP)

*Victoria Kone, MD, MPH, Hôpitaux Universitaire Paris centre, Paris, France, Christophe Pilette, MD, CHU du Mans, Le mans, France, Yvon Calmus, MD, PhD, Hôpital Saint Antoine, Paris, France and **Gwenaelle Vidal-Trecan, MD, PhD**, Université Paris Descartes, Faculté de médecine, AP-HP, Paris, France*

15. WHEN DO PHYSICIANS RECOMMEND JOINT REPLACEMENT FOR PATIENTS WITH MODERATE DISEASE? (DEC)

Liana Fraenkel, MD, MPH[1], *Lisa G. Suter*[1] *and Lawrence Weis, MD*[2], *(1)Yale School of Medicine, New Haven, CT, (2)VA Connecticut Healthcare System, West Haven, CT*

16. WHEN AND FOR WHOM ARE BIOLOGICS COST-EFFECTIVE IN RHEUMATOID ARTHRITIS? (AHE)

Hawre Jalal, MD, MSc[1], *Kaleb D. Michaud, PhD*[2], *François Sainfort, PhD*[1], *John Schousboe, MD, PhD*[3], *John Nyman, PhD*[4] *and Karen M. Kuntz, ScD*[1], *(1)University of Minnesota, Minneapolis, MN, (2)University of Nebraska Medical Center (UNMC), Omaha, NE, (3)Park Nicollet Health Services; University of Minnesota, Minneapolis, MN, (4)University of Minnesota School of Public Health, Minneapolis, MN*

17. DO STARS HELP PATIENTS TO CHOOSE A HOSPITAL FOR SURGERY? A HOSPITAL CHOICE EXPERIMENT (DEC)

P.J. Marang-van de Mheen, PhD[1], *Harm J. Smeets, MD, PhD*[2], *Wilma Otten, PhD*[3], *Wendeline J. van der Made, MD*[1], *Robbert Vree, MD, PhD*[4] *and Job Kievit, MD, PhD*[1], *(1)Leiden University Medical Center, Leiden, Netherlands, (2)Bronovo hospital, The Hague, Netherlands, (3)TNO Quality of life, Leiden, Netherlands, (4)Diaconessenhuis, Leiden, Netherlands*

18. IMPACT OF OBESITY ON FUTURE INCIDENCE OF MALIGNANCIES IN YOUNG ADULTS (HSP)

Jennifer E. Kim*, Terry Therneau, PhD, Ray Kim, MD and Celine Vachon, PhD, Mayo Clinic, Rochester, MN*

19. AN ONLINE TRANSPARENCY PLATFORM ENABLES PREFERENCE-APPROPRIATE BEHAVIOR CHANGE FOR CONSUMERS ON A REFERENCE-BASED PRICING BENEFIT PLAN (DEC)

Juan Luis S. Marquez, BA[1], *Hau Liu, MD, MBA, MS*[2], *Mark Hollis, BA*[2], *John G. O'Leary, Ph.D.*[2], *Sarah K. Metcalf, MBA*[2] *and Dena M. Bravata, MD, MS*[2], *(1)Stanford University, Stanford, CA, (2)Castlight Health, San Francisco, CA*

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20. A TALE OF TWO TRIAL DESIGNS: EVALUATION OF EFFICACY VS EFFECTIVENESS IN SCHIZOPHRENIA (HSP)

Reuven Ferziger, MD[1], *Lian Mao, PhD*[2], ***Joseph Hulihan, MD***[1], *Cynthia A. Bossie, PhD*[1] *and Larry Alphs, MD, PhD*[1], *(1)Janssen Scientific Affairs, LLC, Titusville, NJ, (2)Johnson & Johnson Pharmaceutical Research & Development, LLC, Titusville, NJ*

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21. THE ADDED BENEFITS OF USING AN INTERACTIVE PATIENT DECISION DASHBOARD (DEC)

Shirley X.L. Li, BSc[1], *Peter J. Veazie, PhD, MS*[2] *and* ***James G. Dolan, MD***[2], *(1)University of Rochester, Rochester, NY, Canada, (2)University of Rochester, Rochester, NY*

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22. ECONOMIC EVALUATIONS OF PERSONALIZED MEDICINE IN ONCOLOGY: WHY ARE THEY SO IMPERSONAL? (AHE)

Brett M. Doble, M.Sc. *and Marcus Tan, B.Pharm, Monash University, Melbourne, Australia*

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23. SYSTEMATIC REVIEWS OF ECONOMIC EVALUATIONS: IDENTIFYING, SYNTHESIZING AND PRESENTING EVIDENCE TO AID IN TRANSLATION (AHE)

Brett M. Doble, M.Sc.*, Monash University, Clayton, Australia*

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24. THINKING AHEAD? WILLINGNESS OF THE GENERAL POPULATION TO BE INVOLVED IN ADVANCE CARE PLANNING (DEC)

Natasja JH Raijmakers, MSc[1], *Judith AC Rietjens, PhD*[1], *Pauline SC Kouwenhoven, MD*[2], *Cristiano Vezzoni, Phd*[3], *Ghislaine van Thiel, PhD*[2], *Johannes J.M. van Delden, PhD*[2] *and A. van der Heide, MD, PhD*[1], *(1)Erasmus MC University Medical Center,*

Rotterdam, Netherlands, (2)University Medical Center, Utrecht, Netherlands, (3)University Medical Center, Groningen, Netherlands

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25. COST-EFFECTIVENESS ANALYSIS OF BREAST CANCER SCREENING: DOUBLE READING VERSUS 1 + CAD READING (INF, AHE)

Miho Sato, MHA[1], *Masaaki Kawai, MD, PhD*[2], *Yoshikazu Nishino, MD, PhD*[3] *and Tadashi Ishibashi, MD, PhD*[1], *(1)Tohoku University School of Medicne, Sendai, Miyagi, Japan, (2)Tohoku University Graduate School of Medicne, Sendai, Miyagi, Japan, (3)Miyagi Cancer Center Research Institute, Sendai, Miyagi, Japan*

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26. THE COST-EFFECTIVENESS OF BECAPLERMIN WHEN USED AS AN ADJUNCT THERAPY WITH GOOD DIABETIC FOOT ULCER CARE (INF, AHE)

Curtis Waycaster, PhD*, Healthpoint Biotherapeutics, Fort Worth, TX*

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27. CLINICIAN ACCURACY IN PREDICTING SUCCESSFUL VAGINAL BIRTH AFTER CESAREAN: IMPACT OF PATIENT CHARACTERISTICS ON PROVIDER COUNSELING (DEC)

Katharine Newman, MD, Brigham and Women's Hospital/Massachusetts General Hospital Integrated Residency in Obstetrics and Gynecology, Boston, MA, Bruce Feinberg, MD, Brigham and Women's Hospital, Boston, MA and ***Anjali Kaimal, MD, MAS****, Massachusetts General Hospital, Harvard Medical School, Boston, MA*

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28. A COMPARISON OF THE WILLINGNESS TO PAY FOR THE PREVENTION OF VISUAL IMPAIRMENT BETWEEN A COMMUNITY BASED SAMPLE AND PEOPLE WITH VISUAL IMPAIRMENT (DEC)

Steven M. Kymes, Ph.D.[1], *Colleen M. Peters, M.A.*[1], *Adam Turpcu, Ph.D.*[2], *P. Kumar Rao, M.D.*[1], *Rajendra Apte, M.D., Ph.D.*[3], *Kevin J. Blinder, M.D.*[4], *Gaurav K. Shah, M.D.*[4], *Jamie Kambarian*[3] *and Shoshana Colman*[2], *(1)Washington University School of Medicine, Saint Louis, MO, (2)Genentech, Inc., San Francisco, CA, (3)Washington University School of Medicine, St. Louis, MO, (4)The Retina Institute, St. Louis, MO*

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29. PATIENT-REPORTED SATISFACTION ON USTEKINUMAB TREATMENT COMPARED WITH PRIOR BIOLOGIC THERAPY (HSP)

*Cindy Schmeichel-Mueller, PhD[1], Amir Goren[2], Marco DiBonaventura[2], Silas Martin[1] and **Brad Schenkel**[1], (1)Janssen Scientific Affairs, LLC, Horsham, PA, (2)Kantar Health, New York, NY*

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30. ASSESSING HEALTHCARE PROVIDER SATISFACTION OF SERVICES PROVIDED BY THE ARIZONA REGIONAL EXTENSION CENTER (REC): A CROSS-SECTIONAL SURVEY (HSP)

***Derek H. Tang, MS, BSPharm**[1], Melissa Rutala, MPH[2], Connie Ihde[2], Travis Shank, MBA[2], April Bills[2], Lea Mollon, PharmD, Candidate[1] and Terri L. Warholak, PhD, RPh[1], (1)The University of Arizona College of Pharmacy, Tucson, AZ, (2)Arizona Health-e Connection, Phoenix, AZ*

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31. DISCHARGE SUMMARIES FREQUENTLY FAIL TO PROVIDE MEDICAL REASONING THAT IS IMPORTANT FOR CONTINUITY OF CARE (HSP)

***Farrant H. Sakaguchi, MD, MS**, Michael Strong, MD and Leslie Lenert, MD, MS, University of Utah, Salt Lake City, UT*

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32. DECISION MODEL FOR DIABETIC RETINOPATHY DETECTION VIA TELEOPHTHALMOLOGY IN A MIGRANT FARM WORKER POPULATION (INF, AHE)

***Rajeev S. Ramchandran, MD**[1], Terry Yonker, RN, MS, FNP-BC[2], Katia Noyes, PhD[1] and James G. Dolan, MD[1], (1)University of Rochester, Rochester, NY, (2)Finger Lakes Community Health, Sodus, NY*

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33. ABSTRACT WITHDRAWN - DECISION MAKING IN ACUTE SURGERY - RIGHT ILIAC FOSSA PAIN (HSP)

***Robert Y. Shao, MBChB**[1], Primal P. Singh, MBChB[1], Daniel P. Lemanu, MBChB[1], Ryan Y. Cha[2], Andrew G. Hill, MD, EdD, FRACS, FACS[1] and Andrew D. MacCormick, MBChB, PhD, FRACS[1], (1)South Auckland Clinical School, University*

of Auckland, Auckland, New Zealand, (2)University of Auckland, Auckland, New Zealand

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34. VISUALIZING THE OUTCOMES OF DECISION-ANALYTIC MODELING STUDIES IN THE FRAMEWORK OF HEALTH TECHNOLOGY ASSESSMENT (AHE)

Ursula Rochau, MD[1], *Martina Lackner*[2], *Beate Jahn, PhD*[1], *Gaby Sroczynski, MPH, Dr.PH*[1], *Kim Saverno, RPh, PhD*[3], *Annette Conrads-Frank, PhD*[1], *Felicitas Kuehne, MSc*[4], *Stephen C. Resch, PhD, MPH*[5] *and Uwe Siebert, MD, MPH, MSc, SD*[6], *(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, Hall i.T., Austria, (3)UMIT - University for Health Sciences, Medical Informatics and Technology; University of Utah, Hall i.T., Austria, (4)Oncotyrol - Center for Personalized Cancer Medicine, Innsbruck, Austria, (5)Harvard School of Public Health, Boston, MA, (6)UMIT - University for Health Sciences; ONCOTYROL - Center for Personalized Cancer Medicine; Harvard Univ (HSPH/HMS), Hall i.T., Austria*

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35. IMPACT OF A NOVEL METHOD OF PATIENT PREFERENCE ELICITATION ON DECISION QUALITY IN MEN WITH PROSTATE CANCER: PILOT DATA (DEC)

Christopher S. Saigal, MD, MPH[1], *Elizabeth Garcia, BS*[1], *Kate Crespi, PhD*[1], *Sylvia Lambrechts, MPH, MA*[1], *Robert M. Kaplan, PhD*[2] *and Ely Dahan, PhD*[1], *(1)UCLA, Los Angeles, CA, (2)University of California Los Angeles, Los Angeles, CA*

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36. GIST (NOT VERBATIM) NUMERACY PREDICTS DIABETES MEDICATION ADHERENCE: A FUZZY-TRACE THEORY APPROACH (DEC)

Priscila G. Brust-Renck, M.A., *Valerie Reyna, PhD and Allison Portenoy, Cornell University, Ithaca, NY*

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37. THE ECONOMIC IMPACT OF ROBOTIC AND OPEN RADICAL PROSTATECTOMY ON PATIENTS AND THEIR FAMILIES (HSP)

Elena B. Elkin, PhD[1], *William T. Lowrance, MD, MPH*[2], *Joshua N. Mirkin, BA*[3], *Coral L. Atoria, MPH*[1], *Peter T. Scardino, MD*[1] *and James A. Eastham, MD*[1], *(1)Memorial Sloan-Kettering Cancer Center, New York, NY, (2)Huntsman Cancer Institute, University of Utah, Salt Lake City, UT, (3)State University of New York Downstate College of Medicine, Brooklyn, NY*

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38. INTERSECTORAL HEALTH ACTION IN TANZANIA – DETERMINANTS AND POLICY IMPLICATIONS (AHE)

Michael Simon, MSc, in, Economics, University, of, Freiburg, (Germany), currently, PhD, student, at, University, of, Bonn, (Germany), *University of Bonn (Germany), D-53113 Bonn, Germany*

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39. STAKEHOLDER INPUT TO CLINICAL DECISION SUPPORT (CDS) FOR COMPLEX CHRONIC DISEASE (HSP)

Mary K. Goldstein, MD, MS[1], *Alyssa M. Corley, BA*[1], *Susana B. Martins, MD, MSc*[1], *Samson W. Tu, MS*[2], *Amy E. Furman, PharmD*[1] *and Connie M. Oshiro, PhD*[1], *(1)VA Palo Alto Health Care System, Palo Alto, CA, (2)Stanford University, Stanford, CA*

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40. VALUE OF INFORMATION AND RESEARCH PRIORITIZATION: OPPORTUNITIES, CHALLENGES, AND AREAS FOR FUTURE DEVELOPMENT (HSP)

David Rein, PhD, *NORC at the University of Chicago, Atlanta, GA*

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41. DOES UNBLINDING OF TREATMENT ASSIGNMENT IMPACT PARTICIPANT PERCEPTIONS IN CLINICAL TRIALS? (DEC)

Ann Partridge, MD, MPH[1], ***Karen R. Sepucha, PhD***[2], *Anne O'Neill, M.S.*[1], *Kathy D. Miller, M.D.*[3], *Christine Motley*[1], *Ramona F. Swaby, M.D.*[4], *Bryan P. Schneider, M.D.*[3], *Chau T. Dang, M.D.*[5], *Donald W. Northfelt, M.D.*[6] *and George W. Sledge Jr., M.D.*[3], *(1)Dana-Farber Cancer Institute, Boston, MA, (2)Massachusetts General Hospital, Boston, MA, (3)Indiana University Cancer Center, Indianapolis, IN, (4)Fox Chase Cancer Center, Philadelphia, PA, (5)Memorial Sloan-Kettering Cancer Center, New York, NY, (6)Mayo Clinic, Scottsdale, AZ*

42. ONCOLOGISTS' AND NURSES' VIEWS ON THE IMPLEMENTATION OF DECISION AIDS ON SECOND-LINE PALLIATIVE CHEMOTHERAPY IN ROUTINE PRACTICE (DEC)

***Linda J.M. Oostendorp, MSc**, Petronella B. Ottevanger, MD, PhD, Winette T.A. Van der Graaf, Prof, MD, Rosella P.M.G. Hermens, PhD and Peep F.M. Stalmeier, PhD, Radboud University Nijmegen Medical Center, Nijmegen, Netherlands*

43. IMAGING STRATEGIES FOR ACUTE APPENDICITIS: EFFECTS OF RADIATION-INDUCED CANCER RISKS (HSP)

***Sorapop Kiatpongsan, MD**[1], Ekin Turan, BA[2], Jonathan D. Eisenberg, BA[2], Michael E. Gilmore, MBA[2], Chung Yin Kong, PhD[2], Laura Avery, MD[2], G. Scott Gazelle, MD, MPH, PhD[2] and Pari V. Pandharipande, MD, MPH[2], (1)Harvard Interfaculty Initiative in Health Policy, Cambridge, MA, (2)Massachusetts General Hospital, Boston, MA*

44. PT VS TKA: WEIGHING THE PROS AND CONS (AHE)

*Micah Segelman, Rabbi, MA, James G. Dolan, MD and **Katia Noyes, PhD**, University of Rochester, Rochester, NY*

45. MODELS USING MODELS: USE OF MICROSIMULATION MODEL RESULTS TO IMPROVE ACCURACY OF AN EXCEL-BASED POLICY ANALYSIS TOOL FOR USE IN THE FIELD (INF, HSP)

***Jesse D. Ortendahl, BS**[1], Andrew D. Clark, MA[2], Barbara Jauregui, MD, MSc[3], Elisa Prieto-Lara, MD[4], Jane J. Kim, PhD[1] and Stephen C. Resch, PhD, MPH[1], (1)Center for Health Decision Science, Harvard School of Public Health, Boston, MA, (2)London School of Hygiene and Tropical Medicine, London, United Kingdom, (3)ProVac Initiative, Pan American Health Organization, Washington, DC, (4)Pan American Health Organization, Washington, DC*

46. COST-BENEFIT ANALYSIS OF PREOPERATIVE SMOKING CESSATION INTERVENTIONS AND POSTOPERATIVE COMPLICATIONS (AHE, INF)

*Ethan Bernstein, MPH, James Iannuzzi, MD and **Katia Noyes, PhD**, University of Rochester, Rochester, NY*

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47. PARENT AND CHILD HEALTH UTILITIES ASSOCIATED WITH AUTISM SPECTRUM DISORDERS (DEC)

***Tara A. Lavelle, MS, PhD**[1], Milton C. Weinstein, PhD[2], Joseph P. Newhouse, PhD[1], Karen A. Kuhlthau, PhD[3], Kerim Munir, MD, MPH, ScD[4] and Lisa A. Prosser, M.S., Ph.D.[5], (1)Harvard University, Cambridge, MA, (2)Harvard School of Public Health, Boston, MA, (3)Massachusetts General Hospital, Boston, MA, (4)Children's Hospital Boston, Boston, MA, (5)University of Michigan, Ann Arbor, MI*

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48. TIMING DELIVERY OF PLACENTA ACCRETA: A DECISION ANALYSIS (DEC)

***Merrit A. Hoover, PhD**, Shahana Baig-Lewis, Rachel A. Pilliod, BS, Brian L. Shaffer, MD, Elizabeth Munro and Aaron B. Caughey, MD, MPP, MPH, PhD, Oregon Health & Sciences University, Portland, OR*

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49. USING RFID-BASED REAL-TIME LOCATION SYSTEMS TO DESCRIBE AND UNDERSTAND SOCIAL NETWORKS IN THE OUTPATIENT SETTING (HSP)

***Wilson Wong, PhD**[1], Guangying Hua, PhD[1], DOminique M. Haughton, PhD[1] and James Stahl, MD, CM, MPH[2], (1)Bentley University, Waltham, MA, (2)Massachusetts General Hospital, Boston, MA*

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50. EXPLORING USER RESISTANCE AND TECHNOLOGY ADOPTION FACTORS IN HEALTHCARE (DEC)

***Wilson Wong, PhD**, Bentley University, Waltham, MA and James Stahl, MD, CM, MPH, Massachusetts General Hospital, Boston, MA*

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51. PATIENT DISCORDANCE BETWEEN SURGERY CHOICE AND TREATMENT-RELATED VALUES: A PRELIMINARY STUDY OF BARIATRIC PATIENTS (INF, DEC)

Andrew L. Weinstein, BS[1], *Manish Parikh, MD*[1], *Bryan J. Marascalchi, BS*[1] *and Angela Fagerlin, PhD*[2], *(1)NYU School of Medicine, New York, NY, (2)VA Ann Arbor Healthcare System & University of Michigan, Ann Arbor, MI*

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52. BIASES AND HEURISTICS IN MEDICAL DECISION-MAKING: A REVIEW OF THE LITERATURE AND STUDY METHODOLOGIES (DEC)

Jennifer Blumenthal-Barby, Ph.D. and ***Heather Krieger, BA****, Baylor College of Medicine, Houston, TX*

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53. IMPLEMENTING DECISION BOXES IN PRIMARY HEALTHCARE TEAMS TO FACILITATE SHARED DECISION MAKING: BARRIERS AND FACILITATORS (DEC)

Anik Giguere, PhD[1], *Michel Labrecque, MD, PhD*[2], *Roland Grad, MD*[3], *Michel Cauchon, MD*[4], *Matthew Greenway, MD*[5], *France Légaré, MD, PhD*[6], *Pierre Pluye, PhD*[3], *Lisa Dolovich, PharmD*[5] *and R. Brian Haynes, MD*[5], *(1)Health Information Research Unit (HIRU), Hamilton, ON, Canada, (2)Laval University, Quebec, QC, Canada, (3)McGill University, Montreal, QC, Canada, (4)Universite Laval, Quebec, QC, Canada, (5)McMaster University, Hamilton, ON, Canada, (6)CHUQ Research Center-Hospital St-François d'Assise, Knowledge Transfer and Health Technology Assessment, Quebec, QC, Canada*

POSTER SESSION 4

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The Atrium (Hyatt Regency)

Posters:

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1. AN INTEGRATED SIMULATION MODEL OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (AHE)

Amory B. Schlender, BA*, Archimedes, Inc., San Francisco, CA*

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2. THE ECONOMY AND SUICIDES: MEDICAID'S IMPACT ON THE MENTAL HEALTH INDUSTRY (HSP)

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

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3. COST EFFECTIVENESS OF A GENE EXPRESSION SCORE AND MYOCARDIAL PERFUSION IMAGING FOR DIAGNOSIS OF CORONARY ARTERY DISEASE (INF, AHE)

Charles E. Phelps[1]*, Pamela S. Douglas*[2]*, Amy K. O'Sullivan, PhD*[3]*, Morgan Deflin, BS*[4]*, Kevin Leahy, BA*[3]*, Michael R. Elashoff*[5]*, Mark Monane*[6] *and Joseph Ladapo, MD, PhD*[7]*, (1)University of Rochester, Gualala, CA, (2)Duke University, Durham, NC, (3)OptumInsight, Eden Prarie, MN, (4)OptumInsight, San Francisco, CA, (5)CardioDx, Inc, Palo Alto, CA, (6)CardioDx, Inc., Palo Alto, CA, (7)NYU School of Medicine, NY, NY*

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4. COSTS OF ACUTE MYOCARDIAL INFARCTION HOSPITALIZATIONS FOR PATIENTS AGED 18-64 YEARS IN THE UNITED STATES (AHE)

Guijing Wang, PhD*, Centers for Disease Control and Prevention, Atlanta, GA*

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5. INDIVIDUAL CHARACTERISTICS ASSOCIATED WITH DIFFERENCES IN DESIRE FOR LUNG CANCER SCREENING (DEC)

Margaret M. Byrne, PhD[1]*, Richard Thurer*[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*

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6. COST-EFFECTIVENESS OF TREATMENT EFFECT AND TREATMENT-PREFERENCE EFFECT OF COGNITIVE BEHAVIORAL THERAPY VERSUS PHARMACOTHERAPY IN POST-TRAUMATIC STRESS DISORDER (PTSD) (INF, AHE)

***Quang A. Le, PharmD, PhD**, Western University of Health Sciences, Pomona, CA, Jason N. Doctor, PhD, University of Southern California, Los Angeles, CA, Lori Zoellner, PhD, University of Washington, Seattle, WA and Norah Feeny, PhD, Case Western Reserve University, Cleveland, OH*

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7. ANALYSING COSTS, OUTCOMES, AND PROCESSES: A FRAMEWORK FOR REDUCING IMPORTANT VARIATIONS IN CLINICAL PRACTICE (HSP)

***Jonathan Karnon, PhD**[1], Andrew Partington, BSc, (Hons)[1], Glenis J. Crane, PhD[1], Matthew Horsfall, RN[2], Derek Chew, MBBS, MPH, FRACP[3], David I. Ben-Tovim, MBBS, PhD[4] and Paul Hakendorf, BSc, MPH[4], (1)University of Adelaide, Adelaide, Australia, (2)South Australian Health and Medical Research Institute, Adelaide, Australia, (3)Flinders University, Adelaide, Australia, (4)Flinders Medical Centre, Adelaide, Australia*

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8. A PROSECTIVE STUDY ON COSTS TO INSURANCE AND OUT-OF-POCKET COSTS OF COCHLEAR IMPLANTATION COMPARED WITH HEARING AIDS IN NEWLY IMPLANTED ADULT RECIPIENTS (AHE)

***Leslie S. Wilson, PhD**, University of Californai San Francisco, San Francisco, CA, Jan Gilden, MA, Houston Ear Research Foundation, Houston, TX and Kathryn Henion, Cochlear Americas, Englewood, CO*

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9. REAL-TIME LOCATION SYSTEMS, NORMATIVE MESSAGING AND CHANGING CLINICIAN BEHAVIOR (DEC)

***James Stahl, MD, CM, MPH**, Massachusetts General Hospital, Boston, MA and Mark A. Drew, BID, Massacuhsetts General Hospital, Boston, MA*

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10. IN-GROUP/OUT-GROUP – DOES IT MAKE A DIFFERENCE? GENDER, ETHNICITY, RACE AND FACE-TIME (HSP)

***James Stahl, MD, CM, MPH**, Massachusetts General Hospital, Boston, MA and Mark A. Drew, BID, Massacuhsetts General Hospital, Boston, MA*

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11. PREDICTORS OF TREATMENT ESCALATION IN CLINICAL PRACTICE (DEC)

Liana Fraenkel, MD, MPH[1], *Meaghan Cunnigham, MPH*[1] *and Paul R. Falzer, PhD*[2], *(1)Yale School of Medicine, New Haven, CT, (2)VA Connecticut HealthCare System, West Haven, CT*

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12. LEARNING FROM TEXT MINING IN MEDICAL CARE MANAGEMENT NOTES (HSP)

Scott Zasadil, Ph.D. *and Pamela Peele, Ph.D., UPMC Health Plan, Pittsburgh, PA*

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13. MIXED MESSAGES: DIVERGENT RESULTS IN CARDIOVASCULAR CLINICAL TRIALS (HSP)

Robert J. Bryg, MD*, Cardiology, Sylmar, CA and David J. Bryg, PhD, Olive View-Medical Center, Sylmar, CA*

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14. ABSTRACT WITHDRAWN - COMPARING PHYSICIAN ESTIMATES OF PROBABILITY OF PATHOLOGY, PERFORMANCE OF DIAGNOSTIC TESTING, AND PATHOLOGY IN CLINICAL PRACTICE (DEC)

Carrie Daymont, MD, MSCE[1], *Terry P. Klassen, MD, MSC*[1] *and Martin H. Osmond, MD, CM*[2], *(1)University of Manitoba, Winnipeg, MB, Canada, (2)University of Ottawa, Ottawa, ON, Canada*

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15. PHYSICIANS' JUDGMENTS OF RADIOLOGICAL IMAGES ON A MULTI-TRIAL DISCRIMINATION TASK: EVIDENCE FOR THE USE OF COGNITIVE HEURISTICS (DEC)

Jason W. Beckstead, PhD*, University of South Florida College of Nursing, Tampa, FL, Kathy Boutis, BSc, MSc, MD, FRCPC, Hospital for Sick Children, Toronto, ON, Canada, Martin R. Pecaric, PhD, Contrail Consulting Services, Toronto, ON, Canada and Martin V. Pusic, MD, PhD, New York University, New York, NY*

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16. THE IMPACT OF CURRENT ILLICIT DRUG USE ON QUALITY OF LIFE IN HIV INFECTED AND AT RISK WOMEN: IMPLICATIONS FOR COMBINED HEALTH UTILITIES (DEC)

Brandon Aden, MD, MPH[1], *Bohdan Nosyk, Ph.D.*[2], *Bruce R. Schackman, PhD*[1] *and Eve Wittenberg, PhD, MPP*[3], *(1)Weill Cornell Medical College, New York, NY, (2)BC Centre for Excellence in HIV/AIDS, Vancouver, BC, Canada, (3)Center for Health Decision Science, Boston, MA*

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17. THE EFFECT OF NARRATIVE FORMAT ON INFORMATION SEARCH USING A WEB-BASED BREAST CANCER DECISION AID (DEC)

Victoria A. Shaffer, PhD, University of Missouri-Columbia, Columbia, MO, Justin Owens, MA, Wichita State University, Wichita, KS and ***Brian J. Zikmund-Fisher, PhD****, University of Michigan, Ann Arbor, MI*

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18. DISCONTINUATION OF ORAL 5-AMINOSALICYLIC ACID THERAPY ASSOCIATED WITH INCREMENTAL ALL-CAUSE HEALTHCARE COSTS IN ACTIVE ULCERATIVE COLITIS PATIENTS (AHE)

Michael B. Nichol, PhD[1], *Joanne Wu, MD, MS*[1] *and Linnette Yen*[2], *(1)University of Southern California, Los Angeles, CA, (2)Shire Development LLC, Wayne, PA*

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19. HOW DECISIONS ON TUBERCULOSIS CARE UTILIZATION AND PLACE OF WORK AMONG MIGRANT WORKERS FROM ARMENIA IMPACT TB HEALTH OUTCOMES (HSP)

Nune Truzyan, DVM, MPH*, Varduhi Petrosyan, MS, PhD, Byron Crape, MSPH, PhD and Ruzanna Grigoryan, MD, MPH, American University of Armenia, Yerevan, Armenia*

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20. BARRIERS AND FACILITATORS TO IMPLEMENT SHARED DECISION MAKING IN TREATMENT OF SCIATICA PATIENTS (DEC)

Stefanie N. Hofstede, MSc*, P.J. Marang-van de Mheen, PhD, Anne M. Stiggelbout, PhD, Willem J.J. Assendelft, MD, PhD, Manon M. Wentink, MSc, Thea P.M. Vliet*

Vlieland, MD, PhD and Leti van Bodegom-Vos, PhD, Leiden University Medical Center, Leiden, Netherlands

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21. NEGOTIATED RATES FOR OUTPATIENT SERVICES: FINDING CONSIDERABLE VARIANCE EVEN WITHIN A SINGLE COMMERCIAL CARRIER'S NETWORK (AHE)

Sophie Pinkard, MBA[1], *Dena M. Bravata, MD, MS*[2], *Bob Kocher, MD*[1] *and Jennifer Schneider Chafen, M.D., M.S.*[3], *(1)Castlight Health, San Francisco, CA, (2)Castlight Health, Stanford, CA, (3)Stanford Center for Primary Care and Outcomes Research, Stanford, CA*

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22. PEDIATRIC ENTERAL ACCESS PROCEDURES IN THE U.S.: REGIONAL VARIATION AND CHANGING RATES (HSP)

David Fox, MD*, University of Colorado, Denver, Aurora, CO, Elizabeth Campagna, MS, Children's Outcomes Research Program, Aurora, CO and Allison Kempe, MD, MPH, Children's Outcome Research Program, Denver, CO*

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23. DEVELOPMENT OF A MARKOV MODEL TO EVALUATE TREATMENTS OF ALCOHOL ABUSE (INF, AHE)

Richard M. Zur, Ph.D.*, The University of Western Ontario, London, ON, Canada and Gregory S. Zaric, Ph.D, University of Western Ontario, London, ON, Canada*

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24. RELIABILITY OF AN ONLINE DECISION AID FOR ADVANCE CARE PLANNING: AN APPLICATION OF GENERALIZABILITY THEORY (DEC)

Jane R. Schubart, PhD, MS, MBA*, Fabian Camacho, MS, Benjamin H. Levi, MD, PhD, Kimberly Rush, MS and Michael J. Green, MD, MS, Penn State College of Medicine, Hershey, PA*

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25. MANAGEMENT OF UNDESCENDED TESTIS: A DECISION ANALYSIS (HSP)

M.Elske Akker-van Marle, PhD[1], *Mascha Kamphuis, MD, PhD*[2], *Helma B.M. van Gameren-Oosterom, MD*[2], *Frank H. Pierik, PhD*[3] *and Job Kievit, MD, PhD*[1],

(1)Leiden University Medical Center, Leiden, Netherlands, (2)Netherlands Organization for Applied Scientific Research, Leiden, Netherlands, (3)Netherlands Organization for Applied Scientific Research, Delft, Netherlands

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26. UTILIZATION OF USTEKINUMAB IN BIOLOGIC-EXPERIENCED AND BIOLOGIC-NAïVE PSORIASIS PATIENTS (HSP)

Chureen T. Carter, PharmD, MS[1], *Zhun Cao, Phd*[2], *Kathleen Wilson*[2], *Silas Martin*[1] *and Brad Schenkel*[1], *(1)Janssen Scientific Affairs, LLC, Horsham, PA, (2)Thomson Reuters, Cambridge, MA*

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27. INTEGRATING THE PATIENT-REPORTED OUTCOMES MEASUREMENT INFORMATION SYSTEM (PROMIS) SYMPTOM ASSESSMENT INTO ROUTINE CANCER CARE (HSP)

Lynne I. Wagner, Ph.D.[1], *Laura A. Abraham*[1], *Kile King*[1], *Shalini N. Patel*[1], *Michael Bass, MS*[1], *Maria Varela Diaz*[1], *Nan Rothrock, Ph.D.*[1], *Julian Schink, M.D.*[2], *Richard Gershon, PhD*[1] *and David Cella, PhD*[1], *(1)Northwestern University Feinberg School of Medicine, Chicago, IL, (2)Robert H. Lurie Comprehensive Cancer Center of Northwestern University, Chicago, IL*

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28. USING LARGE, RETROSPECTIVE DATASETS TO MAKE COST-EFFECTIVE DECISIONS CONCERNING EMBRYO TRANSFER POLICIES IN FIRST CYCLE IN VITRO FERTILIZATION PATIENTS WHO ARE 38 YEARS OF AGE OR OLDER: A POPULATION-BASED ANALYSIS (AHE)

Christopher Jones, D.Phil., *University of Vermont, College of Medicine, Burlington, VT and Renju Raj, MD, University Of Vermont College of Medicine, Burlington, VT*

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29. COST-EFFECTIVENESS ANALYSIS OF TICAGRELOR IN ACUTE CORONARY SYNDROME PATIENTS IN COLOMBIA (INF, AHE)

Martin Romero, *Angie Upegui and Diana Chavez, Salutia Foundation, Bogotá D.C, Colombia*

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30. ILLOGICAL RESPONSES FOR JOINT HEALTH STATE UTILITIES; A COMPARISON OF TIME-TRADEOFFS AND STANDARD GAMBLE METHODS (DEC)

Joshua Hemmerich, PhD[1], *Arthur Elstein, PhD*[2], *Eva Melstrom, BA*[3] *and William Dale, MD, PhD*[1], *(1)University of Chicago, Chicago, IL, (2)The University of Illinois at Chicago, Wilmette, IL, (3)The University of Chicago, Chicago, IL*

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31. TREATING PATIENTS IN HAPO GLUCOSE CATEGORY 5 TO IMPROVE MATERNAL AND NEONATAL OUTCOMES: A COST EFFECTIVENESS ANALYSIS (INF, AHE)

John F. Mission[1], *Mika Ohno, MD*[2], *Keenan Yanit, MD*[1], *Yvonne Cheng, MD, MPH*[3] *and Aaron B. Caughey, MD, MPP, MPH, PhD*[4], *(1)Oregon Health and Science University, Portland, OR, (2)Santa Clara Valley Medical Center, Sunnyvale, CA, (3)University of California, San Francisco, CA, (4)Oregon Health & Sciences University, Portland, OR*

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32. WHAT PROFESSIONAL ACTIVITIES DO GENERAL PRACTITIONERS FIND MOST MEANINGFUL, AND ARE THEY AT ODDS WITH THE REQUIREMENTS OF HEALTH CARE REFORMS? CROSS SECTIONAL SURVEY OF NORWEGIAN GPS (HSP)

Peder A. Halvorsen, MD, PhD[1], *Adrian Edwards, MB, PhD*[2], *Ivar J. Aaraas, MD, PhD*[1], *Olaf Gjerløw Aasland, MD, PhD*[3] *and Ivar Sønbø Kristiansen, MD, PhD, MPH*[4], *(1)University of Tromsø, Tromsø, Norway, (2)Cardiff University, Cardiff, United Kingdom, (3)The Norwegian Medical Association, Oslo, Norway, (4)University of Oslo, Oslo, Norway*

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33. EXPLICIT ATTITUDES SEEM MORE DECISIVE FOR INTENTIONS ABOUT CERVICAL CANCER SCREENING THAN IMPLICIT ATTITUDES (DEC)

Ida J. Korfage, MSc, PhD[1], *Erik W. de Kwaadsteniet, MSc, PhD*[2], *Arwen H. Pieterse, PhD*[3], *Anne M. Stiggelbout, PhD*[3] *and Marieke de Vries, PhD*[4], *(1)Erasmus MC - University Medical Center, Rotterdam, Netherlands, (2)Leiden University, Leiden, Netherlands, (3)Leiden University Medical Center, Leiden, Netherlands, (4)Tilburg University, Tilburg, Netherlands*

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34. DEVELOPING VIRTUAL PATIENT ADVOCATE TECHNOLOGY FOR SHARED DECISION MAKING (DEC)

Suzanne E. Mitchell, MD, MS[1], *Cathryn Imperato, RN, DNP*[2], *Daniel Schulman*[2], *MEgan Hempstead*[1], *Huong Tran, MD*[1], *Meryl Kopy, MA*[1], *Timothy Bickmore, PhD*[2], *Michael K. Paasche-orlow, MD, MPH*[1] *and Brian Jack, MD*[1], *(1)Boston University School of Medicine, Boston, MA, (2)Northeastern University, Boston, MA*

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35. PATIENT CHARACTERISTICS ASSOCIATED WITH PREFERENCE PATTERNS AND MESSAGING FRAMES FOR DEPRESSION TREATMENT (DEC)

Marsha Wittink, MD, MBE*, University of Rochester School of Medicine, Rochester, NY, Mark Cary, Ph.D., University of Pennsylvania School of Medicine, Philadelphia, PA and Joseph Gallo, MD, MPH, Johns Hopkins University, Baltimore, MD*

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36. MEN'S PREFERENCES FOR PROSTATE CANCER SCREENING: A DISCRETE CHOICE EXPERIMENT (DEC)

Esther W. de Bekker-Grob, PhD[1], *Bas Donkers, PhD*[2], *John M. Rose, PhD*[3], *Marie-Louise Essink-Bot, MD, PhD*[4], *Chris H. Bangma, MD, PhD*[1] *and Ewout W. Steyerberg, PhD*[1], *(1)Erasmus MC - University Medical Center Rotterdam, Rotterdam, Netherlands, (2)Erasmus University Rotterdam, Rotterdam, Netherlands, (3)University of Sydney, Sydney, Australia, (4)Social Medicine, Amsterdam, Netherlands*

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37. ECONOMIC BENEFIT OF AN EDUCATIONAL INTERVENTION TO IMPROVE TPA USE IN COMMUNITY HOSPITALS (AHE)

David W. Hutton, PhD[1], *Cemal B. Sozener, MD*[2], *William Meurer*[2], *Shirley Frederiksen*[2], *Allison Kade*[2] *and Phillip A. Scott, MD*[2], *(1)University of Michigan School of Public Health, Ann Arbor, MI, (2)University of Michigan, Ann Arbor, MI*

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38. METHODS FOR EVALUATING STRATEGIES FOR RAPID RESPONSE TEAMS IN HOSPITAL SETTINGS (INF, HSP)

***Bruce W. Morlan, MS**, Jeanne Huddleston, MD, James M. Naessens, ScD, Matthew G. Johnson, MS and Joel A. Hickman, Mayo Clinic, Rochester, MN*

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39. ENHANCING THE CONVERSATION: INCORPORATING INFORMATION ABOUT THE PATIENT'S IMMEDIATE ENVIRONMENT INTO DECISION MAKING (DEC)

***Heather L. Black, Ph.D.**, Merck Sharp & Dohme Corp., North Wales, PA*

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40. DO VALID FILM DECISION-AIDS INFORM PARENTS ON POTENTIAL OUTCOMES OF EXTREME PREMATURITY WITHOUT CREATING STRESS? (DEC)

***Ursula Guillen, MD**[1], Sanghee Suh, BS[2], Eileen Wang, MD[3], Veronica Stickelman, MA[4] and Haresh Kirpalani, BM, MSc[2], (1)Children's Hospital of Philadelphia, Wilmington, DE, (2)Children's Hospital of Philadelphia, Philadelphia, PA, (3)University of Pennsylvania, Philadelphia, PA, (4)Philadelphia Women in Film and Television, Philadelphia, PA*

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41. ABSTRACT WITHDRAWN - REGULATORY FOCUS AFFECTS PHYSICIAN RISK TOLERANCE (DEC)

***Peter J. Veazie, PhD, MS**, Scott McIntosh, PhD, Benjamin P. Chapman, PhD and James G. Dolan, MD, University of Rochester, Rochester, NY*

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42. ARE ORGANIC FOODS SAFER OR HEALTHIER THAN CONVENTIONAL ALTERNATIVES? A SYSTEMATIC REVIEW (HSP)

***Crystal M. Smith-Spangler, MD, MS**[1], Margaret L. Brandeau, PhD[2], James C. Bavinger, BA[2], Grace E. Hunter, BA, MSc.[3], Paul Eschbach[2], Maren Pearson[2], Vandana Sundaram, MPH[1], Hau Liu, MD, MS, MBA, MPH[4], Patricia Schirmer, MD[5], Christopher Stave, MLS[2], Ingram Olkin, PhD[6] and Dena M. Bravata, MD, MS[2], (1)Veterans Affairs Palo Alto Health Care System and Stanford University, Stanford, CA, (2)Stanford University, Stanford, CA, (3)Stanford University, San Francisco, CA, (4)Santa Clara County Medical Center, San Jose, CA, (5)Veterans Affairs Palo Alto Health Care System, Palo Alto, CA, (6)Stanford University, Palo Alto, CA*

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43. TRUST AND COMPARATIVE EFFECTIVENESS RESEARCH: METHODS, POLICIES, AND FUTURE DIRECTIONS FOR REPRODUCIBLE RESEARCH (HSP)

***Crystal M. Smith-Spangler, MD, MS**, Veterans Affairs Palo Alto Health Care System and Stanford University, Stanford, CA and Steven Goodman, MD, PhD, Stanford University, Stanford, CA*

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44. EMPOWERING PATIENT DECISION MAKING AND HEALTH MANAGEMENT: EVALUATING INDIVIDUAL PREFERENCES AND WILLINGNESS TO ADOP HEALTH INFORMATION TECHNOLOGIES (HSP)

*Sara Ahmed, PhD and **Iphigenia Symeonidis, M.A.**, McGill University, Montreal, QC, Canada*

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45. PRELIMINARY OUTCOMES TOWARDS A RISK-BASED MICROSIMULATION DECISION-ANALYTICAL MODEL BASED ON TREATMENT AND COST INPUTS FROM A REAL WORLD COHORT OF BREAST CANCER PATIENTS (HSP)

***Beate Jahn, PhD**[1], David Stenehjem, PharmD[2], Kim Saverno, PhD[3], Beilei Cai, PhD[4], Uwe Siebert, MD, MPH, MSc, SD[5] and Diana Brixner, PhD[2], (1)UMIT - University for Health Sciences, Medical Informatics and Technology, ONCOTYROL - Center for Personalized Cancer Medicine, Hall in Tirol, Austria, (2)University of Utah, Salt Lake City, UT, (3)UMIT - University for Health Sciences, Medical Informatics and Technology, Hall i.T., Austria, (4)Pharmacotherapy Outcome Research Center, Salt Lake City, UT, (5)UMIT - University for Health Sciences; ONCOTYROL - Center for Personalized Cancer Medicine; Harvard Univ (HSPH/HMS), Hall, Austria*

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46. THE IMPACT OF AFFECTIVE AND COGNITIVE EVALUATIONS ON PREGNANT WOMEN'S DECISIONS ABOUT PRENATAL SCREENING (DEC)

***Danielle R.M. Timmermans, PhD**, EMGO Institute/ VU University Medical Center, Amsterdam, Netherlands*

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47. DOES TIME FRAME MATTER? COMMUNICATING AGE-RELATED OR LIFETIME RISKS IN BREAST CANCER RISK COMMUNICATION (DEC)

Danielle R.M. Timmermans, PhD[1], *Christi J. Van Asperen, MD, PhD*[2], *Jan C. Oosterwijk, MD, PhD*[3], *Fred H. Menko, MD, PhD*[4], *Liesbeth Claassen, PhD*[1] *and Lidewij Henneman, PhD*[1], *(1)EMGO Institute/ VU University Medical Center, Amsterdam, Netherlands, (2)Leiden University Medical Center, Leiden, Netherlands, (3)University Medical Center Groningen, Groningen, Netherlands, (4)VU University Medical Center, Amsterdam, Netherlands*

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48. RISK COMMUNICATION IN THE DUTCH CANCER RISK TEST: THE MORE NUMBERS THE BETTER, OR NOT? (DEC)

Danielle R.M. Timmermans, PhD*, EMGO Institute/ VU University Medical Center, Amsterdam, Netherlands and J. Oudhoff, PhD, VU University Medical Center, Amsterdam, Netherlands*

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49. COST EFFECTIVENESS OF STRATEGIES FOR DIAGNOSIS OF HEPATITIS C IN MEXICO (INF, AHE)

Víctor Granados-García, MPhil[1], *Ana M. Contreras, Dr*[2], *Rodolfo J. Ochoa-Jiménez, Dr*[3], *Alfredo Celis, Dr*[2], *Edgar Hernández-Urbina, Dr*[2] *and Nancy B. Sanchez-Tomay, Dr*[2], *(1)Mexican Institute of Social Security, Mexico City, Mexico, (2)Mexican Institute of Social Security, Guadalajara, Mexico, (3)Mexican Institute of Social Security, Colima, Mexico*

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50. USING DISASTER PREPAREDNESS PRINCIPLES TO IMPROVE MEDICAL EDUCATION AND HEALTH CARE PERFORMANCE OUTCOMES (HSP)

Rebecca Roberts, MD[1], *Robert Humrickhouse*[2], *Michelle Sergel, MD*[1], *Suja Mathew, MD*[1], *Saini Raj Kundapati, MD*[1], *Rashid Kysia, MD*[1], *Helen Straus, MD*[1], *Isam Nasr, MD*[1] *and Ibrar Ahmad, BS*[1], *(1)Cook County Hospital (Stroger), Chicago, IL, (2)Metropolitan Chicago Healthcare Council, Chicago, IL*

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51. CAN PLOTTING CLINICAL TREATMENT RESPONSE RATES AND CALCULATING DISEASE SLOPES OVER TIME IMPROVE MEDICAL DECISION MAKING? (HSP)

Rebecca Roberts, MD[1], *Shawn Prakash, MD*[2], *Nabiha Shamsi, BS*[3], *Linda Kampe, MPH*[4], *Ibrar Ahmad, BS*[1], *Emma Lewis, BA*[5], *Omer Naseer, MD*[6], *Roger Roxas, MA*[1] *and Masoumeh Shirani, MD*[7], *(1)Cook County Hospital (Stroger), Chicago, IL, (2)New York Medical College, New York, NY, (3)University of Illinois at Chicago, Chicago, IL, (4)Cook County Hospital and Healthcare System, Chicago, IL, (5)Barnard College, New York, NY, (6)Metropolitan Westchester Medical Center, New York, NY, (7)Cook County Hospital (Stroger Hospital), Chicago, IL*

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52. ONLINE IMMUNIZATION SCHEDULE DECISION SUPPORT TOOL PRESENTS SHARED RISK ASSESSMENT AND COMMUNICATION OPPORTUNITIES FOR PROVIDERS AND PATIENTS (DEC)

Sheila Isbell, M.S., C.S. *and D. Scott Appling, M.S., C.S., Georgia Institute of Technology, Atlanta, GA*

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53. REDUCING TRIPLET GESTATIONS: A DECISION ANALYSIS (DEC)

Rachel A. Pilliod[1], ***Jessica M. Page***[1], *Katherine Volpe*[1], *Keenan Yanit*[1], *Leonardo Pereira, MD*[1], *Alison Cahill, MD*[2] *and Aaron B. Caughey, MD, MPP, MPH, PhD*[1], *(1)Oregon Health and Science University, Portland, OR, (2)Washington University, St. Louis, MO*

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54. ASSESSING THE IMPACT OF ADVOCACY AND PUBLIC AWARENESS ON NATIONAL PRIORITIES FOR LIVER CANCER CONTROL (HSP)

John F.P. Bridges, PhD[1], *Susan Joy, MPH, MA*[1] *and Barri M. Blauvelt, MBA*[2], *(1)Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, (2)University of Massachusetts, Hadley, ME*

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55. IDENTIFYING OPERATIONAL FACTORS AFFECTING PATIENTS' UNDERSTANDING OF TREATMENT (HSP)

Jessica J. Chen, MD*, University of California at San Diego, Escondido, CA and John Fontanesi, PhD, UCSD School of Medicine, Solana Beach, CA*

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56. PREDICTORS OF PROSTATE CANCER SCREENING: A MULTILEVEL MODELING APPROACH (HSP)

Vishvas Garg, MBA, BPharmacy, *Dennis Raisch, PhD and James Selig, PhD, MA, University of New Mexico, Albuquerque, NM*

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57. UNCERTAINTY IN BARRETT'S ESOPHAGUS PROGRESSION RATES: IMPACT ON THE EFFICIENCY OF SCREENING AND ABLATION (HSP)

S. Kroep[1], *I. Landsdorp-Vogelaar*[1], *J.M. Inadomi*[2] *and M. van Ballegooijen*[1], *(1)Erasmus MC, University Medical Center, Rotterdam, Netherlands, (2)University of Washington, Seattle, WA*
