Making Difficult Clinical and Policy Decisions: The Example of Ageing and End of Life Care in Asia-Pacific

Friday, January 8, 2016

FD1. INTRODUCTION TO HEALTH TECHNOLOGY ASSESSMENT

Next Session »

09:00 - 17:00: Fri. Jan 8, 2016
Tutorial Room, 2/F
Program: Pre-Meeting Short Courses
Course Director(s): *Murray Krahn, MD, Msc, FRCPC*
Course Faculty: *Jeremy D. Goldhaber-Fiebert, PhD, Petros Pechlivanoglou, MSc, PhD*

AM1. SMDM CORE COURSE: INTRODUCTION TO MEDICAL DECISION ANALYSIS (DECISION-ANALYTIC MODELING)

« Previous Session | Next Session »

09:00 - 12:00: Fri. Jan 8, 2016
Seminar Room 1, 1/F
Program: Pre-Meeting Short Courses
Course Director(s): *Beate Jahn, PhD*

AM2. DECISION MODELLING USING R

« Previous Session | Next Session »

09:00 - 12:00: Fri. Jan 8, 2016
Seminar Room 2, 1/F
Program: Pre-Meeting Short Courses
Course Director(s): *Petros Pechlivanoglou, MSc, PhD*

PM1. INTRODUCTION TO SYSTEM DYNAMICS FOR HEALTH CARE SERVICES

« Previous Session | Next Session »

14:00 - 17:00: Fri. Jan 8, 2016
Seminar Room 1, 1/F
Program: Pre-Meeting Short Courses
Course Director(s): *David B. Matchar, MD*
Course Faculty: *Steffen Bayer, PhD*

PM2. MICROSIMULATION AS A TOOL TO MODEL HEALTH CARE DECISIONS

« Previous Session | Next Session »

14:00 - 17:00: Fri. Jan 8, 2016
Seminar Room 2, 1/F
Program: Pre-Meeting Short Courses
Course Director(s): *Mark S. Roberts, MD, MPP*

PM3. UTILITIES, PREFERENCE MEASURES, AND QALYS

« Previous Session | Next Session »

14:00 - 17:00: Fri. Jan 8, 2016
Seminar Room 3, 1/F
Program: Pre-Meeting Short Courses
Course Director(s): *Ahmed Bayoumi, MD, MSc*

SHORT-FORM ORAL PRESENTATIONS: SESSION 1

« Previous Session | Next Session »

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F

Session Summary:

18:00 - 20:00

INITIATION OF BASAL INSULIN THERAPY AMONG PATIENTS WITH DIABETES MELLITUS IN JAPAN: A RETROSPECTIVE ANALYSIS IN A HOSPITAL SETTING

18:00 - 20:00

SCREENING AND SURVEILLANCE IN PATIENTS WITH BARRETT'S ESOPHAGUS FOR EARLY DETECTION OF ESOPHAGEAL ADENOCARCINOMA: A SYSTEMATIC REVIEW AND META-ANALYSIS

18:00 - 20:00

PREFERENCES AND A DECISION AID IN PROSTATE CANCER TREATMENT DECISION MAKING

18:00 - 20:00

USING MODERN TECHNOLOGY TO SUPPORT DECISION MAKING IN PATIENTS WITH TYPE 2 DIABETES: THE INSULIN DECISION AID WEBSITE

18:00 - 20:00

HOW DO COMMUNITY NURSES USE COGNITION AND INTUITION TO MAKE DECISIONS? A QUALITATIVE STUDY

18:00 - 20:00

AN EXPLORATION OF KNOWLEDGE, ATTITUDES AND BEHAVIOURS (KAB) TOWARDS PRE-MARITAL SEX: A STUDY AMONG YOUTHS WHO LIVING IN RENTED-ROOMS IN HUE CITY

18:00 - 20:00

CLEFT LIP AND PALATE: THE BURDEN OF CARE IN INDIA

18:00 - 20:00

COMPARIZON OF EQUITY WEIGHTS OF LIFE YEAR GAINS: A DISCRETE CHOICE EXPERIMENT FOR JAPANESE AND KOREAN GENERAL PUBLIC

18:00 - 20:00

DOES PERSONALIZED TREATMENT BENEFIT EVERYONE? PREDICTIVE ANALYSIS OF OPTIONS FROM CLINICAL TRIALS

18:00 - 20:00

EXPERT PANEL EVALUATION OF THE VISIT PROTOTYPE: A WEB-BASED, EMR-INTEGRATED TOOL TO FACILITATE PATIENT VALUES ELICITATION IN PRIMARY CARE CONSULTATIONS

18:00 - 20:00

THE IMPACT OF PHARMACEUTICAL BENEFITS SCHEME REFORMS ON DISPENSING OF STATINS MEDICINES IN AUSTRALIA FROM 1992 – 2011

18:00 - 20:00

MASS SCREENING AND VACCINATION STRATEGIES: CASE OF CERVICAL CANCER IN JAPAN

18:00 - 20:00

TUBERCULOSIS RISK FROM LOW BODY MASS INDEX, DIABETES, AND THEIR CO-OCCURRENCE IN LOW AND MIDDLE-INCOME COUNTRIES: AN INDIVIDUAL AND POPULATION-LEVEL EPIDEMIOLOGICAL ASSESSMENT

18:00 - 20:00

THE DYNAMICS OF TUBERCULOSIS AND POVERTY TRAPS IN INDIA

18:00 - 20:00

COST-EFFECTIVENESS OF HIV PREEXPOSURE PROPHYLAXIS FOR INJECTION DRUG USERS IN THE UNITED STATES: A MODEL FOR OTHER COUNTRIES TOO?

18:00 - 20:00

STRATEGIES TO SCREEN FOR DIABETIC RETINOPATHY IN CHINESE PATIENTS WITH NEWLY DIAGNOSED TYPE 2 DIABETES: A COST-EFFECTIVE ANALYSIS

18:00 - 20:00

HEALTH SERVICES FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND HEART FAILURE PATIENTS IN ONTARIO TELEHOMECARE PROGRAM

18:00 - 20:00

NEW MODEL OF HEALTHCARE DELIVERY - TELEHOMECARE PROGRAM FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND HEART FAILURE PATIENTS IN ONTARIO, CANADA

18:00 - 20:00

POSTTRAUMATIC GROWTH ASSOCIATED CERVICAL CANCER: DO IMPACT OF EVENT, REGRET PLAY A MEDIATING ROLE?

18:00 - 20:00

ECONOMIC EVALUATION OF THE 2015 MEDICARE ACCESS AND CHIP REAUTHORIZATION ACT

18:00 - 20:00

DISEASE BURDEN AND ECONOMIC ASPECTS OF HYPERPHOSPHATEMIA AMONG PATIENTS WITH END-STAGE RENAL DISEASE IN CHINA

18:00 - 20:00

DYNAMIC SIMULATION MODELLING IN HEALTH CARE - WHY WE NEED IT? HOW IT CAN HELP?

18:00 - 20:00

SYSTEM DYNAMICS MODELLING IN EVALUATION OF UNPLANNED READMISSION OF PATIENTS WITH COPD IN HONG KONG: PROTOCOL AND PILOT FINDINGS

Abstracts:

INITIATION OF BASAL INSULIN THERAPY AMONG PATIENTS WITH DIABETES MELLITUS IN JAPAN: A RETROSPECTIVE ANALYSIS IN A HOSPITAL SETTING

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

Shuichi Suzuki, MPH[1], *Mayank Ajmera, MS, PhD*[2], *Samantha Kurosky, MSPH*[2], *Narayan Rajan, MA, MSc*[3], *Kenji Ohwaki*[1] *and Jay P. Bae, PhD*[4], *(1)Eli Lilly Japan K. K., Kobe, Japan, (2)RTI Health Solutions, Research Triangle Park, NC, (3)Eli Lilly Australia Pty Limited, Sydney, Australia, (4)Eli Lilly and Company, Indianapolis, IN*

Purpose: Describe real-world patient characteristics and treatment patterns among patients with diabetes who initiated insulin in the hospital-setting in Japan.

Method(s): A cohort of adults with type 1 or type 2 diabetes mellitus (T2DM) who first initiated insulin between 2012 and 2014 was identified in a large hospital-based medical claims database (Medical Data Vision). Demographic and clinical characteristics of patients with T2DM initiating basal insulin (BI) were reported during a 5-month pre–insulin-initiation index period.

Result(s): Of 35,409 patients with diabetes who initiated insulin therapy, 96.5% had T2DM. Among patients with T2DM 29.8% initiated BI therapy (70.3% in combination with prandial insulin [PI] and 29.7% with BI only). At BI initiation, the mean age was 64 years, mean pre-index HbA_{1c} value was 9.1%, and 41.5% had a pre-index body mass index of ≥25. Overall, 87.5% of T2DM patients who receive BI initiated therapy when their HbA_{1c} level was above 7%. Insulin glargine (IG) (77.5%) was most frequently initiated, followed by insulin detemir (IDt) (15.6%), and insulin degludec (IDg) (6.8%). The mean Charlson Comorbidity Index (CCI) score at BI initiation was highest among those receiving IDg (1.9), followed by IG (1.8), and IDt (1.4). Specifically, patients who initiated IDt had reported a lower frequency of myocardial infarction, congestive heart failure, cerebrovascular disease, hypertension, and diabetes-related ophthalmic and neurological complications compared to patients who initiated IDg or IG. Within each BI group, the mean CCI score was higher among those receiving PI compared to those who did not.

Conclusion(s): Considering the Japan Diabetes Society recommends a goal HbA_{1c} level of <7% to reduce diabetes-related complications, the high baseline HbA1c suggests the need for better management and timely transition of treatments when first-line therapies (e.g., OADs) are failing. Those with a higher CCI score received IDg or IG compared to IDt and supplemented BI therapy with PI, suggesting clinical severity may be an important factor in determining the type of BI regimen initiated. Continued research on the type and timing of BI initiation is warranted.

SCREENING AND SURVEILLANCE IN PATIENTS WITH BARRETT'S ESOPHAGUS FOR EARLY DETECTION OF ESOPHAGEAL ADENOCARCINOMA: A SYSTEMATIC REVIEW AND META-ANALYSIS

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

Hla-Hla Thein, MD, MPH, PhD[1], *Yao Qiao, MSc MPH*[2], *Ayaz Hyder, PhD*[3], *Sandy Bae, MPH*[2], *Wasifa Zarin, MPH*[4], *Tyler O'Neill, D.V.M., M.Sc*[1], *Norman Marcon, MD, FRCP(C)*[5] *and Lincoln Stein, MD, PhD*[6], *(1)Dalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada, (2)University of Toronto, Toronto, ON, Canada, (3)Ohio State University, Columbus, OH, (4)St. Michael's Hospital, Toronto, ON, Canada, (5)Department of Medicine, University of Toronto, Toronto, ON, Canada, (6)Ontario Institute for Cancer Research, Toronto, ON, Canada*

Purpose: Although endoscopic surveillance of patients with Barrett's esophagus (BE) has been widely implemented for early detection of esophageal adenocarcinoma (EAC), its justification has been debated. This systematic review aimed to evaluate screening practice, benefits, safety, and cost-effectiveness of surveillance for patients with BE.

Method(s): MEDLINE, EMBASE, EconLit, Scopus, Cochrane, and CINAHL were searched for published human studies that examined screening practices, benefits, safety, and cost-effectiveness of surveillance among patients with BE. Reviewers independently reviewed eligible full-text study articles and conducted data extraction and quality assessment, with disagreements resolved by consensus. Random effects meta-analyses were performed to assess the incidence of EAC, EAC/high-grade dysplasia (HGD) and annual stage-specific transition probabilities detected among BE patients under surveillance, and relative risk of mortality among EAC patients detected during surveillance compared with those not under surveillance. To explore source of heterogeneity both within and between studies included in meta-analyses for incidence rate of EAC and EAC/HGD, we conducted random effects meta-regression using a linear mixed model based on maximum likelihood method.

Result(s): Fifty-one studies with 11,028 subjects were eligible; the majority of included studies were of high quality based on the Newcastle-Ottawa quality scale. Among BE patients undergoing endoscopic surveillance, pooled EAC incidence per 1000 person-years of surveillance follow-up was 5.5 (95% confidence interval [CI]: 4.2-6.8) and pooled EAC/HGD incidence was 7.7 (95% CI: 5.7-9.7). Pooled relative mortality risk among surveillance-detected EAC patients compared with non-surveillance-detected EAC patients was 0.386 (95% CI: 0.242-0.617). Pooled annual stage-specific transition probabilities from non-dysplastic BE to low-grade dysplasia (LGD), HGD, and EAC were 0.019, 0.003, and 0.004, respectively. There was, however, insufficient scientific evidence on safety and cost-effectiveness of surveillance for BE patients.

Conclusion(s): Our findings confirmed a low incidence rate of EAC among BE patients undergoing surveillance and a reduction in mortality by 61% among those who received regular surveillance and developed EAC. Although surveillance in BE patients has been a controversial issue, our findings provide scientific evidence of detection of precancerous LGD and HGD to support the practice of endoscopic surveillance recommended by multiple gastroenterology societies. Due to knowledge gaps, it is important to assess safety of surveillance and health care resource use and costs to supplement existing evidence and inform a future policy decision for surveillance programs.

PREFERENCES AND A DECISION AID IN PROSTATE CANCER TREATMENT DECISION MAKING

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

*Romy R.E.D. Lamers, MD[1], Maarten Cuypers, MSc.[2], Marieke de Vries, PhD[2], Lonneke V. van de Poll-Franse, PhD[3], J.L.H.R. Bosch, MD, PhD[4] and **Paul J.M. Kil, MD, PhD**[1], (1)St. Elisabeth Hospital, Tilburg, Netherlands, (2)Tilburg University, Tilburg, Netherlands, (3)Comprehensive Cancer Centre the Netherlands South, Eindhoven, Netherlands, (4)University Medical Center Utrecht, Utrecht, Netherlands*

Purpose:

To investigate which preference themes are important for choosing a treatment for localized prostate cancer (PC) and the role of a web based decision aid (DA) on treatment decision.

Method(s):

Between August 2014 and July 2015 we included newly diagnosed patients with low- or intermediate-risk PC and offered a web-based DA including Values Clarification Exercises (VCEs) to clarify patients' preferences. Initial treatment preference was asked prior to DA use by asking 'Before using this DA, what is your initial treatment preference?', final treatment preference was indicated after DA use. This prospective study took place within an ongoing two-armed pragmatic Cluster Randomized Controlled Trial investigating the effects of a web based DA (Cuypers et. al, Trials 2015).

Result(s):

We included 181 PC patients, 129 /175* (74%) patients indicated an initial (pre DA use) and 117/175 (67%) a final treatment preference. After DA use more patients chose for surgery (57/175 vs. 52/175 pre DA use) and fewer patients chose for brachytherapy (17/175 vs. 26/175 pre DA use) and external beam radiotherapy (5/175 vs. 13/175 pre DA use). Active surveillance percentages did not change. Men who chose for active surveillance after DA use preferred to avoid unnecessary treatment in 97% (37/38). For surgery 91% (52/57) valued tumour removal and 90% (51/57) was comforted by the thought that additional radiation would be possible. Brachytherapy patients valued incontinence worse than bowel complaints in 88 % (15/17). For external beam radiotherapy numbers were too low to draw conclusions. After DA use, 68% (88/129) stuck to their initial treatment preference and half of the patients who did not have an initial treatment preference were able to indicate a treatment preference (23/46).

Conclusion(s):

In contradiction with most DA studies preference for surgery increased after DA use and most indicated preference themes were 'tumour removal' and the possibility for additional radiotherapy after unsuccessful surgery. In the absence of an initial treatment preference the DA enables patients to form a treatment preference in 50% and it confirms initial treatment preference in almost 70% which may lower decisional conflict for these patients. Decisional conflict will be studied prospectively.

USING MODERN TECHNOLOGY TO SUPPORT DECISION MAKING IN PATIENTS WITH TYPE 2 DIABETES: THE INSULIN DECISION AID WEBSITE

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

Ping Yein Lee, MBBS, MMed, (Family, Medicine)[1], *Yew Kong Lee*[2], *Chirk Jenn Ng*[2], *Chin Hai Teo*[2], *Ahmad Ihsan Abu Bakar*[2], *Khatijah Lim Abdullah*[2], *Ee Ming Khoo*[2], *Nik Sherina Hanafi*[2], *Wah Yun Low*[2] *and Thiam Kian Chiew*[2], *(1)Universiti Putra Malaysia, Serdang, Malaysia, (2)University of Malaya, Kuala Lumpur, Malaysia*

Purpose:

Patient decision aid (PDA) is an evidence-based decision support tool that helps patients in making a decision about their health. Web-based PDAs are increasingly being used for its interactiveness, accessibility and ease of maintenance. However, few studies described their development process. This abstract aimed to document the development process and pilot test an interactive web-based-PDA that support patients with type 2 diabetes in making informed decision about insulin initiation.

Method(s):

Step 1 (Content development): The content of the Web-PDA was developed according to the International Patient Decision Aids Standards and was adapted from the “Making choices: Should I start Insulin?” patient decision aid books (www.dmit.um.edu.my).

Step 2 (Web design): This involved the iterative design of the website. Decision experts, clinicians, information technology experts and the creative designers developed the website through several rounds of discussion.

Step 3 (Pilot testing): The website underwent beta-testing with 13 patients who provided feedback on the website over three cycles until no further changes are suggested by the users. After using the website, the participants completed a questionnaire to feedback about the website feasibility and acceptability.

Result(s):

The content of the final website consists of: information about diabetes; insulin and blood sugar monitoring; addressing common patient concerns; blood sugar and risk of complications; treatment options and their pro and cons (besides insulin); clarifications of patient's personal values; patient support needs; and patient's decision.

The web-based insulin PDA contained the following unique features: animations to explain diabetes and insulin-related concepts; personalized HbA1c chart and risk of complications; visualization of personal concerns and preferences for deliberation of treatment options; personalized pros and cons table of selected treatment options; and a summary sheet for patient's reference and communication with their healthcare professionals.

Majority of the participant thought the website was easy to use, with well integrated functions and they felt very confident in using it. Most would like to use the website frequently and would recommend this decision aid to other patients in similar situation as them. (Table 1)

Conclusion(s):

Step by step development of a Web-based PDA with beta testing is feasible. Majority of the participants' feedback about the feasibility and acceptability of the website were positive.

Table 1: Feedback of the participants about the Webbased Insulin Decision Aid

Item	Question	Strongly Agree or agree N (%)	Neither Agree Nor Disagree N (%)	Strongly Disagree or Disagree N (%)
1	I think that I would like to use this website frequently	11 (84.6)	2 (15.4)	0
2	I found the website unnecessarily complex	2 (15.4)	3 (23.1)	8 (61.5)
3	I thought the website was easy to use	11 (84.6)	1 (7.7)	1 (7.7)
4	I think that I would need the support of a technical person to be able to use this website	2 (15.4)	3 (23.1)	8 (61.5)
5	I found the various functions in this website well integrated	10 (76.9)	3 (23.1)	0
6	I thought there was too much inconsistency in this website	0	5 (38.5)	8 (61.5)
7	I would imagine that most people would learn to use this website very quickly	9 (69.2)	3 (23.1)	1 (7.7)
8	I found the website very cumbersome to use	5 (38.5)	2 (15.4)	6 (46.2)
9	I felt very confident using the website	10 (76.9)	3 (23.1)	0
10	I needed to learn a lot of things before I could get going with this website	5 (38.5)	3 (23.1)	5 (38.5)
11	I would recommend this decision aid to other patients who are a making decision about starting insulin therapy?	10 (76.9)	3 (23.1)	0

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HOW DO COMMUNITY NURSES USE COGNITION AND INTUITION TO MAKE DECISIONS? A QUALITATIVE STUDY

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

***Alfred Ka-Shing Wong, BA** / **BMSc**, Kirsten Eom Yoon, MPH and David B. Matchar, MD, Duke-NUS Graduate Medical School, Singapore, Singapore*

Purpose: To describe and explore task and cognitive processes (decision making, judgments, cue and pattern recognition, problem solving) of nurses delivering transitional care in the community. We use a qualitative protocol, Applied Cognitive Task Analysis (ACTA). Involving semi-structured interviews, ACTA was developed in 1998 by research funded by the US Naval Personnel Research and Development to enable non-experts to study cognitive elements in complex socio-technical job roles. We have applied this method in order identify opportunities for improving service performance.

Method(s): Subjects were nurses in a hospital based transitional care program. Interviews were face-to-face to address limitations of focus group interviews where individual participants may not disclose sensitive information in a social setting. Pre-defined question probes and active interviewer facilitation enable description and exploration of cognitive skills that respondents may be unable to describe relying on self-reflection and report alone. Data included process flow diagrams, and audiotaped and text transcripts. Using the ACTA protocol one graduate MD student and MPH research assistant studied patient home assessment and patient monitoring processes in a nurse led transitional care program based at a public hospital in Singapore.

Result(s): Nineteen community nurses were interviewed over thirty days with each interview lasting approximately 2 hours. The nurses differed in seniority and educational backgrounds. Preliminary examination of the process diagrams drawn by nurse's illustrate differences and similarities between nurses in work priorities and difficult tasks. Difficult tasks containing planning or decision points suggest where introduction of decision aids may be useful to support clinical work in the field and enhance program quality. Data will be presented and full results will be discussed when analysis is complete.

Conclusion(s): ACTA is a practical qualitative protocol that enables researchers with only a basic understanding of nursing practice to effectively study work processes, environmental context and human behaviors for complex community health systems interventions.

AN EXPLORATION OF KNOWLEDGE, ATTITUDES AND BEHAVIOURS (KAB) TOWARDS PRE-MARITAL SEX: A STUDY AMONG YOUTHS WHO LIVING IN RENTED-ROOMS IN HUE CITY

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

***Phu Phan**, Hue university of Medicine and Pharmacy, Hue city, Vietnam*

Purpose: : i) Explore of the KAB concerning pre-marital sex among youths who are living in rented rooms in Hue ii) Determine the factors that contribute to the development of certain current KAB among youths concerning pre-marital sex.

Method(s):

Studied a randomly selected cluster-population of 730 youths, aged from 16 to 30 living in rented-rooms in Hue city in 2015. The data was analyzed by SPSS 18.0 software.

Result(s): 6.6% - 19.5% did not know any knowledge related to pre-marital sex, 34.1% accepted pre-marital sex with different levels, 11.9% have had pre-marital sex, with the average age of the first sexual encounter at 19.8 ± 2.2 years of age; attained an understanding about pre-marital sex related to gender and age group; described the attitude of pre-marital sex as it relates to gender, age group, marital/love status, awareness of the consequences associated to pre-marital sex and knowledge about preventative measures of STDs ; described the behaviour of pre-marital sex related to gender, age group, marital/love status, understanding of consequences of pre-marital sex and attitude toward pre-marital sex.

Conclusion(s): There is an increasing trend in pre-marital sex and the age of first pre-marital sexual encounter is decreasing. Also, the education of and the knowledge among youths concerning safe and responsible sex are limited in the population in this study. These findings can lead to serious consequences for people engaging in pre-marital sex. Therefore, reproductive health education and safe sex programs need to be implemented to encourage positive attitudes and behaviours among young people in Hue.

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CLEFT LIP AND PALATE: THE BURDEN OF CARE IN INDIA

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

***Mustafa Kadar, BDS, MDS**, face foundation, MANGALORE, India*

Purpose: Cleft lip and palate is one of the most common craniofacial anomalies with an incidence rate of 1:700 life birth in India. The treatment for the children commences immediately after birth and continues till late adolescence. The various treatment modalities include primary lip and palate repair, speech therapy, alveolar bone grafting, correction of mid-face hypolasia and rhinoplasty. Each of the modality needs assessment in terms of clinical efficacy influencing the overall burden of care.

Method(s): 30 patients with incomplete unilateral cleft lip, complete unilateral cleft lip, complete unilateral cleft lip and palate, complete bilateral cleft lip and palate were operated at 4-6 months of the age and assessed for long term esthetic and functional results with the help of standardized photographs, models and radiographs at 3 yrs. 5yrs and 6yrs respectively. 30 patients with unilateral cleft palate and 30 patients with bilateral cleft palate operated between 12-14 months underwent speech assessment between 4-6 years. 30 patients with cleft alveolus who underwent alveolar bone grafting were assessed for bone uptake, survival of the graft and nasal changes with the help of chelsea scale and photographs respectively after 1yr follow up. 60 patients with maxillary hypoplasia as a result of cleft were divided into two groups. 30 pts underwent traditional orthognathic surgery and rest anterior maxillary distraction respectively. Both the groups were analysed with the help of lateral ceph for relapse and positive profile changes. 60 patients who underwent rhinoplasty for cleft nose were analysed objectively for esthetic outcome

Result(s): The results for the various modalities were compiled and subjected to statistical analysis and were found to be significant, therefore demonstrating the efficacy of each of the modality employed.

Conclusion(s): The modalities employed in the comprehensive management of cleft lip and palate in our study were found to be clinically and statistically justified, therby influencing the burden of care significantly and supporting the protocol followed at our centre.

COMPARIZON OF EQUITY WEIGHTS OF LIFE YEAR GAINS: A DISCRETE CHOICE EXPERIMENT FOR JAPANESE AND KOREAN GENERAL PUBLIC

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

***Takeshi Mori**, Konan University, Kobe Hyogo, Japan and Rei Goto, Hakubi Center of Advanced Research, Kyoto University, Kyoto, Japan*

Purpose: Setting priorities with limited public resources has gained heated interests worldwide. Weighting health gains differently for different groups in the population is another manner to consider equity in cost-effectiveness analysis. However, there is only a few empirical analysis eliciting general public preference. This research is to compare equity weights of Japanese and Korean.

Method(s): We conducted a web-based survey in Mar 2013 including a discrete choice experiment (DCE) to elicit general publics' equity weight for life gains of those from different groups. We selected attributes and designed this experiment following manners used in Norman(2013). Thus, we analyzed weights according to the difference of gender, smoking status, life style, caring status, income and age.

Result(s): 1,280 Japanese and 580 Koreans completed questionnaires and were eligible for analysis. Japanese put higher weight on male ($p<0.001$), non-smokers ($p<0.001$), those with lower income ($p<0.001$), carer ($p<0.001$) and those with an expected age of death less than 45 years ($p<0.001$). Korean have the same patterns of preference according to income ($p<0.001$), caring ($p<0.001$) and smoking status ($p=0.026$). However, they equally consider groups from different gender ($p=0.331$)and age groups . For both countries, respondents tend to prefer groups with same characteristics as them.

Conclusion(s): People from two Asian developed countries with universal health insurance shows different equity weights. These may reflect the variations of cultural backgrounds and coverage of health care services.

DOES PERSONALIZED TREATMENT BENEFIT EVERYONE? PREDICTIVE ANALYSIS OF OPTIONS FROM CLINICAL TRIALS

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

***Georgiy Bobashev, Ph.D.**, RTI International, Center fot Data Science, Durham, NC and Barry Eggleston, MS, RTI International, Durham, NC*

Purpose: To identify who will benefit from potentially more expensive personalized approach to treatment vs. random treatment or no treatment

Method(s): A few years ago we have developed and validated methodology (mobForest) to predict patient's outcome if the patient is assigned to an alternative treatment. We have applied our and other competing methods to identify best personalized treatments of alcoholism to a dataset from the largest clinical trial of several alcohol treatment approaches called COMBINE. We have identified best individual treatments and assessed the effectiveness of the personalized treatment when applied to each patient. We have also assessed the consequences of applying the least effective treatment (including placebo). We tested the statistical significance of the difference between the best and the worst. We have also tested the difference in outcomes between the best and the second best treatment as part of the sensitivity analysis. Our predictive methodology is based on model ensemble which is difficult to interpret in clinical settings. However we have identified a set of manageable and interpretable influential predictors.

Result(s): We have shown that for some patients the potential difference in the outcomes between the most effective and the least effective treatment might not be significant, while others could substantially benefit from personalized best choice of treatment. For the patients in alcohol treatment study the proportion of people significantly benefiting from personalized treatment is <30%. We also illustrate the results through innovative graphics.

Conclusion(s): Our methodology allows one to forecast patient's outcomes from alternative treatments and evaluate the proportion of individuals who would benefit from personalized treatment and identify characteristics of such population. This approach adds value to the evaluation of personalized treatment options, especially when some treatments are more expensive than the others. This methodology has been applied to a new study of heroin teratment with naltrexone in Russia where substitutional therapy is illegal.

EXPERT PANEL EVALUATION OF THE VISIT PROTOTYPE: A WEB-BASED, EMR-INTEGRATED TOOL TO FACILITATE PATIENT VALUES ELICITATION IN PRIMARY CARE CONSULTATIONS

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

***Yew Kong Lee, BA, PhD**, Chirk Jenn Ng, Nurul Atikah M Nor Nazli, Wah Yun Low, Afzan Zaidi, Khaizura Khalid, Mohd Abrar Mohd Azmi, Zulaida Zulkifli and Muhd Yamin Ahmad, University of Malaya, Kuala Lumpur, Malaysia*

Purpose:

The VISIT website was developed by the research team and a hospital-based information technology department, aimed to facilitate value-based consultations by asking patients to enter information on their concerns and health-related values (e.g. family, career, religion). This information would be displayed on the doctor's electronic medical records (EMR) screen during the consultation. This study aims to report expert panel feedback on the VISIT (Values in Shared Interactions Tool) website.

Method(s):

A stakeholder expert panel discussion moderated by a trained researcher was conducted to evaluate the website prototype. The session was audio-recorded and field notes were taken. The playback recordings and field notes were used to guide a revision of the website for pilot testing in actual consultations.

Result(s):

Five participants were involved; two patients, one usability expert, one EMR expert/ primary care physician, and one external reviewer/family medicine specialist. The following themes emerged.

First, there was a need to clarify the function of the website as a face-to-face consultation tool as patients wanted an e-consultation platform where concerns raised were answered electronically. A diagramed flowchart of the VISIT tool use was included to clarify the function of VISIT.

Second, patients did not feel that the website was valuable to them as they were already making paper-based lists and they believed the consultation agenda should be determined by patient's laboratory results. Thus, we emphasized the website's importance from a patient perspective by highlighting that VISIT could help address patient problems such as lack of time and unmet needs.

Third, patients felt uncomfortable disclosing their personal life priorities and said they would lie if asked about them. The website was revised to include examplars of how patient life priorities could affect their health to help patients see the value of discussing these with their doctor.

Lastly, there were practical concerns raised such as IT security, clearer wording and instructions, having facilities for using the website, and integrating VISIT with the hospital IT system.

Conclusion(s):

The expert panel revealed that patients were unclear about the goals and function of the VISIT website. Changes were made to ensure the website goals, layout and instructions were clearer for users.

THE IMPACT OF PHARMACEUTICAL BENEFITS SCHEME REFORMS ON DISPENSING OF STATINS MEDICINES IN AUSTRALIA FROM 1992 – 2011

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

Kah Seng Lee[1], *Delia Hendrie*[2], *Rachael Moorin*[2] *and Bruce Sunderland*[2], *(1)Pharmaceutical Services Division, Selangor, Malaysia, (2)Curtin University, Western Australia, Australia*

Purpose: Pharmaceutical Benefits Scheme (PBS), a key component of Australia's health system subsidises the cost of medicine for most medical conditions for all Australian residents. In the past 20 years, the Australian Government has implemented several cost containment measures to curb the increases in the PBS expenditure. The purpose of this study was to investigate the impact of these reforms on dispensing (service) of statins or HMG-CoA reductase inhibitors medicines, the most widely dispensed medicines in the PBS.

Method(s): Monthly statins service data were retrieved from Medicare Australia's PBS Statistics database. Segmented linear regression models were used to analyse the time series data starting from 1 January 1992 to 31 March 2012. Six cost containment measures (re-supply limits, two co-payment increases, therapeutic group premium (TGP) policy, safety net 20-day rule, and price reductions in multiple brand drugs in Formulary 2) and four new listing dates of statins (Pravastatin, Fluvastatin, Atorvastatin, and Rosuvastatin) on the PBS break the time series into segments. In each segment, two parameters, the level and trend were used to estimate the impact of the intervention. To adjust for seasonality and to obtain a parsimonious model, a 12 months lag and forward stepwise eliminations were applied.

Result(s): Out of the six containment measures, the reductions in both the services level and trend were observed in the safety net 20-day rule. However, the reductions in the level alone were observed for two co-payment increases and the listing of Fluvastatin while trend reductions were observed in TGP policy, price reductions and the listing of Atorvastatin. The listing of Pravastatin and Rosuvastatin were found to have no significant impact on statins services. In contrast, there were increases in the services level after the implementation of price reduction while the re-supply limits measure and the listing of Fluvastatin increased the services trend.

Conclusion(s): Overall, there were reductions in statins utilisation in either level and/or trend for all cost containment measures except for the re-supply limits measure. Among those measures, the safety net 20 days rule was found to be the most effective in reducing statins utilisation with the trend in services reduced after its implementation in addition to initial decrease in level.

MASS SCREENING AND VACCINATION STRATEGIES: CASE OF CERVICAL CANCER IN JAPAN

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

Miwako Tsunematsu, PhD *and Masayuki Kakehashi, PhD, Hiroshima University, Hiroshima, Japan*

Purpose: The purpose of this research is to investigate the best preventive strategy against cervical cancer when mass screening and vaccination are simultaneously considered.

Method(s): A mathematical model of age structured population under the risks of the infection of HPV (Human papillomavirus) and cervical cancer was constructed where the infection of HPV through sexual contact and the progression of cervical cancer from the infection of HPV took place. Required medical cost and mortality were taken into account. In the analysis of cost and benefit, the expense of mass screening and vaccination in addition to the loss due to mortality induced by cervical cancer were involved. Vaccination is assumed to be offered to young female of age 10-14. Vaccination is only effective for HPV 16/18 and parameters are calibrated so that 70% of cervical cancer caused by high risk HPVs was prevented. Parameters were set as close as the contemporary situation of Japan. ICER (incremental cost-effectiveness ratio) was calculated to investigate the efficiency of possible strategies. ICER less than approximately 4 million yen/QALY was considered efficient.

Result(s): Cost benefit analysis was carried out according to different levels of vaccination rates and mass screening participation rates. As to the effect of the vaccination rate, total medical cost was decreased as vaccination rates increased. At the same time, ICER was kept low and decreased as vaccination rate increased (350 - 295 thousand yen as vaccination rate 20 – 100%). Under the condition that the vaccination rate of cancer screening is 100%, mass screening is not economically acceptable if the participation rate exceeded 40%. This implies that the cost required for mass screening is not efficient.

Conclusion(s): The prevention of cervical cancer by the vaccination against HPV were effective except for the cases of the execution of mass screening with very high participation rate. This was considered due to mass screening with plentiful cost without successful performance. Recently the serious side effect was reported as to the vaccination against HPV and the vaccination program has not been recommended in Japan. The analysis involving such harmful effect is also discussed.

TUBERCULOSIS RISK FROM LOW BODY MASS INDEX, DIABETES, AND THEIR CO-OCCURRENCE IN LOW AND MIDDLE-INCOME COUNTRIES: AN INDIVIDUAL AND POPULATION-LEVEL EPIDEMIOLOGICAL ASSESSMENT

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

***Lea Prince, MA, PhD**, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA, Jason Andrews, Stanford University School of Medicine, Stanford, CA, Sanjay Basu, MD, PhD, Stanford University, Stanford, CA and Jeremy D. Goldhaber-Fiebert, PhD, Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

Purpose: Globally, tuberculosis (TB) prevalence has declined over the past decade, but its risk factors have varied over time and across populations. We sought to understand the relationship between TB and two key risk factors—the persistent risk factor of low body mass index (BMI) and the increasingly prevalent risk factor of diabetes. We examined the relationship at both the individual and population levels to support projection of future TB trends and efforts to target TB control to higher risk groups.

Method(s): We analyzed two datasets describing self-reported TB, diabetes, and BMI: India's National Family Health Survey (NFHS) wave 3, (n=184,733) and the World Health Survey (39 low- and middle-income countries; n=129,193). Multivariate logistic regressions assessed the individual-level relationship between TB, diabetes, and low BMI while accounting for other traditional TB risk factors. We estimated regression coefficients with and without diabetes/low BMI interaction terms to assess whether risk factor co-occurrence further elevated TB risk. We performed a population-level analysis examining how TB incidence and prevalence varied with the prevalence of diabetes/low-BMI co-occurrence.

Result(s): In NFHS, the multivariate model that assumed independence of diabetes and BMI as TB risk factors predicted a TB risk for individuals with diabetes that was always higher than those without diabetes at similar BMI levels (diabetic: 2.50% at low BMI; 0.81% and normal BMI; 0.37% at high BMI; non-diabetic: 0.63% at low BMI; 0.20% and normal BMI; 0.09% at high BMI). There was no statistically significant difference in the predicted probabilities of TB when diabetes and BMI were interacted in a second multivariate model. Findings were similar in the WHS, though the BMI gradient was steeper in both diabetic and non-diabetic individuals, likely reflecting HIV and other unmeasured TB risk factors at lower BMI levels. The population-level analysis found that diabetes/low-BMI co-occurrence was associated with elevated TB risk, though given that the prevalence of co-occurrence is generally ≤0.5% its predicted effect on TB incidence and prevalence is <0.2 percentage points and not consistently statistically significant.

Conclusion(s): Concerns about the need to coordinate control efforts around the nexus of diabetes and low BMI co-occurrence may be premature as we find that while both are substantial risk factors for TB in low and middle-income countries, their interaction has not produced substantial excess burden.

THE DYNAMICS OF TUBERCULOSIS AND POVERTY TRAPS IN INDIA

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

***Lea Prince, MA, PhD**, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA, Kimberly Babiarz, PhD, Stanford University, Stanford, CA and Jeremy D. Goldhaber-Fiebert, PhD, Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

Purpose: India has over 2 million new tuberculosis (TB) cases annually. In addition to causing serious death and disability, patients often sell assets, borrow money or reduce consumer spending to finance treatment or compensate for lost wages, jeopardizing household members' health and financial stability. We quantify TB's short- and long-term financial consequences, arguing that the full benefit of TB control policies should account for these effects.

Method(s): We estimated TB's short-term financial impact, analyzing household survey data (n=1,574) describing individuals who had initiated public sector TB treatment in Bihar, India. We assessed cost of consultations, medication, travel and total out-of-pocket costs using linear and quantile regressions, accounting for demographics and episodes of prior TB care. We estimated TB's impact on socioeconomic status (SES) in the long-term (4 years and 7 years) using the Study on Global Ageing and Adult Health (SAGE) (waves 0 and 1; n=3703) and the India Human Development Survey (IHDS) (waves I and II; n=120,242), respectively. We first categorized households' SES in quintiles relative to a national reference standard. We predicted how TB altered the probability of a household being in each SES quintile at follow-up conditional on the starting quintile, urban/rural status, and demographics using ordered logistic regressions.

Result(s): In the short-term, households of individuals with TB spend on average a total of 430 Rupees if they have not had prior episodes of TB care and 1,290 Rupees if they have. These costs represent 6% (no prior TB) and 19% (prior TB) of average total monthly household consumption expenditure for Bihar. Over the longer-term, TB-related costs or losses reduce the chance that households will improve their SES position. For example, a rural household falling in the middle SES quintile with a 20–29 year-old male TB patient has a 38% chance of moving to a higher SES quintile after 4 years, compared to 49% for a similar household without TB. This effect intensifies over time. After 7 years, the chance of improving SES is 33% for a household with TB versus 51% without. TB-induced reductions in upward mobility are more pronounced for poorer households.

Conclusion(s): TB traps many households in poverty. Evaluations of disease control policies should account for TB's long-term health and financial implications for the entire household.

COST-EFFECTIVENESS OF HIV PREEXPOSURE PROPHYLAXIS FOR INJECTION DRUG USERS IN THE UNITED STATES: A MODEL FOR OTHER COUNTRIES TOO?

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

*Cora L. Bernard[1], Margaret L. Brandeau, PhD[1], Keith Humphreys, PhD[2], Eran Bendavid, MD, MS[3], Mark Holodniy, MD[2], Christopher Weyant, MS[1], **Douglas K. Owens, MD, MS**[2] and Jeremy D. Goldhaber-Fiebert, PhD[3], (1)Department of Management Science and Engineering, Stanford University, Stanford, CA, (2)VA Palo Alto Health Care System, Palo Alto, CA, (3)Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

Purpose: The Bangkok Tenofovir Study demonstrated a 49% reduction in HIV infection from preexposure chemoprophylaxis (PrEP) among injection drug users (IDUs) in Thailand. Updated guidelines from the US Centers for Disease Control and Prevention recommend PrEP for the majority of IDUs in the US, yet the total population health benefits and costs are unclear.

Method(s): We developed a risk-stratified dynamic compartmental HIV model adaptable to a range of geographic settings and calibrated to the US epidemic. The model follows adults categorized as those who inject drugs, men who have sex with men, or individuals at low risk of HIV infection from either injection or sexual transmission routes. The model projects HIV prevalence and incidence over 20 years, both under the status quo and with PrEP. We evaluated the benefits, risks, costs, and incremental cost per quality-adjusted life year (QALY) gained from PrEP for IDUs and other risk groups not targeted by the intervention. We adopted a societal perspective, employed a lifetime horizon, and discounted both benefits and costs at 3% annually. Consistent with trial data, our base case analysis assumed a 49% reduction in infection with PrEP, which we varied in sensitivity analysis to address heterogeneity in adherence and efficacy. We also performed multiple one-way and probabilistic sensitivity analyses.

Result(s): The model predicts that PrEP for 50% of uninfected IDUs in the US would avert 66,000 HIV infections over 20 years and reduce HIV prevalence among IDUs by 36% compared to the status quo. Achieving these benefits costs $214,000 per QALY gained. At current prices, total expenditures for PrEP could be as high as $88 billion. Total costs of the intervention are highly dependent on PrEP drug price, drug efficacy, and transmission risks. PrEP is most valuable when combined with frequent HIV screening and access to treatment should an individual become infected.

Conclusion(s): PrEP for US IDUs can provide substantial health benefits but, at current drug prices, remains an expensive intervention both in absolute terms and in cost per QALY gained. In regions outside the US, PrEP could be cost-effective for high-risk IDUs if favorable pricing could be secured.

STRATEGIES TO SCREEN FOR DIABETIC RETINOPATHY IN CHINESE PATIENTS WITH NEWLY DIAGNOSED TYPE 2 DIABETES: A COST-EFFECTIVE ANALYSIS

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

*Haixiang Wu, Department of Ophthalmology, Eye & ENT Hospital of Fudan University, Shanghai, China and **Bin Wu, Ph.D.**, Renji Hospital, affiliated with the School of Medicine, Shanghai Jiaotong University, Shanghai, China*

Purpose: To investigate the cost-effectiveness of different screening intervals for diabetic retinopathy (DR) in Chinese patients with newly diagnosed type 2 diabetes mellitus (T2DM).

Method(s): Different DR screening programs were modelled to project economic outcomes by using discrete-event simulation (DES)methods. Hypothetical patients based on the Chinese population from the China National Diabetes and Metabolic Disorders Study who were newly diagnosed with diabetes.To develop the economic model, we calibrated the progression rates of DR that fit Chinese epidemiologic data derived from the published literature. Costs were estimated from the perspective of the Chinese health care system, and the analysis was run over a lifetime horizon.Total costs, visual outcome, costs per quality-adjusted life year (QALY), the incremental cost-effectiveness ratio (ICER) of screening strategies over no screening. One-way and probabilistic sensitivity analyses were performed.

Result(s): DR screening is an effective in Chinese patients with newly diagnosed T2DM, and screen strategies with interval ≥4 year were cost-effective (ICER < $7,485 per QALY) compared with no screening. Screening every four years gained greatest QALYs (11.066) in the cost-effective strategies. The screening intervals could be varied dramatically by T2DM diagnosed age. Probabilistic sensitivity analyses demonstrated the consistency and robustness of the cost-effectiveness of the screening every four years strategy.

Conclusion(s): The findings suggest that a screening every four years strategy is likely to be more cost-effective than every 1-3 years screening strategies in comparison with no screening in Chinese setting. The screening intervals might be tailed according to the T2DM diagnosed age.

HEALTH SERVICES FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND HEART FAILURE PATIENTS IN ONTARIO TELEHOMECARE PROGRAM

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

***Valeria E. Rac, MD, PhD**, Yeva Sahakyan, MD, MPH, Nida Shahid, HBSc., CCRP, Aleksandra Stanimirovic, MSc, PhD (candidate), Welson Ryan and Murray D Krahn, MD, MSc, FRCPC, Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada*

Purpose:

The purpose of this abstract is to report on health services that patients received within the Ontario Telehomecare Program.

Method(s):

Analysis was part of the quantitative descriptive study, which examined the pattern of Telehomecare use and provision of care for patients with chronic obstructive pulmonary disease (COPD) or heat failure (HF) across the Central West, North East and Toronto Central Local Health Integration Networks (LHINs) in Ontario, Canada from July 2012 to March 2015. Program services provided to COPD and HF patients were primarily focused on remote monitoring of patient health data and health coaching. Alerts were triggered when transmitted patient health data was outside the pre-determined range. Data was extracted from the database hosted by Ontario Telemedicine Network and analyzed using repeated measures with the generalized linear mixed model procedure in SAS.

Result(s):

A total of 3046 patients (52% were women), with mean age 74.5±11.2 participated in the Telehomecare Program. Patients were developing alerts in about 65-75% of active days, however only ~15-25% of those alerts were followed by nurse call back across three LHINs. Parameters such as blood pressure, weight were the top two reasons for triggering alerts. The proportion of alerts was decreasing over time and the greatest reduction was observed among COPD (OR= 0.69, 95% CI = 0.66-0.71), compared with HF patients (OR = 0.85, 95% CI 0.81-0.89).

At time of enrollment, weekly coaching sessions were planned for 80-90% of patients and monthly planned for remaining 10-20%. However only 10% of patients received weekly coaching, 27% received 2-3 sessions/month, and majority of patients received monthly coaching (30%) or even less frequently (33%).

Conclusion(s):

Reduction seen in frequency of alerts over time, leads us to interpret that patients might benefit from participating in the Program. Meanwhile, it appears as if the thresholds for alerts are set too low triggering unnecessary alerts that do not lead to nurses' call back. It is evident that patients participating in the Program may not be receiving health coaching sessions as originally planned by the Program protocol. Due to challenging documentation in the database, it is somewhat speculative to provide a definite explanation for such low numbers.

NEW MODEL OF HEALTHCARE DELIVERY - TELEHOMECARE PROGRAM FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND HEART FAILURE PATIENTS IN ONTARIO, CANADA

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

Valeria E. Rac, MD, PhD*[1], *Yeva Sahakyan, MD, MPH*[1], *Nida Shahid, HBSc., CCRP*[1], *Aleksandra Stanimirovic, MSc, PhD (candidate)*[1], *Iris Fan, BA*[2], *Welson Ryan*[1] *and Murray D Krahn, MD, MSc, FRCPC*[1], *(1)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (2)Toronto Health Economics and Technology Assessment (THETA) Collaborative, Toronto, ON, Canada

Purpose:

The purpose of the quantitative descriptive study included providing descriptive analysis of the program volume, program duration and patient characteristics for Telehomecare in the Central West (CW), North East (NE) and Toronto Central (TC) Local Health Integrated Network (LHINs).

Method(s):

Data stored and managed by the Ontario Telemedicine Network for COPD and HF patients was extracted from July 2012 to March 2015. The authors described continuous variables with median and interquartile range and compared across the three LHINs using a one-way analysis of variance ANOVA or Kruskal-Wallis test. The categorical variables were described using contingency tables and compared using Chi-square test.

Result(s):

Since 2007, 4751 patients had been referred to the program out of which 3093 enrolled. The highest enrollment rate was reported in CW (78.3%), followed by NE (64.1%) and TC (58.8%) LHINs. As per program definition, 456 (56.1%) in CW, 423 (51.4%) in NE and 487 (46.0%) patients in TC LHINs had 'successfully discharged'. Approximately 20-25% patients asked to leave before program completion with a majority leaving within the first two months of enrollment. No significant differences in program duration were found based on patient condition, however median duration was reported significantly longer in CW LHIN (median=179; q1-q3=67-211 days), followed by NE (median=159; q1-q3=66-185 days) and TC (median=149;q1-q3=33-212 days). The average age of patients was 74.5±11.2, with 52% being women and a slight predominance of HF patients (55.6%) found. Overall, 42 – 45 % patients had diabetes and 50-75% living with hypertension. Majority of patients (77-94%) were taking five or more medications with 50% of NE LHIN patients taking 10 medications or more.

Conclusion(s):

Telehomecare program users are elderly with high prevalence of diabetes and hypertension that are taking five or more medications. Considering the low proportion of patients successfully completing the program, a careful examination is underway of process outcomes that may reduce drop-out rates and improve successful program completion.

POSTTRAUMATIC GROWTH ASSOCIATED CERVICAL CANCER: DO IMPACT OF EVENT, REGRET PLAY A MEDIATING ROLE?

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

*Chi-Chang Chang, PhD, ChungShan Medical University, Taichung, Taiwan and **Ching-Wei Chou**, chungshan medical university, TAICHUNG, Taiwan*

Purpose:

Cervical cancer remains one of the leading causes of cancer-related death among women globally. The morbidity rates of cervical cancer are the second leading type of all-female cancers in Taiwan. The diagnosis and treatment of cervical cancer can be a traumatic experience with long-lasting psychological effects. Research focused solely on documenting distress and dysfunction, however, may paint an incomplete and potentially misleading picture of adjustment following malignant disease.

Method(s):

Although progress has been made in understanding positive outcomes following cancer diagnosis and treatment, the literature has been characterized by several methodological limitations. First, research has generally relied on unstandardized interview methods to assess positive outcomes. Second, those studies presenting quantitative information consist largely of descriptions of the relative frequency of different types of positive outcomes. Third, the few studies that have examined variables associated with individual differences in positive outcomes have generally not been guided by theory-driven hypotheses. Therefore, the objectives of this study were: (i) to determine the respective predictive power of patients' involvement, trust, decisional conflict and personality for developing PTG symptoms, and (ii) to examine correlates of growth and whether the behavior of seek medical advice mediated the relationship between IESR and PTG.

Result(s):

Data gathered from 63 cervical patients of the Chung Shan Medical University Hospital were subjected to simple correlational and moderated mediation analysis. Results showed that seek medical advice (SDM, CON, TRU and REG) related factors predicted PTG and beyond demographics. Testing for moderating effects provides helpful information regarding the role of seek medical advice in buffering the relationship between IESR and PTG. Most studies characterize the relationship between IESR and PTG as a simple response phenomenon. However, our data suggest that certain SDM and REG (partial) characteristics significantly moderate this association.

Conclusion(s):

Recently the importance of PTG, a phenomenon of positive psychological growth beyond baseline values, has been discovered in the field of oncology. These findings support the proposition that different combinations of both SDM and REG are necessary to best manage these survivors. Overall, it is important for clinicians to consider the notion that more SDM or less REG may sometimes, but not always, be better. These findings may aid in the development of clinical interventions to enhance medical quality for cervical cancer survivors.

ECONOMIC EVALUATION OF THE 2015 MEDICARE ACCESS AND CHIP REAUTHORIZATION ACT

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

***Wenshuai Wan, MD**, Hospital of the University of Pennsylvania, Philadelphia, PA*

Purpose: The Medicare Access and CHIP Reauthorization Act (MACRA) replaced the sustainable growth rate formula-mandated recommendations for Medicare reimbursement with intentions of creating new federal health care policies for guiding cost-effective care. This study compares US health care expenses to economic inflation and simulates the long term effects of MACRA on health care expenses through multiple phases of implementation from 2015-2030 (Figure 1).

Method(s): Inflation is measured by the Consumer Price Index (US Bureau of Labor Statistics) and examined from 2000-2015 for incorporation into a financial model. Medical care, broken down into medical care commodities and services, will be extracted as a subcomponent of CPI-Urban, which represents approximately 87% of the US population. Reimbursement modeling will focus on $68.6 billion of services provided by health professionals in the traditional fee-for-service (FFS) program from 2013. Sensitivity analysis will include variables from Table 1 that will be calculated based on net present value (NPV) of all services rendered between 2015-2030 using time value of money based on the 10 year US treasury bill yield (May 2015).

Result(s): Figure 2 shows the per year Medicare reimbursement under MACRA 2015 versus the same basket of goods affected by inflation for both general CPI and medical commodities/services specifically. MACRA heavily promotes consolidation of health professionals into alternative payment systems, producing between -8.5% to +9.7% of predicted variation in reimbursement (Figure 3). This is associated with a 109-146% increase in reimbursement, depending on aggressiveness of alternative system incentive payments. Traditional FFS reimbursement will be adjusted for meeting pay-for-performance quality metrics, with incentives responsible for changes between -2.3% and +9.4% of total NPV.

Conclusion(s): Medical commodities/services are the fastest growing subset of price increases, and this trend in the CPI is unlikely to change in the future. The model of MACRA shows that the dollar amount attributed to medical services will be lower than essentially all scenarios of CPI rates. This phenomenon may control health care costs but may also result in scenarios where costs exceeds revenue of providing medical services.

Figure 1: Multiphase Implementation of MACRA 2015 Medicare Payment System.

Table 1: Model Parameters and Sensitivity Analysis Variables.

Figure 2: Forecast Model (in billions of $) for Amount Spent Annually.

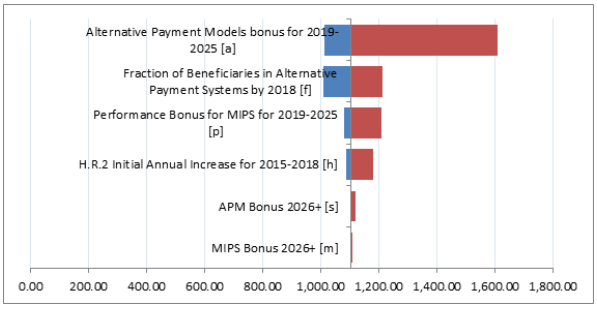


Figure 3: Tornado Chart of MACRA 2015 Reimbursement.

DISEASE BURDEN AND ECONOMIC ASPECTS OF HYPERPHOSPHATEMIA AMONG PATIENTS WITH END-STAGE RENAL DISEASE IN CHINA

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

Li Yang[1]*, Seng Chuen Tan, MSc*[2]*, C. Chen*[2] *and Xingya Li*[1]*, (1)Peking University Health Science Centre, Beijing, China, (2)IMS Consulting Group, Asia Pacific, Singapore, Singapore, Singapore*

Purpose:

Hyperphosphatemia is a great challenge for all countries, which contributes to vascular calcification and is associated with all-cause mortality for patients with chronic kidney disease. There are evidences showing the better efficacy in mortality, hospitalization of non-calcium based phosphate binders versus calcium based phosphate binders. This study aims to review the current disease burden and economic aspects related to hyperphosphatemia among end-stage renal disease patients in China and provide scientific evidence on economic evaluation between two new non-calcium based phosphate binders therapies, sevelamer and lanthanum, through cost-minimization analysis from the payers' perspective in China.

Method(s):

Clinical practice, disease burden and economic aspects were reviewed in treating hyperphosphatemia in China with non-calcium based phosphate binders as new treatment alternatives. Cost minimization analysis and comparison between sevelamer and lanthanum, was further conducted based on the local unit costs, the equivalent dose ratios and survival extrapolation in published studies. Based on the equivalent dose ratio of sevelamer/lanthanum at 2.13 assessed in the cross-over direct comparison study or 2.27 in a real world observational study, the daily dose in China of sevelamer was estimated by using the average dose of lanthanum derived from an multicenter randomized controlled trial in China. Given that the unit retail prices of sevelamer and lanthanum in China, the daily drug costs were calculated respectively for sevelamer and lanthanum. The impact of daily cost difference between these two products was also extrapolated to life time horizon with an expected life year of 5.38 years derived from relevant literature.

Result(s):

The issue of hyperphosphatemia is prominent in China leading to end-stage renal disease with a prevalence of 57.4% in hemodialysis patients and 47.4% in peritoneal dialysis patients resulting in a substantial clinical and economic burden. Our cost analysis indicates that sevelamer is likely to cost less than lanthanum in the local context of China with potential savings of up to approximately RMB 38 thousands per patient over an estimated survival projection of 5.38 years for a dialysis patient with hyperphosphatemia.

Conclusion(s):

For the treatment of hyperphosphatemia in end-stage renal disease patients in China, our analysis demonstrate sevelamer being likely a cost-saving option compared to lanthanum, both non-calcium based phosphate binders that provide more efficacious alternatives than calcium-based phosphate binders.

Study funding provided by Sanofi China.

DYNAMIC SIMULATION MODELLING IN HEALTH CARE - WHY WE NEED IT? HOW IT CAN HELP?

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

***Praveen Thokala, PhD**, University of Sheffield, Sheffield, United Kingdom and Beate Jahn, PhD, UMIT - University for Health Sciences, Medical Informatics and Technology, Institute of Public Health, Medical Decision Making and Health Technology Assessment, Department of Public Health and Health Technology Assessment, Hall in Tyrol, Austria*

Purpose: The aim is to highlight the need for dynamic simulation modelling in health care and provide examples of how it can be used to support health care delivery.

Method(s): Review of previous literature within health technology assessment (HTA) suggests that the issue of implementation and feasibility has been largely ignored. Economic analyses typically ignore the short-term constraints (e.g. beds, availability of computed tomography scanners, nurses) that might lead to low levels of uptake.

Result(s): Traditional modelling techniques (e.g Markov models, decision trees, etc) are not equipped to estimate the impact of service reconfigurations or changes in the clinical pathways. There are modelling techniques that can capture these resource implications and dynamics (discrete event simulation [DES], system dynamics [SD], agent based modelling [ABM]. A brief description of these dynamic simulation modelling techniques will be provided along with some case studies of situations where dynamic simulation (ABM, SD, DES) was necessary to fully incorporate resource constraints. First, a case study of cost-effectiveness of drug-eluting stents using a DES model where resources capacities and dynamic waiting lines were explicitly modelled. Model outcomes and consequent decisions using a dynamic vs. non-dynamic approach are compared. Second, a case study of SD model for reconfiguration of health care services will be provided. Finally, guidance on choosing appropriate dynamic simulation modelling technique(s) for specific applications will be provided.

Conclusion(s): There is a need for a quantitative assessment of the resource requirements and capacity constraints, especially if there are significant changes in the amount or type of resources needed within the pathway by implementing the new technology. There are modelling techniques that can capture these resource implications and dynamics. Further use of these dynamic simulation modelling techniques will result in efficient use of scarce health care resources.

SYSTEM DYNAMICS MODELLING IN EVALUATION OF UNPLANNED READMISSION OF PATIENTS WITH COPD IN HONG KONG: PROTOCOL AND PILOT FINDINGS

18:00 - 20:00: Fri. Jan 8, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 1

***Marc Ka Chun Chong, PhD**, Eng Kiong Yeoh, Hong Fung, Benny Zee, Eliza Lai Yi Wong, Haitian WANG, Patsy Yuen Kwan Chau and Carrie Ho Kwan Yam, JC School of Public Health and Primary Care, Hong Kong, Hong Kong*

Purpose: By using a system dynamics (SD) model, the study aims to evaluate the factors that related to unplanned readmissions of COPD patients in the Hong Kong health system in order to identify necessary improvements for providing adequate care to the patients

Method(s): The modelling study integrates qualitative and quantitative phases. In the qualitative phase, a conceptual model of causal loop diagram illustrating the complex interactions from factors to patients readmitted will be built based on the recommendations from three invited healthcare professionals. The conceptual model will then be translated to a quantitative SD model. The model will integrate with various inputs from the available sources e.g. Census and Statistics Department and Hospital Authority. Baseline model will be calibrated to confirm the system behavior with readmissions. Different scenarios will be further simulated and tested through SD model. A sensitivity analysis will be further conducted to identify variations for the model outputs when changes are made to certain input parameters.

Result(s): Even though some measures such as HAPPRE score has been implemented in Hong Kong since 2010 to screen the elderly with likelihoods of readmissions, more than 2,000 unplanned readmissions have still been reported for COPD patients each year. It is expected that some of identified factors such as receiving public assistant and living in nursing homes are able to avoid the unplanned readmissions for COPD patients in Hong Kong.

Conclusion(s): The evaluation by the SD model could suggest health system managers to implement potential changes or to have a better management of guidelines that could improve the process of care.

Saturday, January 9, 2016

WELCOME

« Previous Session | Next Session »

09:00 - 09:30: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Program: Events

KEYNOTE: THE IMPORTANCE OF UNCERTAINTY

« Previous Session | Next Session »

09:30 - 10:30: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Program: Panels and Symposia

LONG-FORM ORAL ABSTRACTS-1: BROADENING THE RELEVANCE OF POLICY ANALYSES

« Previous Session | Next Session »

11:00 - 12:30: Sat. Jan 9, 2016
Shaw Auditorium, 1/F

Session Summary:

11:00 - 11:15

DETERMINATION OF COST-EFFECTIVENESS THRESHOLD FOR MALAYSIA

11:15 - 11:30

USING FINANCIAL INCENTIVES TO MOTIVATE STAIR USE IN A WORKPLACE SETTING: RESULTS FROM A RANDOMIZED CONTROLLED TRIAL

11:30 - 11:45

COST-EFFECTIVENESS OF SPONGE-BASED SURVEILLANCE WITH GENETIC TESTING FOR EARLY DIAGNOSIS OF ESOPHAGEAL ADENOCARCINOMA

11:45 - 12:00

BROADENING ECONOMIC EVALUATION - A CASE STUDY OF DEMENTIA

12:00 - 12:15

POPULATION MODELS – A SYSTEMATIC REVIEW ILLUSTRATING MODEL CHARACTERISTICS AND APPLICATIONS

12:15 - 12:30

SPREADING THE HEALTHCARE: THAIS' ESTIMATED VERSUS IDEAL DISTRIBUTIONS OF GOVERNMENTAL HEALTHCARE SPENDING

Abstracts:

DETERMINATION OF COST-EFFECTIVENESS THRESHOLD FOR MALAYSIA

11:00 - 11:15: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-1: BROADENING THE RELEVANCE OF POLICY ANALYSES

***Yen Wei Lim, BPharm(Hons)**, Universiti Sains Malaysia, Kepala Batas, Malaysia and Asrul Shafie, PhD, UNIVERSITI SAINS MALAYSIA, PENANG, Malaysia*

Purpose: Current practice in Malaysia on decision making of new healthcare technologies is made arbitrary without an explicit cost-effectiveness (CE) threshold. This study was mainly done to determine a CE threshold value for healthcare interventions in Malaysia.

Method(s): A cross-sectional, contingent valuation study was conducted using stratified multistage cluster random sampling technique in the states of Penang, Kedah, Selangor and Kuala Lumpur Federal Territory in Malaysia. Respondents aged between 20–60 years old who can understand either English or Malay language were interviewed face-to-face using pre-designed questionnaires. They were asked for the socioeconomic background, quality of life and their willingness-to-pay (WTP) for a hypothetical scenario (treatment, extended life in terminal illness and life saving situations with three severities and two quality-adjusted life-year (QALY) gained levels – 0.2 QALY and 0.4 QALY). Bidding game technique and double-bounded dichotomous-choice approach were applied in eliciting WTP amount for each respondent. The mean ratio of the amount of WTP for an additional QALY gained was explored by non-parametric Turnbull method and parametric interval regression model. Parametric interval regression model was also used to analyse the factors that affect the CE threshold.

Result(s): A total of 1100 respondents were approached and the overall response rate was recorded at 92.1%. The CE threshold found from the non-parametric Turnbull method was ranged from MYR 12810 – 22840 (~ USD 4000 – 7000). Using the parametric interval regression model, the CE threshold was estimated to be ranged from MYR 19929 – 28470 (~ USD 6200 – 8900). Key factors that affect the CE threshold were education level, estimated monthly household income and the description of health state scenarios.

Conclusion(s): The findings in this study support that there is no single value of a QALY. The CE thresholds estimated for Malaysia in this study were found to be lower than the normally used threshold value of one to three times the gross domestic product per capita as recommended by the World Health Organisation.

USING FINANCIAL INCENTIVES TO MOTIVATE STAIR USE IN A WORKPLACE SETTING: RESULTS FROM A RANDOMIZED CONTROLLED TRIAL

11:15 - 11:30: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-1: BROADENING THE RELEVANCE OF POLICY ANALYSES

***Y Y Guan, MSc**, C Chen, PhD and J S Yoong, PhD, National University of Singapore, Singapore, Singapore*

Purpose:

The increasing prevalence of obesity, which is associated with physical inactivity and sedentary lifestyle, continues to increase and pose a substantial economic burden in most developed countries. Many workplace wellness programs have evolved to integrate the use of financial incentives to promote behaviour change and healthier lifestyles. The purpose of the present study was to determine whether tournament-style financial incentive (individual-level competitive prize of S$150) was effective in motivating adults in the workplace to increase daily stair usage over a 6-week period between July and October 2014. This study incorporates behavioural economic principles, a workplace stairs competition and point-of-decision prompts to offer insights on a behavioural reinforcement strategy on physical activity.

Method(s):

Participants (N=41) were randomized to one of the two experimental groups: (i) control group without financial incentives (n=20) or (ii) intervention group with financial incentives (n=21). Data was collected using a self-monitoring steps cum calories tracker app installed into mobile devices of participants in both groups.

Result(s):

The intervention group significantly increased their stair use compared to the control group by a difference of 7,743 steps (95% CI: 2,889 – 12,598, p=0.003). Furthermore, participants in the financial incentive intervention group burned 579 more calories, on average, than the control group (95% CI: 229 – 930, p=0.002). There was no sustained significant effect beyond the 6-week period of intervention.

Conclusion(s):

Participants in the financial incentive intervention group outperformed the control group through increased stair usage, and hence physical activity levels. There is evidence that the use of tournament-style financial incentives can promote the uptake of physical activity, however this effect attenuates over time and is not sustained beyond the period of intervention. Further research should be broadened to include investigating novel mHealth technologies that increase stair use and multicomponent interventions that promote physical activity for a sustained period of time.

COST-EFFECTIVENESS OF SPONGE-BASED SURVEILLANCE WITH GENETIC TESTING FOR EARLY DIAGNOSIS OF ESOPHAGEAL ADENOCARCINOMA

11:30 - 11:45: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-1: BROADENING THE RELEVANCE OF POLICY ANALYSES

***Hla Hla Thein, MD, MPH, PhD**, Dalla Lana School of Public Health, University of Toronto, Toronto, Canada, Toronto, ON, Canada, Ayaz Hyder, PhD, Ohio State University, Columbus, OH, Norman Marcon, MD, FRCP(C), Department of Medicine, University of Toronto, Toronto, ON, Canada, Tony Godfrey, PhD, School of Medicine, Boston University, Boston, MA and Lincoln Stein, MD, PhD, Ontario Institute for Cancer Research, Toronto, ON, Canada*

Purpose: Incidence rates of esophageal adenocarcinoma (EAC) have increased in Canada over the past three decades. Early diagnosis of Barrett's esophagus (BE), which is a risk factor for developing EAC, may lead early interventions for better clinical outcomes. This study compared health benefits and cost-effectiveness of current (endoscopy+biopsy) and alternative (sponge-based cytological sampling with genetic testing) surveillance strategies to detect early stage of BE and EAC.

Method(s): We developed a microsimulation model to track individual-level health trajectories accounting for demographic and lifestyle risk factors for developing BE, medication use, screening and surveillance for BE and treatment algorithms for each stage of BE and EAC. Model calibration and validation was performed under the assumption of endoscopy+biopsy surveillance strategy. We compared clinical outcomes, including differences in EAC incidence rate, the number of new EAC cases averted and the number of surveillance procedures per patient-year for BE patients before diagnosis of EAC under two surveillance strategies and used cost-utility analysis to estimate lifetime costs (2014 Canadian dollars), health benefits (quality-adjusted life years, QALYs), and incremental cost-effectiveness ratios. In addition, we undertook extensive sensitivity analysis and value-of-information analysis to determine the expected value of perfect information (EVPI) at different willingness-to-pay values.

Result(s): Compared to endoscopy+biopsy, sponge-based surveillance with genetic testing reduced overall EAC incidence by 71% and new EAC cases by 26%. Total incremental costs and health benefits (discounted at 5% annually) for sponge-based surveillance with genetic testing under 100% uptake and 11% higher sensitivity than the endoscopy+biopsy strategy for detecting BE with dysplasia were $186,152,124 and 556,511 QALYs gained with a corresponding ICER with 95% confidence interval of $334($307-$366) per QALY gained. Our results were sensitive to parameters related to sensitivity, cost and uptake of sponge-based surveillance with genetic testing.

Conclusion(s): Based on our model, sponge-based surveillance with genetic testing is cost-effective and may reduce incidence of EAC if it is widely taken up in clinical practice. Our results provide novel insights for clinicians, patients, and decision-makers evaluating non-endoscopic surveillance methods in the BE population. These insights should be helpful in designing optimal strategies to reduce the burden of BE and EAC among individuals, health care systems and society.

BROADENING ECONOMIC EVALUATION - A CASE STUDY OF DEMENTIA

11:45 - 12:00: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-1: BROADENING THE RELEVANCE OF POLICY ANALYSES

***Praveen Thokala, PhD**, Thaison Tong, MSc and John Brazier, PhD, University of Sheffield, Sheffield, United Kingdom*

Purpose: The practice of health technology assessment (HTA) has traditionally been dominated by cost effectiveness analyses (CEA) using quality adjusted life years (QALYs) as the measure of benefit. However, a review of decisions by NICE and other HTA agencies revealed that other criteria are being used during evaluuation of medical technologies. Does the implicit use of these other criteria than cost-effectiveness benefit the legitimacy, consistency and transparency of the HTA decisions? Is there is a need for a more explicit and formal approach. In other words, how should these other criteria be considered in HTA decisions?

Method(s): We present two alternative methodological frameworks to undertake economic evaluation using a wider perspective. Dementia will be used as a case study, as it has a big impact on health, social care and informal caregivers. We will present a whole system micro simulation model for dementia to include costs and consequences on all the sectors. Then, we present the data gathered on impact of dementia interventions from literature and analysis of routine data available to us. The impact of different dementia interventions are estimated using the data on costs and outcomes input into the model. The model will then be operationalised using two economic frameworks: a) extending a cost-per-QALY approach and b) cost consequence analysis (CCA) with Multi-Criteria Decision Analysis (MCDA) approach.

Result(s): Extending the cost-per-QALY approach to incorporate other criteria requires recalculation of the cost effectiveness threshold - this is because if different ‘benefit function' than QALYs is used then the threshold needs to be recalculated taking into account the displaced 'benefit function' i.e adjusted cost per ‘benefit function threshold. However, this can lead to consistency as all the things are explicitly included in a CEA framework. MCDA can also be used to guide decision makers in understanding the trade-offs between values that may be conflicting and can be done a case-by-case basis. Many different tools and techniques are available under the general heading of MCDA ranging from fully quantitative MCDA models to more deliberative MCDA approaches.

Conclusion(s): In certain HTA problems, there may be a need for incorporating other important considerations than just QALYs. There a number of frameworks available for broadening economic evaluation and the choice between different methods may depend on the need for consistency, scale of the problem and the stakeholders.

POPULATION MODELS – A SYSTEMATIC REVIEW ILLUSTRATING MODEL CHARACTERISTICS AND APPLICATIONS

12:00 - 12:15: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-1: BROADENING THE RELEVANCE OF POLICY ANALYSES

***Beate Jahn, PhD**, UMIT - University for Health Sciences, Medical Informatics and Technology, Institute of Public Health, Medical Decision Making and Health Technology Assessment, Department of Public Health and Health Technology Assessment, Hall in Tyrol, Austria, Annette Conrads-Frank, PhD, Institute of Public Health, Medical Decision Making and Health Technology Assessment, Department of Public Health and Health Technology Assessment, UMIT - University for Health Sciences, Medical Informatics and Technology, Hall i.T., Austria, Gaby Sroczynski, MPH, Dr.PH, Institute of Public Health, Medical Decision Making and HTA, UMIT - University for Health Sciences, Medical Informatics and Technology, Hall i.T./Innsbruck, Austria, Ursula Rochau, MD, MSc, UMIT - University for Health Sciences, Medical Informatics and Technology, Institute of Public Health, Medical Decision Making and HTA, Department of Public Health and HTA/ ONCOTYROL - Center for Personalized Cancer Medicine, Area 4 HTA and Bioinformatics, Hall in Tyrol/ Innsbruck, Austria, Günther Zauner, PhD, dwh GmbH, simulation services / DEXHELPP (Decision Support for Health Policy and Planning), Vienna, Austria, Michael Gyimesi, MSc, Austrian Public Health Institute, Vienna, Austria, Niki Popper, PhD, dwh Simulation Services /Technical University Vienna, Institute for Analysis and Scientific Computing / DEXHELPP (Decision Support for Health Policy and Planning), Vienna, Austria and Uwe Siebert, Prof., MD, MPH, MSc, ScD, UMIT, Dept. Public Health&HTA/ ONCOTYROL, Area 4 HTA&Bioinformatics/ Harvard T.H. Chan School Public Health, Center for Health Decision Science, Dept. Health Policy&Management/ Harvard Medical School, Institute for Technology Assessment&Dept. Radiology, Hall in Tyrol/ Innsbruck/ Boston, Austria*

Purpose: Population models have become a common tool to explicitly consider population dynamics or changes when guiding decision making for health or social care policies. Applications range from prediction of burden of disease, over demand for (old age) care to economic evaluations of specific treatments or public health interventions. In our project DEXHELPP (Decision Support for Health Policy and Planning), we focus on population models, suitable modelling techniques and methodological challenges. The goal of this systematic review is to increase the insight of health policy researchers in population modelling.

Method(s): We performed a systematic review on population models, focusing on the development and application for health policy questions. We identified existing models and systematically extracted structured information. The information was summarized in evidence tables and narrative comparisons. We present goals, modeling techniques, general model characteristics, model specification, model parameter estimation as well as advantages and shortcomings of chosen approaches.

Result(s): The term ‘population model’ is not used consistently. It refers to both models applied to study population dynamics and models investigating the impact of interventions on populations. Population models consider open (dynamic) rather than closed cohorts. In general, populations can be projected into the future using micro- or macro simulations, time can be continuous or discrete, and a modular structure can allow studying several diseases and applications. Comprehensive population models that have been applied for several research questions exist, for example, in Canada (POHEM), Sweden (SESIM), Australia (APPSIM) or Austria (GEPOC).

The found models are often microsimulation models. Reported challenges are: data shortage, calibration, complexity and related time and resource demands as well as difficulties understanding the outcomes. Successful microsimulation projects require continuity and resources to allow multiple applications and updates on a long perspective.

Conclusion(s):

Population models are applied to inform health policy decisions. Applications still require better data, opportunities for data linkage and long-term perspectives of funding. Research should focus on continued methodological improvement for developing and applying complex population microsimulations.

The research project DEXHELPP (Decision Support for Health Policy and Planning: Methods, Models and Technologies based on Existing Health Care Data) is in the frame of COMET-Competence Centers for Excellent Technologies. DEXHELPP is supported by BMVIT, BMWFW and the state Vienna. The COMET program is transacted by the FFG.

SPREADING THE HEALTHCARE: THAIS' ESTIMATED VERSUS IDEAL DISTRIBUTIONS OF GOVERNMENTAL HEALTHCARE SPENDING

12:15 - 12:30: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-1: BROADENING THE RELEVANCE OF POLICY ANALYSES

***Sorapop Kiatpongsan, MD, PhD**, Chulalongkorn University, Bangkok, Thailand, Krittinee Nuttavuthisit, PhD, Sasin Graduate Institute of Business Administration of Chulalongkorn University, Bangkok, Thailand and Michael I. Norton, PhD, Harvard Business School, Boston, MA*

Purpose:

To compare Thais' estimated and ideal distributions of governmental spending on healthcare services for the rich and poor.

Method(s):

The survey was conducted by face-to-face interviews in Thailand from February to April 2015. A nationally representative, probability-based, random sample of Thais (N = 3,500) was asked to estimate the distribution of governmental spending on healthcare services for Thais in each of the five income quintiles. Respondents then reported their ideal distributions: how they thought the government should allocate healthcare spending to rich and poor Thais.

We compared estimated and ideal distributions to each other, and to the actual distributions of healthcare spending for the rich and poor. We focused our analyses on government healthcare spending on the richest (top 20%) and poorest (bottom 20%) groups.

Results were analyzed in aggregate and stratified by participants' gender, age, education, and income. Statistical significance was determined at $p < 0.05$.

Result(s):

Three thousand and five hundred participants completed the interviews. The response rate was 72.4% (3,500 out of 4,833). Mean age was 41.1 years and half of participants (50.8%) were female.

Respondents underestimated how much of the healthcare budget (i.e., proportion of total healthcare budget) was spent on the richest group (21.9% versus 54.8%) and preferred that a smaller proportion be used for the richest group than their estimate (12.0% versus 21.9%), $p < 0.001$ for both comparisons. Respondents overestimated how much of the healthcare budget was spent on the poorest group (21.1% versus 5.7%) and preferred that a larger proportion be used for the poorest group compared to their estimate (33.1% versus 21.1%), $p < 0.001$ for both comparisons. See Figure 1 for full results.

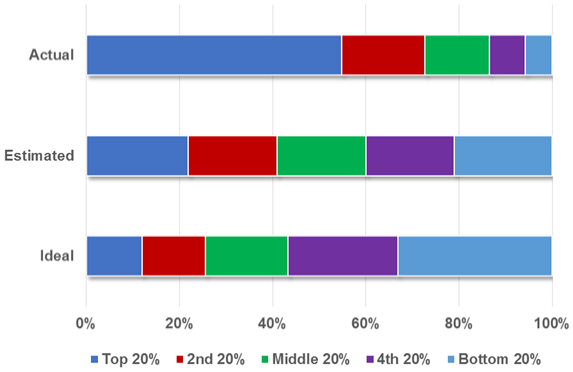
Importantly, respondents preferred that the government spend a significantly higher proportion of healthcare budget on the poorest group compared to the richest group (33.1% versus 12.0%), $p < 0.001$ – the exact opposite pattern of current spending on the poorest (5.7%) and richest (54.8%).

We found similar results in all subgroup analyses regardless of respondents' gender, age, education and income.

Conclusion(s):

Thais underestimate the disparities in governmental healthcare spending on the rich and poor. They prefer that the government allocate a higher proportion of healthcare budget to the poor and that the proportion for the poor is larger than the proportion for the rich.

Figure 1. Distributions of governmental healthcare budget spending on five income quintile groups



SHORT-FORM ORAL PRESENTATIONS: SESSION 2

« Previous Session | Next Session »

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F

Session Summary:

12:30 - 14:00

ANALYSIS OF REGIMEN CHANGES DUE TO ADVERSE DRUG REACTIONS ASSOCIATED WITH ANTIRETROVIRAL THERAPY IN HIV PATIENTS

12:30 - 14:00

TECHNOLOGY ASSISTED SEXUAL HEALTH AGENT (TASHA): A CONVERSATIONAL AGENT FOR PATIENT DECISION MAKING ON THE MANAGEMENT OF CERVICAL DYSPLASIA/CANCER

12:30 - 14:00

ROLE OF PERSONALITY, COGNITIVE LOAD AND WORKLOAD IN DIAGNOSTIC DECISION MAKING

12:30 - 14:00

AWARENESS OF ANTERIOR MAXILLARY DISTRACTION IN PATIENTS WITH CLEFT LIP AND PALATE IN SOUTH INDIAN POPULATION

12:30 - 14:00

ECONOMIC INEQUALITY, FAMILY BUILDING AND TIMING OF CHILDBEARING

12:30 - 14:00

ELICITING DISTRIBUTIONAL WEIGHTS FOR QALYS

12:30 - 14:00

CONCEPTUALISING CAPABILITIES IN HEALTH POLICY REFORM FOR OLDER ADULTS IN THE ASIA-PACIFIC REGION

12:30 - 14:00

COGNITIVE DYSFUNCTION AND HEALTH-RELATED QUALITY OF LIFE AMONG OLD CHINESE

12:30 - 14:00

HEALTH STATE UTILITIES AND THE EFFECT OF PROFESSIONAL TREATMENT IN GASTROESOPHAGEAL REFLUX DISEASE WITH AND WITHOUT BARRETT'S ESOPHAGUS POPULATION IN CANADA

12:30 - 14:00

THE STANFORD-INDIA GVK EMERGENCY MANAGEMENT AND RESEARCH INSTITUTE (GVK EMRI) STUDY: EARLY FINDINGS

12:30 - 14:00

MODELLING HEALTH AND HEALTHCARE DEMAND FOR AN AGEING POPULATION

12:30 - 14:00

THE IMPACT OF ALZHEIMER'S DISEASE ON CAREGIVERS IN JAPAN

12:30 - 14:00

COMPARING APPROACHES TO HEALTH WORKFORCE FORECASTING. THE CASE OF EYE CARE WORKFORCE IN SINGAPORE

12:30 - 14:00

ECONOMIC IMPACT OF THE POLICY REFORM ON DRUG PRICE REVISION IN JAPAN: INTERMEDIATE APPRAISAL

12:30 - 14:00

INFLUENCE OF OUTPATIENTS WITH MILD DISEASES TO THE PERFORMANCE OF LARGE HOSPITALS

12:30 - 14:00

TRENDS OF IMPLEMENTATION OF HTA IN KAZAKHSTAN

12:30 - 14:00

MULTIMORBIDITY AND HEALTH SYSTEM COSTS AMONG OLDER ADULTS IN ONTARIO, CANADA

12:30 - 14:00

THE ECONOMICS OF DIAGNOSTIC TEST:THE COST-EFFECTIVENESS OF SCREENING TEST FOR GESTATIONAL DIABETES MELLITUS IN SCOTLAND

12:30 - 14:00

THE ROAD MAP OF HTA DEVELOPMENT: FOR WELL INFORMED HEALTH-CARE DECISIONS IN KAZAKHSTAN

12:30 - 14:00

A COST-EFFECTIVENESS ANALYSIS OF CLOPIDOGREL FOR PATIENTS WITH NON-ST-SEGMENT EVALUATION ACUTE CORONARY SYNDROME IN CHINA

12:30 - 14:00

A SPATIAL PALLIATIVE VULNERABILITY INDEX CALCULATION FOR ASSESSING POPULATION NEED FOR PALLIATIVE CARE SERVICES

12:30 - 14:00

MYEPI: RETHINKING AN INDIVIDUAL AS A POPULATION

12:30 - 14:00

COST-EFFECTIVENESS OF DIABETIC RETINOPATHY SCREENING IN CHINA

12:30 - 14:00

EVALUATING THE IMPLEMENTATION AND ADOPTION OF TELEHOMECARE PROGRAM FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE OR HEART FAILURE PATIENTS

Abstracts:

ANALYSIS OF REGIMEN CHANGES DUE TO ADVERSE DRUG REACTIONS ASSOCIATED WITH ANTIRETROVIRAL THERAPY IN HIV PATIENTS

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Sareeya Wechwithan, Ph D**, Ministry of Public Health, Nonthaburi, Thailand*

Purpose:

The adherence to antiretroviral (ARV) drug is important to achieve and prolong viral load suppression and avoid drug resistant to Human immunodeficiency virus (HIV). The objective of the study is to estimate the magnitude of regimen change due to ADRs in HIV and to describe the pattern of ARV regimen change due to ADRs in Thai HIV/AIDS patients.

Method(s):

The cross sectional study was performed in adverse drugs reactions data occurred in patients using ARV drugs from spontaneous reporting reports of drug surveillance system in Thailand until year 2014. The selected case is defined as at least 1 ARV drug reported in case reports. The individual case ADRs report which was reported to Thai Food and Drug Administration were collected as numerator.

The risk factors of adverse drugs reaction were analyzed. Number of patient/number of prescription who took ARV drug from National Health Securities Office (NHSO) was collected.

Inferential statistics hypothesis testing using Chi-square or Fisher Exact test for categorical data were performed. Reporting Odds Ratio (ROR) will be calculated. Comparison of incidence will be constructed with the HIV-NAT project to evaluate the tendency of ADRs associated ARV drug use.

Result(s):

Adverse drug reactions with ARV drugs associated were identified in 18,332 reports from the drug surveillance database of Thai FDA until year 2014. The majority of patients were from outpatients with ADRs reported around 76%. The mean age is 37.0 (IQR 31-42 years). 72% of ADRs reports were non seriousness. Total of 4,877 serious ADRs reports with ARV associated to Thai FDA, 81% of those resulted in patients to prolong hospitalization. 1% was reported death from ADRs with ARV.

GPO-Vir was the most drugs used in Thai HIV patients (39.07%). Totally, combinations drug are prescribed to patients. The combinations of drug formula were the top anti retro viral drug used from NHSO database classified by regimen in year 2010.

The incidence of ADRs associated to ARV equaled 0.056 (95%CI 0.051-0.06). The high incidence of Lipodystrophy reactions from GPO-Vir was 0.0386 (95%CI 0.0353 -0.0425).

Conclusion(s):

The incidence of ADRs cases associated ARV was also high in many combination drugs regimen. Risk communication was done and the results of this study lead to improve the guideline of treatment about ARV therapies in Thailand.

TECHNOLOGY ASSISTED SEXUAL HEALTH AGENT (TASHA): A CONVERSATIONAL AGENT FOR PATIENT DECISION MAKING ON THE MANAGEMENT OF CERVICAL DYSPLASIA/CANCER

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Andrea Campbell, PhD Candidate Human Centered Computing, MS Computer Science, MA Geography**, Clemson University, HAMPTON, TN*

Purpose:

Many women are not able to interpret PAP smear reports nor do they understand the risks from the management of cervical dysplasia involving surgery, excision and ablative procedures. As a result, women are not able to make an informed decision about treatment options for managing cervical dysplasia. Women and physicians are also reluctant to discuss female sexual health including the associated risks of these procedures to sexual functioning.

Method(s):

Technology Assisted Sexual Health Agent (TASHA) educates women about female sexual anatomy, the understanding of PAP smear results and the associated risks of the treatments for cervical dysplasia/cancer. TASHA is a conversational agent for women who are facing the decision of a gynecological procedure or surgery for the management of cervical dysplasia. TASHA teaches women, using inquiry, an embodied conversational agent, diagrams, examples, definitions, and text, by describing female sexual anatomy, by educating women how to interpret PAP smear reports, by explaining treatment options for cervical dysplasia with the associated risks, and by suggesting questions to ask her health care provider. This research measures system usability by the patient. After using the system, a knowledge evaluation of the patient's understanding of female sexual functioning, PAP smear results, and the management of cervical dysplasia with the associated risks is conducted. Acceptance and comfortability of women being educated about female sexual health, PAP smear results and management risks from a conversational agent are measured.

Result(s):

The results to be determined are as follows. 1) Can technology support women in understanding sexual health? 2) To what extent are women more comfortable being educated from an embodied conversational agent on the sensitive topic of sexual reproductive health, PAP smears, the treatments and risks for cervical dysplasia/cancer? 3) And, do women have an increased understanding of PAP smear results, the treatments with risks for cervical dysplasia/cancer from being educated by an embodied conversational agent?

Conclusion(s):

The evaluation of TASHA will determine if technology can educate and assist women in making informed decisions in the treatment of cervical dysplasia. TASHA enables and empowers women to take an active decision making role in their health care.

ROLE OF PERSONALITY, COGNITIVE LOAD AND WORKLOAD IN DIAGNOSTIC DECISION MAKING

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

Lakshmi Mahadevan, M.Phil *and Azizuddin Khan, Ph.D, Indian Institute of Technology Bombay, India, Mumbai, India*

Purpose:

Diagnostic decision making is the process to determine whether or not a patient has a certain condition or disease. The aim of the present study is to understand how medical interns make diagnostic decisions. For this purpose they were given two case studies. The cases presented were designed in such a way that there will be some level of conflict involved in it.The case studies are developed based on excerpts taken from the real case studies published in the New England journal of Medicine (NEJM) website and a medical case book entitled “Case Files: Internal medicine”. Certain modifications especially relating to demographic information has been made so as to make it appropriate to the Indian Scenario. The case studies were redesigned with the help of two practicing physicians. The case studies thus developed had gone through an expert validation procedure. This was done by 3 experts who are involved in teaching and practice of medicine and had more than 10 years of experience. Data were collected from 4 different medical colleges. Some of the participants were reached through the house surgeons association of concerned medical college and others through personal contact. The material was administered to 17 house surgeons who consented to take part in the research.The data thus collected was compared with existing standardized protocol and relevant medical literature to see the extent to which participants adhered to the protocol while making diagnostic decisions.

Method(s): Both exploratory and causal research designs were used in the study. The ANOVA and correlation were employed to analyze the data.

Result(s): The results showed that as cognitive load increases diagnostic decision accuracy also declined. Further results revealed that conscientiousness and extroversion were associated with fewer errors in diagnostic decision making as compared to opened and neuroticism. The results were also corroborated with qualitative data.

Conclusion(s): Cognitve load and personality factors affect diagnostic decision making. The findings have practical implication in physician’s diagnostic decision making. We are in the middle of data collection. This is the result of pilot study. Hopefully, we will be able to say something concretely once we collect sufficient data.

AWARENESS OF ANTERIOR MAXILLARY DISTRACTION IN PATIENTS WITH CLEFT LIP AND PALATE IN SOUTH INDIAN POPULATION

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Siddhartha Raghava, BDS, MDS**, SRINIVAS INSTITUTE OF DENTAL SCIENCES, MUKKA , MANGALORE, MANGALORE, India and Mustafa Kadar, BDS, MDS, face foundation, MANGALORE, India*

Purpose: Distraction Osteogenesis (DO) techniques have become increasingly popular in the craniofacial region and large numbers of studies have reported successful advancement of jaw bones with extra oral distraction devices. However due to problems like discomfort with head frame and social problems associated with extra oral distraction, a better alternative would be internal and intraoral devices. Here, we present cases treated with tooth borne palatal distracter along with its orthodontic management, its efficiency in treating mass patients with cleft lip and cleft palate(CACP) in south Indian population.

Method(s): Patients under age group 18 to 22 years with Maxillary hypoplasia secondary to cleft lip and palate were chosen for the study.Preoperative profile photographs, orthopantomograph and lateral cephalogram and study models were taken. Surgical technique- Osteotomy cut was made above the apices of the maxillary teeth from the pyriform rim to the predetermined distraction site. Prefabricated modified Hyrax appliance is then fitted into the maxilla. Modified hyrax orthodontic appliance is a tooth borne custom made appliance that produces anterior movement of maxilla. Post distraction radiographs and photographs are taken.Cephalometric analysis done. Comparitive study – was done to check the efficiency of AMD over conventional Le Fort I osteotomy for treating maxillary hyoplasia.

Result(s): There was marked changes in the facial profile with positive overjet relationship in the patient after distraction osteogenesis. Statistical analysis was done using SPSS software. In compliance with the paired T test revealed that amount of relapse rate was very much less in patients treated with AMD than conventional Le Fort I osteotomy

Conclusion(s):

Tooth borne distractors are effective alternative technique for treating patients with cleft in order to improve the skeletal dysplasia. Based on statistical study the amount of distraction pertaining to clinical evaluation is significantly greater than those pertaining to cephalomatric analysis and found to be very effective over conventional Le Fort I osteotomy for treating maxillary hypoplasia in patient with CACP. This modified technique is highly feasible, patient friendly, economical and would be of great help for patients belonging to low socio-economic status.

ECONOMIC INEQUALITY, FAMILY BUILDING AND TIMING OF CHILDBEARING

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Sorapop Kiatpongsan, MD, PhD**, Chulalongkorn University, Bangkok, Thailand, Krittinee Nuttavuthisit, PhD, Sasin Graduate Institute of Business Administration of Chulalongkorn University, Bangkok, Thailand and Michael I. Norton, PhD, Harvard Business School, Boston, MA*

Purpose:

To understand how decisions about family building and timing of childbearing are influenced by economic inequality and mobility.

Method(s):

The survey was conducted by face-to-face interviews in Thailand from February to April 2015 using a nationally representative, probability-based random sample (N = 3,500). Participants estimated the current distribution of income among the rich and poor and then stated their ideal distribution of income. Participants reported their preferred marital status, number of children, and age when to have their first child if they lived in a society with both a) their estimated current level of income inequality and b) their ideal level of income inequality.

Participants estimated economic mobility (i.e., upward mobility to the top 20% income group and downward mobility to the bottom 20% income group). Participants then stated their ideal level of economic mobility. Again, participants reported their preferences on marital status and family building if they lived in a society with a) their perceived current level of economic mobility and b) their ideal level of economic mobility.

Results were analyzed in aggregate and stratified by participants' gender, age, education, and income. Statistical significance was determined at $p < 0.05$.

Result(s):

Three thousand and five hundred participants completed the interviews. The response rate was 72.4% (3,500 out of 4,833). Mean age was 41.1 years and half of participants (50.8%) were female.

Participants reported a greater desire to be married (70.2% versus 49.7%), have more children (1.5 versus 1.1), and have their first child at an earlier age (26.2 versus 26.6 years old) in a society that reflected their ideal rather than their estimated income distributions, $p < 0.001$ for all comparisons.

Participants reported a greater desire to be married (71.3% versus 53.4%), have more children (1.5 versus 1.1), and have their first child at an earlier age (26.3 versus 26.5 years old) in a society that reflected their ideal rather than their estimated economic mobility, $p < 0.001$ for all comparisons.

We found similar results in all subgroup analyses regardless of participants' gender, age, education and income.

Conclusion(s):

Economic inequality and mobility can significantly influence decisions on family building and timing of childbearing.

ELICITING DISTRIBUTIONAL WEIGHTS FOR QALYS

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

Emily Lancsar[1]*, Yuanyuan Gu*[1]*, Cam Donaldson*[2]*, Dorte Gyrd-Hansen, PhD*[3]*, Jim Butler*[4]*, Julie Ratcliffe*[5] *and Liliana Bulfone*[6]*, (1)Monash University, Clayton, Australia, (2)GCU, Glasgow, United Kingdom, (3)University of Southern Denmark, Odense, Denmark, (4)ANU, Canberra, Australia, (5)Flinders University, Adelaide, Australia, (6)Deakin University, Melbourne, Australia*

Purpose:

Countries around the world face the question of how best to set priorities in the allocation of scarce resources. The Quality Adjusted Life Year (QALY) has become the dominant measure for use in economic evaluation with a focus on maximising health gain, or efficiency. However, in making resource allocation decisions, funders are often faced with distributional or equity considerations that to date have been less readily quantifiable. This paper reports on the first of a series of DCEs undertaken as part of the "Values in Priority Setting" study which explores how members of the general public and "decision makers" prioritise and trade off different types of health gain and their preferences around which factors should receive additional weight in priority setting and what weight they should receive. This paper focuses on preliminary results from the general public sample.

Method(s):

Focus groups and earlier literature generated two types of attributes for use in the DCE: those related to the characteristics of the beneficiary of the QALY gain (age, quality of life without treatment and life expectancy without treatment), and the QALY gain itself (size and type of QALY gains). DCE data were collected via an online panel representative of the Australian population in age and gender. GMNL choice models accounting for unobserved heterogeneity were estimated and results from which were used to calculate distributional weights for QALYs via the Hicksian compensating variation.

Result(s):

All attributes contributing significantly to the choice of treatment to fund. Preliminary weights suggest a preference for teens and young adults over older age groups with the smallest weights for the oldest age group. For QOL without treatment, largest weight was given to those in reasonable health and lowest weight to those in poorest health, a result found elsewhere in the literature. Higher weight was given for those with 3-5 years to live over all other life expectancy levels. Weights also suggest a preference for QALYs generated by both life extension and improvement in quality of life.

Conclusion(s):

This study characterized the tradeoffs made by members of the general public between efficiency and equity criteria used in health care resource allocation and demonstrates the potentially important role for DCEs in eliciting preferences and associated distributional weights over such priority setting criteria.

CONCEPTUALISING CAPABILITIES IN HEALTH POLICY REFORM FOR OLDER ADULTS IN THE ASIA-PACIFIC REGION

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Michael Dunn, PhD**, The Ethox Centre, Nuffield Department of Population Health, University of Oxford, Oxford, United Kingdom and Mimi Zou, Faculty of Law, Chinese University of Hong Kong, Sha Tin, NT, Hong Kong, Hong Kong*

Purpose: To evaluate the viability of recent international proposals for health policy reform for older adults built on an account of human capabilities, and the translation of these proposals into healthcare practice in the Asia-Pacific region.

Method(s): Methods of conceptual and normative analysis.

Result(s): It will be shown that the last couple of years have seen a significant overhaul in the direction and content of national and international policy documents concerning the health of older adults. Encapsulated within arguments advanced by the World Health Organisation, the UK's Health Foundation, and in the proposed *Chicago Declaration on the Rights of Older Persons*, is the contention that policy ought to operate to maximise older adults' functioning. We contend that this normative claim reflects recent arguments developed in capability theory, most prominently by Martha Nussbaum, which focus political goals on the central obligation to enable people to pursue real-world opportunities that are conducive to a flourishing life.

Conclusion(s): In order to interpret the requirements of this partial theory of justice into local health policy-making for older adults in the Asia-Pacific region, we conclude that a number of theoretical and practical challenges need to be addressed. First, the distinctiveness of capability theory's focus on human flourishing ('the life that a person has reason to value') needs to be carefully disentangled from the alternative values of well being ('the life that is good for a person') and personal autonomy ('the life that is consistent with a person's values') that are also foregrounded within these aforementioned policy proposals. Second, human capabilities need to be appropriately specified within policy frameworks such that they are sensitive both to the particularities of older adults' everyday lives and limited capacities, and to the national contexts within which different models of health care practice and funding are endorsed. Finally, in order to translate high-level policy recommendations into real-world change, the implicit commitment to liberalism within the formulation and enactment of human capabilities 'on the ground' needs to be translated into those systems of government in Asia that are underpinned by opposing political philosophies.

COGNITIVE DYSFUNCTION AND HEALTH-RELATED QUALITY OF LIFE AMONG OLD CHINESE

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Pei Wang, PhD**, National University of Singapore, Singapore, Singapore*

Purpose:

To assess the association of cognitive dysfunction with health-related quality of life (HRQOL) among older adults in China.

Method(s):

We analyzed population-based cross-sectional data of 5,557 Chinese individuals aged 60 years and above in the Weitang Geriatric Diseases Study. Cognitive dysfunction and HRQOL were assessed using the Abbreviated Mental Test (AMT) and the European Quality of Life-5 dimensions (EQ-5D), respectively. We estimated the impacts of cognitive dysfunction on the EQ-5D index and visual analogue scale (VAS) scores using linear regression models, and the association between cognitive dysfunction and self-reported EQ-5D health problems using logistic regression models.

Result(s):

The EQ-5D index and VAS scores were significantly lower for individuals with cognitive dysfunction than their counterparts. After controlling for covariates, the differences in EQ-5D index and VAS scores between individuals with and without cognitive dysfunction were -0.016 (95% confidence interval [CI]: -0.024, -0.008), and -3.4 (95%CI: -4.5, -2.4), respectively. Cognitive dysfunction was associated with reporting of problems in EQ-5D dimensions of pain/discomfort (odds ration [OR]: 1.37; 95%CI: 1.12, 1.69), and anxiety/depression (OR: 2.13; 95%CI: 1.41, 3.23). The negative impact on HRQOL increased with the severity of cognitive impairment.

Conclusion(s):

Cognitive dysfunction was associated with worse HRQOL in older adults.

HEALTH STATE UTILITIES AND THE EFFECT OF PROFESSIONAL TREATMENT IN GASTROESOPHAGEAL REFLUX DISEASE WITH AND WITHOUT BARRETT'S ESOPHAGUS POPULATION IN CANADA

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Hla-Hla Thein, MD, MPH, PhD**, Dalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada, Wanrudee Isaranuwatchai, PhD, Centre for Excellence in Economic Analysis Research, The HUB, Li Ka Shing Knowledge Institute, St. Michael's Hospital, Toronto, ON, Canada, Ayaz Hyder, PhD, Ohio State University, Columbus, OH, Natalie Au, Western University, London, Ontario, London, ON, Canada, Murray D Krahn, MD, MSc, FRCPC, Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, Norman Marcon, MD, FRCP(C), Department of Medicine, University of Toronto, Toronto, ON, Canada, Craig Earle, MD, MSc, FRCP(C), Cancer Care Ontario and the Ontario Institute for Cancer Research and Institute for Clinical Evaluative Sciences, Toronto, ON, Canada and Lincoln Stein, MD, PhD, Ontario Institute for Cancer Research, Toronto, ON, Canada*

Purpose: Gastroesophageal reflux disease (GERD) is a common condition that affects patients' health-related quality of life (HRQoL), and has been shown to worsen HRQoL than patients with Barrett's esophagus (BE). We aimed to estimate health state utilities in the Canadian GERD population, both with and without BE, and to explore the effect of receiving professional treatment on HRQoL.

Method(s): A community-based cross-sectional on-line survey of patients diagnosed with GERD with and without BE was carried out using EuroQoL 5-Domain (EQ-5D-5L) self-report questionnaire to assess HRQoL and generate utility scores. A generalized linear model was used to determine the impact of professional treatment (i.e., currently receiving treatment, previously received treatment, or never received treatment from a health care professional) on participants' utility scores, adjusting for sociodemographic and clinical characteristics.

Result(s): Among GERD patients without BE (n=913), 43.3%, 25.4%, and 31.3% reported currently receiving treatment, previously received treatment, and never received treatment, respectively; the utility scores were 0.78 (95% CI: 0.76-0.79), 0.81 (95% CI: 0.79-0.83), and 0.81 (95% CI: 0.79-0.83), respectively. Among GERD patients with BE (n=78), 41.0%, 30.8%, and 28.2% reported currently receiving treatment, previously received treatment, and never received treatment, respectively; the utility scores were 0.72 (95% CI: 0.60-0.84), 0.73 (95% CI: 0.65-0.81), and 0.75 (95% CI: 0.63-0.87), respectively. In the multivariable analysis, no association was found between HRQoL and professional treatment status as well as BE. Factors associated with lower utility scores were having one or more comorbidities ($p<0.001$), obesity (BMI 35+, $p=0.012$), and tobacco use ($p=0.041$). Canada Atlantic province, being married, postgraduate education, current employment, increasing age at onset of GERD symptoms (60-65 years), and alcohol consumption (majority–50% used alcohol <1 day per week) were associated with higher HRQoL.

Conclusion(s): Our findings demonstrated that GERD patients with and without BE have lower HRQoL compared to the general population in Canada. GERD patients without BE currently receiving health care professional treatment slightly affected HRQoL than those who never received treatment. Our study highlights several factors associated with utility scores among GERD patients with and without BE. The study findings may help to identify challenges in the current health practices and highlight opportunities to improve treatment and implement better screening programs for BE for early detection of esophageal adenocarcinoma and improvement in the burden of disease.

THE STANFORD-INDIA GVK EMERGENCY MANAGEMENT AND RESEARCH INSTITUTE (GVK EMRI) STUDY: EARLY FINDINGS

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Kimberly Babiarz, PhD**, Swaminatha Mahadevan, MD, Nomita Divi, MA and Grant Miller, PhD, Stanford University, Stanford, CA*

Purpose: Prior to 2005, India had no large-scale, centralized emergency medical system or ambulance service. Through a public-private partnership, the Emergency Management and Research Institute (GVK EMRI) has emerged as India's largest ambulance service provider, currently serving about 730 million people. This study provides the first quantitative evidence of GVK EMRI's early impact on population-level infant and maternal health outcomes.

Method(s): We use data from GVK EMRI's internal electronic records merged with birth level records from two population-based surveys conducted in Andhra Pradesh and Gujarat (the first two states served). Primary outcomes are indicators for neonatal death, infant death, and maternal health complications. Other outcomes include indicators for institutional delivery, skilled birth attendance, and delivery-related expenses. We exploit district-month variation in GVK EMRI service intensity to estimate changes in outcomes associated with the scale-up of services using ordinary least squares difference-in-difference regression models.

Result(s): In Andhra Pradesh, we find that GVK EMRI is associated with significant reductions in the probability of neonatal and infant mortality of about 7.7 and 11 per 1,000 live births (respectively). In Gujarat, the relationship between GVK EMRI services and neonatal and infant mortality varies substantially by initial (pre-implementation) mortality conditions, with larger absolute reductions in districts with higher initial mortality rates. For every standard deviation increase in the baseline mortality rate, GVK EMRI service intensity reduces the probability of neonatal and infant death by an additional 1.5 and 2.1 per 1000 (respectively), and reduces the probability of maternal health complications by 1 percentage point. We find little change in the probability of institutional delivery or skilled birth attendance. Consistent with qualitative reports, these findings together suggest that maternal and child health gains associated with GVK EMRI's services may be linked to more timely initiation of active labor management, risk screening, and more effective treatment of women with obstetric emergencies.

Conclusion(s): GVK EMRI's services may have played an important role in improving maternal – and in particular, neonatal and infant – health outcomes in India in recent years. More generally, this study provides important new evidence on the potential role of public-private partnerships for health service delivery in complex institutional environments.

MODELLING HEALTH AND HEALTHCARE DEMAND FOR AN AGEING POPULATION

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Praveen Thokala, PhD**, JiHee Youn and Matt Stevenson, PhD, University of Sheffield, Sheffield, United Kingdom*

Purpose: The aim is to develop a flexible modelling framework to estimate the impact of population ageing on healthcare demand and to inform the efficient planning of healthcare resources and the evaluation of potential interventions and policy changes

Method(s): A literature review was conducted to identify all available documents relevant to the modelling of health and healthcare demand for an ageing population. Based on the results of the literature review, a modelling framework that can predict the healthcare demand of an ageing population was developed. The literature review helped inform decisions regarding the important components of the model for the estimation of healthcare demand for an ageing population, the key disease areas for the elderly and other major factors that may influence health care demand. The modelling framework was verified for coding errors and internal validation was also conducted.

Result(s): The review identified 7745 relevant studies; among them 2105 peer-reviewed papers were selected to be included and a further set of 158 articles from the grey literature were also identified. A freely available data repository of these 2263 (2105+158) articles was created and classified under a set of tags showing the main themes of these papers on healthcare demand of ageing population. There are a number of modelling frameworks available for predicting the health care demand of an ageing population, ranging from statistical models to micro-simulation. Given that the ageing population typically has multiple conditions (co-morbidities), a linked individual patient disease modelling approach was used. Cardiovascular disease, dementia and osteoporosis were identified as the key drivers of healthcare demand for ageing population and thus seperate individual patient simulation models for each of these conditions were developed. Each of these models was verified for coding errors and internal validation was also conducted to ensure that the model outputs match the data used in the model. These disease specifc models were then linked in a coherent modelling framework to take into account the causal effects and correlations between the co-morbidities.

Conclusion(s): Our flexible individual patient modelling framework with linked disease models is useful for predicting the health care demand of an ageing population. The framework provides the ability to model co-morbidities and can inform efficient planning of healthcare resources by the evaluation of a range of potential interventions and policy changes for ageing population.

THE IMPACT OF ALZHEIMER'S DISEASE ON CAREGIVERS IN JAPAN

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

*Amir Goren, PhD, Health Outcomes Practice, Kantar Health, New York, NY, **William Montgomery, BPharm**, Eli Lilly Australia, West Ryde NSW, Australia, Kristin Wrobleski, PhD, Eli Lilly and Company, Indianapolis, IN and Tomomi Nakamura, MD, Eli Lilly Japan K.K., Tokyo, Japan*

Purpose: This study aims to describe the impact of caregiving on individuals caring for patients with Alzheimer's disease (AD) in Japan.

Method(s): Data were from the 2012 National Health and Wellness Survey in Japan (n= 30,000). Caregivers for adult relatives with AD or dementia were compared with non-caregivers on various health outcome measures: Work Productivity and Activity Impairment (WPAI), SF-36v2-based health-related quality of life (HRQoL), and healthcare resource utilization. Sociodemographic characteristics, health characteristics and behaviours, and Charlson comorbidity index (CCI) scores were compared between caregivers and non-caregivers.

Result(s) : Among 28,416 respondents (714 caregivers; 27,702 non-caregivers),caregivers were older than non-caregivers (52.5 vs 47.3 years respectively), more frequently female (53% vs. 50%), married/partnered (70% vs. 63%), alcohol drinkers (44% vs. 39%), with higher CCI scores (0.4 vs. 0.1, or 20% vs. 11% having CCI ≥ 1), and less likely to be employed (53% vs. 58%), all p<.05. Adjusting for covariates (age brackets, gender, marital status, CCI, insurance, income, and education), caregivers experienced significantly higher odds of depression (62%, p<.001), anxiety (90%, p=.033), insomnia (60%, p=.001), and pain (52%, p<.001). Caregivers vs. non-caregivers experienced lower health utilities (-0.031 points, p<.001), and lower HRQoL [PCS (-1.11, p<.001), and MCS (-2.34 points, p<.001)]. Caregivers vs. non-caregivers reported higher rates of work impairment (16% greater, p=.033) among those who were employed, as well as greater activity impairment (23% higher, p<.001). Caregivers vs. non-caregivers reported higher rates of healthcare provider visits (42% greater, p<.001) and ER visits (140% greater, p=.009), but hospital visits were not significantly greater with caregiving.

Conclusion(s): Those providing care for patients with dementia due to AD in Japan experience a broad range of care-related burden (physical, psychological, social, and financial), with relatively poorer health status and greater comorbid risk, greater productivity impairment, and higher rates of healthcare resource use.

COMPARING APPROACHES TO HEALTH WORKFORCE FORECASTING. THE CASE OF EYE CARE WORKFORCE IN SINGAPORE

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

*John Ansah, PhD[1], Dirk De Korne, PhD[2], **Steffen Bayer, PhD**[1], Pan Chong, MSc[3], Victoria Koh, BEng[1], Thiyagarajan Jayabaskar, MBBS, MSc[4], David B. Matchar, MD[5] and Desmong Quek, MMed(Ophth)[2], (1)DUKE-NUS GRADUATE MEDICAL SCHOOL, SINGAPORE, Singapore, (2)Singapore National Eye Centre, SINGAPORE, Singapore, (3)Singapore National Eye Centre, singapore, Singapore, (4)Singapore National Eye Centre, Singapore, Singapore, (5)Duke-NUS Graduate Medical School, Singapore, Singapore*

Purpose:

For a long time, much emphasis has been placed on the need for optimal allocation of human resources in the healthcare sector and this is not without reasons. Human resource is quintessential in this labour intensive industry and hence meticulous planning of the workforce for the efficient provision of healthcare is needed. The demand for healthcare services is expected to rise substantially with an aging population as studies have shown that the prevalence of chronic ailments increases with age. Thus, strategic health workforce policies have to be carefully tailored to meet future demands. The purpose of this paper is compare four different approaches (workforce-to-population, needs-based, utilization-based and integrated demand-supply) for forecasting health workforce.

Method(s):

Four approaches were explored by a continuous time compartment model with explicit workforce stocks based on the systems modelling methodology of system dynamics. The model consists of three modules: prevalence of eye disease, demand/utilization and workforce requirements. The Singapore Epidemiology of Eye Diseases study and Administrative patient visit data were used.

Result(s):

We found that each approach project different number of required ophthalmologists over time. However, needs-based approach tends to project the larger number of required ophthalmologists, with integrated demand-supply, utilization-based and workforce-to-population ratio approaches succeeding in a descending order. In addition, the projected number of ophthalmologists required under the workforce-to-population ratio approach was found to be significantly different from all the approach in the short, medium and long term. Nonetheless, the odds of projecting different number of ophthalmologists required when using the utilization-based and integrated approaches gets larger over time. Lastly, comparing needs-based and integrated demand-supply approaches, in the short to medium time frame, the projected number of ophthalmologists required was significantly different.

Conclusion(s):

The finding that health workforce forecasting under the approaches is likely to produce both significant differences and similarities over time has implications in the choice of health workforce forecasting approach; that is future health workforce forecast is reliant on the choice of forecasting approach. Nevertheless, the appropriateness of the forecasting approach depends on the changing characteristics of population to be served, the time frame of the forecast, how factors influencing utilization of care is expected to change over time, and how the productivity of the workforce is likely to change.

ECONOMIC IMPACT OF THE POLICY REFORM ON DRUG PRICE REVISION IN JAPAN: INTERMEDIATE APPRAISAL

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

Hiroaki Kakihara, Ph., D., M., D.[1], Michitoshi Yamaguchi, Ph.D.[2] and ***Masaoki Tamura, Ph.D[1]****, (1)Kyoto University, Kyoto, Japan, (2)Ryukoku University, Shiga, Japan*

Purpose:

To promote developing new drug and making off-label use applicable to public health insurance system, new premium was introduced at the 2010 drug price revision in Japan. We assess the effect of this drug premium policy on R&D expenditure and the job creation in high value-added R&D activities. The effect on GDP is also investigated, although the growth effect of R&D is not included in the analysis.

Method(s):

Using financial statements of 26 pharmaceutical companies in Japan from 2005-2013 (at most), R&D investment function á la Grabowski and Vernon (2000) is re-estimated in the recent Japanese context. We show here that the operating cash flows increase R&D investment. Additional cash flows resulting from drug price premium are plugged into the function to simulate the policy effect on R&D. And using input-output table to simulate the number of job creation and its effect on GDP.

Result(s):

Long run effect of the drug price premium on R&D expenditure through increasing future expected profit does not significantly different from zero. On the other hand, short run effect through increasing current cash flows is positively significant. From our dynamic specification, R&D expenditure is estimated to increase by 48.7 to 146 billion yen in the Japanese pharmaceutical industry in four years from 2010 to 2013. It then creates high-skilled job opportunity for 2600 to 7790 people and its contribution to GDP amount to 120 - 360 billion yen.

Conclusion(s):

The current policy of drug price premium is effective in stimulating R&D activities and creating high-skilled job opportunities. For instance, short term effect alone amount to 0.4 to 1.3 times as much as four years premium. In addition, the current policy of drug price premium at the biennial price revision is tentative one. If it were perpetual, long run effect would become identifiable. Aging and decreasing population give downward pressure on working population, so increasing added-value per worker will be the key to sustain financial burden of skyrocketing social securities including public health expenditure. This policy seems to be compatible not only for people’s health in Japan, but also for Japanese economy as a whole.

INFLUENCE OF OUTPATIENTS WITH MILD DISEASES TO THE PERFORMANCE OF LARGE HOSPITALS

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Moriwaki Mutsuko, PHD**, Medical Hospital, Tokyo Medical and Dental University, Tokyo, Japan, Masayuki Kakehashi, PhD, Hiroshima University, Hiroshima, Japan and Kiyohide Fushimi, MD, PHD, Tokyo Medical and Dental University Graduate School, Tokyo, Japan*

Purpose: In this study we clarify the consultation situation and Medicalcost of the outpatients with mild diseases

Method(s): The data used in the analysis were derived from the health insurance claim of medical expenses of outpatients collected from 84 hospitals with more than 200 beds belonging to National Hospital Organization. Totally 106,496 outpatient visits of the hospitals on September 30, October 2 and 4 in 2013 were analyzed. Outpatients (2,119,357 individuals) who visited between April 1 in 2013 and March 31 in 2014 were also analyzed. In this study, 'patients with mild diseases' were defined as patients whose treatment items were restricted within injections, medication, prescription, rehabilitation and psychiatric treatment, excluding the medication of anticancer drugs.

Result(s): 1) According to the consultation based analysis, consultations with mild diseases shared 39,458 (37.05%) and those not restricted within mild diseases shared 67,038 (62.95%). From the viewpoint of hospital size, consultation with mild diseases shared 42.0% among hospitals of 200-299 beds, while 34.7% and 34.5% among hospitals of 400-499 and 500- beds, respectively, showing statistically significant difference ($p<0.05$). The total amount of income from patients with mild diseases were 219,823,520 yen, constituting 13.4% of the total income.
2) According to the individual based analysis, the average times of consultations in a year was 4.11 (SD=5.53) and the patients whose number of all consultations were less than or equal to 12 were 94.76%. The patients reached 15.91% whose consultations were all those of mild diseases. There was no significant association between the number of all consultations and the number of mild disease consultations.

Conclusion(s): Consultation based analysis revealed approximately 40% of consultations were those of mild diseases without significant contribution to the income of hospitals. Viewing from individual base, 16% of the patients were those whose consultations were restricted within mild diseases. It was suggested that large hospitals can concentrate more on inpatients by the decrease of the numbers of outpatients realized by the enhancement of hospital-clinic coordination without significant reduction of income.

TRENDS OF IMPLEMENTATION OF HTA IN KAZAKHSTAN

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

Alexander Kostyuk, MD, PhD[1]*, Alima Almadiyeva, MD, MSc*[1] *and Talgat Nurgozhin, MD, PhD, DSc*[2]*, (1)Kazakh Agency for Health Technology Assessment, Astana, Kazakhstan, (2)Nazarbayev University, Astana, Kazakhstan*

Purpose:

Kazakhstan is an upper-middle-income country with per capita GDP of nearly US$13 thousand in 2013. Increasing life expectancy is giving rise to the greater burden associated with ageing populations, while governments struggle to balance growing costs with a need to expand healthcare provision to all. We studied trends in the implementation of HTA in Kazahastan.

Method(s):

Content analysis of the documents, laws and regulations. Interviews of policy makers, field notes, and deliberation minutes were coded inductively.

Result(s):

The caveat, here, is that declaring a wish to establish an HTA process and effectively implementing that process are two very different things. Success – or otherwise – will be contingent on a number of factors, including technical expertise, availability of local data, stakeholder education and last, but not least, transparency of decision making.

• Technical expertise: Lack of technical expertise among the regional and national health authorities is a key challenge for moving the agenda forward.

• Data availability and real-world evidence: The effective working of an HTA process relies heavily on local data, be they clinical data in the local population, or healthcare resource use and cost data which will be used to evaluate the cost effectiveness of different treatment options relative to the current standard of care.

• Stakeholder education and understanding: Stakeholder awareness will also be critical to the success of any HTA process.

• Transparency: Finally, any HTA process that is implemented will need to be transparent in its decision making and influence.

Conclusion(s):

Despite the obvious challenges, some would argue that the time for HTA has arrived in Kazakhstan. Implemented correctly, it can play a role in the future of the region, not only as a key component of cost containment but also as a pivotal enabler for the efficient use of resources, as governments look to provide broader access to affordable healthcare for all. In this regard, market of Kazakhstan can learn from the international experience, whilst industry can also take the opportunity to help shape their healthcare strategy and become a key stakeholder in that process. Should they choose to ignore the lessons from addressing growth in costs and demand for healthcare in Europe and North America, Kazakhstan may well face a decade of potentially painful development.

MULTIMORBIDITY AND HEALTH SYSTEM COSTS AMONG OLDER ADULTS IN ONTARIO, CANADA

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

Kednapa Thavorn, PhD[1], *Yu Qing Bai, MSc*[2], *Colleen Maxwell, PhD*[3], *Andrea Grunier, PhD*[4], *Susan Bronskill, PhD*[2], *Anna Kone Pefoyo, PhD*[5], *Yelena Petrosyan, MD, MPH*[6] *and Walter Wodchis, PhD*[7], *(1)The Ottawa Hospital Research Institute, Ottawa, ON, Canada, (2)Institute for Clinical Evaluative Sciences, Toronto, ON, Canada, (3)Schools of Pharmacy and Public Health and Health Systems, University of Waterloo, Kitchener, ON, Canada, (4)Department of Family Medicine, University of Alberta, Edmonton, AB, Canada, (5)Cancer Care Ontario, Toronto, ON, Canada, (6)Institute of Health Policy, Management and Evaluation, University of Toronto, Toronto, ON, Canada, (7)University of Toronto, Toronto, ON, Canada*

Purpose:

Multimorbidity, the presence of the two or more medical conditions within a single person, is increasingly prevalent due to advances in life-extending treatments and increases in life expectancy. The cost implications of multimorbidity, particularly from healthcare payers and health insurers, are important to quantify and examine. This study estimated health system costs attributable to multimorbidity in older adults using an economic modelling approach and assessed whether the association between multimorbidity and costs vary according to health service sectors, including physician, hospital, continuing care, medication, and other sector.

Method(s):

This population-based, cross-sectional study was conducted in the province of Ontario, Canada. We included all 1,634,390 Ontarians aged 65 years or older who were diagnosed with at least one of 16 selected chronic conditions on April 1, 2009. Annual healthcare costs were derived from linked provincial health administrative databases using a person-level costing method. Costs were estimated from the perspective of the publicly funded healthcare system using a generalized linear model with a log-link function and a gamma distribution.

Result(s):

In 2009, nearly 80% of total healthcare costs in Ontario was spent on individuals with two or more chronic conditions. Healthcare costs rose exponentially with an increase in the number of chronic conditions even after controlling for confounding factors. A greater level of deprivation, instability, or dependency was significantly associated with higher health system costs. However, living in a higher neighborhood income and a greater degree of urbanization significantly lowered health system costs. Comparative effects of multimorbidity on costs across health service sectors will be presented.

Conclusion(s):

Healthcare costs associated with multimorbidity were substantial. To control the growth in healthcare spending, future interventions should be focused on preventing the incidence of multimorbidity and optimizing the care of elderly adults living with multimorbidity.

THE ECONOMICS OF DIAGNOSTIC TEST:THE COST-EFFECTIVENESS OF SCREENING TEST FOR GESTATIONAL DIABETES MELLITUS IN SCOTLAND

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Noppcha Singweratham, PhD**, Public Health and HEHTA, Glasgow, United Kingdom*

Purpose:

Combinations of tests are usually applied to many diagnostic, health-certification, and disease-surveillance situations. Decision rules are then used to test the results and to classify individuals as disease positive or negative. A combination of tests applied as either a “negative dominant strategy” (NDS) or a “positive dominant strategy” (PDS), allows the clinician to consider test results in terms of the differences in false negative (FN) and false positive (FP) test results, as combining the tests in terms of NDS and PDS involves a trade-off between sensitivity and specificity.

Method(s): From the aforementioned conceptual model of the combination of tests, this study conducted a cost-effectiveness analyses of screening for GDM based on NDS and PDS. The primary outcomes of the analysis were the incremental one year QALYs for short term complications and lifetime QALYs for type 2 diabetes mellitus for long term complications.

Result(s): The cost effectiveness of screening tests for GDM based on NDS, to prevent short term complications, is dependent on the probability of GDM being undiagnosed. Likewise PDS is cost effective for GDM screening tests with respect to the prevention of long term complications, however this is dependent on the probability of GDM being over diagnosed. By using NDS and PDS, decision makers can interpret the combination of test results.

Conclusion(s):

This better presents the consequences of false positive and false negatives and a trade-off between sensitive and specificity. The trade-off between sensitivity and specificity is at the heart of screening and diagnostic tests and the accuracy of the tests, in terms of sensitivity and specificity, is an important consideration for clinicians.

THE ROAD MAP OF HTA DEVELOPMENT: FOR WELL INFORMED HEALTH-CARE DECISIONS IN KAZAKHSTAN

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Temirkhan Kulkhan, MD, MPH, MSc**, Republican Healthcare Development Centre, Astana, Kazakhstan and Ainur Sasykova, BSc, Republican Centre for Health Development, Astana, Kazakhstan*

Purpose: Despite significant investments during last years in clinico- and pharmacoeconomic evaluation, as part of a formulary listing or reimbursement submission, too much research is wasted and too many decisions are still not well informed. The objective was to invent the long-term strategy for the HTA development in the Republic of Kazakhstan.

Method(s): We conducted a survey of HTA terms in 6 countries (Kazakhstan, Turkey, Tajikistan, Kyrgyzstan, Uzbekistan, and Montenegro). Informal stakeholder interviews within the framework of first Eurasian Forum of HTA were used to supplement lacking information.

Result(s): Rising affordability and accessibility of the healthcare services have been considered as the most important policy issues in Kazakhstan. In light of this fact The Republican Center for Health Development is devising The Road Map of HTA Development in the Republic of Kazakhstan in 2016-2020. Healthcare professionals and managers who are responsible for seeking reliable information and learning sufficient skills to use evidence-based resources to provide optimum patient care should promote hospital based HTA on the regional level and support HTA research and CPG development in clinics. There is growing recognition of the need for local efforts that go beyond sharing the evidence. Hospital based HTA should be accountable to their patients, governments, and third party payers.

Conclusion(s): Regional HTA Agencies and National CPG developers in Kazakhstan in post carriage period would produce relevant, reliable, transparent, and up-to-date evidence synthesis and reccomendations, avoiding unnecessary duplication on regional and national levels, making thier Works accessible to decision makers, and engaging stakeholders.

A COST-EFFECTIVENESS ANALYSIS OF CLOPIDOGREL FOR PATIENTS WITH NON-ST-SEGMENT EVALUATION ACUTE CORONARY SYNDROME IN CHINA

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

M. Cui[1], *C.C. Tu*[2], *E.Z. Chen*[3], *X.L. Wang*[4], *Seng Chuen Tan, MSc*[5] *and C. Chen*[5], *(1)Peking University Third Hospital, Beijing, China, (2)Beijing Anzhen Hospital, Capital Medical University, Haidan, Beijing, China, (3)Shanghai Rui Jin Hospital Shanghai Jiao Tong University School of Medicine, Xuhui, Shanghai, China, (4)China-Japan Friendship Hospital, Chaoyang, Beijing, China, (5)IMS Consulting Group, Asia Pacific, Singapore, Singapore, Singapore*

Purpose:

There are number of economic evaluation studies of clopidogrel for patients with non-ST-segment -elevation ACS published from the perspective of multiple countries in recent years. However, relevant research is quite limited in China. We aimed to estimate the long-term cost-effectiveness for up to 1 year's treatment with clopidogrel plus aspirin versus aspirin alone for non-ST-segment -elevation ACS, from the public payer perspective in China.

Method(s):

This analysis used a Markov model to simulate a cohort of patients for quality-adjusted life years (QALYs) gained and incremental cost for lifetime horizon. Based on the primary event rates, adherence rate and mortality derived from the CURE trial, hazard functions obtained from published literature were used to extrapolate the overall survival to lifetime horizon. Resource utilization, hospitalization, medication costs and utility values were estimated from official reports, published literature and analysis of the patient level insurance data in China. To assess the impact of parameters' uncertainty on cost-effectiveness results, one-way sensitivity analyses were undertaken for key parameters and probabilistic sensitivity analysis (PSA) was conducted using Monte-Carlo simulation.

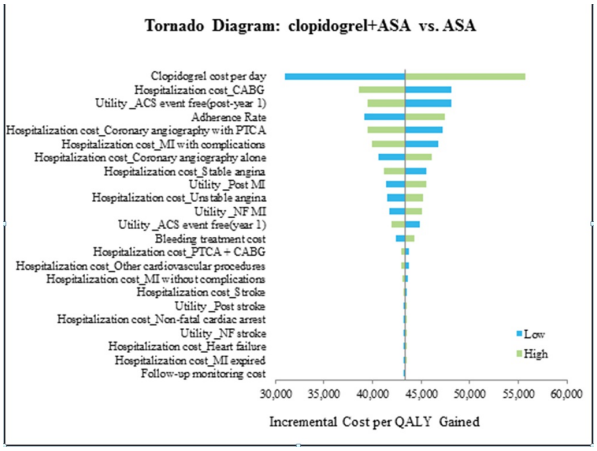
Result(s):

The therapy of clopidogrel plus aspirin is a cost-effective option in comparison to aspirin alone for the treatment of non-ST-segment -elevation ACS in China, leading to 0.0548 LYs and 0.0518 QALYs gained per patient. From the public payer perspective in China, clopidogrel plus aspirin is associated with an incremental cost of 43,340 Renminbi (RMB) per QALY gained and 41,030 RMB per LY gained (discounting at 3.5% per year). PSA results demonstrated that 88% of simulations were lower than the cost-effectiveness threshold of 150,721 RMB per QALY gained. Based on the one-way sensitivity analysis, results are most sensitive to price of clopidogrel, but remain well below this threshold.

Conclusion(s):

This analysis suggests that treatment with clopidogrel plus ASA for up-to-1-year for patients with non-ST-segment elevation ACS is cost-effective in the local context of China from a public payers' perspective.

	Clopidogrel+ASA	ASA
Lifetime Cost (RMB)	¥43,962	¥41,715
Life Years (LY) Gained	7.52	7.47
QALYs Gained	6.82	6.77
Incremental Cost	¥2,247	
Incremental LYs	0.0548	
Incremental QALYs	0.0518	
Incremental Cost per LY Gained	¥41,030	
Incremental Cost per QALY Gained	¥43,340	



Disclosure: This study was funded by Sanofi China.

A SPATIAL PALLIATIVE VULNERABILITY INDEX CALCULATION FOR ASSESSING POPULATION NEED FOR PALLIATIVE CARE SERVICES

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Nadine Schuurman**, Valerie Crooks and Michael Martin, Simon Fraser University, Burnaby, BC, Canada*

Purpose:

By mid-century it is projected that a significant proportion of western populations will be over the age of 65. As the population ages, there is mounting pressure to ensure that the health care system can address the needs of seniors, including those for end of life care—yet less than 20% of adults have access to formal palliative care services. With a growing recognition that development of palliative care service capacity needs to be prioritized comes a call to better understand the populations in greatest need for these services. This paper describes the development and testing of the Palliative Vulnerability Index (PVIX), an instrument designed to enable the spatial identification of population-level need for end of life care. PVIX is a means of selecting small, relatively homogenous areas that are most likely to require augmented palliative care services - based on demographic and social attributes commonly found to be associated with palliative care service users.

Method(s):

Building on the existing Vancouver Area Deprivation Index (VANDIX) methodology, PVIX was designed to provide a high-resolution spatial delineation of areas with high requirements for end of life services. Identifying variables specifically associated with heightened need for palliative care services—age, sex, living arrangement, and socio-economic status—enabled the creation of a high-resolution instrument to identify communities that should be prioritized for increased service capacity.

Result(s):

Comparison of the PVIX to the more general VANDIX across all census dissemination areas in British Columbia, Canada revealed that identification and application of key variables in PVIX resulted in a more precise and targeted spatial delineation of palliative care vulnerability than consideration of socio-economic status alone, or with age.

Conclusion(s):

Being able to spatially assess vulnerability for palliative care services can provide critical data for decision makers charged with rationalizing service allocation in terms of both service location and overall capacity. This method is generalizable to populations in both North America, Europe and Asia.

MYEPI: RETHINKING AN INDIVIDUAL AS A POPULATION

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

***Georgiy Bobashev, Ph.D.**, RTI International, Center fot Data Science, Durham, NC*

Purpose: I introduce a concept of individual epidemiology and illustrate how epidemiological methods could be used to analyze and predict intensive data within an individual.

Method(s): The concept of myEpi has been recently introduced to address the analysis of emerging individual-level data obtained from biological sensors, electronic medical records, web-based and mobile-based applications. Examples include monitoring of drug use (e.g. smoking and drinking alcohol) as well as non-risky behaviors such as sleep, exercise, and food consumption. Traditional epidemiology requires that the results should be applicable to some pre-defined population. It often becomes challenging and even unnecessary to define such a population if the focus is on helping a specific individual. The concept of myEpi considers a single individual as an entire population of events that describe behavior and health-related outcomes. I will show how traditional epidemiological methods, that are usually applied to populations of humans, could be applicable to a single individual and thus used for self-monitoring and forecasting of epidemic outbreaks within an individual. I will illustrate similarity between the features of traditional epidemiology (e.g. infectious diseases) and studies of within-person population of risky behavior events. We applied methods developed in epidemiology of infectious diseases to individual data.

Result(s): Using predictive method adapted from epidemiology we have identified patterns of alcohol use, predicted “epidemics” of drinking and weight changes. The results of the analysis are applicable to a single individual and I will present such individual-level results that include shifts in drinking patterns, estimates of next week drinking, time to HIV, time to stroke, and decisions for better exercise.

Conclusion(s): The concept of myEpi allows one to forecast patient’s outcomes from individual data and resolve the conflict between Evidence-based practice and Ecological fallacy. myEpi provides options for an individual to systematically address one’s diary and sensor data, and this approach can be extended to the analysis of individual electronic medical records. myEpi provides background to within-individual interventions such as n-of-one trials.

COST-EFFECTIVENESS OF DIABETIC RETINOPATHY SCREENING IN CHINA

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

*Jing Chen[1], **JinXiao Lian**[2], David SH Wong[2], Rita Gangwani[2] and Sarah McGhee[3], (1)School of Nursing, The University of Hong Kong, Hong Kong, Hong Kong, (2)Department of Ophthalmology, The University of Hong Kong, Hong Kong, Hong Kong, (3)School of Public Health, The University of Hong Kong, Hong Kong, Hong Kong*

Purpose: Diabetic retinopathy (DR) screening with regular screening interval has shown to be very cost-effective in developed countries. The question remains whether we can adjust the screening interval to produce optimum benefit at a cost which is affordable for China. This study examined the costs, benefits and cost-effectiveness of differential screening intervals in a population with type 2 diabetes in China.

Method(s): The public health care funder's perspective was adopted. Subjects were defined as at high risk of developing proliferative DR (PDR) if they had non-proliferative DR (NPDR) at the initial screen or at low risk if they had no DR. A decision model was developed to evaluate six screening strategies against no screening, including screening every 1, 2 or 3 years for all or at different intervals for those at high risk: 1, 2, or 3 year interval, or low risk: 5 or 10 years or no follow-up screening. A Markov model was built to simulate the progression of DR in a hypothetical cohort of patients with diabetes aged 50 and above in China. Model parameters were derived from Chinese data where possible or overseas published studies. Incremental cost effectiveness ratios (ICER) were calculated.

Result(s): Assuming a threshold of willingness to pay for a sight year saved based on 1 per capita GDP (35,083) in China, the most cost-effective screening strategy was 5-yearly screening for low-risk subjects and 1-yearly screening for high-risk subjects with an ICER of 17,823 per sight year saved.

Conclusion(s): Using risk-based screening intervals may help protect vision at an affordable cost in China.

EVALUATING THE IMPLEMENTATION AND ADOPTION OF TELEHOMECARE PROGRAM FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE OR HEART FAILURE PATIENTS

12:30 - 14:00: Sat. Jan 9, 2016
Foyer, G/F
Part of Session: SHORT-FORM ORAL PRESENTATIONS: SESSION 2

*Gemma Hunting, MA[1], Nida Shahid, HBSc., CCRP[2], Yeva Sahakyan, MD, MPH[2], Iris Fan, BA[1], Christelle Moneypenny, Hon BA, MSc (cand.)[1], Aleksandra Stanimirovic, MSc, PhD (candidate)[2], Taylor North[1], Yelena Petrosyan, MD, MPH, PhD (Candidate)[1], Murray D Krahn, MD, MSc, FRCPC[2] and **Valeria E. Rac, MD, PhD**[2], (1)Toronto Health Economics and Technology Assessment (THETA) Collaborative, Toronto, ON, Canada, (2)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada*

Purpose:

The purpose of the qualitative study was to evaluate factors at the micro, meso and macro levels of the Canadian healthcare system that either facilitate or impede the implementation and adoption of the Telehomecare program across Ontario.

Method(s):

The qualitative comparative study used a multi-level framework to analyze various factors facilitating or impeding the implementation or adoption of Telehomecare for chronic obstructive pulmonary disease (COPD) or heart failure (HF) patients in the Central West, Toronto Central and North East Local Health Integration Networks (LHINs). The team conducted over 30 hours of ethnographic fieldwork, reviewed relevant documentary sources and interviewed all types of Program users (39 patients, 16 nurses, 7 physicians, 12 administrators, 13 decision makers and 2 technicians). The semi-structured interviews were 30-60 minutes long in duration that were audio-taped and later transcribed. Data gathered from transcripts and fieldwork notes were coded using a descriptive analytic approach in constant comparison. Common patterns and themes were identified across the three LHINs.

Result(s):

Key results include common themes of patient motivation, confidence and willingness as critical contributors to successful implementation of the program. A major facilitator found was the patient's ability to use the equipment for symptom management and support from an informal caregiver. Both COPD and HF patients reported Telehomecare as innovative and transformational delivery of healthcare. Common barriers across all LHINs included high caseloads and setting of unrealistic enrollment targets for program nurses. For example, a patient caseload of 60 or higher was found to be an impediment to providing quality care. The organizational culture such as better integration of program was found to be a key facilitator to the long-term success of Telehomecare.

Conclusion(s):

Important facilitators and barriers affecting the implementation and adoption of Telehomecare across Ontario were identified. Despite some themes being common to the three LHINs, others were context driven and specific to each LHIN. The implementation and adoption of the program can significantly improve by strengthening identified facilitators and addressing the challenges. Continued evaluation of Telehomecare is integral to ensuring the program is accessible, effective and sustainable.

PANEL DISCUSSION: INDIVIDUAL-LEVEL AGEING AND END OF LIFE DECISION MAKING

« Previous Session | Next Session »

14:00 - 15:30: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Program: Panels and Symposia

LONG-FORM ORAL ABSTRACTS-2: IMPROVING PATIENT-PROVIDER DECISION MAKING

« Previous Session | Next Session »

16:00 - 17:30: Sat. Jan 9, 2016
Shaw Auditorium, 1/F

Session Summary:

16:00 - 16:15

DEVELOPING CROSS-CULTURAL MEASURES OF DESIRED MEDICAL DECISION MAKING INVOLVEMENT FOR THE ASIA PACIFIC REGION: A SEVEN COUNTRY STUDY

16:15 - 16:30

DOCTORS` INFLUENCE ON PATIENTS' TREATMENT CHOICE IN LOCALIZED PROSTATE CANCER

16:30 - 16:45

ENGAGING AND ENABLING PATIENTS: A STUDY ON DENTAL IMPLANTS

16:45 - 17:00

DIALYSIS OR PALLIATIVE CARE?: WHAT DO HEALTH CARE PROFESSIONALS PREFER FOR THEMSELVES AND FOR THEIR PATIENTS?

17:00 - 17:15

CHALLENGES IN END-OF-LIFE DECISION MAKING FOR PATIENTS IN LONG-TERM CARE SETTING: PERSPECTIVES OF HEALTH PROFESSIONALS

Abstracts:

DEVELOPING CROSS-CULTURAL MEASURES OF DESIRED MEDICAL DECISION MAKING INVOLVEMENT FOR THE ASIA PACIFIC REGION: A SEVEN COUNTRY STUDY

16:00 - 16:15: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-2: IMPROVING PATIENT-PROVIDER DECISION MAKING

Dana Alden, MBA, MA, PhD[1], *John Friend, PhD*[1], *Sorapop Kiatpongsan, MD, PhD*[2], *Ping Yein Lee, MBBS, MMed, (Family, Medicine)*[3], *Yew Kong Lee, BA, PhD*[4], *Khatijah Lim Abdullah, BSc, MSc, DClinP*[5], *Supanida Limpongsanurak*[6], *Chirk Jenn Ng, MBBS, MMed(Fam Med), PhD*[7], *Miho Tanaka, PhD, MPH*[8], *Lyndal Trevena, MBBS, MPhilPH, PhD*[9], *Katrina Tsang, MBChB*[10] *and Huso Yi, PhD*[11], *(1)Shidler College of Business, University of Hawaii, Honolulu, HI, (2)Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, (3)Universiti Putra Malaysia, Serdang, Malaysia, (4)University of Malaya, Kuala Lumpur, Malaysia, (5)Department of Nursing Science, University of Putra Malaysia, Kuala Lumpur, Malaysia, (6)Medical Student, Chulalongkorn University, Bangkok, Thailand, (7)Department of Primary Care Medicine, University of Malaya, Kuala Lumpur, Malaysia, (8)Health Services Research & Development Service, Washington DC, DC, (9)School of Public Health, The University of Sydney, Sydney, Australia, (10)The Chinese University of Hong Kong, Hong Kong, China, (11)CUHK Centre for Bioethics, The Chinese University of Hong Kong, Hong Kong, China*

Purpose:

Despite extensive study of patient-provider decision making(MDM) in Western countries, research on patient involvement preferences in non-Western cultures is limited. Researchers from 5 Asia-Pacific countries collaborated through multiple online meetings over two years to investigate antecedents to preferred MDM involvement in 7 cultures. Development of cross-culturally valid scales measuring desired level of individual and family involvement in MDM as well as perceived prevalence of physician SDM-related practices constitutes a crucial first step.

Method(s):

The multinational team generated 6 disease-related treatment consultation scenarios that varied in severity. Following outside expert evaluation in each culture, scenarios were revised to maximize validity across countries. In each country, an online panel sample of approximately 300 middle class, urban adults(30-44; 50% female) completed a double-back translated survey(China, Thailand, Malaysia, Korea) and or an English language survey(US, Australia, and India). Multi-group confirmatory factor analysis(CFA) tested validity, common method bias and measurement invariance. Structural equation modeling (SEM) examined relationships between factors.

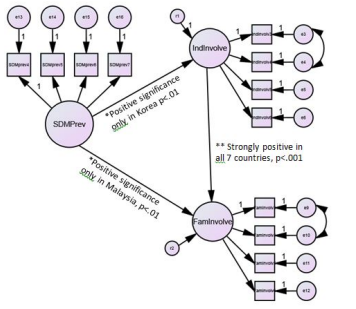
Result(s):

CFA revealed that the 2 less severe scenario conditions did not load consistently well on their factors in all 7 countries. Three inconsistent SDM prevalence items were also deleted. CFAs were conducted on remaining items measuring desired individual/family level of involvement and perceived SDM practices prevalence. CFAs surpassed fit criteria and established convergent/discriminant validity in all countries. Metric invariance with the US as baseline was also found. Common method bias(CMB) varied from 8.5% to 22%. SEM analysis was undertaken and structural coefficients were adjusted post-hoc for CMB. Perceived level of physician SDM-related practices had limited effects in only 2 countries. In contrast, respondents' desired level of individual involvement in MDM positively predicted desired level of family MDM involvement in all 7 countries.

Conclusion(s):

Before expanding MDM research to non-Western cultures, cross-cultural validation of measures is critical to establishing scientific validity. Involving researchers from several countries, this project illustrates the value of multinational collaboration to MDM research. The team's findings also point to the importance of cross-cultural study of desired involvement in MDM. Researchers and providers should be aware that patients in diverse cultures who want to be involved in MDM also tend to want their families involved. Despite contrary theoretical predictions, this positive relationship was found in both collectivist and individualist cultures.

Structural Equation Model - 7 Country Asia Pacific Study
Measuring Desired Levels of Individual and Family Involvement in MDM



DOCTORS` INFLUENCE ON PATIENTS' TREATMENT CHOICE IN LOCALIZED PROSTATE CANCER

16:15 - 16:30: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-2: IMPROVING PATIENT-PROVIDER DECISION MAKING

*Romy R.E.D. Lamers, MD[1], Maarten Cuypers, MSc.[2], Marieke de Vries, PhD[2], Lonneke V. van de Poll-Franse, PhD[3], J.L.H.R. Bosch, MD, PhD[4] and **Paul J.M. Kil, MD, PhD**[1], (1)St. Elisabeth Hospital, Tilburg, Netherlands, (2)Tilburg University, Tilburg, Netherlands, (3)Comprehensive Cancer Centre the Netherlands South, Eindhoven, Netherlands, (4)University Medical Center Utrecht, Utrecht, Netherlands*

Purpose:

Despite the importance of shared decision making, doctors' advice is rated as the most important factor influencing final treatment decision. Since it has been shown that patients and doctors differ in their preferences and trade-offs it is important to clarify the role of the doctor in the decision-making process. Therefore, our purpose was to investigate the influence of doctors` treatment preferences on patients' treatment preferences in localized prostate cancer (PC) and to investigate the influence of a decision aid on their choice.

Method(s):

Between August 2014 and July 2015 we included 181 newly diagnosed patients with low- or intermediate-risk PC. All were offered a web-based Decision Aid (DA) to support treatment decision making. Initial treatment preference was asked prior to DA use by asking '*Before using this DA, what is your initial treatment preference*?'. Doctors treatment preference was obtained by a paper informed consent form for clinicians by asking '*What is the most suitable treatment option for this patient according to you*?'. This prospective study took place within an ongoing two-armed pragmatic Cluster Randomized Controlled Trial investigating the effects of a web based DA (Cuypers et. al, Trials 2015).

Result(s):

For 155 of 181 patients information about both doctors' and patients' preferences were available. Doctors indicated a specific preferred treatment option in 63% (98/155), patients in 74% (115/155). The most frequently indicated preferred treatment options by doctors were active surveillance (38%, 37/98) and surgery (37%, 36/98). In 62 % (61/98) patients' initial treatment preference was in correspondence with their doctors treatment preference. When patients did not indicate a treatment preference after DA use, they eventually chose the treatment their doctor preferred.

Conclusion(s):

In 63%, doctors indicate a specific treatment preference for PC patients and in 62 % of these cases the patients' treatment preference is in correspondence with the doctor's preference. The preferred doctors' opinion may have the highest influence on patients without a treatment preference after DA use. It is therefore highly recommended to involve patients in decision making and to stimulate their own decision making to avoid biased decision making by only following the doctors preference.

ENGAGING AND ENABLING PATIENTS: A STUDY ON DENTAL IMPLANTS

16:30 - 16:45: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-2: IMPROVING PATIENT-PROVIDER DECISION MAKING

***Ananthavalli Ramesh, B.E; M.S**, Indian Institute of Technology Madras, Chennai, India*

Purpose:

Patient engagement plays an important role in while identifying and choosing treatment options based on the technology, efficacy, integrating patient values and preferences. The research context for the current study involves study of dental implants for replacement of missing tooth. Implant technology options are available in the market necessitate evaluation and selection of suitable implants by dentists based on the patient's specific requirements/expectations. As per research literature, patient orientation to adopt dental implants hinges on dentist-patient engagement and the concept of shared decision-making has been attracting great attention in academic research. Current study proposes to examine the phases of patient engagement that enables the adoption of right choice of dental implants from both perspectives of dentists and patients.

Method(s):

Interactive Qualitative Analysis (IQA) is employed to map the phases of patient engagement model. It captures the dentist's knowledge through inductive, deductive and axial coding. The phases were further explored to identify the importance Vs. performance from the perspective of both dentists and patients. Importance Performance Analysis (IPA) is deployed to identify the potential focus areas by employing survey instrument.

Result(s):

Patient engagement model has been developed with 11 key phases through group and individual interview coding. These phases further segregated into drivers and outcomes based on the level of influence. Dentist's characteristics and patient orientation and information exchange are considered as drivers for the patient engagement. Constructive engagement, trust and deliberation are identified as secondary outcomes. Shared responsibility, implant choice and perceived (patient) value is considered as key outcomes of the patient engagement model.

These phases were further studied to understand its performance based on the perceived importance from the perspective of dentists and patients. Quality of information exchange, dentist's self-efficacy, trust and hospital environment need focus.

Conclusion(s):

Patient engagement model identified the key phases while facilitating the patients and dentists. Patient's unmet expectations are resulted through the IPA study. Dentists should provide treatment explanation in laymen terms that enables the patients to appreciate the need for the treat choice.

Improve patient acceptance rate and reduce the communication time and improves the scale of operation.

DIALYSIS OR PALLIATIVE CARE?: WHAT DO HEALTH CARE PROFESSIONALS PREFER FOR THEMSELVES AND FOR THEIR PATIENTS?

16:45 - 17:00: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-2: IMPROVING PATIENT-PROVIDER DECISION MAKING

***Semra Ozdemir, PhD**, Chetna Malhotra, MD, MPH, Tazeen Jafar and Eric A. Finkelstein, PhD, MHA, Duke-NUS Graduate Medical School Singapore, Singapore, Singapore*

Purpose: The goal of this study is to understand factors that influence treatment recommendations of health care professionals (HCPs) for dialysis versus non-dialysis conservative management (CM) for elderly End Stage Renal Disease (ESRD) patients and to contrast these results to what providers would choose for themselves. We hypothesize that HCPs are more likely to recommend CM (over dialysis) for older patients, for females (because males as primary income earners might be given priority), for those with lower incomes, and for those with complicated comorbidities. We also hypothesize HCPs are more likely to choose CM for themselves than for patients, all else equal.

Method(s): A questionnaire was administered at the 9th Asian Forum of Chronic Kidney Disease Initiative in May 2015 to 203 HCPs who treat or counsel ESRD patients in Indonesia. The questionnaire investigated HCPs' preferred recommendations via a series of vignettes describing hypothetical patients with varying age (65, 75 and 85 years), comorbidities (diabetes, diabetes with congestive heart failure and advanced cancer), gender and socio-economic status (poor, middle-class, wealthy). HCPs were also asked to choose a preferred treatment for themselves in a series of hypothetical scenarios describing the age and comorbidities present when diagnosed with ESRD.

Result(s): As predicted, the likelihood of HCPs recommending CM over dialysis was greater for older patients, for poorer patients, and when the hypothetical patient was diagnosed with advanced cancer (compared to diabetes or heart failure). Gender did not have a significant influence on treatment recommendations. Treatment recommendations varied widely for any given patient profile except when the hypothetical patient was 85 years old or had advanced cancer, in which case the preference was to recommend CM in the vast majority of cases. Treatment choices for self were more homogenous and dialysis was chosen more than CM. HCPs also tended to choose CM less for themselves than for patients. CM was recommended 57% of the time for patients vs. 38% for themselves.

Conclusion(s): Results show that HCPs treatment recommendations were affected not only by patient comorbidities and age, but also patient socio-economic status. Efforts should be made to better understand the variation between HCPs in treatment recommendations for similar patient profiles; and also the difference between HCPs recommendations for patients and their own preferences.

CHALLENGES IN END-OF-LIFE DECISION MAKING FOR PATIENTS IN LONG-TERM CARE SETTING: PERSPECTIVES OF HEALTH PROFESSIONALS

17:00 - 17:15: Sat. Jan 9, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-2: IMPROVING PATIENT-PROVIDER DECISION MAKING

Helen YL Chan[1]*, Susanna SH Chan*[2]*, Wai-mun Ng*[2]*, Suet-mui Tsang*[2]*, Kitty Mak*[2]*, Mei-chi Tsang*[1] *and Elsie Hui*[3]*, (1)The Nethersole School of Nursing. The Chinese University of Hong Kong, Hong Kong, Hong Kong, (2)Cheshire Home Shatin, Hong Kong, Hong Kong, (3)Shatin Hospital, Hong Kong, Hong Kong*

Purpose: The aim of this study was to identify the challenges in the end-of-life (EoL) decision making for patients in long-term care (LTC) setting.

Method(s): Focus group interviews were conducted in December 2014 with health professionals currently working in LTC setting. The participants were divided into groups by ranks and disciplines. The homogeneity in the group and the group dynamic encouraged them to share experiences and views more freely. This strategy allows researchers to elicit diverse perspectives, needs and concerns. All interviews were audiotaped and transcribed verbatim to facilitate analysis, but confidentiality and anonymity was assured. Qualitative content analysis was performed. The study was approved by the Cluster Clinical Research Ethics Committee.

Result(s): A total of 20 participants from different disciplines were divided into six groups. They included two medical doctors, ten registered nurses, five enrolled nurses, a social worker, a physiotherapist and an occupational therapist. All of them had rich clinical experience, with an average of 21 years (range: 10-30 years), but their working experience in their current unit varied from 1 to 24 years. Around one third of them had attended training workshops or seminars about palliative or EoL care. From their accounts of care experiences, the major challenges in EoL decision making in LTC setting are related to right timing, preparedness of health professionals, mental capacity of patients, and readiness of family.

Conclusion(s): There was consensus across participants of different disciplines that advance care planning (ACP) for patients in LTC setting is imperative because they generally have progressive debilitating conditions. However, a range of concerns were also identified that may hinder the planning process. For example, when is the appropriate time to plan for EoL care given that many patients have stayed in the care facility with stable condition for a period of time, who can take the lead in the EoL decision making, what would the patients want for their EoL care, how to prepare the family members for the EoL decision making, and how to align the care with the care goal. The findings of the study suggest that a number of strategies, including staff education, family-centred ACP programme, interdisciplinary communication, and tailored model of care delivery, are needed to be complementary to support health professionals to improve EoL decision making for patients in LTC setting.

Sunday, January 10, 2016

ADVISORY COUNCIL MEETING (BY INVITATION ONLY)

« Previous Session | Next Session »

08:00 - 09:00: Sun. Jan 10, 2016
Kai Chong Tong Communication and Resource Centre, 1/F
Program: Events

LONG-FORM ORAL ABSTRACTS-3: ECONOMETRIC POLICY ANALYSES

« Previous Session | Next Session »

09:00 - 10:30: Sun. Jan 10, 2016
Shaw Auditorium, 1/F

Session Summary:

09:00 - 09:15

IMPACT OF TELEHOMECARE ON REMOTELY MONITORED CLINICAL PARAMETERS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND HEART FAILURE PATIENTS

09:15 - 09:30

IMPACT OF TREATMENT SUBSIDIES AND CASH PAY-OUTS ON TREATMENT CHOICES AT THE END OF LIFE

09:30 - 09:45

NUTRITIONAL EFFECTS OF INDIA'S COOKED MID DAY MEAL PROGRAM: A DIFFERENCE-IN-DIFFERENCE ANALYSIS OF 730,110 HOUSEHOLDS

09:45 - 10:00

CAPTURING THE DIRECT AND SPILL-OVER EFFECTS OF INDIA'S SUPPLEMENTARY NUTRITION PROGRAMS

10:00 - 10:15

IMPACT OF THE FRENCH 2011 POLICY DECISION ON DRUG PRESCRIBING IN DEMENTIA

10:15 - 10:30

DOES AN INCREASE IN HOSPICE USE DECREASE RACIAL DIFFERENCES IN END-OF-LIFE CANCER CARE INTENSITY

Abstracts:

IMPACT OF TELEHOMECARE ON REMOTELY MONITORED CLINICAL PARAMETERS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND HEART FAILURE PATIENTS

09:00 - 09:15: Sun. Jan 10, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-3: ECONOMETRIC POLICY ANALYSES

***Valeria E. Rac, MD, PhD**, Yeva Sahakyan, MD, MPH, Nida Shahid, HBSc., CCRP, Aleksandra Stanimirovic, MSc, PhD (candidate), Petros Pechlivanoglou, MSc, PhD, Welson Ryan, Lusine Abrahamyan, MD MPH PhD and Murray D Krahn, MD, MSc, FRCPC, Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada*

Purpose:

The purpose of the quantitative descriptive study included evaluating overall patterns of change observed in the remotely monitored clinical parameters of chronic obstructive pulmonary disease (COPD) and heart failure (HF) patients across Ontario.

Method(s):

Monitoring parameters such as blood pressure (BP), oxygen levels and weight were analyzed for patients enrolled in the program from July 2012 to March 2015 in the Central West, North East and Toronto Central Local Health Integration Networks (LHINs). Clinical data was extracted from a database managed by the Ontario Telemedicine Network (OTN) and analyzed using repeated measures with generalized linear mixed model procedures in SAS. The outcome measures were estimated for change during participation in Telehomecare.

Result(s):

Findings show, overall 2470 patients enrolled in Telehomecare and completed at least one month. During the first month of participation, one third of patients (n=810) had an elevated BP, with a monthly average systolic BP (SBP) of 150.2+9.5 mmHg and diastolic BP (DBP) of 78.8+12.5 mmHg, compared with adequately controlled (n=1660) patients who had a mean SBP of 120.6±12.7 mmHg and mean DBP of 68.3±9.7 mmHg. Authors found clinically and statistically significant reduction in systolic and diastolic BP in initially hypertensive patients, over the seven-month program period when adjusted for age, gender and condition. For SBP levels, reduction was 10.8 mmHg (95% CI= 9.6-12.0) and DBP reduction was 6.5 mmHg (95% CI=5.6-7.3). Although not clinically meaningful, there was a statistically significant reduction in impaired oxygen saturation levels and weight fluctuations in program participants.

Conclusion(s):

The observed changes in monitored patient parameters over the course of time leads us to interpret that hypertensive patients may benefit the most from participating in Telehomecare. This is regardless of their age, gender, condition or geographical area. Further analyses are on the way to confirm our results.

IMPACT OF TREATMENT SUBSIDIES AND CASH PAY-OUTS ON TREATMENT CHOICES AT THE END OF LIFE

09:15 - 09:30: Sun. Jan 10, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-3: ECONOMETRIC POLICY ANALYSES

***Eric A. Finkelstein, PhD, MHA**, Chetna Malhotra, MD, MPH, Junxing Chay, MSc and Semra Ozdemir, PhD, Duke-NUS Graduate Medical School Singapore, Singapore, Singapore*

Purpose: This study uses a stated preference survey to examine the extent to which financial assistance, in the form of subsidies for life extending treatments (LETs) or cash pay-outs, distorts the demand for end-of-life treatments.

Method(s): A discrete choice experiment, consisting of 10 choice tasks, was administered to 290 patients with breast, lung or colorectal cancer (Stage I-IV) from outpatient clinics in Singapore to elicit their preferences for LETs and palliative care (PC) only. For each task, participants selected their most preferred scenario from two LET choices and PC only (sample task in Figure 1). Each task systematically varied in terms of net cost after cash pay-out (from a hypothetical insurance plan), median length of survival, 5-year survival rate and quality of life. Responses were fitted to a latent class conditional logistic regression model, accounting for potential preference heterogeneity among subgroups of participants. Based on estimated relative preferences, we quantified patients' willingness to accept a less effective LET or PC only. We then simulated the effects of various LET subsidy and cash pay-out policies on treatment choices.

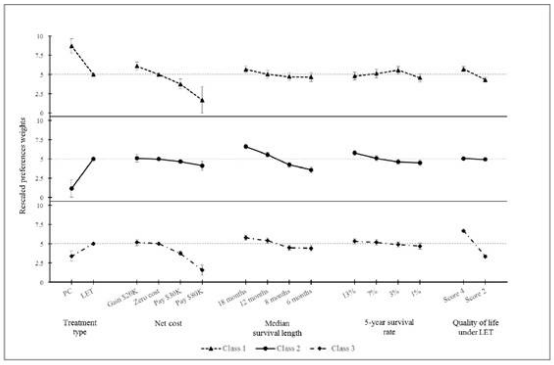
Result(s): We identified 3 main classes of patients according to their end-of-life preferences (see Figure 2). The first class (26.1% of sample) has a strong preference for PC such that they are willing to give up gains in life expectancy and even pay for receiving only PC. The second class (29.8% of sample) has a strong preference for LETs and prefers to extend life regardless of cost or quality of life. The final class (44.1% of sample) prefers LETs to PC, but actively trades off costs, length and quality of life when making end-of-life treatment choices. Marital status and cancer type were found to be predictive of class membership. Policy simulations show that LET subsidies have a greater distortionary effect on treatment choices compared to a cash pay-out, which was not shown to distort demand for PC or LETs.

Conclusion(s): Cancer patients have heterogeneous end-of-life preferences. Unlike cash-pay-outs, LET subsidies distort relative prices of different treatments and encourage greater utilization of LETs. Policymakers should be mindful of these differences when designing healthcare financing schemes for patients with life-limiting illnesses.

Figure 1. Sample choice task

	Treatment 1	Treatment 2	Supportive Care
Net cost to you	Pay $80,000	Gain $20,000	Gain $20,000
Median length of survival	8 months	18 months	6 months
5 year survival rate	7%	1%	1%
Quality of life	Rating 2	Rating 4	Rating 6
Select which ONE scenario you **MOST** prefer:	□	□	□
Select which ONE scenario you **LEAST** prefer:	□	□	□

Figure 2. Preference weights of DCE attributes among the 3 classes (rescaled)



NUTRITIONAL EFFECTS OF INDIA'S COOKED MID DAY MEAL PROGRAM: A DIFFERENCE-IN-DIFFERENCE ANALYSIS OF 730,110 HOUSEHOLDS

09:30 - 09:45: Sun. Jan 10, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-3: ECONOMETRIC POLICY ANALYSES

***Kimberly Babiarz, PhD**, Stanford University, Stanford, CA and Jeremy D. Goldhaber-Fiebert, PhD, Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

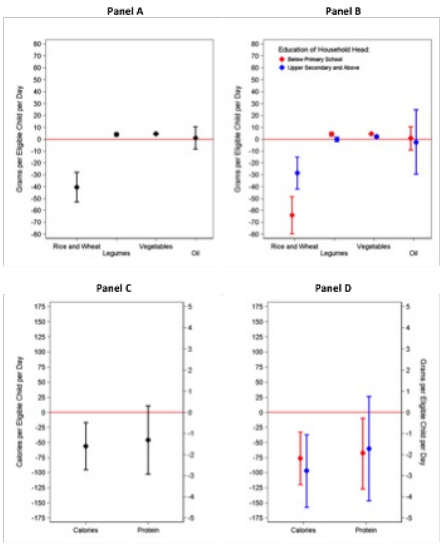
Purpose: School based food transfer programs are a common policy approach to address malnutrition among school-aged children. Such programs function in >70 low- and middle-income countries. They have generally demonstrated effectiveness in increasing caloric intake at school, but net nutritional benefits depend critically on changes in household purchasing and consumption induced by programmatic food transfers. While accounting for changes in home-based consumption, we assess the net nutritional effects of the largest school feeding program in the world, India's Cooked Mid Day Meals (CMDM) program which serves cooked meals to 120 million primary school children.

Method(s): With a large longitudinal dataset including 730,110 households over 19 years (1994-2012), we estimate CMDM's effects on household consumption (household food purchases and corresponding caloric, macronutrient and micronutrient content). We use difference-in-difference models employing ordinary least squares regressions controlling for household characteristics, and place and time fixed-effects. We compare induced changes in home consumption to CMDM program per-meal nutrient norms, accounting for mean program exposure.

Result(s): CMDM's transfers cause CMDM-eligible households to reduce daily at-home consumption of rice and wheat (124.8 gram reduction [95% CI: 104.7 - 144.9]), legumes (5.5 gram reduction [95% CI: 3.6 - 7.5]), and vegetables (28.3 gram reduction [95% CI: 13.3 - 43.4]). At the same time oil consumption increases (4.5 gram increase [95% CI: 3.4 - 5.5]). Changes in household consumption induced by the program imply a reduction in home-based calorie, protein, iron and zinc intake, and an increase in calcium (primarily driven by households with lower levels of education). Because reductions in home-based legume and vegetable consumption do not fully offset transfers that occur via school meals delivered according to program norms, CMDM induces some dietary diversification if the program meets meal standards (Figure 1). However, overall net calorie consumption is reduced and protein intake is unchanged under the CMDM program. Effects are largest for poorer households.

Conclusion(s): The effect of school based feeding programs depends critically on how households respond to benefits transferred to school children. Our study shows that CMDM's nutritional effects are blunted by reduced household food purchases. Households reduce total caloric consumption, sometimes overcompensating for program food transfers. However, households also respond by diversifying their diets towards nutrient-rich foods. Future policy designs should carefully account for household responses to them.

Figure 1: Net Effect of CMDM School Feeding Program on Total Consumption and Nutrient Intake if CMDM Meets Program Nutritional Guidelines



CAPTURING THE DIRECT AND SPILL-OVER EFFECTS OF INDIA'S SUPPLEMENTARY NUTRITION PROGRAMS

09:45 - 10:00: Sun. Jan 10, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-3: ECONOMETRIC POLICY ANALYSES

***Lea Prince, MA, PhD**, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA, Kimberly Babiarz, PhD, Stanford University, Stanford, CA and Jeremy D. Goldhaber-Fiebert, PhD, Stanford Health Policy, Centers for Health Policy and Primary Care and Outcomes Research, Department of Medicine, Stanford University, Stanford, CA*

Purpose: Nearly half of children under age 6, an estimated 230 million children, are malnourished in India. The national Integrated Child Development Services (ICDS) program aims to reduce childhood malnutrition through supplemental nutrition and food transfers. We estimated the net impact of ICDS on nutritional intake among program-eligible households, and measured spillover or learning effects associated with ICDS among ineligible households.

Method(s): We analyzed longitudinal data describing household expenditures on food goods and their nutrient content using the 2004-2011 Indian National Sample Surveys (n=362,701). We used government reports to construct an annual measure of state-level program intensity (% of children below 6 years receiving food from ICDS). We performed a difference-in-difference ordinary least squares regression analysis of the impact of ICDS on food expenditures and dietary nutrients controlling for household characteristics and time/place fixed effects. Program eligibility was defined as households with children below 6 years with a comparator of otherwise similar households with no children. Spillover and learning effects were measured among households with children recently aging out of eligibility (6-10 years) also compared to households with no children.

Result(s): At average program intensity (37%), ICDS increased eligible household daily net caloric intake (126 calories [95% CI: 39 - 212] (rural); 206 [95% CI: 123 - 288] (urban)), assuming program transfers accorded with ICDS norms. Eligible households shifted daily food purchases away from dairy (-44 grams [95% CI: -69 - -18] (rural); -21 grams [95% CI: -45 - 3] (urban)) and cereals (-36 grams [95% CI: -47 - -25] (rural); 7 grams [95% CI: -13 --0.2] (urban)) toward rice and wheat (rural households) or meat (urban households). ICDS had similar but smaller effects on nutritional consumption and food expenditure in households with children too old for program eligibility, providing evidence of spillover effects or household learning associated with ICDS.

Conclusion(s): India's ICDS modestly increased net caloric intake especially in rural areas even as households responded to food transfers by reducing and shifting their food expenditures. As these net effects were smaller than the ICDS transfers and also occurred in households with older children, evaluations of ICDS's benefits should account for both changes in household consumption that may offset the programs transfers and spillovers to non-eligible households.

IMPACT OF THE FRENCH 2011 POLICY DECISION ON DRUG PRESCRIBING IN DEMENTIA

10:00 - 10:15: Sun. Jan 10, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-3: ECONOMETRIC POLICY ANALYSES

***Mathilde Francois, MD - MPH**, Jonathan Sicsic, PhD and Nathalie Pelletier-Fleury, MD - PhD, Centre de Recherche en Epidémiologie et Santé des Populations - Equipe 1 'Economie de la santé - Recherche sur les services de santé' (CESP, INSERM, UMR 1018), Villejuif, France*

Purpose: In 2011, the French National Authority for Health decided to downgrade the medical service provided by cholinesterase inhibitors and memantine. The purpose of this study was to assess the impact of this policy decision on drug prescribing patterns for people with dementia.

Method(s): A longitudinal study using data from the French national-health insurance database was performed over a 9-year period. The study population included patients over 65 years old, without exclusion criteria. Rates of drugs prescribing were calculated for each year and the policy's impact was tested using adjusted segmented regression analysis.

Result(s): During the 2006 – 2014 period, 119,731 individuals were followed. Overall, the annual rates of drug prescribing increased between 2006 and 2011 (from 2.23% (95%CI: 2.13-2.34%) to 2.64% (95%CI: 2.54-2.75%), $p < 0.0001$) and decreased from 2012 to 2014 (from 2.36% (95%CI: 2.26-2.46%) to 1.92% (95%CI: 1.84-2.01%), $p < 0.0001$). Drugs for dementia were prescribed at higher rates for females ($p < 0.0001$), patients older than 85 ($p < 0.0001$) and patients suffering from at least one other chronic disease ($p < 0.0001$). The decrease in drug prescribing after 2012 was significantly greater for females ($p = 0.0415$), patients aged 65-74 ($p < 0.0001$) and patients suffering from a least one other chronic disease ($p < 0.0001$).

Conclusion(s): The policy decision implemented in 2011 had a significant impact on the prescribing patterns of drugs used in the treatment of dementia and mainly affected women, younger patients and patients with multimorbidity. This decrease in prescribing could reduce the cost of dementia without diminishing the quality of care.

DOES AN INCREASE IN HOSPICE USE DECREASE RACIAL DIFFERENCES IN END-OF-LIFE CANCER CARE INTENSITY

10:15 - 10:30: Sun. Jan 10, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-3: ECONOMETRIC POLICY ANALYSES

Shi-Yi Wang, MD, PhD[1]*, Siwan Huang, BS*[1] *and Sylvia Hsu, MD, PhD*[2]*, (1)Yale School of Public Health, New Haven, CT, (2)York University, Toronto, ON, Canada*

Purpose: Hospice use has increased dramatically in the United States since last decade. This study aims to examine current racial differences in end-of-life care expenditures and intensity among cancer decedents, and to compare the findings in prior literature based on data in an era with low hospice use.

Method(s): Using the Surveillance, Epidemiology, and End Results–Medicare data, we identified 88,751 beneficiaries who died from breast, prostate, lung, colorectal, pancreas, liver, kidney, melanoma, or hematological cancer within 3 years of cancer diagnosis from 2006 to 2011. We calculated last month of life healthcare expenditure and end-of-life care intensity, measured by 1) chemotherapy received within 14 days of death; 2) >1 emergency department (ED) visit or hospitalization within 30 days of death; 3) ≥1 intensive care unit (ICU) admission within 30 days of death; 4) in-hospital death; or 5) hospice enrollment ≤3 days before death. The magnitudes of racial differences in end-of-life care intensity were compared with the published results based on similar population from 1992 to 2001.

Result(s): The mean expenditure on end-of-life cancer care per decedent in the last month of life was $10,400 for Whites, $12,300 for Blacks, $12,900 for Hispanics, and $14,500 for Asians. Approximately 70.6% of White decedents enrolled in hospice; whereas enrollment was lower for Blacks (62.9%) and Asians (53.5%). Higher proportions of Asian and Black decedents than of White decedents had >1 hospitalization (17.1%, 17.4%, 13.8%, respectively), >1 ED visit (39.5%, 42.2%, and 34.1%, respectively), were admitted to the ICU (27.9%, 23.4%, 17.2%, respectively) in the last month of life and died in the hospital (35.7%, 26.1%, 20.7%, respectively). However, Asian and Black decedents, compared with White decedents, were less likely to receive late chemotherapy (3.2%, 3.3%, 4.2%, respectively) and have late hospice enrollment (5.7%, 6.9%, 8.5%, respectively). These racial differences remained after adjustment. Compared with the findings of 1992-2001, hospice use almost doubled across all groups, and end-of-life care intensity generally increased. The magnitude regarding racial differences in the proportion of decedents who had ICU admission or repeated ED visit increased substantially.

Conclusion(s): Asian and Black cancer decedents were more likely to receive aggressive end-of-life care than White decedents and incurred higher end-of-life expenditures. Recent increase in hospice use did not mitigate racial differences in end-of-life care intensity.

LONG-FORM ORAL ABSTRACTS-4: DECISIONS AND PREFERENCES FOR CARE AND FOR FOREGOING CARE

« Previous Session | Next Session »

09:00 - 10:30: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F

Session Summary:

09:00 - 09:15

AGE-DEPENDENCY IN THE AGGRESSIVENESS OF END-OF-LIFE CANCER CARE: A POPULATION-BASED STUDY OF RADIOTHERAPY IN THE LAST 30 DAYS OF LIFE FOR CANCER PATIENTS IN TAIWAN

09:15 - 09:30

HOW SHOULD MONITORING AND DRUG SENSITIVITY TESTING BE USED FOR FIRST-LINE TB TREATMENT IN INDIA?

09:30 - 09:45

ADVANCE CARE PLANNING PRACTICES IN CARING FOR VULNERABLE ELDERS

09:45 - 10:00

DEVELOPMENT OF A DECISION AID FOR CARDIOPULMONARY RESUSCITATION USING USER-CENTERED DESIGN AND A WIKI PLATFORM FOR RAPID PROTOTYPING (PHASE 1)

10:00 - 10:15

WORDS AND EXPERIENCE MATTER TO SURROGATES MAKING END OF LIFE DECISIONS

10:15 - 10:30

IMPACT OF TIME CONSTRAINTS ON CLINICAL DIAGNOSTIC REASONING POLICIES AND PERFORMANCE: AN ADAPTATION OF REASONING TO TIME PRESSURE

Abstracts:

AGE-DEPENDENCY IN THE AGGRESSIVENESS OF END-OF-LIFE CANCER CARE: A POPULATION-BASED STUDY OF RADIOTHERAPY IN THE LAST 30 DAYS OF LIFE FOR CANCER PATIENTS IN TAIWAN

09:00 - 09:15: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F
Part of Session: LONG-FORM ORAL ABSTRACTS-4: DECISIONS AND PREFERENCES FOR CARE AND FOR FOREGOING CARE

Ya-Chen Tina Shih, PhD[1], *Chia-Chin Li*[2], *Brian Chiu, PhD*[3], *Ashleigh Guadagnolo, MD*[4] *and Chun-Ru Chien, MD, PhD*[2], *(1)Department of Health Services Research, University of Texas MD Anderson Cancer Center, Houston, TX, (2)Department of Radiation Oncology, China Medical University Hospital, Taichung, Taiwan, (3)Department of Public Health Sciences, University of Chicago, Chicago, IL, (4)Department of Radiation Oncology, University of Texas MD Anderson Cancer Center, Houston, TX*

Purpose: Overly aggressive cancer treatment toward the end of life (EOL) is considered an indicator of poor-quality care. While radiotherapy can be used to alleviate symptoms arising from cancer, prolonged courses of radiotherapy may subject patients to additional harms, higher financial burden, and reduced quality of life. We hypothesized that overly aggressive EOL care is more likely among younger cancer patients.

Method(s): We defined the duration of EOL as the last 30 days of life and used data from the population-based Taiwan cancer registry linked to Taiwan death registry to construct an EOL study cohort from patients diagnosed with lung, esophageal, and colorectal cancer between 2008 and 2010 and died before December 31, 2012. We identified radiotherapy use from the National Health Insurance claims data. We conducted logistic regression to compare the EOL radiotherapy use between elderly (≥ 65) and non-elderly cancer patients while controlling for cancer type, gender, region, socioeconomic status, comorbidity, and year of death. We compared EOL medical costs between patients with and without radiotherapy; all costs were normalized to 2014 NT dollars and converted to USD via purchasing power parity index. We calculated the proportion of radiotherapy-related costs in total medical costs in EOL and quantified patients whose proportion was at the top 10% percentile as those with overly aggressive EOL radiotherapy and examine the associated factors with logistic regression.

Result(s): Our study cohort consisted of 26954 patients (15226 lung, 3032 esophageal, and 8696 colorectal cancer). EOL radiotherapy use was reported in 7.65% patients, with a higher percentage observed among non-elderly patients (11% vs. 6.15%, P<.0001). Non-elderly patients were more likely to receive EOL radiotherapy after controlling for confounders [adjusted odds ratio (AOR): 1.83, 95% CI 1.66 – 2.02]. Total EOL medical cost was higher among patients who received radiotherapy (Mean: $10410 vs. $6309, P<.0001). Among patients with EOL radiotherapy, overly aggressive care was found to be more common among nonelderly patients in unadjusted (11.74% vs. 8.57%, P=0.017) and adjusted analyses.

Conclusion(s): Our study found younger cancer patients are more susceptible to overly aggressive EOL care, suggesting that communications to initiate early palliative care are especially important among these patients for whom the true prognosis of disease may be masked by the desire to defeat cancer.

HOW SHOULD MONITORING AND DRUG SENSITIVITY TESTING BE USED FOR FIRST-LINE TB TREATMENT IN INDIA?

09:15 - 09:30: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F
Part of Session: LONG-FORM ORAL ABSTRACTS-4: DECISIONS AND PREFERENCES FOR CARE AND FOR FOREGOING CARE

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

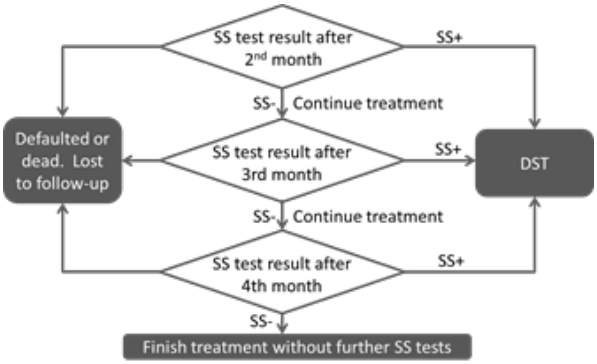
Purpose: Patients on first-line tuberculosis (TB) treatment may not be cured if their TB strains are drug-resistant (DR). However, the sputum-smear (SS) test used for patient monitoring cannot identify bacterial strain, so drug-sensitivity testing (DST) is required to identify such patients for alternative treatment. Currently, India performs DST in the fourth month of treatment. We determine the optimal time to administer DST and to identify the patterns of SS results that should prompt DST. If DST is administered too soon, many patients without DR TB will be unnecessarily tested; if administered too late, patients with DR TB may continue to transmit disease and decline in health. It is critical to determine the optimal timing for DST because India is planning to adopt the fast but expensive Xpert technology system for DST, increasing the cost of unnecessary testing.

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

Result(s): India's current policy appears suboptimal given relatively high national estimates of TB transmission. For these estimated values, DST should be administered to all patients upon initial TB diagnosis. After accounting for averted downstream transmission, we project that this testing sequence could save thousands of dollars per TB patient in discounted net monetary benefits. However, in settings where the risk of transmission is much lower, a patient's SS test result sequence can change the optimal DST timing. Figure 1 shows the optimal patient testing path in an environment without TB transmission.

Conclusion(s): India should revise its drug sensitivity testing protocol for the first-line national TB treatment program to provide DST at initial TB diagnosis in areas of average or high drug-resistant TB transmission, and may wish to consider individually tailored DST regimens in low transmission areas to reduce financial costs.

Figure 1: Optimal testing path for patients in no-transmission environments



ADVANCE CARE PLANNING PRACTICES IN CARING FOR VULNERABLE ELDERS

09:30 - 09:45: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F
Part of Session: LONG-FORM ORAL ABSTRACTS-4: DECISIONS AND PREFERENCES FOR CARE AND FOR FOREGOING CARE

Ming Tai-Seale, PhD[1], *Atul Gupta*[2] *and Ellis Dillon, PhD*[1], *(1)Palo Alto Medical Foundation Research Institute, Palo Alto, CA, (2)Stanford University and Palo Alto Medical Foundation, Palo Alto, CA*

Purpose:

Elderly patients often receive care from multiple health care providers. Because they face many preference sensitive care decisions, it is critical that their medical records document their preferences in an accessible manner. Poor documentation of patient preferences in the electronic health record (EHR) may jeopardize the ability of health care providers to honor these preferences. Since 2010, the Palo Alto Medical Foundation (PAMF) established a palliative care program across its 4 divisions. We aim to characterize advance care planning (ACP) documentation practices and determine if the palliative care program changed ACP practices, using EHR data from 2005-2014. Both advance health care directives (AHCD) and physician orders for life-sustaining treatment (POLST) are considered ACP.

Method(s):

This analysis included PAMF patients ≥65 between 2013-2014 with no EHR record of ACP before 2013. If their EHR's Problem List has an ICD-9-code for ACP, it is considered accessible. Logistic regression analysis examined the relationship between having accessible ACP documentation and explanatory variables, including (1) type of serious illness (defined by the presence of those conditions listed in the National Committee for Quality Assurance Palliative Care/hospice measurement set); (2) travel distance to the nearest palliative care specialists; and (3) patient and physician characteristics.

Result(s):

Among 65,253 patients ≥65 who did not have any ACP prior to 2013, 10.24% had accessible AHCD, 0.82% had accessible POLST, 0.54% had accessible AHCD and POLST, leaving 88.4% without accessible ACP at the end of 2014. Among those with at least one serious illness, 12.09% had accessible AHCD, 5.42% had accessible POLST, 3.62% had both, leaving 78.87% without accessible ACP. Patients with chronic obstructive pulmonary disease are more likely to have AHCD (OR=1.094, $p<0.01$) and POLST (OR=1.215, $p<0.01$). Patients with brain cancer (OR=4.165, $p<0.01$), Esophageal cancer (OR=4.697, $p<0.05$) and debility (OR=1.923, $p<0.01$) are more likely to have accessible POLST. Male, Asian, Chinese, and Black patients are less likely to have accessible AHCD. The travel distance to palliative care specialists lowers the likelihood of having accessible AHCD (OR=0.904, $p<0.01$) and POLST (OR=0.866, $p<0.01$).

Conclusion(s):

Overwhelming majority of older patients' EHR does not have accessible ACP, even those seriously ill. Systematic efforts are needed to eliminate gender and racial disparities and integrate palliative care into other areas of medical practice to enhance care for vulnerable elders.

DEVELOPMENT OF A DECISION AID FOR CARDIOPULMONARY RESUSCITATION USING USER-CENTERED DESIGN AND A WIKI PLATFORM FOR RAPID PROTOTYPING (PHASE 1)

09:45 - 10:00: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F
Part of Session: LONG-FORM ORAL ABSTRACTS-4: DECISIONS AND PREFERENCES FOR CARE AND FOR FOREGOING CARE

***Ariane Plaisance, Bsc**, Université Laval, Québec, QC, Canada and Patrick Michel Archambault, CISSS CA, Secteur Alphonse-Desjardins (CHAU Hôtel-Dieu de Lévis), Lévis, QC, Canada*

Purpose:

To assess critical care specialits and intensive care unit (ICU) patients' needs for better evidence and value based decision making prior to the development of a cardiopulmonary resuscitation (CPR) decision aid adjustable to patients' characteristics.

Method(s):

This study took place in the ICU at the Hôtel-Dieu de Lévis (Canada), a closed medical and surgical ICU with 18 beds and staffed by 5 critical care specialists. We conducted three weeks of observation of patients, family members, intensivists and other allied health professionals discussions about advance care planning. We specifically observed 5 dyads of attending intensivists and patients discussing the difficult choice between conducting cardiopulmonary resuscitation (CPR) or no CPR in the case of cardiac arrest. We also interviewed 5 intensivists about their needs for easier and better decision making between CPR and no CPR.

We then employed user centered design and rapid prototyping to explore different ways to explain the risks and benefits of CPR to patients. We also explored different ways to elicit patients' values and preferences. We interviewed 9 patients about the acceptability and relevance of the information presented. Discussions between intensivists and patients were recorded and a standardised observation grid was used to collect patients' comments and sociodemographic data. Field notes, verbatim and content extracted from the observation grids were content-analyzed.

Our observations and rapid prototyping will inform the adaption of different existing decision aids in various formats (paper, video, web). We will house the different versions of our decision aid in a wiki that will enable future adjustments of our tool to various contexts and patients characteristics.

Result(s):

Our qualitative content analysis revealed that patients and their family members are most concerned about the risks of losing functional autonomy following successful CPR. However, they lack knowledge about the purpose of CPR, the survival rate and functional outcomes after CPR. We also observed a lag between the level of care documented in the patient's chart and their values, preferences and medical condition.

Conclusion(s):

Basic understanding of what is a cardiac arrest, what is CPR and the risks and benefits of CPR is needed in order to reach a free and informed concern. Use of different formats of decision aid could improve advance care planning communication between intensivists and patients.

WORDS AND EXPERIENCE MATTER TO SURROGATES MAKING END OF LIFE DECISIONS

10:00 - 10:15: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F
Part of Session: LONG-FORM ORAL ABSTRACTS-4: DECISIONS AND PREFERENCES FOR CARE AND FOR FOREGOING CARE

***Dawn Fairlie, APRN, PhD**, College of Staten Island, City University of New York, Staten Island, NY*

Purpose:

The purpose of this study was to investigate the relationship between end of life terminologies and decisional conflict in surrogate decision makers using a convenience sample of 234 adults age 50 and older.

Method(s):

Participants were randomized into two groups, and each received a vignette that was personalized. The vignettes varied only in the use of the words “Do Not Resuscitate (DNR)” and “Allow Natural Death (AND)”. The Decisional Conflict Scale (DCS) was administered and demographic data were collected.

Result(s):

There was no difference in total DCS score based on AND and DNR versions. However, AND respondents perceived their decision as a good decision, and were eight times more likely to sign the document than DNR participants, indicating that framing influences surrogate decision making at the end of life. Experienced decision makers (EDMs) evolved as a discreet group. They had lower mean total DCS scores and lower mean subscores, indicating that prior experience is an important aspect of end of life decision making. Additionally, AND and EDM participants were more likely to perceive their decision as good and were more likely to be to be sure of their decision, indicating that experienced decision makers respond more favorably to the words Allow Natural Death. The term AND lead to increased likelihood of actually making a decision. Respondents to the DNR version were likely to not sign or postpone signing. Finally, participants were more likely to withdraw from the study when the term DNR was used.

Conclusion(s):

The results of this small preliminary study of white, fairly well educated, predominantly affluent respondents indicate that the completion of ADs in this demographic population can be influenced by information framing, prior experience with EOL decision-making. Communication modalities, information framing, and decision aids can be critical aspects of EOL communication. A larger, multi-site study with a more diverse sample would help to verify the results of this preliminary study.

IMPACT OF TIME CONSTRAINTS ON CLINICAL DIAGNOSTIC REASONING POLICIES AND PERFORMANCE: AN ADAPTATION OF REASONING TO TIME PRESSURE

10:15 - 10:30: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F
Part of Session: LONG-FORM ORAL ABSTRACTS-4: DECISIONS AND PREFERENCES FOR CARE AND FOR FOREGOING CARE

***Huiqin Yang, PhD, MSc.,**, University of York, York, United Kingdom and Carl Thompson, PhD, University of Leeds, Leeds, United Kingdom*

Purpose: ,

Time constraint is a significant factor that influences clinical judgement and decision making. This study aims to evaluate nurses' diagnostic reasoning policies and performance under time constraint in a simulated acute care setting.

Method(s): ,

Ninety-seven nurses were exposed to 25 clinical scenarios under time constraint and no time constraint conditions in a simulated acute care setting. In 12 of the scenarios only 20 seconds per judgement was allowed, in the other 13 scenarios no time constraint existed. The proportion of correct judgments in both situations was calculated. The logistic regression modelling was used to assess the relationship between their judgments and information cues utilised. Relative weights were calculated to capture the degree of attention paid to particular information cues.

Result(s):

There was no significant difference in the proportion of correct judgments between the time constraint and no time constraint conditions. However, time constraint significantly impacted on the reasoning policies used. Results showed that nurses used fewer cues to reach their clinical judgements under time constraint, with the relative weight of heart rate being much smaller in the time constraint model.

Conclusion(s):

Time constraint had a significant impact on nurses' diagnostic reasoning policies but not outcomes. Nurses tended to use less information cues to reach their judgements under time pressure without the expense of reasoning performance. Nurses showed adaptive reasoning when making clinical judgements under time constraints.

LONG-FORM ORAL ABSTRACTS-5: POLICY CHALLENGES OF CHRONIC NON-COMMUNICABLE DISEASES

« Previous Session | Next Session »

11:00 - 12:30: Sun. Jan 10, 2016
Shaw Auditorium, 1/F

Session Summary:

11:00 - 11:15

UNDERSTANDING THE ECONOMIC BURDEN OF CARE FOR PATIENTS ON RENAL REPLACEMENT THERAPY

11:15 - 11:30

SHORT-TERM AND LONG-TERM COST-EFFECTIVENESS OF THE MULTIDISCIPLINARY RISK ASSESSMENT AND MANAGEMENT PROGRAM FOR PATIENTS WITH DIABETES MELLITUS (RAMP-DM) IN HONG KONG

11:30 - 11:45

CONTROLLING SMOKING-RELATED DISEASES IN CHINA: USE OF A SIMULATION MODEL TO PROJECT THE IMPACT OF HEALTH POLICY INTERVENTIONS

11:45 - 12:00

COMPARISON OF A BAYES-PRICE-LAPLACE CLINICAL LEARNING MACHINE TO CLINICAL PREDICTION RULES FOR PULMONARY EMBOLISM

12:00 - 12:15

COST-EFFECTIVENESS OF HAEMODIALYSIS AND PERITONEAL DIALYSIS FOR PATIENTS WITH END-STAGE RENAL DISEASE IN SINGAPORE

Abstracts:

UNDERSTANDING THE ECONOMIC BURDEN OF CARE FOR PATIENTS ON RENAL REPLACEMENT THERAPY

11:00 - 11:15: Sun. Jan 10, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-5: POLICY CHALLENGES OF CHRONIC NON-COMMUNICABLE DISEASES

Murray D Krahn, MD, MSc, FRCPC[1], *Karen E Bremner, BSc*[2], *Claire de Oliveira, PhD*[3], *Stephanie Dixon, PhD*[4], *Nicholas Mitsakakis, MSc PhD*[1] *and Petros Pechlivanoglou, MSc, PhD*[1], *(1)Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto, Toronto, ON, Canada, (2)University Health Network, Toronto, ON, Canada, (3)Centre for Addiction and Mental Health, Toronto, ON, Canada, (4)Institute for Clinical Evaluative Sciences, London, ON, Canada*

Purpose:

The Ontario Renal Network (ORN) aims to increase home dialysis from its current rate (24%) to 40%, based on evidence for its equivalent or superior outcomes and lower costs, versus facility dialysis.

Most published studies report dialysis-specific costs, but not total costs for the complex health needs of dialysis patients. The ORN commissioned this study to understand total health care costs for all dialysis modalities.

Method(s):

All patients in Ontario (Canada's most populous province) who initiated chronic dialysis at age >18 years from April 2006 to March 2012 were selected from the Canadian Organ Replacement Registry, and grouped by initial modality: facility hemodialysis (HD), home HD, facility short daily or slow nocturnal HD (SD/SN HD), or any peritoneal dialysis (PD).

Using linked administrative healthcare data, we estimated direct medical costs (2012 Canadian dollars) from the payer perspective for inpatient and outpatient hospital visits, including dialysis clinics, laboratory and diagnostic tests, physician services, outpatient prescription drugs, home care including dialysis, and long-term care, for one and five years after dialysis initiation by modality group, adjusted for age, co-morbidity, and sex. Patients were censored at kidney transplant or end of follow-up (March 31, 2013), with a maximum observation time of 7.2 years.

Result(s):

The mean age of the cohort (N=9,302) was 66 years; 60% were male. Most (75.2%) initiated facility HD, 23.5% began PD, <1% initiated home HD or facility SD/SN HD. Home HD patients were youngest (mean age=50 years) with less co-morbidity, compared with other modality groups.

Mean adjusted costs for home HD and PD were similar (one-year = $50,506 and $43,123; five-year = $377,467 and $374,648), and much lower than other modalities. Mean facility HD costs were $102,979, and $515,650 for one and five years, respectively. Mean facility SD/SN HD were highest in the first year ($164,257) and similar to facility HD at five year ($482,453).

Conclusion(s):

Total health care costs for dialysis patients are high, (eg., one-year costs for cancer patients = $26,000). Our one-year costs for total health care are approximately twice as much as the dialysis-specific costs reported in previous studies, indicating the importance of non-dialysis costs. Our findings that home HD and PD are economical alternatives to facility HD provide some evidence for policy initiatives to increase home dialysis.

SHORT-TERM AND LONG-TERM COST-EFFECTIVENESS OF THE MULTIDISCIPLINARY RISK ASSESSMENT AND MANAGEMENT PROGRAM FOR PATIENTS WITH DIABETES MELLITUS (RAMP-DM) IN HONG KONG

11:15 - 11:30: Sun. Jan 10, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-5: POLICY CHALLENGES OF CHRONIC NON-COMMUNICABLE DISEASES

Fangfang Jiao[1], *Colman Siu Cheung Fung*[1], *Sarah McGhee*[2], *Carlos King Ho Wong, PhD*[3] *and Cindy Lo Kuen Lam, MD*[3], *(1)Department of Family Medicine and Primary Care, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong, China, (2)School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong, China, (3)Department of Family Medicine and Primary Care, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong Island, Hong Kong*

Purpose:

To evaluate the cost-effectiveness of the Multidisciplinary Risk Assessment and Management Program for Patients with Diabetes Mellitus (RAMP-DM) over 3 years' observation period and lifetime from the public health provider's perspective in Hong Kong.

Method(s):

A prospective cohort study was conducted on 18,188 propensity score matched RAMP-DM participants and DM patients under usual primary care (9,094 patients in each group) to evaluate the clinical outcomes and direct public medical costs over 3 years follow-up. The short-term incremental cost-effectiveness ratio (ICER) referred to 1) program cost per diabetes-related complication reduced by RAMP-DM, and 2) program cost per event-free year in the RAMP-DM group, compared to the control group.

A discrete event model was built to estimate the lifetime cost-effectiveness of RAMP-DM. The transition probabilities from no complication to each of the complications and death were derived from the 3-year empirical data and were applied to the first 3 years of simulation in the model. For simulation beyond 3 years, we assumed that the subsequent transition probabilities for diabetic complications were equal to those observed in the final year of follow-up and this difference was maintained over the lifetime. The RAMP-DM set-up costs were applied to the first year for the RAMP-DM group, and the ongoing costs were applied to lifetime. The annual direct medical costs and utility scores for various diabetic complications referred to our previous studies. One-way sensitivity analysis and scenario analysis were conducted to examine the robustness of the model.

Result(s):

Over 3 years, the RAMP-DM group had a saving in public health service utilization of US$ 2,703, resulting in a net saving of US$ 2,590 per subject after deduction of RAMP-DM program cost (US$113). If the RAMP-DM program cost was consider as an additional cost, the program cost US$ 4,862 to reduce one CVD event, US$ 2,940 to reduce one death and US$3,958 to gain one event-free year from any DM complications. Over lifetime, RAMP-DM had an incremental cost of US$ 2,426 for one quality adjusted life year (QALY) gain, compared to usual care.

Conclusion(s):

From the public health provider's perspective, RAMP-DM was a cost-saving intervention in managing patients with DM in short-term. Over lifetime, RAMP-DM was considered highly cost-effective when compare to the willingness- to-pay threshold (US$ 30,987).

CONTROLLING SMOKING-RELATED DISEASES IN CHINA: USE OF A SIMULATION MODEL TO PROJECT THE IMPACT OF HEALTH POLICY INTERVENTIONS

11:30 - 11:45: Sun. Jan 10, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-5: POLICY CHALLENGES OF CHRONIC NON-COMMUNICABLE DISEASES

***Chung Yin Kong, PhD**, Deirdre Sheehan, MPH, Florian Boulnois, MS, Pari V. Pandharipande, MD, MPH and Scott Gazelle, MD, MPH, PhD, Massachusetts General Hospital - Institute for Technology Assessment, Boston, MA*

Purpose: To use the China Lung Cancer Policy Model (China LCPM) to estimate mortality reductions if intensive tobacco control measures and computed tomography (CT)-based lung cancer screening are implemented in China.

Method(s): We built the China LCPM using a well-established lung cancer microsimulation model. The China LCPM can project population outcomes associated with health interventions for smoking-related diseases in China. Smoking intensity and cessation rates from literature were used as model inputs. Model outputs were then calibrated to match smoking prevalence estimates from the China Health and Nutrition Survey (CHNS) and Chinese lung cancer mortality rates from the International Agency for Research on Cancer (IARC). Using the calibrated model, we estimated deaths attributable to smoking if intensive tobacco control measures and CT-based lung cancer screening were implemented from 2016-2050 in China. We defined an “intensive” tobacco control program as a program which could double the current, low smoking cessation rate of 2-3% per year. For lung cancer screening, we adapted eligibility criteria established by the U.S. Centers for Medicare & Medicaid Services.

Result(s): By 2050, we projected that an intensive tobacco control program would prevent approximately 0.9 million lung cancer deaths, 1.5 million other smoking-attributable deaths, and 43.6 million life-years lost in China. CT-based lung cancer screening in China would prevent an additional 1.2 million lung cancer deaths and 16.9 million life-years lost. The China LCPM estimated that males will contribute 74% of the lung cancer death burden in 2015. A program combining tobacco control and screening would reduce the cumulative lung cancer deaths between 2016- 2050 by 14.3%; for females, this value is projected to be 5.7%.

Conclusion(s): More than half of males in China are current smokers. Evidence from western countries tells us that an unprecedented number of smoking-attributable deaths will occur as the Chinese population ages. In China, a combination of intensive tobacco control measures and CT-based lung cancer screening, beginning in 2016, would prevent 3.6 million smoking-attributable deaths, including 2.1 million lung cancer deaths, by 2050. Effective health policies to mitigate the substantial disease burden caused by smoking in China may have a substantial, future public health impact. Our China LCPM is a comprehensive simulation platform that can provide instrumental information to policy makers about smoking-related diseases.

COMPARISON OF A BAYES-PRICE-LAPLACE CLINICAL LEARNING MACHINE TO CLINICAL PREDICTION RULES FOR PULMONARY EMBOLISM

11:45 - 12:00: Sun. Jan 10, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-5: POLICY CHALLENGES OF CHRONIC NON-COMMUNICABLE DISEASES

***Robert Holland, MD, MS**, North Country Hospital, Irasburg, VT*

Purpose:

To quantify and compare the performance of all published clinical prediction rules (CPRs) for pulmonary embolism (PE) to a Bayes-Price-La Place Clinical Learning Machine (BPLCLM).

Method(s):

The study population is 310 (65 PEs) consecutive patients referred for CT angiogram of the chest to rule out PE. All relevant clinical findings for each patient are entered into a tailored database that supports the development and evaluation of Bayes' Rule parameters. The first 201 patients are used to determine the prior odds based upon the presenting findings for each diagnosis and the likelihood ratios for all clinical findings for each diagnosis. Predictor variables (PVs) that are utilized have a level of significance > .95, face validity, and enhance the ability to discriminate in the development set. PVs may be a single clinical finding or a group of clinical findings with either an "and" or "or" relationship; PVs may not be a clinical judgement. The sum of the probability for all diagnoses is proportionally constrained to sum to 1. The last 109 patients are used to calculate a P(PE) for each patient with each CPR and the BPLCLM. ROC curves are generated for each method.

Result(s):

Clinical Prediction Method	ROC Area
Charlotte Score	.66
Miniati Regression Equation	.74
PERC Score	.61
Revised Geneva Score	.59
Simplified Revised Geneva Score	.55
Simplified Wells Score	.60
Wells & Charlotte Scores	.63
Wells & PERC Scores	.62
Wells Score	.61
BPLCLM	.92

Conclusion(s): The BPLCLM has significantly more capacity to discriminate between patients with and without PE than any published CPRs. The enhanced performance of the BPLCLM is due to the adjustment of the prior odds based upon the presenting findings and utilization of all PVs that have been found to be relevant to the patient's situation. If the BPLCLM function were to be incorporated into electronic medical record systems it would enhance the ecology of clinical decision making. Bayes rule is to clinical decision making, as the Pythagorean Theorem is to architecture and Newton's Second Law of Motion is engineering; violation of the equation in their respective domains leads to falling buildings, crashing vehicles; and costly, risky, low-value health care.

COST-EFFECTIVENESS OF HAEMODIALYSIS AND PERITONEAL DIALYSIS FOR PATIENTS WITH END-STAGE RENAL DISEASE IN SINGAPORE

12:00 - 12:15: Sun. Jan 10, 2016
Shaw Auditorium, 1/F
Part of Session: LONG-FORM ORAL ABSTRACTS-5: POLICY CHALLENGES OF CHRONIC NON-COMMUNICABLE DISEASES

Fan Yang, PhD candidate[1]*, Titus Lau, MD*[2] *and Nan Luo, PhD*[1]*, (1)Saw Swee Hock School of Public Health, National University of Singapore, Singapore, Singapore, (2)Division of Nephrology, University Medicine Cluster, National University Health System, Singapore, Singapore*

Purpose:

This study aimed to evaluate the cost-effectiveness of haemodialysis (HD) and two forms of peritoneal dialysis (continuous ambulatory peritoneal dialysis [CAPD] and automated peritoneal dialysis [APD]) for patients with end-stage renal disease (ESRD) in Singapore.

Method(s):

A Markov model was developed for patients who started dialysis with HD, CAPD or APD in a time horizon of 10 years. Event data (death, hospitalization, and transplantation) was taken from a hospital database and the national renal registry; health utility data came from published studies of Singaporean dialysis patients, and costs data was obtained from a local hospital and dialysis services providers. Outcome measures were 10-year costs (in 2015 Singaporean dollars [SG$]), quality-adjusted life-years (QALYs) and incremental cost-effectiveness ratios (ICERs).

The base-case was a hypothetical cohort of 60-year-old non-diabetic ESRD patients who started dialysis with one of the three modalities and had no contradictions to any modality. We performed base-case cost-effectiveness analysis, one-way sensitivity analysis, and probabilistic sensitivity analysis with Monte Carlo simulation. A high-risk group of 60-year-old diabetic ESRD patients was also analyzed.

Result(s):

The base-case analysis showed that the QALYs were 3.38 with CAPD, 3.60 with APD and 4.82 with HD and the total costs were SG$169,872 for CAPD, 201,509 for APD and 306,827 for HD. The analysis of high risk group showed that the QALYs were 2.59 with CAPD, 2.64 with APD and 3.81 with HD. The total costs were SG$144,972 for CAPD, 169,282 for APD and 271,446 for HD.

For both base-case and high-risk groups, CAPD and HD had extended dominance over APD. The ICER of HD versus CAPD was SG$95,204 per QALY for base-case and 103,727 for high-risk group, respectively.

One-way sensitivity analyses showed that the ICER of HD versus CAPD was most sensitive to the utility for HD for base-case and high-risk groups. Probabilistic sensitivity analysis demonstrated that the probability of CAPD being the optimal choice was 37.5% for the base-case and 42.8% for the high-risk group at a willingness-to-pay threshold of SG$60,000 (US$43,000) per QALY.

Conclusion(s):

CAPD may be a cost-effective therapy compared with HD and APD in ESRD patients in Singapore. These findings are potentially useful to all stakeholders of the dialysis services in Singapore.

LONG-FORM ORAL ABSTRACTS-6: MODEL-BASED ECONOMIC EVALUATIONS

« Previous Session | Next Session »

11:00 - 12:30: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F

Session Summary:

11:00 - 11:15

AN ECONOMIC MODEL TO COMPARE THE DIFFERENT EMPIRIC AND FIRST/SECOND LINE TREATMENT REGIMENS FOR SUSPECTED METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS NOSOCOMIAL PNEUMONIA IN CHINA

11:15 - 11:30

AN APPROACH TO COMPARATIVE POPULATION MODELING AND SIMULATION

11:30 - 11:45

A BIOLOGICAL-PROCESS-BASED MODELING APPROACH FOR ESTIMATING THE MEAN SOJOURN TIME OF INVASIVE BREAST TUMORS

11:45 - 12:00

ECONOMIC EVALUATION OF POSTNATAL OXIMETRY SCREENING FOR CONGENITAL HEART DEFECTS IN CHINA

12:00 - 12:15

EARLY DETECTION OF DIABETIC NEUROPATHY USING RETINAL IMAGE

Abstracts:

AN ECONOMIC MODEL TO COMPARE THE DIFFERENT EMPIRIC AND FIRST/SECOND LINE TREATMENT REGIMENS FOR SUSPECTED METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS NOSOCOMIAL PNEUMONIA IN CHINA

11:00 - 11:15: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F
Part of Session: LONG-FORM ORAL ABSTRACTS-6: MODEL-BASED ECONOMIC EVALUATIONS

*Haibo Qiu, MD[1], Dipen Patel[2], **Yixi Chen, MSc**[3], Dong Peng, MD[3], Seema Haider, PhD[4] and Jennifer Stephens, PharmD[2], (1)Zhongda Hospital, School of Medicine, Southeast University, Nanjing, China, (2)Pharmerit International, Bethesda, MD, (3)Pfizer Inc., Beijing, China, (4)Pfizer Inc., Groton, CT*

Purpose:

Appropriate and timely empiric treatment is critical for methicillin-resistant *Staphylococcus aureus* (MRSA)-related infections. Inadequate empiric treatment is associated with increased mortality and longer hospital stay. This study compared economic impact of empiric linezolid (Emp-LIN) vs. vancomycin (Emp-VAN) vs. no empiric MRSA coverage (NE-MRSA) before culture-confirmed treatment, for suspected MRSA nosocomial pneumonia (NP) from a Chinese payer perspective.

Method(s): A 4-week decision model was developed capturing empiric, 1st and 2nd line therapy. Published literature and expert opinion provided clinical and resource use data, including efficacy, incremental mortality for NE-MRSA, adverse events, and length of hospital/ICU stay. Cost and health utilities data were obtained from published literature. Base-case analysis used 3-day empiric, 10-day 1st/2nd-line treatment duration, 27% MRSA rate, and 1st-line linezolid for NE-MRSA after culture confirmation. MRSA negative patients exited the model after empiric treatment, and were assigned a fixed cost for remaining treatment. Univariate and probabilistic sensitivity analyses were conducted. Costs were reported in 2015 Chinese Yuan.

Result(s):

Emp-LIN was associated with marginally lower total costs (¥73,880 vs. ¥73,969), and greater QALY gain and overall treatment success compared to Emp-VAN, resulting in Emp-LIN 'dominating' Emp-VAN. Compared to NE-MRSA, Emp-LIN was more costly by ¥3,629, but had greater QALY gain (+0.75) and incremental treatment success (+5.3%), resulting in an incremental cost effectiveness ratio (ICER) of ¥4,825 per QALY gain, and ¥68,821 per additional successfully treated patient. Days in ICU stay, clinical efficacy, and MRSA rate impacted most on ICER. Probability of Emp-LIN being cost-effective was 73% (vs. Emp-VAN) and 99% (vs. NE-MRSA) assuming a willingness-to-pay (WTP) of ¥50,000 per additional successfully treated patients and QALY gain, respectively.

Conclusion(s): Early treatment with Emp-LIN is a cost-effective alternative to Emp-VAN and NE-MRSA at reasonable WTP threshold, and should be considered a preferred treatment choice, especially at hospitals with high MRSA rate.

AN APPROACH TO COMPARATIVE POPULATION MODELING AND SIMULATION

11:15 - 11:30: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F
Part of Session: LONG-FORM ORAL ABSTRACTS-6: MODEL-BASED ECONOMIC EVALUATIONS

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Purpose: Simulating aspects of the health system, such as number of diseases, people needing a treatment, or nation-wide costs often require a valid representation of the population. We present two population models that can be used as a basis for simulations in the health system and show how they can be parameterized based on given data and simulate the population accurately.
Method(s): We developed two different models for the simulation of a population: an agent-based model, which simulates individuals over discrete time steps, and a system dynamics model, which simulates aggregates that represent population groups over a continuous time. Both models include the characteristics age and gender, as well as births, deaths, immigrations and emigrations, and both models and are designed to simulate a changing population over time. In a first step, we defined model structures for both models to incorporate the population characteristics valid and accurately. In a second step, we gathered data from Statistics Austria, including assumptions about birth, death, immigration, and emigration rates until 2076. This data was used to calculate parameter values. The computations rely on statistical methods, mostly for aggregation and computing probabilities over specific intervals or for continuous changes. In a third step, the Austrian population is simulated until 2076.
Result(s): Results: The two models simulate the same system but their structures and parameters are fundamentally different. The computations of all model parameters are possible. Results are presented as the population and its demographics for each year. As the prognostic model starts in 2000, it was possible to validate the first 15 years of the simulation with real aggregated data, also gained from statistics Austria. Both model results only differ by less than one percent from the real population in 2015 as well as from the prognosis for 2076.
Conclusion(s): In our comparative analysis, both modeling methods are eligible to model and simulate populations over time. Small deviations are caused by structural model differences. For example, there are different ways to define and compute the mean population in a year. In our explorative example, the differences are small enough to accept both results as correct. For further simulation studies, this allows to integrate the population in a standardized, valid way if one of the two methods is used.

A BIOLOGICAL-PROCESS-BASED MODELING APPROACH FOR ESTIMATING THE MEAN SOJOURN TIME OF INVASIVE BREAST TUMORS

11:30 - 11:45: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F
Part of Session: LONG-FORM ORAL ABSTRACTS-6: MODEL-BASED ECONOMIC EVALUATIONS

Rowan Iskandar, MA *and Karen M. Kuntz, ScD, University of Minnesota, Minneapolis, MN*

Purpose: Mammography aims to detect breast tumors (BTs) prior to becoming clinically symptomatic. Sojourn time (ST), the length of time when cancer is screen-detectable, is an important measure for determining the optimal screening interval. Several authors have estimated mean sojourn times (MSTs) by fitting parametric distributions to screening trial data. These estimates vary considerably across studies. Our study introduces a novel method for estimating MST by using a stochastic tumor growth model.

Method(s): We adopted a biological-process-based modeling approach to estimate the MST by using a birth-death process (BDP) of BT cells in an oblate spherical tumor. The forward Kolmogorov equation (FKE) for the BDP was formulated and solved analytically. The solution to the FKE gives the probability density function (pdf) of the number of tumor cells at any given time following tumor initiation. By defining two threshold sizes of 10^4 and 10^7 for screen-detected and clinically-detected tumors, respectively, we estimated the pdf for ST. We derived a simple analytical expression for calculating MST by using the estimated pdf. We also solved the FKE by using the tau-leap simulation method to validate the results from the analytical method. A tumor doubling time of 130 days was used to parameterize the BDP, based on a literature review.

Result(s): The analytical and tau-leap simulation methods yielded MST estimates of 734 and 743 days, respectively. Our method gave an estimate comparable to the lower MST estimate of 767 days reported by a study using data from the Swedish two-county study and to the result from a simulation-based estimation method using piecewise pdf for the ST and data from the HIP trial (730 days). Our estimate was significantly lower than those based on the Nijmegen trial data (1131 days). In contrast, our estimate was higher compared to the MST estimates from a statistical model using exponential pdf for the ST to fit the HIP trial data (621 days).

Conclusion(s): The incorporation of a simple biological process to estimate MST may be valuable for reducing the uncertainty in the estimates based on parametric assumptions. Moreover, the modeling approach exemplifies the potential linkage between modeling at the cellular level and patient or clinical intervention level.

ECONOMIC EVALUATION OF POSTNATAL OXIMETRY SCREENING FOR CONGENITAL HEART DEFECTS IN CHINA

11:45 - 12:00: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F
Part of Session: LONG-FORM ORAL ABSTRACTS-6: MODEL-BASED ECONOMIC EVALUATIONS

***Ruoyan Gai, MSc., PhD**, National Center for Child Health and Development, Tokyo, Japan*

Purpose: Pulse oximetry screening is a highly accurate tool for the early detection of congenital heart disease (CHD) in newborn infants. As the technique is simple, non-invasive and inexpensive, it has high potential benefits for developing countries. However, certain barriers may impede its wider implementation. In this study, we aim to inform clinical and health policy decisions by assessing the cost-effectiveness of CHD screening in China.

Method(s): We developed a cohort model to evaluate the cost-effectiveness of screening all Chinese newborns annually using three possible screening options compared to no intervention: (1) pulse oximetry alone, (2) clinical assessment alone, and (3) pulse oximetry as an adjunct to clinical assessment. We calculated the incremental cost per averted disability-adjusted life years (DALYs) in 2015 US dollars to measure cost-effectiveness. One-way sensitivity analyses and multivariate probabilistic sensitivity analysis were performed to test robustness of the model.

Result(s): We found that clinical assessment is the most cost-effective strategy compared to no intervention with an incremental cost-effectiveness ratio (ICER) of USD22,079/DALY, while pulse oximetry plus clinical assessment with the highest ICER yielded the best health outcomes. Sensitivity analysis showed that when the treatment rate increased up to 68%, pulse oximetry plus clinical assessment showed the best expected values among the three screening options. Cost-effectiveness acceptability curve analysis showed a 95% probability of clinical assessment to be cost-effective at a willingness-to-pay threshold of three times the GDP per capita.

Conclusion(s): In China, clinical assessment is currently the most cost-effective screening approach for neonatal CHD. Improvement of accessibility to treatment is crucial to expand the potential health benefits of screening.

EARLY DETECTION OF DIABETIC NEUROPATHY USING RETINAL IMAGE

12:00 - 12:15: Sun. Jan 10, 2016
Kai Chong Tong Auditorium, G/F
Part of Session: LONG-FORM ORAL ABSTRACTS-6: MODEL-BASED ECONOMIC EVALUATIONS

Nina Lei Kuang[1]*, Benny Zee*[1]*, Guotao Hu*[2] *and Hailan Hu*[2]*, (1)Division of Biostatistics, Jockey Club School of Public Health and Primary Care, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, (2)Longgang Central Hospital of Shenzhen, Shenzhen, China*

Purpose:

Diabetic neuropathy is one of the most common complications found in diabetes patients with a prevalence ranging from 7%-68%. Estimation from a multi-hospital survey in China indicated that 18% of diabetes patients and 6.4% of newly diagnosed patients had perception defects. Moreover, only one-third of the studied subjects had previously gone through neuropathy screening, and more than two third among those diagnosed with diabetic neuropathy undertook formal treatment.

Method(s):

Several reasons may account for the low screening rate small proportion receiving treatment for this disease. One of which could be related to the complexity of current screening process, which not only requires various equipments but also trained and experienced doctors. Secondly, lack of objective measurements in clinical or family care's setting affect the ability to identify the problems. Also, as the disease progresses slowly with bearable discomfort, patients usually ignore the symptoms until a late stage. Thus, an assessment tool that is objective, easy to operate and accurate will not only help increase the screening and diagnostic capability but also raise patients' awareness of the disease.

Microvascular abnormality has been studied extensively over the past decades. Both animal models and pathological anatomy had shown the abnormal structural changes in the microcirculation as the earliest pathological sign around the impaired nerve. Thus, it was proposed that vessel assessment be used as a potential tool for early risk assessment and detection of the neuropathy. Retina was viewed as the most promising site for microcirculation evaluation because it is the only place where microcirculation can be view noninvasively. Large population-based cohort studies, including The Atherosclerosis Risk in Communities Study (ARIC), The Wisconsin Epidemiologic Study of Diabetic Retinopathy (WESDR) and EURODIAB Prospective Complications Study all reported a moderately positive association between diabetic retinopathy and neuropathy. Our study with 2,127 type 2 diabetes subjects collected from the U.S Nutrition and Health Examination Study (NHANES) dataset also confirmed these findings.

Result(s):

The development of sophisticated image analysis technology made it possible to extract detail information from retinal vessels such as caliber, tortuosity, and bifurcation angles. These measurements can provide accurate and objective assessment of the vessel abnormity. Studies using WESDR, ARIC data found an association between retinal vessel caliber and diabetic retinopathy, nephropathy and even early metabolic symptom. We further conducted a pilot study to investigate the association between retinal vessel measurements and neuropathy severity. The statistics from our pilot study showed a U-shape change of the vessel caliber in the early stage of neuropathy. Interestingly, similar trend was found in a study investigating retinal vessel caliber and diabetic peripheral neuropathy using 608 patients from Malaysia eye study.

Conclusion(s):

Based on all the information, we proposed that retinal vessel measurement could be used as a promising tool for the early detection of diabetic neuropathy.

CLOSING CEREMONY AND AWARD PRESENTATIONS

« Previous Session | Next Session »

12:30 - 13:00: Sun. Jan 10, 2016
Shaw Auditorium, 1/F
Program: Events