theta Quarterly

Winter 2011

Academic Rounds

Many thanks to past presenters:

David Fisman
Maurice McGregor
Anirban Basu
David Meltzer
Iris Lansdorp-Vogelaar
Mike Paulden
Thérèse Stukel
David Shum
Dr. Stirling Bryan

Upcoming Presenters:

Irfan Dhalla
Don Husereau
Michael Iskedjian

Project Updates

Effectiveness and Cost-Effectiveness Assessment of Heart Failure Clinics in Ontario

The overall research question for this field evaluation is to understand the current service models used and to evaluate the clinical effectiveness and cost-effectiveness of heart failure (HF) clinics for the ambulatory management of HF in Ontario. Specific objectives include: Phase 1- Identify all specialized HF clinics in Ontario; Phase 2- Describe the scope of current service models for patients in specialized HF clinics; Phase 3- Understand practice patterns for patients in a subset of identified clinics; and Phase 4- Assess the clinical effectiveness and cost-effectiveness of HF clinics in Ontario.
Data collection for Phase 1 and 2 is well underway and is expected to be completed by the end of the year. Phase 3 is well underway, as over half of the chart reviews have been completed. Phase 4 is set to begin in Feb 2011.

***P*ressure *U*lcer *M*ulti-Disciplinary *T*eams via *T*elemedicine (*PUMTT*): A Cluster Pragmatic Randomised Controlled Trial**

The purpose of this field evaluation is to evaluate the clinical and cost effectiveness of 'enhanced' multi-disciplinary wound care teams vs. 'usual' care teams in long term care (LTC) homes in the Greater Toronto Area for the treatment of pressure ulcers.

The study began in October 2010, with baseline data collection at all LTC homes (n=10).These homes were randomly selected from those eligible to participate (n=15) i.e. LTC homes had to have over 100 beds, be within a 100 km radius from the acute wound team, the administrator had to agree to participate, and the home had to have a higher than average pressure ulcer prevalence rate (>5.5 %).
The study adopts a stepped wedge design, with homes randomized to start date of the intervention (i.e. an advance practice nurse (APN) on site homes one day/week for 12 weeks, who is linked to a comprehensive wound care team located in an acute care centre). The team is then available remotely for 3-11 months, depending on the order in which the home has been randomized to intervention start date . Baseline data collection ranges from 3-11 months, depending on the order in which the home has been randomized to intervention start date. The team began at the first facility in January, 2011. Data collection for this study will continue until March 2012.

***T*urning for *U*lcer *R*eductio*N* (*TURN*) Study**

Participant recruitment is complete for Ontario (n=506). Recruitment will continue in the US until June 2011.

Project Updates

Specialized Multidisciplinary Community-Based Care for Chronic Wounds: A Field Evaluation

The objective of this field evaluation is to: 1) identify all out-patient multidisciplinary wound care teams (MWCTs) across the province; 2) conduct a survey in order to understand the scope of service models of the identified MWCTs ; 3) evaluate the clinical effectiveness ; and 4) evaluate the cost effectiveness.

This field evaluation has 3 phases:

Phase 1: Identification of teams;

Phase 2: Survey of teams;

Phase 3: Pragmatic randomized controlled trial to evaluate clinical effectiveness, and cost effectiveness of MWCTs.

Currently , we have completed Phase 1, and Phase 2 is underway. A total of 43 out-patient MWCTs were identified in Ontario. Phase 2 will be completed by March, 2011. Funding has been received from the MOHLTC for Phase 3. Ethics approval has been obtained by the University of Toronto and Toronto Central Community Care Access Centre. Data collection will begin in April 2011, and continue until April 2013.

You can read more about THETA's projects here.

In the Spotlight

THETA Investigator Rosie Thein has won an Ontario Institute for Cancer Research Health Services Research Program New Investigator Award in the area of infectious disease epidemiology and cancer research (2010-2015).

Rosie is interested in infectious diseases and related cancers and mathematical modeling methods for health and economic evaluation. She is working to further understand the health and economic implications of cancer prevention and treatment, with a particular focus on viral hepatitis and hepatocellular carcinoma. The ultimate goal of her research is to achieve improved early detection, diagnosis and management strategies for cancer.

Personalized Medicine

Three modeling projects have recently been completed at THETA. These projects focus on the use of personalized medicine to guide optimal treatment selection for breast, lung and colon cancer.

Cost-effectiveness of Oncotype DX guided treatment in early breast cancer

The purpose of this project was to determine if Oncotype DX (ODX) is cost-effective when used in conjunction with Adjuvant! Online (AOL) to guide chemotherapy treatment for women with early stage LN- HR+ HER2- breast cancer in Ontario.
It was concluded that providing ODX genetic testing to LN- HR+ HER2- early-stage breast cancer patients was cost-effective. After evaluation of all combinations of providing ODX testing with AOL to guide chemotherapy treatment, the cost-effectiveness analysis showed ODX to be highly cost-effective for women with a high, intermediate, or low risk AOL score.
A draft manuscript is currently under review for journal submission.

Cost-Effectiveness of Using EGFR Gene Mutation Testing to Guide the Selection of First-Line Therapy for Patients with Advanced Non-Small Cell Lung Cancer in Ontario

The objective of this research was to conduct a cost-effectiveness analysis to assess the benefits and costs associated with using EGFR gene mutation testing to guide the selection of gefitinib as first-line therapy for patients with advanced non-small cell lung cancer under the perspective of the Ontario MOHLTC.
The cost-effectiveness was found to be attractive when willingness-to-pay was over $80,000/QALY and was sensitive to the efficacy and cost of gefitinib as first-line therapy for those patients with detected mutation of the EGFR gene. Using erlotinib after the failure of docetaxel or pemetrexed in patients with detected mutation of the EGFR gene did not affect the cost-effectiveness of EGFR gene mutation testing.

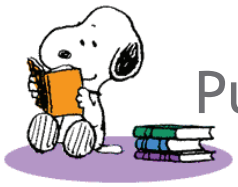
Cost-Effectiveness of KRAS Genetic Testing for Anti-EGFR Treatment Decisions in Metastatic Colorectal Cancer

The purpose of this project was to evaluate the cost-effectiveness of KRAS genetic testing in the (third-line) treatment of metastatic colorectal cancer (mCRC) with two anti-EGFR agents used as monotherapies; cetuximab and panitumumab, and the combination therapy of cetuximab with irinotecan (chemotherapy). The cost effectiveness of KRAS testing for each of the three treatment options was assessed individually, and the relative cost-effectiveness of all treatments when compared to each other was also examined.
It was concluded that KRAS genetic testing was cost-effective for currently available anti-EGFR therapies for the treatment of mCRC. Specifically, providing KRAS testing for treatment with cetuximab and panitumumab monotherapies, and cetuximab with irinotecan chemotherapy is cost-effective at a willingness-to-pay threshold of $50-$60K.

Detailed reports will be available very soon

THETA Christmas Lunch

Below are a few photos from our THETA Christmas Lunch that took place on Friday, December 3rd.



Publications

Alibhai S, Breunis H, Timilshina N, Marzouk S, Stewart D, Tannock I, **Naglie G**, **Tomlinson G**, Fleshner N, **Krahn M**, Warde P, Canning S (2010). Impact of androgen-deprivation therapy on cognitive function in men with nonmetastatic prostate cancer. Journal of Clinical Oncology, 28(34), 5030-5037.

Alibhai S, Breunis H, Timilshina N, Johnston C, **Tomlinson G**, Tannock I, **Krahn M**, Fleshner N, Warde P, Canning S, Klotz L, **Naglie G** (2010). Impact of androgen-deprivation therapy on physical function and quality of life in men with nonmetastatic prostate cancer. Journal of Clinical Oncology, 28(34), 5038-5045.

Bradbury P, Seymour L, Tu D, Isogai P, Zhu L, Ng R, **Mittmann N**, Tsao M, Evans W, Shepherd F, Leighl N (2010). Economic analysis: randomized placebo-controlled clinical trial of erlotinib in advanced non-small cell lung cancer. Journal of the National Cancer Institute, 102(5), 298-306.

Frost D, Cook DJ, Heyland DK, **Fowler R** (2011). Patient and health care professional factors influencing end-of-life decision-making during critical illness: a systematic review. Critical Care Medicine (in press).

Grootendorst P, Hollis A, Levine D, Pogge T, Edwards A (2010). New approaches to rewarding pharmaceutical innovation. Canadian Medical Association Journal [Epub ahead of print].

Henrich N, Dodek P, Heyland D, Cook D, Rocker G, Kutsogiannis D, Dale C, **Fowler R**, Ayas N (2011). Qualitative analysis of an intensive care unit family satisfaction survey. Critical Care Medicine, 39 [Epub ahead of print].

Jang R, Isogai P, **Mittmann N**, Bradbury P, Shepherd F, Feld R, Leighl N (2010). Derivation of utility values from EORTC QLQ-C30 values in lung cancer. Journal of Thoracic Oncology, 5(12), 1953-1957.

Krajden M, Kuo M, **Zagorski B**, Alvarez M, Yu A, **Krahn M** (2010). Health care costs associated with hepatitis C: a longitudinal cohort study. Canadian Journal of Gastroenterology, 24(12), 717-26.

Lathia N, **Mittmann N**, DeAngelis C, Knowles S, Cheung M, Piliotis E, Shear N, Walker S (2010). Evaluation of Direct Medical Costs of Hospitalization for Febrile Neutropenia. Cancer, 116(3), 742-8.

McLeod L, Shim M, Bereza B, **Grootendorst P** (2011). Financial burden of household out-of-pocket expenditures for prescription drugs: Cross-sectional analysis based on national survey data. Open Medicine, 5(1), 1-9.

Mittmann N, Chan B, Craven B, Isogai P, Houghton P. Cost-effectiveness evaluation of Electrical Stimulation Therapy for Pressure Ulcers in Spinal Cord Injury. Archives of Physical Medicine and Rehabilitation (accepted).

Mittmann N, Verma S, Koo M, Alloul K,T rudeau M (2010). Cost effectiveness of TAC versus FAC in Adjuvant treatment of Node Positive Breast Cancer. Current Oncology, 17(1), 7-16.

Morgan S, **Grootendorst P**, Lexchin J, Cunningham C, Greyson D (2011). The cost of drug development: A systematic review. Health Policy [Epub ahead of print].

Raboud J, Li M, Walmsley S, Cooper C, Blitz S, **Bayoumi A**, Rourke S, Rueda S, Rachlis A, **Mittmann N**, Smieja M, Collins E, Loutfy M (2010). Once daily dosing improves adherence to antiretroviral therapy. AIDS & Behavior [Epub ahead of print].

Scales D, Dainty K, Hales B, Pinto R, **Fowler R**, Adhikari N, **Zwarenstein M** (2011). Effectiveness of multifaceted quality improvement interventions on adoption of evidence-based ICU Practices: A randomized trial. JAMA , 305(4), 363-372.

Ungar W, **Costa V**, **Hancock-Howard R**, Feldman B, Laxer R (2011). Cost-effectiveness of biologics in polyarticular-course juvenile idiopathic arthritis patients unresponsive to disease modifying anti-rheumatic drugs. Arthritis Care & Research, 63(1), 111–119.

Ungar W, Paterson M, Gomes T, Bikangaga P, Gold M, To T, Kozyrskyj A (2011). Relationship of asthma management, socioeconomic status, and medication insurance characteristics to exacerbation frequency in children with asthma. Annals of Allergy, Asthma & Immunology, 106, 17–23.

Walter S, **Thein H**, Amin J, Gidding H, Ward K, Law M, George J, Dore G (2010). Trends in mortality after diagnosis of hepatitis B or C infection: 1992-2006. Journal of Hepatology [Epub ahead of print].

Wijeysundera H, **Tomlinson G**, Norris C, Ghali W, Ko D, **Krahn M** (2010). Predicting EQ-5D Utility Scores from the Seattle Angina Questionnaire in Coronary Artery Disease: A Mapping Algorithm Using a Bayesian Framework. Medical Decision Making [Epub ahead of print].

Wijeysundera H, **Machado M**, Wang X, **van der Velde G**, **Sikich N**, **Witteman W**, Tu J, Lee D, Goodman S, Petrella R, O'Flaherty M, Capewell S, **Krahn M** (2010). Cost-Effectiveness of Specialized Multidisciplinary Heart Failure Clinics in Ontario, Canada. Value in Health, 13(8), 915-921.

Social Networking

On the first Friday of each month at 4pm, THETA staff, students and collaborators congregate at a selected pub in Toronto. We will circulate an e-mail approximately 1 week prior to inform you of the selected venue. If you have any pub suggestions, please notify Mildred Lim. We look forward to seeing you there!

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