

Raising the Standard in HEOR

Analysis Group Posters and Presentations

ISPOR 2018 | MAY 19–23, 2018 | BALTIMORE, MD

Analysis Group health outcomes professionals have extensive experience helping clients quantify product value in a dynamic and rapidly changing marketplace.

This year, we are pleased to present one issue panel, one educational symposium, one podium presentation, one workshop, and 19 poster presentations.

ISPOR 2018 Analysis Group Issue Panel, Educational Symposium, Podium Presentation, and Workshop

ISSUE PANEL

TUESDAY, MAY 22; 3:45–4:45 P.M.

**IP13: CLINICAL OUTCOMES RESEARCH ISSUES
SURROGATE OUTCOMES IN ONCOLOGY: HOW
CAN THEY BE USED TO PREDICT OVERALL
SURVIVAL IN CLINICAL PRACTICE AND PAYER
DECISION MAKING?**

ROOM: HALL A (LEVEL 100)

Description: Surrogate outcomes, such as response rate and progression-free survival, have been increasingly used by regulatory agencies to approve new oncology drugs. While much research has been devoted to associating surrogate outcomes with final patient-centric outcomes, such as OS, there has not been a standard method in oncology to establish the associations. In addition, there is little guidance on what evidence should be generated based on surrogate outcomes and OS for decision-making by clinicians and HTA/payers, partially due to inconsistent findings across treatments and disease areas. This panel will debate potential standard methodologies used to associate surrogate outcomes with OS and call for more guidance on evidence that can be accepted by clinicians and HTA/payers.

Moderator:

Jipan Xie, Ph.D.; *Vice President, Analysis Group*

Panelists:

Yiduo Zhang, Ph.D.; *Director, Health Economics and Payer Analytics, Global Payer Evidence and Pricing, AstraZeneca*

Russell Hales, M.D.; *Director, Department of Radiation Oncology and Molecular Radiation Sciences, The Johns Hopkins Sidney Kimmel Comprehensive Cancer Center*

Louis P. Garrison, Ph.D.; *Professor, Pharmaceutical Outcomes Research and Policy Program, School of Pharmacy, University of Washington*

EDUCATIONAL SYMPOSIUM

TUESDAY, MAY 22; 12:30–1:30 P.M.

**ADVANCEMENTS IN METHODS OF SURVIVAL
BENEFIT ESTIMATION FOR NOVEL ONCOLOGY
DRUGS AND THEIR APPLICATIONS IN ICER
REVIEWS**

ROOM: 309 (LEVEL 300)

Description: In this symposium, attendees will be introduced to common challenges in survival benefit estimation for novel oncology drugs. Three presenters will discuss statistical solutions to address these challenges with examples and share ICER's view on these advanced approaches and potential impact on ICER/HTA decision making.

Moderator:

Eric Q. Wu, Ph.D.; *Managing Principal, Analysis Group*

Panelists:

Scott Ramsey, M.D., Ph.D.; *Fred Hutchinson Cancer Research Center*

Dan Ollendorf, Ph.D.; *Chief Scientific Officer, Institute of Clinical and Economic Review (ICER)*

Jenny Zhou, Ph.D.; *Manager, Analysis Group*

PODIUM PRESENTATION

WEDNESDAY, MAY 23; 8:30–9:30 A.M.

**P14: HEALTHCARE RESOURCE USE AND
EXPENDITURE STUDIES / HE4
REAL-WORLD ANALYSIS OF TREATMENT
PATTERNS AND LONG-TERM EFFECTIVENESS
AMONG PATIENTS WITH ADVANCED
NEUROENDOCRINE TUMORS OF LUNG ORIGIN
(LUNG NET): A MULTICENTER STUDY**

ROOM: 310 (LEVEL 300)

WORKSHOP

WEDNESDAY, MAY 23; 3:00–4:00 P.M.

W23: ECONOMIC OUTCOMES RESEARCH ESTIMATING THE COST OF ADVERSE EVENTS IN ECONOMIC MODELS: A DISCUSSION OF REAL- WORLD DATA VERSUS TREATMENT GUIDELINES BASED METHODOLOGIES

ROOM: BALLROOM IV (LEVEL 400)

Description: This workshop will introduce some of the issues and methods in estimating adverse event costs and their application to economic modeling, with a focus on oncology.

Discussion Leaders:

William Wong, Pharm.D., M.S.; *Sr. Health Economist, US Medical Affairs, Genentech, Inc.*

Martin Cloutier, M.Sc.; *Manager, Analysis Group*

Josh J. Carlson, M.P.H., Ph.D.; *Associate Professor, Pharmaceutical Outcomes Research and Policy Program, School of Pharmacy, University of Washington*

ISPOR 2018 Analysis Group Poster Presentations

POSTER SESSION II

MONDAY, MAY 21; 3:30–7:30 P.M.

Poster Discussion Hour: 6:30–7:30 p.m.

PDB8

ASSOCIATION BETWEEN BIOCHEMICAL CONTROL AND COMORBIDITIES AND SYMPTOMS AMONG PATIENTS WITH ACROMEGALY IN ITALY: STRATIFIED ANALYSES BY AGE AND GENDER

Objectives: Acromegaly is characterized by overproduction of growth hormone (GH) and elevated insulin-like growth factor-1 (IGF-1). This

is the first study characterizing the long-term association between GH/IGF-1 normalization (biochemical control) and comorbidities/symptoms in a real-world setting stratified by demographic characteristics.

Conclusions: Biochemical control was associated with delayed onset of certain comorbidities/symptoms across all patient subgroups, particularly cardiovascular system disorders and diabetes, underscoring the long-term benefit of biochemical control that transcends age and gender differences, and the importance of therapies targeting biochemical control.

POSTER SESSION III

TUESDAY, MAY 22; 8:30 A.M.–2:00 P.M.

Poster Discussion Hour: 1:00–2:00 p.m.

PMH4

TREATMENT PATTERNS AND MEDICAID SPENDING IN COMORBID SCHIZOPHRENIA POPULATIONS: ONCE-MONTHLY PALIPERIDONE PALMITATE VS. ORAL ATYPICAL ANTIPSYCHOTICS

Objectives: This study compared treatment patterns and Medicaid spending between schizophrenia patients with cardiovascular disease (CVD), diabetes, hypertension (HTN), or obesity initiated on once-monthly paliperidone palmitate (PP1M) or an oral atypical antipsychotic (OAA).

Conclusion: With comorbid populations (CVD, diabetes, HTN, or obesity) with schizophrenia, PP1M was associated with less AP polypharmacy and more persistence to therapy compared to OAA. Total health care costs were not significantly different between PP1M and OAA, as medical cost savings offset higher pharmacy costs.

PMH5

OUTCOMES AMONG MEDICAID RECIPIENTS WITH SCHIZOPHRENIA TREATED WITH ONCE-EVERY-THREE MONTH PALIPERIDONE PALMITATE

Objectives: To describe and compare adherence to antipsychotics (APs), healthcare resource utilization (HRU), and costs pre- and post-paliperidone palmitate every-three month (PP3M) initiation in patients with schizophrenia.

Conclusion: Adherence to APs and pharmacy costs increased while HRU and medical costs decreased in quarters closer to PP3M initiation. Adherence to APs increased and total costs remained similar from pre- to post-PP3M initiation.

PMH24

HEALTHCARE COSTS ASSOCIATED WITH HYPERPROLACTINEMIA IN THE UNITED STATES

Objectives: To assess the incremental healthcare costs associated with hyperprolactinemia among patients receiving antipsychotics.

Conclusions: Hyperprolactinemia is associated with important healthcare costs. Therapeutic options with low/no impact on prolactin levels may contribute to reduce the hyperprolactinemia burden.

PMH25

REDUCED RISK OF HYPERPROLACTINEMIA AMONG PATIENTS TREATED WITH ATYPICAL ANTIPSYCHOTICS THAT ARE ASSOCIATED WITH LOW OR NO PROLACTIN ELEVATION

Objectives: To compare the risk of hyperprolactinemia among patients receiving atypical antipsychotics (AAs).

Conclusion: AAs associated with no/low prolactin elevation reduce the risk of hyperprolactinemia by up to 80% and may be considered in treatment decision-making to reduce the hyperprolactinemia burden in AA-treated patients.

PMH36

ASSESSMENT OF WORK LOSS AND COSTS ASSOCIATED WITH OPIOID ABUSE: A RETROSPECTIVE CLAIMS ANALYSIS

Objective: Misuse and abuse of prescription opioids is a serious and costly public health concern affecting many sectors of society, but its effects also carry into the workplace. The objective of this analysis is to compare work loss and costs associated with opioid abuse from the perspective of employers.

Conclusions: Results from this analysis suggest that opioid abuse and dependence was associated with significant work productivity loss and may pose a considerable cost to employers.

PMH46

THE HUMANISTIC BURDEN OF POSTPARTUM DEPRESSION: A SYSTEMATIC LITERATURE REVIEW

Objectives: Although the definition of postpartum depression (PPD) varies, several sources define PPD as depression with onset during pregnancy or during a period of time after childbirth (up to 1 year). The objective of this systematic review was to identify and evaluate the most recent literature describing the humanistic burden of PPD on affected women as well as their children and partners.

Conclusions: There is a considerable body of literature suggesting that PPD has a substantial humanistic burden on affected mothers as well as on their children and partners.

POSTER SESSION IV

TUESDAY, MAY 22; 3:30–7:30 P.M.

Poster Discussion Hour: 6:30–7:30 p.m.

PCN8

PATTERNS OF TREATMENT AND RECURRENCE IN PATIENTS WITH NON-METASTATIC MELANOMA WHO UNDERWENT LYMPH NODE DISSECTION SURVEY

SEMI-FINALIST: RESEARCH POSTER PRESENTATION AWARD

Objectives: Describe real-world patterns of treatment and locoregional/distant recurrence in patients with non-metastatic melanoma who underwent lymph node surgery (LNS, dissection, or lymphadenectomy).

Conclusions: Over Q1/2008–Q2/2017, few patients with high-risk non-metastatic melanoma managed in real-world practice received adjuvant therapy within three months of LNS. Among those patients, one third experienced a recurrence. It remains to be determined how the new generation of adjuvant therapies, such as immune checkpoint inhibitors and targeted agents, will increase the use of adjuvant therapies and reduce the risk of recurrence.

PCN13

SYSTEMATIC LITERATURE REVIEW OF TREATMENTS FOR PATIENTS WITH UNTREATED ADVANCED OR METASTATIC NON-SMALL CELL LUNG CANCER (NSCLC)

Objectives: Immuno-oncology (IO) agents have changed the standard of care for NSCLC. This study aimed to summarize the efficacy of IO therapies and chemotherapies in untreated advanced or metastatic NSCLC.

Conclusions: The survival benefit of chemotherapies is limited for patients with untreated advanced or metastatic NSCLC. One IO monotherapy has

demonstrated significantly improved survival over chemotherapy in patients expressing PD-L1. IO combination therapies are showing great potential in all comers, but more data are needed to confirm their superiority.

PCN98

COMPARISON OF HEALTHCARE RESOURCE UTILIZATION (HRU) AND COSTS RELATED TO PLEURAL EFFUSION (PE) BETWEEN PATIENTS NEWLY DIAGNOSED WITH CHRONIC MYELOID LEUKEMIA (CML) TREATED WITH DASATINIB OR NILOTINIB AS FIRST-LINE THERAPY IN THE UNITED STATES

Objectives: This study compared HRU and costs in patients receiving dasatinib or nilotinib as first-line therapy for CML, with a focus on PE-related economic outcomes.

Conclusions: Dasatinib was associated with higher HRU and healthcare costs, particularly related to pleural effusion, compared to nilotinib.

PCN105

COST-EFFECTIVENESS OF CERITINIB IN PREVIOUSLY UNTREATED ALK-POSITIVE NON-SMALL CELL CANCER IN THE UNITED KINGDOM

Objectives: To assess the cost-effectiveness of ceritinib versus crizotinib in the treatment of anaplastic lymphoma kinase-positive (ALK+) advanced non-small cell lung cancer (NSCLC) from the UK National Health Service (NHS) and Personal Social Service (PSS) perspective.

Conclusions: Compared with crizotinib, ceritinib offers a cost-effective option in the treatment of previously untreated ALK+ advanced NSCLC.

PCN174

ASSESSMENT OF CHANGE IN QUALITY OF LIFE (QOL), CARCINOID SYNDROME (CS) SYMPTOMS, AND HEALTH CARE RESOURCE UTILIZATION (HRU) IN CS PATIENTS TREATED WITH SOMATOSTATIN ANALOGS (SSA) – RESULTS FROM LONGITUDINAL PATIENT SURVEYS

Objectives: This study aimed to address longitudinal trends of QoL, CS symptoms (diarrhea and flushing), and HRU in patients with CS who received SSAs.

Conclusions: This longitudinal survey showed that there may be clinically important improvement in total and supplemental FACT-G scores in patients treated with SSA, emphasized in earlier years of treatment. Additionally, patients who had improved symptoms seemed to have corresponding improvement in total and supplemental FACT-G scores and fewer physician visits and hospitalizations.

PSS28

HEALTHCARE RESOURCE UTILIZATION OF CONJUNCTIVITIS IN THE GENERAL POPULATION AND IN PATIENTS WITH PRIOR ANTIBIOTIC-RESISTANT INFECTION: A RETROSPECTIVE US CLAIMS-BASED ANALYSIS

Objectives: To compare healthcare resource utilization (HRU) in patients with conjunctivitis ("cases") versus those without conjunctivitis ("controls") in the general population (GP) and in those with prior antibiotic-resistant infection (ARI).

Conclusions: Conjunctivitis is associated with increased HRU in both GP and ARI patients. Research on cost implications is warranted.

POSTER SESSION V

WEDNESDAY, MAY 23; 8:30 A.M.–1:30 P.M.

Poster Discussion Hour: 12:30–1:30 p.m.

PIN4

COMORBIDITY AND TREATMENT BURDEN AMONG HIV-INFECTED PATIENTS IN A US MEDICAID POPULATION

Objectives: To describe the contemporary comorbidity profile and treatment burden among patients with HIV-1 infection.

Conclusions: As patients with HIV live longer, their comorbidities and corresponding concomitant medications increase. Treatment guidelines suggest that streamlined ARV regimens may be considered as patient complexity evolves over time.

PIN23

ADHERENCE TO ANTIRETROVIRALS IN MEDICAID-INSURED PATIENTS LIVING WITH HIV: PREDICTORS AND ECONOMIC CONSEQUENCES

Objectives: To assess the risk factor of poor adherence in a population of Medicaid beneficiaries living with HIV who initiated commonly used ARV agents; and compare healthcare resource utilization (HRU) and associated costs between patients with suboptimal versus optimal adherence.

Conclusions: Nonoptimal adherence (PDC <95%) to ARV therapy was observed in a large proportion of Medicaid PLWH in this study, and it was associated with increased HRU and costs. Younger age, noncapitated insurance coverage, dual Medicaid/Medicare coverage, no prior use of ARVs, and absence of HIV symptoms were found to be significantly associated with poor adherence.

Given that one of the most common causes of virologic failure and development of ARV drug resistance is nonadherence, clinicians should consider patient risk factors for nonadherence when selecting ARV regimens. While further research is needed to directly associate nonadherence to incremental costs associated with virologic failure

and resistance, clinicians may consider fixed-dose combinations, which may improve adherence; and ARVs with a high genetic barrier, which may help prevent the development of virologic failure with HIV drug resistance.

PMD97

REIMBURSEMENT LANDSCAPE FOR MOLECULAR TESTING IN NON-SMALL CELL LUNG CANCER (NSCLC) IN THE UNITED STATES

Objectives: Molecular diagnostic testing in non-small cell lung cancer (NSCLC) is rapidly evolving, and medical coverage policies may not reflect current guidelines or scientific and medical consensus. National Comprehensive Cancer Network (NCCN) guidelines for NSCLC support broad molecular profiling and recommend testing for EGFR, ALK, ROS-1, and BRAF mutations. The objective of this study was to evaluate payer medical policies of US healthcare plans to determine whether coverage for molecular testing of common oncogenic genomic alterations changed over an 18-month period.

Conclusions: Patients are subject to medical policies that may not reflect current recommended testing and treatment options. While coverage expanded for certain genomic alterations in the 18-month study period, health plans are challenged to keep up with rapidly evolving diagnostic technology and practice guidelines.

PSY12

MATCHING-ADJUSTED INDIRECT COMPARISONS (MAICS) OF EFFICACY AND CONSUMPTION OF BAY 94-9027 VERSUS THREE RECOMBINANT FACTOR VIII (RFVIII) FOR PROPHYLAXIS OF SEVERE HEMOPHILIA A

Objectives: The objective of this study was to compare the efficacy and rFVIII utilization of BAY 94-9027 vs. efmoctocog alfa, BAX 855, and rAHF-PFM for the prophylactic treatment of severe hemophilia A.

Conclusions: After adjusting for heterogeneity in patient characteristics between the trials, prophylaxis with BAY 94-9027 demonstrated a lower weekly rFVIII utilization to achieve efficacy comparable to efmoctocog alfa, BAX 855, and rAHF-PFM.

PSY13

NUMBER NEEDED TO TREAT IN PATIENTS WITH SPINAL MUSCULAR ATROPHY TYPE 1 TREATED WITH AVXS-101 RELATIVE TO NUSINERSEN

Objectives: To assess the number needed to treat (NNT) to prevent death and use of permanent assisted ventilation and to improve motor function with AVXS-101 compared to nusinersen in patients with spinal muscular atrophy type 1 (SMA1).

Conclusions: Efficacy in preventing death and use of permanent assisted ventilation and in improving motor function is much higher with AVXS-101 versus nusinersen.

PSY90

HEALTH RESOURCE BURDEN AMONG PATIENTS WITH SEVERE APLASTIC ANEMIA WHO HAVE HAD INSUFFICIENT RESPONSE TO IMMUNOSUPPRESSIVE THERAPY: A RETROSPECTIVE CHART STUDY

Objectives: To examine healthcare resource utilization (HRU) among patients with severe aplastic anemia (SAA) with insufficient response to immunosuppressive therapy (IST) in real-world practice.

Conclusions: This study is among the first to quantify the transfusion and healthcare resource burden of SAA. In a subgroup of patients receiving eltrombopag, there was a trend toward a reduction in transfusion frequency and HRU following eltrombopag initiation.

For more information about Analysis Group's HEOR practice, please contact:

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For bios and further information, please visit www.analysisgroup.com

About Analysis Group's HEOR Practice

Founded in 1981, Analysis Group is one of the largest economics consulting firms, with more than 850 professionals across 14 offices. Analysis Group's health care experts apply analytical expertise to health economics and outcomes research, clinical research, market access and commercial strategy, and health care policy engagements, as well as drug-safety related engagements in epidemiology. Analysis Group's internal experts, together with our network of affiliated experts from academia, industry, and government, provide our clients with exceptional breadth and depth of expertise and end-to-end consulting services globally.

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