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- Coming next week: A relaunch of the map, ISMPP's official newsletter, in a dynamic new format with content designed by and focused on members; watch for it!
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# CONSOLIDATED HEALTH ECONOMIC EVALUATION REPORTING STANDARDS (CHEERS)

GOOD REPORTING PRACTICES FOR ECONOMIC EVALUATIONS IN BIOMEDICAL JOURNALS

Speaker: Don Husereau BScPharm, MSc (don.husereau@gmail.com)

Senior Associate, Institute of Health Economics, Edmonton, Alberta Adjunct Professor, Department of Epidemiology and Community Medicine, University of Ottawa

Senior Scientist, Institute for Public Health, Medical Decision Making and Health Technology Assessment, UMIT - Private Universität für Gesundheitswissenschaften, Medizinische Informatik und Technik GmbH

Moderator: Charles Rosenblum, MS, PhD



## INTRODUCTIONS

## Speaker: Don Husereau

 Don is a Senior Associate with the Institute of Health Economics. He is also an Adjunct Professor of Medicine at The University of Ottawa and Senior Scientist at the University for Health Sciences, Medical Informatics and Technology in Hall in Tirol, Austria. He is a former Director and Senior Advisor for the Canadian Agency for Drugs and Technologies in Health (CADTH) and served on the board of Directors for the International Society of Pharmacoeconomics and Outcomes Research (ISPOR). He is also an Editorial Advisor for Value in Health. He currently conducts research intended to explore the appropriate use of HTA and economic evaluation for decisions and larger health technology policy frameworks.



## INTRODUCTIONS, cont'd.

- Moderator: Charles Rosenblum
  - Charles is Associate Director, Publications Management, operating within the Office of the Chief Medical Officer at Merck & Co. He has worked in the medical communications area since 2008. Prior to this, he was a drug discovery researcher working in pharma.

 The information presented reflects the personal knowledge and opinion of the presenters and does not represent those of their current or past employers or those of ISMPP At the end of this presentation, participants will be able to:

- Understand the limitations in interpreting economic evaluations from poor quality reporting
- Describe the intent of reporting checklists and CHEERS
- Describe some of the items necessary for reporting an economic evaluation

- An overview of economic evaluation (cost-effectiveness analysis) and its use
- Challenges with reporting in biomedical journals and the unique challenge with economic evaluation
- Previous efforts and the need for CHEERS
- What is CHEERS? How was it developed, who was involved, what does it look like, how is it used?
- Next steps for CHEERS

## **AUDIENCE QUESTION 1**



How many health outcomes publications have you managed in the last year?

- A. 0
- B. 1-5
- C. 6-10
- D. 10-15
- E. >16

## **AUDIENCE QUESTION 2**



### What is the CHEERS statement?

- A. Something stated as a toast
- B. A position piece on the Bull and Finch Pub in Boston, MA
- C. The Consolidated Health Economic Evaluation Reporting Standards

## **AUDIENCE QUESTION 3**



How many health outcomes publications on the product you work on was subject to the CHEERS statement last year?

- A. Do not know
- B. 1-3
- C. 4-6
- D. 7-10
- E. >10

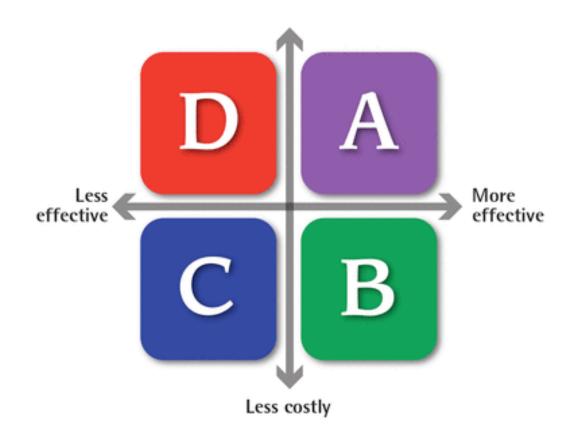


## **ECONOMIC EVALUATION**

- Clinical studies typically focused on (health) consequences of interventions
- Economic evaluation focuses on costs and consequences, hence cost-effectiveness
- Defined as "the comparative analysis of alternative courses of action in terms of both their costs and their consequences"

Drummond MF, Sculpher MJ, Torrance G, O'Brien B, Stoddart G. *Methods for the Economic Evaluation of Health Care Programmes.* 3rd ed. Oxford, UK: Oxford University Press; 2005.





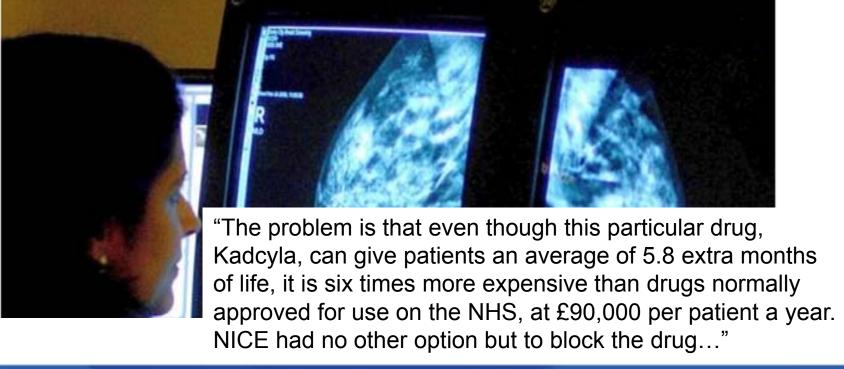
#### THE TIMES

## **Health News**

News | Opinion | Business | Money | Sport | Life | Arts | Puzzles | Papers

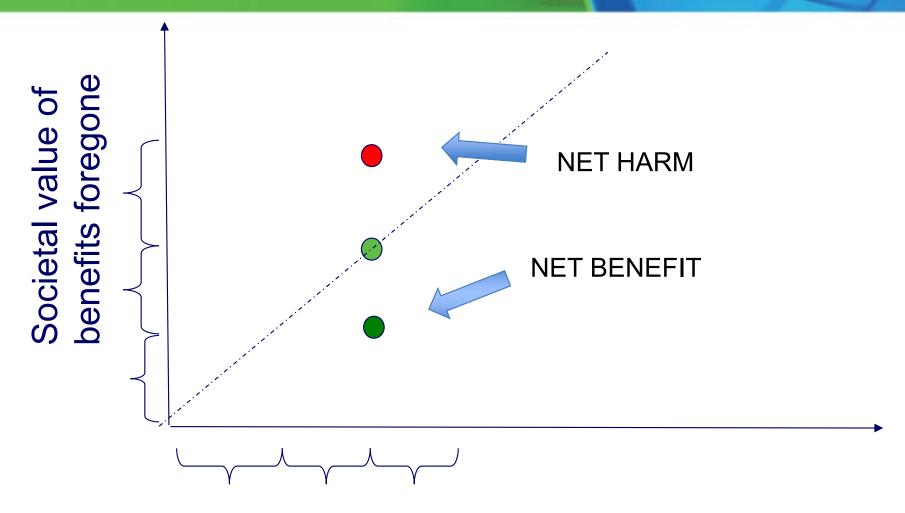
## Welcome to your preview of The Times

## Breast cancer patients are denied drug





## WHAT INFORMATION IS NEEDED FOR POLICY DECISIONS?



Societal value of benefits received



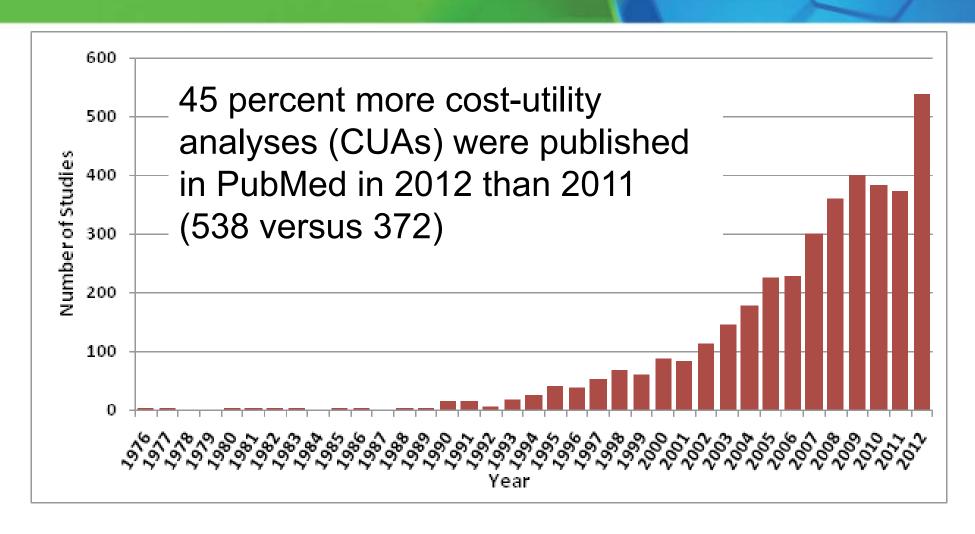
## ECONOMIC EVALUATION

- May also be useful for clinical decision-making, pricing, research and development decision-making
- Different forms of analysis use different approaches to consequences
- May be called "cost-effectiveness" or "cost-benefit" although have technical meaning<sup>1</sup>

<sup>1</sup>Husereau D, Drummond M, Petrou S, Carswell C, Moher D, Greenberg D, et al. Consolidated Health Economic Evaluation Reporting Standards (CHEERS)-Explanation and Elaboration: A Report of the ISPOR Health Economic Evaluation Publication Guidelines Good Reporting Practices Task Force. *Value Health*. 2013; Apr;16(2):231–50. 13



## **ECONOMIC EVALUATION**



Source: "Why the Spike in New Cost-Utility Analyses in 2012?" by CEA Registry Team 3/27/2014



# CHALLENGES WITH REPORTING

- Has been called the "black box"<sup>1</sup>
- Require more space for resource use, valuation procedures and (often) modeling
- Used for decision-making yet,
  - No consensus format or checklist
  - No registries or warehousing of information
  - Evidence of wide variability in reporting
- WAME survey revealed more guidance needed

<sup>1</sup>John-Baptiste AA, Bell C. A glimpse into the black box of cost-effectiveness analyses. *CMAJ*. 2011 Apr 5;183(6):E307–308.



# REPORTING GUIDELINES

- Promote structure, clarity, transparency, and completeness.
- Defined as "a checklist, flow diagram, or explicit text to guide authors in reporting a specific type of research, developed using explicit methodology."<sup>1</sup>
- See Enhancing the QUAlity and Transparency Of health Research (EQUATOR) - <a href="http://www.equator-network.org/">http://www.equator-network.org/</a>

<sup>&</sup>lt;sup>1</sup>Moher D, Schulz KF, Simera I, Altman DG. Guidance for developers of health research reporting guidelines. *PLoS Med.* 2010 Feb;7(2):e1000217.



#### **Annals of Internal Medicine**

#### Academia and Clinic

#### The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement: Guidelines for Reporting Observational Studies

Erik von Elm, MD; Douglas G. Altman, DSc; Matthias Egger, MD; Stuart J. Pocock, PhD; Peter C. Gøtzsche, MD; and Jan P. Vandenbroucke, MD, for the STROBE Initiative

SPECIAL COMMUNICA

Much biomedical research is observational. The reporting of such research is often inadequate, which hampers the assessment of its strengths and weaknesses and of a study's generalizability. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Initiative developed recommendations on what

empirical evidence and methodological considerations. The workshop and the subsequent iterative process of consultation and revision resulted in a checklist of 22 items (the STROBE Statement) that relate to the title, abstract, introduction, methods, results, and discussion sections of articles. Eighteen items are common to all 3

## The CONSORT Statement: Revised Recommendations for Improving the Quality of Reports of Parallel-Group Randomized Trials

David Moher, MSc

Kenneth F. Schulz, PhD, MBA

Douglas Altman, DSc

for the CONSORT Group

REPORT OF A RANDOMIZED COntrolled trial (RCT) should convey to the reader, in a transparent manner why the study

To comprehend the results of a randomized controlled trial (RCT), readers must understand its design, conduct, analysis, and interpretation. That goal can be achieved only through complete transparency from authors. Despite several decades of educational efforts, the reporting of RCTs needs improvement. Investigators and editors developed the original CONSORT (Consolidated Standards of Reporting Trials) statement to help authors improve reporting by using a checklist and flow diagram. The revised CONSORT statement presented in this article incorporates new evidence and addresses some criticisms of the original statement.



## EXAMPLE OF POOR REPORTING





#### **Effectiveness/benefits:**

The effectiveness measure was clearly stated, but the description of the data was generally poor. No details of the retrospective survey were reported; the values for the effectiveness parameters were not reported; and the standard deviations used to derive probability distributions were not reported. It was not clear if the survey was the best available evidence; the authors stated that no head-to-head trials were available, but they did not report a comprehensive search for evidence. Due to these reporting limitations, it is not clear if the effectiveness estimates were appropriate, so the validity of the effectiveness outcomes is unclear.



## CHEERS – HISTORY

- Several existing guidelines that require updating/ consolidation (BMJ/Drummond, Annals/LDI, Gold/CEA Task force)
  - The BMJ was considering updating their guidelines
  - Within medical research, the CONSORT guidelines are becoming very influential
- Task Force Approved in November 2009
- Work began in 2010 change in scope/structure/ leadership in 2011



#### Task Force Chair

#### Don Husereau, BScPharm, MSc

Senior Associate, Institute of Health Economics, Adjunct Professor, Faculty of Medicine at the University of Ottawa, Ottawa, Senior Scientist, University for Health Sciences, Medical Informatics and Technology, Hall in Tirol, Austria





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Elizabeth Loder, MD, MPH, Clinical Epidemiology Editor, *British Medical Journal*; Chief, Division of Headache and Pain, Brigham and Women's/Faulkner Neurology, Faulkner Hospital, Boston, MA, USA



## CONTENT EXPERTS

- Federico Augustovski, MD, MSc, PhD, Director, Health Economic Evaluation and Technology Assessment, Institute for Clinical Effectiveness and Health Policy (IECS); Professor of Public Health, Universidad de Buenos Aires, Buenos Aires, Argentina
- Dan Greenberg, PhD, Senior Lecturer, Department of Health Systems Management, Faculty of Health Sciences, University of the Negev, Beer-Sheva, Israel
- Josephine Mauskopf, PhD, Vice President of Health Economics, RTI Health Solutions, Research Triangle Park, NC, USA
- David Moher, PhD, Clinical Epidemiology Program, Ottawa Hospital Research Institute, Ottawa, ON, Canada
- **Stavros Petrou**, **PhD**, **MPhil**, Professor of Health Economics, Warwick Medical School, University of Warwick, Coventry, UK



## CHEERS - DEVELOPMENT

Table 1. Recommended steps for developing a health research reporting guideline.

	Item		
Step	Number	Detall	
Initial steps	1	Identify the need for a guideline	
	1.1	Develop new guidance	
	1.2	Extend existing guidance	
	1.3	Implement existing guidance	
	2	Review the literature	
	2.1	Identify previous relevant guidance	
	2.2	Seek relevant evidence on the quality of reporting in published research	art
	2.3	Identify key information related to the potential sources of bias in such s	stuc
	3	Obtain funding for the guideline initiative	
Pre-meeting activities	4	Identify participants	
	5	Conduct a Delphi exercise	_
	6	Generate a list of items for consideration at the face-to-face meeting	
	7°	Prepare for the face-to-face meeting	
	7.1	Decide size and duration of the face-to-face meeting	
	7.2	Develop meeting logistics	
	7.3	Develop meeting agenda	
	7.3.1	Consider presentations on relevant background topics, including summar	ry
	7.3.2	Plan to share results of Delphi exercise, if done	
	7.3.3	Invite session chairs	
	7.4	Prepare materials to be sent to participants prior to meeting	
	7.5	Arrange to record the meeting	
The face-to-face consensus meeting itself	8*	Present and discuss results of pre-meeting activities and relevant evidence	ce
	8.1*	Discuss the rationale for including items in the checklist	
	8.2	Discuss the development of a flow diagram	
	8.3*	Discuss strategy for producing documents; identify who will be involved i authorship	in
	8.4	Discuss knowledge translation strategy	
Post-meeting activities	9*	Develop the guidance statement	
	9.1	Pilot test the checklist	
	10	Develop an explanatory document (E&E)	
	11	Develop a publication strategy	
	11.1	Consider multiple and simultaneous publications	
Post-publication activities	12"	Seek and deal with feedback and criticism	
	13"	Encourage guideline endorsement	
	14	Support adherence to the guideline	
	15	Evaluate the impact of the reporting guidance	
	16	Develop Web site	
	17	Translate guideline	
	18	Update guideline	L

PLOS MEDICINE

of Health Research Reporting

Literature review –
 previous guidance

munity ates of

ucing [11]. ough

- Similar to ISPOR Task
  Force approach with some exceptions
  - •e.g., Delphi Panel face to face working group

\*Core items (see text). doi:10.1371/journal.nmed.1000217.t001



## CHEERS - DEVELOPMENT

- Delphi Panel approach consistent with other reporting guidelines (e.g. CONSORT, PRISMA, STROBE, GRIPS)
  - Consensus
  - Minimum number of items for biomedical journals
- Protocol and Preliminary List Drafted summer 2011
- Two rounds survey Oct 2011-February 2012
- Face to Face Meeting, May (Boston) "CHEERS"



# CHEERS - PUBLICATIONS

- CHEERS Statement
  - Statement jointly published regarding need
  - Checklist endorsed by journals internationally
- CHEERS Explanation and Elaboration
  - Task Force Report (User's Guide)
  - Description of the need for reporting requirements
  - Description of the Task Force process
  - Explanation of each recommendation
  - Example(s) for each recommendation
  - Published only in Value in Health



### **CHEERS - JOURNALS**

The CHEERS Statement has been endorsed and published by the following 10 publications:

BJOG: An International Journal of Obstetrics and Gynaecology 2013;120(6):765-770

BMC Medicine 2013;11:80

BMJ 2013;346:f1049

Clinical Therapeutics 2013;35(4):356-363

Cost Effectiveness and Resource Allocation 2013;11(1):6

The European Journal of Health Economics 2013;14(3):367-372

International Journal of Technology Assessment in Health Care 2013;29(2):117-122

Journal of Medical Economics 2013;16(6):713-719

Pharmacoeconomics 2013;31(5):361-367

Value in Health 2013 March - April;16(2):e1-e5

Other Journals Endorsing CHEERS

British Journal of Psychiatry (See British Journal of Psychiatry 2013;202(4):318)

Applied Health Economics and Health Policy



## CHEERS - OBJECTIVES

- A paper that meets all the requirements in the checklist will:
  - Clearly state the study question and its importance to decision makers
  - Allow a reviewer and a reader to assess the appropriateness of the methods, assumptions, and data used in the study
  - Allow a reviewer and reader to assess the credibility of the results and the sensitivity of the results to alternative data choices
  - Have conclusions that are supported by the study results
  - Potentially allow a researcher to replicate the model



# ISSUES – WHAT ITEMS SHOULD AUTHORS EXPLAIN (AS WELL AS REPORT)? (1)

- Comparators
  - including dose, duration, route of administration
- Time Horizon
  - including method of extrapolation
- Discount Rate
- Outcome Measures
  - relevance to form of analysis and to the decision maker



# ISSUES – WHAT ITEMS SHOULD AUTHORS EXPLAIN (AS WELL AS REPORT)? (2)

- Reliance on a single clinical study
- Choice of modeling approach
  - natural history, treatment practice, credible data
- Input parameters
  - transformation, distributions, expert opinion
- Subgroup analysis



# ISSUES - MODEL TRANSPARENCY AND VALIDATION(1)

- Lack of transparency is the most frequent criticism of models
- It is important to describe the type of model and to document all the structural assumptions.
- Ideally, an educated user should be able to replicate the model.
- There is debate over whether an electronic version of the model should be submitted to journals.



# ISSUES - MODEL TRANSPARENCY AND VALIDATION(2)

### **Methods**

- Describe and justify the type of model
- Describe the health states or other relevant structural assumptions that can assist the reader with necessary expertise to evaluate and potentially reproduce the model
- Describe the approach to validate the model



# ISSUES - MODEL TRANSPARENCY AND VALIDATION (3) RECOMMENDATIONS

### Results

Describe the effects of uncertainty for all parameters, uncertainty related to the structure of the model, and assumptions on the model results.



### RECOMMENDATIONS

- The recommendations are subdivided into the five sections generally found in a paper presenting an economic evaluation
  - Title and Abstract
  - Introduction
  - Methods
  - Results
  - Discussion



## CHEERS CHECKLIST – ITEMS TO INCLUDE WHEN REPORTING ECONOMIC EVALUATIONS OF HEALTH INTERVENTIONS (1)

Section/Item	Item No	Recommendation
Title and abstract		
Title	1	Identify the study as an economic evaluation, or use more specific terms such as ``cost-effectiveness analysis``, and describe the interventions compared.
Abstract	2	Provide a structured summary of objectives, perspective, setting, methods (including study design and inputs), results (including base case and uncertainty analyses), and conclusions.
Introduction		
	3	Provide an explicit statement of the broader context for the study.
Background and objectives		Present the study question and its relevance for health policy or practice decisions.
Methods		
Target Population and Subgroups	4	Describe characteristics of the base case population and subgroups analyzed including why they were chosen.
Setting and Location	5	State relevant aspects of the system(s) in which the decision(s) need(s) to be made.
Study Perspective	6	Describe the perspective of the study and relate this to the costs being evaluated.
Comparators	7	Describe the interventions or strategies being compared and state why they were chosen.
Time Horizon	8	State the time horizon(s) over which costs and consequences are being evaluated and say why appropriate.
		30

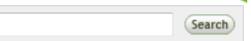
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## CHEERS CHECKLIST – ITEMS TO INCLUDE WHEN REPORTING ECONOMIC EVALUATIONS OF HEALTH INTERVENTIONS (2)

Section/Item	Item No	Recommendation
Discount Rate	9	Report the choice of discount rate(s) used for costs and outcomes and say why appropriate.
Choice of Health Outcomes	10	Describe what outcomes were used as the measure(s) of benefit in the evaluation and their relevance for the type of analysis performed.
Measurement of Effectiveness	11a	Single Study-Based Estimates: Describe fully the design features of the single effectiveness study and why the single study was a sufficient source of clinical effectiveness data.
	11b	Synthesis-based Estimates: Describe fully the methods used for identification of included studies and synthesis of clinical effectiveness data.
Measurement and Valuation of Preference-Based Outcomes	12	If applicable, describe the population and methods used to elicit preferences for outcomes.
Estimating Resources and Costs	13a	Single Study-based Economic evaluation: Describe approaches used to estimate resource use associated with the alternative interventions. Describe primary or secondary research methods for valuing each resource item in terms of its unit cost. Describe any adjustments made to approximate to opportunity costs.
	13b	Model-based Economic Evaluation: Describe approaches and data sources used to estimate resource use associated with model health states. Describe primary or secondary research methods for valuing each resource item in terms of its unit cost. Describe any adjustments made to approximate to opportunity costs.





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#### HEALTH ECONOMIC EVALUATION PUBLICATION GUIDELINES – CHEERS: GOOD REPORTING PRACTICES

Consolidated Health Economic Evaluation Reporting Standards (CHEERS)—Explanation and Elaboration: A Report of the ISPOR Health Economic Evaluation Publication Guidelines Good Reporting Practices Task Force

The citation for the CHEERS Task Force Report is:

Husereau D, Drummond M, Petrou S, et al. Consolidated health economic evaluation reporting standards (CHEERS)—Explanation and elaboration: A report of the ISPOR health economic evaluations publication guidelines good reporting practices task force. Value Health 2013;16:231-50.

Consolidated Health Economic Evaluation Reporting Standards (CHEERS) Statement

The citation for the CHEERS Statement is:

Husereau D, Drummond M, Petrou S, Carswell C, Moher D, Greenberg D, Augustovski F, Briggs AH, Mauskopf J, Loder E, on behalf of the CHEERS Task Force. Consolidated Health Economic Evaluation Reporting Standards (CHEERS) statement. [To complete this citation, insert journal name and issue information from list of journals endorsing and publishing the CHEERS Statement]

#### The CHEERS Statement has been endorsed and published by the following 10 publications:

BJOG: An International Journal of Obstetrics and Gynaecology 2013;120(6):765-770 BMC Medicine 2013;11:80 BMJ 2013;346:f1049 Clinical Therapeutics 2013;35(4):356-363

Cost Effectiveness and Resource Allocation 2013;11(1):6 The European Journal of Health Economics 2013;14(3):367-372





### Items

 Identify the study as an economic evaluation, or use more specific terms such as ``cost-effectiveness analysis``, and describe the interventions compared



Scandinavian Cardiovascular Journal, 2013; 47: 230-235

informa healthcare

#### ORIGINAL ARTICLE

### Abciximab bolus with optional infusion in intervention for ST-elevation myocardial infarction

#### ULF BERGLUND, LENNART NILSSON & MAGNUS JANZON

Division of Cardiovascular Medicine, Department of Medical and Health Sciences, Faculty of Health Sciences, Linköping University, Linköping, Sweden and Department of Cardiology, County Council of Östergötland, Linköping, Sweden

#### Abstract

Objectives. The standard abciximab regimen is a bolus dose followed by a 12-h infusion. Whether the bolus dose alone is sufficient for ST-elevation myocardial infarction patients receiving a high loading dose of clopidogrel is unknown. *Design*. In an observational study, 693 consecutive patients were treated with abciximab during percutaneous coronary intervention for ST-elevation myocardial infarction. Totally 354 patients received standard strategy of abciximab bolus and infusion

 Provide a structured summary of objectives, perspective, setting, methods (including study design and inputs), results (including base case and uncertainty analyses), and conclusions.



#### Cost-effectiveness of tolvaptan in autosomal dominant polycystic kidney disease.

Erickson KF, Chertow GM, Goldhaber-Fiebert JD.

#### Abstract

Chinese translation

BACKGROUND: In the TEMPO (Tolvaptan Efficacy and Safety in Management of Autosomal Dominant Polycystic Kidney Disease and Its Outcomes) trial, tolvaptan significantly reduced expansion of kidney volume and loss of kidney function.

OBJECTIVE: To determine how the benefits of tolvaptan seen in TEMPO may relate to longer-term health outcomes, such as progression to end-stage renal disease (ESRD) and death, and cost-effectiveness.

DESIGN: A decision-analytic model.

DATA SOURCES: Published literature from 1993 to 2012.

TARGET POPULATION: Persons with early autosomal dominant polycystic kidney disease.

TIME HORIZON: Lifetime.

PERSPECTIVE: Societal.

INTERVENTION: Patients received tolvaptan therapy until death, development of ESRD, or liver complications or no tolvaptan therapy.

OUTCOME MEASURES: Median age at ESRD onset, life expectancy, discounted quality-adjusted life-years and lifetime costs (in 2010 U.S. dollars), and incremental cost-effectiveness ratios.

RESULTS OF BASE-CASE ANALYSIS: Tolvaptan prolonged the median age at ESRD onset by 6.5 years and increased life expectancy by 2.6 years. At \$5760 per month, tolvaptan cost \$744 100 per quality-adjusted life-year gained compared with standard care.

RESULTS OF SENSITIVITY ANALYSIS: For patients with autosomal dominant polycystic kidney disease that progressed more slowly, the cost per quality-adjusted life-year gained was even greater for tolvaptan.

LIMITATION: Although TEMPO followed patients for 3 years, the main analysis assumed that clinical benefits persisted over patients' lifetimes.

CONCLUSION: Assuming that the benefits of tolvaptan persist in the longer term, the drug may slow progression to ESRD and reduce mortality rates. However, barring an approximately 95% reduction in price, cost-effectiveness does not compare favorably with many other commonly accepted medical interventions.

PRIMARY FUNDING SOURCE: National Institutes of Health and Agency for Healthcare Research and Quality.



### ITEM 7 – METHODS - COMPARATORS

 Describe the interventions or strategies being compared and state why they were chosen



five treatment strategies for chronic hepatitis B patients (Figure 1). In the first treatment strategy, the reference arm was lamivudine monotherapy with tenofovir salvage, in which patients were given lamivudine 100 mg daily and add-on tenofovir 300 mg daily if viral resistance developed after 12 months of lamivudine use. In the second strategy, tenofovir (300 mg daily) was used as monotherapy for 2 years and no viral resistance was assumed. In the third strategy, entecavir (0.5 mg daily) was used as monotherapy for 2 years and no viral resistance was assumed. In the fourth strategy, in the lamivudine roadmap model, patients were given lamivudine 100 mg daily and switched to tenofovir 300 mg daily if HBV DNA was detectable at week 24; add-on treatment with tenofovir 300 mg daily was commenced if viral resistance developed after 12 months among those remained on lamivudine treatment. In the final strategy, in the telbivudine roadmap model, patients were given telbivudine 600 mg daily and switched to tenofovir 300 mg daily if HBV DNA was detectable at week 24; add-on treatment of tenofovir 300 mg daily was used in case viral resistance developed after 12 months among those remained on telbivudine treatment.



### NEXT STEPS FOR CHEERS

- CHEERS Translations
- CHEERS Extensions and Elaborations
  - Extension items missing due to the nature of the subject
  - Elaboration further details on given item(s) required due to the nature of the subject
- CHEERS Workshops
- CHEERS Evaluation
- Alternate reporting guidance



QUESTIONS.....

To ask a question, please type your query into the 'Q&A' chat box at the bottom left of your screen. Every attempt will be made to answer all questions.

#### NEXT ISMPP U PRESENTATIONS

- Date: June 11, 2013
- Topic: Global Publication Survey
- Presenters: Tom Grant( Complete HealthVizion),
  Gary Burd (Caudex)
- Date: July (TBD)
- Topic: Budget Best Practices
- Presenters: Gina D'Angelo (Shire), Brian Scheckner (Shire)

### THANK YOU FOR ATTENDING!

We hope you enjoyed today's presentation.

Please take a moment to click on the link that will be provided and complete the survey. We depend on your valuable feedback as we develop future educational offerings.