## THANK YOU FOR JOINING ISMPP U TODAY!

The program will begin promptly at 11:00 am EDT

July 22, 2015

## ISMPP WOULD LIKE TO THANK...

... the following Titanium and Platinum Corporate Sponsors for their ongoing support of the Society:







Bristol-Myers Squibb CAUDEX MEDICAL

COMPLETE HEALTHVIZION

## CMC MedErgy HealthGroup

# **ISMPP ANNOUNCEMENTS**

- Did you earn your ISMPP CMPP certification in 2010? Find out what you need to do to recertify (<a href="https://www.ismpp.org/recertification">www.ismpp.org/recertification</a>)
- Presentations from the 11th Annual Meeting are now available in the Archives (<u>www.ismpp.org/annual-meeting-</u> <u>archive</u>)
- Watch interviews with key presenters and stakeholders from the 11th Annual Meeting on our YouTube channel
- ISMPP is pleased to announce our first Asia Pacific meeting – registration is now open!

#### 2015 ASIA PACIFIC MEETING OF ISMPP

## **REGISTRATION IS OPEN!**

## COLLABORATING FOR ETHICAL & EFFECTIVE MEDICAL PUBLICATIONS

Beijing, China • August 30, 2015 Tokyo, Japan • September 2, 2015

http://www.ismpp.org/asia-pacific-meetings



### 2015 ASIA PACIFIC MEETING OF ISMPP COLLABORATING ON: ETHICAL & EFFECTIVE MEDICAL PUBLICATIONS

#### BEIJING AUGUST 30 TOKYO SEPTEMBER 2

### PROGRAMME HIGHLIGHTS

- GPP3 (latest update, GPP3 for Authors checklist)
- Four plenary sessions exploring aspects of successful publication planning in AP
- Expert-moderated roundtable sessions
- Outstanding faculty from academia, industry, government, medical affairs, clinical research, medical journals

#### Keynote Speaker: Professor Ana Marušić

- President Elect, European Association of Science Editors (EASE), EQUATOR Network Steering Group member
- Leadership experience at many influential organizations
- Research on how industry sponsors work with investigators to ensure best authorship practice

## FOR YOUR BEST ISMPP U EXPERIENCE . . .

To optimize your webinar experience today:

- Use a hardwired connection if available
- Use the fastest internet connection available to you
- If you are accessing the presentation over your computer, please be sure to increase the volume of your computer speakers

# QUESTIONS...

- To ask a question, please type your query into the Q&A box
  - To ensure anonymity and that all panelists receive your question, please choose the drop down box option, "Hosts,
     Presenters and Panelists." Otherwise, all audience members will be able to see your submitted question
- We will make every effort to respond to all questions



# REAL WORLD EVIDENCE (RWE) AND COMPARATIVE EFFECTIVENESS RESEARCH

## RICHARD WHITE MA PHD ... A BIT ABOUT HIM

- Background
  - MA, PhD and Research Fellowship in Pharmacology, University of Cambridge, UK
  - International Marketing Programme, INSEAD
  - Advanced Health Economic Modelling Programme, University of Oxford
  - Honorary Research Fellow, Oxford Brookes University
- Oxford PharmaGenesis
  - Publication planning for major brand launches
  - Founder of the Value Demonstration Practice



## TIM KODER PHD ... AND A BIT ABOUT HIM

- Background
  - MSc, PhD and postdoctorate in the neuropharmacology of recognition memory, University of Bristol, UK
  - 10 years of experience in medical communications and publishing as an editor, writer and in client services
- Oxford PharmaGenesis
  - Building an internal client company RWE network
  - Planning publications and communications for a pioneering global observational study in diabetes



## DONNA SIMCOE, MS, MS, MBA, ISMPP CMPP™ ... AND A BIT ABOUT ME

### Background

- Certified Medical Publication Professional
- 3 Master degrees in Biomedical Writing, Biotechnology and an MBA
- Former Chair of the ISMPP U Committee (2013-2014)
- Recently elected to ISMPP's Nominating Committee
- Current AMWA Pacific Southwest Chapter President (2014-2016)
- Medical Publication consultant with 20 years of experience in publication management at Cephalon, Wyeth, AstraZeneca and Cadence





 Information presented reflects the personal knowledge and opinion of the presenters and does not represent the position of their current or past employers or the position of ISMPP

# OBJECTIVES

At the end of this presentation, attendees should be able to:

- Understand the specific issues associated with the publication and communication of RWE studies
- Understand how internal policies for publishing RWE studies can adopt the same level of rigor as those for RCTs

## REAL-WORLD EVIDENCE (RWE) AND COMPARATIVE EFFECTIVENESS RESEARCH

# Meeting the challenges of publication and communications planning

Richard White MA PhD Commercial Director, Oxford PharmaGenesis Honorary Research Fellow, Oxford Brookes University

Tim Koder PhD Account Director, Oxford PharmaGenesis

## WHAT IS RWE AND WHY IS IT IMPORTANT?

## AUDIENCE QUESTION

How do you feel about RWE?

- A. Love it
- B. Like it
- C. Don't care
- D. Hate it
- E. No idea what's real world evidence?

#### Meta-analyses

# RCTs

## Open-label studies

**Observational studies (RWE)** 

#### Database studies

#### **Pragmatic trials**

Registries

**Open-label studies** 

**RCTs** 

**Market research** 

Focus groups

**Meta-analyses** 

# WHY DOES THIS MATTER TO US AS INDIVIDUALS?



# WHY DOES THIS MATTER TO US AS INDIVIDUALS?



# WHY DOES THIS MATTER TO US IN OUR ROLES IN THE PHARMA INDUSTRY?





# WHY DOES THIS MATTER TO US IN OUR ROLES IN THE PHARMA INDUSTRY?

 Several important developments are increasing the demand for continuous RWE generation



Regulators are demanding RWE safety studies as a condition of approval



Payers are re-evaluating products post-launch by using comparative RWE



Physicians are using RWE to inform guidelines that influence clinical practice

 Value demonstration is now required throughout the product life-cycle, not just at launch

Research question



SO OUR PARENTS UNDERSTAND

- Research question
- Explore in the real world



- Research question
- Explore in the real world
- Understand the data sources



- Research question
- Explore in the real world
- Understand the data sources
- How many patients



- Research question
- Explore in the real world
- Understand the data sources
- How many patients
- Followed for how long



- Research question
- Explore in the real world
- Understand the data sources
- How many patients
- Followed for how long
- Results



- Research question
- Explore in the real world
- Understand the data sources
- How many patients
- Followed for how long
- Results
- Conclusion

ONE STATEMENT THAT PEOPLE CAN UNDERSTAND AND REMEMBER



The ISPOR task force's definition of RWE

Data used for clinical, coverage and payment decision-making that are not collected in conventional RCTs<sup>1</sup>

 Real-world data are observations of treatment effects where the researcher has no control over the subsequent medical management of the patient beyond observing the outcomes

## HOW DOES RWE DIFFER FROM RCT EVIDENCE?

• Efficacy is the intrinsic effect of an intervention measured under pre-specified conditions (RCT), while effectiveness measures the beneficial effect in routine clinical practice (RWE)

## HOW DOES RWE DIFFER FROM RCT EVIDENCE?

• Efficacy is the intrinsic effect of an intervention measured under pre-specified conditions (RCT), while effectiveness measures the beneficial effect in routine clinical practice (RWE)



## EFFICACY VS EFFECTIVENESS: AN ANALOGY



### Standing quarter mile: 12.5 seconds

## EFFICACY VS EFFECTIVENESS: AN ANALOGY



## Standing quarter mile: 12.5 seconds







Standing quarter mile: > 12.5 seconds!

# RWE COMPLEMENTS RCT RESULTS



### Assessment of effectiveness in a real-world setting

- In a diverse patient population reflective of clinical practice
- Provides a description of real-world physician/patient characteristics (e.g. guideline use, non-adherence, off-label use, comorbidities)



- Comparative evidence against multiple realistic comparators
  - Comparison is ideally with current standard treatment (which differs by patient segment and country), not placebo



- Improved understanding of benefit-risk profile
  - Assesses long-term clinical benefits and rare adverse events



- Broader range of outcomes than are measured in RCTs
  - Patient experience, patient-reported outcomes (PROs) and costs to support economic evaluations

## WHAT ARE THE SPECIFIC ISSUES FOR RWE STUDY PUBLICATIONS?
### GUIDANCE FOR REPORTING A RWE STUDY

ISPOR–AMCP–NPC Good Practice Task Force



### MAJOR BARRIERS TO CREDIBILITY OF RWE

Contradiction of studies (transparency in reporting)

Representativeness of results (transparency in methodology) **Multiplicity of** 

studies

(transparency in

strategy)

Lack of randomization and risk of bias

#### RWE ISSUE 1: LACK OF RANDOMIZATION AND RISK OF BIAS



Standing quarter mile: **16.2 seconds** 



Standing quarter mile: 21.6 seconds

#### RWE ISSUE 1: LACK OF RANDOMIZATION AND RISK OF BIAS



Standing quarter mile: 16.2 seconds



# Standing quarter mile: 21.6 seconds



Standing quarter mile: 12.5 seconds

#### RWE PUBLICATIONS MUST EXPLAIN THE METHODS USED TO MINIMIZE BIAS/CONFOUNDING

- Simple comparison of real-world outcomes for patients on drug A vs patients on drug B risks bias – because treatment allocation in clinical practice depends on patient characteristics
- Statistical methods (e.g. propensity score matching) allow the creation of comparable cohorts of patients from a heterogeneous RWE dataset

Regression analysis is used to determine the likelihood of patients receiving a particular therapy as a function of characteristics such as age, sex, and disease duration and severity



#### RWE PUBLICATIONS MUST EXPLAIN THE METHODS USED TO MINIMIZE BIAS/CONFOUNDING

- Simple comparison of real-world outcomes for patients on drug A vs patients on drug B risks bias – because treatment allocation in clinical practice depends on patient characteristics
- Statistical methods (e.g. propensity score matching) allow the creation of comparable cohorts of patients from a heterogeneous RWE dataset

Regression analysis is used to determine the likelihood of patients receiving a particular therapy as a function of characteristics such as age, sex, and disease duration and severity

Patients in different treatment groups are matched according to their propensity score



### RWE PUBLICATIONS MUST EXPLAIN THE METHODS USED TO MINIMIZE BIAS/CONFOUNDING

- Simple comparison of real-world outcomes for patients on drug A vs patients on drug B risks bias – because treatment allocation in clinical practice depends on patient characteristics
- Statistical methods (e.g. propensity score matching) allow the creation of comparable cohorts of patients from a heterogeneous RWE dataset

Regression analysis is used to determine the likelihood of patients receiving a particular therapy as a function of characteristics such as age, sex, and disease duration and severity

Patients in different treatment groups are matched according to their propensity score

The resulting matched cohort is balanced with regard to patient characteristics that influence treatment allocation



### RWE ISSUE 2: REPRESENTATIVENESS OF RESULTS (TRANSPARENCY IN METHODOLOGY)



Standing quarter mile: **19.5 seconds** 

### RWE ISSUE 2: REPRESENTATIVENESS OF RESULTS (TRANSPARENCY IN METHODOLOGY)



Standing quarter mile: **19.5 seconds** 

Standing quarter mile: **21.6 seconds** 

# FINDING THE RIGHT RWE DATA SOURCES, RATHER THAN ANY AVAILABLE DATA SOURCE

RWE studies commonly face one of two major issues

#### 'Data deluge'

 Often encountered for common therapeutic areas (e.g. diabetes, cardiovascular diseases)



#### 'Data desert'

 Often encountered for orphan indications, specialized information (e.g. laboratory data) or rare events



#### DIFFERENT TYPES OF RWE DATA SOURCE PROVIDE DIFFERENT INFORMATION



#### **Over time**

#### DIFFERENT TYPES OF RWE DATA SOURCE PROVIDE DIFFERENT INFORMATION



#### **Over time**

#### DIFFERENT TYPES OF RWE DATA SOURCE PROVIDE DIFFERENT INFORMATION



#### SYSTEMATIC ASSESSMENT OF RWE SOURCES PROVIDES FOUNDATION FOR RESEARCH

<section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header>



	<ul> <li>Across 6 separate studies, over 14,000 references or patential data source 2811–2700 per studie source screened to source whether they reported infor</li> </ul>
L	<ul> <li>CI See initial Vise, 4.3% to 7.4% per study, comprising a combined total of 1</li> </ul>
	were obtained and same reviewed bother to see if they need body-specific in a detailed information was reported for a trail of 388 data sources acro - for common diseases/multiple geographics, the number of reported d sourcesfeed 25 per study.
L	<ul> <li>In the one slagg meansh program [non-patient adaet, inputert/only 03, sources] only 15, sources were reported.</li> </ul>
L	<ul> <li>Datalish review and overatgation of autable previous percented a mercege of recommended data success (1-17 per stable fact together could address memory spectrum).</li> </ul>
L	<ul> <li>Ine prevalent conditions, such as conditionmenter disease, the data size most comprehensive data collection and faul trilinge potential that we to external measurement ware constrained.</li> </ul>
J	<ul> <li>for torus conditions and complex sizes requirements, such as a narrow subpropriation response detailed checked measurements, potentingened to benefficate efficienties, no doto source and all neuroscopy offense. Thus, with data counsepare sees recommended to called the full range of req.</li> </ul>
	<ul> <li>Within 6 months of instanton of our susception, the first studies planned to recommended date sources had begin and writin 18 months were provid</li> </ul>

The fluctuation of the strain straining straining of the HS SM straining st

Table 7. Includes a starte by study

Data Type			643	Sinks	Employery	Orealogy
happen	* Longe * March America * Assorbuilte	* Torque * Hands Amazines * Anter	* School * Hard Anaster * Ante	+ tonije + tonih dominist + Anto	+ Sunge + Camela	· Under States
Pruga and data of monpt association, or phonesics 18	* Philadogunit • SP/64 • OS	* Finishing and * Orths * Off	+ 07/8+ + 070	* Pincheling and + GANs + UN;	<ul> <li>P and B including and + UN-Rp</li> </ul>	<ul> <li>Pitchalling and Raid controlse</li> <li>(20) Rp</li> <li>All characterings (coll, tracked</li> </ul>
All tailed age degrees and provide and the second s	from and place of series     Cost	Date and place of service     Cast	• Sale and place of service • Card	Provide and place of sectors     Cost	+ Date and place of sector + Cost	• Data and place of second
adventory and anisping multi-	Paleral	Publicat	Reported	based -	Baipetad	Personal
Chical Investity (844)	Palacial	facted .	Begins!	Ferrinel	(Anglind )	Souther
when the second data					Bauted .	
Colores have been been and here	• Strain • M • CV death • Key death	State     Sector     Sector     CV.dedS     Any death	• Strains • All • C'S should • Jacy dantit	• Strate • HT • CY-Sack • day dash	• Strand	• 30100y metricular • Key dash
internet of behavior	J- Texis	2+ Tests	Dri Teriti.	and damas	1 Not	4 Peak



#### **OBJECTIVE**

- Real-world evidence provides information about the effectiveness, safety, and value of healthcare interventions throughout the product lifecycle.
- A multitude of observational data sources exist but they vary by geographic location and in quality, data elements captured, and accessibility to external users.
- Our objective was to develop a systematic methodology to identify observational data sources for specific research questions and to test it in both common and rare conditions in a range of therapeutic areas.

#### SYSTEMATIC ASSESSMENT OF RWE SOURCES PROVIDES FOUNDATION FOR RESEARCH



#### SYSTEMATIC ASSESSMENT OF RWE SOURCES **PROVIDES FOUNDATION FOR RESEARCH**

Identifying Real-World Data for Observational Studies: A Systematic Approach Karen Smoyer-Tomic,<sup>1</sup> Kate C Young,<sup>1</sup> Christopher C Wit

#### **CONCLUSIONS**

- Our systematic approach to data-source assessment identified comprehensive, relevant, and accessible data sources for both rare and prevalent conditions.
- We recommended the most appropriate data sources in therapeutic areas with multiple options as well as identified data gaps for which additional data collection was needed to provide all pertinent information.
- A systematic understanding of real-world evidence has helped to guide observational research programs in diverse therapeutic areas with specialized data requirements.



#### RWE ISSUE 3: MULTIPLICITY OF STUDIES (TRANSPARENCY IN STRATEGY)



### RWE ISSUE 3: MULTIPLICITY OF STUDIES (TRANSPARENCY IN STRATEGY)













## MULTIPLICITY OF STUDIES: ISSUES FOR INTERNAL RWE PUBLICATIONS POLICY (1/2)

 Need clear internal RWE study and publications policies – adopt the same rigour as for RCTs

#### ClinicalTrials.gov



# **MULTIPLICITY OF STUDIES: ISSUES FOR INTERNAL** RWE PUBLICATIONS POLICY (1/2)

- Need clear internal RWE study and publications policies – adopt the same rigour as for RCTs
- Commit to publishing protocol
  - RWE study protocols can be posted on the Internet (e.g. <u>www.clinicaltrials.gov</u>)
  - Predefine outcomes and analyses
- Follow guidance on the design and validation of RWE studies
  - GRACE, AHRQ, EMA, ISPE



### MULTIPLICITY OF STUDIES: ISSUES FOR INTERNAL RWE PUBLICATIONS POLICY (2/2)

- Clarity on data ownership and access
  - Pharmaceutical sponsor, expert clinician, data vendor or shared?
  - Who makes decision over third-party access to data (e.g. external investigators)?





Volume 12 + Number 8 + 2009 VALUE IN HEALTH

Good Research Practices for Comparative Effectiveness Research: Defining, Reporting and Interpreting Nonrandomized Studies of Treatment Effects Using Secondary Data Sources: The ISPOR Good Research Practices for Retrospective Database Analysis Task Force Report—Part I

Marc L. Berger, MD,  $^{\rm I}$  Muhammad Mamdani, PharmD, MA, MPH,  $^{\rm 2}$  David Atkins, MD, MPH,  $^{\rm 3}$  Michael L. Johnson, PhD  $^{\rm 6}$ 

Global Health Oxtomes, Bl Lilly and Company, Indianquolis, NJ, USA; 'Applied Health Research Centre of the U Ka Shing Knowledge Institute of K. Mohari's Nospital at the University of Toronto, Toronto, Toronto, OK, Canada; 'Oppartment of Viterarea Afairs, Haelth Strickes Research and Development Service, Walkington, C.U., USK, Vitereity of Honton, Codege of Harmars, Department of Cincal Science and Administration, Nounton, TX, USK, and Service Solitons, Tutotano Center for Quality of Care and Utilization Studies, Department of Viterare Afairs, McAle L Deabley, VM Medial Centers, Honouro, TX, USA.

## MULTIPLICITY OF STUDIES: ISSUES FOR INTERNAL RWE PUBLICATIONS POLICY (2/2)

- Clarity on data ownership and access
  - Pharmaceutical sponsor, expert clinician, data vendor or shared?
  - Who makes decision over third-party access to data (e.g. external investigators)?
- Commitment to publishing results
  - Same approach as for RCT data?
  - Results to be posted/published within 12 months of study completion, positive or negative?





Volume 12 • Number 8 • 2009 VALUE IN HEALTH

Good Research Practices for Comparative Effectiveness Research: Defining, Reporting and Interpreting Nonrandomized Studies of Treatment Effects Using Secondary Data Sources: The ISPOR Good Research Practices for Retrospective Database Analysis Task Force Report—Part I

Marc L. Berger, MD,<sup>1</sup> Muhammad Mamdani, PharmD, MA, MPH,<sup>2</sup> David Atkins, MD, MPH,<sup>3</sup> Michael L. Johnson, PhD<sup>4</sup>

Global Health Outcomes, BJ Lilly and Company, Indianapolis, IN, USA; "Applied Health Research Centre of the Li Ka Shing Knowledge Institute of Sh Mohard's Hospital at the University of Foronto, Toronto, ON, Canada, "Department of Viterarea Afilian, Hainh Sarvices Research and Development Service, Walkington, CC, USA: "Viterinity of Houtons Contego of Namices Department of Clinical Sciences and Administration, Housten, TX, USA; and Serier Sciences, Notaton, Center for Quality of Care and Usilization Studies, Department of Viterare Afilian, Media L Deballey VI Medial Center, Houton, TX, USA

## MULTIPLICITY OF STUDIES: ISSUES FOR INTERNAL RWE PUBLICATIONS POLICY (2/2)

- Clarity on data ownership and access
  - Pharmaceutical sponsor, expert clinician, data vendor or shared?
  - Who makes decision over third-party access to data (e.g. external investigators)?
- Commitment to publishing results
  - Same approach as for RCT data?
  - Results to be posted/published within 12 months of study completion, positive or negative?
- Transparency of publication policies
  - Predefined vs *post hoc* analyses (primary vs secondary publications)?
  - Interim analyses and periodic assessments (e.g. 12-monthly reviews of registry/database)?



Volume 12 • Number 8 • 2009 VALUE IN HEALTH

Good Research Practices for Comparative Effectiveness Research: Defining, Reporting and Interpreting Nonrandomized Studies of Treatment Effects Using Secondary Data Sources: The ISPOR Good Research Practices for Retrospective Database Analysis Task Force Report—Part I

Marc L. Berger, MD,<sup>1</sup> Muhammad Mamdani, PharmD, MA, MPH,<sup>2</sup> David Atkins, MD, MPH,<sup>3</sup> Michael L. Johnson, PhD<sup>4</sup>

Global Health Outcomes, Bl Lilly and Company, Indianapolis, NJ, USA; 'Applied Health Research Centre of the U Ka Shing Knowledge Institute of K Mohari's Hospital at the University of Toronto, Toronto, Toronto, OK, Canada; 'Oppartment of Vieterare Affairs, Health Strictes Research and Development Strictice, Walkington, CL, USA; 'University of Honton: Configer of Harmary, Daparement of Clinical Science and Administration, Houston, TX, USA; and Serier Scientis, Houston Center for Quality of Care and Utilization Studies, Department of Vieterar Affairs, Health E-Debiely VM Medial Center, Houtone, TX, USA

# RWE ISSUE 4: CONTRADICTION OF STUDIES (TRANSPARENCY IN REPORTING)



Standing quarter mile: 12.5 seconds



Standing quarter mile: **16.2 seconds** 

# RWE ISSUE 4: CONTRADICTION OF STUDIES (TRANSPARENCY IN REPORTING)



Standing quarter mile: 12.5 seconds



Standing quarter mile: 19.5 seconds



Standing quarter mile: **16.2 seconds** 



Standing quarter mile: 21.6 seconds

## WRITING UP THE STUDIES – STROBE



# **STROBE** Statement

Strengthening the reporting of observational studies in epidemiology

- Guidance for the reporting of observational studies in epidemiology (cohort studies, case–control studies, cross-sectional studies)
- Specialized versions
  - STROBE for conference abstracts
  - STROME-ID molecular epidemiology in infectious diseases
  - STROBE EULAR version for biologics RWE studies
  - STROBE-ME epidemiology/molecular epidemiology studies
  - STREGA genetic association studies

#### STROBE GUIDANCE CAN BE AT LEAST AS CHALLENGING AS CONSORT

Provide the stress of the s

- Publish in advance as much of the RWE study methodology as you can (e.g. data source characterization, algorithms to identify patient populations and outcomes)
- Make use of supplementary tables/figures/methods
- ? How can I convey the meaning to a non-RWE specialist among all this technical detail?
  - Use the abstract to place the study in a clinical context
  - Preface each section with one sentence that tells the non-specialist what it means (e.g. what is propensity scoring)
  - Use the conclusion to convey how the results might affect healthcare decision-making

#### WRITING UP THE STUDIES – OTHER GUIDELINES

- PRISMA: Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) and for study protocols (PRISMA-P)
- MOOSE: Meta-analysis Of Observational Studies in Epidemiology
- The CARE Guidelines: Consensusbased Clinical Case Reporting Guideline Development



#### ACADEMIA AND CLINIC

**Annals of Internal Medicine** 

#### Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement

David Moher, PhD; Alessandro Liberati, MD, DrPH; Jennifer Tetzlaff, BSc; Douglas G. Altman, DSc; and the PRISMA Group\*

Editor's Note: In order to encourage dissemination of the PRISMA Statement, this article is freely accessible on the Annals of Internal Medicine Web site (unwaannakorog) and will be also published in PLOS Medicine, BMJ, Journal of Clinical Epidemiology, and Open Medicine. The authors jointly hold the copyright of this article. For details on further use, see the PRISMA Web site (unwu, prisma-statement org).

Systematic reviews and meta-analyses have become increasingly important in health care. Clinicians read them to keep up to date with their field (1, 2), and they are often used as a starting point for developing clinical practice guidelines. Granting agencies may require a systematic review to ensure there is justification for further research (3), and some health care journals are moving in this direction (4). As with all research, the value of a systematic review depends on what was done, what was found, and the darity of reporting. As with other publications, the reporting quality of systematic reviews varies, limiting readers' ability to assess the strengths and weaknesses of article, we summarize a revision of these guidelines, renamed PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses), which have been updated to address several conceptual and practical advances in the science of systematic reviews (Box 1).

#### TERMINOLOGY

The terminology used to describe a systematic review and meta-analysis has evolved over time. One reason for changing the name from QUOROM to PRISMA was the desire to encompass both systematic reviews and metaanalyses. We have adopted the definitions used by the Cochrane Collaboration (9). A systematic review is a review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyze data from the studies that are included in the review. Statistical methods (meta-analysis) may or may not be used to analyze and summarize the results of the included studies. Meta-

# WHEN TO TARGET MAINSTREAM CLINICAL VS SPECIALIST JOURNALS AND MEETINGS

- Specialist journals and meetings for RWE studies exist
  - But most of your key audiences are not outcomes research specialists
- Effective publication planning is essential

Mainstream clinical journals and meetings

 Core RWE outcomes papers – can be top-tier journals (*BMJ*, *Circulation*...)

#### Specialist journals and meetings

Technical and methodology papers (e.g. disease and outcome algorithms)



### COMMUNICATING QUALITY OF METHODOLOGY IS ESSENTIAL FOR CREDIBILITY AND SUCCESS

- Easy to conduct poor-quality observational research
  - Fails to correct for important confounders, leading to bias



### COMMUNICATING QUALITY OF METHODOLOGY IS ESSENTIAL FOR CREDIBILITY AND SUCCESS

- Easy to conduct poor-quality observational research
  - Fails to correct for important confounders, leading to bias
- Easy to publish poor-quality observational research
  - Reinforces prejudices that RWE is 'lower quality' evidence than RCT data



### COMMUNICATING QUALITY OF METHODOLOGY IS ESSENTIAL FOR CREDIBILITY AND SUCCESS

Meta-analyses

RCTs

- Easy to **conduct** poor-quality observational research
  - Fails to correct for important confounders, leading to bias
- Easy to publish poor-quality observational research
  - Reinforces prejudices that RWE is 'lower quality' evidence than RCT data



- Understand potential sources of bias
- **Design** studies that will minimize bias
- **Clarify** methodology and be transparent about assumptions
- Acknowledge limitations and draw meaningful conclusions



### EFFECTIVE RWE COMMUNICATIONS: BRINGING IT ALL TOGETHER

## AUDIENCE QUESTION

- You have just completed an RCT that will provide important data to support your product
  - A robust and timely publication in a high-quality, peer-reviewed journal is essential

Would you choose the contract research organization who ran the study to develop the journal publication by themselves? A. Yes

- B. No
- C. Don't know

#### EXTERNAL EXPERT INPUT IS NEEDED TO GAIN MAXIMUM VALUE FROM RWE PUBLICATIONS

**RWE** studies involve only the data vendor and industry

#### EXTERNAL EXPERT INPUT IS NEEDED TO GAIN MAXIMUM VALUE FROM RWE PUBLICATIONS

RWE studies involve only the data vendor and industry

Involve external experts in concept, design, analysis and communication

- Improve design clearly identify confounders/biases
- Break down clinicians' scepticism of RWE studies
- Bring RWE studies into mainstream clinical meetings/literature
- Enhance credibility among payers and decision-makers
#### EXTERNAL EXPERT INPUT IS NEEDED TO GAIN MAXIMUM VALUE FROM RWE PUBLICATIONS

RWE studies involve only the data vendor and industry

Involve external experts in concept, design, analysis and communication

- Improve design clearly identify confounders/biases
- Break down clinicians' scepticism of RWE studies
- Bring RWE studies into mainstream clinical meetings/literature
- Enhance credibility among payers and decision-makers
- Involve a Steering Committee in RWE plans throughout the life cycle
  - Clinical experts, statisticians and database experts

#### EXTERNAL EXPERT INPUT IS NEEDED TO GAIN MAXIMUM VALUE FROM RWE PUBLICATIONS

RWE studies involve only the data vendor and industry

Involve external experts in concept, design, analysis and communication

- Improve design clearly identify confounders/biases
- Break down clinicians' scepticism of RWE studies
- Bring RWE studies into mainstream clinical meetings/literature
- Enhance credibility among payers and decision-makers
- Involve a Steering Committee in RWE plans throughout the life cycle
  - Clinical experts, statisticians and database experts

Acknowledged, transparent, specialist medical-writing support

#### COMMUNICATING EFFECTIVELY MEANS CUTTING OUT THE TECHNICAL JARGON

#### WHAT WE SAY



### COMMUNICATING EFFECTIVELY MEANS CUTTING OUT THE TECHNICAL JARGON

#### WHAT THEY HEAR



### HELP YOUR AUDIENCES – BEYOND PUBLICATION

Most of your internal and external audiences for RWE publications will not understand the technical details of RWE

## HELP YOUR AUDIENCES – BEYOND PUBLICATION

- Most of your internal and external audiences for RWE publications will not understand the technical details of RWE
- Develop simple, non-technical tools to accompany publications
  - One-page 'Evidence Summaries' of key RWE study publications
  - Infographics-driven, visually stimulating interactive slide decks
  - Usable by field force in discussions with payers, prescribers and other decision-makers



### AUDIENCE QUESTION

Does your organization or client have a clear RWE publication policy?

- A Yes
- B There is a policy, but it isn't clear
- C No
- D Don't know

- What is the **definition** of an RWE study covered by the policy?
  - Does it include safety studies (e.g. PASS)? PRO and utility studies? Pragmatic (or 'large simple trials')?

- What is the **definition** of an RWE study covered by the policy?
  - Does it include safety studies (e.g. PASS)? PRO and utility studies? Pragmatic (or 'large simple trials')?
- How is **authorship** defined (compliant with ICMJE criteria)?
  - Data vendor? External clinical expert? Statistician? Pharma sponsor?

- What is the **definition** of an RWE study covered by the policy?
  - Does it include safety studies (e.g. PASS)? PRO and utility studies? Pragmatic (or 'large simple trials')?
- How is **authorship** defined (compliant with ICMJE criteria)?
  - Data vendor? External clinical expert? Statistician? Pharma sponsor?
- Who **owns** and who controls access to study data?
  - Freedom to analyse/re-analyse? Secondary publications?

- What is the **definition** of an RWE study covered by the policy?
  - Does it include safety studies (e.g. PASS)? PRO and utility studies? Pragmatic (or 'large simple trials')?
- How is **authorship** defined (compliant with ICMJE criteria)?
  - Data vendor? External clinical expert? Statistician? Pharma sponsor?
- Who **owns** and who controls access to study data?
  - Freedom to analyse/re-analyse? Secondary publications?
- Will the policy **commit to publication** of data regardless of findings?

- What is the **definition** of an RWE study covered by the policy?
  - Does it include safety studies (e.g. PASS)? PRO and utility studies? Pragmatic (or 'large simple trials')?
- How is **authorship** defined (compliant with ICMJE criteria)?
  - Data vendor? External clinical expert? Statistician? Pharma sponsor?
- Who **owns** and who controls access to study data?
  - Freedom to analyse/re-analyse? Secondary publications?
- Will the policy **commit to publication** of data regardless of findings?
- Does the policy differentiate terms according to **study leadership**?
  - Pharma-initiated vs investigator-initiated studies

- What is the **definition** of an RWE study covered by the policy?
  - Does it include safety studies (e.g. PASS)? PRO and utility studies? Pragmatic (or 'large simple trials')?
- How is **authorship** defined (compliant with ICMJE criteria)?
  - Data vendor? External clinical expert? Statistician? Pharma sponsor?
- Who **owns** and who controls access to study data?
  - Freedom to analyse/re-analyse? Secondary publications?
- Will the policy **commit to publication** of data regardless of findings?
- Does the policy differentiate terms according to **study leadership**?
  - Pharma-initiated vs investigator-initiated studies
- Will the policy **assure compliance** with standard publication plan requirements?
  - Disclosure of author affiliations and financial relationships, acknowledgement of non-author contributions, documentation of payments and TOV













#### For best impact and value:



#### RWE as you would RCT evidence

# THANK YOU!

# QUESTIONS . . .

- To ask a question, please type your query into the Q&A box
- To ensure anonymity, before sending please choose the dropdown box option, "Hosts, Presenters and Panelists." Otherwise, ALL audience members will be able to see your submitted question

# UPCOMING ISMPP U'S

- September 23, 2015
  - Topic: Predatory Journals and the Threat to Scholarly Publication: Impact on Medical Publications
  - Presenter:
    - Jeffrey Beall, MA, MSLS, Scholarly Communications Librarian/ Associate Professor, Auraria Library, University of Colorado Denver, Denver, Colorado
- October 21, 2015
  - Topic: Biostatistics in medical writing and publication planning
  - Presenter (additional presenter to be announced):
    - Meg Franklin, PharmD, PhD, President, Franklin Pharmaceutical Consulting, LLC

## THANK YOU FOR ATTENDING!

We hope you enjoyed today's presentation. Please take a few moments to complete the survey that will appear on your screen immediately after the presentation. We depend on your valuable feedback and take it into account as we develop future educational offerings