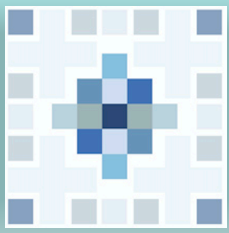


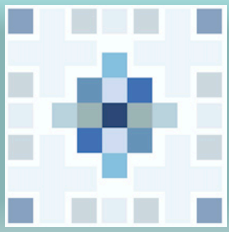
# SWIHM

Scientific Writing In Health & Medicine



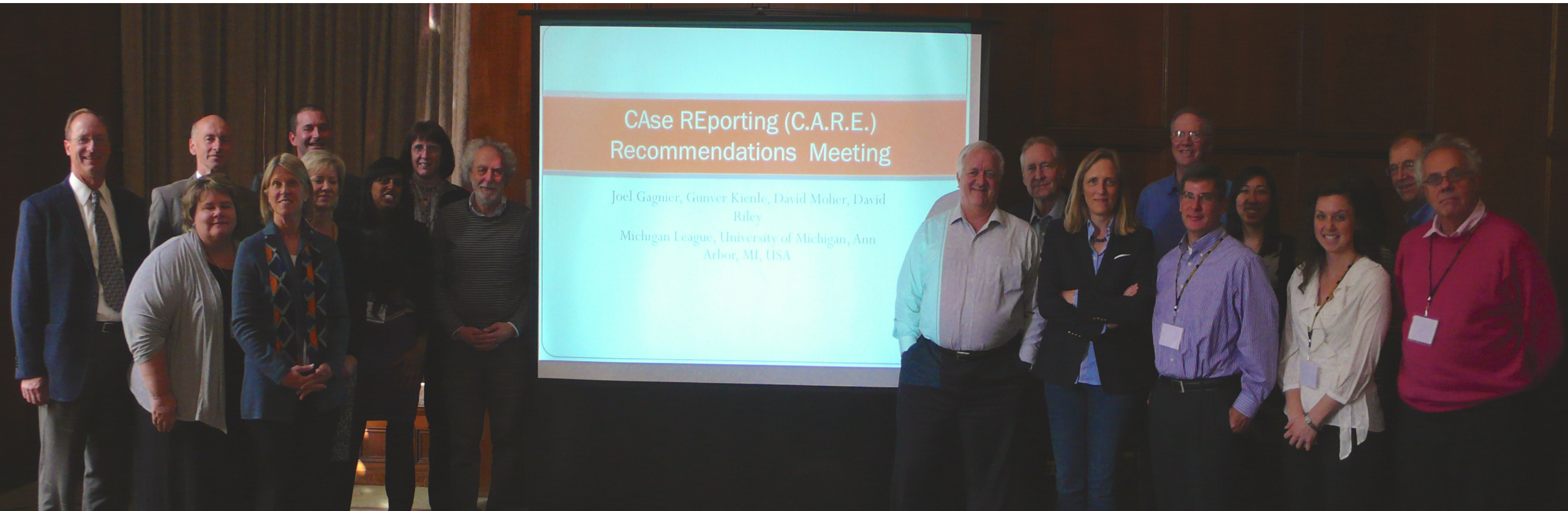
# Learning Objective

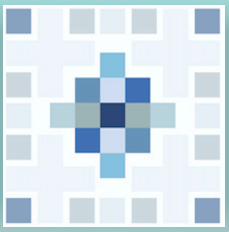
Write, present, publish, and evaluate case reports following the CARE guidelines



# CAsE REport Guidelines

From 2011–2013, a group of experts: clinicians, researchers, and journal editors developed **CARE** — reporting guidelines for CAsE REports.





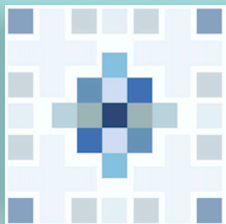
# Value in Healthcare

Return on Investment (ROI)  
In Healthcare

=

**Outcomes** divided by **Cost**





# 2013 CARE Presentation and Publications



**International Congress on  
Peer Review and Scientific Publication**  
Enhancing the quality and credibility of science

**BMJ Case Reports**

**JCE**  
JOURNAL OF CLINICAL EPIDEMIOLOGY

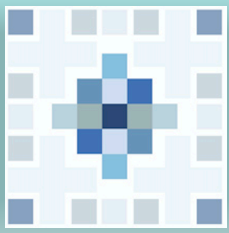
**Deutsches  
Ärzteblatt**

 **JOURNAL OF MEDICAL  
CASE REPORTS**

**GLOBAL ADVANCES**  
IN HEALTH AND MEDICINE

**HEADACHE**  
The Journal of Head and Face Pain

Journal of  
**Dietary  
Supplements**



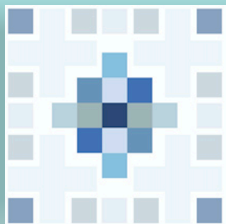
# The EQUATOR Network



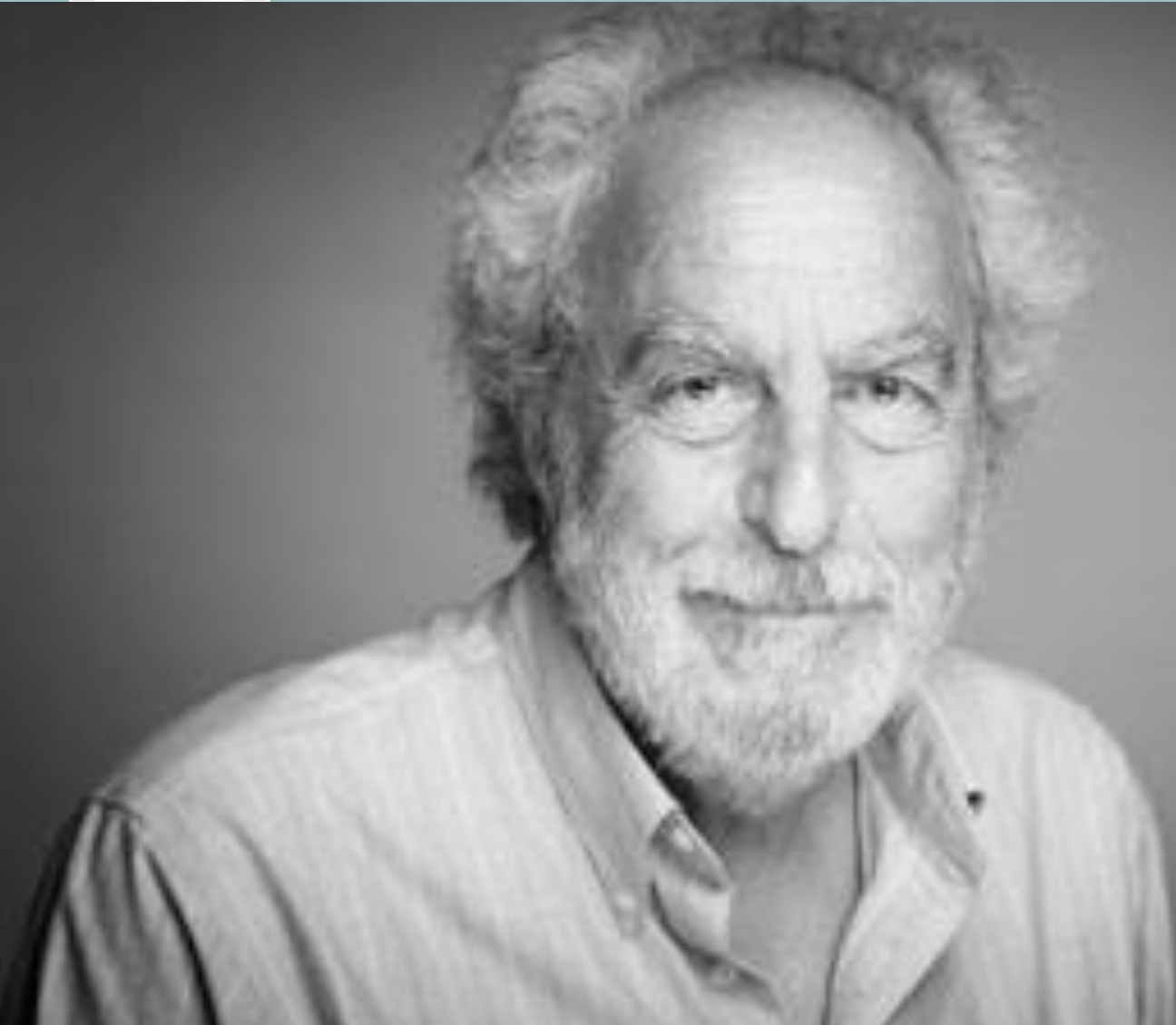
Enhancing the QUAlity and Transparency Of health Research

An international initiative providing a centralized resource for health research reporting guidelines.

Simera I, Moher D, Hirst A, Hoey J, Schulz KF, Altman DG. Transparent and accurate reporting increases reliability, utility, and impact of your research: reporting guidelines and the EQUATOR Network. BMC Med. 2010;8(24):1-6. doi:10.1186/1741-7015-8-24.



# The EQUATOR Network

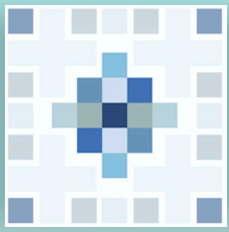


“

**“To maximise the benefit to society, you need to not just do research but do it well.**

**- Professor Doug Altman**

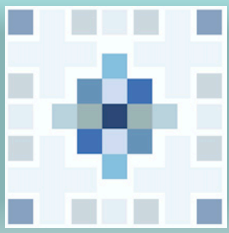
Medical research hero and statistics game-changer



# CARE Guidelines

A **Case Report** is a narrative that tells a story and includes data: presenting concerns, clinical findings, diagnoses, interventions, outcomes, and follow-up. The narrative should include a scientific discussion of the rationale for any conclusions and other ‘take-away’ messages.

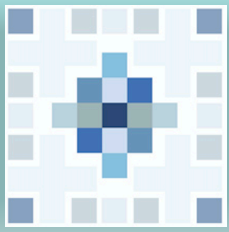
Section	Item Number	Description
<b>Title</b>	1	The words ‘case report’ should appear in the title along with phenomenon of greatest interest (symptom, diagnosis, test, intervention, etc.)
<b>Keywords</b>	2	The key elements of the case in 2-5 words
<b>Abstract</b>	3	a) Introduction—What does this case add? b) Case Presentation: symptoms, clinical findings, diagnoses, interventions, and outcomes c) Conclusion and ‘take-away’ lessons
<b>Introduction</b>	4	Brief background summary referencing the relevant medical literature
<b>Timeline</b>	5	Depicts important milestones in this case as a table or figure
<b>Patient Information</b>	6	a) Demographic information b) Main symptoms as described by the patient (chief complaint) c) Medical, and family history including lifestyle and genetic information when possible d) Co-morbidities, past interventions and outcomes
<b>Clinical Findings</b>	7	Relevant physical examination findings



# CARE Guidelines

Section	Item Number	Description
<b>Diagnostic Assessments</b>	8	a) Diagnostic methods, challenges, and reasoning (including other possible diagnoses) b) Prognosis where applicable
<b>Therapeutic Interventions</b>	9	Interventions (pharmacologic, surgical, clinician intervention, preventive, self-care, etc.) a) Administration of intervention (dosage, frequency, duration, etc.) b) Changes in the intervention (with explanations)
<b>Follow-up and Outcomes</b>	10	Summarize the clinical course of all follow-up visits including a) Clinician assessed outcomes (patient assessment when appropriate) b) Important follow-up test results (positive or negative) c) Interventional adherence and tolerability (how was this assessed) d) Adverse and unanticipated events
<b>Discussion</b>	11	a) Strengths and limitations of the management of this case b) Relevant medical literature c) Rationale for conclusions (assessment of cause and effect) d) Conclusion — the main ‘take-away’ lessons from this case report
<b>Patient Perspective</b>	12	The patient should share his or her perspective or experience when appropriate
<b>Informed Consent</b>	13	Did the patient give informed consent? Please provide if requested

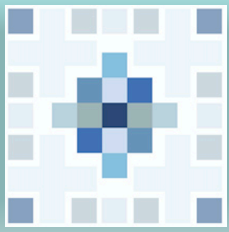




# EVIDENCE WE TRUST

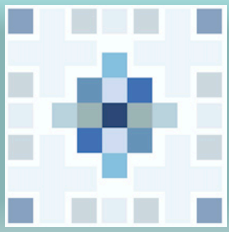


The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research. - *David Sackett (BMJ 1996)* -



# Overview

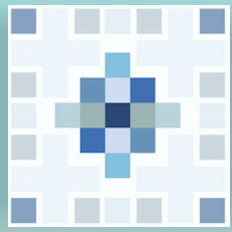
- ✓ History of Case Reports
  - ✓ Health Research Reporting Guidelines
    - ✓ Opportunities and Challenges



# Case Report Opportunities

“ Good case reporting demands a clear focus, to make explicit to the audience why an observation is important in the context of existing knowledge. ”

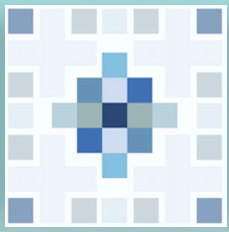
Vandenbroucke JP. In defense of case reports and case series. *Annals of Internal Medicine* 2001;134(4):330-334.



# The Case for CASE REPORTS

“ Case reports and case series have a high sensitivity for detecting novelty and are a cornerstone of medical progress, providing new ideas in medicine. ”

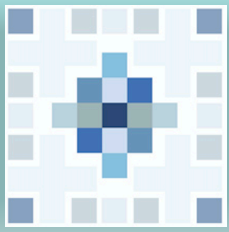
Vandenbroucke JP. In defense of case reports and case series. *Annals of Internal Medicine* 2001;134(4):330-334.



# Uses for Case Reports

- New or rare diseases
  - Cost and Effectiveness
    - Adverse events
      - Education

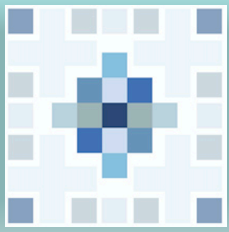




# Case Reports

Case Reports provide early signals:

- Of what works,
  - For which patients, and
    - Under which circumstances



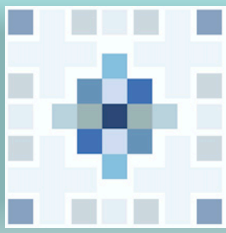
# Case Report Examples

**A case report could describe a pathology caused by the Zika virus**



**an organ transplantation, or ....**





# Case Report Examples

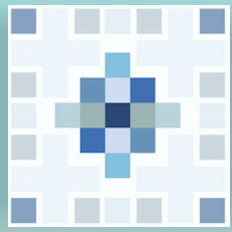
## **Self-directed Mindfulness Training and Improvement in Blood Pressure, Migraine Frequency, and Quality of Life**

自我指导式的正念训练及改善高血压、偏头痛频率和生活质量

Formación autodirigida en la atención plena y mejora de la tensión arterial, la frecuencia de las migrañas y la calidad de vida

Erica B. Oberg, ND, MPH, *United States*; Margaret Rempe, PhD, *United States*; Ryan Bradley, ND, MPH, *United States*

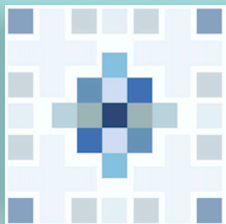
Oberg E, Rempe M, Ryan B. Self-directed Mindfulness Training and Improvement in Blood Pressure, Migraine Frequency, and Quality of Life. *Global Adv Health Med*. 2013;2(2):20-25.



# Case Report and Research

## Practice-based Research





# Thalidomide in Pregnancy

SIR,—Congenital abnormalities are present in approximately 1·5% of babies. In recent months I have observed that the incidence of multiple severe abnormalities in babies delivered of women who were given the drug thalidomide (‘Distaval’) during pregnancy, as an anti-emetic or as a sedative, to be almost 20%.

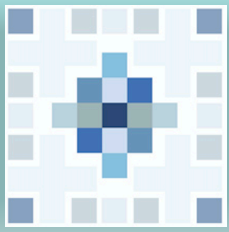
These abnormalities are present in structures developed from mesenchyme—i.e., the bones and musculature of the gut. Bony development seems to be affected in a very striking manner, resulting in polydactyly, syndactyly, and failure of development of long bones (abnormally short femora and radii).

Have any of your readers seen similar abnormalities in babies delivered of women who have taken this drug during pregnancy?

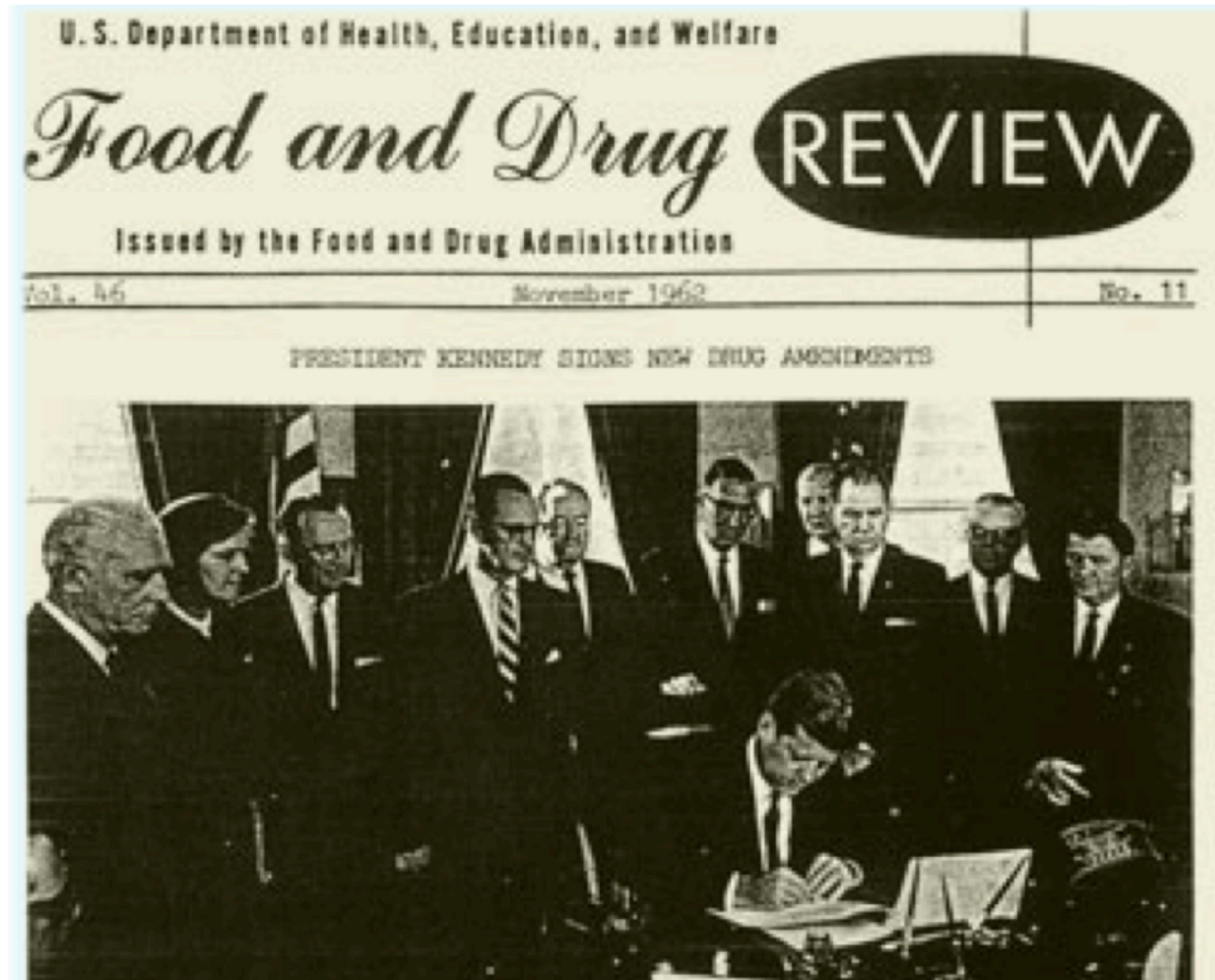
Hurstville, New South Wales.

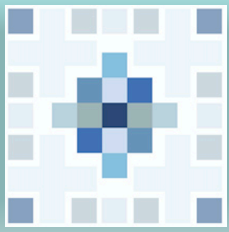
W. G. McBRIDE.





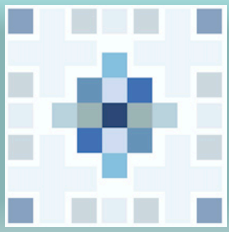
# Changes in FDA regulation





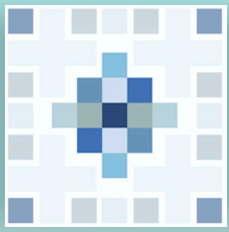
# Randomized Controlled Trials

Help establish Efficacy



# Case Reports

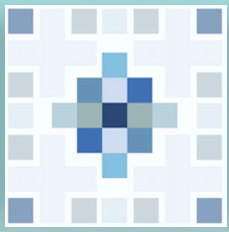
Help establish Effectiveness



# Evidence-Based Medicine



External evidence and clinical expertise



# Case Reports in Medical Journals



45%

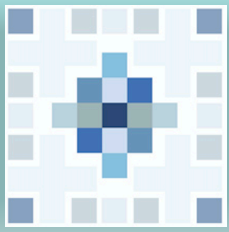
The number of published case reports increased by 45% from 49,918 in 2000 to 72,388 in 2010 on EMBASE and MEDLINE.



Some medical journals only publish case reports, such as *BMJ Case Reports* or the *Journal of Medical Case Reports*.

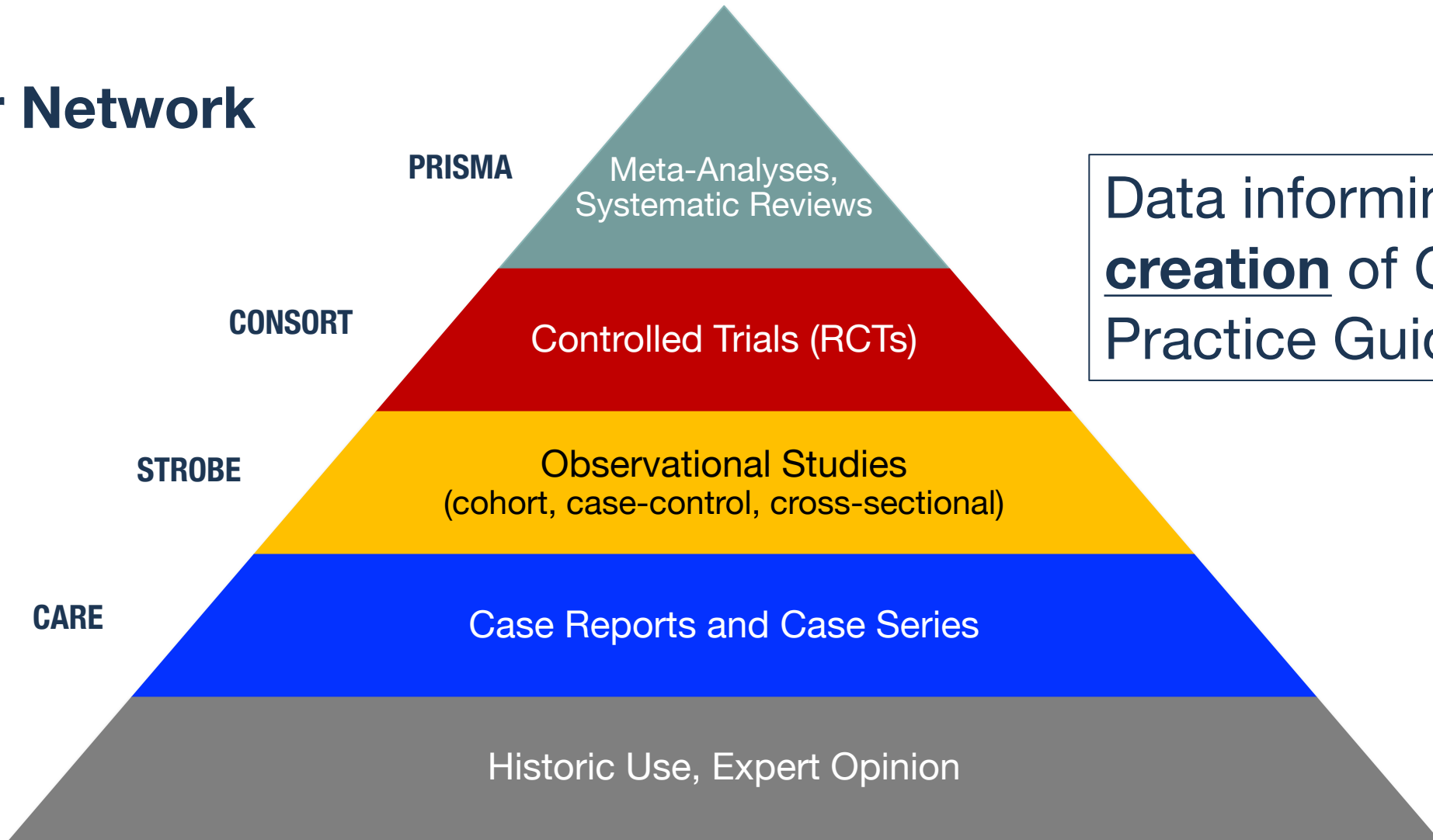




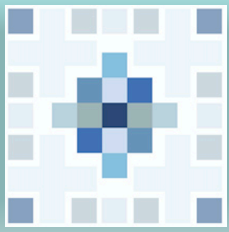


# Evidence-Based Medicine (EBM)

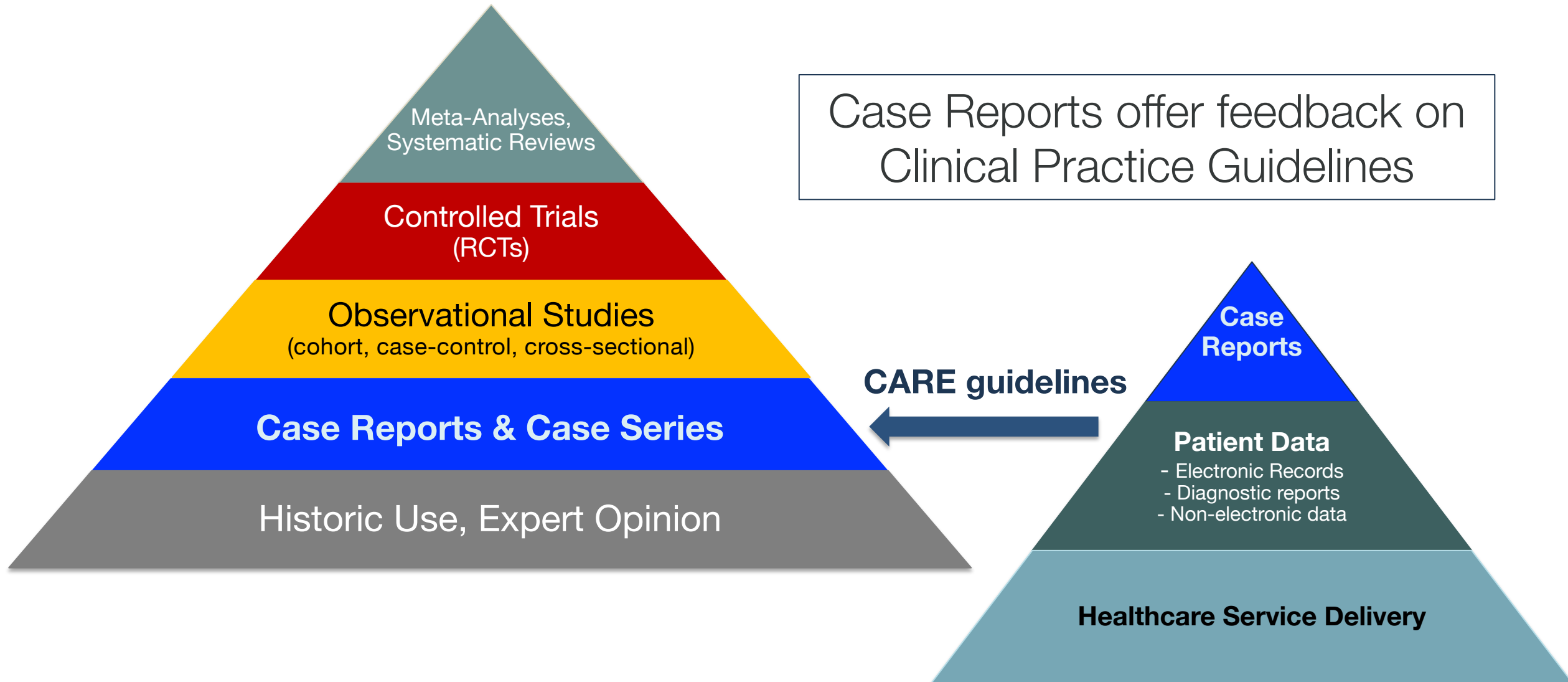
## Equator Network



Data informing the **creation** of Clinical Practice Guidelines



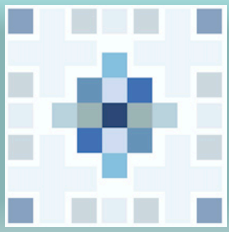
# EBM and Clinical Practice Guidelines



Case Reports offer feedback on Clinical Practice Guidelines

**CARE guidelines**

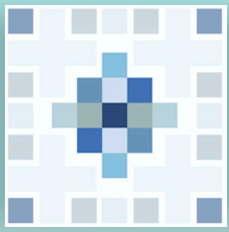




# Evidence & Clinical Practice Guidelines

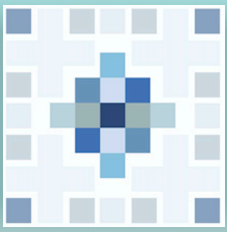
“ High quality evidence does not necessarily imply strong recommendations, and strong recommendations can arise from lower quality evidence. ”

- Guyatt GH, Oxman AD, Vist GE, et al. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. *British Medical Journal* 2008;336:924-926.



# Published Case Reports

- **1981 – Morbidity and Mortality Weekly Report (MMWR):** 5 case reports of patients with *Pneumocystis pneumonia*, early signals of AIDS.
  - Gottlieb M, Schanker H, Fan P, Saxon A, Weisman J, Pozalski I. *Pneumocystis pneumonia* - LA. *Morbidity and Mortality Weekly Report* 1981. [http://www.cdc.gov/mmwr/preview/mmwrhtml/june\\_5.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/june_5.htm).
- **2008 – New England Journal of Medicine:** letter to the editor reporting on the successful treatment of infantile hemangioma with propranolol.
  - Leaute-Labreze C, Dumas de la Roque E, Hubiche T, Boralevi F, Thambo JB, Ta.eb A. Propranolol for severe hemangiomas of infancy. *N Engl J Med*. 2008;358(24):2649-51.



# Healthcare Stakeholders

**Patients**



**Clinicians**



**Researchers**

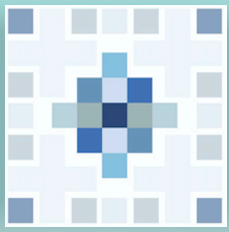


**Education institutions**



**Policy makers**



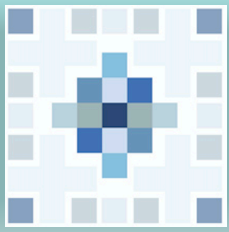


# Case Report Challenges

## Consistency and Completeness

- Kaszkin-Bettag M, Hildebrandt W. Case Reports on cancer therapies: improving reporting quality. *Global Adv Health Med* 2012;1(2); 8-10.
- Richason TP, Paulson SM, Lowenstein SR, Heard KJ. Case reports describing treatments in the emergency medicine literature: missing and misleading information. *BMC Emergency Medicine* 2009;Jun 15;9-10.

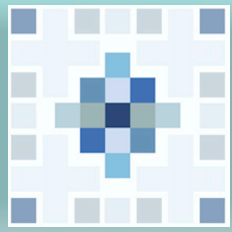




# Case Report Challenges

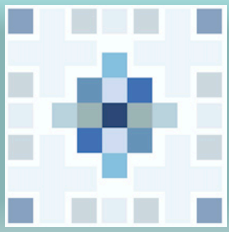
## Association versus Causal Relationships

- Kiene H, Hamre H, Kienle G. In support of clinical case reports: a system of causality assessment. *Global Adv in Health Med* 2013;2(2);76-87.
- Hauben M, Aronson JK. Gold standards in pharmaco-vigilance: the use of definitive anecdotal reports of adverse drug reactions as pure gold and high-grade ore. *Drug Saf* 2007;30(8); 645-55.



# Case Report Challenges

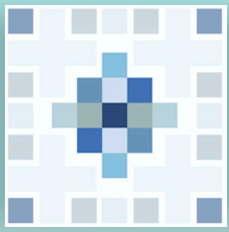
## Risk of Bias



# EVIDENCE WE TRUST



The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research. - *David Sackett (BMJ 1996)* -



# Introduction to CARE & Case Reports

Thank you