

Update on GRADE

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Advisory Committee on Immunization Practices
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Outline

- **1st international workshop on development of evidence-based vaccination recommendations**
- **Proposed additional GRADE criteria for upgrading observational studies**
- **Resources for learning more about GRADE**

*GRADE: Grading of Recommendations Assessment, Development and Evaluation



The GRADE Web Presence

GRADE working group - Windows Internet Explorer

http://www.gradeworkinggroup.org/

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What's new

- GRADE used for WHO's H1N1 flu guidance

Announcements

- More and more organizations chose GRADE

Welcome

The Grading of Recommendations Assessment, Development and Evaluation (short GRADE) Working Group began in the year 2000 as an informal collaboration of people with an interest in addressing the shortcomings of present grading systems in health care. The working group has developed a common, sensible and transparent approach to grading quality of evidence and strength of recommendations. Many international organizations have provided input into the development of the approach and have started using it.

»» learn more

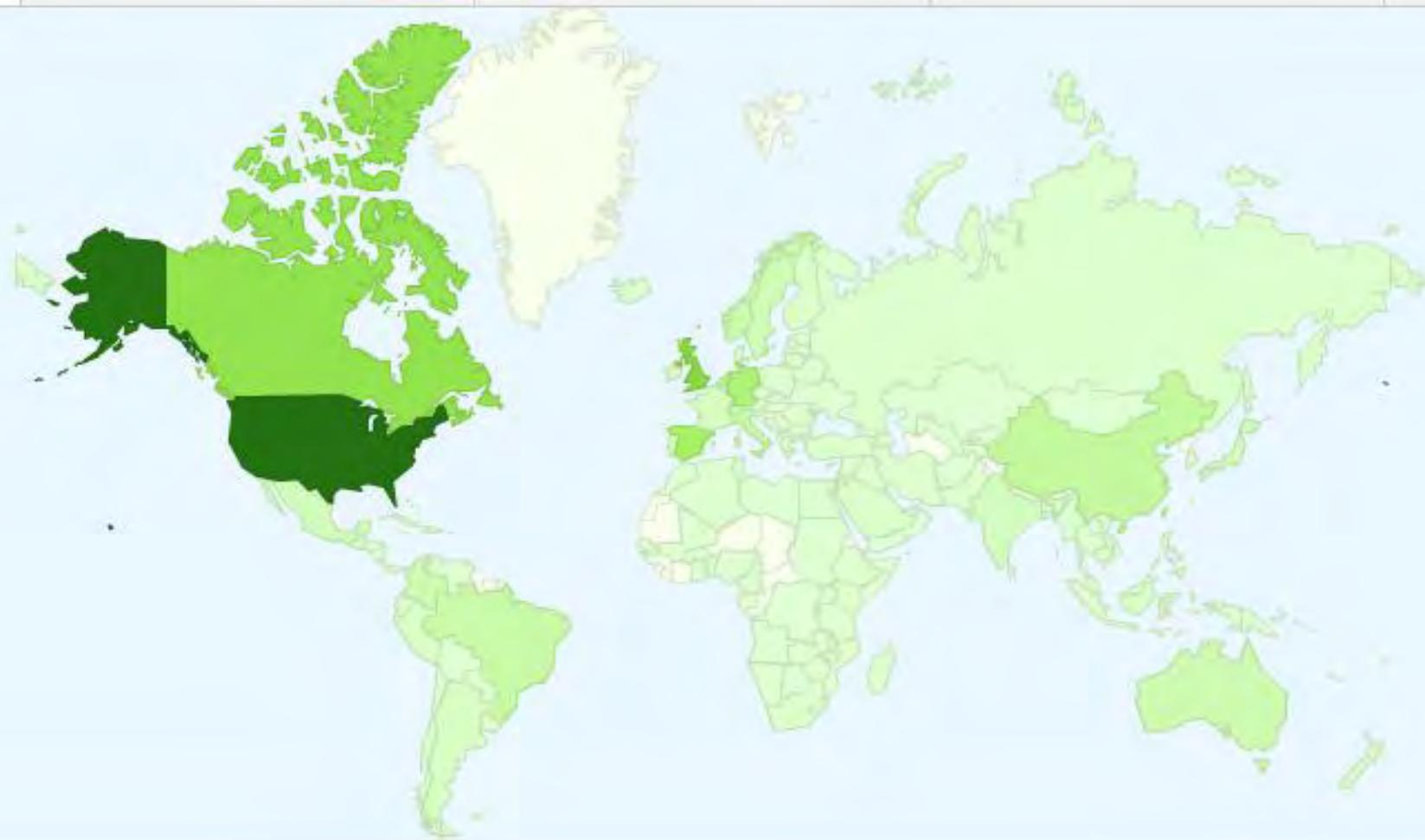
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Medellin

GRADE Working Group Membership

308 members covering 32 countries:

- Australia, Austria, Bahrain, Brazil, Canada, China, Costa Rica, Denmark, Egypt, Finland, France, Germany, Hungary, India, Italy, Japan, Mexico, New Zealand, Norway, Poland, Portugal, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, The Netherlands, The Philippines, Turkey, UK, Uganda, USA

Where GRADE fits in

Prioritize problems, establish work group

Systematic review

Searches, selection of studies, data extraction and analysis

Assess the relative importance of outcomes

Prepare evidence profile:
Quality of evidence for each outcome and summary of findings

Assess overall quality of evidence

Decide direction and strength of recommendation

GRADE

Draft guideline

Consult with stakeholders

Disseminate guideline

Implement the guideline and evaluate



GRADE

Clear separation:

- **4 categories of quality of evidence:** $\oplus\oplus\oplus\oplus$ (High), $\oplus\oplus\oplus\circ$ (Moderate), $\oplus\oplus\circ\circ$ (Low), $\oplus\circ\circ\circ$ (Very low)
- **2 recommendation grades: strong or weak/conditional (for or against an intervention)**
 - Balance of benefits and harms, values and preferences, cost-effectiveness, and quality of evidence

www.GradeWorkingGroup.org



GRADE is

- Much more than a rating system
- An approach to
 - framing questions
 - choosing outcomes of interest
 - rating the importance of the outcomes
 - evaluating the evidence
 - incorporating evidence with considerations of values and preferences to
 - arrive at recommendations
- A guide to using those recommendations



Slide courtesy of Dr. Signe Flottorp



GRADE is NOT...

- **"the final truth"**
- **Without subjective judgments**
- **A mechanistic solution to assess our confidence in the evidence or the recommendations**
- **Limited to assessing quality of scientific evidence only**
- **A guide to the whole process of conducting systematic reviews or developing guideline recommendations**



Slide courtesy of Dr. Signe Flottorp



Expert Judgment

- Grading evidence involves judgments that are inherent to any evidence evaluation system
- One strength of the GRADE approach is that it requires explicit judgment that is made transparent to users so that disagreements can be resolved



1st International Workshop on Development of Evidence-based Vaccination Recommendations

- Experts from European and North-American countries met in Berlin in November 2010
- Participants concluded that
 - GRADE or a modification of this methodology is suitable for the grading of quality of evidence related to vaccine effectiveness and safety
 - International cooperation would be beneficial in order to avoid duplication of efforts, to build on existing strengths, and to support National Immunization Technical Advisory Groups worldwide

Vaccine;30:2399-2404, 2012



Proposed Additional GRADE Criteria for Upgrading Observational Studies*

1. Weight of evidence

- Large number of studies in a body of evidence provide consistent results that diminish otherwise plausible threats to validity**

2. Baseline information on outcomes

*Proposed by Dr. Randy Elder, CDC, at January 2012
GRADE Working Group meeting



How can Availability of Baseline Information Lead to Upgrading?

- Notable failures of observational studies (e.g., hormone replacement therapy) have two common characteristics
 - Selection bias, and
 - Lack of directly relevant data on outcomes at baseline
- Valid data on outcomes at baseline can greatly reduce harms of selection bias
 - Far fewer plausible threats to validity for estimates of *change* in an outcome than for *differences* in outcomes
 - Many of the remaining threats would be expected to be randomly, not systematically, distributed



Characteristics that May Lead to Upgrading Studies Incorporating Baseline Information

- Controlled before-and-after design
 - Intervention and comparison groups have comparable rates at baseline
 - Comparison group does not exhibit dramatic change in rates from pre- to post-intervention
 - Minimal instrumentation threat to validity
 - No evidence of cherry-picking comparison groups
- Interrupted time series design
 - Stable trend at baseline
 - Observed change is a step function rather than a change in slope



Resources for Learning More about GRADE



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GRADE Online Learning Modules

These online learning modules are designed to help guideline developers and authors of systematic reviews learn how to use the GRADE approach to grade the evidence in systematic reviews, to create Summary of Findings Tables and GRADE Evidence Profiles, and move from evidence to making recommendations.

There are two sets of modules:

1. For authors of Cochrane systematic reviews and other systematic reviewers
2. For World Health Organization (WHO) guideline developers and other guideline developers

Each module covers a specific topic related to GRADE and can be viewed in sequence as presented here or, depending on your learning needs, viewed in any order. Most modules are approximately 20 minutes or less and can be started and stopped at any time, and restarted at the same point at which you stopped.

Viewing is self-directed and anonymous. However, we welcome feedback. Please contact us with any comments.



Cochrane reviews and
Summary of Findings Tables

- [Introduction to GRADE and Summary of Findings Tables](#)
- Choosing a [comparison and outcomes](#) for the Summary of Findings Table
- Assessing [Risk of Bias](#)
- Assessing [Inconsistency](#)
- Assessing [Indirectness](#)
- Assessing [Imprecision](#)
- Assessing [Publication Bias](#)
- Assessing [Other factors and upgrading](#)
- [Using GRADEpro](#) (60 minute demonstration)



World Health
Organization

Guideline
Development

- WHO guidelines and GRADE: [An overview summary](#) (60 minutes)
- WHO guidelines and GRADE: [Introduction](#)
- [Formulating questions and choosing outcomes](#)

Funding for the development of these modules was provided by the Cochrane Collaboration through the grant 'Training and Capacity Building for Summary of Findings Tables' and the World Health Organization.

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<http://cebgrade.mcmaster.ca/>



Resources for Learning More about GRADE

Teaching Evidence Assimilation for Collaborative Healthcare



The New York Academy of Medicine
At the heart of urban health since 1847

Sponsored by the Section on Evidence Based Health Care, The New York Academy of Medicine

Date: August 7-10, 2012

Place: The New York Academy of Medicine, 1216 Fifth Avenue (at 103rd Street), NYC 10029

Faculty: Internationally recognized speakers and faculty include:

- Rita Charon MD, PhD, Columbia University
- Yngve Falck-Ytter, MD, Case Western Reserve University
- Ian Graham PhD, Canadian Institutes for Health Research
- Patricia Stone RN PhD, Columbia University

Schedule of events

The TEACH program is for physicians, nurses, pharmacists, administrators, librarians and other health care professionals. It utilizes small group learning supplemented by plenary sessions. Attendees may enroll in one of three levels. One group within Level #2 will focus exclusively on the GRADE system.

Level #1: Foundations of EBC

Participants of varying levels of prior training acquire and deepen basic evidence-based care (EBC) skills. The focus is on the care of individual patients. Specific skills include:

- Narrative skills
- Problem delineation
- How to ask questions
- Finding the evidence
- Appraising the evidence
- Assimilating evidence

Level #2: Policies and Recommendations for EBC

Participants learn how EBC skills are applied to the development of national policies and learn how to adapt such policies for use in local settings.

- Problem delineation
- How to ask questions
- Finding/doing and appraising systematic reviews and guidelines
- Using the **Grading of Recommendations, Assessment, Development and Evaluation** system.
- Communicating recommendations
- Adapting published guidelines

Level #3: Implementing EBC

Participants learn to combine EBC skills with principles of organizational change and knowledge translation to maximize the value of research in system wide improvement initiatives. Specific skills include:

- Problem delineation
- Prioritization, agenda setting
- Assembling the team
- Finding and using research evidence
- Leveraging internal evidence
- Implementation skills
- Measuring, monitoring, and sustaining effectiveness

<http://www.ebmny.org>



Resources for Learning More about GRADE

**U.S. Advisory Committee on Immunization Practices (ACIP)
Handbook for Developing Evidence-based Recommendations**

Version 1.1

March 1, 2012

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<http://www.cdc.gov/vaccines/recs/acip/grade/about.htm#resources>



Thank You

