Disparities in ICU: Do guidelines equalize care?

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In this talk, I will share tools to assess and implement guidelines in your ICU

Introduction to clinical practice guidelines

Appraising a guideline

Implementing a guideline
Clinical practice guidelines – A tool to apply evidence

Which of the following statements BEST describes clinical practice guidelines?

a. Should be applied to ALL patients
b. Minimizes the healthcare professional’s role
c. Are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances
Clinical practice guidelines (CPGs) - Tools to apply evidence

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c. Are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances

Caveat emptor – Let the buyer beware

Bias: an important concern in guidelines


Used a 25-item checklist to assess 3 guideline domains
  • Development and format
  • Evidence evaluation
Caveat emptor – Let the buyer beware

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  - Development and format
  - Evidence evaluation
  - Formulation of recommendations

*Are Guidelines Following Guidelines?*
The Methodological Quality of Clinical Practice Guidelines in the Peer-Reviewed Medical Literature

JAMA. 1999;281:1900-1905

Terrence M. Shaneyfelt, MD, MPH
Michael F. Mayo-Smith, MD, MPH
Johann Rothwangl, MD, FACC
Caveat emptor – Let the buyer beware
Bias: an important concern in guidelines

- Used a 25-item checklist to assess 3 guideline domains
  - Development and format
  - Evidence evaluation
  - Formulation of recommendations
- Overall concordance = 46%
  - Important deficiencies in evidence ID (17%) and synthesis (8%)
Caveat emptor – Let the buyer beware ....in critical care

Quality of professional society guidelines and consensus conference statements in critical care*

Crit Care Med 2008; 36:1049–1058

Tasnim Sinuff, MD, PhD; Rakesh V. Patel, MD, PharmD, MSc; Neill K. J. Adhikari, MD, CM, MSc; Maureen O. Meade, MD, MSc; Holger J. Schünemann, MD, PhD; Deborah J. Cook, MD, MSc

• Compared quality of 13 guidelines and 12 consensus statements (1990-2007)
• Assessed methodological quality with 3 different instruments
• Overall quality of documents was low
  • Guidelines better than consensus statements
    • Evidence identification and summary
    • Rigor of development
Caveat emptor – Let the buyer beware 
….in critical care

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  - Guideline quality trended improvement over time
AGREE II: Advancing guideline development, reporting and evaluation in health care
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- 6 domain, 23-item instrument to evaluate clinical practice guidelines
- ~1.5 hours to complete, available in different languages

PURPOSE
- Use as a tool for guideline development, reporting and evaluation
AGREE II: Advancing guideline development, reporting and evaluation in health care

- 6 domain, 23-item instrument to evaluate clinical practice guidelines
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USER’S MANUAL
- Description of item, where to look, how to rate (criteria & considerations)
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DOMAINS
- Scope and purpose
- Stakeholder involvement
- Rigour of development
- Clarity of presentation
- Applicability
- Editorial Independence
No magic bullets: a systematic review of 102 trials of interventions to improve professional practice

Andrew D. Oxman, MD, MSc; Mary Ann Thomson, BHSc(PT);
David A. Davis, MD; R. Brian Haynes, MD, PhD
Aim: Identify effective interventions to improve healthcare professional behaviour

Method: Systematic review of 102 randomized or quasi-randomized studies
**Aim:** Identify effective interventions to improve healthcare professional behaviour

**Method:** Systematic review of 102 randomized or quasi-randomized studies

**Result:** Dissemination of guidelines alone does not change clinical practice
Printed educational materials: effects on professional practice and health care outcomes (Review)

Farmer AP, Légaré F, Turcot L, Grimshaw J, Harvey E, McGowan J, Wolf FM
Aim: Identify effect of printed educational materials on clinician behaviour & patient outcomes (excluded websites)

Method: Systematic review of 23 RCTs, controlled clinical trials, before-after studies, interrupted time series
**Aim:** Identify effect of printed educational materials on clinician behaviour & patient outcomes (excluded websites)

**Method:** Systematic review of 23 RCTs, controlled clinical trials, before-after studies, interrupted time series

**Results:** Dissemination of guidelines can have small beneficial effects on clinician behaviour, but NOT patient outcomes
Implementing guidelines in your ICU

Translating evidence into practice: a model for large scale knowledge translation

Changes that can improve patients’ health are often difficult to get into practice, even when backed by good evidence. Peter Pronovost, Sean Berenholtz, and Dale Needham describe a collaborative model that has been shown to work.

BMJ | 25 October 2008 | Volume 337
1. Summarise the evidence
   - Identify interventions associated with improved outcomes
   - Select interventions with the largest benefit and lowest barriers to use
   - Convert interventions to behaviours

2. Identify local barriers to implementation
   - Observe staff performing the interventions
   - “Walk the process” to identify defects in each step of implementation
   - Enlist all stakeholders to share concerns and identify potential gains and losses associated with implementation

3. Measure performance
   - Select measures (process or outcome)
   - Develop and pilot test measures
   - Measure baseline performance

4. Ensure all patients receive the interventions
   - Implement the “four Es” targeting key stakeholders from front line staff to executives

   - **Engage**
     - Explain why the interventions are important

   - **Evaluate**
     - Regularly assess for performance measures and unintended consequences

   - **Educate**
     - Share the evidence supporting the interventions

   - **Execute**
     - Design an intervention “toolkit” targeted at barriers, standardisation, independent checks, reminders, and learning from mistakes

Overall concepts
- Envision the problem within the larger healthcare system
- Engage collaborative multidisciplinary teams centrally (stages 1-3) and locally (stage 4)
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Example 1: Michigan central line associated blood stream infections

An Intervention to Decrease Catheter-Related Bloodstream Infections in the ICU
Peter Pronovost, M.D., Ph.D., Dale Needham, M.D., Ph.D., Sean Berenholtz, M.D., David Sinopoli, M.P.H., M.B.A., Haitao Chu, M.D., Ph.D., Sara Cosgrove, M.D., Bryan Sexton, Ph.D., Robert Hyzy, M.D., Robert Welsh, M.D., Gary Roth, M.D., Joseph Bander, M.D., John Kepros, M.D., and Christine Goeschel, R.N., M.P.A.

Also see
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**Aim:** reduce central line associated blood stream infections (CLABSI)

**Setting:** 103 ICUs in Michigan & surrounding areas

**Method:** multi-faceted intervention

**Result:** 66% reduction in CLABSI at 18 months

Also see


Example 2: Early rehab in the ICU

**Early Physical Medicine and Rehabilitation for Patients With Acute Respiratory Failure: A Quality Improvement Project**

Dale M. Needham, MD, PhD, Radha Korupolu, MBBS, MS, Jennifer M. Zanni, PT, MSPT, Pranoti Pradhan, MBBS, MPH, Elizabeth Colantuoni, PhD, Jeffrey B. Palmer, MD, Roy G. Brower, MD, Eddy Fan, MD

*Arch Phys Med Rehabil 2010;91:536-42.*

*Also see Top Stroke Rehabil 2010;17(4):271–281.*
Example 2: Early rehab in the ICU

**Aim:** implement early PT and OT in the MICU

**Original Article**

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Setting: 16 bed medical ICU

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Also see
Example 2: Early rehab in the ICU

Aim: implement early PT and OT in the MICU
Setting: 16 bed medical ICU
Method: multi-faceted intervention
Results: ↑ PT consults: 59% vs. 93% of pts (p=0.04)
         ↓ MICU & hosp LOS by 30% & 18%, respectively (p≤0.03)

Arch Phys Med Rehabil 2010;91:536-42.
Also see Top Stroke Rehabil 2010;17(4):271–281.
Summary: Can guidelines help apply more uniform care?

Choosing a guideline

Appraising a guideline: AGREE II

Implementing a guideline:
BMJ 4 step model

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