Development of Evidence Based Nursing Guideline: Adaptation

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Ihn Sook Jeong
College of Nursing, Pusan National University
Korean Society of Evidence-Based Nursing
Contents

Clinical Practice Guideline
1. Definition
2. Requirement
3. Development methods
4. Adaptation process
5. Example
CPG: Definition

"statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options" (IOM, 2011)
Evidence Based Information

- Original Articles in Journals (RCTs, Cohort study, Case-control study)
- Cochrane Reviews (SR)
- Critically Appraised Topics
- Evidence Based Abstract Journal
- Evidence Based Clinical Practice Guideline
- Computerized decision support
- Systems
- Summary
- Synopses (of Synthesis)
- Synthesis
- Studies

CPG: Benefits

✓ to improve health outcomes
✓ to improve the consistency of care
✓ to make more informed healthcare choices
✓ to consider their personal needs and preferences in selecting the best option

• Don’t reinvent the wheel

• If other experts have reviewed the evidence on your topic ... start there

Woolf SH et al. BMJ. 1999
The development, updating and implementation of high quality clinical practice guidelines require substantial time, expertise and resources.

‘Adaptation’ is a systematic approach for considering the endorsement or modification of guidelines produced in one setting for application and implementation in another as an alternative to de novo guideline development.
Trustworthy guidelines should be

1. based on a **systematic evidence review**, "a scientific investigation that focuses on a **specific question** and uses explicit, pre-specified **scientific methods** to **identify, select, assess, and summarize** the findings of similar but separate studies. It may include a **quantitative synthesis** (meta-analysis), depending on the available data

2. developed by **panel of multidisciplinary experts**

3. provide a clear explanation of the **logical relationships** between alternative care options and health outcomes,

4. provide ratings of both the **quality of evidence and the strength of the recommendations**.

**CPG: Requirement**

IOM. 2011.
GUIDELINE FOR PREVENTION OF CATHETER-ASSOCIATED URINARY TRACT INFECTIONS 2009

Carolyn V. Gould, MD, MSCR 1; Craig A. Umscheid, MD, MSCE 2; Rajender K. Agarwal, MD, MPH 2; Gretchen Kuntz, MSW, MSLIS 2; David A. Pegues, MD 3 and the Healthcare Infection Control Practices Advisory Committee (HICPAC) 4

1 Division of Healthcare Quality Promotion
Centers for Disease Control and Prevention
Atlanta, GA

2 Center for Evidence-based Practice
University of Pennsylvania Health System
Philadelphia, PA

3 Division of Infectious Diseases
David Geffen School of Medicine at UCLA
Los Angeles, CA
Scientific methods
### Healthcare Infection Control Practices Advisory Committee (HICPAC)

**Chair**
- BRENNAN, Patrick J., MD  
  Chief Medical Officer  
  Division of Infectious Diseases  
  University of Pennsylvania Health System

**Executive Secretary**
- BELL, Michael R., MD  
  Associate Director for Infection Control  
  Division of Healthcare Quality Promotion National Center for Infectious Diseases Centers for Disease Control and Prevention

**Members**

<table>
<thead>
<tr>
<th>Department</th>
<th>Ex-officio Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Pathology</td>
<td>Agency for Healthcare Research and Quality Ex-Officer</td>
</tr>
</tbody>
</table>
| University of Florida Health Science Center-Jacksonville | BAINES, William C., MD  
  Senior Medical Advisor  
  Center for Outcomes and Evidence  
  Agony for Healthcare Research and Quality Ex-Officer |
| MURPHY, Denise M., MPH, RN  
  Vice President, Safety and Quality  
  Barnes-Jewish Hospital at Washington University Medical Center | National Institute of Health Ex-Officer  
  HENDERSON, David, MD  
  Deputy Director for Clinical Care  
  National Institute of Health |
| OLSTED, Russell N., MPH  
  Epidemiologist  
  Infection Control Services  
  St. Joseph Mercy Health System | Health Resources and Services Administration Ex-Officer  
  JAY, Lorine J., MPH, RN, CPHQ  
  Regional Coordinator |
| PEGUES, David Alexander, MD  
  Professor of Medicine  
  Hospital David Geffen School of Medicine, UCLA | Food and Drug Administration Ex-Officer  
  MURPHEY, Sheila A., MD  
  Chief, Infection Control Services  
  Division of Anesthesiology, General Hospital Infection Control and Dental Devices  
  Center for Devices and Radiology Health  
  Food and Drug Administration |
| RAMSEY, Keith M., MD  
  Professor of Medicine  
  Medical Director of Infection Control  
  Pitt County Memorial | Center for Medicare & Medicaid Services (CMS) Ex-Officer  
  MILLER, Jeanne, RN, MPH  
  Deputy Director, Office of Clinical Standards and Quality Clinical Standards Group |
| SINGH, Naresh, MD, MPH  
  Professor of Pediatrics  
  Epidemiology and International  
  George Washington University Children's National Medical Center | Department of Veterans Affairs (VA)  
  ROSELLE, Gary A., MD  
  National Program Director, Infectious Diseases  
  VA Central Office  
  Cincinnati VA Medical Center |
| SOULE, Barbara M., RN, MPA  
  Practice Leader  
  Infection Prevention Services  
  Joint Commission Resources/Joint Commission International | Liaisons  
  Association of Professionals of Infection Control and Epidemiology, Inc.  
  BEJERLING, Nancy, BSN, RN, MPH, CIC |
| SCHETZER, William P., MD  
  Department of Surgery, Ward 3  
  San Francisco General Hospital | Association of Professionals of Infection Control and Epidemiology, Inc.  
  BEJERLING, Nancy, BSN, RN, MPH, CIC |
| STEVENSON, Kurt Brown, MD  
  Division of Infectious Diseases  
  Department of Internal Medicine  
  The Ohio State University Medical Center | Council of State and Territorial Epidemiologists  
  KAINER, Marcia MD, MPH  
  Medical Epidemiologist/Infections  
  Disease Physician Director, Hospital Infections and Antimicrobial Resistance Program, Tennessee Department of Health |

**Infection Control Consultant**
- American Health Care Association  
  FITZGERALD, Sandra L., RN  
  Senior Director of Clinical Services  
  American Health Care Association

**American College of Occupational and Environmental Medicine**
- RUSSELL, Mark, MD, MPH  
  American College of Occupational and Environmental Medicine

**Advisory Council for the Elimination of Tuberculosis**
- STRICOF, Rachel L., MPH  
  New York State Department of Health

**American Hospital Association**
- SCHULMAN, Roslyn, MHA, MBA  
  Senior Associate Director, Policy Development

**Association of periOperative Registered Nurses**
- BLANCHARD, Joan C., RN, BSN, MSS, CRNA, CIC  
  Association of periOperative Registered Nurses

**Society for Healthcare Epidemiology of America**
- MARAGAKIS, Lisa, MD  
  Assistant Professor of Medicine  
  Johns Hopkins Medical Institutions

**Joint Commission on Accreditation of Healthcare Organizations**
- WISE, Robert A., MD  
  Division of Standards & Survey Methods

**Consumers Union**
- Senior Policy Analyst on  
  MCCAFFERTY, Lisa  
  Health Issues, Project Director  
  Stop Hospital Infections Organization
Quality of evidence and the strength of the recommendations

Evidence Review Table 1A. When is urinary catheterization necessary?

1A.1. Use urinary catheters in operative patients only as necessary, rather than routinely. (Category IB)

1A.2. Avoid use of urinary catheters in patients and nursing home residents for management of incontinence. (Category IB)

1A.2.a. Further research is needed on periodic (e.g., nighttime) use of external catheters in incontinent patients or residents and the use of catheters to prevent skin breakdown. (No recommendation/unresolved issue)

1A.3. Further research is needed on the benefit of using a urethral stent as an alternative to an indwelling catheter in selected patients with bladder outlet obstruction. (No recommendation/unresolved issue)

1A.4. Consider alternatives to chronic indwelling catheters, such as intermittent catheterization, in spinal cord injury patients. (Category II)

1A.5. Consider intermittent catheterization in children with myelomeningocele and neurogenic bladder to reduce the risk of urinary tract deterioration. (Category II)

Table 4. Formulating Recommendations

<table>
<thead>
<tr>
<th>HICPAC Recommendation</th>
<th>Weighing Benefits and Harms for Critical Outcomes</th>
<th>Quality of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRONG (I)</td>
<td>Interventions with net benefits or net harms</td>
<td>IA – High to Moderate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IB – Low or Very Low (Accepted Practice)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IC – High to Very Low (Regulatory)</td>
</tr>
<tr>
<td>WEAK (II)</td>
<td>Interventions with trade offs between benefits and harms</td>
<td>High to Very Low</td>
</tr>
<tr>
<td>No recommendation/unresolved issue</td>
<td>Uncertain trade offs between benefits and harms</td>
<td>Low to Very Low</td>
</tr>
</tbody>
</table>
## CPG Development: de novo

1. Developing the Questions (PICO format)

2. Finding (Searching) Evidence

3. Analyzing (Appraising) Evidence

4. Synthesizing Evidence

5. Making Practice Recommendations

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### Systematic review and meta analysis
The ADAPTE resource toolkit (version 2.0)

ADAPTE Collaboration, 2009 (now, Adaptation Working Group, 2010. 8)

http://www.g-i-n.net/
Manual for Guideline Adaptation (version 2.0) (Kim SY et al., 2011)

- National Evidence-based Collaborating Agency (NECA)
- Customized with toolkit developed by ADAPTE Collaboration

http://www.cpg.or.kr/image/MANUAL.pdf

Manual for Guideline Adaptation for Nursing (Gu MO et al., 2012)
Summary of the ADAPTE process by ADAPTE collaboration

**Phase one**
**SET-UP**
(1 module, 6 steps)

- Step1: Establish an organizing committee
- Step2: Select a guideline topic
- Step3: Check whether adaptation is feasible
- Step4: Identify necessary resources and skills
- Step5: Complete tasks for the set-up phase
- Step6: Write adaptation plan

**Phase two**
**ADAPTATION**
(5 module, 12 steps)

- Step7: Determine the health questions
- Step8: Search for guidelines and other relevant documents
- Step9: Screen retrieved guidelines
- Step10: Reduce a large number of retrieved guidelines
- Step11: Assess guideline quality
- Step12: Assess guideline currency
- Step13: Assess guideline content
- Step14: Assess guideline consistency
- Step15: Assess acceptability and applicability
- Step16: Review assessments
- Step17: Select between guidelines and recommendations
- Step18: Prepare draft adapted guideline

**Phase three**
**FINALIZATION**
(3 module, 6 steps)

- Step19: External review-target audience
- Step20: Consult with endorsement bodies
- Step21: Consult with source guideline developers
- Step22: Acknowledge source documents
- Step23: Plan for aftercare of the adapted guideline
- Step24: Produce final guidance document


1. Manual for Guideline Adaptation (version 2.0) (Kim SY et al., 2011) 
   : 3 phases, 9 modules, 23 steps

2. Development team
   - 4 methodologists including 2 experts in searching guidelines
   - 5 clinical practitioners (2 MD, 2 nurse specialists in DM, 2 WOCNs)
   - 4 stakeholders (2 nurses in the hospitals, 2 nurses in the public health centers)
## Scope

<table>
<thead>
<tr>
<th>Population</th>
<th>Diabetic patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>Diabetic foot risk assessment, wound assessment</td>
</tr>
<tr>
<td></td>
<td>Prevention of foot disease, Management of foot disease</td>
</tr>
<tr>
<td>Professions/patients</td>
<td>Health care workers working at health care settings including public health centers</td>
</tr>
<tr>
<td>Outcomes</td>
<td>1. Primary: reduce incidence and prevalence of foot ulcer, reduce foot amputation</td>
</tr>
<tr>
<td></td>
<td>2. Secondary: early recognition of foot diseases, shorten the prevalence, increase satisfaction and quality of life of patients, Reduce of medical cost</td>
</tr>
<tr>
<td>Healthcare setting</td>
<td>Hospital, public health center, home</td>
</tr>
</tbody>
</table>
Key questions

1. How we can assess the risk of foot ulcer among diabetic patients?
2. How we can prevent foot ulcer among diabetic patients?
3. How we can assess the severity of foot ulcer among diabetic patients?
4. How we can manage foot ulcer to prevent foot amputation among diabetic patients?
Key words
- diabetic foot
- foot ulcer
- practice guidelines
- clinical practice guideline(s)
- guideline
- recommendation

Guideline DB
- Guideline International Network (GIN)
- National Guidelines Clearinghouse (NGC)
- National Institute for Clinical Excellence (NICE)
- Scottish Intercollegiate Guidelines Network (SIGN)
- Registered Nurses Association of Ontario (RNAO)
- Joanna Briggs Institute (JBI)
- Wound, Ostomy, and Continence Nurses Society (WOCN)
- American Diabetes Association (ADA)
- Medline
- Cochrane Library
- Google
1. RNAO. Assessment and management of foot ulcers for people with diabetes, 2nd ed. 2013.


# Guideline Assessment using AGREE II Tool

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Scope and Purpose (%)</td>
<td>93.3</td>
<td>95.8</td>
<td>93.1</td>
</tr>
<tr>
<td>2. Stakeholder Involvement (%)</td>
<td>88.9</td>
<td>95.8</td>
<td>73.6</td>
</tr>
<tr>
<td><strong>3. Rigour of Development (%)</strong></td>
<td><strong>78.3</strong></td>
<td><strong>92.7</strong></td>
<td><strong>63.5</strong></td>
</tr>
<tr>
<td>4. Clarity of Presentation (%)</td>
<td>87.8</td>
<td>97.2</td>
<td>90.3</td>
</tr>
<tr>
<td>5. Applicability (%)</td>
<td>70.0</td>
<td>63.5</td>
<td>41.7</td>
</tr>
<tr>
<td>6. Editorial Independence (%)</td>
<td>83.3</td>
<td>91.7</td>
<td>75.0</td>
</tr>
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</table>

**Overall Guideline Assessment**

<table>
<thead>
<tr>
<th>6point:</th>
<th>3</th>
<th>6point:</th>
<th>3</th>
<th>5point:</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>7point:</td>
<td>2</td>
<td>7point:</td>
<td>1</td>
<td>6point:</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7point:</td>
<td>1</td>
</tr>
</tbody>
</table>

I would recommend this guideline for use

- **Yes**: 5 | 4 | 2
- Yes, with modifications: 0 | 0 | 2
- **No**: 0 | 0 | 0
External review

1. Review of understandability of recommendations
   - 27 nurses in the hospitals
   - 15 nurses in the public health centers
   - 9 diabetic patients

2. Review of validity and applicability
   - 9 MD
   - 9 nurse specialists in DM
   - 7 WOCNs

3. Review by clients
## Composition of Recommendations

<table>
<thead>
<tr>
<th>Domain</th>
<th>Recommendations</th>
<th>Strength of recommendation*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Ⅰ. Prevention of diabetic foot ulcer (DFU)</td>
<td>103</td>
<td>62.4</td>
</tr>
<tr>
<td>Ⅰ-1. Risk assessment of DFU</td>
<td>50</td>
<td>30.3</td>
</tr>
<tr>
<td>1. Establish risk assessment guideline</td>
<td>5</td>
<td>3.0</td>
</tr>
<tr>
<td>2. Overall risk assessment</td>
<td>6</td>
<td>3.6</td>
</tr>
<tr>
<td>3. History taking of foot ulcer and amputation</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>4. Assessment of skin and nail</td>
<td>9</td>
<td>5.5</td>
</tr>
<tr>
<td>5. Assessment of peripheral neuropathy</td>
<td>9</td>
<td>5.5</td>
</tr>
<tr>
<td>6. Assessment of musculo-skeletal abnormality</td>
<td>7</td>
<td>4.2</td>
</tr>
<tr>
<td>7. Assessment of peripheral vascular disease</td>
<td>9</td>
<td>5.5</td>
</tr>
<tr>
<td>8. Assessment of shoes /socks</td>
<td>4</td>
<td>2.4</td>
</tr>
<tr>
<td>Ⅰ-2. Preventive strategies for DFU</td>
<td>53</td>
<td>32.1</td>
</tr>
<tr>
<td>9. Regular foot examination</td>
<td>9</td>
<td>5.5</td>
</tr>
<tr>
<td>10. Pressure relieving</td>
<td>17</td>
<td>10.3</td>
</tr>
<tr>
<td>11. Education to patients</td>
<td>24</td>
<td>14.5</td>
</tr>
<tr>
<td>12. Education to healthcare worker</td>
<td>3</td>
<td>1.8</td>
</tr>
</tbody>
</table>

* Strength of recommendation by SIGN system
<table>
<thead>
<tr>
<th>Domain</th>
<th>Recommendations</th>
<th>Strength of recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>II. Management of DFU</td>
<td>62</td>
<td>37.6</td>
</tr>
<tr>
<td>II-1. Wound assessment of DFU</td>
<td>16</td>
<td>9.7</td>
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<tr>
<td>1. Assessment of wound</td>
<td>7</td>
<td>4.2</td>
</tr>
<tr>
<td>2. Assessment of foot infection</td>
<td>9</td>
<td>5.5</td>
</tr>
<tr>
<td>II-2. Management strategies for DFU</td>
<td>46</td>
<td>27.9</td>
</tr>
<tr>
<td>3. Establish multi-disciplinary team</td>
<td>6</td>
<td>3.6</td>
</tr>
<tr>
<td>4. Classify foot ulcer wound</td>
<td>3</td>
<td>1.8</td>
</tr>
<tr>
<td>5. Identify risk factors to wound healing</td>
<td>4</td>
<td>2.4</td>
</tr>
<tr>
<td>6. Pressure relieving</td>
<td>6</td>
<td>3.6</td>
</tr>
<tr>
<td>7. Wound management</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>7-1. Debridment</td>
<td>6</td>
<td>3.6</td>
</tr>
<tr>
<td>7-2. Maintain moist balance</td>
<td>7</td>
<td>4.2</td>
</tr>
<tr>
<td>7-3. Alternative therapy</td>
<td>5</td>
<td>3.0</td>
</tr>
<tr>
<td>7-4. Infection control</td>
<td>4</td>
<td>2.4</td>
</tr>
<tr>
<td>8. Evaluation of wound healing process</td>
<td>4</td>
<td>2.4</td>
</tr>
<tr>
<td>Total</td>
<td>165</td>
<td>100.0</td>
</tr>
<tr>
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</tr>
</tbody>
</table>
대한당뇨병교육간호사회

external endorsement

번호: 부산대학교

제목: "수예계를 통한 당뇨병 학생의 실무지원" 실험 및

기한의 무궁한 발전을 기원합니다.

이에 감사의 말씀드립니다.

대한당뇨병교육간호사회장 송복례
Discussion

✓ Lack in well developed evidence based clinical practice guidelines
✓ Most recommendations based on lower level of evidence
✓ Differences in ‘strength of recommendation’ system by guidelines
Nurses belong to 4 category of evidence practice

Evidence Finders

Evidence generator

Evidence Users

Evidence Ignorer
KHNA collaboration with KEBN: Adaptation of Evidence-Based Practice Guidelines
근거기반 간호실무지침

1. 근거기반 임상간호실무지침 정책주임요법
   - 전문 보기
   - 권고안 보기

2. 근거기반 임상간호실무지침 육성간호
   - 전문 보기
   - 권고안 보기

3. 근거기반 임상간호실무지침 경상영양
   - 전문 보기
   - 권고안 보기

4. 근거기반 임상간호실무지침 유치도뇨
   - 전문 보기
   - 권고안 보기

5. 근거기반 임상간호실무지침 구강간호
   - 전문 보기
   - 권고안 보기

※ 근거기반 임상간호실무지침 정책주임요법이 간호계에서는 최초로 근거창출 임상연구 국가사업단 (보건복지부지지)에서 운영하는 KGC(Korean Guideline Clearinghouse: 국가단위 임상진료지침정보센터)에 등재되었습니다. (2014.5.22)
KGC (Korean Guideline Clearinghouse)
CPG Development: principles

quality-driven, evidence-based guidelines using efficient and transparent methodology for action-ready recommendations with multi-disciplinary applicability

QUALITY-DRIVEN: using current best evidence and multidisciplinary consensus to prioritize recommendations.

EVIDENCE-BASED: supporting all decisions with the best available research evidence identified through systematic literature review.

EFFICIENT: guidelines make maximum use of available resources to create a timely product, ideally moving from conception to publication within 12 to 18 months.
**TRANSPARENT METHODOLOGY**

is explicit, reproducible, and applied consistently so guideline users can link recommendations to the corresponding the level of evidence, benefit-harm-cost relationship, and the roles of values and patient preferences in decision making.

**ACTION-READY**

recommendations tell providers what to do, to whom, under what specific circumstance, using unambiguous language that facilitates implementation and measurement.

**MULTI-DISCIPLINARY**

validity and applicability means that all stakeholders (e.g., primary care, specialists, allied health, nursing, consumers) are part of the development and implementation processes.