# 11th G-I-N Conference

20-23 August 2014
Melbourne Convention &
Exhibition Centre
Melbourne, Australia

**Creation and Innovation:**
**Guidelines in the Digital Age**

# Abstract Book

**www.gin2014.com**

A joint project between

Guidelines International Network & Therapeutic Guidelines

# Contents

# Internet portal for the development of clinical practice guidelines—benefits and limitations

**Associate Professor Winfried HÄUSER**, Technical University Munich, Germany

The internet portal "Clinical practice guideline development" <https://www.leitlinienentwicklung.de> was used for the development and revision by many German and some international clinical practice guidelines (CPG). The CPG development portal, conducted by Technology, Methods, and Infrastructure for Networked Medical Research (TMF) provides an internet-based infrastructure which supports the development of high-quality CPGs of level S3 (according to German classification).

## Benefits

### *Methodology support*

Especially those who coordinate a CPG development first time, find a comprehensive offer of information. This includes important documents on CPG methodology, detailed guidance for use of the portal and links to decisive national and international CPG organizations.

### *Communication*

- Mailing lists, forums and chat-rooms for communication within large groups
- News and calendars for exchange of important news and notifications
- Newsletters on login to inform about changes since last access

### *Information and documents*

Search strategies and PDFs of the literature analysed and evidence tables provided by working groups can be stored and shared within the guideline group.

### *Online voting*

A main focus is the preparation, execution and evaluation of online voting. Extent, design and duration of the online voting are largely user defined. The efforts and costs for subsequent consensus conferences can be substantially reduced. A specific text editor and a Wiki tool simplify the joint compilation of documents and other texts.

### *Consensus conference*

The CPG portal provides a televoting system with automated vote counting and documentation of the voting process of the face-to-face consensus conferences.

## Limitations

Email exchange of guideline members via CPG needs login and is therefore rarely used. Guideline development is a (highly) emotional process. To understand the meaning of a sentence it needs para- and nonverbal cues by telephone- or face-to-face conversation of guideline group members. Technology cannot substitute the many direct personal talks of guideline members to reach a consensus on methods, timelines and recommendations.

## Living evidence

**Dr Julian ELLIOTT**, Alfred Hospital, Australia

Despite the concerted efforts of many individuals, much of the global corpus of systematic reviews remains out of date and therefore inaccurate. In the context of exponential growth in primary research incremental advances in conventional systematic review updating are unlikely to lead to substantial and sustained improvements in this situation. A new approach is needed, which enables answers to health questions that are both methodologically rigorous and up to date.

Living systematic reviews are high quality, up-to-date online summaries of health research that are updated as new research becomes available, enabled by improved SR production efficiency through the use of innovations such as specialised workflow and collaboration tools, semi-automation, linked data repositories and broader participation. Together with 'upstream' innovations in the annotation and structuring of large research datasets and 'downstream' innovations such as "living guidelines" a new evidence ecosystem is emerging.

**Plenary 1:** Guideline development: Where does technology begin and end?

## From GOBSAT to GRADE: a twenty year stroll through the wonderland of guidelines

**Dr Fergus MACBETH**, NICE, UK

---

I have been involved in clinical guideline development for 20 years. Over that time there have been not only huge technical advances but also greater rigour in the way in which research evidence is accessed, evaluated and incorporated into recommendations and also in the way in which guidelines can be presented in a variety of electronic formats. But in a conference subtitled 'Guidelines in the Digital Age' I will suggest that those developments are not sufficient and we ignore the softer, human aspects of guideline development at our peril. I will consider some of the following questions: Why do people and organisations want guidelines? What gives them legitimacy? Is there a qualitative difference between a national/ regional guideline and one developed by a specialist professional body? Why do they often cause challenge and upset? Who should be on a guideline group? What is the role of the chair and what makes a good one? What is the relationship between the group and the ultimate audience of the guideline? Finally, I will discuss how well the inevitable need for 'considered judgement' and for making recommendations in the context of all sorts of uncertainties (both in evidence and application) fit with increasing technical rigour and the integration into decision support systems.

**Plenary 2:** Guideline implementation: Is technology the magic fix?

## The role of technology in creating, disseminating and updating trustworthy guidelines

**Associate Professor Per VANDVIK**, University of Oslo, Norway

Leading guideline organizations are adopting standards and guidance for development of trustworthy clinical practice guidelines. Most trustworthy guidelines, however, suffer from a cumbersome development process, suboptimal presentation formats and dissemination to clinicians at the point of care, are at high risk of becoming quickly outdated, and are not optimally presented for shared decision making with patients.

This lecture will focus on solutions to current problems through innovative web-based tools for authoring and publishing trustworthy guidelines. I will present an overview of available and emerging tools. I will then—through an online demonstration of a recently published Norwegian guideline—present our online authoring and publication platform (www.magicapp.org) created in the Making GRADE the Irresistible Choice (MAGIC) research and innovation program.

The MAGICapp allows guideline content to be written and structured in a database according to standards for trustworthy guidelines and to be published directly in user-friendly formats on the web or exported in a computer-interpretable language enabling dissemination through applications for smartphones/tablets and integration in electronic medical records (EMRs). Clinicians can access recommendations and underlying content (e.g. evidence profiles, key information, rationale) in multi-layered presentation formats developed in collaboration with the DECIDE project (www.decide-consortium.eu). Revised recommendations created in the MAGICapp lead to automatic alterations in these outputs with minimal additional labour for guideline authors and publishers, offering new ways to adapt and update guidelines. Semi-automated creation of a new generation of decision aids linked to evidence summaries of guideline recommendations will facilitate face-to-face shared-decision making in the clinical encounter. Finally I will present results from our point of care research on guidelines published in the MAGICapp. Results will highlight remaining challenges and limitations concerning technology as the solution to the problems of guideline implementation.

## PREDICT: getting evidence in and out of practice

**Professor Rod JACKSON**, University of Auckland, New Zealand

In 1992 New Zealand developed new guidelines for managing raised blood pressure and dyslipidaemia that differed radically from previous national and international guidelines. The new recommendations based treatment decisions on predicted CVD risk rather than individual risk factor levels. Risk can be estimated rapidly using coloured risk charts based on multivariable CVD risk factor prediction equations from the US Framingham Study. In the mid 1990s the guidelines were updated to increase their alignment including the sharing of one national CVD risk prediction chart. The guidelines were widely disseminated and followed up with multiple education sessions supported by the National Heart Foundation and pharmaceutical industry. Multiple copies of the risk charts were distributed to GPs.

However a 1998 survey showed that while most GPs used the charts, the majority used them several times per month when they should have been using them several times per week. Further questioning revealed that GPs often mislaid the charts or had insufficient time to use them during consultations.

To address this problem, we developed PREDICT, a web-based electronic clinical decision support system integrated into GPs electronic records. The PREDICT risk assessment tool automatically extracts risk factors from patient records, facilitating rapid risk assessment. Personalised treatment recommendations based on national guidelines can also be generated automatically. A study demonstrated a four-fold increase in risk assessment within 12 months of implementing PREDICT.

When PREDICT is used, patient risk factor profiles are saved to their medical records and to a secure webserver, enabling automated monitoring of its use. Individual patient data is also regularly linked to national laboratory, drug dispensing, hospitalisations and mortality databases. CVD risk assessments have now been completed on about 80% of eligible New Zealanders and we are monitoring drug management and developing new risk prediction algorithms based on the PREDICT data.

**Plenary 2:** Guideline implementation: Is technology the magic fix?

## Theory-informed approaches to designing and evaluating implementation interventions

**Dr Denise O'CONNOR**, Monash University, Australia

---

The effects of implementation interventions are modest and variable. Insufficient evidence exists on their mechanism of action and why they vary across behaviours, populations and settings. While technology may assist implementation in some situations it is unlikely to address all implementation problems. In this talk I will argue that systematic, theory-based approaches for designing implementation interventions that include intervention components tailored to address determinants of change are likely to be maximally effective. I will illustrate one approach to theory-informed intervention design drawing on examples from a suite of projects from our group and discuss developments in the field for advancing the design and evaluation of implementation interventions.

**Plenary 3:** Guidelines in developing countries: Challenges and solutions

## Implementation of evidence-based African First Aid Materials in Sub-Saharan Africa: a view from the field

**Dr Emmy DE BUCK**, Belgian Red Cross-Flanders, Belgium & **Mr Brian BILAL**, Red Cross Society, Uganda

---

At the end of 2011 Belgian Red Cross-Flanders completed evidence-based African First Aid Materials (AFAM), based on the most effective, feasible and up-to-date first aid techniques specifically relevant for Sub-Saharan Africa. Values and preferences of the target population were taken into account by using African studies, involving African experts and conducting a pilot study in Africa.

Instead of being a written document, the AFAM form a flexible toolkit that can be used by any target audience (lay people population). The toolkit consists of texts with simple first aid instructions, didactical movies, and hundreds of quality African illustrations including youths, adults and elderly people from multiple ethnic and religious backgrounds. In this way users can develop their own materials (such as posters, flipcharts,) according to their needs and target population. An implementation guide was developed to assist in that. A sharing platform for AFAM-based posters, manuals, handouts and other didactic tools has been created at the AFAM website, thereby ensuring other organisations can benefit from the time and cost spent to develop didactic tools. For those not able to develop their own AFAM-based manual, a basic generic AFAM manual is also provided.

Two years after AFAM implementation in many Sub-Saharan countries started, we are gaining insight in to what extent the provided materials are being used (and for what purpose), new materials are being developed, and what the barriers and facilitators are to obtain successful implementation. Because of the flexibility, the AFAM materials are being used to various degrees, depending on the capacity of the different Red Cross National Societies in Sub-Saharan Africa. A detailed view from the field at the Uganda Red Cross Society will be given.

## Scale-up Implementation of Essential Intrapartum and Newborn Care (EINC) Guidelines: Challenges and Solutions, the Philippine Experience

**Dr Maria SILVESTRE**, Kalusugan ng Mag-Ina, Inc (Health of the Mother and Child), Philippines

---

Most of the 40,000 annual newborn deaths in the Philippines occur early, with labor/delivery and birthing practices pinpointed as contributory factors. Newborn mortality can be reduced with safe 1) maternal/fetal monitoring and management of maternal complications 2) immediate newborn care practices.

And yet, formative research in hospitals revealed that performance and timing of these evidence-based interventions were below international standards. Hospital practices prevented newborns from benefiting from their mothers' natural protection in the first hours of life, compromising maintenance of warmth and breastfeeding initiation. Under the Department of Health (DOH), initiatives for safe and quality care of mothers and newborns in both public and private hospitals and primary health care facilities are underway. The recommended practices are a sequence of time-bound interventions starting with immediate drying, early skin-to-skin contact, properly-timed cord clamping, non-separation for early breastfeeding initiation plus antenatal steroid use, newborn resuscitation, kangaroo mother care and postnatal care.

A *health systems strengthening strategy* includes: Guideline development using GRADE; Policy support through DOH issuances and harmonization with existing programs; Supportive technical supervision of health facilities; Financial risk protection and incentivization through reformed national health insurance packages; Incorporation in medical, nursing and midwifery curricula, and licensure examinations; Social marketing via the "The First Embrace or Unang Yakap" campaign targeting both supply and demand sides for behavioral change.

Early impact has been positive, e.g. dexamethasone and oxytocin use, immediate newborn care practices, breastfeeding initiation, duration of the first breastfeed and exclusive breastfeeding rates at 7 and 28 days have improved. In best performing hospitals, NICU admission and neonatal sepsis rates decreased. Maternal satisfaction has improved. Simple calculations have revealed savings averaging almost 500 pesos per vaginal delivery in urban hospitals but higher savings at remote facilities.

This presentation will outline barriers to EINC implementation, creative solutions and lessons learned to date.

## Guidelines in Middle And Low Income Countries—Existing Challenges And Potential Solutions (The first step was 35 years ago and the next one is due)

**Dr Krisantha WEERASURIYA**, WHO (retired 2014), Sri Lanka

Guidelines need to be placed within the context of their health care systems. The systems in low and middle income countries (LMICs) are very heterogeneous but one feature stands out. While there are government/state systems, a major part is played by the profit-driven, fee-for service private sector for which payment by the patients and consumers is usually "out of pocket". Such systems have poor regulation or none at all. This creates an incentive which is at crosswinds with the basic principle of guidelines—evidence-based health care. The profit motive particularly affects the prescribing of affordable medicines.

There have been some successes with guidelines in LMICs for disease specific programs such as malaria, TB and HIV/AIDS, where the state has developed the guidelines and provided the medicines (usually free of cost) to the patient. The countries use guidelines of the WHO with the appropriate modifications.

The guidelines that exist in other areas are of variable quality and have a poor record of implementation. In the treatment of diarrhoea, childhood pneumonia while clear evidence-based guidelines exist, there is little encouragement, enforcement and monitoring of prescriber adherence. While the government may provide medicines in accordance with these guidelines, the episodic supply, availability of apparent alternatives in the private sector (usually more expensive) results in antibiotics, vitamins and other unnecessary medicines being prescribed. The widespread use of aminophylline as first line treatment in bronchial asthma and low use of zinc in diarrhoea are some other examples of treatment not based on evidence.

The culture and acceptance of evidence-based treatment is also poor. The influence of consultants and other key opinion leaders (partly influenced by the pharmaceutical industry promotion) often overrides evidence-based guidelines. Other practical problems are the printing and dissemination of the guidelines; when printed guidelines are rarely available at the doctor/patient consultation.

What of the future? Universal Health Coverage will be a major focus in Sustainable Development Goals, which will succeed the Millennium Development Goals in 2015. The system payer (rather than individual out of pocket) has the potential for developing, promoting, enforcing and monitoring guidelines as it would be the most cost-effective method of providing appropriate medicines. The "pain" of the cost of medicines used inappropriately and irrationally will hasten the "dawn" of guidelines, as has happened in high income countries. In addition, electronic technologies such as medicines formularies available on smart phones have the potential for reaching right down to the patient doctor consultation.

The concept of "Essential Medicines" (which could be seen as the first global "guidelines") began over 35 years ago. More than 150 countries have National Essential Medicines Lists or similar lists that incorporate the concept. The next step is long overdue and could come about due to a combination of needs and opportunities in universal health coverage and technology.

**Plenary 5:** Guidelines in practice: Making recommendations for patients, not conditions

## Informing Patient-Centered Care of People with Multiple Chronic Conditions: Addressing Co-existing Conditions in Guideline Development

**Associate Professor Cynthia BOYD**, Johns Hopkins University, USA

Ideally, guidelines are based on high quality evidence regarding the interventions and services that will achieve desired outcomes, and they can be implemented in order to inform patient-centered care decisions for most people living with the condition(s) discussed. Multiple conditions may make guideline-recommended management of any single disease impractical, irrelevant or even harmful. The prevalence of multiple chronic conditions is compelling, with disease in isolation being the exception, rather than the rule, highlighting the urgent necessity to address this population in all guidelines, and their implementation.

Many guidelines, and the evidence base underlying them, have focused on specific single conditions, and the extent to which they can be used to inform patient centered, rather than disease centered, care for people with multiple chronic conditions is variable. Recent stakeholder-informed work has described a framework for transforming the processes of generation of evidence in clinical trials and observational studies, evidence syntheses, and development of clinical practice guidelines. To achieve the intended positive effects of guidelines and minimize potential unintended consequences for people with multiple chronic conditions, processes of priority setting must consider questions related to people with multiple chronic conditions, either as the primary focus of the guideline, or as important key questions within a guideline with a primary focus on a single condition. Doing so while balancing the potential increase in complexity of guideline recommendations, and the complexity of implementation, with the need to be a useful tool to inform the patient-centered care of people facing complex decisions is a critical challenge. The quality of the guideline and the evidence review for people with multiple chronic conditions is important, as is the degree to which it the guideline can inform a patient-centered discussion about preferences, the balance of benefits and harms of interventions for an individual. Thus, ensuring that patients, their families, and clinicians can determine the relative priority of all possibly relevant guideline recommendations has significant downstream implications for informing patient-centered care of people with multiple chronic conditions.

**Plenary 5:** Guidelines in practice: Making recommendations for patients, not conditions

## Community consent for screening using community juries

**Dr Rae THOMAS**, Bond University, Australia, & **Mr Ross SMITH**, Bond University, Australia

Health care consumers are rarely engaged in decision-making about screening, either individually or to establish screening programs. Providing sufficient information for informed discussion and consent is challenging because it requires understanding of complex information and depends on individual values. A community jury enables the public to consider complex information and elicit an 'informed' community perspective, which can guide services and public policy. We conducted a randomised controlled trial with 26 men from the Gold Coast to examine the effect of participating in a community jury on men's knowledge about and their intention to have a Prostate-Specific Antigen (PSA) screening test. We also asked the community jury whether the government should provide campaigns on PSA screening.

Compared with controls, who only received information leaflets, community jury men considered themselves better informed about the benefits and harms of PSA screening (Effect Size=1.2SD, $p<0.001$) and reduced their intention to participate in future screenings ($p=.005$). Community jury men voted unanimously against a government campaign targeting the public about PSA screening for prostate cancer. Instead, they suggested the government conducts a campaign that targets general practitioners to provide information that is more consistent and of better quality.

Men in the community jury group reported feeling valued, being unaware of the high prevalence of prostate cancer in older men and that many prostate cancers were slow growing, and thinking that PSA testing could be an individual choice rather than the 'right' thing to do. All men valued the time to ask questions of experts and agreed funds from screening may be better utilized by funding research into better diagnostic tests.

Through the lens of an academic and a community jury participant, we will present information about community juries: our outcomes, what we have learnt, and how they have the potential to impact public health policies.

**Plenary 5:** Guidelines in practice: Making recommendations for patients, not conditions

## Don't Have Foxes Guarding Henhouses

**Professor Allen FRANCES**, Duke University, USA

Existing guideline development suffers from the inherent biases of the experts and their sponsoring organizations. The risk of possible financial COIs is obvious, but even more pervasive is the influence of intellectual COIs. Experts overvalue their pet areas of research interest; worry too much about false negatives and too little about false positives; don't understand the difficulty of translating suggestions developed in university research clinics to everyday primary care settings; and are naive about the marketing manipulations of pharma and device makers.

I will make eight suggestions: 1) Don't let the experts on any given topic be the final arbiters on decisions made. Guidelines development should include important input from more neutral experts in evidence based medicine, public health, health economics, primary care, and also consumers; 2) The larger the group of experts the better; 3) Statistical methods of aggregating surveyed opinion are better than group discussions; 4) Costs count; 5) The default position is conservative- anything that expands diagnosis, testing, or treatment has to be clear winner; 6) Diagnostic, screening, and testing guidelines can have as much impact as treatment guidelines and require the same care; 7) Guidelines should be field tested before being applied widely 8) Sponsorship- responsibility for guideline development should be taken away from professional organizations that have an inherent vested interest.

**Parallel Session 1.1:** Workshop

## Systematic patient involvement in clinical guideline development in the Dutch context: Applying strategies for consultation among the patient population

**Daniëlle MEIJE**[1], Carina PITTENS[2], Steven MAKKINK[3], Tirza de LANGE-TICHELAAR[2], Jacqueline BROERSE[2], **Hedda VAN 'T LAND**[1],

[1] *Trimbos institute, the Netherlands*
[2] *Athena Institute, VU University Amsterdam, the Netherlands*
[3] *Landelijk Platform GGz, the Netherlands*

---

**Background:** Currently, there is a strong movement towards active patient involvement in guideline development processes. This goes far beyond the mere integration of patient preferences, it rather involves a systematic procedural integration incorporating patient involvement at all different stages of the guideline development process. It combines the participation of patient representatives in guideline development groups with consultation of the broader patient population. Three key stakeholders in the Netherlands—the Trimbos institute (guideline development organization for mental health care), the Athena Institute (VU University Amsterdam) and LPGGz (patient organization mental health care)—have jointly defined systematic procedures and identified facilitators and barriers for patient involvement throughout the guideline development process.

**Objectives:** This workshop will briefly outline the Dutch context regarding patient involvement in guideline development: an overview will be given of systematic strategies for broader consultation. Moreover, a new innovative quantitative methodology to systematically elicit, analyze and integrate patient preferences during the development of guideline recommendations will be presented. A digital adaptation of this methodology, based on medical-decision-aid-models, will be shown.

**Target audience:** Guideline developers, patient representatives, clinicians.

**Description of the workshop and methods used to facilitate interactions:** Each stakeholder will present a case study highlighting a strategy for broader consultation. Based on workshop material, participants will be invited to explore the challenges and advantages of the consultation strategies in small groups. The feedback gathered during the plenary will help to enhance structural patient involvement in guideline development.

## Challenges in developing recommendations about medical tests: in-depth interviews with guideline developers

Gowri GOPALAKRISHNA[1], Mariska LEEFLANG[1], Kirsten MCCAFFERY[2], Rob SCHOLTEN[3], Patrick BOSSUYT[1], **Miranda LANGENDAM**[1],

[1] *Academic Medical Center, University of Amsterdam, the Netherlands*
[2] *School of Public Health, University of Sydney, Australia*
[3] *The Dutch Cochrane Centre*

---

**Background:** The extent to which patients experience benefit and harm from testing is an essential element of the evaluation of medical tests. Such direct evidence is however rare. This makes guideline development of medical tests challenging.

**Objective:** To identify and better understand issues and challenges in medical test guideline development.

**Methods:** In-depth interviews with guideline developers, in various fields of medical testing (e.g. imaging, biomarkers, mental health) were conducted either face to face where possible or via telephone. Interviews were recorded and transcripts analyzed using the "Framework analysis" approach, a matrix-based method of thematic analysis.

**Results:** We interviewed 17 guideline developers from 14 different institutions in 7 countries. The main challenges faced by guideline developers of medical tests were about developing key questions and linking accuracy evidence to patient outcomes. Other challenges were lack of understanding of the methods and results from diagnostic research in guideline development groups. Interviewees pointed out that solutions for these challenges are often limited by resource constraints.

**Discussion:** Accuracy is often used as main outcome, however guideline developers feel this is not sufficient to make patient-centered recommendations. Training resources to improve the understanding of the link between test accuracy and patient outcome among guideline panels can make an important difference.

**Implications for guideline developers:** Results of this study provide an in-depth understanding of the specific challenges faced by guidelines developers in medical test development and outline areas that need more research and support by the guideline development community.

## Formulating Recommendations for Medical Tests: Assessing Relevance of Evidence and Clinical Significance of Effect Sizes Integrated into Wiki-based Guideline Development

**Laura HOLLIDAY**[1], Sarah LORD[2,3], Melissa THOMAS[4], Reginald LORD[2,4], Andrea HORVATH[5,6,7], Jutta VON DINCKLAGE[1], Ian OLVER AM[1],

[1] *Cancer Council Australia*
[2] *School of Medicine, The University of Notre Dame, Australia*
[3] *NHMRC Clinical Trials Centre, The University of Sydney, Australia*
[4] *St Vincent's Centre for Applied Medical Research, Australia*
[5] *SEALS Department of Clinical Chemistry, Prince of Wales Hospital, Australia*
[6] *School of Medical Sciences, University of New South Wales, Australia*
[7] *Screening & Test Evaluation Program, The University of Sydney, Australia*

---

**Background:** To overcome limitations of printed guidelines, Cancer Council Australia (CCA) translated the traditional guideline development process to a dynamic online environment. Internationally, methods for developing recommendations for tests are still evolving.

**Objectives:** To develop and pilot a protocol for assessing the relevance of evidence and clinical significance of effect sizes for medical tests, integrated into the wiki-based guideline development workflow.

**Methods:** We modified CCAs methods for rating intervention studies using the principles for test evaluation. Relevance of evidence was ranked by directness of evidence for conclusions about effect on patient-relevant clinical outcomes. Size of effect was ranked by specifying the minimum clinical performance for the test to have a clinically important benefit. Using biomarkers to diagnosis Barretts Oesophagus (BO) as an example test question, two guideline authors piloted the protocol on twenty studies.

**Results:** For relevance of evidence and size of effect, reviewers most frequently rated the studies as four and three respectively, on a scale of 1 (high) to 5 (low).

**Discussion:** The protocol was useful to summarise critical limitations in the body of evidence for potential new biomarkers for BO. Assessment of relevance of diagnostic accuracy evidence required explicit consideration of the clinical consequences of test results. Challenges included developing the scale as universal rather than biomarker specific.

**Implications for guideline developers/users:** This protocol is useful to assist reviewers in critical appraisal of tests to formulate evidence-based recommendations for tests. Further piloting on different tests is underway.

## How do evidence based guidelines in Oncology address cancer screening tests?

**Corinna SCHAEFER**[1], Sabine SCHWARZ[1], Svenja SIEGERT[1], Christine HAHNNENKAMP[1], Julia KOPP[1], Markus FOLLMANN[2], Ina KOPP[3],

[1] *German Agency for Quality in Medicine*
[2] *German Cancer Society*
[3] *Association Of The Scientific Medical Societies In Germany*

---

Due to risk of overdiagnosis screening decisions are based on individual values. On the other hand, Clinical practice guidelines are conceived to guide action. They cannot and shall not replace individual decision making. But, they become increasingly legally relevant. We investigate, how evidence based guidelines in oncology address mass screening interventions (MSI) and refer to appropriate information and individual decision making. Structured analysis of all recommendations of the currently available CPGs in the German Guidelines Program in Oncology (as on November 1st 2013). Out of 10 CPGs, 8 addressed MSI for the general population. 3 CPGs gave explicit recommendations in favour of MSI, two of these addressed benefits and harms. 6 CPGs gave explicit recommendations against MSI, 5 of which referred to harms and benefits. One CPG addressed MSI without opting for or against it. 6 CPGs addressed screening in high risk groups. Recommendations on how to perform the test were given in 4 guidelines. The importance of information is highlighted in 3 CPGs, of which one in favour of screening, one recommending against screening and one without clear recommendation. Recommendations addressing informed decision are rare but might offer a solution to the antagonism of action-guiding recommendation vs. individual decision. To support informed decision, CPGs should transparently provide the evidence base and rationale for each recommendation. Guideline users should be told that adequate application of CPG also implies reasonable non-adherence. Strong recommendations against MSI seem justified when screening related harms clearly outweigh benefits.

## Making recommendations about medical tests: a tool for finding the clinical pathway

Gowri GOPALAKRISHNA[1], **Miranda LANGENDAM**[1], Rob SCHOLTEN[2], Patrick BOSSUYT[1], Mariska LEEFLANG[1],

[1] *Academic Medical Center, University of Amsterdam, the Netherlands*
[2] *The Dutch Cochrane Centre*

**Background:** The clinical context in which a test is used is critical when it comes to recommendations about medical tests. Preceding tests may alter the patient population to be tested; the result of the test informs treatment decisions and these treatment decisions influence health outcomes. The clinical context is needed to map and judge the available evidence for its value and to make relevant recommendations regarding the use of the tests. Recent research indicates that guideline developers see the value of developing a clinical pathway, but that guidance is needed to define it for the test(s) they are evaluating. Therefore, we are developing a tool that creates a clinical pathway using 'building blocks' and signaling questions.

**Objective:** To develop a tool to define the relevant clinical pathway for the evaluation of diagnostic tests in guidelines addressing diagnostic questions.

Method: The tool (pilot version) is developed based on a review of the literature and interviews with guideline developers, a survey among experts in the field of evidence-based diagnostics, brainstorming and user-testing in guideline developers.

**Results:** We will present the development of the tool, demonstrate the pilot version and report the results of the user testing.

**Implications for guideline developers:** The tool will help guideline developers to define the clinical context of the diagnostic test, to further specify the key questions and types of evidence that are needed to make a recommendation about a diagnostic test.

## The use of Cochrane breast cancer reviews by guideline developers and Cochrane (public) users

**Melina WILLSON**[1], Dianne O'CONNELL[1,2], Annabel GOODWIN[1,3], Nicholas WILCKEN[1,3],

[1] *Cochrane Breast Cancer Group, University of Sydney, Australia*
[2] *Cancer Research Division, Cancer Council NSW, Australia*
[3] *Sydney Medical School, University of Sydney, Australia*

---

**Background:** The Cochrane Breast Cancer Group (CBCG) collaborates with guideline developers and a wide range of individuals to review evidence on priority topics.

**Objectives:** To assess the use of Cochrane reviews in breast cancer clinical practice guidelines and compare these to the CBCGs most cited/read reviews.

**Methods:** 7 key guideline developers in breast cancer were selected: CECOG, ABC1, ESMO, SIGN, NICE, Cancer Australia (CA) and ASCO. Guidelines published from 2001 were screened, and the number of Cochrane reviews used in each guideline and the average number of reviews per guideline developer were recorded. We compared the review topics used in guidelines to the CBCGs most cited/read reviews based on 2012 Impact Factor data1.

**Results:** Of 28 breast cancer guidelines screened, the highest number of Cochrane reviews used in any one guideline was 9 (NICE). The average number of reviews used per guideline was 8 in SIGN, 5 in NICE, 3 in CECOG and ABC1, and ~1 in ESMO, CA and ASCO. Chemotherapy reviews were used 20 times, prevention (2), screening (1), surgery (1), radiotherapy (3) and follow-up care (2). Two out of the 18 CBCGs most cited/read reviews were used in 3 and 8 guidelines, respectively and all others were used once (8/18) or not at all (8/18).

**Discussion:** SIGN and NICE frequently used Cochrane reviews. Half of the CBCGs most cited/read reviews were included in a guideline.

**Implications:** A gap exists between clinical guideline topics and Cochrane reviews of interest.

## Guidance Development Project (GDP)—harmonising process and methods across programmes

Peter O'NEILL[1], Elizabeth SHAW[1], **Sarah CUMBERS**[1],

[1] *NICE, UK*

**Background:** As a large national guideline developer, we have a significant and expanding guideline portfolio, encompassing: clinical guidelines; public health guidelines; and now social care guidelines. Guidelines are currently developed using different manuals for each programme. However, increasing numbers of guideline topics span clinical, public health and social care. This reflects a wider policy drive to better integrate health and social care.

**Objectives:** To develop a unified methods and process manual for use across the guidelines programmes.

**Methods:** The guidance development project (GDP) was established and a project team appointed to write and implement the unified manual. The project team were supported by a number of working groups, with input from each programme.

**Results:** A draft unified methods and process manual was developed. This will go out for public consultation in April 2014, in advance of final sign-off. We will present key changes, with examples where differences were resolved or where they remain due to the specific requirement of the type of topic and review questions.

**Discussion:** Unification of methods and processes is not about doing everything in the same way. The GDP has shown that in some areas methods and processes can be standardised. In other areas there is a need for flexibility to use different methods in accordance with size, types of review question and types of evidence being considered.

**Implications for guideline developers:** Developers of our guidelines will be required to use the new unified manual from January 2015.

# Identifying high priority topics for management of frail and elderly patients with chronic kidney disease (CKD)—scoping an European guideline

**Ionut NISTOR**[1,2], Evi NAGLER[1,3], Maria HALLER[1,4], Davide BOLIGNANO[1,5], Wim VAN BIESEN[1,3], Sabine N VAN DER VEER[1,6],

[1] *European Renal Best Practice, Ghent University Hospital, Belgium*
[2] *University of Medicine and Pharmacy 'Gr. T. Popa'Iasi, Romania*
[3] *Department of Internal Medicine, Ghent University Hospital, Belgium*
[4] *Center for Medical Statistics, Medical University Vienna, Austria*
[5] *Clinical Epidemiology and Physiopathology of Renal Diseases, Italy*
[6] *Department of Medical Informatics, Academic Medical Center, the Netherlands*

---

**Background:** European Renal Best Practice (ERBP) is developing guidelines for management of frail and elderly patients with advanced CKD in collaboration with the European Geriatric Society (EUGMS).

**Objectives:** To ensure the guideline relevance, the current scoping project aimed at identifying the topics considered high priority by nephrologists and geriatricians across Europe.

**Methods:** The scoping project entailed 3 steps: 1) a literature review in MEDLINE, Cochrane Library, and websites of professional (guideline) societies; 2) an online survey among European clinicians; 3) a face-to-face consensus meeting with experts using Nominal Group Technique. Experts rated each topic twice on a 9-point scale. Consensus was defined as all ratings in one round being within a 3-point range.

**Results:** Step 1 and 2 yielded in a list of 896 titles and 563 replies on the online survey. This resulted in a list of 46 topics suitable to be addressed in the next guideline. When rating this list during the meeting, the experts reached consensus on the importance of 3 topics in Round 1. This number increased to 11 in Round 2.

**Discussion:** When consensus was reached, 3 categories were chosen for further development: topics for systematic review, topics for consensus statements, and topics already addressed by existing guidance.

**Implications for guideline developers:** There was general agreement that the procedure resulted in better understanding of what the topics really cover, and why they are considered important by the other specialties.

## WE WILL SHARE! Why would every hospital make its own clinical practice guidelines?

Anja SMELAND[1], **Espen HELVIG**[1], Anne-Lise SEIPAJRVI[1], Silje KRABBE[1], Astrid THORSTAD[2], Inger Lucia SOJBJERG[2], Kathrine ESPELAND[2], Karin BORGEN[1,3,4], Brynjar FURE[3,4],

[1] *Oslo University Hospital, Norway*
[2] *Oslo and Akershus University College of Applied Sciences, Norway*
[3] *National Network for Clinical Practice Guidelines, Norway*
[4] *Norwegian Knowledge Centre for the Health Services*

---

**Background:** Children undergoing surgery often experience fear and anxiety. Preoperative anxiety is associated with a number of adverse postoperative outcomes. There was a need for common practice on preoperative preparation of children undergoing surgery In Norway.

**Context:** Many hospitals in Norway wish to collaborate and share evidence-based clinical practice guidelines. The open access Network for Clinical Practice Guidelines in Norway supports health professionals, contributes to high-quality care and reduces unwarranted variation in practice. The hospitals in Norway had no evidence-based clinical practice guidelines on this topic.

**Description of best practice:** An evidence-based, multidisciplinary clinical practice guideline for preoperative preparation of children was developed according to standards set by the National Network (www.fagprosedyrer.no). The clinical practice guideline is multidimensional and consists of two audiovisual films, leaflets and three age-appropriate pictorial binders. The guideline was reviewed by a number of health care experts and national health organizations to ensure its quality. In addition, children and adolescents (with and without hospital experience) have reviewed and tested the films and pictorial binders.

**Lessons for guideline developers, adapters, implementers and/or users:** With this multidimensional and multidisciplinary approach we enable systematic implementation. Support material to the guideline developed in this project will make age-appropriate preparation easier. A survey of nurses' preoperative preparation of children will be conducted before, during and after the implementation. Furthermore, the products (age-appropriate films and pictorial binders) will be translated into other languages (English, Polish, Urdu, Arabic, Somali).

## The Australian Asthma Handbook Version 1.0: harnessing technology to publish guidelines involving 100 contributors, 500 recommendations and 50,000+ users

**Siobhan BROPHY**[1], Mark OLSZEWSKI[1], Jenni HARMAN[2],

[1] *National Asthma Council Australia*
[2] *Meducation Australia*

---

**Background:** The Australian Asthma Handbook, published by National Asthma Council Australia, is Australia's national guideline for primary care asthma management. It covers all aspects of asthma diagnosis and management in adults and children. Previous editions were primarily print publications; this new edition was published in 2014 as a dedicated website: www.asthmahandbook.org.au.

**Context:** The broad scope and multidisciplinary approach meant involvement of more than 100 primary care and specialist contributors from around Australia. The target users include more than 50,000 general practitioners, community pharmacists and primary care nurses.

**Description of best practice:** A small secretariat was established with a focus on project management, communications and online publishing skills. Widely available tools and technology were used to manage the complex process. Online survey tools were effective, particularly in canvassing opinions prior to working group meetings, allowing discussions to be streamlined. Working documents were internally hyperlinked to show the intended online structure. The website design exploited the advantages of online publishing, with key recommendations highlighted, supporting commentary at a deeper layer and hyperlinks provided to references and external resources. Icons next to the 500+ recommendations linked to how each was developed, providing transparency of methodology.

**Lessons for developers:** This complex project required flexible and resourceful project management, harnessing available technology without alienating less experienced contributors. Using online surveys was an effective and efficient way to gain contributor input, particularly for grading recommendations. Advances in online publishing can be used to ensure the most important advice is the most prominent.

## The challenges of providing guidance when evidence is incomplete: managing glycaemia in type 2 diabetes

**Georgina KILROY**[1],

[1] *Therapeutic Guidelines Limited, Australia*

---

**Background:** Type 2 diabetes mellitus (T2DM) affects 3.9% of the Australian population, with prevalence steadily rising since the late 1980s. In this time, many antihyperglycaemic drugs have entered the market, not all standing the test of time.

**Context:** In August 2012, revision of the Therapeutic Guidelines: Endocrinology topics commenced. In line with the Therapeutic Guidelines Limited mission, the revision aimed to provide concise, user-friendly and independent therapeutic advice.

**Description of best practice:** The Expert Group agreed the readership would value practical management advice for T2DM, particularly for optimising and escalating drug treatment. There were three main challenges to establishing a user-friendly algorithmic treatment approach. Since the publication of version 4 in 2009, the therapeutic landscape of T2DM has continued to change, with additions and withdrawals of antihyperglycaemic drugs, as well as ongoing concerns about the safety of some commonly prescribed therapeutic options. Newer agents have been shown to improve surrogate endpoints, but minimal data are available on morbidity or mortality outcomes. More than 25 combinations of drug classes for therapy in T2DM are now possible, but good quality head-to-head evidence is lacking.

**Lessons for guideline developers:** The Expert Group stratified therapeutic options based on strength of evidence, knowledge of the natural history of the disease, and clinical experience. Strong recommendations were made for therapeutic options with extensive long-standing evidence of efficacy and safety. The group carefully assessed and distilled evidence for therapeutic options when data were incomplete, making recommendations accordingly. Expert consensus and clinical experience guided recommendations in evidence-free zones.

# Developing a series of clinical practice guidelines simultaneously in a bi-national context

**Mark OAKLEY BROWNE**[1],

[1] *Chair, Committee for Therapeutic Intervention & Evidence-based Practice, RANZCP, Australia*

**Background:** The Royal Australian and New Zealand College of Psychiatrists produces clinical practice guidelines (CPGs) on a number of psychiatric disorders for professionals, and supplementary guides for consumers and the community. In 2013-2014 it embarked on an ambitious project to review and update five CPGs and consumer and community guides. Topics included schizophrenia, eating disorders, mood disorders, deliberate self harm and anxiety disorders.

**Context:** Working from a bi-national perspective means that the CPGs need to be relevant and applicable across jurisdictions and address the needs and complexities of different populations and Indigenous peoples.

**Description of best practice:** Chairs of the CPG working groups established a steering group to provide oversight of the project and to ensure rigour, coherence and consistency in the format of all the CPGs. The 2-year project was staged to ensure that lessons from the bi-national consultation process from one CPG could be translated to other CPGs during development.

**Lessons for guideline developers:** Developing a series of CPGs simultaneously is a major task however, efficiencies were created by having a consistent approach to all five CPGs requiring the writing of only one methodology paper. Working groups can support and learn from each other and consistency in style and presentation can aid the user's familiarity with the product. A project management approach is crucial to ensure a quality product, the timelines are met and the project is within budget.

## Using telephone triage protocols to support nurse video triage

**Mary BYRNE**[1], Elia VECELLIO[2], Andrew GEORGIOU[2], Johanna I WESTBROOK[2],

[1] *Healthdirect Australia*
[2] *Centre for Health Systems and Safety Research, Australian Institute of Health*

**Background:** Healthdirect Australia was established by the Council of Australian Governments with the purpose of providing all Australians with access to trusted professional health information. This includes a tele-triage service, Healthdirect Australia, which is provided by registered nurses utilising a set of triage algorithms established for non-emergency telephone triage services. In 2013 work was commenced on adding video consulting capability to the service.

**Objective:** To review the evidence regarding the use of telephone triage protocols during nurse consultations to identify potential risks associated with the use of these protocols for nurse video consultations.

**Methods:** An evidence scan was conducted in July 2013 across the PubMED, MEDLINE, EMBASE and CINAHL databases.

**Results:** No research studies were identified which directly examined the use of telephone triage protocols for nurse video consultations. Twelve studies indirectly informed the research question, none of which found that the availability of visual information interfered with the nurse consultation process. Most of the studies reported that the visual information improved the outcome of the triage and was important in allowing the nurses to see the physical characteristics of an illness or injury.

**Discussion:** The results from this evidence review will inform a substantive formative evaluation that is being undertaken as the video consulting capability is fully implemented.

**Implications:** Video consulting capability represents a major (and internationally significant) extension in the use of video services for healthcare. The evidence from this study will contribute to the continuing development, quality and sustainability of video consulting capability in Australia and world-wide.

## Rating the confidence we can place in studies that evaluate the importance of the outcomes of interest

Pablo ALONSO-COELLO[1], Yuan ZHANG[2], Anna SELVA[1], Andrea Juliana SANABRIA[1], David RIGAU[1], Ivan SOLO[1], Gordon GUYATT[2], **Holger SCHÜNEMANN**[2],

[1] *Iberoamerican Cochrane Center (IIB-Sant Pau), Spain*
[2] *McMaster University, Canada*

---

**Background:** GRADE considers the confidence in the evidence supporting estimates of patients' values and preferences (VPs) (i.e. how patients or the public value the desirable and undesirable outcomes of interventions) and their variability when moving from evidence to recommendations. Nevertheless, detailed guidance about how to evaluate the confidence we can place in this type of evidence is unavailable.

**Objectives:** To develop a framework to rate the confidence in the evidence about VPs.

**Methods:** Iterative process including; brainstorming of international group of methodologists and feed-back from the GRADE working group, systematic review of methodological guidelines handbooks, review of the methodological literature in the field of guidelines development and health economics.

**Results:** We have developed an initial proposal. For the risk of bias we propose to consider several aspects common across study designs (e.g. selection bias) and some specific to the type of methodology used (e.g. for standard gamble, qualitative research). The framework considers other factors including consistency, precision, directness, and publication bias. Starting from high confidence, limitations in these aspects lowers confidence. We will present the full framework with examples and a tabulated presentation of the results.

**Discussion and Implications for guideline developers/users:** Consideration of VPs is crucial when developing recommendations. There is an urgent need for a transparent and feasible framework to evaluate the confidence we can place in bodies this type of evidence. Our framework could help the guideline community to make the consideration of VPs when developing recommendations more structured.

# How do systematic review users and producers interpret the stability of research findings based on GRADE quality of evidence ratings?

**Kylie THALER**[1], Isolde SOMMER[1], Andreea DOBRESCU[2], Tammeka SWINSON EVANS[3], Kathleen LOHR[3], Gerald GARTLEHNER[1,3],

[1] *Department for Evidence-based Medicine and Clinical Epidemiology, Austria*
[2] *Victor Babes University of Medicine and Pharmacy, Romania*
[3] *RTI International, Research Triangle Park, USA*

---

**Background:** Quality of evidence (QoE) assessments describe succinctly to stakeholders the findings of systematic reviews (SR). GRADE (Grading of Recommendations Assessment, Development and Evaluation) defines QoE as the extent of the confidence that the estimates of the effect are correct. The concern is that SR producers and users interpret terms intended to convey (un)certainty differently, hampering communication within guideline panels.

**Objectives:** To determine the degree of stability of effects over time that users and/or producers associate with QoE grades.

**Methods:** In a web-based survey participants used an interactive sliding graphical scale (0% to 100%) to indicate their interpretation of the degree of certainty that future results would NOT substantially change the estimated effect. For 'high' a lower level was required, for 'moderate' the lower limit for the range, and for 'low' the next lower limit (corresponds to the upper limit for 'very low').

**Results:** 221 persons completed the survey, 133 identified as users and 160 producers. SR users and producers did not differ in their interpretation of the QoE grades: $F(4, 408)=1.24$, $p=0.29$, Wilk's $L=0.98$. The mean (SD), median, and interquartile range for interpretation of stability were: high 86.0% (8.2), 90% (80%-90%); moderate 61.0% (11.8), 60% (50%-70%); low 34.8% (14.5), 30% (25%-50%).

**Discussion and Implications for guideline developers/users:** Producers and users of systematic reviews invest similar meanings in QoE gradings which makes GRADE a useful tool for communicating uncertainty within guideline panels. Future studies should determine the predictive validity of the GRADE approach using real-world bodies of evidence.

## Standard wording for formulating evidence conclusions and implications for recommendations

**Emmy DE BUCK**[1], Tessa DIELTJENS[1], Nele PAUWELS[1], Hans VAN REMOORTEL[1], Philippe VANDEKERCKHOVE[1,2],

[1] *Centre for Evidence-based Practice, Belgian Red Cross-Flanders*
[2] *Department of Public Health and Primary Care, K.U.Leuven, Belgium*

**Background:** In guideline projects it is common that several reviewers work in parallel to develop all the systematic literature reviews in a timely way. In order to obtain uniform guidelines, it is important to standardize the evidence synthesis and to provide standard wording of the evidence conclusions. There is some information available about uniform wording of recommendations, however we found no information about the standard wording of evidence conclusions.

**Objectives:** To develop a template with standard wording for evidence conclusions.

Methods: We searched the literature (Medline) and guideline handbooks, collected information from methodological conferences, and organized discussions in our team consisting of 4 methodological experts. Proposals for standard wording were tested on several evidence summaries.

**Results:** A flowchart was developed, as a hands-on tool for evidence reviewers and members of a guideline development group, to formulate evidence conclusions. In addition, a template was developed with standard wording for several different situations, depending on the statistical significance (yes ($p<0.05$) vs no ($p=0.05$)), the level of evidence (A/B vs C/D) and the presence of imprecision (yes/no). For each standard wording we formulated implications for recommendations.

**Discussion:** Following the introduction of the flowchart and template in our centre, we were able to create guidelines with standardized evidence statements. In addition, these tools enhance interpretation of the available evidence and methodological transparency. We recommend guideline developers to use standard wording of evidence conclusions, in order to improve consistency within one guideline and between guidelines.

## Systematic Reviews: How accurate are they, and how can we do better?

**Gerald BOROK**[1], Todd FEINMAN[1], Iris TAM[1,2],

[1] *Doctor Evidence, USA*
[2] *PharmD*

---

**Background:** The Institute of Medicine (IOM) states that trustworthy guidelines depend on systematic reviews (SRs) of published evidence; however, IOM reports that SRs, if used at all, for guideline development have variable quality and transparency.

**Objectives:** To evaluate a digital evidence-based technology solution for conducting SRs and meta-analyses (MAs) versus traditional methods. Specifically, we sought to determine the accuracy of data extraction and analytical capability of the digital platform.

**Methods:** Conducted series of 120 MAs to replicate direct and indirect MAs in a published SR/MA, to determine extraction and analytic accuracy. Data extraction and analysis done in the platform were compared to the published results and discrepancies were evaluated for causes.

**Results:** A large number (71 of 120 MAs) and several types of errors were found in published SR/MA. Four types of errors in SR: (1) incorrect population denominators in MAs (43.7%); (2) mislabeling studies (16.9%); (3) erroneous input values from studies (16.9%); and (4) miscalculation of odds ratios when input values were correct (22.5%). After correcting errors, two SR treatment conclusions would have been statistically significantly different.

**Discussion:** Inaccuracies in SRs/MAs may lead to erroneous safety/efficacy conclusions in published reviews and subsequent guidelines. Use of digital technologies and data extraction with high quality control may be more effective, efficient, and accurate for conducting SRs/MAs.

**Implications for guideline developers/users:** Our results indicate that the use of a digital evidence-based platform ensures accuracy and quality of SRs/MAs. Thus, guideline developers may consider adopting this technology for developing trustworthy guidelines to meet IOM standards.

# What are clinical practice guidelines? A typology analysis within the context of a new taxonomy of scientific knowledge

**Sue LUKERSMITH**[1,2], Luis SALVADOR-CARULLA[1],

[1] *University of Sydney, Australia*
[2] *Lukersmith & Associates, Australia*

**Background:** Clinical practice guidelines are often regarded as a secondary output of scientific research and not as a genuine scientific study. In the evidence-based paradigm guidelines are the output of a standard arrangement of scientific discovery through synthesis of available information mainly from RCTs. Despite this EBM approach, expert knowledge influences recommendations. However, the explanation of how the qualitative methods and prior expert judgment in methods such as GRADE, are frequently not transparent. The role of experts is relevant, as both evidence and expert knowledge as two related but equally important parts of clinical reasoning is incorporated. In this context clinical guidelines are a hybrid type of scientific document that should combine the best available evidence with the best expert knowledge in a given topic. However, the current typology of scientific knowledge does not provide an adequate type for placement of this type of study.

**Objective:** To explore how a new type of scientific framing incorporates the research undertaken in clinical guidelines.

**Methods:** A multidisciplinary expert group on complexity and knowledge in the health sciences explored framing theory and scientific frames. Through various iterations, the group reached a consensus on concepts and a preliminary typology in health care and policy. A case study examines the placement of a clinical guideline into the new framing typology.

**Results:** A scientific frame is explicit, standardised, based on available evidence and agreed by a group of experts. The clinical practice guideline is described within the definitions and scientific frame typology.

## Database of Evidence Profiles (DBEP)—challenges and solutions for sharing of summaries of evidence for decision making

**Jan BROŻEK**[1], Yngve FALCK-YTTER[2], Pawe KUNSTMAN[3], Jorg MEERPOHL[4], Artur NOWAK[3], Nancy SANTESSO[1], Holger SCHÜNEMANN[1],

[1] *McMaster University, Canada*
[2] *Case Western Reserve University, USA*
[3] *Evidence Prime*
[4] *German Cochrane Centre*

---

**Background:** There has been much interest in sharing evidence among guideline developers, authors of systematic reviews and HTA reports. Arguably, an ideal model would make evidence summaries freely available with attribution to the original authors. Many organizations, institutions, professional societies and academic groups synthesize evidence for decision making in health care. Results of many such syntheses remain unpublished or are difficult to identify.

**Context:** The GRADE Working Group developed a pilot database of evidence profiles (www.gradeprofiles.org) with a goal of minimizing duplication of efforts and maximizing access to evidence summaries. The DBEP builds on this pilot database and contributions of various stakeholders.

**Description of best practice:** The DBEP enables sharing of summaries of evidence required to inform decision making. Information is stored as individual data points (e.g. names of outcomes, individual effect sizes, annotations) in a standardized format adapted to current variability and future evolution of methodologies and flexible presentation of information to different users. A common data format developed with collaboration with GRADE Tech, CochraneTech and other stakeholders will allow simplified data exchange between different tools.

**Lessons for guideline developers, adapters, implementers, and/or users:** Advanced sharing of evidence summaries is possible and facilitates dissemination of evidence from systematic reviews and guidelines. DBEP provides central repository of already available but otherwise often difficult to identify evidence. Shared evidence summaries enable development of recommendations in geographical areas with scarce resources and support local adaptation of health care recommendations. However, there are many challenges to free sharing of such information.

## Position statements: a method to expedite advice from Cochrane reviews

**Stephanie GOODRICK**[1], Sue BRENNAN[2], Davina GHERSI[1], Geraint DUGGAN[1], Steve MCDONALD[2], Sally GREEN[2],

[1] *National Health and Medical Research Council, Australia*
[2] *Australasian Cochrane Centre*

---

**Background:** Australians contribute to almost a fifth of all Cochrane reviews and are the highest per-capita users of The Cochrane Library. To optimise the value of individual Cochrane reviews, Australia's National Health and Medical Research Council (NHMRC) and the Australasian Cochrane Centre piloted the development of position statements as a means to promote evidence relevant to Australian clinicians and policy makers.

**Objectives:** To develop a method for producing succinct, evidence-based NHMRC Position Statements from high quality relevant Cochrane reviews.

**Methods:** We undertook a six-month pilot in 2013 to test the feasibility of deriving NHMRC Position Statements from individual Cochrane reviews. We screened new and updated reviews against NHMRC priorities and selected those with implications for individual patient care in an Australian context. We undertook targeted consultation with stakeholders on the position statement concept and format.

**Results:** During the pilot, we selected 17 reviews that provided conclusive evidence of single interventions relevant to priority areas; three were used to illustrate the position statement concept. Each statement contained key messages, a summary of findings, and graphical display of results. Overall, stakeholder feedback indicated support for the concept and proposed format. Processes for topic selection and deriving recommendations were identified as areas for ongoing refinement.

**Discussion:** Refinements to the expedited process will be discussed, together with challenges arising.

**Implications for guideline developers/users:** The pilot will inform ongoing efforts to refine methods to rapidly incorporate quality evidence to guidance relevant to Australian health care.

## Training physical therapist guideline developers

**Sandra KAPLAN**[1],

[1] *Rutgers University, Doctoral Programs in Physical Therapy, USA*

---

**Background:** The American Physical Therapy Association (APTA) supports development of physical therapy (PT) clinical practice guidelines (CPGs). A 2.5 day interactive training workshop was designed for potential guideline development groups (GDGs). Teams are supported to attend; measuring the impact is critical.

**Context:** Data from 3 workshops representing measures of self-perceived knowledge and confidence on the ability to create CPGs and observations of strengths and challenges of training GDGs will be presented. Preliminary data on a critical appraisal tool developed for intervention studies and that accounts for more than 1 outcome measure will be shared.

**Description of best practice:** Teams of 2-3 PTs participate in lectures and discussions. A workbook guides them through 3 levels of questions. The 1st deals with identification of organizational infrastructure within their respective specialty sections. The 2nd focuses on GDG organization and talent, and processes for creating CPGs consistent with IOM standards. The 3rd deals with publication, National Guideline Clearinghouse postings, and revision plans. The workbook is a blueprint for the GDG to use after the workshop. Individual and group consultations support further sharing of efficiencies.

**Lessons for guideline developers, adapters, implementers and/or users:** The training workshop has been successful. To date, 12 groups are trained; 11 are developing CPGs or guidance statements; 1 established revision methods to update a CPG. Pretest knowledge and confidence significantly improves after the workshop. Ongoing consultation to support the GDGs is essential. Identifying capable GDG members with enough time to devote is a challenge.

## Predictors of Success in the Guideline Development Process: The American Academy of Neurology Experience

David GLOSS[1], Melissa ARMSTRONG[2], Erin HAGEN[3], **Thomas GETCHIUS**[3], Gary GRONSETH[4],

[1] *Geisinger Health System*
[2] *University of Maryland, USA*
[3] *American Academy of Neurology*
[4] *University of Kansas, USA*

---

**Background:** Because of the resources required, not all guidelines selected for development by professional medical societies are successfully completed.

**Objectives:** To identify predictors of successful progression of a guideline through the development process.

**Methods:** Retrospective review of the progress of guidelines considered by the guideline development subcommittee (GDS) of the American Academy of Neurology from April 2011 to July 2013. The primary outcome was approval of the manuscript to proceed to the next step in the guideline development process. Putative predictors of success entered into a logistic multivariable model using stepwise methods included: number of questions asked, total number of author panel members, number of authors who were members of the GDS, lead author being a member of the GDS and an author with methodological expertise.

**Results:** Sixty one guideline development projects were considered during the time frame of interest. Forty projects were approved to progress to the next stage of development. Significant predictors of success were total number of authors (more authors, less success, OR 0.529), number of GDS members on the author panel (more members, more success, OR 6.36) and the presence of a panel member with methodological expertise (presence, more success, OR 5.74).

**Discussion and Implications for guideline developers:** Guideline author panel composition is strongly associated with the probability successfully completing a guideline. Guidelines developed by professional organizations may be more likely to be successfully completed with fewer total author panel members and proportionately more members with an established interest in or expertise in guideline development.

# Digital guidelines: a flexible user-friendly online format that facilitates interactive external consultation during the guideline development phase

**Katrina ANDERSON**[1], Anne NELSON[1], Fleur WEBSTER[1], Ornella CARE[1], Jennifer CHYNOWETH[1], Helen ZORBAS[1],

[1] *Cancer Australia*

**Background:** As a lead national cancer control organisation, Cancer Australia has published hard copy evidence-based guidelines for over 10 years. A flexible digital guidelines format was needed to facilitate online publication of topic-specific guidelines.

**Objectives:** The aim was to establish a flexible, accessible web-based publishing platform to enable more efficient and effective development, dissemination and updating of guidelines and facilitate interactive online external consultation during the guideline development phase.

**Methods:** A customised digital publishing platform using Docbook software was developed. This uses single-source information in Extensible Markup Language (XML).

**Results:** The Docbook digital platform established has enabled topic-specific guidelines to be more user-friendly, with easy navigation using tailored content structuring and searchable HTML pages. Docbook has also enabled online interactive external consultation during the guideline development phase. Reviewers are able to comment on individual pages of the guideline online and reply to other reviewers' comments. Online external review, conducted for five guidelines developed recently, has facilitated stakeholder engagement in the external consultation.

**Discussion:** Docbook has met initial needs of clinicians in moving from hard copy to online guidelines and enabled interactive online stakeholder review.

**Implications for guideline developers/users:** This digital guidelines platform facilitates easy access to guidelines and interactive collaborative review for external consultation during the guideline development phase. Improved accessibility and updating allows for increased implementation and uptake of guidelines ensuring currency of best practice care and improved outcomes for patients.

# Adapting a large point-of-care information database of evidence-based clinical guidelines and decision support scripts: a process description and evaluation

Nicolas DELVAUX[1,2], **Stijn VAN DE VELDE**[1,3,4], Martine GOOSSENS[1,3,4], Bert AERTGEERTS[1,3,4], Paul VAN ROYEN[5],

[1] *EBMPracticeNet, Belgium*
[2] *Domus Medica, Belgium*
[3] *Belgian Centre for Evidence Based Medicine*
[4] *Academic Center for General Practice, Katholieke Universiteit Leuven, Belgium*
[5] *Department of General Practice, University of Antwerp, Belgium*

---

**Background:** One way to implement evidence based medicine is by disseminating clinical guidelines within the physicians' point of care workflow through diagnosis specific guideline links and computerized decision support systems. To complement locally available Belgian guidelines, we acquired a large set of international clinical guidelines and a decision support system. The challenge at hand was to develop a sustainable strategy for adapting the set of 940 international guidelines and 240 clinical decision support scripts for use in Belgian primary care.

**Aim:** The aim of this paper is to describe and evaluate this collaborative approach to guideline adaptation of a large database of foreign guidelines.

**Methods:** An adaptation process based on the ADAPTE framework was tailored to be used by a diverse group of participants including EBM-organizations, students and volunteering health care providers. According to their importance and relevance in primary care a batch of prioritary guidelines was assessed on content and context aspects and adapted to the Belgian context. Other non prioritary guidelines were only adapted to the local context. Furthermore a clinical decision support tool was adapted to adhere to the new locally adapted guidelines.

**Results:** Detailed results on the adaptation process will be reported at the G-I-N 2014 conference.

**Discussion and implications:** Developing a sustainable but structured method for adapting a large body of point of care clinical guidelines for local use is possible when creating an efficient collaborative effort and ensuring user-friendly procedures.

## Updating clinical guidelines in the digital age

**Carol NORQUAY**[1],

[1] *Therapeutic Guidelines Limited, Australia*

---

**Background:** Evidence can change rapidly, and studies show that almost a quarter of systematic reviews are outdated 2 years after publication. As a general rule, clinical guidelines should be assessed for validity every 3 years.

**Context:** Therapeutic Guidelines Limited (TGL) has developed a production system to create print and digital versions of its guidelines, including online and offline versions for mobile devices.

**Description of best practice:** TGL revises all guideline topics on a regular basis. The guidelines are updated using a unique process involving Australia's leading experts who work with our medical editors to review and update groups of topics, based on new evidence, changing paradigms, areas of uncertainty or controversy, feedback from clinicians and other relevant issues. Guideline topics are grouped by clinical area and revised collectively as one large project. Once the updated guideline topics have been finalised, the old content is deleted and the new content is fully integrated into a content management system, ready for digital publication. Print production takes place concurrently. Given the size of the guideline database and the complexity of the process, the current schedule permits revision of each topic area approximately once every 4 years. We are currently exploring a number of promising ways to increase the speed of updating.

**Lessons for guideline developers:** Strategies include shifting from the book paradigm of updating large groups of topics together to a more rapid and flexible topic-based publishing model, and using new technologies to streamline the guideline updating and production process.

## Challenges in implementing GRADE. Lessons learned in changing methodologies

**Moray NAIRN**[1], Ailsa STEIN[1],

[1] *Scottish Intercollegiate Guidelines Network*

---

**Background:** The Scottish Intercollegiate Guidelines Network (SIGN) has developed national evidence-based clinical guidelines since 1993, using a dedicated methodology for all aspects of guideline development, including clinical question setting, literature searching/appraisal, and formation and grading of recommendations. SIGN guidelines have followed the same broad developmental processes which have evolved to incorporate improvements in systematic reviewing and knowledge translation. The availability of the Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology offers new approaches.

**Context:** To measure the impact of adopting key principles of GRADE within the SIGN development process, two guidelines followed a revised methodology which incorporated changes to the question-setting and recommendation-forming stages.

**Description of best practice:** Guidelines on treatment for breast cancer and osteoporosis were used as pilots for new processes following GRADE principles. In both cases, the new processes were more resource-intensive and linked to problems in development and slower timescales. Adopting six core principles of GRADE within the SIGN guideline development model did not improve the quality of outputs and highlighted numerous practical difficulties.

**Lessons for guideline developers, adapters, implementers and/or users:** Altering existing methodology to incorporate GRADE principles maintained some quality-assured features of guideline development, but had little innovative impact. Adopting GRADE may bring more tangible benefits to developers who have not previously used systematic methods to identify/appraise evidence and form recommendations using specific criteria. The results of these pilots influenced revisions to SIGN methodology. Guideline developers must balance rigour of development with feasibility.

## Updated Acute Coronary Syndrome Guidelines 2015—Aspiring to new standards in guideline quality

**Ian SCOTT**[1], Derek CHEW[2],

[1] *Internal Medicine and Clinical Epidemiology, Princess Alexandra Hospital, Australia*
[2] *Southern Adelaide Local Health Network, Australia*

**Background:** The 2006 acute coronary syndromes (ACS) guidelines from the Cardiac Society of Australia and New Zealand/National Heart Foundation of Australia (CSANZ/NHFA) attracted criticisms of bias due to perceived conflicts of interest (COIs) among its authors.

**Context:** With the planned release of updated ACS guidelines in 2015, the ACS Guideline Update Executive Working Group (ACSG-Exec) saw an opportunity to reform their CPG development processes in line with Institute of Medicine standards.

**Description of best practice:** A methodological expert presented a discussion paper detailing 57 recommendations derived from literature reviews, discussions with international experts, and past CPG production and use within quality improvement collaborations. Recommendations related to identifying target audiences (n=1), defining and prioritising topics/questions (n=3), topic working group composition and processes (n=13), finding, appraising and synthesising evidence (n=13), interpreting evidence and formulating CPG recommendations (n=13), review of draft guidelines by external stakeholders (n=5), enhancing clinicians use of guidelines (n=7), and updating CPG recommendations (n=2). The 11 member ACSG-Exec agreed in principle to all recommendations, particularly those relating to consumer involvement, input from external stakeholders on topic selection, outsourcing of evidence appraisal and synthesis to independent academic groups, transparency of processes around COIs and formulation of recommendations, and methods for enhancing guideline uptake and implementation.

**Lessons learnt:** CPG working groups can aspire to best practice in CPG development if presented with explicit, detailed, evidence-based recommendations. However, time, finance and manpower constraints are perceived as barriers to the operationalisation of all recommendations.

## Implementing the AGREE II instrument to an Australian ambulance service—a case study

**Scott BENNETTS**[1], Bill BARGER[1], Justin NORTH-COOMBES[1], Jeff KENNEALLY[1], Paul BURKE[1], Tony GINIS[1], Gavin SMITH[1], Jodie D'ARCY[1],

[1] *Ambulance Victoria, Australia*

---

**Background:** The Ambulance Victoria (AV) Clinical Practice Guidelines (CPGs) aim to inform paramedic clinical care. Historically, the guidelines were developed and reviewed using a consensus process in consideration of research literature and the unique constraints of the pre-hospital setting.

**Context:** AV services the Australian state of Victoria with a population of 5.8 million people and visits over 500,000 emergency cases each year. Operational and clinical challenges include varying patient case type and acuity, varied population demographics, increasing service demand, and geographical challenges including extremely rugged terrain and seasonal climate variation.

**Description of best practice:** Recognising the need for a greater consistency in the quality of CPGs, AV guideline developers adopted the AGREE II Instrument in late 2011. This was practically implemented by training the CPG development committee in the elements of AGREE, updating the CPG development process to include each aspect of the AGREE instrument, and gaining endorsement for the process from AV executive and the AV medical advisory committee.

**Lessons for guideline developers, adapters, implementers and/or users:** Improving guideline development standards requires executive level support and a defined governance structure. Including the elements of AGREE II within the development process ensures these considerations are incorporated. Challenges include finding realistic evidence review methods to inform clinical practice across the spectrum of patient cohorts in pre-hospital emergency care environment.

# Antibiotic guidelines version 15: from little things big things grow

**Melanie ROSELLA**[1]

[1] *Therapeutic Guidelines Limited, Australia*

---

**Background and Context:** Therapeutic Guidelines: Antibiotic is the flagship title in the Therapeutic Guidelines series, with the first edition published in 1978. Now, 36 years later, we are preparing to release version 15. While many parts of the production process have changed, the brief remains the same to provide evidence-based practical advice on the appropriate use of antimicrobials in Australian health care settings.

**Description of best practice:** Unlike most other classes of drugs, antimicrobials are commonly used by clinicians from diverse medical specialties, so the Antibiotic guidelines writing group has always included experts from many disciplines. The expert writing group for version 15 comprises over 40 members and, in addition to infectious diseases, has expertise in neurology, ophthalmology, cardiology, dentistry, sexual health, respiratory, dermatology, gastroenterology, orthopaedics, intensive care, emergency medicine, clinical pharmacology, general practice and pharmacy. This has been the largest project undertaken by Therapeutic Guidelines to date and there have been many challenges along the way, such as dealing with areas of overlap, achieving consensus across specialties, and reconciling variation in practice in the context of limited evidence.

**Lessons learnt:** This presentation will focus on the evolution of the Antibiotic guidelines from their initial use in hospitals to the significant role they now have in the Australian health care system, including in antimicrobial stewardship programs and national health care standards. It will cover the background to establishing the guidelines, the changes to the production process to meet the changing needs of clinicians, and the lessons learnt.

## Stimulate effective and eliminate ineffective healthcare

**Dieuwke LEEREVELD**[1], Thomas DARLAVOIX[2], Ben Willem MOL[2,3], Teus VAN BARNEVELD[1],

[1] *Knowledge Institute of Medical Specialists, the Netherlands*
[2] *Academic Medical Centre, the Netherlands*
[3] *University of Adelaide, Australia*

**Background:** It is estimated that for 50 percent of healthcare the effectiveness is investigated insufficiently. There is an urgent call from politics and society to reduce the increasing healthcare costs, but there is a limited budget for evaluation research. Therefore it is essential to prioritize knowledge gaps.

**Objectives:** Developing a method that identifies and prioritizes knowledge gaps concerning patient care based on diverse guidelines within a specific discipline (e.g. neurology, orthopedics etc) in order to evaluate the efficacy/effectiveness of the identified healthcare.

**Methods:** Knowledge gaps were inventoried by analysis of recommendations with low level evidence. Furthermore a survey was held among members of the medical specialty society. The identified gaps were prioritized by representatives of the societies, patient organizations and insurance companies according to certain criteria: health gain, society impact, urgency and ability to study.

**Results:** More than 100 gaps (e.g. best treatment for Achilles tendon rupture or carpal tunnel syndrome) were identified per society. After prioritization, a top 5 for each society was determined and an evaluation proposal of the highest prioritized gap is written.

**Discussion:** This method represents a first step of structural identification of ineffective healthcare. It provides potentially cost savings, because it is estimated that there is a return on investment of three times the research investment.

**Implications:** A national research network with structural funding is a convenient way to solve identified gaps and update guidelines with new knowledge. This is in line with the new Dutch guideline database which enables modular maintenance of guidelines.

## When Guidelines Carry the Force of Public Policy

**David BIRNBAUM**[1,2], Pamela LOVINGER[1],

[1] *Washington State Health Department, USA*
[2] *Applied Epidemiology, Canada*

---

**Background:** Guidelines can become public policy through statute, administrative rule or regulation, financial policy, or civil court precedent. Each route has its own advantages and disadvantages.

**Context:** Washington State Health Department experience with various clinical practice issues illustrates how law, rule, regulation, financial incentives and litigation have served to advance patient safety and quality of care.

**Description of best practice:** This presentation describes positive and negative experience with introducing screening of hospital patients for methicillin-resistant S. aureus (state law); notifying patients after infection control breaches (state administrative code); promoting rapid initiation of antimicrobial therapy upon suspicion of pneumonia (CMS reimbursement policy); mandatory influenza immunization of healthcare workers and promoting full disclosure to patients following adverse events or medical errors (court precedents).

**Lessons for guideline developers, adapters, implementers and/or users:** More than one route to give guidelines power. Essential to monitor impact of public policy. Harder to change laws than rules or finances, but "legislation constitutes one of the most important regulatory mechanisms in health care." Providers can harm patients one by one; bad public policy can harm many, for a long time. Public health practitioners and public health academicians should have closer working relationships, and embrace the guideline developer community.

**Parallel Session 2.1:** Workshop

## Collaborative development of guidelines and systematic reviews with Guideline Development Tool (GDT)

**Jan BROŻEK**[1], Pawe KUNSTMAN[2], Artur NOWAK[2], **Nancy SANTESSO**[1], **Holger SCHÜNEMANN**[1],

[1] *McMaster University, Canada*
[2] *Evidence Prime*

---

**Background:** Guideline developers and others making recommendations in health care as well as authors of systematic reviews and other evidence syntheses often collaborate on the project. Most software solutions used in the process do not directly support collaboration forcing guideline developers to use various tools e.g. for document sharing, polling guideline panels, and sending multiple version of documents via email.

**Objectives:** To learn how modern workflow-enabled functions in GDT streamline the process of guideline development and evidence synthesis, improve satisfaction and control chaos related to collaboration of multiple guideline/review authors with various roles who are involved during different phases of a project; to be able efficiently plan and use team work during evidence synthesis and development of recommendations supported with the Guideline Development Tool.

**Target audience:** Authors of systematic reviews, leaders of guideline development groups and methodologists involved in projects that require advanced support for team work.

**Description of the workshop and methods used to facilitate interactions:** The workshop will include 2 parts: a presentation of the advanced software features for intuitive team management and facilitating team work as well as the discussion of the applications specific to participants situation. Discussed and presented will be features related to assigning specific roles, team communication, interaction with the project group and potential advisory groups, cooperation during selecting the evidence and data management, group writing a manuscript, etc.

# The Dental Health Services Victoria (DHSV) clinical guidelines pilot study: measuring adherence to clinical practice guidelines (CPG)

**Richard CLARK**[1], Michael SMITH[2], Denise BAILEY[3], David MANTON[3], Matthew HOPCRAFT[4,5], Mark GUSSY[3,5], Hanny CALACHE[1,3,4],

[1] *Dental Health Services Victoria, Australia*
[2] *Barwon Health, Australia*
[3] *University of Melbourne School of Dentistry, Australia*
[4] *La Trobe University Department of Dentistry and Oral Health, Australia*
[5] *Australian Dental Council, Australia*

---

**Background:** DHSV publishes best practice Clinical Practice Guidelines (CPGs) to assist public oral health practitioners provide high quality dental care. It is unknown how well these CPGs are translated into practice.

**Objectives:** The aim of the study was to pilot methods to assess adherence to evidence-based dental CPGs and to develop a model to enable better point-of-care guidance and improved patient outcomes.

**Methods:** The study involved a regional clinic and central urban dental hospital. We selected a calibration sample of 11 paper-based dental records involving procedures covered by CPGs of interest—Treatment Planning under General Anaesthetic (GA), Stainless Steel Crowns (SSC) and Direct Plastic Restorative Materials (DPRM). Indicators from each guideline were incorporated into tablet-based survey instruments. Six dentists were trained to audit the clinical records using the electronic survey tool. Two senior dentists acted as reference standards. All reviewers recorded clinical indicators to determine CPG adherence.

**Results:** Using Cohen's kappa score to test inter-reliability, the calibration showed acceptable-moderate agreement for GA and SSC guidelines and poor agreement for 3 records comprising DPRM guidelines.

**Discussion:** As a result of the findings, an improved survey instrument and audit tool based on standard corporate software has been developed for implementation.

**Implications for guideline developers/users:** A new CPG audit tool has been developed, compatible with a state-wide public dental health service IT infrastructure. It is highly secure and potentially applicable as a model for quality of practice accreditation and evaluation. There is the potential for extension to private settings.

## Type 2 diabetes care in Australia: Snap shot of guidelines adoption

Margaret WILLIAMSON[1], Malcolm GILLIES[1], Alistair MERRIFIELD[1], Jane LONDON[1], Clare DELANEY[1], **Nancy HUANG**[1],

[1] *NPS MedicineWise, Australia*

**Background/objectives:** For more than 10 years various guidelines have been disseminated for the care of T2DM in Australia. Currently we know little about how to measure care provided by GPs and compliance with guidelines. MedicineInsight extracts non-identifiable patient data about conditions treated, prescriptions and test results from Australian general practice clinical systems. This paper estimates the uptake of key indicators of guidelines adoption for type 2 diabetes (T2DM) care in general practice.

**Methods:** We (1) used/developed a series of indicators that reflected current evidence-based Australian guidelines; (2) developed definitions for each component of each indicator to ensure we captured all available, relevant information recorded in the clinical systems and (3) analysed data for each indicator for each of the participating 62 general practices.

**Results:** The prevalence of T2DM in our sample of general practices was 5.2%. More than 50% of T2DM patients had a BP recorded in the last 3 months, 55% had HbA1c recorded in the last 6 months and 69% had LDL and/or total cholesterol recorded in the last 12 months. Patients with levels at target: 31% (HbA1c); 15% (Blood pressure) and 31% (LDL cholesterol and/or total cholesterol).

**Discussion:** Although guidelines uptake is improving, there remains significant room to improve T2DM care in general practice.

**Implications:** Assessments of guideline adoption should be conducted regularly to assess uptake, investigate reasons for non-adoption and inform policy makers about which activities to invest in, to ensure translation of evidence into practice.

# General Practitioners knowledge of whiplash guidelines improved with online education

**Trudy REBBECK**[1], Luciana MACEDO[2], Placid PAUL[3], Lyndal TREVENA[3], Ian CAMERON[4],

[1] *Discipline of Physiotherapy, The University of Sydney, Australia*
[2] *Common Spinal Disorders Research Group, Department of Physical Therapy, Australia*
[3] *Sydney School of Public Health, The University of Sydney, Australia*
[4] *Rehabilitation Studies Unit, The University of Sydney, Australia*

---

**Background:** Clinical guidelines for whiplash, were developed for the purpose of improving health professional knowledge and practice. General practitioners (GPs) are most commonly consulted for people with whiplash, however whiplash represents a small proportion of their patient load. Implementation strategies therefore need to be effective and pragmatic.

**Objectives:** To evaluate the effect of an online education implementation strategy for GPs managing whiplash. To identify factors that would predict learning to inform future implementation strategies.

**Methods:** An online educational and evaluation activity was developed to reflect the key messages for general practitioners from Australian whiplash guidelines. The activity was hosted by the Royal Australian College for General Practitioners for 3 years. Participants were recruited through advertisement and media releases. GPs participated in the educational activity and completed both pre and post knowledge questionnaires. The primary outcome was change in professional knowledge. Predictors of learning were computed using linear regression.

**Results:** 500 GPs participated. Knowledge significantly improved between pre and post knowledge questionnaires ($p<0.00001$) and 57.2% of participants improved their knowledge by more than 20%, indicating a large effect. Low baseline knowledge predicted learning, accounting for 71% of the variance.

**Discussion:** Online education resulted in a significant and large effect on changing GPs knowledge to be consistent with clinical guidelines for whiplash. Greater learning was observed in GPs with low baseline knowledge.

**Implications for guideline developers and users:** Future implementation strategies involving GPs should consider online mediums due to accessibility, low cost and large effects on learning.

## Effectiveness of peer-assessment for implementing a Dutch physical therapy low back pain guideline: a cluster randomized, controlled trial

Simone VAN DULMEN[1], **Philip VAN DER WEES**[1],

[1] *Radboudumc, Scientific Institute for Quality of Healthcare, the Netherlands*

**Background:** Clinical practice guidelines are considered important instruments to improve quality of care. However, success is dependent on adherence, which may be improved using peer-assessment, a strategy in which professionals assess performance of their peers in a simulated setting.

**Objective:** To determine whether peer-assessment is more effective than case-based discussions to improve consistent clinical reasoning as proxy for adherence to the Dutch physical therapy guideline for low back pain (LBP).

**Methods:** We conducted a cluster-randomized controlled trial with ten Communities of Practice (CoPs) of physical therapists (n=90); six CoPs in the peer-assessment group and four CoPs in the control group. Both groups participated in four educational sessions. Peer-assessment groups reflected on performed LBP management in different roles. The control groups used structured discussions. Outcomes were assessed at baseline and at six months. Primary outcome was knowledge of the guideline and guideline consistent reasoning, measured with 12 performance indicators using four vignettes with specific guideline related patient profiles. Secondary outcome was self-reflection as measured by the Self-Reflection and Insight Scale (SRIS).

**Results:** Vignettes were completed by 78 participants (87%). Multilevel analysis showed an increase in guideline-consistent clinical reasoning of 8.4% in the peer-assessment groups whereas the control groups showed a decline of 0.1% (estimated group difference 8.7%; [95%CI: 3.9 to 13.4; P<0.001]). We found no group differences on self-reflection.

**Implications:** Peer-assessment is associated with an increase in knowledge and guideline-consistent clinical reasoning, and is a promising tool for implementing clinical guidelines.

# The impact of evidence-based clinical practice guidelines on physiotherapy practice for low back pain

**Susanne BERNHARDSSON**[1,2], Maria LARSSON[3,4],

[1] *Närhälsan Rehabilitation, Region Vastra Gotaland, Sweden*
[2] *Linköping University, Dept of Medicine & Health Sciences, Sweden*
[3] *Närhälsan, R&D Primary Health Care, Region Vastra Gotaland, Sweden*
[4] *The Sahlgrenska Academy at Gothenburg University, Sweden*

**Background:** Knowledge is limited about the use of various treatment methods for common musculoskeletal disorders, such as low back pain (LBP), in primary care physiotherapy, and about the impact of guideline implementation.

**Objectives:** To examine treatment methods used for LBP by physiotherapists and the effect of a guideline implementation.

**Methods:** A tailored, multi-component implementation intervention of evidence-based guidelines for physiotherapy treatment of LBP (277 physiotherapists) was compared with a control group receiving no intervention (171 physiotherapists). Treatment methods used were measured by a self-report, web-based questionnaire. Survey responses were also compared with guideline recommendations.

**Results:** 168 physiotherapists (60.4%) in the intervention group and 88 physiotherapists (51.5%) responded to the post-intervention questionnaire. After the intervention, most frequently used treatment methods for LBP were advice on posture (reported by 95% vs 90%), advice to stay active (93% vs 90%), and stabilisation exercises (88% vs 80%) in the intervention group and control group, respectively (no significant differences). Proportions of physiotherapists reporting use of TENS (30% vs 45%, p=0.016), body awareness training (23% vs 6%, p= 0.002), and manipulation (9% vs 23%, p=0.001) differed significantly between groups. Advice and stabilisation exercises were also recommended in guidelines.

**Discussion:** The modest effect can likely be explained by the fact that many physiotherapists used evidence-based treatment methods that were consistent with the guideline recommendations already before the implementation.

**Implications for guideline developers/implementers:** A tailored, multi-component guideline implementation had a modest effect on clinical practice. Clinical practice was consistent with guideline recommendations already before the implementation.

# Does a tailored implementation strategy aimed at improving guideline adherence in occupational physicians improve patient outcomes?

**Evelien BROUWERS**[1], Karlijn VAN BEURDEN[1], Margot JOOSEN[1], Jaap VAN WEEGHEL[1,2,3], Berend TERLUIN[4], Jac VAN DER KLINK[5],

[1] *Tilburg University, Department Tranzo, the Netherlands*
[2] *Phrenos Centre of Expertise, the Netherlands*
[3] *Parnassia Group, Dijk en Duin Mental Health Center, the Netherlands*
[4] *VU University Medical Center Amsterdam, EMGO Institute, the Netherlands*
[5] *University Medical Center Groningen, the Netherlands*

---

**Background:** Guideline based care is increasingly being advocated to improve quality of occupational health care, but implementation remains challenging. Occupational physicians (OPs) might be in the position to play a more prominent role in the prevention of long-term absenteeism due to mental disorders, but adherence to existing guidelines on how to do this is low.

**Objective:** While a previous study investigated if guideline adherence could be improved using a tailored implementation strategy (see abstract submitted by Joosen et al), the present study investigated if this strategy leads to better patient outcomes.

**Methods:** Sixty-six Dutch OPs participated in a cluster randomized controlled trial. Whereas the control group provided care as usual, the intervention group received an 8-session training over the course of one year, explicitly targeting perceived barriers. It focused on improving guideline adherence by increasing knowledge and positive attitudes, and on finding and practicing solutions to external barriers for behavior change. All new patients reporting sick because of mental disorders between January 2012 and January 2013, (N>1000), were included, and sick leave duration was monitored during 12 months.

**Results:** The sick leave data are currently being analyzed. Results will be readily available at the G-I-N conference in August 2014.

**Discussion and implications:** This study contributes to the development of evidence-based guidelines and effective occupational health care. Importantly, this method may be a useful approach for implementation of other guidelines.

## Strengthen engagement and implementation using multiple technologies

**Brent KNACK**[1], Jacinta LEE[1], Lyndel GRAY[1], Rebecca KIMBLE[1,2,3,4],

[1] *Queensland Clinical Guidelines, Queensland Health, Australia*
[2] *Statewide Maternity and Neonatal Clinical Network, Queensland Health, Australia*
[3] *Royal Brisbane and Women's Hospital, Australia*
[4] *School of Medicine, University of Queensland, Australia*

---

**Background:** Clinician awareness and access, organisational endorsement and developer responsiveness are central elements of guideline implementation. Concurrent strategies utilising technology enhance these elements to strengthen clinician engagement and support long-term efficiency. Queensland Clinical Guidelines' Statewide education strategy uses multiple modalities and technologies including telehealth and online solutions to improve implementation across a vast geographic area.

**Context:** Queensland's Public Health system delivers a diverse range of services, catering for rural and metropolitan areas across >1.7million sqkm. Implementation of statewide clinical guidelines is challenging in this setting. Using multiple technologies allows unprecedented clinical engagement and efficiency of implementation.

**Description:** Education via the telehealth network improves access to expert clinical education, reducing expenses and encouraging discussion between referral centres. Virtual groups, online contact management and scheduled emails streamline raising awareness. An online information portal improves access, supporting site champions to advertise, assess and recognise participation. Endorsement by professional organisations is favourable. Availability of education slides and recorded videoconferences reaches additional clinicians after the session. Education is further supported with 24hr access to online knowledge assessments. Comprehensive feedback is sought and changes are communicated to clinicians. Estimated savings from centralised videoconferencing is $284,000 per 10 sessions.

**Lessons:** Concurrent strategies addressing awareness, access, endorsement and responsiveness strengthen clinician engagement and best practice implementation; simple and accepted technologies are sufficient to build long term efficiency; distributed education improves clinician confidence and is highly valued by clinicians and executive; education is most effective when available in multiple formats; greatest engagement occurs where education opportunities are limited.

## Improving guideline uptake by integrating an effective online education tool

**Jutta VON DINCKLAGE**[1], Ian OLVER AM[1], James NICHOLSON[2], Tim SHAW[2],

[1] *Cancer Council Australia*
[2] *Workforce Education and Development Group, The University of Sydney, Australia*

---

**Background:** Qstream is an online learning tool that integrates the spacing and testing effect and has proven to improve knowledge acquisition and retention, change behaviour and improve self-assessment in several RCTs with medical professionals.

**Context:** Specialising in cancer-based guideline development for the Australian healthcare context, we transitioned to developing our guidelines online using a custom-build wiki platform. The next step was to integrate the guidelines with an effective online learning tool to address the issues around implementation.

**Description of best practice:** To improve uptake and impact of guidelines, a Qstream education course was developed for Stage IV lung cancer chemotherapy based on the key messages of the guidelines. 10 case scenarios with brief multiple choice questions were written by a guideline working group member. Three members revised the case scenarios and piloted the online tool, before a larger group of oncologists was invited to trial the learning tool and to participate in an evaluation regarding the suitability of the platform. Over a period of 4-6 weeks, participants answer a multiple choice question and are provided with further information about each case sent via email or mobile phone. Questions are repeated following specific intervals.

**Lessons for guideline developers, adapters, implementers and/or users:** Best practice for guideline development should include development of corresponding education modules and integrating this into the guideline development process Using a well-researched education methodology and existing specialised digital tool is a resource-effective approach to address issues around guideline uptake.

## Will a mobile application improve the implementation of clinical practice guidelines?

**Deborah S CUMMINS**[1],

[1] *American Academy of Orthopaedic Surgeons (AAOS)*

---

Will mobile applications enhance both dissemination and implementation of clinical practice guidelines? Disseminating and implementing evidence-based clinical practice guidelines are key components of the guidelines development process; without implementation, guidelines will not influence practice or policy. We are reporting on two technological innovations to improve implementation of clinical practice guidelines. First, AAOS developed a web-based platform that is accessible on computers, smart phones and tablets. The following content is included on the application: clinical practice guideline recommendations, case studies, webinars, and supporting information. Modules were developed to evaluate the tool. Six orthopaedic residency programs agreed to test the mobile application. Residents from each institution were divided into two groups. The first group received case studies with multiple choice questions, plus they had access to the guideline recommendations on the mobile application. The second group initially received only the case studies with questions and did not receive access to the guideline recommendations until after answering the questions. Both groups were asked to evaluate the mobile application. At the time of submission, data is being collected. Preliminary results can be reported during the G-I-N meeting. (AHRQ grant 1R18HS021954-01). Second, to implement guideline recommendations in a clinical setting, AAOS developed Appropriate Use Criteria (AUC) mobile application to allow the clinician to enter a patient profile and then instantly receive treatment recommendations designated as 'appropriate,' 'may be appropriate,' or 'rarely appropriate' based on the evidence and the clinical expertise of the multi-disciplinary work group.

# Identifying domains for behavioural change and harnessing technology to implement vancomycin clinical practice guidelines in a South Australian tertiary hospital

**Cameron PHILLIPS**[1,2,3],

[1] *Flinders Medical Centre, Australia*
[2] *School of Medicine, Flinders University, Australia*
[3] *NHMRC Translating Research into Practice Fellow, Australia*

**Background:** Vancomycin is the antibiotic of choice for treating serious methicillin-resistant Staphylococcus aureus infections. In mid-2012 a clinical practice guideline (CPG) for vancomycin dosing and monitoring was introduced at Flinders Medical Centre, with the majority of vancomycin dosing and monitoring performed by junior medical officers (JMOs). Identifying barriers to and enablers of JMO clinical behaviour that could influence vancomycin dosing and monitoring may help target interventions to facilitate implementation of the CPG.

**Objectives:** The objectives were to provide contemporary guidance on vancomycin dosing and monitoring to JMOs in our institution via implementation of new CPG.

**Methods:** A validated behavioural change model, the Theoretical Domains Framework (TDF) was employed to identify domains influencing JMOs behaviour which could be targeted to aid implementation of the CPG.

**Results:** Five domains influencing JMO behaviour were identified as important areas to aid CPG implementation. Memory, beliefs about consequences, environmental resources, and knowledge and skills rated highly. Implementation included uploading the CPG to our intranet, development of an online dosing decision support application and an electronic Continuing Medical Education module with learning objectives based on the CPG, targeted face-to-face educational sessions and dissemination of a pocket-size versions of CPG.

**Discussion:** A significant proportion of JMOs reported the CPG algorithms, educational sessions and possessing a pocket-size CPG were very helpful and that their overall confidence in treating patients with vancomycin had increased significantly.

**Implications for guideline developers/users:** Assessing domains that influence clinical behaviour can identify potential targets for intervention to improve implementation of CPGs.

## GAME-IT: Explore peoples choices and facilitate teaching by turning Guideline-making into a game. A MAGIC project

**Linn BRANDT**[1,2,3], Vladyslav MAGDIN[4], Annette KRISTIANSEN[1,2,3], Peter LUEDERS[4], Per Olav VANDVIK[1,3,5], Simon MCCALLUM[4],

[1] *Innlandet Hospital Trust, Norway*
[2] *Diakonhjemmet Hospital, Norway*
[3] *Institute of Health and Society, University of Oslo, Norway*
[4] *Game Technology Lab, Gjovik University College, Norway*
[5] *Norwegian Knowledge Centre for the Health Services*

---

**Background:** The process of developing guidelines according to standards for trustworthiness can be difficult to understand and learn, both for participating clinical experts, physicians and lay people. We also know little about what individual clinicians, patients or healthy lay people would have recommended if they were provided with the same evidence as experts. When guidelines are stored as data elements the content can be used to make an interactive game that can be used to learn guideline methodology and harvest data about peoples choices.

**Objectives:** Develop and test perceived usefulness of a 'Recommendation-making game' which can be used to: (1) practically learn the principles of guideline making according to standards for trustworthy guidelines; (2) harvest data about users choices when they are presented with the original evidence; (3) give feedback to guideline authors about peoples choices when give their guideline content.

**Methods:** We used modern game technology to make an online Recommendation-making game based on structured guidelines published in the MAGIC (Making GRADE the Irresistible Choice) authoring and publication platform (www.magicapp.org). Testing will be done using qualitative research methods.

**Results:** We will display the game at the conference, along with initial testing results.

**Discussion:** Does clinical experts reasoning match that of people playing the game? Can we make guideline methodology training easier?

**Implications for guideline developers/users:** GAME-IT brings a new way to harvest information regarding values and preferences in decision making, and can potentially improve guideline panels training.

# Characterizing the desirable characteristics of guideline implementation tools

**Anna GAGLIARDI**[1], Melissa BROUWERS[2], Oni BHATTACHARYYA[3],

[1] *University Health Network, Canada*
[2] *McMaster University, Canada*
[3] *Women's College Hospital, Canada*

**Background:** Guideline implementation tools (GItools) enable users to implement guideline recommendations. Developers have requested guidance for developing GItools. First it is necessary to agree on the basic components of GItools and principles for their development.

**Objectives:** To generate a framework of the desirable features of GItools.

**Methods:** Desirable GItool features were generated by cross-sectional survey of the international guideline community. These were rated by 31 guideline developers, implementers and researchers in a Delphi survey. The resulting GItool framework was tested with GItools accompanying guidelines identified in the National Guideline Clearinghouse.

**Results:** The cross-sectional survey was completed by 96 respondents from 12 countries. Thirty-one panelists from ten countries took part in a two-round Delphi survey. Ten items achieved consensus as desirable GItool features in round #1, and two additional items in round #2. Thirteen GItools were identified among 149 guidelines (8.7%). Among these, inclusion of desirable features ranged from 0% to 92% (median 54%). This varied by type of GItool.

**Discussion:** Among a sample of guidelines, few GItools were identified, and few possessed features considered desirable. Further research is needed to validate the framework; create and test instruments by which developers can apply the framework; and investigate which guidelines should be accompanied by GItools of various types.

**Implications for guideline developers/users:** The GItool framework can serve as the basis for evaluating and adapting existing GItools, or developing new GItools. Ultimately inclusion of higher-quality GItools with more guidelines may enhance guideline implementation and use.

# The DECIDE evidence to recommendation framework—adapted to the public health field in Sweden

**Nils STENSTROM**[1], Karin GULDBRANDSSON[1], Regina WINZER[1],

[1] *Public Health Agency of Sweden*

**Introduction:** Organizations worldwide compile results from scientific studies, and grade the evidence of interventions, in order to assist policy makers. However, quality of evidence alone is seldom sufficient to make a recommendation. Other sources of information, e.g. ethical considerations, resource demands and applicability are needed to complement the scientific quality of an intervention. The aim of this case study was to investigate if the DECIDE (Developing and Evaluating Communication Strategies to Support Informed Decisions and Practice Based on Evidence) evidence to recommendations framework is applicable in the public health field in Sweden.

**Methods:** A systematic review on parenting training programs was chosen and the quality of evidence was graded by using GRADE. The DECIDE evidence to recommendation framework was presented discussed and analyzed in interviews with key persons, a stakeholder test panel and in meetings with governmental organizations.

**Results:** The DECIDE evidence to recommendation framework was adapted according to the results from the discussions in stakeholder panels and with advisory authorities. Two criteria regarding individual autonomy and method sustainability were added and some formulations were modified. The following concerns were lifted by the stakeholders: the composition of the stakeholder panels and the selection of panel members.

**Conclusion:** The adapted DECIDE framework was found to be useful in the public health field in Sweden. The concerns lifted by the stakeholders must be further studied and compared to experiences from other countries with similar socio-political circumstances.

**Key words:** DECIDE framework, GRADE, Recommendations, Public health

## Collaboration, technology and innovation in stroke guideline implementation: an Australian example

**Kelvin HILL**[1], Leah WRIGHT[1], Elizabeth RITCHIE[1], Rebecca NAYLOR[1], Erin LALOR[1],

[1] *National Stroke Foundation, Australia*

**Background:** Stroke is a leading cause of death and disability around the world. Data monitoring systems identify significant evidence practice gaps despite the existence of international guidelines. Multifaceted strategies to improve the quality of stroke care are required.

**Context:** The National Stroke Foundation (NSF) develops guidelines, supports data collection, and provides education and quality improvement (QI) initiatives in Australia. Other groups are also active in this space and the overlapping activities create challenges: multiple, conflicting datasets, poor data linkage, 'definition creep' and increased clinician burden. There is limited ability to link data collection with QI activities.

**Description:** The Australian Stroke Coalition (ASC), a group of stroke groups and professional colleges, is overseeing the creation of an online tool so stroke data (clinical and research) can be collected and linked via a single source. The NSF is creating a technology solution that will link this data tool to the guidelines and QI activities so clinicians have an integrated digital resource to enhance knowledge and support QI activities. Successes and challenges of working across multiple stakeholders and programs will be explored.

**Lessons:** A national approach of quality guideline development, integrated data collection and monitoring and quality improvement strategies can lead to significant improvement. Importance of mechanisms to reach consensus and collaboration with all stakeholders is fundamental to success. The opportunity of integrating guidelines, data collection and implementation support via electronic platforms is planned to maximise the uptake of evidence-based practice.

# An Online Continuing Education Module to Support Evidence-based Clinical Guidelines

**Craig ROBBINS**[1], Sarah SHIMER[1], Helen MORANT[2], Gladys TOM[1], Carolyn SIMPKINS[2],

[1] *Kaiser Permanente, USA*
[2] *British Medical Journal*

---

**Background:** We collaborated with a large publishing group to develop an online Continuing Education Module for the Kaiser Permanente National Cervical Cancer Screening Guideline, which was adopted from the U.S. Preventative Services Task Force Recommendations. The module was brief, case-based, and focused on clinical actions.

**Context:** Each Continuing Education Module included active learning by multiple choice questions (MCQs), case presentations, learner narrative reflection, multimedia, graphic and tabular presentation of key content (Price 2009), learner identification of commitment to change (CTC) statements (Wakefield 2003; Price 2008) and identification of barriers to intended practice change (Price 2010). Modules were designed to take approximately 20 minutes to complete.

**Description (outcomes):** To date we have collected 31 evaluations. In concordance with the new guideline: 68.1 % of respondents were "highly likely" to identify when to start screening women for cervical cancer screening 87.5% of respondents were "highly likely" or "likely" to identify when to use PAP smears and HPV testing for cervical cancer screening 94.1 % of respondents were "highly likely" or "likely" to tailor recommendations for screening interval to women based on their risk. The most common barrier to implementing the learnings was patient agendas/beliefs/priorities, and learners not yet ready to change practice (32.3%).

**Lessons for guideline developers:** Developing online Continuing Education Modules to support the dissemination and implementation of clinical recommendations that focus on specific performance gaps helps to assess the impact of CPGs on the delivery of evidence-based practice.

# Presenting evidence-based clinical guidelines to general practitioners in The Netherlands

**Jolanda WITTENBERG**[1], Ton KUIJPERS[1], Dorry COX[1], Jako BURGERS[1],

[1] *The Dutch College of General Practitioners*

**Background:** Evidence-based clinical guidelines are often criticized that they are too long and not user-friendly. A PDF document is often not easily accessible at the point of care by physicians. Smart phones, tablets, and other devices are increasingly used to facilitate physicians getting the right information at the right time.

**Objectives:** To evaluate ways Dutch general practitioners access evidence-based clinical guidelines.

**Methods:** We conducted an internet survey among all members (n=10,300) of the Dutch College of General Practitioners (NHG) in 2013. The survey included questions on the different ways GPs access the guidelines for general practice developed by the NHG (n=90).

**Results:** A total of 1,946 GPs completed the survey (19% response rate). A vast majority (85%) accesses the guidelines on the NHG website, 31% uses the smart phone Guideline App, 11% the tablet Guideline App, and 15% uses the guidelines integrated in the electronic medical record system. There is a substantial group, which uses a paper format: full guidelines (11%) and summaries (43%).

**Discussion:** There is no one-size-fits-all-solution in communicating guidelines to GPs . Even in the digital age, paper guidelines are still not out of date. A combination of strategies primarily focusing at a digital surrounding, which enables easy printable products, might be the best option to serve all practitioners.

**Implications for guideline developers/users:** Evaluating ways target users access guidelines could contribute to improving the dissemination strategy of guidelines.

## Developing guideline-based performance measures for UK primary care: a multi-stage consensus process

Bruno RUSHFORTH[1], **Tim STOKES**[2], Elizabeth ANDREWS[3], Rosie MCEACHAN[3], Thomas WILLIS[1], Robbie FOY[1],

[1] *Leeds Institute of Health Sciences, University of Leeds, UK*
[2] *School of Health and Population Sciences, University of Birmingham, UK*
[3] *Bradford Institute for Health Research, UK*

---

**Background:** Performance Measures (PM) are an important tool for improving clinical practice and are increasingly being developed from evidence-based clinical guideline recommendations. The most appropriate PM development methodology remains to be established.

**Objectives:** As part of the ASPIRE research programme, we aimed to identify, select and use relevant clinical guideline recommendations to develop a set of PMs to measure the implementation of evidence-based practice using routinely recorded clinical data in primary care.

**Methods:** We reviewed existing national UK guidelines and PMs and used a four-stage consensus development process to derive a set of PMs relevant to primary care based upon explicit prioritisation criteria. We then field tested the PMs using anonymised patient records from 80 randomly sampled primary care practices in the Yorkshire region of England.

**Results:** Out of 2365 recommendations and PMs originally reviewed, we derived a set of 18 PMs (5 single, 13 composites—comprising 2-9 individual recommendations) for field testing. PMs mainly centred on chronic disease management, in particular diabetes, cardiovascular and renal disease, and included processes and outcomes of care. Field testing proved to be critical for further refinement and final selection.

**Discussion:** While the development process was successful in developing a final set of PMs it remains challenging to derive robust new PMs from clinical guidelines in the absence of established systems for routinely recording clinical data. Implications for guideline developers: We have systematically developed a rigorous and transparent methodology to develop evidence based PMs for primary care from clinical guideline recommendations.

## The Veterans' Medicines Advice and Therapeutics Education Services (MATES) program: bridging the evidence practice gap to improve medicine use and health outcomes for veterans

**Elizabeth E ROUGHEAD**[1], Tammy LEBLANC[1], Lisa M KALISCH[1], Nicole PRATT[1], John BARRATT[1], Emmae N RAMSAY[1], Graeme KILLER[2], Andrew GILBERT[1],

[1] *Quality Use of Medicines and Pharmacy Research Centre, Sansom Institute, UniSA, Australia*
[2] *Department of Veterans' Affairs, Australia*

---

**Background:** Gaps between evidence and practice can be identified using routinely collected health care data, which subsequently enables targeted interventions to be developed to bridge the gap.

**Objectives:** To evaluate a health promotion-based quality improvement program utilising administrative claims data, evidence based medicine and stakeholder engagement to bridge the evidence-practice gap.

**Methods:** The Australian Government Department of Veterans' Affairs Veterans' MATES program joins health professionals and veterans in its interventions, which are delivered quarterly. Administrative claims data are used to provide direct patient-based feedback to medical practitioners. This is supported with evidence based educational material developed by a clinical panel, peer reviewed and overseen by a national editorial committee. Veterans who meet target criteria are mailed educational brochures. The program is supported by a national call centre, ongoing consultation with stakeholder organisations and, veteran and practitioner reference groups. Evaluation includes surveys and observational studies.

**Results:** Thirty-four educational topics targeting 280,000 veterans, 30,000 doctors and 8,500 pharmacies and accredited pharmacists have been implemented. Over 85% of medical practitioners, 97% of pharmacists and 81% of veterans consistently reported the material was helpful. Of the twenty-four topics for which evaluation is complete, twenty have improved medicine use with relative effect sizes range from 1% to 14%. The remaining four have reinforced existing messages.

**Implications for guideline developers/users:** Key factors contributing to program success include the focus of interventions on known problem areas, the use of behavioural theory to inform the intervention and strong stakeholder engagement.

## Guideline Evaluation with the Aid of a Population Based Registry

Eefje VERHOOF[1], **Kees EBBEN**[1], Janneke VERLOOP[1], Thijs VAN VEGCHEL[1],

[1] *Comprehensive Cancer Centre the Netherlands*

---

**Background:** The Comprehensive Cancer Centre the Netherlands applies, along with health care professionals, a continuous process of developing, implementing and evaluating guidelines. The evidence based Dutch guideline for epithelial ovarian cancers (EOCs) was revised in 2009. The Netherlands Cancer Registry (NCR) was used to obtain the necessary data to measure the guideline usage. The NCR is a population based nationwide cancer registry, containing standardized information of all malignancies in a central database.

**Objectives:** The usage of the NCR to measure the success of implementation of specific recommendations in the EOCs guideline. In order to enable adaption of implementation strategy and future guideline improvement.

**Methods:** A population-based series of all newly diagnosed ovarian cancer patients in the Netherlands from 2008 until 2011 was identified through the NCR. The guideline workgroup established 10 indicators to measure implementation. Data was obtained through NCR and in two regions supplementary clinical data was collected retrospectively through a medical file survey.

**Results:** Enhancements were found on concentration of care, operation presence of a oncological gynecologist and type of chemotherapy in advanced stage patients. The appropriateness of staging surgery and the administering of chemotherapy in low stage patients could be improved.

**Discussion:** Evaluation results in specific feedback to stakeholders and improvement in application of relevant recommendations. Population based registries enable a thorough evaluation of guidelines.

**Implications for guideline developers/users:** Explore for data sources/registries in collaboration with professionals.

# CORE Adult patient database provide useful tool to monitor VTE prevention guidelines sustainability among Australian ICUs

**Shaila CHAVAN**[1], David PILCHER[1,2,3], Sue HUCKSON[1],

[1] *ANZICS center for outcomes research and evaluation (CORE), Australia*
[2] *The Alfred Hospital, Australia*
[3] *ANZIC-RC, Monash University, Australia*

**Background:** National Health and Medical Research Council (NHMRC) guidelines released in 2009 recommended administration of prophylaxis for prevention of venous thromboembolism (VTE) to all patients with acute illness, trauma, cancer, undergoing surgery or during pregnancy and the puerperium, and for all patients admitted to an intensive care unit (ICU). The Australian and New Zealand Intensive Care Society (ANZICS) Adult Patient Database (APD) collects individual patient data from adult ICUs for performance monitoring purposes. Administration of VTE prophylaxis within the first 24 hours of ICU admission is one of the variables collected.

**Objectives:** The objective of this study was to determine the proportion of ICU admissions who received VTE prophylaxis and to assess any change over time following publication of the NHMRC guidelines.

**Methods:** Retrospective analysis of all ICU patient episodes submitted to the ANZICS APD between 2009 and 2013 was performed. Patients in whom VTE prophylaxis was not indicated were excluded.

**Results:** 423,525 records (age >=18 years) from 139 Australian ICUs admitted during five year period were analysed. Overall 90.3% patients received VTE prophylaxis within the first 24 hours of ICU admission. This increased from 85.4% in 2009 to 93.2% in 2013 ($p<0.0001$).

**Conclusion:** Provision of VTE prophylaxis to ICU patients has increased since the publication of the NHMRC guidelines. Using established registry networks such as the ANZICS APD may be a cost effective and comprehensive method to estimate compliance with guideline recommendations and should be considered by guideline developers.

## Knowledge Mobilization: Application of Implementation Science and best practice guidelines to the diagnosis of Autism Spectrum Disorder

**Cyndie KONING**[1], Shawn REYNOLDS[1], Elizabeth KELLY[1], Erane MCMANUS[1], Mayank REHANI[1],

[1] *Glenrose Rehabilitation Hospital, Canada*

---

**Background and Context:** The Glenrose Rehabilitation Hospital is a regional tertiary assessment and treatment facility in Alberta, Canada providing interdisciplinary assessment to more than 400 children referred with a query of Autism Spectrum Disorder (ASD) yearly. An environmental scan of diagnostic practices revealed considerable variability and little standardization of practice. On site implementation science expertise, readily available best practice guidelines, and new diagnostic criteria (DSM-5) provided the impetus for developing plans for implementation of ASD diagnosis best practice guidelines.

**Description of best practice:** A stakeholder group used an online Delphi voting method to determine first priorities for implementation. Best practices were derived from three published guidelines for the diagnosis of ASD in children. Two primary areas were chosen for initial implementation: 1) integration of DSM-5 criteria; and 2) essential components of an ASD diagnosis (i.e., developmental history, psychological and communication assessment, and structured observation). The National Implementation Research Network provided the framework for implementation. Practice profiles were developed defining ideal implementation and outlining the organizational, systems, leadership and competency drivers that needed to be addressed. A data system was developed to measure fidelity to the guidelines and to provide feedback to implementers on the process. Implementation challenges and successes were catalogued for use with future implementation plans.

**Lessons for adapters, implementers:** Bridging the gap from guidelines to practice does not happen passively. Practice changes require an implementation framework that addresses both what and how a new practice will be implemented, and sustained with fidelity.

## Implementing guidelines: A guideline developer's experience

Ornella CARE[1], Fleur WEBSTER[1], **Anne NELSON**[1], Philippa MIDDLETON[2], Jennifer CHYNOWETH[1], Helen ZORBAS[1],

[1] *Cancer Australia*
[2] *Australian Research Centre for Health of Women and Babies*

---

**Background:** The uptake and implementation of clinical practice guidelines (CPGs) is a challenge for all guideline developers. To facilitate the implementation of guidelines, Cancer Australia has recently adopted the use of FORM1, a grading methodology which allows the quality of evidence and strength of recommendations to be assessed and implementation issues to be considered.

**Context:** Cancer Australia develops CPGs to improve outcomes for people with cancer. To date, Cancer Australia has produced 14 topic-specific online only guidelines. In 2014, three new guidelines have been published or are currently in development, that incorporate the FORM methodology.

**Description of best practice:** The Cancer Australia guideline development model engages multidisciplinary working groups that include clinicians, consumers, and representatives from professional Colleges and endorsing bodies. This model facilitates the development of robust guidelines and facilitates uptake into clinical practice. The National Health and Medical Research Council methodology FORM provides a transparent framework for the grading of recommendations and also ensures that issues surrounding implementation are considered. A way to improve the implementation of guidelines is to bring the issues and challenges associated with implementation into the public domain which will assist in driving change.

**Lessons for guideline developers, adapters, implementers and/or users:** This new approach aims to strengthen the guideline development process by taking into account the context in which the guidelines will be implemented. Future evaluation of uptake of these guidelines will enhance guideline implementation utilising the engagement model for promotion of best practice.

## A Collaborative Approach to Guideline Development and Implementation: NPS MedicineWise and Therapeutic Guidelines

Damon JUDGES[1], **Rob MOULDS**[2], Alli PATTERSON[2], Sue PHILLIPS[2], Andrew BOYDEN[1], Aine HEANEY[1], **Robyn LINDNER**[1],

[1] *NPS MedicineWise, Australia*
[2] *Therapeutic Guidelines Limited, Australia*

---

**Background:** Therapeutic Guidelines (TGL) develops digital and print guidelines over a broad range of clinical areas that are widely used by health professionals in Australia. NPS MedicineWise (NPS) promotes the quality use of medicines and diagnostic tests through nationwide educational programs. Both organisations are independent, not-for-profit organisations. Intuitively, collaboration between these two organisations has the potential to lead to powerful synergies and effective improvements in the quality of patient care.

**Objectives:** To demonstrate that collaboration between a national guideline development group (TGL) and a national implementation organisation (NPS) is an effective intervention to address identified clinical practice gaps.

**Methods:** TGL developed guidelines on the "Diagnostic approach to fatigue in primary care" following an approach from NPS who drew attention to the need for guidance for general practitioners in this area.

**Results:** The Fatigue guidelines were developed by TGL over an 18 month period and published in TGL's online guidelines database. NPS is currently developing a national program which will promote the use of the Fatigue guidelines through a suite of educational interventions. Data on the effectiveness of educational interventions used previously in other NPS health program areas will be presented.

**Discussion and Implications for guideline developers/users:** The partnership between TGL and NPS in the delivery of the Fatigue guidelines through a planned guideline development and implementation program aimed at addressing an identified evidence-practice gap, provides a novel guideline implementation model that could have significant success both in domestic and international settings.

## Which barriers do nurses perceive to implementing protocol-based care? A systematic review

**Margot JOOSEN**[1], Marjolein LUGTENBERG[2], Judith ZEGERS-VAN SCHAICK[1], Maartje DE VOS[3], Bert MEIJBOOM[1], Gert WESTERT[2],

[1] *Tilburg University, Tranzo Scientific center for care and welfare, the Netherlands*
[2] *IQ Healthcare Scientific Institute for Quality of Healthcare, Radboud University, the Netherlands*
[3] *Amphia hospital, the Netherlands*

---

**Background:** Implementation of protocol-based care has been challenging even though it has shown to improve quality of clinical care provided by nurses.

**Objective:** To identify the perceived barriers to implementing protocol-based care among nurses.

**Method:** We systematically searched Pubmed, CINAHL and EMBASE (1999-2014) and included qualitative or quantitative studies reporting on perceived barriers to implementing protocol-based care tools, such as practice guidelines, protocols and clinical pathways among nurses. Methodological quality was evaluated and data were analyzed by using an existing framework of Cabana and colleagues (1999), in which barriers were divided into: barriers related to knowledge, barriers related to attitude and external barriers.

**Results:** Of 3707 titles retrieved, 24 studies were included. External barriers were most frequently reported by the nurses, particularly lack of support by management or physicians and lack of time to use the tools in practice. Attitude related barriers, particularly lack of applicability and lack of self-efficacy, were also often reported. Knowledge related barriers were not identified as a major concern.

**Discussion:** Our study indicates that nurses perceive a wide range of barriers to implementing protocol-based care. Similar barriers were reported in other studies involving clinical physicians. However, compared to physicians, external barriers are more prominent in nurses.

**Implications:** To improve the implementation of protocol-based care among nurses it is important to develop interventions that focus on supportive management towards the use of protocol-based care tools. Additionally, enhancing nurses' self-efficacy in terms of applying specific guidelines and protocols in practice may positively affect its implementation.

# Process mapping to identify barriers and facilitators for the international translation of the Australian PCOS lifestyle management guideline recommendations

**Henry KO**[1], Lisa MORAN[2,4], Veronique VIARDOT-FOUCAULT[3], Heng HAO TAN[3], Helena TEEDE[4],

[1] *NHMRC Clinical Trials Centre, University of Sydney, Australia*
[2] *The Robinson Institute, University of Adelaide, Australia*
[3] *KKIVF Centre, KK Women's and Children's Hospital, SingHealth, Singapore*
[4] *Monash Centre for Health Research & Implementation, Monash University, Australia*

---

**Background:** A national Australian evidence-based clinical practice guideline (CPG) for the assessment and management of polycystic ovary syndrome (PCOS) was published in 2011. Key components of the CPG were lifestyle management recommendations, where lifestyle factors could help improve reproductive (including fertility) and other health (metabolic and psychological) outcomes for women with PCOS.

**Context:** Investigating the feasible of implementing the Australian PCOS lifestyle recommendations in a Singaporean PCOS Clinic setting.

**Description:** The journey of women with PCOS at the KKH PCOS Clinic in Singapore was mapped using the quality improvement method of process mapping. The aim was to identify the possible barriers and enablers to implementing PCOS lifestyle management CPG recommendations. Healthcare resources that could be used to encourage women to utilise lifestyle management were also identified. Identified major barriers included: (1) the generous government financial incentives for women to undertake in-vitro fertilisation (IVF) treatment, and (2) the social pressures on women that reduce the preference for lifestyle management. It is proposed to test the PCOS lifestyle management recommendations in a small sample of women using a pragmatic quality improvement technique of plan-do-study-act (PDSA) cycles that will incrementally build a program of workable lifestyle interventions and patient management processes.

**Lessons:** Pragmatic quality improvement process mapping exercises are an essential first step in identifying barriers and enablers. Local clinical, financial, social, and political factors should be identified as possible barriers and/or solutions to implementation, and it should be determined how feasible they are to tackle for CPG translation.

## Diabetes prevention in high-risk women: many guidelines do not make light work

**Sharleen O'REILLY**[1], Edward JANUS[2,3], James DUNBAR[3],

[1] *Centre for Physical Activity and Nutrition Research, Deakin University, Australia*
[2] *Department of Medicine, University of Melbourne, Australia*
[3] *Greater Green Triangle University Department of Rural Health, Australia*

---

**Background:** The single strongest population risk predictor for Type 2 Diabetes (T2DM) is having gestational diabetes (GDM). Increasing incidence rates for GDM and T2DM pose tremendous potential health and economic burdens. Screening and lifestyle intervention can reduce risk but require coordinated primary care. Four varying Australian guidelines exist for following-up women at risk of T2DM, weakening GP awareness and implementation. Australia's National Gestational Diabetes Register (NGDR) provides postnatal reminders to women and GPs about care but is silent on which guideline to follow.

**Objectives:** To identify barriers and enablers to postnatal diabetes prevention care in Australian GPs and women with GDM through a National survey.

**Methods:** 15,000 registered women with GDM and their listed GPs on the NGDR will be contacted via a postcard invitation containing the online anonymous survey link.

**Results:** Both surveys will collect data on current experience, postcode, barriers and enablers around care. Theoretical Domains Framework will underpin barrier and enabler identification. Both surveys will be piloted within representative groups.

**Discussion:** The surveys will provide valuable data on the current experience of GPs and women with GDM for postnatal diabetes prevention care. The survey will also assist the development of a pilot implementation project aimed at improving care using a collaborative approach in selected Victorian GPs.

**Implications for guideline developers/users:** Obtaining information on the current situation and barriers and enablers from GPs and women with GDM will help improve guideline development and contribute towards building consensus.

## Barriers to incorporating clinical practice guidelines in medical education: the junior doctors perspective

**Logan MANIKAM**[1,2], Hannah FOSKER[3], Martin WONG[4], Andrew HOY[2], Alec KNIGHT[1], Jay BANERJEE[3], Monica LAKHANPAUL[5], Peter LITTLEJOHNS[1],

[1] *Department of Primary Care & Public Health, King's College London, UK*
[2] *NICE, UK*
[3] *University Hospitals of Leicester NHS Trust, UK*
[4] *University College London Hospitals NHS Foundation Trust, UK*
[5] *General & Adolescent Paediatric Unit, UCL Institute of Child Health, UK*

---

**Background:** The UK National Institute for Health and Care Excellence (NICE) aims to improve care standards. Despite a comprehensive implementation strategy, use of its clinical practice guidelines (CPGs) remains variable.

**Objectives:** To assess what influences evidence based medicine (EBM) and CPG use amongst UK junior doctors (2 years practice maximum).

**Methods:** A cross-sectional survey was undertaken. Building on our previous undergraduate survey, questions measuring;(1) current practice,(2) future intentions and (3) attitudinal domains using the validated Theoretical Domains Framework (TDF) were incorporated.

**Results:** 1698 responded (Response rate: 13%). The majority reported consistent CPG use (62%). Highest use frequency was 2-3 (34%) times per week. A significant minority (36.6%) can't critically appraise relevant evidence. Unlike the undergraduate survey, validating the TDF framed questions was difficult. An alternative model was sought using exploratory factor analysis. Suggested themes driving EBM use are; (1) Commitment and duty (2) Time (3) Familiarity (4) Confidence (5) Perceived benefits. From multiple regression analyses, (3), (4), and (1) were consistent correlates of both intentions and use frequency in decreasing strength order. Little variation by medical school, intended specialty, seniority and gender was noted.

**Discussion:** Investigating doctors attitudinal structures towards EBM and CPG implementation is challenging. The TDF is potentially inappropriate. Despite the published variation in EBM teaching in UK medical schools, our findings do not reflect this.

**Implications for guideline developers/users:** Despite limitations, findings suggest that increasing familiarity and confidence about EBM use may drive improved implementation. Reviewing existing education strategies may be warranted.

# Implementation of a tailored strategy to improve guideline adherence targeting perceived barriers in occupational physicians

**Margot JOOSEN**[1], Karlijn VAN BEURDEN[1], Berend TERLUIN[2], Jaap VAN WEEGHEL[1,3,4], Evelien BROUWERS[1], Jac VAN DER KLINK[5],

[1] *Tilburg University, Tranzo Scientific Center for Care, the Netherlands*
[2] *VU University Medical Center Amsterdam, the Netherlands*
[3] *Phrenos Centre of Expertise, the Netherlands*
[4] *Parnassia Group, Dijk en Duin Mental Health Center, the Netherlands*
[5] *University of Groningen, Department of Health Sciences, the Netherlands*

**Background:** To improve adherence to an evidence-based guideline for the management of mental health problems in occupational physicians (OPs) we developed a tailored-implementation strategy identifying perceived barriers and finding solutions to overcome these barriers.

**Objectives:** To evaluate the feasibility of the implementation strategy, its effect on OPs' perceived barriers and their perceived and actual guideline adherence.

**Methods:** Using a plan-do-check-act (PDCA) approach, 31 OPs received eight 2-hour training sessions within a year in peer-learning groups. OPs discussed perceived knowledge, attitude and external barriers to adhering to guideline recommendations, finding solutions to overcome them and implemented solutions in their practice.

**Results:** The iterative PDCA approach was successfully conducted. Ninety percent of the OPs agreed that the peer-learning approach and the meetings conducted within a year were highly effective. Perceived barriers related to knowledge, self-efficacy, motivation to use the guideline and its applicability to individual patients all reduced significantly ($p<.05$). After the training, OPs perceived no barriers related to knowledge and self-efficacy. Perceived adherence increased from 48.8% to 96.8% ($p<.01$).

**Discussion:** Using a PDCA approach, focusing on perceived barriers and tailor-made implementation interventions, seems a feasible method to identify and overcome barriers, and enhance guideline adherence. Actual guideline adherence is currently being evaluated by an audit of patient records, and will be available for presenting at the G-I-N conference in August 2014.

**Implications:** Being a generic approach to overcome barriers perceived in specific situations, this strategy offers a useful approach to guideline implementation for other health care professionals too.

# Developing a framework to structure, select and reduce the measurement instruments for daily practice in physical therapy

**Guus MEERHOFF**[1,2], Raymond SWINKELS[3], Philip VAN DER WEES[2], Karin HEIJBLOM[1], Sandra BEURSKENS[3,4],

[1] *Royal Dutch Society for Physical Therapy, the Netherlands*
[2] *Radboud University Medical Centre, the Netherlands*
[3] *University of applied science Zuyd, the Netherlands*
[4] *Maastricht University, the Netherlands*

---

**Background:** Guidelines function as the cornerstone in Dutch physiotherapy. Nevertheless, different studies show that the implementation of measurement instruments recommended in these guidelines is difficult due to the extensive amount, diversity and unorganised way of presentation.

**Objectives:** Developing a framework for structuring, selecting and reducing the amount of instruments to achieve better implementation of measurement instruments from the guidelines.

**Methods:** In this bottom-up project a framework was developed together with several physiotherapists. The project consisted of the following steps: 1. Development of a concept framework based on a literature study; 2. Consensus round with experts using the Nominal Group Technique 3. Piloting the framework in three groups of physiotherapists.

**Results:** A framework consisting of six steps that guides the structuring, selection and reduction of instruments recommended in guidelines and leads to a uniform presentation of the instruments.

**Discussion:** The completion of the framework is an important step to structure, select and reduce the instruments in the guidelines. But to achieve the optimal effect in clinical practice it's a prerequisite to develop an ICT solution that publishes the results online. So technology isn't the magic fix but nowadays it's conditional in achieving optimal results.

**Implications:** The framework is a uniform guide for developers to structure, select and reduce instruments and will facilitate physiotherapists with the implementation in clinical practice. The next step is to apply the framework on all existing guidelines and develop an ICT solution to publish the results in an organised way.

**Parallel Session 3.1:** Workshop

## How to develop and publish a trustworthy recommendation through the MAGIC authoring and publication platform

**Per Olav VANDVIK**[1,2], Annette KRISTIANSEN[1,2], Thomas AGORITSAS[3], Anja FOG HEEN[2], Gordon GUYATT[3], Linn BRANDT[1,2],

[1] *Institute for Health and Society, University of Oslo, Norway*
[2] *Innlandet Hospital Trust, Norway*
[3] *McMaster University, Canada*

---

**Background:** Guideline developers face challenges in the creation, dissemination and updating of trustworthy clinical practice guidelines. Using an innovative guideline authoring and publication platform (www.magicapp.org) applying the GRADE framework may overcome these challenges.

**Objectives:** 1. To gain familiarity with the process of developing a trustworthy recommendation with the GRADE system and the MAGICapp. 2. To get hands-on experience with using the MAGICapp in the creation of a recommendation.

**Target audience:** The workshop is open to anyone interested in learning about current developments in guideline authoring and publication processes through the use of innovative tools.

**Description of the workshop and methods used to facilitate interactions:** The workshop will open with an example of use of the GRADE framework for guideline development, from a structured clinical question in PICO format to creating evidence profiles and recommendations. Participants will then split into groups, simulating guideline panels charged with developing a recommendation for a clinical issue. Participants will, with the help of the MAGICapp, follow all steps from clinical question to final recommendation. They will construct a PICO question, develop an evidence profile and go from evidence to recommendation according to GRADE. The participants will create their guideline in a multilayered presentation format and experience the end result published on a variety of devices through the MAGICapp. In a final plenary session each group will present their draft recommendations, probe methodological concepts and reflect on their experience with the MAGICapp.

## Harmonising health, public health and social care guideline development methods for economics

Jasdeep HAYRE[1], **Bhashkaran NAIDOO**[1], Beth SHAW[1],

[1] *NICE, UK*

---

**Background:** On behalf of the GDP Economic Subgroup Background Since 2002, we have been producing clinical guidelines for a national health system. In 2004, we started to produce guidelines for public health and more recently for social care. Economic methods are specific to their area of work, and as such, significant differences in practices, approaches and methods exist.

**Context:** In 2013, a project to harmonise methods across all the guideline programmes was started. This included the methods of economic evaluation in health, public health and social care.

**Description of best practice:** We have now published our draft manual (for consultation) on the harmonised methods for economic evaluation. This allows consideration of economic assessment using standardised approaches; benefits of this include the ability to consider costs and benefits across health and non-health sectors and the opportunity to link preventive, management and support strategies (such as public, social care and clinical interventions). However, because of the challenges in areas (such as the perspective taken, the impact of the payer, the lack of universal standard utility measures and payment thresholds) a fully unified approach was neither possible nor appropriate. We will present the key findings from this harmonisation work.

**Lessons for guideline developers, adapters, implementers and/or users:** The draft manual outlines the various approaches that can be used for economic evaluation; however, careful consideration will need to be given to the chosen methods for any guideline topic, particularly those that cut across health, public health or social care.

# Budget Impact Analyses in Clinical Guideline Development: Results from the Netherlands

**Pieter BROOS**[1], Teus VAN BARNEVELD[1],

[1] *Knowledge Institute of Medical Specialists, the Netherlands*

---

**Background:** There is a growing demand for accompanying guidelines with budget impact analyses (BIA). Estimating budget impact of guidelines is critical for assessing and allocating required resources for implementation. Therefore, results of a BIA can have a major impact on policymaking in healthcare.

**Context:** Performing a BIA is costly, and often few recommendations can be evaluated. Recent experiences with BIA in guidelines on dementia, polypharmacy, and intensive care medicine revealed several methodological difficulties. Choices on perspective, and inclusion of (in)direct costs will influence the results of the analyses, and therefore the interpretation of the results by stakeholders.

**Description of best practice:** A BIA on the dementia guideline in the Netherlands clearly demonstrated the implications of methodological decisions. From a healthcare perspective it was estimated that the recommendation to limit the prescription of antipsychotic medication would result in a reduction of costs of EUR 17.5 million, whereas also including the indirect costs of reduced mortality in the analysis (societal perspective) would result in a cost increase of EUR 243 million.

**Lessons for guideline developers, adapters, implementers and/or users:** This study demonstrates that results of BIAs are largely determined by methodological decisions. More generally it demonstrates that improving quality of healthcare by guidelines will generate extra healthcare costs. The recent BIAs emphasize the need to involve policymakers (government and insurers) closely in the implementation of clinical guidelines. Transparency on methodology and clear communication of results of BIAs is crucial for implementation of guidelines.

## Putting dollars to treatments varying from guidelines for malaria treatment in Cameroon: An economic evaluation

Ndong IGNATIUS CHENG[1,2,3], Mari VAN REENEN[6], **Mbah Patrick OKWEN**[2,5], Daniel A BOAKYE[4], Anne F GROBLER[1], Wilfred F MBACHAM[2,3],

[1] *DST/NWU, Preclinical Drug Development Platform, South Africa*
[2] *Catholic University of Cameroon, Cameroon*
[3] *Laboratory of PH Research Biotechnology, University of Yaounde I, Cameroon*
[4] *Noguchi Memorial Institute of Medical Research, University of Ghana Legon, Ghana*
[5] *Centre For the Development of Best Practices in Health, Cameroon*
[6] *North West University Statistical Consultancy Service*

---

**Background:** It is urgent to assess economic burden due to non-adherence to guidelines for malaria treatment. Despite reported reduction in malaria prevalence, malaria associated febrile illnesses are increasing in Cameroon and often treated as malaria. We investigate malaria prevalence versus case management pattern of febrile patients from 2006-2012 with a piggyback economic evaluation in a malaria endemic area in Cameroon, following changes in treatment guidelines.

**Methods:** Data was collected from hospital records at Mbakong Health-Centre, Cameroon and analysed using SPSS. We extrapolated the cost of inappropriate treatment from primary healthcare units in Cameroon.

**Results:** 3562 febrile patients were received. 995 (27.934) were confirmed malaria (monthly mean positive–82.917; negative–213.917). Disparity was observed between proportion of confirmed malaria cases and those treated. The proportion of negative cases treated for malaria increased from 15.566% in 2006 to 60.466% in 2009 to 12.500% in 2012. Over this period 33.043% of patients were over treated for malaria. The mean annual drug pressure was 169.857 (ACT), 135.287 (quinine) and 160.714 (antibiotics). Children age 1-4 and women 15-44 received the highest drug pressure. We calculated wasted resources (1,150,700USD) due to inappropriate treatment as a product of average cost of malaria treatment using ACT (2USD) and quinine (17USD) and annual drug pressures.

**Discussion:** Non-adherence to guidelines poses enormous household and government financial burden.

**Implications for guideline developers/users:** There is need to narrow the gap between guidelines developers and users in primary healthcare malaria case management.

## Cost-effectiveness decision-making in social care guidelines

**Tony SMITH**[1], Sarah RICHARDS[1],

[1] *NICE, UK*

**Background:** We have a programme for social care guideline development that includes consideration of the cost-effectiveness of social care interventions and services. Our guideline developers and committees must be able to evaluate economic evidence and make recommendations in the absence of accepted value for money thresholds.

**Objectives:** To advise guideline-developing committees on how to evaluate the cost-effectiveness of social care interventions and services.

**Methods:** An expert workshop was held on how to determine cost-effectiveness in developing social care guidelines when outcomes are not measured using the healthcare QALY.

**Results:** Expert consensus was reached on whether a threshold-based approach to decision-making was desirable, and how it may be achieved in practice. When a threshold approach is not possible a framework for decision-making on cost-effectiveness was agreed.

**Discussion:** The review of decision-making criteria will inform the development of our guideline methods manual. Decision-making criteria will also be subject to the important consideration of social value judgements. It was recognised that the social care guidelines programme would need to remain responsive to development of methods in this area.

**Implications for guideline developers:** Consistent decision-making principles must be applied across all guideline development programmes, including social care cost-effectiveness. Agreeing a framework for decision-making on cost-effectiveness in the absence of an accepted value for money threshold, or where the available evidence cannot be expressed in terms of a suitable quality of life related measure, will support committees in their decision-making and ensure consistency of principles.

## Implementation Strategies for Genetic Coverage Guidelines Within Amil Assistência Médica Internacional, a Brazilian Privative Health Plan (BPHP)

**Maria Elisa CABANELAS PAZOS**[1], Suzana ALVES DA SILVA[1], Paulo Cesar PEREIRA DE SOUZA[1], Paulo Jorge RASCAO CARDOSO[1],

[1] *Amil Assitência Médica Internacional, Brazil*

---

**Context:** Advances in genetics is cause for concern regarding applicability in clinical practice and cost versus benefit all over the world. In Brazil, genetic tests for DNA testing techniques became mandatory in 2008 through an embracing, nonspecific coverage guideline imposed by Agencia Nacional de Sade (ANS), regulatory agency for Brazilian Privative Health Plans (BPHP). There are obstacles to apply it, even because the criteria are subjective even because of professional's low background in genetic and Evidenced Based Medicine (EBM) practice. So, genetic tests have been mistakenly authorized or denied. In 2013, twenty-three disease-specific coverage guidelines were defined by a consensus based upon "Clinical Utility Gene Cards" from EuroGenTest. Currently, BPHP must apply both guidelines.

**Description of best practice:** Amil, as a BPHP must follow ANS. We started implementation identifying barriers: Low genetic and EBM practice knowledge. Guidelines with inexplicit terms in recommendations language, unclear thresholds and applicability. Wide variability for authorization and auditing processes. Lack of data about genetic test utilization (improper coding procedures). Absence of facilitators tools. And started a set of action: training program in genetic basic knowledge and EBM, process for systematic coding of genetic test for specific diseases, indicators for conformities and economic impact, implementation of standards for authorization and auditing processes, and method to share experiences and collect feedback.

**Lessons learned:** This implementation strategy is still beginning. We suppose that an integrated approach drawn from identified barriers and facilitators can be effective avoiding overutilization and contribute to sustainability of health system.

## The system development of quality management for Clinical Practice Guidelines in Korea

**MooKyung OH**[6], Sung-Goo CHANG[2,5], Heui SUG JO[3,5,6], Ein-Soon SHIN[4,5], Dong IK KIM[1,5],

[1] *Yonsei University College of Medicine, Korea*
[2] *Kyung Hee University School of Medicine, Korea*
[3] *Kangwon National University, Korea*
[4] *Research Agency for Clinical Practice Guideline, Korean Academy of Medical Sciences*
[5] *The Executive Committee for Clinical Practice Guideline, Korean Academy of Medical Sciences*
[6] *Kangwon National University Hospital, Korea*

---

**Background:** The policies of Clinical practice guidelines (CPGs) quality management were various among different countries. In Korea, CPGs quality management is on the early stage. The subjects of development are various and development methods are yet insufficient.

**Objectives:** This study introduces the process to establish the external review process for appraisal of CPGs in Korea by the Korean Academy of Medical Sciences (KAMS).

**Methods:** International cases for the quality management system of CPGs were reviewed. KAMS initiated the whole quality management process and governments gave the financial support.

**Results:** KAMS have developed Korean-AGREE II in 2009. And the Korean-AGREE II scoring guide was developed to reduce inter-rater differences and increase the reliability of appraisals. The standards of quality assessments were based on those tools. 39 professionals to appraise the CPGs were trained through two rounds educations in 2013. For the more prompt and reliable appraisals, web-based evaluation system was constructed. Finally, the board of the KAMS enacted the quality management regulation and established the evaluation committee.

**Discussion:** Each country has a different culture and the health care system, and the subject and methodology for the evaluation of CPGs are variable. The establishment of quality management system for CPGs should be reflected the opinions of medical societies and the specificity of their health care system and culture.

**Implications for developers:** This study will be a useful guidance for developing the quality management system.

## Hepatitis C virus: introduction of best practice in Ukraine

**Olena LISHCHYSHYNA**[1], Oleksandr MIGEL[1], Yevgeniya MELNYK[1],

[1] *Public Enterprise The State Expert Center of the Ministry of Health of Ukraine*

**Background:** Family doctors and specialists in Ukraine need coordinated approaches for early detection and effective treatment of patients with hepatitis C.

**Objectives:** With regard to the evidence-based medicine steps to improve the quality of care for patients with hepatitis C were taken in health care institutions at all levels.

**Methods:** In 2013 the multidisciplinary working group involving professionals and patients developed an adapted clinical guideline, based on strategies of evidence-based medicine on the treatment of hepatitis C, and unified clinical protocol “Viral hepatitis C”.

**Results:** The differences in the treatment of hepatitis C in Ukraine compared to the best international practice were revealed and considered while developing medical and technological documents for health care in hepatitis C. The unified clinical protocol contains provisions for minimum acceptable quality of primary and specialized medical care and algorithms of patient’s identification. Local protocols of medical care and clinical pathways are being developed based on medical and technological documents, taking into account resources of each health facility and their interaction.

**Discussion:** Ukraine has implemented the algorithm for the use of best practice: a multidisciplinary working group adapts clinical guidelines based on evidence ? creates unified clinical protocols ? each health institution develops local protocols. The coordination of primary and specialized medical care is also provided. Implications for guideline developers/users Implementation of changes in current medical practice requires efforts of multidisciplinary groups in the development of documents and effective operation of a multidisciplinary team of care providers.

**Implications for guideline developers/users:** Implementation of changes in current medical practice requires efforts of multidisciplinary groups in the development of documents and effective operation of a multidisciplinary team of care providers.

## A new approach to CPG adaptation in Saudi Arabia: Adaptation of practice guidelines to a country-specific context using the GRADE/ DECIDE evidence to decision framework

Zulfa AL RAYESS[1], Amena MUNSHI[1], Yaser ADI[1], **Wojtek WIERCIOCH**[2],

[1] *Ministry of Health, Saudi Arabia*
[2] *McMaster University, Canada*

**Background:** Adaptation of clinical practice guidelines (CPGs) is the systematic approach to the use and/or modification of a guideline produced in one setting for application in a different context. In an initiative between the Ministry of Health of the Kingdom of Saudi Arabia (KSA) and McMaster University, we developed an approach to adapt multiple CPGs to the local healthcare setting based on the GRADE/DECIDE evidence to decision (EtD) framework.

**Objectives:** To establish methodology for a program of rigorous adaptation of CPGs and local capacity building through the Saudi Centre for EBHC.

**Methods:** Priority CPG topics were nominated by Saudi stakeholders. Work between panels and the methodology team was coordinated by the Saudi Centre for EBHC. We updated existing systematic reviews of effects, and conducted systematic reviews of context-specific evidence, including patients' values and preferences and cost-effectiveness, to prepare GRADE evidence summaries. During two-day workshops panellists received preparatory training sessions and worked on adapting recommendations.

**Results:** We adapted a total of 80 recommendations for 10 CPGs and obtained feedback from 38 panellists. Noted successes included searching literature to consider local evidence, the EtD framework as a structured process for consensus and documenting panel decisions, and panel engagement. Challenges included email as a primary communication method with panels, and achieving multidisciplinary panel representation.

**Discussion:** In this unique collaboration, we established methodology for adaptation of CPGs and implemented it in a 4-month period. There were three conditions for success: a) committed stakeholders, b) scientific support, c) project management.

**Implications for guideline developers/users:** The experience to produce adapted CPGs in a short period is feasible but challenging. Developers may utilize this approach for adaptation and for de novo development.

## Implementability issues in 23 Clinical practice guidelines in Colombia

Ivan D FLOREZ[1,2], **Angela Viviana PÉREZ GÓMEZ**[1], Lorena CANON[1], Antonio ROMERO[1], Javier H GUZMAN[1],

[1] *Health Technology Assessment Institute-IETS, Colombia*
[2] *Universidad de Antioquia, Colombia*

**Background:** Implementation of Clinical Practice Guidelines (CPG) is complex and should start during the development process. In recent years, developing countries including Colombia have begun to produce CPGs but the extent to which implementation elements are taken into account during CPG development is unknown.

**Objective:** To assess the extent to which implementation elements were considered within the development of 23 CPGs in Colombia.

**Methods:** We developed a checklist of key factors CPGs should include to facilitate implementation and assessed 23 CPGs developed between 2010 and 2013 in Colombia. The checklist included: selection of priority recommendations for implementation, use of explicit criteria to determine priority recommendations, assessment of general and specific barriers and enablers for CPG implementation and selection of indicators to measure CPG adoption.

**Results:** Only 1 in every 3 CPGs prioritized key recommendations for implementation (8, 34.78%), and 7 (30.43%) did so using explicit criteria. While most CPGs assessed general barriers and enablers for implementation (18, 78.26%), few did so for priority recommendations (4, 34.78%). All CPGs included monitoring indicators but these were either too numerous (nearly half proposed over 10 indicators) or unrelated to key recommendations (14, 60.86%).

**Discussion:** There has been little progress in considering implementation during CPG development in Colombia. This could due to the assumption that only methodological issues are crucial or could be linked to low levels of implementation awareness by developers and commissioners.

**Implications:** CPG adoption would improve in Colombia if implementation issues are taken into account during its development.

## Pre-requisites for guideline implementation: reflections from India

**Shilpa KARVANDE**[1], Devendra SONAWANE[1], Sandeep CHAVAN[1], Nerges MISTRY[1],

[1] *Foundation for Research in Community Health, India*

**Background:** Guideline implementation has its own challenges, facilitators and barriers in various settings.

**Objective:** In India pilot research was conducted in 2012-13 to study perceptions and experiences of health providers towards guidelines and quality measures, in Bihar, Jharkhand and Kerala with contrasting maternal health indicators.

**Methods:** Qualitative data through in-depth interviews of 96 health providers purposively selected from two districts of each state was thematically analyzed.

**Results:** In Bihar and Jharkhand, inadequate health infrastructure, absence of supportive supervision, community preference for 'risky' practices, insufficient educational institutes affecting quality/quantity of human resource and communication gap hampered guideline implementation. Consequently, poor antenatal and postnatal care; and lack of micro-planning of birth were serious issues. Kerala had hospital-centred delivery practices with challenges related to differential opinions among obstetricians about evidence based practice, lack of preparedness, poor exchange of knowledge between medical and educational programmes and lack of analytical capacity in the health system. Routine uses of antibiotic prophylaxis, unnecessary augmentation of labour and elective caesarean, were prevalent guideline deviations. Conversely, availability of treatment algorithms as wall posters in health facility, pre-accreditation initiatives, providers enthusiasm despite limited health resources and approach of team work were documented as facilitators for guideline compliance.

**Discussion:** Despite the contrasting health indicators, all three states presented clinical deviations and challenges in guideline implementation.

**Implications for guideline developers/users:** Quality perspectives of health providers and conducive environment, are pre-requisites for effective implementation of guidelines or quality standards, especially in limited resource setting.

# Development of evidence-based medical care for patients with depression in Ukraine

Olena LISHCHYSHYNA[1], **Yevgeniya MELNYK**[1], Iuliia ALEKSANDROVA[1],

[1] *Public Enterprise The State Expert Center of the Ministry of Health of Ukraine*

**Background:** According to WHO, depression is the cause of the greatest number of years of disability and suicide. In Ukraine the system of care for patients with depression requires reconsideration.

**Objectives:** In order to provide necessary medical care for patients with depression there must be created a comprehensive system of measures for managing depression at all levels of care—from family doctors to highly specialized care.

**Methods:** According to the Order of Ministry of Health of Ukraine, 303 the multidisciplinary working group started work on the development of unified clinical protocols on depression. After systematic search of best evidence the recommendations of NICE, SIGN and CANMAT were adapted in Ukraine.

**Results:** Harmonization of treatment practices of depression in Ukraine with international best practice will allow treating this condition in Ukraine at a new level and providing thorough measures aimed at development of prevention, care, and network collaboration between health services, educational institutions, public etc.

**Discussion:** Development of up-to-date protocols on evidence-based medicine makes it possible to provide professionals, service users and other stakeholders with relevant information that is laid down in convenient form and does not require time and money for its search.

**Implications for guideline developers/users:** Thus, Ukraine has initiated updating of medical and technological documents in the field of psychiatry, which will allow the significant improvement of care quality for patients and careers, and most importantly—reduction of risks associated with rapid extension of depressive disorders in the community.

## Analyzing the source of evidence from Chinese Clinical Practice Guidelines based on Traditional Chinese Medicine interventions

**Liang YAO**[1], Xiaoqin WANG[1], Dang WEI[1], Qi WANG[1], Li NAN[1], Yaolong CHEN[1], Kehu YANG[1],

[1] *Evidence-Based Medicine Center of Lanzhou University, China*

**Background:** Traditional Chinese Medicine (TCM) interventions were widely used by clinical doctors in China. However, it was unclear how TCM interventions were described and on what kind of evidence was based in current Chinese Clinical Practice Guidelines (CPGs).

**Objectives:** To review how TCM interventions were described and analyze the type of evidence cited by TCM interventions in Chinese CPGs.

**Methods:** Four Chinese databases were retrieved to collect Journal published Chinese CPGs on TCM. We classified TCM interventions presented in CPGs into three types: type A, TCM interventions were described as clear recommendations and provided with evidence quality and recommendation strength; type B, TCM interventions were described as clear recommendations and provided with references but without evidence quality and recommendation strength; Type C, TCM interventions were not described as a clear recommendations. Furthermore, the references of TCM interventions were classified into four types according to evidence sources: 1.CPGs, 2.SRs, 3.RCTs; 4.others.

**Results:** 75 CPGs based on TCM interventions and 341 references cited by TCM interventions were identified. Among 75 CPGs, none was type A; 8 (10%) were type B and 67 (90%) were type C. Of the 341 references, 15(4%) were type1; 26(8%) were type2; 29 (9%) were type3 and 271(79%) were type4.

**Discussion:** Only 10% Chinese CPGs based on TCM described the TCM interventions as clear recommendations, and 79% references from CPGs based on TCM were low quality evidences. Implications We suggest that CPG developers should refer CPGs SRs and RCTs as references as evidences to recommend TCM interventions.

## Revision and Validation of Tools for Classification of Study Designs in Korea

Hyesook AHN[1], **Sooyoung KIM**[2], Gyungsook ROH[1], Soyoung SEO[1],

[1] *Health Insurance Review and Assessment Service, Republic of Korea*
[2] *Hallym University College of Medicine, Republic of Korea*

**Objectives:** The clinical research classification tool was developed by Health Insurance Review and Assessment Service in 2009. The necessity of its revision has been proposed because the limits and weaknesses of the tool were detected while the research was utilized in Korea.

**Methods:** The revised tool was named DAMI, Study Design Algorism for Medical Literature of Intervention. The feasibility, reliability and validity were assessed. Research designs of 134 primary studies were classified. The assessment time was recorded to evaluate feasibility. Interrater reliability was calculated by two researchers independently assessing one research. The classification results of DAMI and the design of the primary study classified by the authors of the original systematic reviews were compared and analyzed for validity assessment.

**Results:** The feasibility was judged to be good as the time taken to assess was 240.90 12.67 seconds. The interrater reliability calculated with Cohen's kappa method (unweighted) revealed substantial reliability of 0.671 (95% CI 0.607-0.716). Other than 3 studies, classified by another researcher, whose study design was unidentified, the results of comparing 131 out of 134 studies revealed substantial kappa of 0.68 (95% CI 0.59-0.69) which indicated validity.

**Conclusion:** The revised DAMI showed feasibility and reliability because the time taken to assess was appropriate and disagreement between assessors was less. Also it was consistent with the classification results of other studies, so that the validity has been proven. Because the revised DAMI has resulted in appropriate tool in terms of feasibility, reliability and validity, it can be various useful in systematic reviews of non-randomized study.

# Guideline development support tool and educational workshops for clinical practice guideline developers in Japan

**Masahiro YOSHIDA**[1,2], Toshio MORIZANE[1], Akiko OKUMURA[1,3], Yosuke HATAKEYAMA[1,4], Madoka UTAGAWA[1], Noriko KOJIMAHARA[1,5], Yasuto SATO[1,5], Kosuke KIYOHARA[1,5], Naohito YAMAGUCHI[1,5],

[1] *MINDS (Medical Information Network Distribution Service) Center, EBM Guidelines, Japan*
[2] *Chemotherapy research institute, Japan*
[3] *The University of Tokyo, Japan*
[4] *Department of Advanced Social and International Studies*
[5] *Tokyo Women's Medical University, Japan*

---

**Background:** Active support for clinical practice guideline developers is one of the main pillars of MINDS' project for EBM promotion of JCQHC consigned by the Ministry of Health, Labor and Welfare Japan. The advancement in CPG development methodology towards the global standards has been made by the GRADE working group, Institute of Medicine, etc.

**Context:** Incorporating this advancement, we developed "MINDS handbook 2014 (abridged version)", "Manual 2014 (full version)" and a web system "GUIDE (Guideline Update, Innovation and Development)" for clinical practice guidelines development and held "Educational workshop and seminar" for clinical practice guideline developers in Japan.

**Description of best practice:** "MINDS handbook 2014" and "Manual 2014" consist of methodological frameworks and templates. "GUIDE" can edit and complete clinical practice guideline as suggested by "MINDS manual 2014". The educational workshop comprises the lectures and small group learning. We designed and made the educational package so that the clinical practice guideline developed in accordance with our handbook would fulfill the items of AGREE II.

**Lessons for guideline developers, adapters, implementers and /or users:** The MINDS educational contents can be easily accessed at MINDS website for all medical and healthcare professionals who have interest in and for those who engage in clinical practice guideline development in Japan. Educational workshops have been held four times a year since 2013 in Tokyo, Japan.

# Clinical practice guidelines in Peru: Quality assessment using the AGREE II instrument

**Carlos CANELO-AYBAR**[1], Graciela BALBIN[1], Ivan FLOREZ[2],

[1] *National Institute of Health of Peru-INS, Peru*
[2] *Health Technology Assessment Institute-IETS, Colombia*

**Background:** The Peruvian Ministry of Health has developed national clinical practice guidelines (CPG) for selected diseases of interest. The quality of these guidelines has not been previously assessed.

**Objective:** To assess the methodological quality of the Peruvian CPGs.

**Methods:** We selected all CPGs that were available in the web site of the Peruvian Ministry of Health, since 2008, to date. Three appraisers independently assessed methodological quality of the GPCs using the AGREE II instrument.

**Results:** We assessed 17 guidelines, for different diseases: influenza, hypertension and obstetric conditions, among others. Assessment of the guidelines found the overall methodological quality to be low (median score, 17%). The domains with higher score were: scope and purpose (median score, 44%) and clarity of presentation (median score, 47%); while stakeholder involvement (median score, 8%), rigor of development (median score, 5%), applicability (median score, 5%), and editorial independence (median score, 8%) received the lowest scores.

**Discussion:** This study showed that methodological quality of CPG sponsored by the Peruvian Ministry of Health is low; as a consequence although its recommendations might concur with available evidence they cannot be recommended. There is urgent need for incorporating standard methodology to develop CPG in Peru. The National Institute of Health of Peru is working in coordination with the MoH to implement those methodologies in the near future.

**Implications:** Policy makers must support quality improving of CPGs, especially when resources are scarce. Training CPGs developers on instruments as AGREE II and GRADE may contribute on this process.

## Brazilian Implantable Cardioverter-Defibrillator (ICD) Protocol

**Marisa SANTOS**[1], Fernando CRUZ[1], Andrea LIBORIO[1], Bernardo TURA[1], Marcio LASSANCE[1],

[1] *Instituto Nacional de Cardiologia, Brazil*

**Background:** Cost-effectiveness of primary prophylaxis in elderly patients in Brazil showed a high cost associated to a small impact.

**Objective:** To guide the ICD implantation and follow-up, providing technical support and a regulatory framework.

**Method:** The protocol was developed employing a quick review strategy, prioritizing systematic reviews and primary reviewing clinical trials in controversy situations. The process followed most of the recommendations of Agree II. Evidence of very poor methodological quality in some cases resulted in strong recommendations due to the endpoint to be considered catastrophic The consensus was achieved without using formal techniques, and submitted to external review.

**Results:** The main risks were addressed, specially Inappropriate Shocks and depression, infection, hematomas, restrictions on driving. Patients preferences must be assessed, in order to make decision. Quality of care indicators were composed: proper indication, adequacy of antibiotic prophylaxis, device`s data recording, number of follow-up visits, the number of Inappropriate shocks / year. Quality indicators of the patient care were created. Device was not indicated for Primary prophylaxis in coronary artery disease and CHF, VF / SVT in the first 48 h after AMI, Syncope of without tachyarrhythmias and arrhythmias amenable to ablation or transient, severe psychiatric illness and expected survival of less than 1 year.

**Conclusion:** The Brazilian SUS faces budgetary constraints and difficulties in management and control of healthcare delivery. ICD, if not properly indicated the ICD may represent a problem for patient and healthcare caregivers. International guidelines must be adapted to suit local reality and preferences.

# Rapid adaptation of Clinical Practice guidelines: learned lessons under the developer team perspective, a qualitative approach

**Fredy Orlando MENDIVELSO DUARTE**[1], Hernando GAITÁN DUARTE[2], Francisco PALENCIA[1], Andres GALINDO[1], Maria VALLEJO[3],

[1] *Student of Master of Clinical Epidemiology, National University of Colombia*
[2] *Professor of Master of Clinical Epidemiology, National University of Colombia*
[3] *Master of Clinical Epidemiology, National University of Colombia*

**Background:** Adaptation of a Clinical Practice Guideline (CPG) is an alternative process given the good quality of available CPGs for several clinical problems. However, it is an expensive and time consuming process. Therefore, it is necessary to look for different options that make the methodological process more efficient, but the scientific literature about those methodologies is limited. For that reason, the aim of this qualitative study is to detect difficulties that the Developer Group (DG) faced during the 6 months process of adaptation in three medical/surgical services.

**Methodology:** Qualitative study. Through semi structured interviews information about methodological process issues during the adaptation process were obtained. Additionally, deep-interviews were done to 18 professional who worked in the DG. The methodological coordinators field journal was also analyzed.

**Results:** Medical specialties groups were more efficient than surgical ones in order to achieve the final product. A priory questions lead to delays in the process. Limiting to three years the literature search reduced the search sensitivity. Previous CPG updates in which new evidence were not added were not selected for adapting. The Agree Instrument were considered easy to apply for clinicians. Tables of evidence were available and their qualification was verifiable. Recommendations to local contexts were guided for clinical experience mainly than for underlying evidence.

**Discussion:** To know fast adaptation challenges allow to adjust and set limits to the process. An appropriate time window for: guideline search, selection question method and previous adapted guidelines should be assessed.

# Adapting clinical guidelines in low resource countries: a study on guideline on the management and prevention of type 2 diabetes mellitus in Indonesia

**Indah WIDYAHENING**[1], Grace WANGGE[1], Yolanda VAN DER GRAAF[2], Geert VAN DER HEIJDEN[3],

[1] *Faculty of Medicine Universitas Indonesia, Indonesia*
[2] *University Medical Center, The Netherlands*
[3] *Academic Center for Dentistry Amsterdam, The Netherlands*

**Background:** Adaptation of previously published guidelines was accepted as a practical strategy in guideline development.

**Objectives:** To assess the quality of the Indonesian type 2 diabetes guideline and its parent guidelines and evaluate from which parent guidelines the recommendations have been adopted and adapted.

**Methods:** Four guidelines were identified as the parent guidelines for the Indonesian diabetes guidelines. Two reviewers independently assessed the quality of the guidelines using the AGREE II tools. Six major recommendations of the Indonesian guidelines were selected based on the clinical relevance: (1) screening for diabetes; (2) diagnosis of type 2 diabetes; (3) hyperglycaemia control; (4) target blood glucose; (5) target blood pressure; (6) dyslipidaemia treatment. We compared the similarity of each recommendation with the parent guidelines and the accompanying levels of evidences.

**Results:** The Indonesian diabetes guidelines has lowest quality (55% of the AGREE II items satisfied), while its parent guidelines satisfied between 59 to 74% items. Differences were found in four recommendations: screening of diabetes, control of hyperglycemia, blood glucose target and dyslipidemia treatment. In three out of those four, Perkeni followed ADA's recommendation.

**Discussions:** As the guideline from low-resource countries most of the time relied on pre-existing international guidelines, selection of which guidelines to be included should be conducted using the evidence based practice principles.

**Implications for guidelines developers:** Ascertaining transparency of process of guideline adaptation could improve its strength and quality. Specific efforts are needed to increase capacity of guidelines development in low-resources countries.

## GRADE/DECIDE Evidence-to-Decision framework to facilitate adaptation of practice guidelines: A case study

**Reem MUSTAFA**[1,2],

[1] *McMaster University*
[2] *University of Missouri-Kansas City, USA*

**Background:** The McGRADE center supported the adaptation of practice guidelines to the local healthcare setting in Saudi Arabia. The process used the GRADE/DECIDE Evidence-to-Decision (EtD) framework to ensure a structured, systematic and transparent approach. The EtD framework domains include: burden of the condition, balance of benefits and harms, quality of evidence, patients values and preferences, resource use, equity, acceptability and feasibility.

**Objectives:** To assess the usefulness of using the EtD framework.

**Methods:** Methodologists from the McGRADE center updated available systematic reviews and prepared EtD frameworks for clinical questions prioritized for adaptation, with efforts to include local data. We then circulated the EtD frameworks to panel members for expert input. Updated EtDs were used to structure recommendations development in guideline panel meetings. We documented the process and collected feedback using structured questionnaires.

**Results:** Many panellists identified the EtD framework as one of the reasons for the success of the adaptation process. One member explained, 'The EtD framework is by all means the most crucial step'. Panellists noted that using the EtD framework, and visually outlining group decisions for each domain, played a major role in reaching a recommendation that went against leader physicians prior strong beliefs. Panellists also noted that the EtD facilitated consensus building without the need for voting. On the other hand, preparing the EtD framework required methodological expertise.

**Discussion:** Using a structured framework proved useful in facilitating adaptation of practice guidelines.

**Implications for guideline developers:** Using the EtD framework allowed for transparent formulation of recommendations.

## The Adaptation of Clinical Practice Guidelines (CPG) through a short strategy. An experience in Colombia

Francisco PALENCIA[1], Fredy Orlando MENDIVELSO DUARTE[1], Andres GALINDO[1], Maria Teresa VALLEJO[1], **Hernando GAITÁN DUARTE**[1],

[1] *Institute Clinical Research, National University of Colombia,*

**Background:** The adaptation of Clinical Practice guidelines is an alternative to consider especially of low and middle income countries. However the resources necessary for adaptation the process can be as important as the novo Development.

**Objective:** To describe the process of rapid adaptation of clinical practice guidelines (CPG) for University Hospital of the Universidad Nacional de Colombia.

**Methodology:** The process included: conformation of developer team, definition of scope and objective of the guideline, search of CPG in guidelines' repositories and google academics, selection of the related titles, qualification of the quality using AGREE II instrument, selection of the guide for adapting, assessment of appropriateness clinical questions, search and validation of the tables of evidence in some clinical question randomly selected and adjustment to the local context of recommendations.

**Results:** Adaptation was achieved in 40 % of the proposed clinical problems. The agreement at the qualification of the Guide with the instrument AGREE was good (kappa: 0,7504), in 66% of the adapted Guidelines was feasible to obtain the original tables of evidence, the agreement with the initial qualification was high. 25 % of recommendations were modified taken into account local context.

**Discussion:** The described methodology of GPC, rapid adaptation is an alternative to consider when it is needed to have guides to medium term.

**Implications for developers groups:** It is required to compare different methods for rapid adaptation for knowing weakness and strengths of each method.

**Parallel Session 4.1:** Panel Session

# Incorporating evidence-based deprescribing recommendations into clinical practice guidelines

**Ian SCOTT**[1], **David Le COUTEUR**[2], **Jenny DOUST**[3], **Emily REEVE**[4],

[1] *Internal Medicine and Clinical Epidemiology, Princess Alexandra Hospital, Australia*
[2] *Centre for Education and Research, University of Sydney, Australia*
[3] *Centre for Research in Evidence-Based Medicine, Bond University, Australia*
[4] *Kolling Institute of Medical Research, University Sydney, Australia*

---

**Background:** Deprescribing is the process of tapering or stopping drugs when appropriate. It is particularly relevant to older, multi-morbid patients receiving multiple drugs recommended by single-disease guidelines that fail to consider competing risks or time to benefit of preventive medications.

**Objectives:** 1) To present an evidence-based approach to identifying clinical scenarios amenable to deprescribing 2) To explore prescriber and patient perspectives of guideline limitations in deprescribing 3) To consider ways of incorporating context-dependent, preference-sensitive deprescribing recommendations into guidelines

**Description of session and speaker topics:** Introduction from moderator (10 mins), presentations (20 mins each) from a panel of 3 speakers, group discussion (20 mins). Topics listed below.

**Target audience:** Guideline developers, clinical researchers, guideline users (clinicians, patients).

**Names of moderators and speakers:**

Moderator: A/Prof Ian A Scott, Director of Internal Medicine and Clinical Epidemiology, Princess Alexandra Hospital, Brisbane, Australia—Setting the scene: towards evidence-based deprescribing

Speakers:

Professor David Le Couteur, Professor Geriatric Medicine, Centre for Education and Research, Concord Hospital and the University of Sydney—Guideline deprescribing recommendations; the perspective of a geriatrician

Professor Jennifer Doust, GP researcher and clinical epidemiologist, Centre for Research in Evidence-Based Practice, Bond University—Guideline deprescribing recommendations; the perspective of a general practitioner

Dr Emily Reeve, Postdoctoral Research Associate, Kolling Institute of Medical Research, Northern Clinical School, University of Sydney—Guideline deprescribing recommendations; the patient perspective

## Have new conflict of interest policies made a difference to guidelines?

**Geraint DUGGAN**[1], Stephanie GOODRICK[1],

[1] *National Health and Medical Research Council, Australia*

---

**Background:** Transparent conflict of interest (COI) management is an important step for guideline developers to engender public trust in their products. Identifying, reporting and managing competing and conflicting interests often causes unease amongst guideline developers, funders and users.

**Context:** In 2010 the International Committee of Medical Journal Editors released an electronic uniform disclosure form to reduce the variability in processes to report authors potential COIs. The uptake of this form by major scientific journals has helped focus attention to conflicts of interest processes in guideline development. In 2011 the Institute of Medicine released their Standards for Developing Trustworthy Clinical Practice Guidelines of which conflicts of interest documentation was a major focus. In 2012, the Australian National Health & Medical Research Council (NHMRC) released a new policy for guideline development and conflicts of interest.

**Description of best practice:** NHMRC analysed conflict of interest reporting in Australian guidelines published between 2005 and 2013. From a low of 2% in 2005 there has been an incremental increase in published declarations, with 26% of guidelines publishing interests in 2013. NHMRC approved guidelines are required to document COI, and between 2005-13 100% did so.

**Lessons for guideline developers, adapters, implementers and/or users:** Adherence to authoritative standards and guideline approval programs (such as NHMRC's) may assist transparent guideline development.

# Disclosure situation of funding source and conflict of interest in clinical practice guidelines developed in Japan

**Akiko OKUMURA**[1,2], Kosuke KIYOHARA[1,3], Yosuke HATAKEYAMA[1,4], Masahiro YOSHIDA[1,5], Nay CHI HTUN[1,6], Madoka UTAGAWA[1], Yasuto SATO[1,3], Noriko KOJIMAHARA[1,3], Naohito YAMAGUCHI[1,3],

[1] *MINDS, Japan Council for Quality Health Care, Japan*
[2] *The University of Tokyo, Japan*
[3] *Tokyo Women's Medical University, Japan*
[4] *Department of Advanced Social and International Studies*
[5] *Chemotherapy research institute, Japan*
[6] *Tokyo Medical and Dental University, Japan*

---

**Background:** Disclosure and management of funding source and conflict of interest (COI) are invaluable factors for transparency in development process of clinical practice guidelines (CPGs). In 2011, MINDS (Medical Information Network Distribution Service) Center adopted systematic evaluation method of CPGs as guideline clearinghouse.

**Objectives:** To clarify the disclosure situation of funding source and COI in Japanese CPGs.

**Methods:** We searched Japanese CPGs using 10 major databases from January 2011 to December 2013. The CPGs selected by screening process were evaluated by CPGs evaluation group using AGREE II Instrument. In this study, we especially focused on sixth domain, Editorial Independence. In addition, description about management of COI was analyzed.

**Results:** Based on AGREE II evaluation results, 108 CPGs were finally selected for posting on MINDS website. Among the AGREE II domains, Editorial Independence had the lowest score. The scores (mean±SD) of Editorial Independence in selected CPGs were as follows: CPGs published in 2013, 51.6%±24.8; CPGs published in 2012, 45.4%±31.0 ; and CPGs published in 2011, 39.3%±35.4. Of selected CPGs, 26 CPGs (24.0%) were non-disclosure of information for funding source and COI. Almost all CPGs did not describe the management of COI in the development process.

**Discussion:** This study indicates that disclosure of funding source and COI in Japanese CPGs has progressed during the past three years. However, the description about management of COI is very poor.

**Implications for guideline developers/users:** MINDS is preparing to hold workshops 2014 focused on guideline methodology including management of COI for guideline developers.

# Managing conflicts of interest in the UK National Institute for Health and Care Excellence (NICE) Clinical Guidelines Programme: qualitative study

**Tim STOKES**[1], Tanya GRAHAM[2], Phil ALDERSON[3],

[1] *School of Health and Population Sciences, University of Birmingham, UK*
[2] *Florence Nightingale School of Nursing & Midwifery, King's College London, UK*
[3] *Centre for Clinical Practice, NICE, UK*

**Background:** There is concern that conflicts of interest (COI) may bias clinical guideline development and render it untrustworthy. Guideline COI policies exist with the aim of reducing this bias but it is not known how such policies are interpreted and used by guideline producing organisations.

**Objectives:** To explore how COIs are disclosed and managed by a national guideline developer (NICE: the UK National Institute for Health and Care Excellence).

**Methods:** Qualitative study using semi-structured interviews with key informants (14: 8 senior staff of NICE's guideline development centres and 6 chairs of guideline development groups) and thematic analysis.

**Results:** The application of the NICE COI policy is not straightforward. Disclosure of COI relies on self reporting and guideline developers have to take 'on trust' the information they receive, certain types of COI (non-financial) are difficult to categorise and manage and disclosed COI can impact on the ability to recruit clinical experts to guideline development groups. It is considered both disruptive and stressful to exclude members from GDG meetings when required by the COI policy. Nonetheless the impact of this disruption can be minimised with good group chairing skills.

**Discussion:** This study offers a rich description of the process by which COIs are disclosed and managed by a national guideline developer.

**Implications for guideline developers:** We consider that the successful implementation of a COI policy in clinical guideline development requires clear policies and procedures, appropriate training of guideline development group chairs and evaluation of how the policy is used in practice.

## Conflicts of interest in the production of clinical guidelines: update from Therapeutic Guidelines

**Melanie ROSELLA**[1], Susan DASKALAKIS[1], Sue PHILLIPS[1],

[1] *Therapeutic Guidelines Limited, Australia*

---

**Background and context:** As a publisher of independent therapeutic advice, the declaration and management of conflicts of interest in expert writing groups are crucial for Therapeutic Guidelines. We have made significant changes to our conflict of interest policy in recent years, which reflect broader changes to the approach to managing conflicts of interest by clinical guideline developers worldwide.

**Description of best practice:** Therapeutic Guidelines took the important step of hosting an Independence Forum in October 2012, bringing together key stakeholders to discuss and debate conflicts of interest in research, and the challenges presented by the interpretation and incorporation of clinical evidence into recommendations. Therapeutic Guidelines strives to minimise the selection of expert group members with conflicts of interest. However, this can be difficult to achieve in practice, and any declared interests must be considered in the context of the group member's expertise and the relevant guideline content. We now publish expert group members' declarations of interest on our website, but ongoing challenges include determining the appropriate level of detail for declarations of interest, and deciding on their relevance and management during the production process.

**Lessons learnt for guideline developers:** This presentation will focus on the changes to Therapeutic Guidelines' conflict of interest policy, key outcomes from the Independence Forum, and the ongoing challenges and strategies in identifying and managing conflicts of interest.

## Risk Of Bias Assessment Tool For Non-Randomized Studies (RoBANS): Revision And Validation

**Jinkyung PARK**[1], Suyoung KIM[2], Gyungsook ROH[1], Soyoung SEO[1],

[1] *Health Insurance Review and Assessment Service, Republic of Korea*
[2] *Hallym University Medical Center, Republic of Korea*

Health Insurance Review and Assessment Service (HIRA) developed the risk of bias (ROB) assessment tool for non-randomized studies (NRS) in 2009. The aim of this study is that this tool was revised to better evaluate the ROB of NRS for each study-design and to be more user-friendly. The established tools like SIGN, NOS, MINORS, AHRQ checklist, and RTI Item Bank were reviewed, analyzed, and compared for revision. The users of ROB assessment tool were surveyed for necessary modifications, difficult parts for understand. The domestic and foreign advisory-members were surveyed regarding problems of the current tool and for opinions for revision. 6 domains of the tool were revised to 8 domains, and the standards to assess each study-design were added with detailed explanation for each domain. The revised ROB assessment tool for NRS was named Risk of Bias for Non-randomized studies (RoBANS). We evaluated the feasibility, reliability and validity of RoBANS. We utilized 112 primary studies included in the systematic review. Using weighted kappa statistics, the outcomes of inter-rater reliability was from fair ($\hat{I}^o$=0.25-0.37) to moderate ($\hat{I}^o$=0.43-0.49). The ratio of odds ratio (ROR) outcomes for validity were not significant and outcomes of meta-regression analysis were some significant. Through this revision, it became easier to use as well applicable to more diverse study designs. The strengths of RoBANS are its versatile tool as well as its proven validity and reliability. Since RoBANS is harmonized with the Cochrane's RoB tool and GRADE, and can be incorporated into RevMan and GRADEpro, it can be utilized worldwide to conduct systematic review.

## Utility of Clinical Practice Guidelines in recommending health technologies to be considered for the health system and for regulatory agencies

Ivan D FLOREZ[1,2], Laura C PRIETO[1], Elkin OTALVARO[3], **Angela Viviana PÉREZ GÓMEZ**[1],

[1] *Health Technology Assessment Institute-IETS, Colombia*
[2] *Universidad de Antioquia, Colombia*
[3] *Instituto Nacional de Vigilancia de Medicamentos y Alimentos (INVIMA), Colombia*

**Background:** In 2013, the Ministry of Health of Colombia launched 24 guidelines developed by academic institutions. Benefit plan contains health technologies (HT) financed by the health system; drug regulatory agency (INVIMA) provides authorization for their use.

**Objectives:** Assess recommended and non-recommended technologies to determine which of them were included in the benefit plan of Colombia and which had the regulatory agency approval for the specific use.

**Methods:** We appraised all the recommendations of 24 CPG. A list of HT was developed, and they were contrasted with health system's coverage and regulatory agency authorization.

**Results:** There were 1433 recommendations of HT, 1141 were recommended for use, while 286 were not. From those recommended, 735 (64.4%) were included in the benefit plan, while 358 (31.3%) were not; from those non-recommended, 158 (55.2%) were included. Approximately 35% of recommended HT were drugs and devices, and near 30% of these are not financed by the system. Near 15% of those non-financed HT, doesn't have registry for the recommended indication (off-label use) and near 10% were not registered.

**Discussion:** Best available evidence is gathered in CPG; it is expected that new technologies will be recommended by the time new evidence is appraised. In Colombia CPG recommended the use of technologies, most of them included in the plan, but one third were new for the health system. Non-financed and non-registered HT can be important implementation barriers that deserve special attention.

**Implications:** To enhance guidelines implementation and diminish off-label use, it is advisable to consider inclusion of new recommended technologies.

## Using computerized decision support systems (CDSSs) in primary care: perceived barriers and suggestions to improve their implementation

**Marjolein LUGTENBERG**[1], Jan-Willem WEENINK[1], Gert WESTERT[1], Tijn KOOL[1],

[1] *IQ healthcare, Radboud University Medical Center, the Netherlands*

**Background:** Whereas CDSSs are considered as important tools to improve the uptake of guidelines, their use and effectiveness vary across settings with determinants of success and failure being largely unknown.

**Objective:** To identify the perceived barriers to using CDSSs in primary care and to identify suggestions to improve their implementation.

**Methods:** Three focus group sessions were conducted including 24 primary care practitioners (general practitioners, general practitioners in training and practice nurses). In each focus group, barriers to using CDSSs and suggestions for improvement were discussed using a predefined topic list. Focus group discussions were audio taped, transcribed verbatim, and independently analyzed by two researchers using thematic content analysis.

**Results:** The most common barriers to using CDSSs were related to a lack of integration into daily practice: lack of applicability of the content of the alerts across time, negative effects on patient communication, and the additional time it requires for use during consultation. Suggested interventions to improve implementation included options to customize the CDSS to individual preferences, to adapt the decision support to meet the needs of patients as well, and to expand the functionalities of the CDSS (e.g. linking it to electronic prescribing systems).

**Discussion:** Our study findings suggest that integration of CDSSs into daily practice remains of primary concern and that improvement of users' flexibility should be the target of interventions.

**Implications:** CDSSs could be used as tools to implement guidelines adapted to the specific needs and preferences of healthcare professionals, as well as their patients.

## PLUGGED-IN (Providing Likeable and Understandable Guidelines using GRADE in the EMR with Direct links to INdividual patient data) phase 3

**Linn BRANDT**[1,2,3], Annette KRISTIANSEN[1,2,3], Bjørn NASS[4], Trond ELDE[4], Per Olav VANDVIK[1,3,5],

[1] *Innlandet Hospital Trust, Norway*
[2] *Diakonhjemmet Hospital, Norway*
[3] *Institute of Health and Society, University of Oslo, Norway*
[4] *DIPS ASA, Oslo, Norway*
[5] *Norwegian Knowledge Centre for the Health Services*

---

**Background:** Traditional clinical decision support systems (CDSS) in Electronic Medical Records (EMR) provide algorithms with inclusion/exclusion criteria to clinicians. Improved systems for developing trustworthy guidelines (e.g. GRADE) typically include a majority of weak recommendations unsuited for clear-cut inclusion/exclusion criteria as the clinical decision should be tailored to individual patient preferences and context. Through phase 1 and 2 we developed a conceptual framework and a guideline authoring/publication platform (www.magicapp.org) that allows direct use of trustworthy and continuously updated guidelines as decision support in EMRs. The framework allows contextualization of content on both platforms through APIs, using well known ontologies like ICD-10, ATC and SNOMED-CT. The recommendations interact with patient-specific data, but platforms are kept separate and the information given are not dependent on traditional complex algorithms.

**Objectives:** To implement and test the performance of our new approach to decision support, using digitally structured, continuously updated guidelines and a modern EMR system capable of handling structured data.

**Methods:** Structured web guidelines published through the MAGICapp were implemented through an API in a recently released EMR system. We tested both technical performance, including security and stability, and perceived usability using qualitative research methodology.

**Results:** We will show real examples and live products.

**Discussion:** Results suggest that we can offer a complementary, less resource demanding, EMR agnostic approach to traditional CDSS by using continuously updated, structured guidelines directly as decision support.

**Implications for guideline developers/users:** PLUGGED-IN provides a model for direct use of guidelines in EMRs.

## The National Guidelines of the highlighted breast cancer recommendations delivered in a structured way to help developing decisions support

Anna ALDEHAG[2], Niklas EKLÖF[1], ELIN KERBLOM[1], Linn CEDERSTROM[2], Goran ZETTERSTROM[3], David SVÄRD[4], **Lotti BARLOW**[1],

[1] *The National Board of Health and Welfare, eHealth & Structured Information Unit, Sweden*
[2] *The National Board of Health and Welfare, National Guidelines Unit, Sweden*
[3] *The National Board of Health and Welfare, Performance Assessment Unit, Sweden*
[4] *The National Board of Health and Welfare, Communications Management Unit, Sweden*

---

**Background:** As a pilot, the Swedish National Board of Health and Welfare, has structured and coded the recommendations, highlighted for decision-makers, of the National Guidelines for breast cancer care. SNOMED CT is used for coding, for safe and effective communication and reuse of health information. SNOMED CT contributes improved patient care by underpinning the development of Electronic Health Records (EHR) and enables meaning-based retrieval. The Board is responsible for the Swedish extension of SNOMED CT.

**Objectives:** The aim is to make the recommendations functional in a digital system and to be used by decision-makers when developing decisions support.

**Methods:** The recommendations have been structured in models and the detailed content of each pair of health conditions and procedures have been coded to SNOMED CT. This enables effective access to information for decisions support, consistent reporting and analysis. The concepts have also been mapped to ICD-10-SE and to the Swedish procedure classification. This will help the county councils to deliver data to registers.

**Results:** A concept and information model was developed, and data was coded and mapped. The structure, coding and the mapping will help developing the decisions support and this will therefore be implemented in the future National Guidelines.

**Discussion:** Patients benefit as SNOMED CT improves the recording of EHR information and facilitates better communication, which lead to improvements in the quality of care. However, these results need to be quality controlled.

**Implications for guideline developers/users:** We strongly recommend involving professionals from health care when structuring, coding and mapping data.

## TRUST-IT—Can we trust the advice given in clinical decision support systems

**Linn BRANDT**[1,2,3], Annette KRISTIANSEN[1,2,3], Per Olav VANDVIK[1,3,4],

[1] *Innlandet Hospital Trust, Norway*
[2] *Diakonhjemmet Hospital, Norway*
[3] *Institute of Health and Society, University of Oslo, Norway*
[4] *Norwegian Knowledge Centre for the Health Services*

---

**Background:** Clinical decision support systems (CDSS) provide clinicians with recommendations point of care. CDSS should be based on trustworthy guidelines, with updated supporting information to enable balanced clinical judgements and individualized application. Improved systems for developing trustworthy guidelines (e.g. GRADE) typically include a majority of weak recommendations where the clinical decision should be tailored to individual patient preferences and context. As recent systematic reviews of CDSS studies focus on process outcomes without systematically reporting the strength and trustworthiness of the recommendations used, it remains unknown to what extent the effects of CDSS actually benefited the patients.

**Objectives:** We sought to identify the nature of the recommendations in CDSS, their strength and if they meet any standard for trustworthy guidelines (def. IOM 2011).

**Methods:** We identified recent systematic reviews describing CDSS and included individual studies that had a good to high quality score in two systematic reviews, thus ensuring we included high impact studies. We recorded the strength, and whether the recommendations met any IOM standards.

**Results:** Will be displayed.

**Discussion:** Low physician compliance to CDSS is often stated as a problem, but if advice given are based on preference-sensitive recommendations, such low compliance might be perfectly warranted. Low compliance can also be a result of CDSS based on poorly made guidelines.

**Implications for guideline developers/users:** Future CDSS should pay attention to the trustworthiness of guidelines applied, the distinction between weak and strong recommendations and the need to tailor recommendations to individual patients.

## Guidelines, technology and data—coming together to drive change in general practice

**Nancy HUANG**[1], Catherine MARSHALL[2], Anne BUCKLEY[2], Jane LONDON[1], Clare DELANEY[1],

[1] *NPS MedicineWise, Australia*
[2] *Independent consultant*

---

**Background:** MedicineInsight, a large scale Australian general practice data program to improve clinical practice, developed a framework for interventions to support change (informed by Theoretical Domains Framework and the work of the IMPLEMENT trial). The literature suggests a variety of approaches and a multitude of behaviour theories to support clinical improvement, using guidelines, technology and clinical data.

**Context:** A review was conducted to identify published programs specifically using data to change clinical practice. Program leads were interviewed to explore underlying theoretical models and evidence base. A panel of local clinical leaders in three therapeutic areas (depression, medicines in older people and antibiotics use) were also consulted to test how this can be applied.

**Description of best practice:** Six steps of a framework are outlined: agree on the issue of importance; understand who needs to do what differently; design intevention/s based on determinants of desired change/s; test and deliver intervention/s; measure change; review and improve intervention/s. With over 185 practices (>1100 GPs) recruited to the program, MedicineInsight will measure the impact of interventions using this framework and assess the applicability and effectiveness in using guideline, technology and data to influence practice.

**Lessons for guideline developers and adapters:** The siloed nature of disease specific guidelines can limit implementability and applicability in the real world. While technology and real world data from practices can further inform this process, to be successful, implementation activities must take a holistic view of the clinical environment and develop partnerships with practitioners.

## Harder, better, faster, stronger*: amplification of development, implementation and evaluation of clinical practice guidelines

Thijs VAN VEGCHEL[1], Xander VERBEEK[1], Eefje VERHOOF[1], **Sonja KERSTEN**[1],

[1] *Comprehensive Cancer Centre, the Netherlands*

---

**Background:** Oncological care is complex and time-consuming. According to current medical standards, doctors in the Dutch healthcare setting are obliged to discuss patients diagnosis and treatment in a multidisciplinary context before starting treatment.

**Context:** Clinical decision support can improve the development, implementation and evaluation of clinical practice guidelines (cpgs). At the 2013 G-I-N conference (http://tiny.cc/enzvbx), we showed it is possible to transform a guideline to computer interpretable recommendations. This year, we developed a functional prototype for clinical testing and evaluation.

**Description of best practice:** The Dutch breast cancer guideline is transformed into separate computer interpretable decision trees for each decision point in the care pathway. Users can select, interactively explore and navigate each decision tree individually (e.g. pre-operative or post-operative treatment recommendation). Based on disease (e.g. TNM, grade) and patient characteristics (other illness, smoking) the recommended path is highlighted in the decision tree(s) and care pathway. After a (modular) revision the tool can show differences in decision trees and care pathways with respect to the previous guideline version.

**Lessons for guideline implementers and users:** Decision support based on cpgs is a viable way of assisting doctors in determining diagnosis and treatment in a multidisciplinary context before starting treatment. The tool aids both doctors (decision support) and patients (shared decision making). Transformation into computer interpretable format results in guidelines of improved quality, by identification and resolving omissions, ambiguity and conflicts in recommendations.*) Daft Punk: http://www.youtube.com/watch?v=gAjR4_CbPpQ

## Technology to assist with guideline development: software for systematic reviews

**Skye NEWTON**[1], Sharon KESSELS[1],

[1] *Adelaide Health Technology Assessment, University of Adelaide, Australia*

**Background:** Systematic reviews (SRs) which are performed as the basis of guidelines often start with large volumes of references to screen, critique and summarise.

**Objectives:** To describe and critique what software is available to assist with the processes of a SR.

**Methods:** Software packages were identified through an Internet search and recommendations presented at the Australasian Cochrane symposium. The utility of each software application was assessed at each step of the SR process, and also evaluated in terms of how user-friendly it appeared.

**Results:** Nine software packages were identified. Those which were still in demonstration mode, did not have a functioning English version, or were no longer available were excluded from consideration. The remaining five packages were assessed. RevMan HAL and Covidence were considered to lack flexibility for the full range of research questions relevant to guidelines. Abstrackr is still in beta testing and has some problems. Distiller SR and EPPI-Reviewer 4 were the most comprehensive, assisting the stages of screening, duplicates removal, tracking included/excluded studies, quality appraisal, data extraction and assisting with meta-analyses.

**Discussion:** Distiller SR and EPPI-Reviewer 4 appear to have similar functionality. We are currently undertaking a direct comparison of these two packages on a pilot project, in order to rate their performance and determine their cost-effectiveness.

**Implications for guideline developers:** Technology may allow SRs to be performed faster. Given the cost of these packages, it is up to individual groups to decide whether the efficiency gains are worth the outlay in costs.

## Using Technology to Increase the Reliability of Systematic Reviews

Sandra ZELMAN LEWIS[1], **Gerald BOROK**[2], Todd FEINMAN[2], Karin LAWSON-REMER[2],

[1] *Doctor Evidence, LLC and EBQ Consulting, LLC, USA*
[2] *Doctor Evidence, LLC, USA*

---

**Background:** Errors in systematic reviews (SRs) could add bias and/or harm to guidelines although true impacts are unknown.

**Objectives:** Research compares literature searching and data extraction methods to technology-based processes, specifically addressing these deficiencies: missing studies despite inclusion/exclusion criteria; extraction errors; inappropriate inclusion/exclusion criteria (ie, too narrow/too broad, eliminating non-RCTs); incorrect input values for meta-analyses and impact on conclusions; non-transparent study/datapoints identification; relevant studies since publication.

**Methods:** We audited a sample of published SRs/meta-analyses to determine search completeness, extraction accuracy, and transparency. Results will be compared with those generated from technology-supported methods employing identical PICOs. Discrepancies and underlying causes will be identified, evaluated, and reported separately, then compared across methods.

**Results:** Early but ongoing research on one published rheumatoid arthritis meta-analysis, revealed errors primarily resulting from incorrect population denominators for several studies. Other major errors stemmed from mislabeling of studies, input value errors, and miscalculation of odds ratios, which impacted results.

**Discussion:** Inaccuracies in existing SRs/meta-analyses might continue undetected until such comparative evaluations are undertaken.

**Implications for guideline development:** Guideline development complexities and costs inevitably lead to reliance on existing SRs rather than full analyses of primary studies. However, our early results indicate that dependence on potentially unreliable SRs can erroneously impact meta-analyses, potentially biasing guideline recommendations. Technological solutions for assessing primary literature could enhance quality and reduce the error rate. Efficiencies now available in these platforms eliminate the need for reliance on short cuts.

## Quickly developed guidelines (QDG) on contraception: a French experiment

**Sophie BLANCHARD**[1], Valerie LINDECKER[1], Emmanuel NOUYREGAT[1], Michel LAURENCE[1],

[1] *Haute Autorite de Sante, France*

---

**Background:** In 2013, facing a health scandal after lawsuits against some combined contraceptive pills, the French government advised doctors to limit their prescription. The HAS was requested to urgently provide clinical practice guidelines (CPG) on contraception.

**Objective:** To quickly produce recommendations on contraception.

**Methods:** The process was adapted with analysis and synthesis of international CPG internally conducted with the help of few health professionals to draft recommendations and peer review by stakeholders.

**Results:** With shortened and flexible production cycle, we created short format guidelines. Over a year, a total of 9 QDG was provided to support shared medical information between woman and health professionals to initiate or change a birth-control method. To cover such a large and complex topic, several QDG were elaborated from the initial discussion to the different life situations: minors, childbearing age, post-partum, permanent contraception, emergency contraception, prescription renewal, etc. A QDG was specifically designed for women with cardiovascular risk with 14 medical conditions selected. For that QDG, medical eligibility criteria, adapted from World Health Organization to the French context, were delivered in different formats (list, table, pie chart) for better appropriation.

**Discussions:** The context of controversy and suspicion for contraception urged us to develop innovative proceedings to provide QDG. Existing recent guidelines and high implication of participants were key success factors.

**Implications for guideline developers/users:** Their usefulness for users should be tested.

## What is needed to realize a dynamic process of guideline updating

**Kristie VENHORST**[1], Marleen PLOEGMAKERS[1], Anne HOLTUS[1], Teus VAN BARNEVELD[1],

[1] *Knowledge Institute of Medical Specialists, the Netherlands*

**Background:** Continuous guideline updating is increasingly important in relation to fast innovations in the field of health care and because guidelines have stronger implications with respect to health care procurement, quality checks and legal aspects. In the Netherlands, a national online database has been developed in which all medical specialist guidelines are incorporated on a modular basis. This database enables us to continuously update and distribute guidelines. Further elaboration of the updating process is needed.

**Objectives:** To develop models for continuous guideline updating which describe how to assign priority, who should lead the updating process, and how to authorize modular updated guidelines.

**Methods:** Models were developed based on literature study and in-depth interviews with initiators of national clinical practice guidelines.

**Results:** Three potential models are developed for continuous guideline updating. These models presume that a dynamic process can only be maintained if the whole system is arranged so that small sections of guidelines can be quickly adapted, authorized and presented. Guideline initiators should choose between these three models depending on the extent to which guidelines are expected to change.

**Discussion:** Our models for guideline updating are based on the situation in the Netherlands, where we are trying to make national guidelines which are multidisciplinary coordinated and whose ownership lies with the initiating scientific associations of medical specialists. We will discuss to what extent our models can be applied in other countries.

**Implications:** A more dynamic and transparent system for guideline updating.

## 5-step adaptation process for trustworthy guidelines

**Annette KRISTIANSEN**[1,3,4], Linn BRANDT[1,3,4], Thomas AGORITSAS[5], Elie AKL[5,6], Gordon GUYATT[5], Per Olav VANDVIK[1,2,3],

[1] *Innlandet Hospital Trust, Norway*
[2] *Norwegian Knowledge Centre for the Health Services*
[3] *Institute for Health and Society, University of Oslo, Norway*
[4] *Diakonhjemmet Hospital, Norway*
[5] *McMaster University, Canada*
[6] *American University of Beirut, Lebanon*

---

**Background:** Adaptation of guidelines for use at the national or local level is necessary for optimal implementation, can potentially enhance adoption and limit resource use. We have developed an adaptation process in adherence with standards for trustworthy guidelines. We tested and evaluated the process through the Norwegian adaptation of the 9th iteration of the American College of Chest Physicians Antithrombotic Therapy and Prevention of Thrombosis.

**Methods:** Informed by the ADAPTE framework, we developed a 5-step adaptation process customized to guidelines developed with the GRADE methodology: planning, initial assessment of the recommendations, modification, publication and evaluation. We outlined a taxonomy for describing how and why recommendations from the parent guideline were modified or excluded.

**Results:** We published the adapted guideline in November 2013. We restructured, collapsed and rewrote 333 original recommendations from AT9 into 249 recommendations. We excluded 30 and modified 131 of the original recommendations according to the taxonomy; developed 8 new recommendations and added practical information on dosage, contraindications and risk scores for 121 recommendations. We presented the recommendations using a novel multilayered presentation format and published them through an online guideline authoring and publication platform. Unforeseen obstacles related to acquiring a licensing agreement and procuring a publisher resulted in a 9-month delay.

**Discussion and implications for guideline developers:** This case study demonstrates the feasibility of our adaptation process. Replication is needed to further validate the usefulness of the process in increasing the efficiency of guideline adaptation.

## Can recommendations be updated without an evidence review?

Alison WRAY[1], Beth SHAW[1], Philip ALDERSON[1], **Khalid ASHFAQ**[1],

[1] *NICE, UK*

---

**Background:** Resources for guidelines, as in many areas of healthcare, are becoming scarcer. Developers need to decide when to update a guideline, through a detailed evidence review. Some guidelines may not need a full evidence review, but recommendations may need "updating" or "refreshing" to ensure they adhere to current best wording practice.

**Context:** As a national developer, we have published clinical guidelines for over 12 years. We maintain this library through a formal update programme, which surveys guidelines regularly in order to identify those where new evidence (or emerging changes in practice) means recommendations are "out-of-date". Some guidelines are assessed as not needing an update based on the evidence, but their recommendations do not meet current standards of wording.

**Description of best practice:** We have developed a process for "refreshing" recommendations (that is, changing wording) where evidence has not substantially changed. This ensures that recommendations are clear, reflect the evidence they were based on, and the original intended action is retained. It also ensures older guidelines look up-to-date, without undertaking full evidence reviews that are not required. We anticipate guideline users will welcome this refresh, which can also clarify any areas of ambiguity in the recommendations. We are currently testing this, and will present our experience of this pilot.

**Lessons for guideline developers, adapters, implementers and/or users:** Older recommendations can be refreshed, where a full evidence review is not required. This can aid implementation, as clarity of the intended action is improved and recommendations reflect latest standards in wording.

## Do clinicians want recommendations? A randomized trial comparing evidence summaries with and without recommendations

Ignacio NEUMANN[1,2], **Holger SCHÜNEMANN**[1],

[1] *McMaster University, Canada*
[2] *Pontificia Universidad Catolica de Chile, Chile*

---

**Background:** Some guideline developers avoid making recommendations in the context of insufficient quality evidence and present only a summary of the available evidence.

**Objectives:** To evaluate clinicians' preferences, evidence understanding, and intended management strategies when faced with evidence summaries, with and without recommendations, in the context of low or very-low quality evidence.

**Methods:** We allocated clinicians from 9 countries to receive two clinical scenarios related with strong recommendations based on low or very-low quality evidence or two scenarios related with weak recommendations based on low or very-low quality evidence. We provided participants with evidence summaries, and then randomized them to receive a recommendation in one (but not the other) scenario. We stratified the analysis by the strength of the issued recommendation.

**Results:** Our current analysis showed that 212 of the 253 participants (84%) preferred to have recommendations accompanying evidence summaries ($p<0.001$). Clinicians were more likely to prefer having recommendations when these were strong (interaction test $p=0.01$). The presence of a recommendation did not change the understanding or interpretation of the evidence. However, it did result in more appropriate intended management.

**Discussion:** Clinicians clearly prefer to receive recommendations, in addition to evidence summaries, in the context of low or very-low quality evidence.

**Implications for guideline developers:** Guideline developers should provide recommendations in the context of insufficient quality evidence.

# Health System Guidelines Appraisal Tool—Better Guidelines for Better Health Systems

**Denis AKO-ARREY**[1], Melissa BROUWERS[1], John LAVIS[1],

[1] *McMaster University, Canada*

**Background:** Health Systems Guidelines (HSG) assists in addressing a HS challenge, but there is a dearth of high quality HSG on policies/interventions that impact HS performance/efficiency.

**Objective(s):** Our goal is to develop a HSG Appraisal Tool (HSG-AT) to direct the development, reporting, and appraisal of HSG.

**Methodology:** Stage 1: A systematic review to generate a candidate list of items for the HSG-AT. Stage 2 & 3 will be based on findings from Stage 1 to draft the HSG-AT.

**Results:** We identified 33 papers that met eligibility criteria. No existing appraisal tool was identified. Over one-third of the authors explicitly identified the need for a high quality tool aimed to systematically evaluate HSG and contribute to its development/reporting. Thirty candidate items/concepts were identified: problem definition, coverage, stakeholder involvement, evidence-based, operationalization, feasibility of implementation, ethical, politically sound, socio-culturally acceptable, prioritization, relevance, clarity of recommendations, transparency, flexibility, outcome indicators, resources, cost, affordability, effectiveness, cost-effectiveness, external factors, presentation, dissemination/reporting plan, updating, benefits/harm, process evaluation, impact evaluation, generalizability, sustainability, competing interests.

**Discussion:** Objectively discriminating between good and poor guidelines is an arduous task since HSG quality can be regarded upon as an inherently subjective assessment that depends on a variety of health system factors and articulates with the local institutional, interests and ideologies in place.

**Implications:** Development of high quality HSG will impact the type of recommendations being formulated, their degree of implementation, the methods of dissemination, and their impact on the usual operation of the health system.

## Education Program Experience for the Appraisers of Guidelines using AGREE II Scoring Guide in Korea

Sung-Goo CHANG[1,6], **Ein-Soon SHIN**[2], Ji-Eun JANG[2], Min-Ji KIM[2], Ji-Yun YEON[2], You Kyoung LEE[3], Heui-SUG JO[4,6], Dong-IK KIM[5,6],

[1] *Kyung Hee University School of Medicine, Korea*
[2] *Korean Academy of Medical Sciences Research Center*
[3] *Soonchunhyang University, Korea*
[4] *Kangwon National University School, Korea*
[5] *Yonsei University College of Medicine, Korea*
[6] *Korean Academy of Medical Sciences*

---

**Background:** To reduce differences among evaluators on the assessment of the quality of CPGs, a scoring guide which is consisted of ninety-two guides for anchor points 1, 3, 5, and 7 in 23 items of AGREE II instrument had been developed by Executive Committee for CPGs, the Korean Academy of Medical Sciences in Korea.

**Objectives:** To examine AGREE II scoring guide for increasing reliability for the assessment of quality of CPGs among appraisers.

**Methods:** Two hours of education program was provided to 29 physicians on November 29, 2013. Guideline for prevention and treatment of metabolic syndrome in primary care was assessed using Korean AGREE II scoring guide. Each item was rated on the 7-point scale by participants. Disagreement was defined by more than 4 score differences among appraisers.

**Results:** Item 5 in domain 2 (Stakeholder Involvement) showed the highest disagreement (27.6%, 8 of 29), followed by item 11 in domain 3 (Rigour of development) (24.1%, 7 of 29). 5 items (item 1, 4, 6, 7 and 15) showed no disagreement. The scaled domain score was 76.1% for domain 3 (Rigour of development).

**Discussion:** We demonstrated that Korean AGREE II scoring guide was a useful tool to educate appraisers of CPGs with low disagreement rate.

**Implications for guideline developers/users:** Preparing details about assessment criteria and considerations such as Korean AGREE II scoring guide will be beneficial to guideline appraisers.

## The Guideline Development Checklist (GDC)

**Holger SCHÜNEMANN**[1],

[1] *McMaster University, Canada*

**Background:** Although several tools to evaluate the trustworthiness of health care guidelines exist, guideline developers worldwide are struggling with the lack of guidance for the practical steps in the guideline enterprise. Our objective was to systematically compile a comprehensive checklist of items linked to relevant resources and tools that guideline developers would consider for development and support of implementation, without expectations that every guideline would address each item.

**Methods:** Data sources included manuals of international guideline developers, literature on guidelines for guidelines with a focus on international and national guideline agencies, professional societies, and recent systematic guidance articles. We reviewed these sources in duplicate, extracted items using a sensitive approach and developed overarching topics that are relevant to guidelines. In an iterative process, we reviewed items for duplication and omissions and involved experts in guideline development for revisions and suggestions for items.

**Results:** We developed a checklist with 18 topics and 146 items and a webpage to facilitate its use by guideline developers (http://cebgrade.mcmaster.ca/guidecheck.html). The topics and items included cover all stages of the guideline enterprise, from planning to formulating recommendations, to dissemination and evaluation. The final itemized guideline development checklist (GDC) includes links to training material and resources for methodology.

**Interpretation:** The GDC will serve as a resource for those involved in guideline development and considering items on this checklist will support the development and implementation of guidelines. We will use crowdsourcing to keep the checklist up to date and enhance it.

# Evaluating a guideline program with the Guideline Development Checklist (GDC)

**Ton KUIJPERS**[1], Jako BURGERS[1],

[1] *The Dutch College of General Practitioners*

**Background:** Since 1989, the Dutch College of General Practitioners runs a guideline program covering a wide range of clinical topics. We regularly adapt our program according to international quality standards. Recently a Guideline Development Checklist (GDC) was developed, which contains 18 topics and 146 items with links to training materials and other resources. The checklist has been designed for evaluating individual guidelines, but may also be useful for evaluating guideline programs.

**Objectives:** To test the applicability of the GDC by evaluating our guideline program and to discuss interventions to improve our guideline development processes.

**Methods:** We (TK and JB) independently completed the GDC using the dichotomous response scale and discussed the discrepancies. In addition, we discussed the usefulness for identifying interventions to improve our program.

**Results:** We agreed on 97 out of 146 items (66%) items. Discussing the discrepancies as well as the items not completed revealed conclusions and recommendations for refining our guideline program.

**Discussion:** Applying the GDC for evaluating a guideline program is feasible and very useful to search for weaknesses in existing guideline programs and set interventions to improve the quality of a guideline enterprise. The GDC has a strong focus on developing robust evidence-based guidelines. From the perspective of a guideline program information about resources to develop effective implementation strategies could be helpful.

**Implications for guideline developers/users:** The GDC is a useful tool for evaluating guideline programs and to support interventions to improve the guideline development processes.

## Assessing quality components of clinical practice guidelines

**Jodie CLYDESDALE**[1],

[1] *National Health and Medical Research Council, Australia*

**Background:** The National Health and Medical Research Council (NHMRC) produces annual reports on Australian clinical practice guidelines based on analysis of guidelines selected for the NHMRC Clinical Practice Guidelines Portal: www.clinicalguidelines.gov.au. The reports provide information about funders, developers, clinical topics and quality components of guidelines.

**Objectives:** To investigate trends in documentation of three quality components of guidelines in Australia: conflicts of interest, consumer involvement and presentation of recommendations.

**Methods:** The current dataset includes 1046 Australian clinical practice guidelines selected for inclusion on the portal (published between 2005 and 2013). The dataset was used to audit three quality components included in both the Guidelines International Network and NHMRC standards for guideline development.

**Results:** Of the 1046 Australian guidelines published between 2005 and 2013, competing interests were documented in 12% of guidelines. This has improved from 2% of guidelines published in 2005 to 26% published in 2013. 86% of guidelines do not contain evidence of consumer involvement in their development. 17% of guidelines depict the strength of a recommendation using evidence grading and references.

**Discussion:** Despite the availability of guideline standards promoting the documentation of these quality components, these indicators remain poorly documented in current guidelines. The inclusion of quality components is important for the overall quality and trust of a guideline. The value of these components and possible reasons for changes over time will be discussed.

**Implications for guideline developer/users:** The data demonstrates the quality of guidelines in Australia could be improved by better documentation of these components.

**Parallel Session 5.1:** Workshop

## Producing and Using Generic Decision Aids Linked to Guideline Recommendations to Enhance Shared-Decision Making in Clinical Consultations

Thomas AGORITSAS[1], Anja HEEN[2], **Linn BRANDT**[2], **Annette KRISTIANSEN**[2], Pablo ALONSO-COELLO[3], Elie AKL[1,4], **Christopher BERNTSEN**[2], Ignacio NEUMANN[1], Gordon GUYATT[1], **Per Olav VANDVIK**[2],

[1] *McMaster University, Canada*
[2] *University of Oslo, Norway*
[3] *Iberoamerican Cochrane Center, Spain*
[4] *American University of Beirut, Lebanon*

---

**Background:** Clinical recommendations are often weak and, as per GRADE definition, require shared-decision making (SDM). The use of Decision Aids (DA) can facilitate SDM, but their production is time-consuming and often not based on current best evidence. Our Making GRADE the Irresistible Choice (MAGIC) research and innovation program (http://www.magicproject.org), in collaboration with the DECIDE project (www.decide-consortium.eu), is developing generic and multi-layered DA for the clinical encounter linked to guideline recommendations.

**Objectives:** 1. To identify determinants of weak recommendations and learn how they often require SDM in clinical practice, 2. To learn about the semi-automated production of DA to be used at the point of care using guideline development tools, 3. To use and explore real DA for the clinical encounter produced on an online guideline authoring and publication platform (www.magicapp.org).

**Target audience:** The workshop is open to anyone interested in exploring SDM tools, with an emphasis on point-of-care use.

**Description of the workshop and methods used to facilitate interactions:** The workshop will open with an interactive discussion of GRADE strong and weak recommendations, and conditions that warrant SDM. We will then present our framework and methods for the semi-automated, generic production of multi-layered DA from the evidence appraised in GRADE guidelines. Finally, the bulk of the workshop will be small-group role-playing sessions where participants are invited to explore interactive DA, as providers and patients in clinical encounters. Participants should ideally bring their own computer-tablets (eg, iPADS, alternatively laptops).

## From the quality library, through the Assessment Framework, in the Register: a complete online process

**Ferry NAGEL**[1],

[1] *National Health Care Institute - Zorginstituut Nederland, the Netherlands*

---

**Background:** Guidelines have been part of the quality policy of health care in The Netherlands since 1982. Guidelines are scattered over different databases and of different size and quality.

**Context:** The aim of the new Institute for Health Care Quality, an autonomous subsidiary of the Department of Health, is to safe keep the progress, consistency and transparency of quality policy of health care in The Netherlands.

**Description of best practice:** The institute developed an on-line 'library', a facility in which stakeholders can share and use guidelines to measure the quality of health care delivery. Guidelines which are approved are promoted to a special section of the library called the Registry. The main criterion for approval is that the guideline is the result of a joint effort by patient organisations, health care providers and health care insurers. In this way every relevant party is involved in an early stage ensuring a broad base for support for the guidelines.

**Lessons for guideline developers, adapters, implementers and/or users:** We would like to use the opportunity of the GIN congress to present our on-line library. We will demonstrate how stakeholders can share guidelines, how these can be promoted to the Registry, and how patients and professionals can consult them. Furthermore, we will explain how this model can contribute to the improvement of the quality of care: a broader base for support, faster rate of implementation and a higher degree of transparency.

# Technology for large-scale translation of guidelines: an evaluation of the performance of a hybrid human and computer-assisted approach

**Stijn VAN DE VELDE**[1,5], Klaar VANOPSTAL[2], Koen VANNESTE[3], Lieve MACKEN[2], Robert Vander STICHELE[1,4], Joost BUYSSCHAERT[2],

[1] *EBMPracticeNet, Belgium*
[2] *Department of Translation, Interpreting and Communication, Ghent University, Belgium*
[3] *IVS IScientia, Belgium*
[4] *Heymans Institute of Pharmacology, Ghent University, Belgium*
[5] *Belgian Center for Evidence Based Medicine*

---

**Background:** Large-scale translation of medical documents is a time consuming and resource-demanding effort, which can be relieved by using computer-assisted technology. For translating nearly 1,000 medical guidelines, our consortium used a hybrid approach, involving a human translator supported by a translation memory, terminology recognition from medical termbases and support from online machine translation. This has resulted in a validated translation memory.

**Objective:** The objective of this study is to evaluate the performance of the hybrid human and computer-assisted approach.

**Method:** We conducted a trial in which 28 new guidelines were randomised, using readability parameters to evaluate baseline comparability. Comparable guidelines were translated (a) by less experienced medical translators using the hybrid method (b) by the same translators without the support of the validated translation memory and (c) by an experienced medical translator without this support. A medical proofreader who was blinded for the translation procedure, evaluated the translated guidelines for acceptability and adequacy. The Human Translation Edit Rate was calculated as a metric to evaluate the quality of the translation. Translation speed was measured by recording translation and post-editing time.

**Results:** The evaluation is ongoing and the results will be presented at the G-I-N conference 2014.

**Discussion and implications:** If the hybrid method can be proven to be performant, it may set an example for other large-scale translations and may provide opportunities for international collaboration by building and sharing validated translation memories specific for clinical practice guidelines.

## Guidelines, Recommendations, Adaptations Including Disability: A novel approach to obesity prevention for individuals with disabilities

**Kerri VANDERBOM**[1], James RIMMER[2], Ian GRAHAM[3],

[1] *UAB/Lakeshore Research Collaborative, USA*
[2] *University of Alabama at Birmingham/UAB Lakeshore Research Collaborative, USA*
[3] *Centre for Practice-Changing Research/ The Ottawa Hospital Research Institute, Canada*

**Background:** Youth and adults with disabilities (YAWD) have significantly higher rates of obesity compared to the general population. There is a critical need to identify ways to prevent and treat obesity in this population using methods that are economical and can be conducted in real world settings.

**Objectives:** To develop a method modeled after the ADAPTE framework to adapt the 24 Centers for Disease Control and Prevention Obesity Prevention strategies (OPS) to be inclusive of YAWD. The product, Guidelines, Recommendations, Adaptations Including Disability (GRAIDs) will facilitate the integration of YAWD into existing evidence-based OPS.

**Method:** Three phases were involved: (1) Set-up: An expert panel was convened and adapted AGREE criteria for GRAID development; (2) Development of GRAIDs included: a systematic review of literature, development of GRAIDs using literature, expert workgroup monthly meetings to modify GRAIDs, (3) Finalization: external review by stakeholders (professionals and service providers who work with YAWD, YAWD and their family members). The expert panel finalizes the GRAIDs at an annual consensus meeting.

**Results:** Currently, 10 GRAIDs have been developed. The GRAIDs will be shared on a web portal with federal, state, and local authorities to influence disability health disparities research, policy, and practice.

**Discussion:** Addressing obesity among YAWD requires a new methodology that does not indulge in costly randomized controlled trials.

**Implications for guideline developers/users:** The GRAIDs will be usable in health promotion programs to ensure that YAWD will have the same opportunities to participate in evidence-based programs in schools, worksites, health care settings and the community-at-large.

## Development of a reporting checklist for updated guidelines

**Denis AKO-ARREY**[2], Robin VERNOOIJ[1], Melisa BROUWERS[2], Laura MARTINEZ GARCIA[1], Itziar ETXENDIA[1], Andrea Juliana SANABRIA[1], Anna SELVA[1], Sandra PEQUE-SACO[1], Ivan SOLI[1], David RIGAU[1], Anna KOTZEVA[1], Arturo LOURO[1], Flavia SALCEDO1, Ignacio MARI[1], Javier GRACIA[1], Petra DIAZ[1], Rafa ROTAECHE[1], Pablo ALONSO-COELLO[1],

[1] *Iberoamericano Cochrane Center, Biomedical Research Institute, Spain*
[2] *McMaster University, Canada*

---

**Background:** Updating has been up to now a neglected aspect of the guidelines enterprise. Updating methodological standards have not yet come forward regarding the updating of clinical guidelines (CGs).

**Objective:** To develop an updating reporting checklist for CGs.

**Methods:** A preliminary checklist is being developed through brainstorming and systematic reviews within a multidisciplinary research group. This checklist has been refined by testing it with updated CGs (n=10) and undertaking semi-structured interviews (n=13). To obtain feedback about the comprehensiveness, clarity, coverage, importance, and overlap of the items, we will conduct a Delphi survey with updating experts. Finally, we will conduct a survey to collect feedback from a wider sample of CG developers and methodologists.

**Results:** After refining the initial list, we have included seventeen items. The Delphi survey will be conducted in Spring 2014. We will present the list of items before the final survey at the conference.

**Discussion:** Currently, there is little guidance about how to report the updating of CGs. This checklist will be registered in EQUATOR, published on a stand-alone website, along with a user's manual. This checklist will likely improve the quality of the updating in the guideline arena.

## External review in the process of clinical practice guidelines in Japan

**Yosuke HATAKEYAMA**[1,2], Naohito YAMAGUCHI[1,3], Akiko OKUMURA[1,4], Kosuke KIYOHARA[1,3], Masahiro YOSHIDA[1,5], Yasuto SATO[1,3], Noriko KOJIMAHARA[1,3], Fujimi KAWAI[6], Toshio MORIZANE[1],

[1] *MINDS (Medical Information Network Distribution Service) Guideline Center, Japan*
[2] *Department of Advanced Social and International Studies*
[3] *Tokyo Women's Medical University, Japan*
[4] *The University of Tokyo, Japan*
[5] *Chemotherapy research institute, Japan*
[6] *St. Luke's International University Library, Japan*

---

**Background:** External review is an important opportunity to improve the quality of clinical practice guidelines (CPGs). However, it is not clear how to conduct external reviews for the development of CPGs in Japan.

**Objectives:** This study aimed to clarify the external review process currently undertaken in Japan.

**Methods:** We reviewed Japanese CPGs that have been selected by MINDS (Medical Information Network Distribution Service) in 2011-2014. In March 2014, we abstracted description about the external review from these CPGs.

**Results:** Of a total of 137 CPGs selected by MINDS in 2011-2014. 102 (74.5%) CPGs had clear descriptions regarding external review process. In these 102 CPGs, 89 (87.3%) CPGs were reviewed by review members independent of CPGs writing groups and/or other members belonging to specialty society related to the CPGs topics, and 51 (50%) CPGs conducted the process of public comment. Seventy-two (70.6%) CPGs reflected and 8 (7.8%) CPGs presented the results of external review. Four (3.9%) CPGs had patients/public review members.

**Discussion:** The conduct of external review has been recognized as an important process, but the methods for consideration and description of the results of external review have not been established in Japan. To assist CPGs development groups to develop more trustworthy CPGs, it is important to disseminate appropriate methods and tools for the consideration/description about the results of external review.

**Implications for guideline developers/users:** MINDS continues providing handbook/manual and tools for CPGs development including the method for the consideration/description about the result of external review.

## The incorporation of stakeholder considerations in guideline development

**Kristie VENHORST**[1], Joyce VAN CROONENBORG[2], Teus VAN BARNEVELD[1],

[1] *Knowledge Institute of Medical Specialists, the Netherlands*
[2] *Order of Medical Specialists, the Netherlands*

**Background:** The guideline committee of the umbrella organization of Dutch medical specialists composed a framework on how the process of guideline development should ideally be performed. This framework states that we should include considerations beyond medical content by:—Active stakeholder involvement (e.g. health insurers and pharmaceutical industry);—Examine the perspective on costs;—Determining the normativity of recommendations and the period within which they should be implemented. Four guideline topics (e.g. dementia, head and neck cancer) were chosen as leading examples for development according to the framework.

**Objectives:** We are currently evaluating how the incorporation of stakeholder considerations affected the content and implementability of guidelines and how the framework on these parts can be improved.

**Methods:** The framework is evaluated by in-depth interviews on the perspective of guideline developers, medical specialist and stakeholders.

**Results:** First results indicate that early stakeholder involvement is of high value in composing guideline specific implementation strategies. More results and our final proposal of the framework will be presented during GIN 2014.

**Discussion:** Applying the framework revealed a lack of knowledge on how to deal with disagreements between stakeholders and medical specialist on key decisions like the extent to which recommendations should be normative and the period within which they should be implemented. We will also discuss the importance of and problems with stakeholder involvement in the process of scoping the guideline.

**Implications for guideline developers/users:** More structural and optimized incorporation of stakeholder considerations in guideline development.

## Lessons learned from patient involvement in developing a clinical guideline on chronic fatigue syndrome

**Hans DE BEER**[1], Ton KUIJPERS[2], Jako BURGERS[2],

[1] *CBO Institute for Healthcare Improvement in the Netherlands*
[2] *The Dutch College of General Practitioners*

---

**Background:** In 2013 the Dutch clinical guideline on chronic fatigue syndrome (CFS) was published after 6 years. A determinant of this long development period was an ongoing controversy between professional and patient organizations.

**Objective:** To evaluate the process of involving patients in developing a guideline on CFS and to present lessons learnt regarding patient involvement.

**Methods:** Qualitative research methods were used to analyze the role of patient representatives.

**Results:** We will present in which ways patients were involved during the guideline development process, on what crucial moments the guideline process was altered, and which ultimately (unsuccessful) interventions we targeted to keep the patient organizations on board of the guideline development group. We will present some do's and don'ts based on this 'case study' regarding the involvement of patients in similarly complex subjects in the near future.

**Discussion:** Involving patient advocates on complex chronic conditions may complicate the process of guideline development, if they do not agree with the outcomes of systematic review findings. In case of CFS, we could not achieve consensus with patient organizations. Similar experiences have been reported in other countries like the UK and Norway. A procedure on solving conflicts could be helpful to prevent delay of the guideline development process.

**Implications for guideline developers/users:** Our experiences with patient involvement will help guideline developers around the world in reflecting on methods for involving patient representatives in complex guideline subjects.

## How to develop patient versions of guidelines: updating the GIN PUBLIC Toolkit

Karen GRAHAM[1], **Shaun TREWEEK**[2], Nancy SANTESSO[3], Robin HARBOUR[1],

[1] *Scottish Intercollegiate Guidelines Network*
[2] *University of Aberdeen, UK*
[3] *McMaster University, Canada*

**Background:** The GIN PUBLIC Toolkit supports guideline developers to involve consumers in guideline development or dissemination.

**Objective:** To update Chapter 4 of the Toolkit ('How to develop patient versions of guidelines') using empirical data from the DECIDE project.

**Methods:** DECIDE has spoken to well over 100 consumers, plus journalists and health professionals thinking about shared decision making. Focus groups, interviews, surveys and user-testing, as well as a literature review were used to get concrete suggestions about what people expect to find in patient versions, why they want it and how they would like it presented.

**Results:** Consumers are interested in information derived from guidelines but the selection of which parts of the full guideline to incorporate need consumer involvement early on, preferably at the start of full guideline development. Information should be actionable; presenting recommendations without support for implementation is frustrating. Information on self-management is key. Patient versions need to clearly state a purpose and the context in which they are intended to be used. Language needs to be free of technical jargon. The new Toolkit includes the above in its guidance, along with worked examples of patient versions that follow the guidance.

**Discussion:** DECIDE has provided empirical data with which to update the GIN PUBLIC Toolkit. Early consumer involvement is required to do it well.

**Implications for guideline developers/users:** The new Toolkit will help guideline developers to produce patient versions of guidelines that meet consumers' needs.

## Communicating clinical practice guidelines to patients and the public: An analysis of patient versions of clinical practice guidelines (CPGs)

**Nancy SANTESSO**[1], Gian Paolo MORGANO[2], Susan JACK[1], Shaun TREWEEK[3], Holger SCHÜNEMANN[1],

[1] *McMaster University, Canada*
[2] *Regina Elena National Cancer Institute, Italy*
[3] *University of Aberdeen, UK*

---

**Background:** Increasingly, guideline producers (GPs) are developing patient versions of CPGs as one strategy to communicate CPGs to patients and the public.

**Objectives:** To determine 1. what type of documents GPs are providing to the public and the purpose, 2. what information is included, and 3. how recommendations and evidence are presented.

**Methods:** We systematically sampled patient versions from international and professional GPs with experience in this area. Two investigators abstracted data using a piloted form and a qualitative/quantitative content analysis of manifest and latent content was performed. We compared the results to a review of patient and public perspectives of CPGs.

**Results:** Over 30 patient-version CPGs are included in this study. We found multiple purposes including tools for patient-physician consultation, aids to decision making, and documents to empower patients. Often, documents included more information about the condition and interventions than recommendations. In many documents it was difficult to determine what were the recommendations and the evidence.

**Discussion:** There are multiple purposes for communicating CPGs to patients and the public which align well with their needs. However, guidelines provide a unique opportunity to offer patient guidance over and above what is effective or not effective.

**Implications for guideline developers/users:** GPs wanting to reach the public can consider the current approaches of other producers with experience in this area, in particular, when deciding about the purpose of the patient versions. However, more work into the presentation of recommendations and evidence is needed.

## Listening not shouting: designing versions of guidelines for the public that take account of what people want

Margaret CALLAGHAN[1], **Shaun TREWEEK**[2], Kirsty LOUDON[3], Nancy SANTESSO[4], Judith THORNTON[5], Emma MCFARLANE[5], Karen GRAHAM[1], Helena LIIRA[6], Ilkka KUNNAMO[6], Robin HARBOUR[1],

[1] *Scottish Intercollegiate Guidelines Network*
[2] *University of Aberdeen, UK*
[3] *University of Dundee, Scotland*
[4] *McMaster University, Canada*
[5] *NICE, UK*
[6] *Finnish Medical Society Duodecim*

---

**Background:** Improving consumer versions of guidelines is one way to support an increasing role for people in their own care.

**Objective:** To get feedback from consumers about alternative ways of presenting information from guidelines.

**Methods:** Three alternative ways of presenting guideline information (for diabetes, depression and weight management) were created and piloted in Dundee and Glasgow. They were then used in formal user-testing with groups of the public and patients. We aimed for a widely representative sample including people with long-term conditions, older people, people with disabilities, people living in rural areas and people from more deprived areas.

**Results:** 62 people from across Scotland took part. Key findings related to: context (How will I receive the guideline? From a doctor? Online?; quality of evidence (all presentations were understood but participants did not see its relevance); choice (Are treatments available?); language (often too technical); where to get further help. Other feedback covered formatting, tone and illness progression.

**Discussion:** Consumers are interested in guideline information but producers need to consider the context in which the information is obtained and be clear about how the information is intended to be used. It is not obvious to consumers why they need to consider the quality of evidence. These results will feed into the DECIDE project.

**Implications for guideline developers/users:** Producing consumer versions of guidelines is not simple and requires thought as to what the intended purpose is and how consumers will obtain and use them.

# Patient Decision Aids linked to Guidelines: an Approach to Preference sensitive Decisions

**Corinna SCHAEFER**[1],

[1] *German Agency for Quality in Medicine*

**Background:** Evidence on important key questions often is conflicting or does not allow for strong recommendations. When different diagnostic or treatment options offer different but comparable profiles of benefits and harms, decisions are sensitive to values and preferences of the individual patient. To better reflect these individual perspectives, patient decision aids (PDA) directly linked with a guideline recommendation may provide a means.

**Context:** In the German National Disease Management Guideline on coronary heart disease (CHD), PDAs developed for and linked to the guideline are piloted.

**Description:** A multidisciplinary guideline panel identified preference sensitive decisions within the CHD chapter on revascularization. Recommendations were formulated that recommend the use of a PDA before opting for invasive diagnostics, acute versus delayed PCI and stent implantation versus bypass surgery. PDAs being an integral part of the guideline, they are developed and published alongside with the guideline: Based on the systematic search and assessment of the evidence for the guideline recommendation, a team of patient information specialists together with the responsible authors of the guideline chapters compiles them adhering to international standards (IPDASi). The final products are consented in a formal consensus process by all panelists and provided together with the guideline itself. A special generic guideline chapter describes background and methodology.

**Lessons:** PDAs linked to guidelines must be developed from the same body & appraisal of evidence to assure consistency. Consenting them in a formal process by all panelists and providing them as part of the guideline fosters acceptance and implementation.

# Can evidence based appropriateness guidelines determine if complex polypharmacy patients are suitable for deprescribing of Proton Pump Inhibitors?

**Emily REEVE**[1,2,3], Michael WIESE[1], Jane ANDREWS[2], Ivanka HENDRIX[4], Michael ROBERTS[1,5], Sepehr SHAKIB[2],

[1] *University of South Australia, Australia*
[2] *Royal Adelaide Hospital, Australia*
[3] *University of Sydney, Australia*
[4] *Repatriation General Hospital, Australia*
[5] *University of Queensland, Australia*

---

**Background:** Cessation of inappropriate medications may improve patient outcomes and reduce costs, but there are no objective tools that quickly and cheaply identify patients suitable for deprescribing.

**Objectives:** To determine, in a population of complex polypharmacy individuals, if a developed guideline could identify patients taking a PPI who are suitable for a trial of deprescribing.

**Methods:** Within the framework of a systematic patient-centred deprescribing process, suitability for deprescribing was determined via two mechanisms: the PPI appropriateness assessment guideline (developed via review of relevant literature and guidelines on appropriate use of PPIs) and clinical gastroenterologist review.

**Results:** Appropriateness assessment was completed in 43 of the 57 participants (age=72±14, number of medications=14±6). Long term PPI use was judged as inappropriate in 20 (47%) participants; after removal of participants taking the PPI as required and GP refusal, 6 participants consented to trial withdrawal. All 6 successfully ceased (n=3) or reduced the dose (n=3) of their PPI.

**Discussion:** Inappropriate PPI use in complex patients with polypharmacy is frequent, but identification of suitable individuals within this group to trial deprescribing is time consuming and requires considerable specialist input. The PPI appropriateness assessment guideline in this population was also limited by access to information barriers and grey areas of the literature in relation to medically complex individuals.

**Implications for guideline developers/users:** Medically complex individuals should be considered when developing deprescribing guidelines; expert review is required when guidelines cannot provide solid recommendations for these patients.

# Comorbidity forces physiotherapists to deviate from guideline recommendations resulting in various treatments for the same patient: a Vignette study

**Sarah DÖRENKAMP**[1,3,4], Ilse MESTERS[1,3,4], Joep TEIJINK[1,2,3], Rob DE BIE[1,3,4],

[1] *Department of Epidemiology, Maastricht University, the Netherlands*
[2] *Department of Vascular Surgery, Catharina Hospital, the Netherlands*
[3] *CAPHRI School for Public Health and Primary Care, Maastricht University, the Netherlands*
[4] *Centre for Evidence Based Physiotherapy, Maastricht University, the Netherlands*

**Background:** How patients with comorbidity are treated in daily practice is unknown. Understanding the decision making process of physical therapists (PTs) and exploring the treatment of comorbid patients in daily practice might be a first step to unravel the complexity of treating multi-diseased patients.

**Objectives:** The aim of this Vignette study was to assess whether PTs make reasoned adaptations to evidence based treatment recommendations when comorbidity influences the single disease treatment.

**Methods:** To study the influence of comorbidity on treatment recommendations, three vignettes were created based on authentic IC patient data. In the first vignette a single-diseased IC patient was described, in the second comorbidity Chronic Obstructive Pulmonary Disease (COPD) was added and in the third vignette additionally Knee Osteoarthritis (OA) was added. Therapists were instructed to describe three detailed treatment plans and their decision rationale. A random selection of 100 Dutch Claudication Network members (ClaudicatioNet) was invited to participate in this qualitative study expecting a 50% response.

**Results:** Response rate was 61%. Thirty percent of the physical therapists did not adjust treatment despite comorbidity. Another 30% partly adapted the treatment plan when comorbidity was added to the vignette. The presence of comorbidity induced 40% of the therapists to abandon guideline recommendations and to create an individualised treatment plan based on the health needs of the vignette patient.

**Conclusion:** This study showed that the majority of PTs makes adaptations to evidence-based recommendations when comorbidity is present. However, exactly the same patient was treated in various ways by different PTs.

# On automated execution of clinical practice guidelines for patients with comorbidity

**Yuanlin ZHANG**[1], Zhizheng ZHANG[2],

[1] *Texas Tech University, USA*
[2] *Southeast University, China*

In building Clinical Practice Guideline (CPG) based decision systems, the focus has been more on the automation of the interpretation of CPGs of single diseases. However, multiple guidelines are needed for patients with comorbid diseases which are common for elderly population. The automation of applying multiple guidelines was taken as a challenging problem. The objective of this research is to find effective way(s) to develop a system to make treatment recommendations based on the patient's conditions and the corresponding guidelines. We first give a precise mathematical model of such a system, based on existing work. In our model, we also need the knowledge of which actions in different guidelines are in conflict and the knowledge on how to mitigate these conflicts if there is any. We then use Answer Set Programming (ASP), a logic based language, to implement the model. We have implemented a prototype system using ASP in several days and test it on a few cases that are discussed in the literature. The system produces the expected result for each test case within one second. Our system and test cases are available publicly at <http://redwood.cs.ttu.edu/~yzhang/temp/KR-14/code-coMorbidity-dlv.lp>. Our experiment shows that the proposed method is promising. Although our model has extended the state of the art method, it still oversimplifies the knowledge in guidelines and the treatment of conflicts. In the future, we will work with Physicians to refine the model to make it more realistic.

# N of one guidelines—further steps to manage multimorbidity

**Martin SCHERER**[1], Cathleen MUCHE-BOROWSKI[1], Dagmar LÜHMANN[1],

[1] *Institute for General Practice, UKE Hamburg, Germany*

**Background:** Mono-disease guidelines don't reflect specific problems in the care of elderly patients with multiple health-problems. Our project aims to support decision-making in general practice by providing a set of 10 case-based (N=1) guidelines. Typical primary care cases were based on epidemiologic data and refined in a focus-group meeting with GPs contributing their clinical expertise. Recommendations for each case's main diagnoses were extracted from evidence-based guidelines and compiled in case-vignettes. In a pilot-test, one case-vignette was presented to three clinical experts, requesting statements on adequacy of recommendations, feasibility and importance of context factors. Results demonstrated a gap between diagnosis-related recommendations and case-based clinical judgment. To overcome this deficit, all 10 case-vignettes were presented to an expert-panel for consultation.

**Aim:** To supplement the development of evidence- and case-based (N=1) guidelines for multimorbid patients with clinical reasoning.

**Methods:** Clinical experts were sought via an open email-list for GPs. Experts were supplied with all 10 case-vignettes. Their clinical perspective was requested for three aspects: 1) avertable deleterious developments, 2) individual health-targets, diagnostic and therapeutic preferences, 3) important psychosocial variables. The answers were used to modify the n=1 guidelines, which were consented in a modified Delphi-procedure.

**Results:** Expert input into n=1 guideline development helped to identify healthcare-targets for multimorbid patients and to prioritize among evidence-based guideline recommendations.

**Prospect:** In a next step preferences of patients with multiple morbidities will be elicited and used to refine the recommendations given in the n=1 guidelines. Finally, a meta-algorithm (such as a universally applicable flow-chart) will be developed.

# Accounting for multimorbidity in economic models: implications for clinical guidelines

Alex THOMPSON[1], Katherine PAYNE[1], **Moray NAIRN**[2], Phil ALDERSON[3], Matt SUTTON[1], Bruce GUTHRIE[4],

[1] *The University of Manchester, UK*
[2] *Scottish Intercollegiate Guidelines Network*
[3] *NICE, UK*
[4] *The University of Dundee, Scotland*

---

**Background:** The National Institute for Health and Care Excellence (NICE) provides condition-specific recommendations based on best available evidence. An enduring challenge is how to provide recommendations for populations with multiple conditions (multimorbidity) based on robust economic evidence.

**Objectives:** To structure a model-based cost-effectiveness analysis of treatment strategies to inform a clinical guideline for a multimorbid population.

**Methods:** Using predefined criteria, a multimorbid population living with coronary heart disease and depression (CHD/D), was selected as a pilot. Data triangulated from three sources informed an economic model-structure (i) published economic models from clinical guidelines for single conditions (ii) expert elicitation (clinicians, pharmacists, patients, guideline developers) using a structured deliberative process (iii) published recommendations on economic modelling.

**Results:** A model structure (discrete event simulation) suitable to inform the development of clinical guidelines of treatment strategies for CHD/D was produced.

**Discussion:** Results suggest that simply pooling cost-effectiveness evidence for single conditions is unlikely to be valid when producing guidelines for multimorbid populations undergoing numerous treatments. A key component was the need to systematically integrate quantitative risk-benefit assessment into the cost-effectiveness analysis.

**Implications for guideline developers/users:** Strictly adhering to recommendations from multiple single guidelines for multimorbid populations may lead to the promotion of care which does not clearly balance harms and benefits of treatments. Guideline developers can use the results of this study to understand how to generate useful economic evidence to inform recommendations for multimorbid populations.

## Developing national guidelines for service delivery

**Bhashkaran NAIDOO**[1], Jasdeep HAYRE[1], Beth SHAW[1],

[1] *Centre for Clinical Practice, NICE, UK*

**Background:** Clinical guidelines have traditionally dealt with aspects of the process of health care services, in particular assessing the effectiveness of health interventions. Some guidelines may have considered the questions of by whom, where and when interventions should be delivered, but many guidelines do not explicitly consider the delivery of services and interventions. There is increased focus on developing national guidelines on the delivery of health services.

**Objectives:** To produce new methods for developing service delivery (SD) guidance.

**Methods:** New SD methods would be developed taking into account the principles of assessing the clinical and cost effectiveness of the service; using the best available research evidence and expert consensus; and using recognised methods that are both robust and transparent.

**Results:** When applying any method it is important to understand what type of SD questions can be answered and which questions are being asked when developing a SD guideline. We propose the use of conceptual models of services as a means of identifying and articulating the decision problems to be addressed within a guideline. This includes a taxonomy of SD questions, which can then be mapped to different methodological approaches that will be appropriate for answering the question.

**Discussion:** A variety of methods will need to be used to develop SD guidance based on different types of questions.

**Implications for guideline developers:** In developing SD guidance it will be important that decision problems are fully understood at a systems level in order that the appropriate methods are applied.

## How many terms are used to describe practice guidelines?

**Yaolong CHEN**[1], Susan NORRIS[2], Qi WANG[1], Liang YAO[1], Xiaoqin WANG[1], Dang WEI[1], Kehu YANG[1],

[1] *Evidence-Based Medicine Center of Lanzhou University, China*
[2] *Guidelines Review Committee Secretariat, WHO*

**Background:** The titles of practice guidelines should be clear, distinct and easy to identify. However, different guideline developers tend to use different terms to represent and describe guidelines.

**Objectives:** To investigate the number of terms are used to describe practice guidelines.

**Methods:** We included published guidelines developed by the World Health Organization (WHO) and approved by WHO Guidelines Review Committee between 2007 and October 2013. Each guideline was independently examined by 2 investigators.

**Results:** We included 135 guidelines and found there were 31 different terms in the titles of WHO guidelines to describe guideline documents. The five most frequent terms were: guidelines (39%), recommendations (15%), statement (7%), guidance (5%), manual (4%). Other terms included guide, guiding principles, handbook, document, report, rapid advice, booklet, toolkit, management, framework, care, criteria, classification, initiative, module, interventions, medical reasons, textbooks, policy, response, role, technical paper, technical consultation, technical note, tool, treatment.

**Discussion:** Various terms were used to describe practice guidelines and nearly 40 percent are uncommon and atypical terms. This variability can lead to confusion and misunderstanding in the dissemination and implementation of WHO guidelines.

**Implications for guideline developers/users:** We recommend that guideline developers use standard terms in the title of practice guidelines so that they can be readily identified. Guideline users and researchers must use a variety of terms find guideline documents.

## Using relevant primary care evidence in clinical guidelines: mixed methods study

Asmaa ABDELHAMID[1], **Tim STOKES**[2], Nadeem QURESHI[3], Amanda HOWE[1], Nick STEEL[1],

[1] *Norwich Medical School, University of East Anglia, UK*
[2] *School of Health and Population Sciences, University of Birmingham, UK*
[3] *School of Medicine, University of Nottingham, UK*

---

**Background:** Clinical guidelines are developed for and used in primary care (PC) settings but are not always based on research conducted in PC.

**Objectives:** To explore primary care practitioners (PCPs) views on the relevance of PC evidence in guidelines developed by the UK National Institute for Health and Care Excellence (NICE).

**Methods:** Mixed methods study: online Delphi survey and two focus groups with PCPs; workshop with guideline developers.

**Results:** PCPs reported that they were more likely to use guidelines where outcomes were relevant to PC patients, and less likely if the evidence base was from a secondary care population. PCPs in the focus groups indicated that brief, clear, and accessible guidelines were more likely to be used. They generally trusted that guideline developers had used the most relevant evidence, and wanted clearer signposting of which guideline recommendations were particularly relevant for PC patients. The guideline developers recognised that the PC relevance of guidelines needed to be more explicitly considered at the three stages of scoping and evidence synthesis, recommendation development, and publication.

**Discussion:** This study integrates PCP and guideline developer perspectives on the relevance of PC evidence in guidelines.

**Implications for guideline developers:** Relevance of guidelines to PC should be more explicitly considered at three stages of guideline development: scoping and evidence synthesis, recommendation development, and publication. Initial development of guideline review questions should include PC perspectives. Guidelines should specify how relevant the available evidence for each recommendation is for patients seen in PC.

# Are clinical guidelines a type of applied scientific framing study? An analysis of the interaction between guideline recommendations and using different sources of knowledge in clinical reasoning

**Sue LUKERSMITH**[1,2], LUIS SALVADOR-CARULLA[1],

[1] *University of Sydney, Australia*
[2] *Lukersmith & Associates, Australia*

**Background:** Although clinical practice guidelines (CPG) development uses a standardised EBM approach guidelines generally include a caveat like 'these guidelines are intended to inform and guide but do not replace clinical expertise'. The caveat is an acknowledgment of practice complexity and the multi-dimensional process needed to translate and implement the recommendation into practice. There is reliance on the clinician to judge, problem solve and implement, adapt or not proceed with the recommendation. There are three processes: previous knowledge (systematic review), expert knowledge generation (the recommendation) and knowledge translation (guideline implementation). There is emerging recognition of the need to include other sources of knowledge in guideline development and support implementation. Guideline developers increasingly include the consumer perspective and qualitative research. Clinical reasoning uses different sources of knowledge including the narrative, evidence and previous experience. An analysis of the interaction of the between CPG and clinical reasoning using framing theory and scientific frame concepts may inform CPG methodology.

**Objective:** To explore a clinical guideline as an applied scientific framing study.

**Methods:** Guidelines are one type of scientific study. The clinical reasoning model involves a framing process of using different sources of knowledge. A case study is used to examine the interaction of the scientific knowledge derived from the external knowledge (the CPG) and internal knowledge (clinical reasoning).

**Results:** The case study describes the elements identified, which support clinical reasoning and internally derived knowledge. Potential strategies and sign posting in guidelines to support use of all sources of knowledge are discussed.

## Implementation of guideline recommendations using online patient portals in electronic health records: a prospective cohort study

**Philip VAN DER WEES**[1], Simone VAN DULMEN[1],

[1] *Radboud University Medical Center, the Netherlands*

**Background:** In the Netherlands several guidelines have been developed in the field of physical therapy. Key component in guideline recommendations is the use of patient-reported outcome (PRO) measures for physical therapy diagnosis, treatment and evaluation. Electronic health records (EHR) may stimulate the routine use of PRO measures by providing online patient portals for computerized data collection.

**Objective:** To evaluate differences between EHR systems in implementing the routine use of PRO measures in primary care physical therapy.

**Methods:** The use of PRO measures was implemented in a prospective cohort study with 35 physical therapy practices (n=180 physical therapists). PRO measures were selected for five main health problems in physical therapy management. We assessed the routine use of measurement instruments and differences between EHR systems via an online survey as baseline measurement of the project. Differences were assessed with Chi-Square statistics.

**Results:** Response rate to the survey was 84% (n=154). Five different EHR systems were used across the 35 practices, with two systems providing online patient portals for PRO data collection. Some 46% of the responding physical therapists replied using measurement instruments in more than half of their patients. The use of measurement instruments differed significantly across EHR systems ($p<0.01$). In EHR systems with an online patient portal, PRO measures were used more often ($p<0.001$).

**Implications:** The use of online patient portals in EHR facilitates measuring patient-reported outcomes in physical therapy management. Further implementation is needed to support physical therapists and patients in using online portals.

# Rehabilitation and functional capacity in Clinical Practice Guidelines. A Collaboration of the G-I-N Nordic Regional Community

**Piia VUORELA**[1], Mari HONKANEN[1], Antti MALMIVAARA[1], Lene JUVET[2], Anne HILDE ROSVIK[3], Hildur KRISTJANSDOTTIR[4], Britta TENDAL[5], Caroline HOLDT-BILLINGTON[6], Maria ERIKSSON[7],

[1] *Finnish Medical Society Duodecim*
[2] *Norwegian Knowledge Centre for the Health Services*
[3] *The Norwegian Health Library*
[4] *Directorate of Health, Iceland*
[5] *Danish Health and Medicines Authority*
[6] *The Norwegian Directorate of Health*
[7] *The National Board of Health and Welfare, Sweden*

---

**Background:** Rehabilitation is often neglected in clinical practice guidelines (CPGs), even when evidence shows effectiveness. The overall life expectancy in Nordic countries is 79-82 years. With ageing populations the prevalence of age related diseases and need for rehabilitation increase.

**Objectives:** To evaluate how well rehabilitation and assessment of functional capacity is covered in CPGs in the Nordic countries.

**Methods:** Sections addressing rehabilitation were identified in all current CPGs. Text search with relevant search terms was undertaken to find rehabilitation addressed within text when not as sections. Finally, it was evaluated whether CPGs not addressing rehabilitation should.

**Results:**

Table. Numbers of all CPGs currently at use in Nordic countries and addressing of rehabilitation

| Country | All CPGs | Rehabilitation addressed as a separate section | Rehabilitation addressed within text but not as a separate section | Rehabilitation not addressed but should be |
|---|---|---|---|---|
| Denmark | 7a | 3 | 0 | 0 |
| Finland | 101 | 34 | 28 | 24 |
| Iceland | 53 | 5 | 11 | 10 |
| Norway | 35 | 6 | 11 | 7 |
| Sweden | 14 | 7 | 3 | 2 |
| Total | 210 | 55 | 53 | 43 |
| a: Includes only CPGs produced centrally by the Danish Health and Medicines Authority. | | | | |

**Discussion:** A noticeable number of Nordic CPGs do not cover rehabilitation even when they should; there are between country differences. Implications Upon CPG development and updating notice should be paid to addressing rehabilitation. Whether it is addressed as a section of its own or in text only is not central, but where rehabilitation and functional capacity are relevant, CPGs should provide this information.

# Determining Minimal Important Differences (MIDs) for Clinical Effectiveness in Practice Guidelines

**Judith THORNTON**[1], Elizabeth SHAW[1], Khalid ASHFAQ[1],

[1] *NICE, UK*

**Background:** When considering the effectiveness of interventions, closer attention is being paid to the relevance of the clinical effect size rather than relying on statistical significance alone. This is captured in the imprecision concept when applying GRADE to determine the quality of the evidence.

**Objectives:** To determine how MIDs are currently applied across NICE clinical guidelines.

**Methods:** We examined clinical guidelines published since January 2013. For guidelines addressing review questions on effectiveness of interventions, we extracted information on determination of MIDs.

**Results:** 22 guidelines were included; the processes of determining MIDs in each guideline were as follows: –GRADE default applied throughout without further explanation: 7; –No MID identified and default applied throughout: 10; –MID identified for some questions but not used and default applied throughout: 1; –MID identified and applied for some questions, default applied where no MID: 4; MIDs were identified through literature searching and discussion with the guideline development group.

**Discussion:** A range of approaches have been taken for the identification and application of MIDs with differences across and within developers. Generally, there was little explanation in the text. In one guideline, an MID was identified but not considered robust by the developers.

**Implications for guideline developers/users:** The next stage is to provide specific guidance on the criteria for choosing MIDs together with advice on supporting guideline development groups. We need to address apparent inconsistencies in updated guidelines where the original sections rely on statistical significance but the updated sections use MIDs.

## P01 | How many journals adopt reporting guidance for RCTs, Systematic reviews and Clinical practice guidelines in instructions for authors: a cross section survey from 150 medical journals

**Liang YAO**[1], Yaolong CHEN[1], Xiaoqin WANG[1], Qi WANG[1], Dang WEI[1], Cui RONG-RONG[1], Li NAN[1], Kehu YANG[1]

[1] *Evidence-Based Medicine Center of Lanzhou University, China*

**Background:** Empirical evidence suggests that active implementation of the CONSORT and other reporting guidance by journals can lead to improvements in the reporting of trials and other studies.

**Objectives:** To investigate how many medical journals adopt reporting standards for RCTs, systematic reviews and Clinical practice guidelines (CPGs) in their instructions for authors.

**Methods:** High sensitive of search filters were used to identify RCTs, SRs and CPGs in Pubmed. Then we respectively selected top 50 journals published each type of study and checked whether CONSORT, PRISMA and reporting criteria for CPGs were adopted in their instructions for authors.

**Results:** The results showed that 28 (56%) journals adopted CONSORT, 20 (40%) journals adopted PRISMA. For practice guidelines, only 1 (2%) journals adopted Conference on Guideline Standardization (COGS) as reporting standard. Besides, two journals mentioned in their instructions that when authors develop guidelines, they should follow Appraisal of Guidelines for Research and Evaluation (AGREE) and Institute of Medicine (IOM) standard.

**Discussion:** Compared with RCTs and systematic reviews, very few medical journals endorsed reporting standards for Clinical practice guidelines.

**Implications:** We suggest that for medical journals published clinical practice guidelines should introduce relevant reporting standards in instructions for authors. Guidelines authors also need to report their guidelines clearly, transparently and standardly.

## P02 | Low scores on AMSTAR may lead to unreliable quality of evidence

**Yaolong CHEN**[1], Liang YAO[1], Qi WANG[1], Xiaoqin WANG[1], Dang WEI[1], Cailiang WU[1], Kehu YANG[1]

[1] *Evidence-Based Medicine Center of Lanzhou University, China*

**Background:** AMSTAR is a well regarded quality rating tool for systematic reviews. More confidence can be placed in a synthesis assigned a high AMSTAR score. GRADE is an approach to rate evidence based on systematic reviews. Low quality of systematic reviews may lead to unreliable of quality of evidence.

**Objectives:** To explore how items of AMSTAR impact on GRADE rating factors.

**Methods:** We use a theoretical analysis method to examine the relationship between the 11 items of AMSTAR and each factor of GRADE used to downgrade or upgrade the confidence in the estimate of effect of an intervention.

**Results:** AMSTAR items 1-4 (protocol, reproducibility, literature search, grey literature) may impact all GRADE rating factors (risk of bias, indirectness, inconsistency, imprecision, publication bias, magnitude of effect, dose response, confounding). Item 6 (characteristics of the included studies) may impact indirectness. Item 7 (scientific quality) may impact on risk of bias. Item 9 (the methods used to combine the findings of studies appropriate) may impact on inconsistency and imprecision. Item 10-11 (publication bias, conflict of interest) may impact publication bias. Items 5 (A list of included and excluded studies) and 8 (formulating conclusions) are irrelevant to GRADE rating factors.

**Discussion:** Lower AMSTAR scores generally correlated with GRADE domains for rating down the quality of the evidence.

**Implications for guideline developers/users:** Before using GRADE system, raters should use AMSTAR to assess systematic reviews they included.

## P03 | Influential factors of treatment outcome in patients with Intermittent Claudication: Patient characteristics and comorbidity

**Sarah DÖRENKAMP**[1,2,4], Ilse MESTERS[1,2,4], Joep TEIJINK[1,2,3], Rob DE BIE[1,2,4]

[1] *Department of Epidemiology, Maastricht University, the Netherlands*
[2] *CAPHRI School for Public Health and Primary Care, Maastricht University, the Netherlands*
[3] *Department of Vascular Surgery, Catharina Hospital, the Netherlands*
[4] *Center for Evidence-based Physiotherapy, Maastricht University, the Netherlands*

**Background:** Exercise therapy is a common intervention for the management of Intermittent Claudication (IC). Research has shown that the improvement of patients is influenced by patient-related variables and comorbidity. If these co-factors significantly influence treatment success, their identification would enable alteration of evidence-based guidelines and by this optimize treatment success.

**Objectives:** This study investigates the effects of age, gender, BMI, orthopaedic, neurologic, cardiac, pulmonary and internal comorbidity on maximum (pain-free) walking distance in patients with IC.

**Methods:** Preliminary data analyses were performed on community-based electronic medical records of IC patients. To start, only complete cases regarding co-factors and walking distance at baseline, 1, 3, 6 and 12 months were selected (N= 539). Patients received treatment according to the evidence-based guideline IC of the Royal Dutch Society for Physical Therapy. Multi-level regression analysis was carried out to analyze whether patient-related variables and (clustered) comorbid conditions were associated with walking capacity.

**Results:** Complete case analyses revealed that increased age and BMI were associated with lower maximum and pain-free walking distance at all time points ($p < 0.001$). Patients with three comorbidities compared to none showed a lower claudication distance (After 12months: 990.6m vs. 1226.7m). Pulmonary and internal comorbidity were associated with a lower Claudication distance ($p < 0.001$). The cluster Age, BMI, pulmonary and internal comorbidity showed a significant difference in claudication distance after 12 months (488.3m vs. 1331.1m; $p < 0.001$).

**Discussion:** Age, BMI, pulmonary and internal comorbidity were associated with decreased walking distances at all time points.

## P04 | Korea's National Health Screening Program Guideline evaluation process

**Eun Young KIM**[1], Soonryu SEO[1], Yun-JUNGCHOI[1], Young Man KIM[1], Shin Young OH[1]

[1] *Korea Centers for Disease Control & Prevention*

**Background:** Korea Centers for Disease Control and Prevention (KCDC) has developed evidence-based methods for the criteria of National Health Screening Program (NHSP) and its quality control since 2009 as "Act on NHSP" was enforced.

**Objectives:** The objectives of this study are to develop evidence-based level of evaluation procedures for screening items of NHSP and guidelines for its criteria so that NHSP and healthcare policies can be properly implemented.

**Methods:** After conducting extensive literature review on criteria management and evaluation methods of screening items, principles of NHSP suitable for Korea were established through discussion with the KCDC and National Health Screening Criteria Evaluation Committee (NHSCEC). In addition, evidence-based level of evaluation procedures for screening items and ways to develop guidelines for criteria of NHSP were set.

**Results:** Four-step evaluation procedures for the level of evidence of screening items of NHSP were developed through literature review and ten meetings of NHSCEC. When the evaluation of the levels of evidence of NHSP criteria is completed, the results and the levels of recommendations will be developed into guidelines for screening criteria for NHSP and they will be provided through KCDC website.

**Discussion:** Periodic evaluation of the level of evidence of screening items and further discussion on the period of revision on guidelines are necessary.

**Implications for guideline developers/users:** Since doctors and examinees will be provided with accurate information on health screening, reduction of unnecessary medical expense will be expected. Additionally, the results of this study seem to affect implementing evidence-based national health care policies.

## P05 | How should we resolve local problems in the guidelines for cancer screening programs? Evaluation of mammographic screening with and without physical examination

**Chisato HAMASHIMA**[1], Koji OHTA[2], Takafumi KATAYAMA[3], Tomoki KISHI[4], Tomio NAKAYAMA[5], Satoshi HONJYO[6], Koji OHNUKI[7]

[1] *National Cancer Center, Japan*
[2] *Fukui Prefecture Hospital, Japan*
[3] *Hyogo Prefecture University, Japan*
[4] *Keio University, Japan*
[5] *Osaka Medical Center for Cancer and Cardiovascular Disorders, Japan*
[6] *Fukuoka National Hospital, Japan*
[7] *Iwate Prefectural Central Hospital, Japan*

**Background:** In Japan, mammographic screening with physical examination has been recommended. Although mammographic screening without physical examination has not been recommended, it has expected to be recommended due to limitations in human resources required for physical examination.

**Aim:** The efficacies of mammographic screening with and without physical examination were evaluated based on the results of randomized controlled trials (RCTs).

**Methods:** We searched PubMed and the Cochrane Central Register for studies published between 1985 and 2012. The RCTs for mammography screening with and without physical examination which comparators were no screening group with usual care were selected. Meta-analysis was performed for women aged 40-49 years and women aged 50 years and over.

**Results:** Five studies were selected to evaluate the efficacy of mammographic screening without physical examination. The relative risks were 0.81 (95%CI: 0.68-0.95) for women aged 40 to 49 years, and 0.75 (0.67-0.86) for women aged 50 to 74 years. Three studies were selected to evaluate the efficacy of mammographic screening with physical examination. The relative risks were 0.87 (0.72-1.04) for women aged 40 to 49 years, and 0.83 (0.70-0.99) for women aged 50 to 69 years.

**Discussion:** Based on the results, mammographic screening without physical examination could be recommended in new guidelines. Although a practical answer could be obtained, an appropriate method for the Japanese context could not be determined based on results of meta-analysis.

**Implications for guideline developers/users:** To resolve local problems, the balance of benefits and harms should be considered based on the local context.

## P06 | Would acute kidney injury definitional concordance across generalist & specialist health professional groups improve patient outcomes?

**Noella SHEERIN**[1,2], Phillip NEWTON[1,2], Peter MACDONALD[3,4], Dominic LEUNG[5], David SIBBRITT[2,6], Stephen SPICER[5], Kay JOHNSON[3], Henry KRUM[7], Patricia DAVIDSON[1,2,3]

[1] *Centre for Cardiovascular & Chronic Care, Australia*
[2] *University of Technology, Australia*
[3] *St Vincent's Hospital, Sydney, Australia*
[4] *Victor Chang Cardiac Research Institute, Australia*
[5] *Sydney Southwest Local Health District Liverpool, Australia*
[6] *Australian Research Centre in Complementary & Integrative Medicine*
[7] *CCRE Therapeutics Monash University, Australia*

---

**Background:** There is no consensus definition in international heart failure management guidelines for worsening renal function. Definition consensus of acute kidney injury supports data elements, clinical registry and electronic algorithm innovation as instruments for quality improvement and clinical research for better patient outcomes. Identifying heart failure patients at risk of acute kidney injury is important in preventing adverse outcomes including progression to chronic kidney disease and informing adjustment to medication management.

**Objective:** To examine the scientific evidence in support of the definition of worsening renal function in hospitalised heart failure patients as defined by Acute Kidney Injury Network (AKIN).

**Method:** An integrative review of the literature was performed using the key terms: heart failure, renal insufficiency, acute kidney injury and 'cardiorenal syndrome' acute kidney failure, and acute renal failure.

**Results:** Fifty three publications were reviewed. The systematic reviews with meta-analyses addressed the incidence, prevalence and prognostic impact of worsening renal function in heart failure against an array of worsening renal function definitions, patient populations and settings. The international guidelines for acute kidney injury demonstrated concordance for a serum creatinine increase of more than 26.5 micromol/l as the threshold significant for in-hospital, 30-day and long-term mortality. Mortality worsened incrementally with increasing severity of renal dysfunction.

**Discussion:** The Acute Kidney Injury Network definition for worsening renal function in heart failure is reasonable.

**Implications for guideline developers/users:** Un-ambiguous definitional criteria are required to implement digital guideline applications.

## P07 | Creation and Innovation a guidelines from nursing information system-a big data of nursing care plan

**Bi-Lian CHEN**[1], Li-Chan LIN[2]

[1] *Nursing of TCVGH, Taiwan*
[2] *Yang-Ming University, Taiwan*

**Background:** Nursing information system has been implemented for many years in our country, from big data to generate clinical care guidelines to help nurses through clinical decision support system to determine the diagnosis of respiratory is our new technology.

**Purpose of study:** To investigate predictor factor of nursing diagnoses of respiratory system.

**Method of study:** A retrospective case control study design, according to the propensity score to match sampling cases, study period from January 2007 to June 2013 to collect the respiratory data, and data analysis are included description and inferential logistic regression analysis by the Window SPSS 18.0 version. We control sex; age; HR; SpO2; respiratory treatment; our outcome variable was yes or no of selected diagnosis of respiration by nurse at patient admitted and used clinical decision support system. Nursing diagnosis was including Ineffective airway clearance; impaired gas exchange; Ineffective breathing pattern.

**Results:** The study results showed that the sample mean age was 58± 24 years; Section of lung disease were most; sex as 'male' had 62%; heart rate was 87±26, breathing was 19± 6, blood oxygen concentration of 95± 6 %. Logic regression was predicated men was a higher probability to diagnosis (0.76 fold); heart rate was statistical significant ($p < .034$), odds ratio 1.053 times; Treatment who has under endotracheal intubations, the odds were 4.78 times higher than oxygen therapy group. Based on clinical evidenced practice, we recommendations heart rate, age, and tracheal were indicator to diagnose respiration's patient.

## P09 | Implementing multilayered guideline presentation formats in a new generation of trustworthy clinical practice guidelines

**Annette KRISTIANSEN**[1], Linn BRANDT[1], Thomas AGORITSAS[2], Gordon GUYATT[2], Per Olav VANDVIK[1]

[1] *Innlandet Hospital Trust, Norway*
[2] *McMaster University, Canada*

---

**Background:** Clinical practice guidelines face challenges with limited availability and usefulness for clinicians at the point of care. Innovative tools for authoring and publishing guidelines in improved presentation formats are now available to help guideline developers meet these challenges.

**Methods:** We have in the MAGIC research and innovation program (www.magicproject.org) developed a platform (MAGICapp) to author, publish and dynamically update guidelines developed with the GRADE system. The MAGICapp was first tested in an adaption of the 9th iteration of the American College of Chest Physicians Antithrombotic Therapy and Prevention of Thrombosis, performed by the Norwegian Society of Thrombosis and Hemostasis. We used the MAGICapp to create recommendations in a novel multilayered presentation format, developed and evaluated through an iterative process of brainstorming, sketching, stakeholder feedback and user testing, in collaboration with the DECIDE project (www.decide-consortium.eu).

**Results:** We published the Norwegian guideline with 249 recommendations for antithrombotic therapy online in November 2013. Clinicians can access actionable recommendations first with the option to delve into deeper layers of information: the key information (balance between the desirable and undesirable consequences of an intervention, confidence in the effect estimates, typical values and preferences and costs), rationales describing the reasoning behind the recommendation, practical information (e.g. risk scores, contraindications), evidence profiles and links to references.

**Discussion and Implications for guideline developers:** We will provide an online demonstration of the guideline to all future guideline developers interested in adopting the multilayered approach to possibly enhance guideline dissemination.

## P11 | Does public consultation improve the quality of clinical practice guidelines?

**Stephanie GOODRICK**[1], Kristie ADAMS[1]

[1] *National Health and Medical Research Council, Australia*

**Background:** It is a legislative requirement that guidelines seeking approval from Australia's National Health and Medical Research Council (NHMRC) undergo public consultation. Public consultation processes are also advocated for by numerous guideline organisations and governments as part of best practice guideline development.

**Objectives:** To investigate the impact of public consultation on guideline development, and the proportion of clinical practice guidelines developed in Australia that include public consultation in their development method.

**Methods:** The impact of public consultation on two guidelines released by NHMRC in 2013 were analysed against a number of outcomes. The NHMRC guidelines dataset (1046 guidelines published between 2005 and 2013) was also assessed for evidence and nature of consultation.

**Results:** Of 1046 guidelines, only 15% documented a guideline development process. 19% provided partial information on their development process. 66% did not include a description of the development process.

**Discussion:** Despite best practice standards promoting public consultation as a key part of guideline development, only a small proportion of guidelines in Australia undertake this step. It is also not evident at what stage involving the public offers the most benefits. In an information rich age, there are high public expectations regarding accessing and contributing to information. Does public consultation meet user expectations for this information? Does this process improve the quality of the guidelines?

**Implications for guideline developers/users:** Discussion of the purpose, advantages and disadvantages of public consultation using case studies from recently released NHMRC guidelines.

## P13 | Building Brazilian Network for Guidelines

**Marisa SANTOS**[1], Juliana PEIXOTO[1], Monica CINTRA[1], Andrea LIBORIO[1]

[1] *Instituto Nacional de Cardiologia, Brazil*

---

**Background:** Brazilian government developed nearly one hundred guidelines, but public participation is still limited. In October2013 an international meeting was sponsored by Ministry of Health with GIN members participation.

**Objectives:** Overview of participants' evaluation and suggestions.

**Methods:** The first day agenda addressed basics on guideline development (building and evaluation). On the second day were discussed barriers, implementation and the Brazilian experience. A structured electronic questionnaire was face validated and sent. Participants were inquired about previous experience on guideline development, knowledge acquisition, topics preference, methods for teaching, learning needs, engagement with practical teaching activities, quality of lectures, interaction with peers and time schedule.

**Results:** Only 35% of participants answered the questionnaire. Half of participants reported to have previous experience with guidelines. Almost all respondents (92%) reported having acquired knowledge after the meeting. The first day main topics, elected by the participants, were the scope, steps for guideline building and ADAPT II tool. On the second day the highlights were models for implementation and barriers. When asked about other topics to be included, most people reported to need a basic approach, like a step-by-step for building a guideline, and GRADE training. Hands-on group activities seem to motivate more people, although most of respondents prefer a meeting format that combines lectures and hands-on group. More time for discussions was suggested.

**Discussion:** We were able to identify that at Brazil more basic training is needed.

**Implications:** Interaction between Brazilian government and GIN members brings a great benefit.

## P14 | Key points of MINDS handbook for clinical practice guidelines development 2014 in Japan: indirectness, patients' values and preferences, and resource use

**Masahiro YOSHIDA**[1,2], Toshio MORIZANE[1], Akiko OKUMURA[1,3], Yosuke HATAKEYAMA[1,4], Madoka UTAGAWA[1], Noriko KOJIMAHARA[1,5], Yasuto SATO[1,5], Kosuke KIYOHARA[1,5], Naohito YAMAGUCHI[1,5]

[1] *MINDS (Medical Information Network Distribution Service) Center, EBM Guidelines, Japan*
[2] *Chemotherapy research institute, Japan*
[3] *The University of Tokyo, Japan*
[4] *Department of Advanced Social and International Studies*
[5] *Tokyo Women's Medical University, Japan*

---

**Background:** For dissemination of the latest advanced methodology throughout healthcare professionals who engage in CPG development, we had "MINDS handbook 2014" published. Our philosophy is similar to GRADE, AGREEII, IOM, but local adaptation was necessary.

**Objectives:** To address key issues in the process of CPG development in Japan.

**Methods:** We theoretically evaluated key points for rating the strength of evidence and the strength of recommendations.

**Results and Discussion:** 1) Indirectness It was most frequently an issue to evaluate indirectness in PICO between each of the clinical research and the CQ in CPG. We chose to do this at the step of assessing the risk of bias of individual studies being not separated as applicability. As there is the national health insurance system in Japan, the evidence related to those off-label clinical managements, dosages and prescriptions was rated as very serious indirectness. At the step of assessing the strength of a body of evidence indirectness was evaluated as a whole. 2) Patients' values and preferences, and resource use There was only sparse scientific evidence to assess patients' values and preferences, and resource use in Japan. Therefore, although the CPG developers in Japan needed to collect as much evidence as possible to cite, they judged based on sturdy common sense and in some cases with collaboration of patients' organizations.

**Implications for guidelines developers/users:** Because of the specific healthcare system and research volume in Japan, the development of CPG aiming at the best patients' outcome is a challenging task.

## P15 | Development of Teaching & Learning Materials for COPD in Korea

**Kyung-Hee CHO**[1], Myung-Jou OH[2], Mun-Jong KIM[2], Hanna CHOI[1], Bang-In AHN[2]

[1] *Korean Academy of Medical Sciences*
[2] *BunDang-Cha Hospital, Republic of Korea*

A large portion of both domestic and international training material mostly provides recommendation along with simple basis material. Therefore, the credibility is questionable since they are indiscriminately distributed and used without being verified of its currency and method. This research adopts an evidence based resources to provide standards to define and classify basis material and recommendation to devise training material. The screening result for literature review was summarized using PRISMA flowchart, and the draft was devised by drawing rationale-based recommendation using adaptation process method. In order to improve the developed material, the COPD-risk patients in primary, secondary and tertiary hospitals underwent focus group interview based on the Health Belief Model. Finally, the material was devised using AGREE II by 2 family physician who evaluated evidence level (A-Z) and grading of recommendations assessments (I-â…¢). 7 rules were elicited based on the Health Belief Model of COPD of which necessity to develop and distribute training material for COPD was recognized. 1) (G, I), 2) (A, I), 3 (B, IIa), 4) (G, IIa), (A, I), 6) (G, IIb), 7) (A I). The training material could not only be used for national campaign and FAQ, but also for general public and healthcare providers using a reference which reflects suitability. Applying such methodology will contribute to developing clinical practice guideline and systematic training material to enable general public to recognize the disease and live a health life.

## P16 | How to Produce Quickly Developed Guidelines (QDG)?

Michel LAURENCE[1], **Sophie BLANCHARD**[1], Gersende GEORG[1]

[1] *Haute Autorite De Sante, France*

**Background:** Public authorities and clinicians have a high interest to access short format guidelines with shortened production cycle.

**Objective:** Developing and testing QDG methods.

**Methods:** We simplified the method described in AGREE II. We tested method 1 (M1): analysis of recently published guidelines and systematic reviews, method 2 (M2): M1 with the help of 3 health professionals to draft recommendations, method 3 (M3): M1 with small working group (WG) including one member by discipline. The guideline was reviewed by stakeholders and not by experts.

**Results:** We produced 15 QDG: 4 with M1 (fetal alcohol syndrome, contraceptive methods), 9 with M2 (contraceptive methods) and 2 with M3 (congenital hip dysplasia, anaphylaxis). The duration of the guideline development was 4.5 months for M1, 3.5 for M2 and 6 for M3. In M3, the number of experts in WG was 9 and 11. The duration of stakeholders reviewing was 3 weeks, identical to the one with experts.

**Conclusions:** The 3 methods allowed us to produce QDG in a 6 months time or less. The limitations are: recent guidelines/systematic reviews on topic and lack of health professionals implication in M1 and M2 that could lead to lack of appropriation and thus implementation.

**Implications for guideline developers/users:** If M1 and M2 are quicker, M3 seems to be the most operative one but requires more testing.

## P17 | The emergence and development of GRADE centers/networks around the world

**Yaolong CHEN**[1], Yngve FALCK-YTTER[2], Craig WHITTINGTON[3], Joerg MEERPOHL[4], Pablo ALONSO[5], Holger SCHÜNEMANN[6]

[1] *Evidence Based Medicine Center of Lanzhou University, China*
[2] *Case Western University, USA*
[3] *National Collaborating Centre for Mental Health, University College London, UK*
[4] *Medical Center, University of Freiburg, Germany*
[5] *Biomedical Research Institute, IIB-Sant Pau, Spain*
[6] *McMaster University, Canada*

---

**Background:** Over the last decade, there has been growing interest in the Grading of Recommendations Assessment, Development and Evaluation (short GRADE) approach. Many guideline developers and systematic reviewers increasingly demand training and guidance.

**Objectives:** To provide guidance and training in GRADE globally.

**Methods:** Through a process of feed-back and brainstorming the GRADE working group decided to set up GRADE methods centers to provide training and feed-back to guideline developers and users. A set of criteria was developed for organizations to become a GRADE center.

**Results:** Six GRADE centers/networks have been set up as of February 2014. The Canadian GRADE Center (McMaster University) in 2010; the Chinese GRADE Center (Lanzhou University) in 2011; the Spanish GRADE Center (Biomedical Research Institute, IIB-Sant Pau) in 2012; the German GRADE Center (University Medical Center Freiburg) and the UK GRADE Center (the National Collaborating Centre for Mental Health) in 2013; and in 2014 the United States GRADE Network (Case Western University).

**Discussion:** Based on the vision and mission of the GRADE working group, the entities developed the following short-term goals: 1. Web-based communication strategy, forums and symposiums of GRADE centers/networks 2. Collaboration within GRADE centers/networks and with other stakeholders to raise awareness 3. Training the trainers capacity building 4. Harmonizing training methods and workshop materials 5. Accelerating the translation and dissemination of the GRADE approach 6.Promoting the implementation of the GRADE approach.

**Implications for guideline developers/users:** Guideline developers and other users now have improved support from GRADE centers/networks at regional and national level.

## P18 | Guidelines to tackle the feeling of loneliness and social isolation in elderly: an evidence-based approach by Belgian Red Cross-Flanders

Tessa DIELTJENS[1], Leen HEYLEN[2], Liese Lotte HANEGREEFS[3], **Emmy DE BUCK**[1], Philippe VANDEKERCKHOVE[1]

[1] *Centre for Evidence-based Practice, Belgian Red Cross-Flanders*
[2] *Flemish research & knowledge centre of the 3rd age, Thomas More University*
[3] *Social Service, Belgian Red Cross-Flanders*

**Background:** With an increasing number of older adults in Belgium, the community will be faced more and more with social isolation and loneliness. The feeling of loneliness in older people is mostly due to loss of friends/family, mobility or income and has an impact on quality of life and wellbeing. The Social Service of Belgian Red-Cross Flanders is working on tackling loneliness and social isolation of older people by sending volunteers on home visits (the 'Just Pop In' project).

**Objectives:** To develop evidence-based guidelines which form the basis for a new effective approach in the 'Just Pop In' project.

**Methods:** Studies looking at the effect of volunteer visits to lonely elderly people were identified through electronic databases research. A guideline panel with knowledge of the loneliness issue, consisting of academics and individuals with practical experience, was put together to discuss the collected evidence and exchange opinions and visions.

**Results:** Only five individual studies, using small populations, were found that met the methodological criteria. The overall quality of the body of evidence was low (GRADE methodology). Thus, the best available evidence is currently limited and therefore expertise, experiences and practical considerations of the panel were of great importance to gain consensus statements and guidelines.

**Discussion:** The 'Just Pop In' project will be extended according to the formulated evidence-based practice guidelines. For optimal implementation of the project, strong partnership arrangements between organisations are recommended to ensure developed services can be sustained.

## P19 | Reporting Items for Practice Guidelines in Healthcare (RIGHT)

**Yaolong CHEN**[1], Susan NORRIS[2], Liang YAO[1], Qi WANG[1], Xiaoqin WANG[1], Dang WEI[1], Cailiang WU[1], Kehu YANG[1]

[1] *Evidence-Based Medicine Center of Lanzhou University, China*
[2] *Guidelines Review Committee Secretariat, WHO*

---

**Background:** The reporting quality of practice guidelines is often poor. There is no widely accepted guidance and there are no standards for the reporting healthcare guidelines.

**Objectives:** To develop essential reporting items for guidelines in healthcare to ensure the comprehensive and transparent reporting of such guidelines.

**Methods:** Systematic reviews and Modified Delphi process are used to identify and select reporting items.

**Results:** An international working group (the RIGHT working group) has been set up. We will develop a checklist and a flow diagram for guideline developers, as well as an explanation and elaboration document. The checklist items pertain to the format and content of a guideline, including the title, executive summary, development process, recommendations, and conflicts of interest. The diagram will depict the flow of information through the different phases of a guideline. Our proposal is registered in the EQUATOR library: http://www.equator-network.org/library/reporting-guidelines-under-development/#24.
Final results will be presented in GIN meeting.

**Discussion:** Next steps include development of a knowledge translation strategy, developing an explanatory document and evaluating the impact of the reporting guideline.

**Implications for guideline developers/users:** Clear, transparent, structured and sufficiently detailed guidelines are critical not only for guidelines developers but for users. Failure to report important information about methods, conflicts of interest, context, and rationale, may lead to difficulty evaluating, interpreting and implementing guidelines. We recommend that guideline developers and users support and endorse the standardization of guideline reporting.

## P20 | Actions developed for the elaboration and revision of guidelines in Brazilian Public Health System

Carla BIELLA[1], Tacila MEGA[1], **Ana Claudia MURAHOVSCHI**[1], Vania SANTOS[1], Clarice PETRAMALE[1], Carla DE AGOSTINO BIELLA[1]

[1] *Brazilian Ministry of Health, Brazil*

**Background:** The National Committee for Incorporation of Technologies in Health System (CONITEC) is responsible for recommending the inclusion of technologies to be incorporated in the Public Health System in Brazil. This committee is also responsible for the preparation and revision of guidelines that regulate the use of these technologies applied to treat the respective diseases.

**Objectives:** To describe the main actions developed by CONITEC in the area of development and revision of guidelines in Brazil.

**Methods:** A qualitative and descriptive study based in the Committee's official documents.

**Results:** A Technical Subcommittee Review of Guidelines was created in CONITEC to coordinate the following actions: technical meetings, developing workflows, improving regulation for the guidelines elaboration, creation and management of a database of experts in elaboration of guidelines, setting priorities for the development of guidelines, receiving external and internal demands of the Ministry of Health, revising the draft text of the guidelines elaborated as well as the scientific evidence that brought the recommendation, management of public consultations about the guideline draft text, development of communication strategies and dissemination of the guidelines in order to get society feedback.

**Discussion:** Since Brazilian law provides for an update of guidelines at least every two years, it is necessary that these activities are coordinated with each other to ensure compliance with deadlines.

**Implications for guideline developers/users:** These actions are important to allow a more integrated and transparent work of the Ministry of Health in providing guidelines as well as to gather a better adhesion of medical community.

## P21 | Guideline Development Portal

**Leona KLEMM**[1], Klaus FITZKE[1], Erik WOHLFARTH[1]

[1] *UserGroup—Clinical Guideline Development, Germany*

The guideline development portal (www.cpg-development.com) was founded in 2011 and since then has been supporting healthcare professionals to optimize medical treatment by promoting Internet-based collaboration of its members. The main objective is to improve provision of health care in quality by developing, expanding and providing efficient IT- infrastructures for the systematic and transparent development of clinical practice guidelines from S1 to S3 classification level concerning evidence and consensus. In 2012 an independent evaluation of the portal focused on usability, methodology and cost-benefit led to an improvement of the tools and increased the scientific reputation. The main services provided by the portal include communication, production, information and documentation such as: A navigation bar to reflect the workflow of a guideline development. Online surveys which increase efficiency and transparency of the consensus process. A discussion forum filing the comments of debatable matters. A literature assistant for easy import of search results and fast preselection and appraisal of literature. The positive implications for users are the following ones: Saving time The supply of modern communication technology, a centralized platform and automated voting tools reduces significantly the duration of a CPG development. Simplifying work In shared working areas, documents can be processed or exchanged within working groups or all developers of a CPG. The portal is available around the clock from every place. Improving quality High quality is guaranteed by adequate appraisal of applied literature and a consensus of all persons involved within a transparent process.

## P22 | Perceptions on developing clinical practice guidelines for traditional medicine in Korea: Results of a web-based survey

**Jiae CHOI**[1], Tae-Young CHOI[1], Ju AHLEE[1], Myeong SOO LEE[1]

[1] *Korea Institute of Oriental Medicine*

**Background:** Currently, 16 clinical practice guidelines (CPGs) for traditional medicine (TM) are available in Korea. This survey aimed to assess perceptions on the development of CPGs for TM and select the priority diseases and symptoms for which guidelines should be developed for Korean medical doctors (KMDs) who have a license for treating patients with TM, including acupuncture and herbal medicine.

**Methods:** A survey was conducted with a questionnaire consisting of 20 items classified into three categories (perceptions on CPGs, priority diseases and symptoms for CPG development and demographic characteristics of respondents). A total of 14,485 KMDs from the Association of Korean Medicine were invited to participate in the survey.

**Results:** More than half (685/1226, 56%) thought that the development of CPGs-TM is essential. Regarding the purpose of the CPGs, 650 (53%) answered that the most important purpose was the provision of insurance benefits and standards for decision making. The majority of respondents thought the CPGs would provide or contribute to health care standards for TM treatments. The common cold and sprains were identified as the highest recommended symptoms for CPG development.

**Discussions:** This study is expected to result in a high-quality follow-up TM clinical study and establish the foundation for a domestic TM group to lead international research efforts towards TM standardization and suggest a need to develop CPGs for TM to provide health care standards. However, we cannot completely discount the possibility that biased selection of subjects and the low response rate limit the interpretations of the study results.

## P23 | Guidance Development Project—towards structured content

**Sarah CUMBERS**[1], Andrew MITCHELL[1], Emma JONES[1]

[1] *NICE, UK*

**Background:** As a large national guidance developer, our significant and expanding portfolio encompasses evaluations of health technologies as well as guidelines on healthcare, public health and social care. Guidance structure differs across areas, and content creation and management require improvement. Users have problems finding what they need, and in light of policy drivers towards integration, an increasing number of guidelines make recommendations across areas.

**Objectives:** To review systems and processes used in developing and presenting guidelines, and make recommendations for improvement.

**Methods:** Key limitations and areas for improvement were documented, under broad domains of planning, people, content workflow and version control, content type and structure, content metadata and linking. Potential technologies to support guidance development and improve presentation were identified.

**Results:** Two strategic objectives were agreed: To develop and implement a unified content strategy to make our content structured and adaptive so we get the right content to the right user at the right time. To conduct research and development to examine benefits and risks of using linked data, and how this technology could be integrated into existing digital systems.

**Discussion:** A cross-organisation content group was established to agree a vision and principles for a content strategy. Existing guidance was modelled on linked data principles. We will present key findings and learning.

**Implications for guideline developers/users:** Developers of our guidelines will be required to implement the content strategy when writing and presenting guidelines. Users of our guidelines should find it easier to find content.

## P24 | Simplify and improve: creating the new Dutch guideline colorectal cancer

Thijs VAN VEGCHEL[1], Anne STEUTEL[1], Corrie MARIJNEN[2], Leen VERLEYE[3], **Eefje VERHOOF**[1]

[1] *Comprehensive Cancer Centre the Netherlands*
[2] *Leiden University Medical Center, the Netherlands*
[3] *Belgian Health Care Knowledge Centre (KCE)*

---

**Background:** The Comprehensive Cancer Centre the Netherlands applies, along with healthcare professionals, a continuous process of developing, implementing and evaluating guidelines in oncology and palliative care.

**Context:** The evidence-based guidelines colon cancer (2008), rectal cancer (2008) and colorectal liver metastases (2006) needed revision. Physicians and patients indicated difficulties in implementation recommendations in screening, diagnosis and treatment of primary and metastatic colorectal cancer.

**Description:** In approximately eighteen months, great effort has been made to eliminate discrepancies, rearrange, standardize and combine the three guidelines into one, using several methods in the process. Twelve clinical questions were answered using an evidence based approach. The systematic literature search has been done in cooperation with KCE (Belgium), using both EBRO (diagnostics) and GRADE (treatment) methodologies by internal and external epidemiologists. For efficiency reasons, both organizations shared their results, using CoCanCPG common formats. Furthermore, topics like communication, (cost-)efficiency, aftercare and treatment of the elderly were incorporated. During the process, we used digital conferencing through sharing computer screens, collaborated using SharePoint and DropBox and used the Dutch Guideline Database (GIN Workshop 2013: http://tiny.cc/vb9tbx) to share our progress with interested physicians, patients and colleagues.

**Lessons for guideline developers:** International collaboration can save time and money and offers the opportunity for methodological exchange and improvement. Using digital tools facilitates guideline development and revision, mainly in digital conferencing and simultaneously editing documents. The Dutch Guideline Database facilitates modular revision: an easier, faster and (possibly) cheaper way to maintain guidelines.

## P25 | Consultation on scope determination in the development of a key cardiac care guideline

**Maree BRANAGAN**[1], Alison WILSON[1]

[1] *National Heart Foundation of Australia*

**Background:** The National Heart Foundation of Australia (NHFA) is updating the national clinical Guideline for the Management of Acute Coronary Syndrome (ACS) (2006). An Expert Working Group (EWG) has consulted on the scope of the guideline update.

**Context:** Using best practice, Cardiac Clinical Networks (CCNs) were consulted on the proposed scope. Engagement of state-based CCNs is recognised as an important vehicle for implementation of the updated ACS guideline. It is recognised that there is a need to improve the uptake of developed guidelines, to ensure the delivery of optimal cardiac care.

**Description of best practice:** The EWG generated a proposed scope for the guideline update. CCNs were then consulted about topics, applicable across Australia, for inclusion. The consultation process was advertised through the NHFA website and circulated electronically through network contacts, over 4 weeks. The ACS EWG assessed the CCN responses to determine the final scope.

**Lessons for guideline developers, adapters, implementers and/or users:** Recommendations resulting from the consultation, include the involvement of a consumer in the process of guideline development, to ensure patient centred care. This is a relatively new concept among guideline developers in Australia. The EWG has established multidisciplinary writing groups in response to the determined scope. It is anticipated that by engaging the various networks across the country at this early stage that this will aid implementation of the guideline at completion, and ensure best possible cardiac care.

## P26 | Virtual groups: Reaching your audience

Jacinta LEE[1], **Brent KNACK**[1], Lyndel GRAY[1], Rebecca KIMBLE[1,2,3,4]

[1] *Queensland Clinical Guidelines, Queensland Health, Australia*
[2] *Statewide Maternity and Neonatal Clinical Network, Queensland Health, Australia*
[3] *Royal Brisbane and Women's Hospital, Australia*
[4] *School of Medicine, University of Queensland, Australia*

---

**Background:** Traditionally, clinical guideline development is undertaken by a group of clinical experts who meet face-to-face on multiple occasions. Virtual groups enable and strengthen effective collaboration and communication across diverse settings and groups.

**Context:** Clinical guidelines must be relevant to their audience and applicable to the setting. Queensland is a large Australian state with a diverse range of health services. The ability to engage clinicians from rural and remote services and from novice to expert using traditional guideline development methodology is limited.

**Description:** Queensland Clinical Guidelines has initiated rigorous guideline development using simple technologies to support virtual groups. A draft guideline is developed in consultation with an expert Clinical Lead. A multidisciplinary working party is recruited via online expression of interest and the draft document is distributed via email. Working party members provide feedback using 'Reply All' so that everyone can comment at a time convenient to them. Feedback is captured in a summary document with a response and provided to participants via email.

**Lessons:** Face to face meetings are not essential for effective guideline development; early diverse engagement supports implementation and contributes significantly to practical applicability and usability of the guideline; virtual group discussion enables all views to be considered equally; time saving, convenient and cost-effective. Requires: Computer literate, confident consumers able to express their view articulately in written media; a committed clinical lead to drive, monitor and engage with the working party via email discussion; accurate record keeping, and follow-up of feedback.

## P27 | Norwegian clinical practice guidelines with a sensitive topic—most read in 2013

**Nina M. KYNO**[1,2], Laila Holgersen SKOTTE[2], Anne LINDBOE[4], Trine STOLTENBERG BJAANES[2], Sidsel RANDKLEV[2], Lene K. JUVET[3], Karin BORGEN[3], Hilde STROMME[3]

[1] *Lovisenberg Diaconal University College, Norway*
[2] *Women and Children's Division, Oslo University Hospital, Norway*
[3] *Norwegian National Knowledge Centre for the Health Services*
[4] *The Norwegian Ombudsman for Children*

---

**Background:** The Norwegian Knowledge Centre for the Health Services (NOKC) guides health care professionals in best practice, and assists and coordinates production of evidence-based, high-quality, multidisciplinary clinical practice guidelines. Due to lack of clinical practice guidelines, variation in practice was observed in the evaluation and documentation of signs and symptoms of child maltreatment, abuse, and neglect. It was also unclear how and when the police and child welfare services should be contacted.

**Context:** NOKC supported a multidisciplinary group of healthcare professionals using internationally acknowledged tools to complete five clinical practice guidelines.

**Description of best practice:** These include how to discover signs of child maltreatment, abuse and neglect, and initiatives when suspecting this. A description of how to notify the child welfare services and police is provided. The clinical practice guidelines cover: 1; Physical Child Maltreatment 2; Psychological Child Maltreatment 3; Child Neglect 4; Sexual Abuse of Children 5; How to Report concern about; Maltreatment, Abuse and Neglect of Children to Child welfare services and/or Police.

**Lessons for guidelines developers, adapters, implementers and/or users:** These clinical practice guidelines were published online by NOKC and became the most read items on the NOKC website in 2013. The guidelines are based on the United Nations' Convention on the Rights of the Child, and although they were written for healthcare professionals working in hospitals, caring for children or meeting children related to patients, they can easily be modified for use in primary care, well-baby clinics, or in developing countries.

## P28 | What influences the size of a review question?

**Khalid ASHFAQ**[1], Beth SHAW[1], Katy HARRISON[1], Toni TAN[1], Nicole ELLIOTT[1], Steven BARNES[1], Nichole TASKE[1]

[1] *NICE, UK*

---

**Background:** The development of clinical guidelines is increasingly complex, resulting in longer guidelines—in terms of content and time to produce them.

**Context:** Resources for guideline development, as in many areas of healthcare, are becoming scarcer. Developers and commissioners of guidelines are being asked to estimate the time to develop guidelines in order to plan resources as efficiently as possible. In the past, a "one size fits all" model was used to allocate time for guidelines commissioned by one national organisation. However, a more flexible approach is now being taken, based on estimates of the size of review questions (RQs).

**Description of best practice:** We are not aware of any published guidance on how to estimate the size of a RQ. We have been piloting a method of assessing time needed to review evidence, using factors based on our individual experience (such as number of "high level" hits from a brief scoping search, likely number of included studies, complexity of the RQ and type of planned analysis). We will describe the process used and our findings from a survey of guideline developers. These findings will be used to develop a consensus list of factors associated with the size of RQs. We will further present an outline of how we will use these to develop a tool for assessing the size of RQs.

**Lessons for guideline developers, adapters, implementers and/or users:** Developers can use this to inform estimates of how long RQs will take and plan resources accordingly.

## P29 | Reference Rodeo

**Gene CUNNINGHAM**[1], Stephanie JONES[1]

[1] *American Academy of Otolaryngology-Head and Neck Surgery Foundation, USA*

Properly citing references in order to acknowledge your sources and give credit where credit is due is an important part of CPG development. While different reference management software programs can assist with formatting and footnoting, when working with twenty or more authors on the guideline development groups (GDG), the management of references and ensuring accuracy in the final publication can become very challenging. New or updated evidence may be published during the development of a CPG. Most recently, our organization learned about an Agency for Healthcare Research & Quality evidence report that was published mid-CPG development. This resulted in a 2-month pause in development to compare the report to the findings already made by the GDG. New steps have been put into place to ensure this does not happen again. Over the past 10-years, our organization has learned a few lessons which may help other guideline developers. Some of these include: monitoring what is under development with pertinent organizations such as Cochrane and AHRQ; providing clear instructions to the GDG at the start of the process to ensure consistent and accurate reporting of reference; requiring authors to submit updated reference lists with each new version of their manuscript; maintaining copies of all referenced articles for fact checking; and ensuring only staff are entering references into the reference management software so only one library exists for the final publication. It is always important to remember that science moves forward only by building upon the work of others.

## P30 | A national guideline for diagnosis and treatment of acute ankle sprain

Pascale JONCKHEER[1], Tine WILLEMS[2], Roel DE RIDDER[2], Lorena SAN MIGUEL[1], Kirsten HOLDT HENNINGSEN[1], **Joan VLAYEN**[1], Dominique PAULUS[1], An DE SUTTER[2], Philip ROOSEN[2]

[1] *Belgian Health Care Knowledge Centre*
[2] *Ghent University, Belgium*

---

**Background:** Ankle sprain is a frequent injury (approximately 300 ankle sprains per 10 000 inhabitants per year). Many X-rays are performed and the treatment varies to a large extent between clinicians.

**Objectives:** To develop a Belgian guideline for the diagnosis and treatment of acute lateral ankle sprain in adults (16 years and over).

**Methods:** Systematic search for systematic reviews, meta-analyses, primary studies and clinical guidelines in Medline, Cochrane Database of Systematic Reviews, Embase, PEDRO, CINAHL, Medion and guidelines search engines. The selection, quality appraisal and data extraction were performed by two independent researchers. Level of evidence and formulation of recommendations were done according to the GRADE methodology.

**Results:** Ottawa ankle rules are the gold standard for the diagnosis of ankle injuries, with no evidence and/or little added value of other clinical tests. The use of topical non-steroidal anti-inflammatory drugs is supported by moderate-quality evidence. The paucity of evidence for a number of other interventions is noticeable, including manual therapy and a variety of immobilization techniques. Exercise therapy has to be started up as soon as possible.

**Conclusions:** Two algorithms are proposed, one for the diagnosis and one for the treatment of acute lateral ankle sprain.

## P31 | Clinical Practice Guideline Plain Language Summaries help to Empower Patients

Leslie CASPERSEN[1], Stephanie JONES[1], **Gene CUNNINGHAM**[1]

[1] *American Academy of Otolaryngology–Head and Neck Surgery Foundation, USA*

Nearly half of all American adults (90 million people) have difficulty understanding and acting upon health information. 1. The development of plain language summaries (PLS) for clinical practice guidelines (CPGs) can lead to improved health literacy and ultimately empower individuals and families to become more active participants in the management of their own healthcare. As a medical specialty society, we are the leading developer of CPGs for our field. While it is important to educate both our members and allied health professions about the best available evidence, we believe it is just as important to educate our patients. In December 2012, a Consumer Reports survey of 2,669 consumers who received Choosing Wisely information reported that 81% said they were likely to have a conversation with their physician about what they had read. 2. This illustrates that patients do want information and when it is presented in a clear, jargon free format, the patients can be actively engaged. In 2013, our organization closely observed the completion and publication of the Cochrane Consumer Network Standards for Plain Language Summaries.3 While the standards highlight the methods used to develop plain language summaries (PLS) for systematic reviews, much of the framework can also be applied to developing PLS for CPGs. Our organization will share our process for developing PLSs which is being pilot tested 2013-2014. Providing a PLS as a companion to published CPGs can assist in bridging the gap between the healthcare professional and consumer.

## P32 | Evaluation of developing and updating the Patient Blood Management Guidelines

**Leia EARNSHAW**[1], Donna CASSONI[1], Jennifer ROBERTS[1]

[1] *National Blood Authority, Australia*

---

**Background:** The emergence of new technologies in health literature review methods presents challenges and opportunities in designing the most appropriate and accessible way to develop, monitor and update guidelines to ensure currency and credibility. There is a lack of evidence about the best strategies to enhance the timeliness of resource intensive tasks required for guideline development and the incorporation of new literature (updates) in order to retain their clinical relevance.

**Context:** The National Blood Authority (NBA) conducted an evaluation to find a more effective, efficient and economical process to update their Patient Blood Management (PBM) Guidelines. A literature review and interviews were conducted with experts in guideline development. Initial findings were presented to PBM guideline developers and feedback was incorporated into a report.

**Description of best practice:** The report highlighted, inter alia, that efficiencies could be achieved through improved use of web-based collaborative work spaces, better linkages between systematic reviewers and the clinical teams, and defining triggers for targeted updates. The review confirmed the benefits of the NHMRC guideline development methodology and face to face meetings of the multidisciplinary guideline development groups.

**Lessons for guideline developers:** It is clear that no one approach to evidence review or guideline development and update provides an answer to achieving immediate improvements in the cost, time and human resource required. However, a combination of different models incorporating new technologies that provide opportunities to streamline activities will be trialed by the NBA in future guideline development and updates.

## P33 | The use of evidence in medical care of patients with sarcoidosis in Ukraine

Yevgeniya MELNYK[1], **Olena LISHCHYSHYNA**[1]

[1] *Public Enterprise The State Expert Center of the Ministry of Health of Ukraine*

---

**Background:** Sarcoidosis is a systemic disease that affects various organs and requires comprehensive measures of treatment. In Ukraine, the normative framework and evidence base for the treatment of sarcoidosis is by far insufficient.

**Objectives:** In order to provide necessary medical care for patients with sarcoidosis clinicians and other medical staff need relevant information on the diagnosis and treatment of sarcoidosis based on evidence.

**Methods:** The Ministry of Health of Ukraine issued the Order – 303 'On the establishment of multidisciplinary working groups for the development of medical standards (unified clinical protocols) on evidence-based medicine in 2013'. According to the Order the multidisciplinary working group started its work on the development of unified clinical protocols on sarcoidosis.

**Results:** During a systematic search a small amount of tertiary sources 'guidelines' was found. To the opinion of group members the most complete document was dated 1999, which caused the need to update outdated data with newer sources. Via synthesis of all current data on the treatment of sarcoidosis multidisciplinary working group members developed a comprehensive set of documents on sarcoidosis treatment at all stages of medical care. As a result, an adapted clinical guideline and unified clinical protocol were developed.

**Implications for guideline developers/users:** The introduction of modern approaches for the treatment of sarcoidosis in Ukraine and harmonization of Ukrainian and world practices will provide comprehensive and effective medical care for patients with sarcoidosis.

## P34 | Effective Procedure in Reviewing of Standard Treatment Guidelines

**Jeremaia MATAIKA**[1]

[1] *Fiji Pharmaceutical & Biomedical Services*

The preparation of new editions of Fiji Standard Treatment Guidelines and the evolution of an updated Fiji Essential Medicine List have not been forthcoming throughout the years to include changes needed to maintain currency. The Ministry of Health in Fiji has established a Clinical Services Network for each respective discipline. These networks include clinicians forming the team that collaborates and makes recommendations for best up-to-date protocols and guidelines on treatment with appropriate medicines to maintain efficient and effective patient care services for Fijian people.

The Fiji National Medicines and Therapeutic Committee (NMTC) relies on the Clinical Services Network to provide submissions or proposals for any changes in treatments. The Clinical Service Network arrangement hasn't been entirely effective due to the lack of process in the system to sustain a workable procedure. In addition, the Clinical Service Network requires results of clinical evidence-based research to provide support to submissions to the NMTC for any changes. Clinical benefit decisions for any changes also warrant analysis of cost effectiveness of each medicine by the National Committee.

Development of standard operating procedures for the Clinical Service Network to review each Drug guideline should pave the way forward to achieve the outcomes.

Currently with eight Guidelines pending review, an appropriate mechanism of review should be in place ensuring review is consistent and effective for each edition of guidelines. With Fiji's National Drug Budget of $9mFJD, the new system should ensure appropriate purchasing of easily available and accessible effective essential medicines in Fiji.

## P35 | Developing expert consensus guideline using the Delphi Methodology

**Mark OAKLEY BROWNE**[1]

[1] *Chair, Committee for Therapeutic Intervention & Evidence-based Practice RANZCP, Australia*

**Background:** People with enduring psychotic illness have high mortality rates with a 1.5-5 times higher risk of developing cardiometabolic risks compared to the general population. The issues are compounded by a dearth of evidence on the efficacy of screening, assessment, monitoring and management approaches for this population. The case for clinical guidance is compelling.

**Objective:** Develop consensus-based guidelines that are inclusive and respectful of the perspectives of clinicians, people with enduring psychosis, and families and carers.

**Method:** A literature review was conducted, relevant statements were extracted, a questionnaire developed and surveys were conducted. Expert panels consisting of clinicians, people with enduring psychotic illness and family and carers rated the statements using SurveyMonkey and free text in the survey enabled the experts to include additional statements for consensus.

**Results:** Following three rounds of surveys, clinicians endorsed 386 of the 430 items (89%). In the first round survey, the people with enduring psychotic illness and carers endorsed all 117 items (100%).

**Discussion:** The Delphi method is effective in gaining consensus. Providing the option for experts to add additional statements enabled broader consideration of the issues beyond that of the literature review and this is important in areas where the evidence is limited or non-existent.

**Implications for guideline developers:** Delphi methodology is a controlled feedback process, it is reliable and un-biased. Using the technology of SurveyMonkey facilitates easy qualitative and quantitative data collection and interpretation, and overcomes geographical boundaries enabling wider participation. Participants can also complete long surveys at their pace.

## P36 | Sharing expertise and information: initiatives to support guideline developers in the developing world

**Carol NORQUAY**[1]

[1] *Therapeutic Guidelines Limited, Australia*

---

**Background:** Locally produced, independent treatment guidelines are an important tool to improve the quality use of medicines nationally and internationally. Production of such information needs to be undertaken by health professionals with appropriate editorial training, but this is usually not available in developing countries. In addition, developing countries often have little access to independent healthcare information and resources.

**Context:** Therapeutic Guidelines Limited is an independent, not-for-profit organisation that writes and publishes therapeutic guidelines. Since 2007, we have launched a number of initiatives to support healthcare workers producing local guidelines in developing countries.

**Description of best practice:** We support developing countries by: -providing individually tailored training to visiting health professionals. Learning activities range from practical workshops on editing, using the internet for research and interpreting the evidence, to designing and disseminating therapeutic information; -providing access to high quality guidelines by donating books and licences to our electronic guidelines database. Since establishment of a charitable fund for this initiative, 30 developing countries have received our resources; -giving permission for developing countries to use our guidelines as a template for the development of local guidelines.

**Lessons:** Visiting editors have returned to their own countries with an enthusiasm to make use of their new knowledge and we have received many testimonials in response to the provision of guidelines and templates. Through these initiatives, we have made a real contribution to increasing the capability of health professionals in the developing world and have seen many go on to publish their own local guidelines.

## P37 | Methodology of review of externally produced guidelines using the Appraisal of Guidelines for Research & Evaluation II (AGREE II) instrument

**Mark OAKLEY BROWNE**[1]

[1] *Chair, Committee for Therapeutic Intervention & Evidence-based Practice RANZCP, Australia*

---

**Background:** The Royal Australian and New Zealand College of Psychiatrists (RANZCP) produces clinical practice guidelines on a number of psychiatric illnesses and disorders. The financial and resource investment in the development of clinical practice guidelines is high. From 2011 to 2013 RANZCP undertook a pilot project to ascertain the viability and acceptability of recommending existing guidelines to psychiatrists in Australia and New Zealand thus mitigating the cost of guideline development.

**Context:** To review and endorse existing high quality clinical guidelines that would provide psychiatrists with up to date, contemporary information without the duplication of producing RANZCP specific guidelines.

**Description of best practice:** Identified guidelines were assessed using the AGREE II instrument and SurveyMonkey. Groups of experts made up of clinicians, people with the specific disorder and carers assessed the guidelines. Members who contributed to that guideline development were excluded from reviewing that specific guideline. Guidelines were recommended for three psychiatric presentations; Adult Attention Hyperactivity Disorder, Deliberate Self-harm and Post-traumatic Stress Disorder. The guidelines are supplemented with a video presentation on the implementation of the guidelines recommendations in the Australian and New Zealand psychiatric context.

**Lessons for guideline developers:** The AGREE II instrument is a valid and reliable, cost-effective, feasible and easy to use, and can be adopted as a reliable method of quality guideline process assessment. The AGREE II instrument assesses the methodological rigour of how a clinical practice guideline was developed but it is important to note that it does not assess the content validity of the recommendations.

## P38 | The Quality Evaluation of Clinical Practice Guidelines from 2012 to 2013 in China

**Liang YAO**[1], Wu QIONG-FANG[1], Qi WANG[1], Dang WEI[1], Xiaoqin WANG[1], Yaolong CHEN[1], Kehu YANG[1]

[1] *Evidence-Based Medicine Center of Lanzhou University, China*

**Background:** Studies showed low scores in Chinese Clinical Practice Guidelines (CPGs) with AGREE II before 2012. After that, there are several China's CPGs born in 2012 and 2013 with unknown quality which needs our attention.

**Objective:** The aim of this study is to evaluate the quality of Chinese CPGs using AGREE II.

**Method:** We searched Wanfang, VIP, CNKI and CBM database for CPGs in China from January 2012 to December 2013. Three researchers scored the included CPGs with AGREE II independently and we then compared them with scores before January 2012.

**Result:** We identified 79 CPGs with 37 and 42 published in 2012 and 2013 respectively. The scores of the 6 domains in AGREE II were as follows: scope and purpose 38% (18% before 2012), stakeholder involvement 16% (11% before 2012), rigour of development 8% (8% before 2012), clarity of presentation 36% (34% before 2012), applicability 11% (5% before 2012), and editorial independence 4% (14% before 2012).

**Discussion:** CPGs from China in 2012 and 2013 achieved a higher quality than before, especially in scope and purpose. But it still had a great disparity when compared with the international level. Implications With the aim of improving the scientificity and feasibility of CPGs, we suggest that the Chinese CPG developers should refer to items from AGREE II to produce and report guidelines.

## P39 | A content analysis of evidence-based clinical practice guidelines in Japan: A recent movement

**Hiromichi SUZUKI**[1]

[1] *International Medical Information Center, Japan*

**Background:** In Japan, the term "EBM" was first introduced in an official report published by the Health Technology Assessment Committee of the Ministry of Health and Welfare in 1998. After then, the development of evidence-based clinical guidelines (CPGs) became popular.

**Objectives:** About 300 CPGs are developed mainly by academic societies, or CPG development taskforce. We have tried content-analysis about structure of CPG, description of recommendation, and patient involvement.

**Methods:** We have developed four points for the selection of CPGs, and additional 1. The five points include clear definition of target health problem, grade of recommendations, level of evidence, consideration about patient opinion. Open to the public was added from 2004. We have done comparative analysis for those of selected CPGs. For example, the structure of clinical questions, description about COI/ADL/QOL/IC in recommendations, patient involvement for development.

**Result:** The number of well-formulated and open to the public CPGs was 232 target diseases, and current version of them was 131 CPGs. There are another 27 patient version of CPGs. Patients and/or care givers participate in seven CPGs only.

**Discussion:** This study revealed that there are few Japanese CPGs that include relevant information to support communications among patients, care givers and physicians. In setting clinical questions to be addressed in the GPG, concerns and questions in terms of patients and care givers should be considered appropriately.

## P40 | Appraisal of maternity management and family planning guidelines using AGREE-II instrument in India

**Devendra SONAWANE**[1], Sandeep CHAVAN[1], Shilpa KARVANDE[1], Nerges MISTRY[1]

[1] *Foundation for Research in Community Health, India*

**Background:** Guideline development accelerated in India after inception of NRHM in 2005. However, there is lack of adequate information about guideline development process, review and update. A pilot research in 2012-13 focussed on learning the quality of Indian guidelines.

**Objective:** To systematically appraise maternity management (MM) and family planning (FP) guidelines to identify strengths and weaknesses and generate evidence about development of guidelines.

**Methods:** Forty four selected guidelines, identified through a consensus building workshop, were independently appraised by two appraisers with AGREE instrument having six different domains. Mean item scores, domain scores and standardized scores were calculated by averaging the scores.

**Results:** Majority of these guidelines scored high in domain scope and purpose and clarity of presentation with details about end users, objectives and clear recommendations, however, were weak in documentation about development group member's details, incorporation of patient views, evidence search method, method chosen for formulating recommendations, tools for application, potential barriers, cost implications, and information about funding body. Non clinical MM guidelines scored more than clinical guidelines ($p=0.01$) for domain applicability. Clinical FP guidelines scored higher than non clinical guidelines for domain scope and purpose ($p= 0.04$) and domain rigour of development ($p=0.01$).

**Discussion:** Despite being clinically sound and strong, Indian guidelines score poor due to weak documentation of the development process.

**Implications for guideline developers:** There is a need to improve guideline development process with systematic documentation for achieving standardization, because development of guideline commences trajectory for introduction of quality in healthcare.

## P41 | Evaluation of implementation of guidelines concerning quality of French Microbiology Laboratories Practices about Antimicrobial Resistance

**Alain DUROCHER**[1], Margaux CUPAK[1], Marine DAQUET[1], Benedicte KIZABA[1], Benjamin MICHNIK[1], Camille TREHOUT[1], Veronique VERNET-GARNIER[2]

[1] *ILIS-Lille University, France*
[2] *Reims University, France*

**Background:** Guidelines and checklists on quality of microbiology labs and prevention of bacterial resistance have been promoted by HAS

**Objectives:** Analysis of the quality and performances regarding microbiology representative labs.

**Methods:** Checklists for practices of representative hospital labs in 2013 versus 2011 and 2009.

**Results:** 130 labs on 2013, 209 labs on 2011 and 227 labs on 2009 were analyzed. After an increasing performance between 2009 and 2011, there was no difference between 2011 and 2013 concerning information system and alert system (98% vs. 97%), a decrease of internal quality control (80% vs. 88% for public labs, 63% vs. 71% for private labs -p=0.01), and 24/7 service in only 65% vs. 89% of the labs (p= 0,001) except for blood cultures (93%). There is an increase of procedures' evaluation (97% vs. 67% -p = 0.0001). Results on resistance rates were more often submitted to the clinical departments (77% vs. 69%). The delay for a Gram identification was less than 45 min in 2013 (71% of labs vs. 55%).

**Conclusions:** Quality of microbiology laboratory practices changed in very different ways between 2009 and 2013 and efforts have to be made to understand these variations and increase implementation of clinical practices guidelines.

## P42 | Influencing factors of fall prevention best practice in geriatric hospitals in Korea

Myonghwa PARK[1], **Sun Kyung KIM**[2], Mi-Hwa PARK[3]

[1] *College of Nursing, Chungnam National University, South Korea*
[2] *Doctoral Program, Chungnam National University, South Korea*
[3] *Department of Nursing, Cheongam College, South Korea*

**Background:** Evidence based fall prevention practice in geriatric hospitals in Korea becomes as an important issue.

**Objectives:** The factors examined in this study were nursing staff members' knowledge, attitude and competency about evidence based fall prevention practice as well as the organizational environment for EBP.

**Methods:** This study consisted of 505 nurses and these participants were recruited from long term care hospitals in Korea. The survey was designed to investigate the fall prevention practice and nurses' knowledge and performance regarding EBP in fall prevention were measured.

**Results:** About 74.9% of participants have experience of fall incidences, however, only 48.5% of participants were reported to use protocols in fall prevention nursing practice in their workplaces. The results of hierarchical regression analysis indicated that the nursing staff's knowledge, competency, and organizational environment for EBP explain 53.4% of evidence based fall prevention practice performed in geriatric hospitals.

**Discussion:** There was a low utilization of EBP protocols in geriatric settings with highly acknowledged need for education regarding EBP for fall prevention practice.

**Implications for guideline developers:** In addition to the strategies to improve knowledge and attitude about EBP, plan to change hospital environment to promote evidence based practice as it can effectively prevent fall incidences in geriatric settings. This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (NRF- 2010-0024922).

## P43 | Best clinical practices checklists to implement guidelines: the problems?

**Alain DUROCHER**[1], Vernet-Garnier VERONIQUE[2]

[1] *ILIS-Lille2 University, France*
[2] *Reims University, France*

**Background:** Checklists for implementing clinical practice guidelines about prevention of bacterial resistance have been promoted by HAS.

**Objectives:** Assess the problems with the validation of best practices checklists to implement guidelines.

**Methods:** After systematic analysis of the literature, checklists about prevention of bacterial resistance were proposed to a group of 50 experts. They had to give their opinion on 8 checklists, each using 7 quality criteria: taking into account guidelines, capacity to evaluate the clinical practice, capacity to increase the best practice, measurability, feasibility, acceptability, item formulation.

**Results:** 12 out of 56 items had at least one non validated criterion. These criteria were: feasibility of data collection (n=10), acceptability (n=6), measurability (n=4) and capacity to evaluate clinical practice (n=2). The consequences were: rewriting of item (n=7) and suppression of item (n=1). Invalid items were due to resistance to change (n=8).

**Conclusions:** Elaboration of checklists for best practices was difficult due to problems of understanding or acceptance by users as well as problems of feasibility for collecting data. It seems useful to test the checklists in real life before using them.

## P44 | Effects of evidence based fall prevention and management program in geriatric hospital

Su-Kyung YOU[1], Myonghwa PARK[2], **Sun Kyung KIM**[3]

[1] *Chungbook University Hospital, Republic of Korea*
[2] *College of Nursing, Chungnam National University, Republic of Korea*
[3] *Chungnam National University, Republic of Korea*

**Background:** Implementation of evidence based guidelines is an important method to enhance safety and quality of care in long term care setting.

**Objective:** This study was to develop a training program for nursing staff about evidence based fall prevention to effectively reduce fall incidences in long term care settings in Korea.

**Methods:** Data were collected from January 1st to March 30th, 2013 in four geriatric hospitals in Korea. Of the total of 173 nurse and nurse aids, 85 were allocated into experimental group and 88 were allocated into control group.

**Results:** There were significant differences among nurses and nursing assistants between the two groups. The knowledge score of nurses and nurse aids in experimental group was statistically higher than that of control group with 12.21 and 11.21 respectively. Performance score of nursing staff in experimental group was also statistically significantly higher with 4.60 and 3.96.

**Discussion:** The training program about fall prevention and management were developed based on the evidence based recommendations from research and guidelines.

**Implication for guideline developers:** The training program in this study proved its usefulness as performed positive roles in preventing and managing the fall occurred in the elderly population. It is suggested to expand this program into more clinical settings for testing its applicability further. This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (NRF- 2010-0024922).

## P46 | Knowledge and adherence to evidence based practice guidelines for hemodialysis among nurses in dialysis units

Hye Suk CHU[1], Myonghwa PARK[2], **Sun Kyung KIM**[3]

[1] *Graduate College, Chungnam National University, Republic of Korea*
[2] *College of Nursing, Chungnam National University, Republic of Korea*
[3] *Chungnam National University, Republic of Korea*

**Background:** Nurses play an important role in hemodialysis care as they are the ones who provide direct care to the patients and are more responsive to patient's concerns or needs than other hemodialysis professionals.

**Objectives:** This study was to investigate the level of knowledge and adherence to evidence based practice guidelines for hemodialysis among nurses in dialysis units.

**Methods:** Self-administered questionnaire was used that data were collected. The sample consisted of 173 nurses who worked in hemodialysis units located in three different district areas in Korea.

**Results:** About 98.8% of nurses in dialysis units had received education mostly from dialysis conferences or symposium. The knowledge score for Evidence Based Practice (EBP) was 15.77 (out of 23) on average. Subjects with more than 8 years of work experience, master degree and those working in tertiary hospital showed significantly higher scores.

**Discussion:** Despite that there are internationally acknowledge evidence based guidelines for hemodialysis, the actual adherence to guidelines varies by experience, education level and types of hospital.

**Implications for guideline developers:** The findings of this study can be baseline data for further research into development of strategies to enhance knowledge of hemodialysis nurses and utilization of EBP guidelines. This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (NRF- 2010-0024922).

## P47 | Development of a national strategy for guidelines dissemination

Dominique PAULUS[1], Anja DESOMER[1], Tinne DILLES[2], Christiane DUCHESNES[3], Sarah STECKEL[2], **Joan VLAYEN**[1], Roy REMMEN[2]

[1] *Belgian Health Care Knowledge Centre*
[2] *University Antwerp, Belgium*
[3] *University Lige, Belgium*

---

**Background:** Caregivers are flooded with a large amount of guidelines (CPGs) from numerous national and international organizations.

**Objective:** To develop a national strategy for the optimal dissemination of CPGs in Belgium.

**Methods:** (1) Overview of the systematic reviews on CPG dissemination; (2) Description of the current national CPG landscape; (3) Stakeholders consultation (professionals, scientific organisations, authorities) to make proposals for the future.

**Results:** Three building blocks were proposed: - A national platform gathering all stakeholders, for drawing up the inventory of existing guidelines (easily accessible through a unique portal) and highlighting high-quality guidelines and priorities for the future. - Availability of the CPGs in different formats ('pocket', summary, algorithms) adapted to the target users (professionals, patients). - Label of high-quality guidelines through validation by a recognised authority (either in Belgium or abroad). Other measures to optimize the dissemination and uptake of CPGs could include: (1) combination of channels (multifaceted dissemination); (2) development of decision support systems within electronic medical records; (3) strategies for improving the awareness of health professionals; (4) adequate financial support.

**Discussion and Implications for guideline disseminators:** This research could inspire other countries to identify the best ways to disseminate guidelines. A unique platform, different formats and the validation of published guidelines could be cornerstones of other national dissemination strategies.

## P48 | Evaluation of a tailored, multi-component guideline implementation intervention in Swedish primary care physiotherapy: a prospective controlled trial

**Susanne BERNHARDSSON**[1,2], Maria LARSSON[3,4], Robert EGGERTSEN[4,5], Monika FAGEVIK OLSEN[4,6], Kajsa JOHANSSON[2], Per NILSEN[2], Lena NORDEMAN[3], Maurits VAN TULDER[7], Birgitta BERG[2]

[1] *Närhälsan Rehabilitation, Sweden*
[2] *Linköping University, Sweden*
[3] *Närhälsan, R&D Primary Health Care, Sweden*
[4] *Sahlgrenska Academy at University of Gothenburg, Sweden*
[5] *Närhälsan Mölnlycke Health Care Centre, Sweden*
[6] *Dept of Physical and Occupational Therapy, Sahlgrenska University Hospital, Sweden*
[7] *VU University, Amsterdam*

**Background:** Little is known about the impact of guideline implementation strategies in physiotherapy.

**Objectives:** To evaluate a guideline implementation intervention in Swedish physiotherapy.

**Methods:** A theory- and evidence-informed implementation strategy was developed. A tailored, multi-component implementation intervention, addressing earlier identified determinants of guideline use, was performed among 277 physiotherapists at 28 practices. 171 physiotherapists at 32 practices comprised the control group. The core intervention component was an implementation seminar.

**Results:** 186/277 physiotherapists (67.1%) participated in the implementation seminars, 97 (52.2%) of those responded to the follow-up questionnaire. 168/277 physiotherapists (60.6%) in the intervention group and 88/171 physiotherapists (51.5%) in the control group were included in intention-to-treat analyses. The proportions of physiotherapists reporting awareness of (absolute difference in change 20.6%, $p=0.023$), knowledge of (20.4%, $p=0.007$), access to (21.7%, $p<0.001$), and frequent use of (9.5%, NS) guidelines increased more in the intervention group. The proportion of physiotherapists reporting frequent guideline use after participation in the seminar was 15.2% higher than among controls ($p=0.043$).

**Discussion:** This tailored, theory- and evidence-informed, multi-component guideline implementation had a positive effect on self-reported awareness, knowledge, and access to guidelines. While these factors are important prerequisites to guideline use, the self-reported use of guidelines was not affected to the same extent. The results support previous findings that active, multi-component strategies are moderately effective.

**Implications for guideline developers/implementers:** A tailored, multi-component guideline implementation strategy can be recommended. However, decision makers need to carefully consider whether the benefits of implementation efforts are important enough to outweigh costs.

## P49 | Can indicators with target levels and a National assessment and evaluation increase adherence of National Guidelines in cancer care?

**Lotti BARLOW**[1], Anna ALDEHAG[1], Lena HANSSON[1], Marie LAWRENCE[2], Arvid WIDENLOU-NORDMARK[1], Göran ZETTERSTRÖM[2]

[1] *National Board of Health and Welfare; National Guidelines Unit, Sweden*
[2] *National Board of Health and Welfare; Performance Assessment Unit, Sweden*

---

**Background:** The Swedish National Board of Health and Welfare can offer professionals and decision-makers comprehensive National Guidelines for breast-, prostate-, and colon-rectal cancer care including; a revised body of scientific evidence with prioritized recommendations, indicators with target-levels and National assessment and evaluation.

**Objectives:** The aim is to establish good and equal health care in Sweden by increased adherence to the guidelines.

**Methods:** We used standardized, systematic and transparent processes to develop the guidelines, indicators with target-levels and National assessment and evaluation. These processes involve patients, professionals and decision-makers in the health care system.

**Results:** The guidelines in cancer care consist of 290 prioritized recommendations and 70 of them are highlighted for decision-makers, 42 indicators and the majority of them have target-levels. Even though our recommendations are distinct, our results show variances in regards to sex, age, socioeconomics and geographic distribution. For example, one recommendation of multidisciplinary team conferences showed great variances between county councils and socioeconomic factors. The target-level of this indicator is 100 percent and according to the evaluation almost 3000 more individuals would be eligible to this recommendation.

**Discussion:** National indicators with target-levels are a new approach. Our goal is that this would lead to more distinct recommendations. Is this a way to get improved adherence to the guidelines?

**Implications for guideline developers:** We strongly recommend involving patients, professionals and decision-makers in the health care system when setting the target-levels. This is now a part of the Boards new strategy to improve adherence to the guidelines in Sweden.

## P50 | Duodecim Current Care evidence evaluated and updated to EBMeDS clinical decision support service

**Tuula MEINANDER**[1], Jorma KOMULAINEN[1], Ilkka KUNNAMO[2]

[1] *The Finnish Medical Society Duodecim, Current Care*
[2] *The Finnish Medical Society Duodecim, Duodecim Medical Publications Ltd.*

---

**Background:** EBMeDS (Evidence-Based Medicine electronic Decision Support) is an externally accredited decision support system developed since 2003 and maintained using a web-based collaboration tool, the EBMeDS Script Description Editor (ESDE), by Duodecim Medical Publications Ltd. It is based on the guideline and evidence summary work that has been done within EBM Guidelines in collaboration with Duodecim Current Care, the Cochrane Collaboration, PRIMA-eDS Consortium and other organizations and publishers.

**Objectives:** To analyze Duodecim Current Care evidence rules used in EBMeDS in relation to other scripts and to identify new Current Care rules.

**Methods:** Electronic search from EBMeDS database at 2.3.2014, used keyword was Current Care and collecting information of the medical speciality area of the scripts.

**Results:** The search yielded 36/282 (12.8 %) published scripts. The medical specialities represented were Anesthesiology 3 %, Cardiology 22 %, Endocrinology 42 %, Gynaecology 8 %, Neurology 3 %, Oncology 6 %, Orthopaedics 3 % and Psychiatry 14 %. After careful evaluation of all the other published scripts (n=282-36), we found that we did have unrecorded support for 122/246 (49.6 %) of the remaining EBMeDS rules from our Current Care Evidence of which 24/246 (9.8 %) were at the development phase.

**Discussion:** Duodecim Current Care work is a valuable resource developing EBMeDS and we are going to update all relevant Current Care recommendations and evidence to the EBMeDS database.

**Implications for guideline developers/users:** Uplift key recommendations from all evidence-based guidelines that could be developed into clinical decision support rules.

## P51 | Activity and reporting characteristics of clinical practice guideline implementation trials registered on the ANZCTR

**Henry KO**[1,2], Kylie HUNTER[1,2], Lisa ASKIE[1,2]

[1] *NHMRC Clinical Trials Centre, University of Sydney, Australia*
[2] *Australian New Zealand Clinical Trials Registry*

**Background:** Clinical practice guidelines (CPGs) are produced to summarise the best available evidence and provide guidance on care processes for healthcare staff, care organisations, and the public. Implementation is the step whereby CPGs are evaluated in the actual care setting.

**Objectives:** To identify the level of activity and reporting characteristics of trials implementing CPGs in Australia registered on the ANZCTR.

**Methods:** The following search string was used in ANZCTR to search for Australian-based trials: "clinical practice guideline" OR "practice guideline" OR "clinical algorithm" OR "clinical guideline" OR "practice algorithm" OR "CPG" OR "evidence-based guideline" OR "management algorithm". The retrieved records were then screened by two independent assessors to see if they were relevant.

**Results:** Out of 73 ANZCTR trials retrieved, only 35 were deemed to be CPG implementation trials. Of the 35 trials, 24 were easily identified as CPG implementation trials due to explicit wording in the description of the intervention or study summary.

**Discussion:** Even though there are 937 CPGs kept on the NHMRC CPG Portal up to 2012, there are very few clearly identifiable CPG implementation trials registered on ANZCTR. This could due to under-registration of CPG implementation trials, and/or the misrepresentation of CPG implementation trials within ANZCTR.

**Implications:** All Australian CPG implementation trials should be registered in a publicly-accessible database. Governments, CPG developers, and users would get a more accurate record of CPG implementation. It could facilitate networking between groups wanting to implement CPGs, and we would have more complete registry data.

## P52 | Adaptation and implementation of clinical guidelines 'Pneumothorax' in the Republic of Kazakhstan

**Kulsara RUSTEMOVA**[1], Nurlan ASHIMOV[1], Almat TAKABAYEV[1], Asem SHAKEYEVA[1]

[1] *Medical University of Astana, Kazakstan*

---

**Objective:** To minimize the risk of therapeutic and diagnostic actions.

**Methods:** The use of new technologies based on the principles of evidence-based medicine. Endovideothoracoscopic research manipulation: stop bleeding, the elimination of the pneumothorax. Radiographic (X-ray digital), computer tomography.

**Results:** Reduction of complications of injuries and diseases of the chest, disability and mortality due to accidents and spontaneous pneumothorax; -reducing the number of deaths due to polytrauma coordinated action of different services, those engaged in the provision of medical care, transportation of victims according to standards developed by the organization of trauma and thoracic surgical care; - Improvement of the organization and improving the quality of diagnosis, treatment of patients with injuries of the chest and in the spontaneous pneumothorax.

**Conclusions:** The following clinical protocol for diagnosis and treatment of post-traumatic and spontaneous pneumothorax results in a reduction in the number of complications of injuries and diseases of the chest, disability and mortality due to accidents and spontaneous pneumothorax.

**Clinical significance:** The development and implementation of the clinical protocol for the diagnosis and treatment of post-traumatic and spontaneous pneumothorax with high evidence base (level. I A and II, B), the introduction of the 'gold standard' in the pre-hospital level possible to help the victims in accordance with international standards, reducing the number of disability, morbidity and mortality in complex injuries of the chest and spontaneous pneumothorax.

## P53 | Guidelines in an Era of Universal Health Coverage: An Economic Evaluation

**Mbah Patrick OKWEN**[1,2,3], Fru Carlson ASAAH[4]

[1] *North West Regional Fund for Health Promotion, Cameroon*
[2] *Catholic University of Cameroon, Cameroon*
[3] *Centre For the Development of Best Practices in Health, Cameroon*
[4] *Bali District Hospital, Cameroon*

**Background:** Universal health coverage (UHC) can be achieved through a series of health financing approaches. A strategy being used in Cameroon is the mutual health organizations (MHOs), run by members as shareholders. This approach is good because it provides coverage to the informal sector which constitutes over 80% of Cameroon's population. MHOs have identified lack of compliance to national treatment guidelines as a huge financial risk to the sustainability of the scheme.

**Methods:** We developed an advanced Excel Spreadsheet tracking use of services at hospitals. This tool was developed with financial and technical support from the GIZ and EPOS health management. We stratified use of services by healthcare workers who did not comply with guidelines and estimated the extra cost on the MHO compared to guidelines compliant populations. We analyzed treatment for group I and II which were populations with and without guidelines compliance.

**Results:** 4357 cases were treated in 2013. We calculated the average costs (AC) and average costs ratios (ACERs) for two groups. Group I AC=14,738 (SD=1,241) and Group II AC=11,466 (SD=1,244). ACERs for Group I was 6,530 per additional case treated against 1,750 for Group II. Extrapolated insurance contributions for Groups I and II for 2014 are 9,894 and 4,910 respectively (5% inflation). Household protection rates of MHOs are estimated at 41% and impact of insurance co-payment was 94%.

**Conclusion:** Guidelines play a key role in sustainability of UHC.

**Implications:** Consumers, insurance companies, clinicians need to understand and use guidelines to reduce cost of service.

## P54 | Health care quality indicators. First steps on the implementation of the new performance measurement tools in Ukraine

Yevgeniy GOROKH[1], **Olena LISHCHYSHYNA**[1]

[1] *Public Enterprise The State Expert Center of the Ministry of Health of Ukraine*

---

**Background:** There is an urgent need in the development and implementation of the performance measures based on evidence guidelines in Ukraine.

**Context:** The usual practice of the healthcare performance measurement in Ukraine was the official state statistics. Formal indexes based on statistics were used for scientific and administrative purposes. Formal "rating comparisons" and data distortions for improving "ratings" took place in many cases.

**Description of best practice:** The 'Methodology of Development of Health Care Quality Indicators' was approved by the Order of the Ministry of Health of Ukraine as of September 28, 2012 No. 751. This methodology defines mechanisms of creation of clinical indicators in the health care system of Ukraine. The development of indicators is performed during the elaboration of standards and unified clinical protocols of medical care. The "Procedure for the Monitoring of the Health Care Quality Indicators" is approved by the Order of the Ministry of Health of Ukraine as of September 11, 2013 No. 795. The Orders of the Ministry of Health of Ukraine and other materials are available on the website of the Registry of medical and technological documents on standardization of medical care, http://www.dec.gov.ua/mtd/index_e.html.

**Lessons for guideline developers, adapters, implementers and/or users:** We need to develop mechanisms for monitoring the guidelines implementation in addition to routine statistics. Guideline-based clinical indicators are to be more flexible as they are based on up-to-date evidence.

## P56 | Barriers to inclusion of new treatments to clinical protocols

**Olena LISHCHYSHYNA**[1], Olena NAGORNA[1], Olena SHILKINA[1]

[1] *Public Enterprise The State Expert Center of the Ministry of Health of Ukraine*

**Background:** Medical care quality assurance is based on the use of data from evidence-based high quality clinical studies. Clinical protocols are being developed on the basis of adapted clinical guidelines (ACG) which are the sources of evidence-based information on best clinical practice, including pharmacotherapy.

**Context:** Inclusion of medicines recommended by ACG to evidence-based clinical protocols represents following problem. Medicinal product in a country may have no marketing authorization by its international non-proprietary name or dosage form recommended by ACG. Lack of appropriate indications in leaflet of medicinal product can be a major obstacle. It should be noted that, on the one hand, this discrepancy protects the patient from the use of therapies, efficacy and safety of which are still being studied. On the other hand, the possibility of efficient treatment may be unavailable to patient, especially when therapies are limited. In many countries there are mechanisms to overcome these obstacles, but they are absent in Ukraine.

**Description of best practice:** Drugs recommended by ACG can be prescribed by off label indications, if strong evidence is available. The final decision should be taken by the doctor responsible for clinical decision regarding a particular clinical procedure or treatment plan. Pharmaceutical manufacturers have to consider expanding the use of drugs according to the evidence-based data.

**Lessons for guidelines developers, adapters, implementers and/or users:** It is necessary to develop national mechanisms regulating inclusion of drugs to clinical protocols with good off label performance, especially when alternative treatments are needed.

## P58 | Implementation of the best practice for cancer screening in Ukraine

**Olena LISHCHYSHYNA**[1], Yevgeniya RUBTSOVA[1], Galina KUZMA[1]

[1] *Public Enterprise The State Expert Center of the Ministry of Health of Ukraine*

**Background:** The incidence and prevalence of cancer remains unfavourable all over the world. At present, screening is an effective method that helps to reduce mortality from certain types of cancer.

**Context:** In recent years medical and technological documents for the most common types of cancer have been developed in Ukraine. The evidence bases on screening programs on cancer have been considered and analyzed. The main role in raising public awareness and propagation of cancer screening is given to a family physician.

**Description of best practice:** In the result of search in databases and evaluation of clinical guidelines with high level of evidence screening measures on breast, lung, cervical cancers and melanoma have been found and implemented. On the basis of adapted clinical guidelines based on evidence clinical protocols have been developed. They include measures on breast, lung, cervix and melanoma cancer screening for primary and secondary health care institutions. Thus, family physician is a primary person in the early detection of cancer and further evaluation and treatment of the patient.

**Lessons for guideline developers, adapters, implementers and/or users:** The development of adapted clinical guidelines and clinical protocols helps to identify measures and barriers for changes in the health care system in Ukraine. The main objective for the improvement of cancer patients care is the introduction of national cancer screening programs based on evidence and available to people across the country.

## P59 | CAN Implement—facilitating international evidence-based guideline adaptation through a software environment

**Craig LOCKWOOD**[1], Margaret HARRISON[2], Joan VAN DEN HOEK[2], Jeremy SWIFT[2]

[1] *The University of Adelaide, Joanna Briggs Institute, Australia*
[2] *Queen's University School of Nursing and Queens Joanna Briggs Collaboration, Australia*

---

**Background:** Based on case study experiences using the ADAPTE methodology, administrative, facilitation and logistical support modifications were made to the original process. The emphasis moved from technical tasks to examining how to best facilitate the ADAPTE process and move beyond adaptation to planned approaches for implementation in complex health settings, resulting in the CAN-Implement© Resource for Guideline Adaptation and Implementation.

**Context:** Facilitation became better understood through the case studies. The core elements and processes, as well as the practical supports associated with effective facilitation were identified and have now been further developed as an interactive, online resource. The CAN-Implement© software acknowledges the importance of adequate resourcing and underscores 'how-to?' proceed with tasks. It includes an explicit dissemination and implementation-planning component that was not included in the original ADAPTE process.

**Description of best practice:** This presentation will provide an illustrated walk through guideline adaptation using CAN-Implement© with a particular focus on the facilitation elements and how they align with the practical 'how to?' requirements of guideline adaptation within a Knowledge to Action model.

**Lessons for guideline developers, adapters, implementers and/or users:** Guideline adaptation is an applied science that necessarily draws on evidence, experience, and expertise. IT systems based upon a knowledge to action framework can assist to facilitate groups and individuals involved in guideline adaptation. This represents a new approach, with facilitation as the basis of software design for guideline adaptation as a first step in evidence implementation.

## P60 | Development and proposed implementation of a guideline-based clinical pathway of care to improve health outcomes following whiplash injury

**Trudy REBBECK**[1], Simon WILLCOCK[2], Justin KENARDY[3], Luke CONNELLY[3], Ian CAMERON[2], Kathryn REFSHAUGE[1], Andrew LEAVER[1], Michele STERLING[4]

[1] *Faculty of Health Sciences, University of Sydney, Australia*
[2] *Sydney Medical School, University of Sydney, Australia*
[3] *University of Queensland, Australia*
[4] *Griffith University, Australia*

---

**Background:** Whiplash injuries are an Australian health burden, comprising about 75% of survivable road traffic injuries and costing more than $950M per annum. At least 50% of people with whiplash proceed to chronicity, with current treatment ineffective for this group. Recently, however a validated clinical prediction rule (CPR) enables identification of those at risk of non-recovery soon after injury. The CPR together with updated clinical guidelines for whiplash, have been developed into a novel clinical pathway of care.

**Context:** This paper outlines the proposed protocol for a randomised controlled trial to implement and evaluate the clinical pathway across the spectrum of health care service delivery.

**Description of best practice:** Key processes involved in the pathway include early screening (using an online version of the CPR) in primary care to stratify patients into high, medium and low risk groups. The pathway matches interventions to these risk groups based on recommendations in clinical guidelines. The low risk group will receive minimal intervention in primary care, whilst the medium and high risk groups will be referred to a specialist clinician. The specialist will direct the patient into one of three pathways, matched to their detailed physical and psychological assessment findings.

**Lessons for guideline implementers:** This will be the first study to implement and evaluate a clinical pathway of care for whiplash. It has created a partnership amongst policy makers, researchers and service providers managing people with whiplash and has the potential to improve service delivery, health outcomes and cost.

## P61 | The development of primary health care monitoring system in Ukraine. First steps

**Olena LISHCHYSHYNA**[1], Larisa MATYUHA[2], Oleksandr MIGEL[1]

[1] *Public Enterprise The State Expert Center of the Ministry of Health of Ukraine*
[2] *Shupyk National Medical Academy of Postgraduate Education, Ukraine*

---

**Background:** The health care system in Ukraine is being reformed, in particular at the level of primary care. ICD-10 is basic medical classifier in Ukraine, but it is insufficient in focusing the problems of primary care.

**Objectives:** It is necessary to create a system of collecting health information and statistics of primary care taking into account specific for family medicine reasons for the visits and medical interventions.

**Methods:** A set of measures for implementation of the International Classification of Primary Care (ICPC-2) is being formed in the field of general practice and family medicine.

**Results:** The plan of action includes: - Rationale for introduction of the national classification of primary care in Ukraine; - WONCA authorization for the use of ICPC-2 in Ukraine as a classification of primary care in Ukraine; - Translation of the classification; - Approval of classification by the Ministry of Health of Ukraine; - Amendments to the original medical records and statistical forms; - Development of guidelines for general practitioners and family physicians regarding the use of this classification.

**Discussion:** The introduction of the classification will highlight the structure of the patients' visits to family doctors and monitor the extent of medical services and accounting of resources.

**Implications for guideline developers/users:** The use of the classification creates background for the uniformity of regulations, the definition of important problems related to family medicine, the feasibility of using material resources, and bringing patients to medical services.

## P62 | Clinical management of cranio-vertebral instability after whiplash, when should guidelines be adapted? A case report

**Trudy REBBECK**[1], Ann LIEBERT[1]

[1] *Faculty of Health Sciences, University of Sydney, Australia*

**Background:** Cranio-vertebral instability (CVI) due to loss of bony or ligamentous integrity is one of the sequellae that may result after a whiplash mechanism injury. However due to the difficulty in diagnosis, this condition is often missed and the default classification of Whiplash Associated Disorder (WAD) assigned, as recommended in clinical guidelines.

**Context:** This case report describes a 14 year old boy who was initially classified with WADII after a rugby injury in primary care, however best practice ultimately deviated from guideline recommendations.

**Description of Best Practice:** After the WADII classification was assigned, the patient was initially advised to return to usual activity, a treatment recommended in clinical guidelines for WAD. Due to an adverse response to this course of action, his primary carer persisted in facilitating secondary referrals that ultimately led to a specialist physiotherapist. The patient was subsequently found to have CVI arising from a loss of bony integrity due to spina bifida atlanto, a congenital defect in the atlas. Treatment recommended was immobilization and stabilization, a treatment usually recommended against in WAD guidelines. The patient recovered and within 8 weeks had returned to school and non-contact sports.

**Lessons for guideline users:** This case study therefore, presents a scenario where clinical guidelines for whiplash should not be followed, and where ultimately clinical reasoning led to accurate diagnosis and safe and tailored management. As a result an expanded diagnostic algorithm and pathway of care for WAD are proposed for whiplash guideline users.

## P63 | Who is seeking NHMRC approval of clinical practice guidelines?

**Catherine KING**[1], Kristie ADAMS[1]

[1] *National Health and Medical Research Council, Australia*

**Background:** The Australian National Health and Medical Research Council (NHMRC) provides leadership in the development of high-quality clinical practice guidelines in Australia. As part of this role, NHMRC has a legislated ability to approve clinical practice guidelines developed by other organisations under its guideline approval program.

**Objectives:** To investigate the proportion of newly developed guidelines seeking NHMRC approval over the last 9 years.

**Methods:** Analysis of data from the NHMRC Clinical Guidelines Portal (the Portal) to determine the total number of guidelines published between 2005-2013 and how many of these were NHMRC approved.

**Results:** A total of 1046 guidelines were published on the Portal from 2005-2013. Only 42 guidelines (average of 5 per year) were NHMRC approved during this period. Of the 42, 76% were funded by the Australian Federal Government. 86% of the 42 were developed by a non-government agency.

**Discussion and implications for guideline developers/users:** Despite the NHMRC guidelines approval program setting best practice for Australian guideline development, the number of guidelines seeking approval is very small. There is an opportunity for NHMRC to identify the barriers and help to address these by promoting the benefits of a guideline approved by a national Standard.

## P64 | Do Australian clinical practice guidelines address Australian health priorities?

**Geraint DUGGAN**[1], Jodie CLYDESDALE[1], Kristie ADAMS[1]

[1] *National Health and Medical Research Council, Australia*

**Background:** In 1996 the Australia government established the National Health Priority Areas (NHPAs) of asthma, cancer, diabetes, injury, mental health, arthritis and cardiovascular disease because of their high social and financial burden on Australian society. Obesity and dementia were later added.

**Objectives:** To identify the extent to which topics covered by Australian guideline development effort between 2005-2013 concord with the NHPAs.

**Methods:** The NHMRC dataset of 1046 clinical practice guidelines published between 2005-2013 were assessed for concordance with the NHPAs. All guidelines had met the selection criteria for the national clinical practice guidelines portal (www.clinicalguidelines.gov.au), and included both national and state and territory guidance.

**Results:** A total of 431 guidelines had been developed on the 9 NHPA topic areas, representing 42% of Australian guideline development activity. Some level of Australian government had provided funding for 33% of these guidelines. A skewed distribution of guideline availability and topics is evident.

**Discussion:** The dataset identified a significant period where no current Australian obesity clinical practice guidance was available in a country where 63% of the population are overweight or obese. There is no current Australian comprehensive guideline on dementia, the third leading cause of death, with none expected until 2015.

**Implications for guideline developers:** The disconnect between guideline and NHPAs suggests an opportunity for more strategic prioritisation of guideline development and exploration of funding opportunities to ensure guidance is available in these areas of greatest social and financial cost to Australia.

## P65 | Using current practice information to prioritise areas for guideline development

**Sarah CUMBERS**[1], Beth SHAW[1], Denise WOODS[1]

[1] *NICE, UK*

---

**Background:** Clinical guidelines are often defined by condition or disease and stage of patient pathway; for example, diagnosis and management of type 2 diabetes. This can cover a huge number of clinical issues and decisions. Increasingly, resources for guideline development, as in many areas of healthcare, are becoming scarcer. Developers are therefore prioritizing those areas where recommendations have the potential to improve outcomes more than others; one approach is to focus on areas where current practice is known to be sub-optimal, or where there is inappropriate variation.

**Context:** Current practice information - describing what happens in practice and how this varies across the system - can help developers of guidelines identify those areas where practice recommendations are likely to "add value". For example, if it is known that most people with a condition are receiving appropriate treatment which is generally accepted as being best practice, there may be little added value in reviewing evidence and making recommendations. However, if there is variation that is not explainable by other factors, this may indicate an area where recommendations would be of particular use.

**Description of best practice:** We have recently reviewed our guideline development methods, and drafted additional guidance on how to use current practice information throughout development, for example to inform priority areas. We will outline our draft approach, with considerations of challenges and benefits.

**Lessons for guideline developers, adapters, implementers and/or users:** Developers should consider the value of current practice information, for example when identifying priority areas.

## P66 | Correlation between Clinical Practice Guidelines and the main causes of morbidity and mortality in Mexico

**Jesus Ojino SOSA GARCIA**[1]

[1] *National Center for Health Technology Excellence, Mexico*

**Background:** Clinical Practice Guidelines (CPGs) are proven tools have made health care decisions more rational and decreased the gap between clinical action and scientific evidence. The National Center for Health Technology Excellence is the authority to establish in consensus with the institutions of the Mexican National Health System the priorization criteria to development of CPGs based on the main causes of programs and national priorities, incidence, prevalence, morbidity, mortality and others.

**Objective:** The aim is showing health professional the correlation between CPGs and the main causes of morbidity and mortality in Mexico.

**Methods:** The information was obteined of the National Institute of Statistics and Geography about of the main causes of the morbidity and mortality in Mexico and of the Master Catalogue of CPGs of the National Center for Health Technology Excellence.

**Results:** The main causes of morbidity and mortality are digestive diseases and diseases of the circulatory system respectively and CPGs published in the Master Catalogue of CPGs in correlation with the digestive diseases are 47 and 42 in relation with diseases of the circulatory system.

**Discussion:** The Master Catalogue of CPGs includes 664 guidelines about of the main causes of medical care in Mexico. Their implementation reduces bias in the health practitioner's decisions and contributes to improve the quality of clinical care, strengthens the patient's position and that of the health professional in the care process.

**Implications for guideline developers/users:** The implementation of CPGs contribute to improve the quality of care and security of patients.

## P67 | Clinical Guidelines in Brazilian Public Health System: a balance of the last five years

Ana Claudia MURAHOVSCHI[1], Tacila MEGA[1], Carla BIELLA[1], Vonia SANTOS[1], Clarice PETRAMALE[1], **Carla DE AGOSTINO BIELLA**[1]

[1] *Brazilian Ministry of Health, Brzail*

---

**Background:** In order to decrease the judicialization of health and facilitate the rational use of technologies, one of the priorities of the Ministry of Health of Brazil have been the elaboration and revision of guidelines that should be adopted nationally by the Public Health System.

**Objectives:** This work aims to quantify the number of guidelines developed and revised by the Ministry of Health in 2009-2013 and correlate them with its main sub-areas of medical sciences.

**Methods:** A qualitative descriptive study using the database of the Ministry of Health.

**Results:** During this period a total of 78 guidelines have been published, with 7.6% of them in 2009, 56.5% in 2010, 6.4% in 2011, 18.0% in 2012 and 11.5% in 2013. Among the main sub-areas related to development/revision of guidelines are oncology, rheumatology and the group of rare diseases.

**Discussion:** Brazilian law provides update guidelines at least every two years and this has boosted the production of guidelines by the Ministry of Health in the last five years, in order to standardize the use of therapies, especially those newly introduced and those expensive to the system.

**Implications for guideline developers/users:** These actions are important to enable better use of financial resources by the system and monitor the use of new technologies available in the public health system in the country.