THE WORLD OF MEDICAL GUIDELINES: G-I-N, CDS AND CCPs

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I have no financial interests to declare.

THE WORLD OF MEDICAL GUIDELINES

Evidence-based medicine is an integral paradigm of current medical practice. However, practitioners cannot keep up with the rapid advance and expansion of medical knowledge. Because of this, various pre-appraised resources have become available to assist practitioners to keep up with current knowledge (1). These are resources which have selected and synthesized high quality evidence on a given subject. In the Knowledge Transfer (KT) Ppyramid grading the value of these resources (Fig. 1) guidelines are at the second highest level. As a result there is wide-spread interest in guideline development and utilization throughout the medical community. The purpose of this poster is to discuss guideline issues which are important for radiologists.

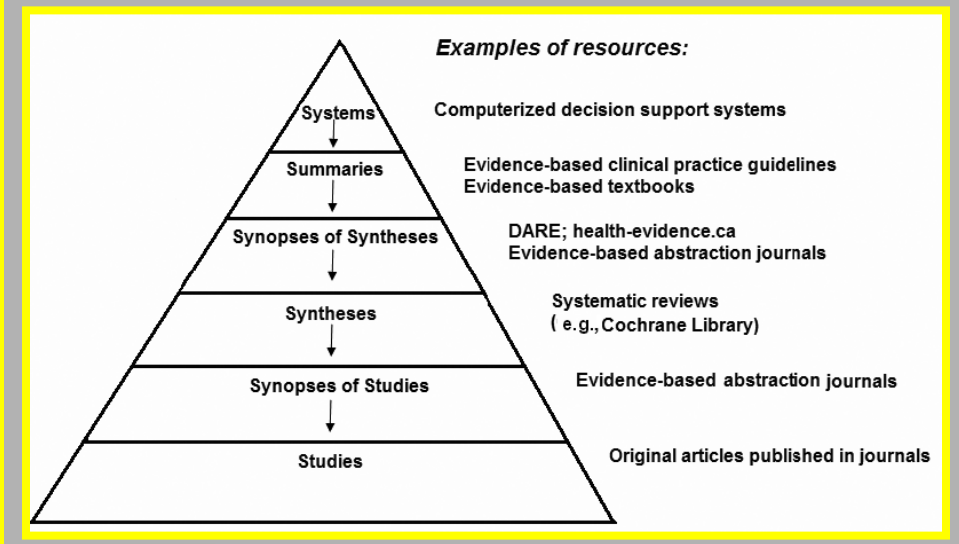

Figure 1

What we do

Our mission is to lead, strengthen and support collaboration in guideline development, adaptation and implementation. As a major player on the global healthcare quality stage, G-I-N facilitates networking, promotes excellence and helps our members create high quality clinical practice guidelines that foster safe and effective patient care.

www.g-i-n.net/home

Guidelines International Network (G-I-N) is an international organization of groups and individuals who are interested in developing and promoting health care guidelines. Its website provides many resources on guidelines, including a library of guidelines. It holds an annual meeting which brings together health professionals of all types to discuss all aspects of health care guidelines. Continental communities, including G-I-N North America, hold their own meetings. G-I-N also supports and endorses groups which develop standards for guideline development. Two of the most important of these are AGREE II and GRADE.

AGREE
Advancing the science of practice guidelines

APPRAISAL OF GUIDELINES FOR RESEARCH & EVALUATION II

AGREE II

AGREE II

AGREE II is the new (2010) international tool to assess the quality and reporting of practice guidelines. You may access the PDF copy of the AGREE II here.

www.agreetrust.org/agree-ii/

II. Structure and Content of the AGREE II

The AGREE II consists of 23 key items organized within 6 domains followed by 2 global rating items ("Overall Assessment"). Each domain captures a unique dimension of guideline quality.

Domain 1. Scope and Purpose is concerned with the overall aim of the guideline, the specific health questions, and the target population (items 1-3).

Domain 2. Stakeholder Involvement focuses on the extent to which the guideline was developed by the appropriate stakeholders and represents the views of its intended users (items 4-6).

Domain 3. Rigour of Development relates to the process used to gather and synthesize the evidence, the methods to formulate the recommendations, and to update them (items 7-14).

Domain 4. Clarity of Presentation deals with the language, structure, and format of the guideline (items 15-17).

Domain 5. Applicability pertains to the likely barriers and facilitators to implementation, strategies to improve uptake, and resource implications of applying the guideline (items 18-21).

Domain 6. Editorial Independence is concerned with the formulation of recommendations not being unduly biased with competing interests (items 22-23).

Overall assessment includes the rating of the overall quality of the guideline and whether the guideline would be recommended for use in practice.

Figure 2

Appraisal of Guidelines for Research & Evaluation II (AGREE II) is an international organization which defines standards for the development of high quality medical guidelines. These can be used assess the quality of guidelines and to assist in the development of guidelines. AGREE II recognizes 23 items grouped into 6 domains that need to be considered in the assessment of the quality of a guideline (Fig. 2) (2). These include the involvement of all stakeholders, including users and patients, in the development of a guideline, a clear description of the methodology and specific and unambiguous recommendations. In 2012 and 2013 the International Atomic Energy Agency hosted two Technical Meetings on Radiation Protection of Patients Through the Development of Appropriateness Criteria for Diagnostic Imaging. During these meetings the participants studied AGREE II and agreed that it is an important instrument for radiology guideline developers to use. They endorsed all its recommendations although suggesting that some of them would require regional differences in their application (3).

What is GRADE?

The GRADE working group

The Grading of Recommendations Assessment, Development and Evaluation (short GRADE) working group began in the year 2000 as an informal collaboration of people with an interest in addressing the shortcomings of grading systems in health care. The working group has developed a common, sensible and transparent approach to grading quality (or certainty) of evidence and strength of recommendations. Many international organizations have provided input into the development of the GRADE approach which is now considered the standard in guideline development.

www.gradeworkinggroup.org

The GRADE working group distinguishes the quality of evidence from the strength of a recommendation and it states that recommendations in guidelines should be either strong or weak. Four factors determine the strength of a recommendation, including the quality of the evidence. A strong recommendation cannot be based on poor quality evidence (4). The GRADE working group, just as it does for other medical interventions, considers randomized control trials to assess outcomes the highest form of evidence for diagnostic tests, even though it recognizes the difficulty of carrying out such studies. It considers accuracy as only a proxy for outcome and generally rates evidence on accuracy as lower quality (5). This makes it difficult to develop strong recommendations for diagnostic imaging guidelines. However, accuracy may not be the most important evidence needed to develop guidelines for diagnostic imaging (6), and the evidence required may depend on the role that diagnostic imaging has (7).

COMPUTERIZED DECISION SUPPORT

Guidelines can now be integrated into computerized order entry systems in electronic health records to create computerized decision support (CDS). CDS is the highest level in the KT pyramid (Fig. 1). There is some evidence that integrating guidelines into physicians' workflows in this way can improve the appropriateness of the utilization of diagnostic imaging (8). The American College of Radiology has developed its own CDS system, *ACR Select*™ (9), and there is growing international interest in diagnostic imaging CDS systems.

However, a debate has now developed as to whether it is better to integrate many rules - *ACR Select*™ currently has 15,000+ rules for 3000+ clinical scenarios (9) – or a core group of key guidelines into a CDS.

MANY or FEW?

COMPUTERIZED DECISION SUPPORT

MANY or FEW?

The number of rules integrated into a CDS system may play a role in determining the effectiveness of the system in changing behavior and improving the appropriateness of the ordering of diagnostic imaging (10). Too many rules may result in the ordering physician ignoring all the rules, even those that are important. This behavior was recognized in studying the effects of electronic drug alerts and has been described as “alert fatigue” (11).

COMPUTERIZED DECISION SUPPORT

MANY or FEW?

In 2018 the Centers for Medicare and Medicaid Services (CMS) will be requiring that all orders for advanced imaging have evidence that appropriate use criteria have been consulted (12). CMS considered requiring that the authorized provider-led entities (QPLE) whose appropriate use criteria would be used should have a comprehensive set of guidelines. However, an analysis of their claims data showed that guidelines for 8 priority clinical areas would cover 40% of their claims for advanced imaging. CMS will therefore require that QPLEs only provide guidelines for those 8 priority clinical areas (Table 1) (13).

TABLE 1

1.Chest Pain (includes angina, suspected myocardial infarction, and suspected pulmonary embolism)

2. Abdominal Pain (any locations and flank pain)

3. Headache, traumatic and non-traumatic

4. Low back pain

5. Suspected stroke

6. Altered mental status

7. Cancer of the lung (primary or metastatic, suspected or diagnosed)

8. Cervical or neck pain

CLINICAL CARE PATHWAYS

Clinical Care Pathways (CCP), which are derived from evidence-based clinical practice guidelines, are structured guidelines outlining the appropriate care of patients in defined clinical situations. They can be presented in an algorithmic format, a format which Diagnostic Imaging Pathways, another set of diagnostic imaging guidelines, uses (Fig. 4). Software is now available to incorporate CCPs in an algorithmic format into CDS systems. As CCPs become more common in CDS systems dedicated diagnostic imaging CDS systems will become less important and radiologists interested in guidelines will have to work with other clinical specialties to determine the appropriate role of diagnostic imaging in comprehensive CCPs.

Diagnostic Imaging Pathways

http://www.imagingpathways.health.wa.gov.au/index.php

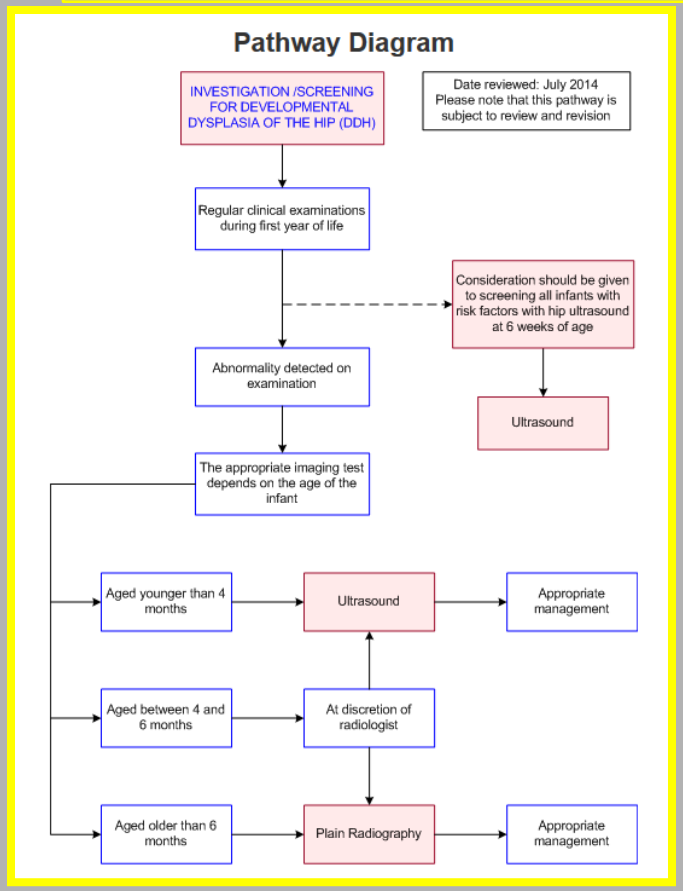

Figure 4

CONCLUSIONS:

Guidelines and Appropriateness Criteria for using diagnostic imaging are essential to improve the appropriateness of the use of diagnostic imaging. Radiologists who are producing these guidelines need to be aware of developments in all areas of health care guidelines and of the international quality standards which are being developed for these guidelines. They also need to be aware of the rapid advances in CDS and the use of CCPs and consider their potential impact on the future of diagnostic imaging guidelines.

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