GLIA
GuideLine Implementability Appraisal v. 2.0

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Introduction

Implementation refers to that part of the guideline lifecycle in which systems are introduced to influence clinicians' behavior toward guideline adherence. Some guidelines have been found to be more difficult to put into practice than others. The GuideLine Implementability Appraisal (GLIA) is intended to provide information about a guideline's *implementability* to:

- A guideline authoring group, which may decide to modify content to improve implementability
- Those individuals who choose guidelines for application within a health care delivery system, in which case, GLIA can be used to anticipate potential problems in implementation.

Implementability is an abstract construct, relating to a number of factors, some of which are intrinsic to the guideline itself—and therefore are under the control of the developers—and some of which are extrinsic. Extrinsic factors are largely site-specific and are beyond the scope of this instrument. GLIA emphasizes a consideration of primarily intrinsic factors, including:

- Executability (exactly *what to do*)
- Decidability (precisely under *what conditions* (e.g., age, gender, clinical findings, laboratory results) to do something)
- Validity (the degree to which the recommendation reflects the intent of the developer and the strength of evidence)
- Flexibility (the degree to which a recommendation permits interpretation and allows for alternatives in its execution)
- Effect on process of care (the degree to which the recommendation impacts upon the usual workflow in a typical care setting)
- Measurability (the degree to which the guideline identifies markers or endpoints to track the effects of implementation of this recommendation)
- Novelty/innovation (the degree to which the recommendation proposes behaviors considered unconventional by clinicians or patients)
- Computability (the ease with which a recommendation can be operationalized in an electronic information system) is only applicable when an electronic implementation is planned

Definitions

A _conditional recommendation_ states one or more _actions_ to be performed for members of the target population **IF** they fulfill one or more stated _conditions_.

Conditions may include patient descriptors (e.g., age, gender), clinical observations, laboratory results, etc.
> Example: If age is greater than 65, the clinician should screen for dementia. In this example, the _condition_ is "age is greater than 65." The _action_ is "screening for dementia."

Both and actions may be combined using AND and OR connectors to create complex logical statements.
> Example: when the patient manifests dyspnea **or** tachycardia, treat with a diuretic **and** monitor vital signs hourly.

An _imperative recommendation_ states one or more _actions_ to be performed for all members of the target population, i.e., the patients eligible for guideline advice.
> Example: Assess whether the patient is experiencing pain.

The dimension of _executability_ (questions 10-11) focuses our attention on the recommended action.   These questions apply to both imperative and conditional recommendations, as both types of recommendation must contain an action.

The dimension of _decidability_ (questions 12-14) focuses our attention on the conditions of a conditional recommendation. These questions do not apply to an imperative recommendation.

Using GLIA

GLIA questions 1 through 9 (GLOBAL dimension) relate to the guideline document as a whole. It is not uncommon for a single guideline to contain recommendations that vary widely in their implementability. The unit of implementation, therefore, is the individual recommendation, not the entire guideline. The remaining dimensions of GLIA consider recommendations individually.

GLIA users should prepare to use the instrument by _selecting_ those recommendations for which implementation is planned. Note that individual recommendations may contain imperative and/or conditional components.
Some guideline developers issue statements of fact that fail to recommend an action. Such statements are difficult to operationalize and fail _executability_ criteria in GLIA.

Appraisal

It is useful for two or more people to independently score each recommendation. We suggest at least one subject matter expert and one implementation expert should participate.

Appraisers should answer each question with one of the following responses:
  Y   The recommendation meets this criterion fully.
  N   The recommendation does <u>not</u> meet this criterion.
  ?   Rater is unable to address this question because of insufficient knowledge or experience in this area
  N/A   Criterion is not applicable to this recommendation

When any GLIA question is answered as 'N', the reason(s) it fails the criterion should be recorded in the comment section.

Reconciliation

Appraisers should discuss divergent responses in an effort to achieve consensus.

Rating teams should include sufficient expertise to resolve any "?" scores. Questions that are ultimately agreed to be answered as 'N' represent barriers to successful implementation.

Interpretation of Results

An examination of the barriers recorded on the summary report should provide an understanding of impediments to implementation of the guideline statement.

A conditional recommendation that fails any decidability or executability criterion will be impossible to implement as stated.

Likewise, an imperative that fails any executability criterion will not be implementable.

Developers may choose to make modifications to the guideline document before disseminating the guideline. Implementers can target their efforts toward addressing identified barriers.

GLOBAL CONSIDERATIONS (entire guideline)

1) Does the guideline clearly define the target patient population?

2) Does the guideline clearly define its intended audience (i.e., types of providers)?

3) Are the settings in which the guideline is to be used clearly described?

4) Do the organization(s) and author(s) who developed the guideline have credibility with the intended audience of the guideline?

5) Does the guideline suggest strategies for implementation or tools for application e.g., a summary document, a quick reference guide, educational tools, patients' leaflets, online resources or computer software?

6) Is it clear in what sequence the recommendations should be applied?

7) Is the guideline internally consistent, i.e., without contradictions between recommendations or between text recommendations and flowcharts, summaries, patient education materials, etc.?

8) Are all recommendations easily identifiable, e.g., summarized in a box, bold text, underlined, etc.?

9) Are all recommendations (and their discussions) concise?
(Longwinded explanations impair implementability.)

Recommendation Number	
								EXECUTABILITY– (exactly what to do)
								10) Is the recommended action (**what to do**) stated specifically and unambiguously? That is, would the intended audience execute the action in a consistent way?
								11) Is sufficient detail provided or referenced (about **how to do it**) to allow the intended audience to perform the recommended action.

Comments:

Recommendation Number								
								DECIDABILITY – (precisely under what conditions (e.g., age, gender, clinical findings, laboratory results) to do something)
								12) Would the guideline's intended audience consistently determine whether each condition in the recommendation has been satisfied? That is, is each and every condition described clearly enough so that reasonable practitioners would agree when the recommendation should be applied?
								13) Are all reasonable combinations of conditions addressed?
								14) If this recommendation contains more than one condition, is the logical relationship (ANDs and ORs) between conditions clear?

Comments:

Recommendation Number								
								VALIDITY – (the degree to which the recommendation reflects the intent of the developer and the quality of evidence)
								15) Is the justification for the recommendation stated explicitly?
								16) Is the quality of evidence that supports each recommendation stated explicitly?

Comments:

Recommendation Number								
								FLEXIBILITY – (the degree to which a recommendation permits interpretation and allows for alternatives in its execution)
								17) Is the strength of each recommendation stated explicitly? Note: Strength of recommendation reflects anticipated level of adherence and is different from quality of evidence (question 16). Potential statements to satisfy this criterion might include "Strong recommendation", "Standard", Clinical option", etc.
								18) Does the recommendation specify patient characteristics (such as coincident drug therapy and common co-morbid conditions) that require or permit individualization?
								19) Does the recommendation specify practice characteristics (such as location and availability of support services) that require or permit modification?

Comments:

Recommendation Number	
	EFFECT ON PROCESS OF CARE – (the degree to which the recommendation impacts upon the usual workflow of a care setting)
	20) Can the recommendation be carried out without substantial disruption in current workflow?
	21) Can the recommendation be **pilot tested** without substantial resource commitment? For example, buying and installing expensive equipment to comply with a recommendation is not easily reversible.

Comments:

Recommendation Number	
	MEASURABILITY – (the degree to which markers or endpoints can be identified to track the effects of implementation of this recommendation)
	22) Can **adherence** to this recommendation be measured? Measurement of adherence requires attention to both the actions performed and the circumstances under which the actions are performed.
	23) Can **outcomes** of this recommendation be measured? Outcomes include such things as changes in health status, mortality, costs, and satisfaction.

Comments:

Recommendation Number	
	NOVELTY/INNOVATION – (the degree to which the recommendation proposes actions considered unconventional by clinicians or patients)
	24) Can the recommendation be performed by the guideline's intended users without acquisition of new knowledge or skills?
	25) Is the recommendation consistent with existing attitudes and beliefs of the guideline's intended audience?
	26) Is the recommendation consistent with **patient** expectations? In general, patients expect their concerns to be taken seriously, benefits of interventions to exceed risks, and adverse outcomes to fall within an acceptable range.

Comments:

Recommendation Number	
	COMPUTABILITY (only applicable when an electronic implementation is planned for a particular setting) - the ease with which a recommendation can be operationalized in an electronic information system
	27) Are all patient data needed for this recommendation available electronically in the system in which it is to be implemented?
	28) Is each condition of the recommendation defined at a level of specificity suitable for electronic implementation?
	29) Is each recommended action defined at a level of specificity suitable for electronic implementation?
	30) Is it clear by what means a recommended action can be executed in an electronic setting, e.g., creating a prescription, medical order, or referral, creating an electronic mail notification, or displaying a dialog box?

Comments:

Barrier	Specifics	Suggested Remedy	Resolution