# MAPPinfo

(**Mapp**ing the Quality of Health **Info**rmation)

## Validated checklist for the assessment of evidence-based health information

STIFTUNG GESUNDHEITS WISSEN

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## Conditions of Use



## Citation Requirements

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# MAPPinfo: The Quality Check for Health Information

## What is MAPPinfo?

"MAPPinfo" is the abbreviation for "Mapping the Quality of Health Information." This is a validated checklist for the critical assessment of the quality of health information – on a scientifically sound basis. It is the first instrument that operationalizes the quality concept of the Guideline Evidence-Based Health Information [1]. It is based on the ethical requirements for health information and the current state of research as shown in the guideline. MAPPinfo is also suitable for people without deeper medical knowledge who are interested in health issues.

## For what health information can the checklist be used?

MAPPinfo is suitable for assessing material that provides information concerning medical decisions. Medical decisions are regarded as decisions about prevention and health promotion, early detection, diagnosis, treatment, palliation, rehabilitation, nursing care, follow-up care, and coping with diseases. Other forms of health information are not included, for instance explanations concerning the implementation of a measure, information about the health system, or general health tips.

## How does MAPPinfo work?

MAPPinfo works as a screening instrument: if the criteria in the checklist are fulfilled, it can be concluded that the health information basically fulfills the requirements laid down in the Guideline Evidence-Based Health Information [1]. MAPPinfo can thus help recognize the strengths and deficiencies of a particular health information. The checklist is based on the current recommendations in the guideline (Version 1.0, status: 20.02.2017). As the state of research evolves, these recommendations may change and will be adjusted accordingly in the checklist. This is especially possible in fields where the evidence base is limited (e.g., narratives).

## What can be checked using the checklist?

The checklist can be used to check specific quality criteria that can be directly identified in a health information document or linked documents (e.g., method report). Quality criteria are tested in the four categories:

1. **Definition:** To what extent are the target group and the objective described?
2. **Transparency:** To what extent are details given about how the health information was created (e.g., authors, financing, timeliness, sources)?
3. **Content:** To what extent are relevant contents included (e.g., explanations about options, presentation of benefits and harm)?
4. **Presentation:** Are the contents presented appropriately?

For each criterion, a short guide explains how it can be evaluated. In addition, best-practice examples are listed for illustration and orientation.

## Are particular abilities needed to use MAPPinfo?

In principle, the checklist can be used without a lot of prior knowledge. No special training or additional research is necessary. This means that MAPPinfo is basically suitable for anyone who wants to rate how good the quality of certain health information is.

# Instructions for Use

## Here is what you should look out for:

### First, check whether the health information can be assessed with MAPPinfo.

Health information can be assessed with MAPPinfo if:

1. it is intended for people with no deeper previous knowledge of the subject. MAPPinfo is not intended for assessing information meant for physicians.
2. it informs about a medical decision with several options (e.g., treatment options for a disease). If there is the option to wait and see or to opt against a treatment this criterion is also fulfilled.
3. it appears in a coherent, clearly definable source (e.g., brochure or website). References leading to information on other topics or other institutions are not subject to assessment by MAPPinfo. The internet address can be used as a rule of thumb to determine what belongs to a particular web-based information.

### Look at the health information from the perspective of a user.

Take the perspective of the user into account when making your assessment and check whether the additional information is directly linked and can be easily accessed. For example, the assessment of individual criteria (such as the transparency of meta-information like a possible conflict of interests or a systematic search strategy) may require clicking on or entering a given link to another source (e.g., to the methods report).

### Assess the health information using the information in the checklist.

Please use the explanations and definitions found under "Manual" to assess the individual criteria. You should not go beyond the defined quality aspects with your assessments, even if you think you can identify additional relevant quality characteristics.

## This is how you proceed:

1) First, enter the framework information on the health information to be assessed.

- **Source/link:** Where can the health information be found?
- **Problem:** Which medical decision does the health information refer to?
- **Classification:** Which field of medicine does the health information refer to? In case a health information informs about different decisions, e.g. diagnostics- and treatment-related, MAPPinfo has to be applied separately for each decision. (Note: One of the criteria can only be assessed if the health information refers to the field of diagnostics.)
- **Comments:** What are the special features of the health information?

2) Go through the individual criteria in the checklist one by one and tick the appropriate box with the help of the explanations and examples.

3) After you have made your assessment using the checklist, you will find an overview table at the end of the document. You can enter the ratings of the individual criteria in this table to get a quick overview of the strengths and limitations of the health information.

# MAPPinfo Checklist

## Framework information of the health information

Source/link: _____

Problem: _____

Classification: ☐ Diagnostics/screening ☐ Treatment ☐ Prevention ☐ Rehabilitation

Comments: _____

## Assessor

Name: _____

| DEFINITION 1 | The target group addressed by the health information is clearly defined. |
|---|---|

**MANUAL:**

The target group or indication is clearly named and explicitly defined (e.g., stage of disease, age group, familial stress, gender). It is important that the users themselves recognize whether this health information (HI) (e.g., remarks about chances of recovery) applies to them or where they should get further information in order to clarify matters. Users should be prevented from feeling that they are being wrongly addressed (Negative example: *"This information is intended for patients with breast cancer …"*, there is no restriction as to tumor stage, tumor size, etc. But the possible treatments presented in the HI exist only under certain conditions). How strict this item should be handled must be assessed depending on the theme of the HI. The risk that users may feel that they are being wrongly addressed and the consequences of this should be pragmatically evaluated.

**GOOD PRACTICE EXAMPLE:**

*Who is the brochure intended for?*

*"The information in this brochure is intended for the general public, but not for people with inflammatory or genetic bowel diseases (e.g., ulcerative colitis, familial adenomatous polyposis (FAP)) or people with a frequent occurrence of colorectal cancer in first- and second-degree relatives. The brochure is not intended for people who have already been diagnosed with colorectal cancer."* Translated from [2]

**ASSESSMENT:**

→ ○ The target group is not clearly defined in the HI.

→ ○ The target group is defined explicitly enough.

## DEFINITION 2

**The HI explains explicitly that an informed choice about a concrete problem should be facilitated.**

### MANUAL:

This item is intended to check whether the HI specifies an objective (of the HI) that is compatible with the quality concept. The evaluation of this criterion must include two important components:

1. The HI states that an informed choice should be supported. An informed choice is one that is made by the user himself/herself and is based on relevant information. The expression "informed choice" can be paraphrased (e.g., "*So you should make your own impression before you decide.*"). This information must be given at the beginning or – in the case of websites – at a prominent place (or even in the headline: "*Those who know, make better decisions*").
2. The HI mentions an appropriate problem (1. It provides a full list of alternatives, 2. Users can decide for themselves). HI problems can be inappropriate if they are not compatible with the overall objective of informed decision-making. This is the case when the problem implies judgments (Negative examples: "*Increasing motivation to claim or the participation rates of a certain measure*") or when it is obvious that it does not claim to provide a full list of alternatives. This applies, for example, to information that reports explicitly only on a subsection of the possibilities (framing) (Negative example: "*This website informs you about hormonal contraceptives.*" All other types of contraceptives are ignored).

### GOOD PRACTICE EXAMPLE:

*Objective of the brochure*

*"This brochure is intended for people looking for information about screening tests for colorectal cancer. Some people benefit from screening, some suffer harm as a result. The brochure is intended to help you decide whether or not you want to undergo such a test."* Translated from [2]

### ASSESSMENT:

→ ○ Neither a proven objective nor an appropriate problem is defined.
→ ○ The objective of the informed choice **or** an appropriate problem is defined.
→ ○ The objective of the informed choice **and** an appropriate problem are defined.

## TRANSPARENCY 1

The authors of the HI are named.

### MANUAL:

It is quite clear who is responsible for developing the HI. Analogue to the information about the authors in a scientific publication, this information should be given either in the relevant HI itself or in a barrier-free accessible methodology document. It is not sufficient just to mention an institution (like the name of a health insurance company) or locate an HI on the website of a doctor's practice. Full identifiability of the responsible authors also requires the provision of contact details (not necessarily those of the authors themselves).

### ASSESSMENT:

→ ○ Authors are not identifiable (even though a contact opportunity is mentioned).
→ ○ Authors are incompletely identifiable, which means not easily approachable.
→ ○ Authors are completely identifiable and approachable.

## TRANSPARENCY 2 — The funding source of the HI is disclosed.

### MANUAL:

The amount of the funding does not have to be given. The crucial point is that financial donations can be attributed to a specific development. A general list of sponsors or partners of the institution that is developing the HI is not considered to fulfill this criterion.

### ASSESSMENT:

→ ○ Information about the funding source is missing.

→ ○ A funding source is indicated.

## TRANSPARENCY 3 — A strategy for managing conflicts of interest is disclosed.

### MANUAL:

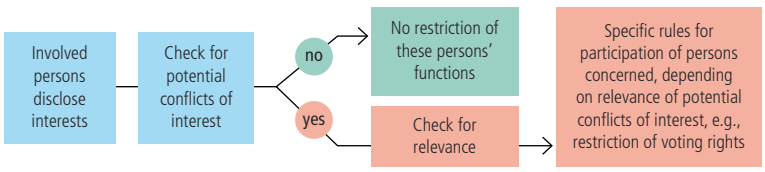
The expression "conflicts of interest" means that the receipt of benefits that are related to the content of the HI increases the likelihood of influence or bias. An actual influence cannot be proved in individual cases and the persons concerned are often not aware of it themselves.

It is impossible for the assessor to check the completeness of the conflicts of interest declared in an HI or their actual bias potential. A mere list of interests or a statement from the developers is therefore insignificant.

A good suggestion for dealing responsibly and consciously with the problem of possible influence on the development of information can be given by outlining a strategy for the identification and management of conflicts of interest. It must be checked whether such a strategy can be found in the HI itself or whether it can be directly accessed via the HI. A strategy can be seen as existing if interests are disclosed and how they are managed is accessibly documented. If such a strategy is missing, a declaration of no conflicts of interest is not sufficient to fulfill the criterion.

### GOOD PRACTICE EXAMPLES:

*Example 1: Algorithm for the assessment of interests and handling of conflicts of interest in AWMF guideline procedures:*




Modified figure based on [3]: The procedures and decision rules for avoidance of bias in the process of developing guidelines are presented clearly and in detail on the AWMF website.

*Example 2: An example from an S3 guideline for the straightforward case that conflicts of interest can be simply ruled out when drawing up an HI:*

*"The danger of a bias due to conflicts of interest was reduced because the systematic research, selection, and evaluation of literature was conducted by persons with no significant association to industry or stakeholders."* [4]

### ASSESSMENT:

→ ○ Information about dealing with interests is missing.

→ ○ A strategy for managing conflicts of interest is displayed.

## TRANSPARENCY 4 — The HI indicates how up-to-date it is.

**MANUAL:**

The date when it was first developed or the date of the last update are indicated (A). In addition, either the date of the next update or the update frequency is stated (B).

**ASSESSMENT:**

- → ○ Information on the current status of the HI is unclear or missing.
- → ○ The date of the last update (A) **or** information about planned future updates (B) are given.
- → ○ A **and** B are given.

## TRANSPARENCY 5 — The sources of information are named.

**MANUAL:**

The sources of information can be identified through the references.

Individual statements are substantiated with quotations in the text and a reference list is also given.

**ASSESSMENT:**

- → ○ The HI does not disclose information sources.
- → ○ References are provided but not linked to the statements in the text.
- → ○ References appear to be linked to the statements in the text.

## TRANSPARENCY 6 — The systematic search strategies underlying the generation of information are transparent.

**MANUAL:**

It is not possible to check the HI for its correctness of content. It is therefore very important that the systematic search is transparent and verifiably documented. A selective survey of the literature, searches via Google, for example, or the use of expert opinions as a basis for information are not considered systematic. This item does not check whether a search strategy that is formally systematic suffices in terms of quality, but whether there is transparency regarding systematic searches. The key question is therefore: Does the given information enable the reproduction of the search? For this, the following details are required: key words, operators, filters, inclusion and exclusion criteria, and databases. For an HI about a problem (indication), several searches are usually required (e.g., prevalence, natural course, therapy effects, side effects). The search strategies do not have to be presented within the HI but must only have barrier-free access (e.g., via provision of a methodology report).

**ASSESSMENT:**

- → ○ The searches on which the HI is based are not systematic or not accessible.
- → ○ Details to systematic searches are incomplete, i.e., they do not exist for all the problems or are not verifiable.
- → ○ Details to systematic searches are completely transparent.

## CONTENT 1 The health problem is explained.

### MANUAL:

This criterion concerns the question whether the indication or the medical problem is explained to the user in an understandable way (What is really the underlying process that makes the problem a problem?). The criterion has an interface to the items "DEFINITIONS 1 and 2," which require an explicit definition of the indications. This is about additional explanations (e.g., symptoms, pathophysiology, or etiology), which make the origin, consequences, and risk of the problem comprehensible.

Without these explanations, later information about the modes of action effectiveness, for example, of treatment alternatives (e.g., its classification into "symptomatic vs. causal treatment") is not very useful. The explanations about mediating mechanisms mentioned in an HI are not applicable to this item.

### GOOD PRACTICE EXAMPLES:

*Example 1: "Risk of stroke due to arrhythmia: An unsteady heartbeat rhythm gives the blood more opportunity than usual to clump together in places in the vascular system where the blood flow has meanwhile become poor. Such clumps can also reach the brain via the bloodstream and clog small blood vessels there. As a consequence, the downstream areas of the brain may be insufficiently supplied with blood and die."*

*Example 2: "Contraception: Sexual intercourse results in the passage of sperm with the man's seminal fluid, which can enter the uterus through the cervix at the end of the female vagina. If an egg cell is present there or on its way there, it can be fertilized, followed by nidation, and thus the beginning of a pregnancy."* [Examples provided by the authors]

### ASSESSMENT:

→ ○ The medical problem is insufficiently explained.

→ ○ The medical problem is made understandable by the explanations given in the HI.

## CONTENT 2 The options are named and explained.

### MANUAL:

This item concerns the credibility of the HI in its attempt to provide the user with options to choose from. Three things are assessed:

1. **Reviewing completeness:** It is often not possible to know whether the options are complete without doing some research. For this reason, the following rules apply: Options are obviously incomplete if, for instance, in the same HI options are named but not described in detail or are inconsistently structured in different parts of the HI. An HI is generally also incomplete if the option of doing nothing is missing. It is essential that the information must be given that it is possible not to use the measures offered, for instance since the symptoms might improve without treatment. Doing nothing can be shown in different variations, depending on the problem (e.g., as waiting, observing, self-training, postponing, no change in the basic therapy). The options can also be assessed as incomplete, where appropriate, depending on the individual knowledge of the assessor (negative example: "*For the long-term treatment of bipolar disorders, numerous medications are available.*" Here the option of psychotherapy is disregarded).

   In contrast, openly admitted incompleteness (i.e., the conceptional restriction of information to a subsection of the options (see DEFINITION 2)) should not be penalized additionally in this item. The impression that too many interventions or unchecked or unspecific interventions are perhaps portrayed (e.g., mud wraps for knee osteoarthritis) should not have a negative impact on the assessment.
2. The HI should have at least a **short explanation for each of the options** (e.g., the procedure, the effect mechanism, or the test method). Just a list is not sufficient.
3. Furthermore, it is particularly important that the **possibility to choose between the options** is mentioned (i.e., that it is for the users to find out which of the options is best for them, e.g., "*You can choose between the following treatments*"). The underlying reason for this aspect is the fact that without a clear instruction, the users do not necessarily realize that they can choose from the options they are being informed about. A corresponding statement elsewhere than directly in connection with the options (for example, within the framework of the introduction) is not sufficient to fulfill this quality aspect.

**GOOD PRACTICE EXAMPLES:**

*Example 1:* *Listing the options:*

*"Currently in Germany, the following tests for screening for colorectal cancer are paid for by the statutory health insurance companies: screening using an immunological stool test where tiny amounts of hidden (occult) blood can be discovered, and the colonoscopy where a tiny camera at the end of a flexible tube examines the intestinal mucosa from the inside. You also have the option to wait and see. An examination can also be made at a later date."* Translated from [2]

*Example 2:* *Explanation for the immunological stool test:*

*"How does the test work?*

*The stool test is able to discover tiniest amounts of hidden (occult) blood in the feces that are invisible to the naked eye. It remains uncertain where the blood comes from. The stool test cannot distinguish whether the blood comes from a colorectal cancer or from a harmless source somewhere in the body.*

*What should be considered when preparing the test?*

*The immunological stool test only reacts to human hemoglobin. For this reason, it is not necessary to keep to a diet as was necessary with the tests based on guaiac resins.*

*How is the test conducted?*

*With the stool test you will receive a stool sample collection kit with instructions. The collection kit comes with a paper to catch the feces in the toilet. To perform the test, a single sample is obtained from the surface of the feces using a stick and placed in the enclosed test tube and sealed. The test should then be returned to the practice, if possible on the following day. Since the feces sample has to be used within 3 days, it should be given at the beginning of the week if possible."* Translated from [2]

**ASSESSMENT:**

→ ○ The options are neither explained nor complete and are not portrayed explicitly as possible choices.

→ ○ Either the options are not explained or are incomplete but are portrayed explicitly as possible choices **or** the options appear to be complete and comprehensible but are not portrayed explicitly as possible choices (one of the two conditions is fulfilled).

→ ○ The options appear to be complete and comprehensible **and** are portrayed explicitly as possible choices (must contain the option of "doing nothing").

## CONTENT 3 — The HI makes statements about stochastic uncertainty.

**MANUAL:**

This item examines whether the HI places explanations at the users' disposal in order to prevent a false interpretation of statistical probability statements. For this, the HI has to explain that group-related data does not allow certain conclusions in individual cases. This can be either in the form of a general explanation (disclaimer) or be communicated in a way that is related to the individual statements. If quantitative information on benefits and harms or corresponding statements of uncertainty are missing, CONTENT 3 should nevertheless be applied.

**GOOD PRACTICE EXAMPLE:**

*"Numerical results from scientific studies with people are nearly always only estimated values (statistics). No reliable predictions can be derived from them for the individual person."* Translated from [2]

**ASSESSMENT:**

→ ○ There is no disclaimer about stochastic uncertainty with regard to the quantities portrayed in the HI.

→ ○ A disclaimer can be found in the HI in at least one place.

## CONTENT 4/PRESENTATION 1 — The natural course (in the case of diagnostic problems: the prevalence) of the disease is adequately presented.

### MANUAL:

The natural course of a disease means its development without treatment. Information on the probability that a symptom will improve, worsen, or remain constant without intervention is essential for assessing the usefulness of potential interventions. If the HI deals with a diagnostic or prevention-related problem (e.g., screening), the prevalence indicator is the information that corresponds to the natural course of disease. Prevalence is defined as the frequency with which a disease or a defined medical condition (e.g., pregnancy) occurs in relation to a defined point of time. Both parameters (natural course and prevalence) are thus indications of the risk associated with the problem if no action is taken.

Incomplete or inadequate portrayals of the natural course/prevalence are potentially misleading for the readers. There is no reason to assume that an incomplete presentation is superior to a non-presentation. For this reason, the item for examining these presentations has only two codings: successful/unsuccessful. To make this dichotomous decision, assessors have to check several sub-criteria:

**Adequately presented statements on the natural course or prevalence:** Based on patient-relevant outcomes, the HI should make either quantitative statements about the natural course/prevalence or an explicit statement of uncertainty.

The quantification should correspond to the following criteria:

- No exclusive use of verbal descriptors (e.g., sometimes, often, rarely) or representations such as *"every tenth"* or statements without a reference value (exception: uncertainty).
- Use of a uniform reference value. In case of deviations, it should be transparently stated that a change is taking place.

**Use of patient-relevant outcomes:** Information on the natural course must be formulated according to outcomes that are relevant for the patient. Patient-relevant outcome parameters are those the impact of which can be directly experienced by the target group (e.g., mortality, morbidity, and quality of life).

**Caution with surrogate parameters:** These are frequently easily determinable physiological or biochemical values. They are called surrogate parameters because they are not directly relevant to the target group but are associated with patient-relevant outcomes (e.g., reduction of blood pressure as a surrogate parameter for the reduction of the risk of heart infarcts). The use of surrogate instead of patient-relevant parameters is inappropriate. The additional reporting of results for surrogate parameters should also be considered inappropriate if no explanation of the significance of the corresponding statements is provided.

### GOOD PRACTICE EXAMPLES:

*Example 1:* *Therapy of the ductal carcinoma in situ*

*"What are the risks of wait-and-see?*

*There is a risk that an invasive breast cancer occurs or is not discovered in the breast. But women without a DCIS also bear this risk. To what extent the risk is higher if you have a DCIS cannot be determined."* Translated from [5]

*Example 2:* *Screening for colorectal cancer*

*"For women who have just reached the age of 60, 15 out of 1,000 will be diagnosed with colorectal cancer in the next 10 years and 4 out of 1,000 will die of colorectal cancer."* Translated from [2]

### ASSESSMENT:

→ ○ There are neither adequately presented quantitative statements on the natural course/prevalence nor an explanation of uncertainty.

→ ○ Statements about the natural course/prevalence are quantified adequately or an appropriate explanation of uncertainty is provided.

## CONTENT 5/PRESENTATION 2 The benefit is presented adequately.

### MANUAL:

Incomplete or inadequate presentations of the benefit are potentially misleading for the readers. There is no reason to assume that an incomplete presentation of the benefit is superior to a non-presentation. For this reason, the item for testing benefit statements in HI has only two codes: successful/unsuccessful. To make this dichotomous decision, assessors have to check several sub-criteria:

**Adequately presented benefit statements:** Either quantitative benefit statements or explicit uncertainty statements should be made for all options and all patient-relevant outcomes.

The quantification should meet the following criteria:

- No exclusive use of verbal descriptors (e.g., sometimes, often, rarely).
- Presentation as absolute frequencies/probabilities (absolute risk (AR), absolute risk reduction (ARR), or increase (ARI); no exclusive use of relative risks (RR)/relative risk reduction (RRR) or increase (RRI)/no use of number needed to treat (NNT)).
- Use of a uniform reference value. In case of deviations, it should be transparently stated that a change is taking place.

**Completeness of options:** With regard to options, benefit statements are considered complete if all options mentioned in the same HI are taken into account. Incompleteness of options will already result in point deductions in the assessment of CONTENT 2.

**Use of patient-relevant outcomes:** The completeness of the outcomes used for benefit statements is not examined, but rather the question of whether these outcomes are relevant for patients. Patient-relevant outcome parameters are those the impact of which can be directly experienced by the target group (e.g., mortality, morbidity, and quality of life).

**Caution with surrogate parameters:** These are frequently easily determinable physiological or biochemical values. Surrogate parameters are so called because they are not directly relevant to the target group but are associated with patient-relevant outcomes (e.g., reduction of blood pressure as a surrogate parameter for the reduction of the risk of heart infarcts). The use of surrogate instead of patient-relevant outcomes is inappropriate. The additional reporting of results for surrogate parameters should also be considered inappropriate if no explanation of the significance of the corresponding statements is provided.

### GOOD PRACTICE EXAMPLE:

*Early detection through immunological stool test*

*"Out of 1,000 people with stool-test screening every 2 years over a 10-year period, about 1 person has a benefit in that they do not die of colorectal cancer during that time. To what extent colonoscopy can prevent deaths from colorectal cancer or improve life expectancy overall is not known. A randomized controlled trial is currently being conducted in Scandinavia, the Netherlands, and Poland. Results are expected in 2036."* Translated from [2]

### ASSESSMENT:

→ ○ Benefit statements are either not quantified, are incomplete or are presented in an inappropriate way (NNT, RR, RRR, verbal), or corresponding explanations of uncertainty are missing.

→ ○ Benefit statements are quantified for all named options and end points or uncertainty explanations are provided.

## CONTENT 6/PRESENTATION 3 The harm is presented adequately.

### MANUAL:

Incomplete or inadequate presentations of the harm are potentially misleading for the readers. There is no reason to assume that an incomplete presentation of the harm is superior to a non-presentation. For this reason, the item for testing harm statements in HI has only two codes: successful/unsuccessful. To make this dichotomous decision, assessors have to check several sub-criteria:

**Adequately presented harm statements:** Either quantitative harm statements or explicit uncertainty statements should be made for all options and all patient-relevant outcomes.

The quantification should meet the following criteria:

- No exclusive use of verbal descriptors (e.g., sometimes, often, rarely).
- Presentation as absolute frequencies/probabilities (absolute risk (AR), absolute risk reduction (ARR), or increase (ARI); no exclusive use of relative risks (RR)/relative risk reduction (RRR) or increase (RRI)/no use of number needed to treat (NNT)).
- Use of a uniform reference value. In case of deviations, it should be transparently stated that a change is taking place.

**Completeness of options:** With regard to options, benefit statements are considered complete if all options mentioned in the same HI are taken into account. Incompleteness of options will already result in point deductions in the assessment of CONTENT 2.

**Use of patient-relevant outcomes:** The completeness of the outcomes used for harm statements is difficult to determine. The following examples of various types of medical problems should help the assessors estimate the completeness.

The following measures are to be expected:

- Early detection: Information about consequences resulting from false-positive and false-negative results, over-diagnoses, and over-therapy.
- Schooling and training measures: Overstraining and uncertainty, costs, chronification of the problem, loss of time, sports injuries.
- Medicinal measures: Normal information, as stated in the accompanying leaflet, for instance.
- Surgical interventions: Information on operational risks and complications.

### GOOD PRACTICE EXAMPLE:

*"Out of 10,000 participants, around 8 suffer from severe bleeding, 4 from an intestinal rupture, and 6 from severe cardiovascular disorders."* Translated from [2]

### ASSESSMENT:

→ ○ Harm statements are either not or incompletely quantified, are (verbally) quantified in an inappropriate way, or corresponding explanations of uncertainty are missing.

→ ○ Harm statements are adequately quantified for all named harms or uncertainty explanations are provided.

## CONTENT 7/PRESENTATION 4 — For diagnostic problems: Information on the quality of the test is presented adequately.

☐ **This quality criterion does not apply to this present HI** (skip and continue with PRESENTATION 5)

### MANUAL:

The quality of the applied tests restricts the use of diagnostics, which means that the communication of the test quality is essential for HI on diagnostic topics (or screening). Incomplete or inadequately portrayed test quality is potentially misleading for the readers. For this reason, the item for testing the information concerning test quality has only two codes: successful/unsuccessful. In order to make this decision, assessors have to check several sub-criteria.

**Adequately presented test quality statements:** Either quantitative test quality statements or explicit uncertainty statements should be given for all test methods.

The quantification should meet the following criteria:

- No exclusive use of verbal descriptors (e.g., sometimes, often, rarely).
- Use of a uniform reference value. In case of deviations, it should be transparently stated that a change is taking place.

**Completeness of options:** It can be difficult for the assessors to check which test methods are actually available for the problem concerned. With regard to options, test quality statements are considered complete if all diagnostical tests mentioned in the same HI are taken into account.

**Completeness of the test quality criteria:** The complete presentation includes: positive-predictive value (PPV) and negative-predictive value (NPV) or frequencies of false-positive and false-negative results. The portrayal of sensitivity and specificity is optional, but cannot replace the required test quality criteria.

### GOOD PRACTICE EXAMPLES:

*Example 1:* *Test results of immunological stool test*

*"What does a positive test result say? (example for PPV)*

*For women and men aged 50 years and older: Out of 1,000 people with a positive test result, around 8 have colorectal cancer and 992 do not have colorectal cancer."* Translated from [2] (And the same applies to NPV for negative test results)

*Example 2:* *Multiple sclerosis diagnostics*

*"Experts have agreed on the criteria for the diagnosis of multiple sclerosis. Nevertheless, there are still no reliable figures concerning the probability that the patient really has multiple sclerosis when the diagnostical criteria are fulfilled. Furthermore, it is not possible to make more exact prognoses about the course of the disease, such as the likelihood of further relapses."* [Examples provided by the authors]

### ASSESSMENT:

→ ○ Statements about the test quality are either not or incompletely quantified, are quantified in an inappropriate way, or corresponding explanations of uncertainty are missing.

→ ○ Test quality statements are completely and adequately quantified (for all methods and parameters) or uncertainty explanations are provided.

## PRESENTATION 5 — The HI uses neutral language throughout.

### MANUAL:

The concept of informed decision-making assumes the preservation and promotion of the user's autonomy. This means the information has to be conceived in such a way that it fosters decision-making autonomy. Imparting evaluations/ratings or even recommendations for action is not compatible with this concept. Such evaluations or recommendations can be shown in varying explicitness and form:

- Subtle evaluation (e.g., "*You can also refuse the screening,*" which implies that a kind of disobedience is required).
- Clear content ratings ("*The treatment with infusions is absolutely the safer method,*" which assumes an importance ranking of the results parameters).
- Alarming language ("*Many lives could be saved with the available examination methods. Many of the patients who died from XY could still be alive today!*").
- Recommendations ("*… the choice treatment is an antibiotic therapy …*").
- Patronizing ("*As you are women over the age of 20, you ought to have enough sense of responsibility to decide for …*").
- Bidding/appealing (e.g., "*Get an appointment for precautionary screening today.*").

The item must check whether the HI avoids evaluations/ratings and recommendations overall. If recommendations from third parties (e.g., from a medical guideline) are addressed, the neutrality of the HI can still be maintained, provided the HI identifies corresponding third-party opinions as such.

### GOOD PRACTICE EXAMPLE:

*Identification of a third-party opinion:* *"The German treatment guideline for localized prostate cancer stipulates for this risk level the immediate surgical removal of the affected prostate. However, this is a biased recommendation that should not preempt the choice between the actually existing options."* Translated from [6]

### ASSESSMENT:

→ ○ The HI uses predominantly judgmental language and/or uses recommendations without distancing itself from them.

→ ○ The HI is written predominantly in neutral language.

## PRESENTATION 6 — The HI does not use narratives that present relevant factual information.

### MANUAL:

Narratives are patients' stories that are either told by the affected person or by a third party. The use of narratives (such as videos, audio recordings, or written stories) as didactic components in HI (e.g., in decision-making aids) is handled very heterogeneously in practice. Narratives can describe individual experiences with illness, health, or need for care in the form of short quotations or longer reports about single or several aspects of an illness (descriptions may differ in varying media). They often contain implicit or explicit descriptions and reflections of behaviors, coping strategies, or decision-making processes. Written in the first or third person, they often follow a story line, contain specific examples, details, and characters. Narratives can influence the information process in an uncontrolled and biased way. However, the risk of distortion can fluctuate. It can, for instance, be expected that original voice narratives, which are also very emotional, have a stronger influence than edited narratives that contain, for example, illness experiences without reference to therapies. Current literature does neither differentiate between different types of narratives, nor can specific mechanisms by which they work be attributed to particular types of narratives.

In accordance with the recommendations of the guideline, the use of narratives with relevant factual information giving advice on medical decisions (on prevention and health promotion, screening, diagnosis, treatment, palliation, rehabilitation, care, aftercare, as well as coping with diseases) is fundamentally not compatible with the goal of informed decision-making.

Differential assessment of the quality of narratives is not subject to review by this item.

### ASSESSMENT:

→ ○ The HI uses narratives that present relevant factual information.

→ ○ The HI does not use narratives that present relevant factual information.

## PRÄSENTATION 7 — Graphics are designed in a suitable manner.

☐ **In this HI, no graphics are used to represent frequencies** (skip and continue with PRESENTATION 8)

### MANUAL:

Suitably designed graphics can enable a statement to be understood more quickly. For this, the graphics must be clearly edited and fully presented so that misunderstandings or systematic distortions of information are prevented. Sorted pictograms and bar charts are described as easy to understand.

A suitable (non-distorting) graphic presentation contains:

- Complete captions (complete legend, clear designation of groups, and appropriate axis and scale labeling)
- Bar charts or sorted pictograms

### GOOD PRACTICE EXAMPLE:

*Test results of immunological stool test*

8 with colorectal cancer (correct test result)

992 with no colorectal cancer (wrong test result)

Modified figure based on [2]

*"What does a positive test result say?*

*For women and men aged 50 years and older: Out of 1,000 people with a positive test result, around 8 have colorectal cancer and 992 do not have colorectal cancer."* Translated from [2]

**ASSESSMENT:**

- → ○ The HI uses chart types that are not recommended or a distorted presentation.
- → ○ The HI uses recommended types of charts, but these are not fully labeled.
- → ○ The HI uses recommended and suitably presented graphics.

| PRESENTATION 8 | **Information about benefits/harm is supplemented with complementary information (gain/loss framing).** |
|---|---|

**MANUAL:**

Effects of medical interventions can be communicated by means of phrases that are either positive (gain framing: e.g., number of survivors after five years) or negative (loss framing: e.g., number of dead after five years). Any possible influence on the users contradicts the requirements and objectives of evidence-based HI. The item examines whether both types of wording – gain and loss framing – are combined to prevent distortion. If benefits or harm are not quantified in the HI at all, the consequence is that the gain and loss framing is probably missing.

**GOOD PRACTICE EXAMPLE:**

*"Out of 1,000 people with stool-test screening every 2 years over a 10-year period, about 1 person has a benefit in that they do not die of colorectal cancer during that time. Around 999 people of 1,000 have no benefit. During these 10 years, 993 people would not have died from colorectal cancer even without stool-test screening and 6 would have died of colorectal cancer despite screening."* Translated from [2]

**ASSESSMENT:**

- → ○ The HI exclusively uses either gain or loss framing.
- → ○ Gain and loss framing are combined in individual statements.
- → ○ Gain and loss framing are systematically combined for all benefit and harm statements expressed in figures.

# Evaluation

## Summary of the Assessment

You can enter the assessment of the individual criteria in this overview to get a quick overview of the strengths and limitations of health information concerning a medical decision. When using or passing on health information, reflect on criteria that have not been met. Barriers to informed decision-making may arise from them.

Note: Health information is intended to support medical decisions. However, it does not replace a consultation with a doctor.

**Source/link:** _____

| Category | Criterion | Assessment | | | |
|---|---|---|---|---|---|
| | | not applicable | not met | partly met | completely met |
| D1 | The target group addressed by the HI is clearly defined. | | ○ | | ○ |
| D2 | The HI explains explicitly that an informed choice about a concrete problem should be facilitated. | | ○ | ○ | ○ |
| T1 | The authors of the HI are named. | | ○ | ○ | ○ |
| T2 | The funding source of the HI is disclosed. | | ○ | | ○ |
| T3 | A strategy for managing conflicts of interest is disclosed. | | ○ | | ○ |
| T4 | The HI indicates how up-to-date it is. | | ○ | ○ | ○ |
| T5 | The sources of information are named. | | ○ | ○ | ○ |
| T6 | The systematic search strategies underlying the generation of information are transparent. | | ○ | ○ | ○ |
| C1 | The health problem is explained. | | ○ | | ○ |
| C2 | The options are named and explained. | | ○ | ○ | ○ |
| C3 | The HI makes statements about stochastic uncertainty. | | ○ | | ○ |
| C4/P1 | The natural course (in the case of diagnostic problems: the prevalence) of the disease is adequately presented. | | ○ | | ○ |
| C5/P2 | The benefit is presented adequately. | | ○ | | ○ |
| C6/P3 | The harm is presented adequately. | | ○ | | ○ |
| C7/P4 | For diagnostic problems: Information on the quality of the test is presented adequately. | ○ | ○ | | ○ |
| P5 | The HI uses neutral language throughout. | | ○ | | ○ |
| P6 | The HI does not use narratives that present relevant factual information. | | ○ | | ○ |
| P7 | Graphics are designed in a suitable manner. | ○ | ○ | ○ | ○ |
| P8 | Information about benefits/harm is supplemented with complementary information (gain/loss framing). | | ○ | ○ | ○ |

**Abbreviations:** D = Definition, T = Transparency, C = Content, P = Presentation

## Study Protocol

The development and validation of MAPPinfo are documented in the corresponding study protocol [7].

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