

Paper Summary

<!--META_START-->

Title: Development of the Patient Education Materials Assessment Tool (PEMAT): A new measure of und

Authors: Sarah J. Shoemaker, Michael S. Wolf, Cindy Brach

DOI: 10.1016/j.pec.2014.05.027

Year: 2014

Publication Type: Journal

Discipline/Domain: Health Communication / Health Literacy

Subdomain/Topic: Patient education materials evaluation

Eligibility: Eligible

Overall Relevance Score: 95

Operationalization Score: 90

Contains Definition of Actionability: Yes

Contains Systematic Features/Dimensions: Yes

Contains Explainability: Partial

Contains Interpretability: No

Contains Framework/Model: Yes

Operationalization Present: Yes

Primary Methodology: Instrument development and validation (Mixed Methods)

Study Context: Development of an assessment tool for evaluating understandability and actionability of p

Geographic/Institutional Context: USA (multi-institutional, including Abt Associates, Northwestern Univers

Target Users/Stakeholders: Health professionals, patient educators, lay users, policymakers

Primary Contribution Type: Measurement instrument (PEMAT)

CL: Yes

CR: Yes

FE: Yes

TI: No

EX: Partial

GA: No

Reason if Not Eligible: N/A

<!--META_END-->

****Title.****

Development of the Patient Education Materials Assessment Tool (PEMAT): A new measure of understanding

****Authors:****

Sarah J. Shoemaker, Michael S. Wolf, Cindy Brach

****DOI:****

10.1016/j.pec.2014.05.027

****Year:****

2014

****Publication Type:****

Journal

****Discipline/Domain:****

Health Communication / Health Literacy

****Subdomain/Topic:****

Patient education materials evaluation

****Contextual Background:****

The study responds to the U.S. National Action Plan to Improve Health Literacy, which calls for health and health care systems to improve health literacy.

****Geographic/Institutional Context:****

USA; collaboration among Abt Associates, Northwestern University, and AHRQ

****Target Users/Stakeholders:****

Health professionals, patient educators, clinicians, medical librarians, lay assessors, policymakers

****Primary Methodology:****

Instrument development and validation (Mixed Methods — expert panel review, reliability testing, consumer testing)

****Primary Contribution Type:****

Measurement instrument (PEMAT)

General Summary of the Paper

This paper presents the development and validation of the Patient Education Materials Assessment Tool (PEMAT).

Eligibility

Eligible for inclusion: ****Yes****

How Actionability is Understood

Actionability is defined as the extent to which patient education materials enable consumers “to identify ways to improve their health and health care.”

> “Patient education materials are actionable when consumers ... can identify what they can do based on

What Makes Something Actionable

- Clearly identifies at least one specific action the user can take.
- Addresses the user directly when describing actions.
- Breaks down actions into manageable, explicit steps.
- Provides tangible tools (e.g., checklists, planners).
- Offers simple calculation instructions where relevant.
- Explains how to use visual or data elements to take action.
- Uses visual aids to facilitate acting on instructions.

How Actionability is Achieved / Operationalized

- **Framework/Approach Name(s):** Patient Education Materials Assessment Tool (PEMAT)
- **Methods/Levers:** Expert panel review, iterative reliability testing, untrained rater usability, consumer
- **Operational Steps / Workflow:**
 1. Rate each material against defined PEMAT items (scales for understandability and actionability).
 2. Calculate percentage score per scale (excluding N/A items).
 3. Compare against a threshold ($\geq 70\%$ considered actionable).
- **Data & Measures:** Inter-rater reliability (kappa, Gwet's AC1), Cronbach's alpha, consumer comprehension
- **Implementation Context:** Designed for use by both professionals and laypersons without training, app

> “The material clearly identifies at least one action the user can take.” (p. 398)

> “The material breaks down any action into manageable, explicit steps.” (p. 398)

Dimensions and Attributes of Actionability (Authors' Perspective)

- **CL (Clarity):** Yes — common language, active voice, visual cues.
- **CR (Contextual Relevance):** Yes — aligns instructions with user needs and capacities.
- **FE (Feasibility):** Yes — explicit steps, tangible tools, manageable instructions.
- **TI (Timeliness):** No explicit link.
- **EX (Explainability):** Partial — explains use of visuals and data for action.
- **GA (Goal Alignment):** No explicit link.
- **Other Dimensions Named by Authors:** Use of visual aids to facilitate action.

Theoretical or Conceptual Foundations

- U.S. National Action Plan to Improve Health Literacy (accuracy, accessibility, actionability).
- Health literacy frameworks recognizing both individual skills and systemic demands.
- Prior patient education material suitability and comprehension assessment tools.

Indicators or Metrics for Actionability

- PEMAT actionability score (0–100 scale).
- Threshold of $\geq 70\%$ considered actionable (provisional, not empirically fixed).

Barriers and Enablers to Actionability

- **Barriers:** Use of jargon/medical terms without definition; lack of captions for visuals; complex instructions
- **Enablers:** Clear visual aids with captions; direct user address; provision of tools and checklists; brevity

Relation to Existing Literature

The PEMAT addresses gaps in prior instruments by:

1. Measuring actionability explicitly.
2. Validating with untrained raters and consumers.
3. Applying to both print and audiovisual materials.
4. Demonstrating psychometric robustness (internal and external consistency).

Summary

Shoemaker et al. (2014) advance the field of health literacy by developing the PEMAT, the first rigorously

Scores

- **Overall Relevance Score:** 95 — Clear, explicit definition of actionability, robust conceptual framing, and
- **Operationalization Score:** 90 — Detailed operational steps, scoring system, and validated use cases

Supporting Quotes from the Paper

- “Patient education materials are actionable when consumers ... can identify what they can do based on
- “The material clearly identifies at least one action the user can take.” (p. 398)
- “The material breaks down any action into manageable, explicit steps.” (p. 398)
- “The material provides a tangible tool (e.g., menu planners, checklists) whenever it could help the user

Actionability References to Other Papers

- U.S. Department of Health and Human Services. National Action Plan to Improve Health Literacy (2010)
- Kaphingst et al. (2012) — Health Literacy INDEX.
- CDC Clear Communication Index (2013).