

GUIDE TO CONDUCTING AN EDUCATIONAL NEEDS ASSESSMENT: BEYOND THE LITERATURE REVIEW

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All effective training begins with needs assessment. [This] measures what skills individuals have, what they need, and how to deliver the right training at the right time. – American Society of Training and Development

Overview

The assessment of learner needs is a crucial step in the development of effective education and training programs for professionals and patients. Evidence indicates that programs, whether professional or patient education, that are based on well conducted needs assessments lead to changes in learner behavior.¹ Traditionally, it has been the responsibility of learners to self-assess, identify, and participate in programs to remain competent. However, researchers have concluded that learners have limited ability to accurately self-assess their own needs.²

What is an educational needs assessment?

An educational needs assessment can be defined as the gap between what is known and what should be known.³ The goal of continuing education is to improve patient care by maintaining or improving the knowledge, skills and attitudes of both the healthcare professionals who deliver care and those receiving care. However, as stated earlier learners are not able to fully assess what they don't know and what they need to know. Without grounded methods and an assessment of practice and performance gaps, educational offerings are unlikely to be effective. However, when presenting education gaps for support, much of this is overlooked in lieu of a broad literature review in the area or general epidemiologic data about a certain area. While an important starting place, literature reviews and epidemiologic data have the weakness of being composed of quickly outdated information as well as not adding much new to the subject matter. Needs assessments need to go beyond what is already known about clinical practice and current disease trends and add a snapshot of what is actually happening now.

Educational needs assessments need to go beyond a general literature search or recent epidemiological data.

¹ Fox, R. D. and N. L. Bennett (1998). Learning and change: implications for continuing medical education. *BMJ* 316(7129): 466-8.

² Davis, D. A., P. E. Mazmanian, et al. (2006). Accuracy of physician self-assessment compared with observed measures of competence: a systematic review. *JAMA* 296(9): 1094-102.

³ Davis N et al. (2008) Continuing Medical Education: AMEE Education Guide No. 35. *Med Teach* 30: 652-66.

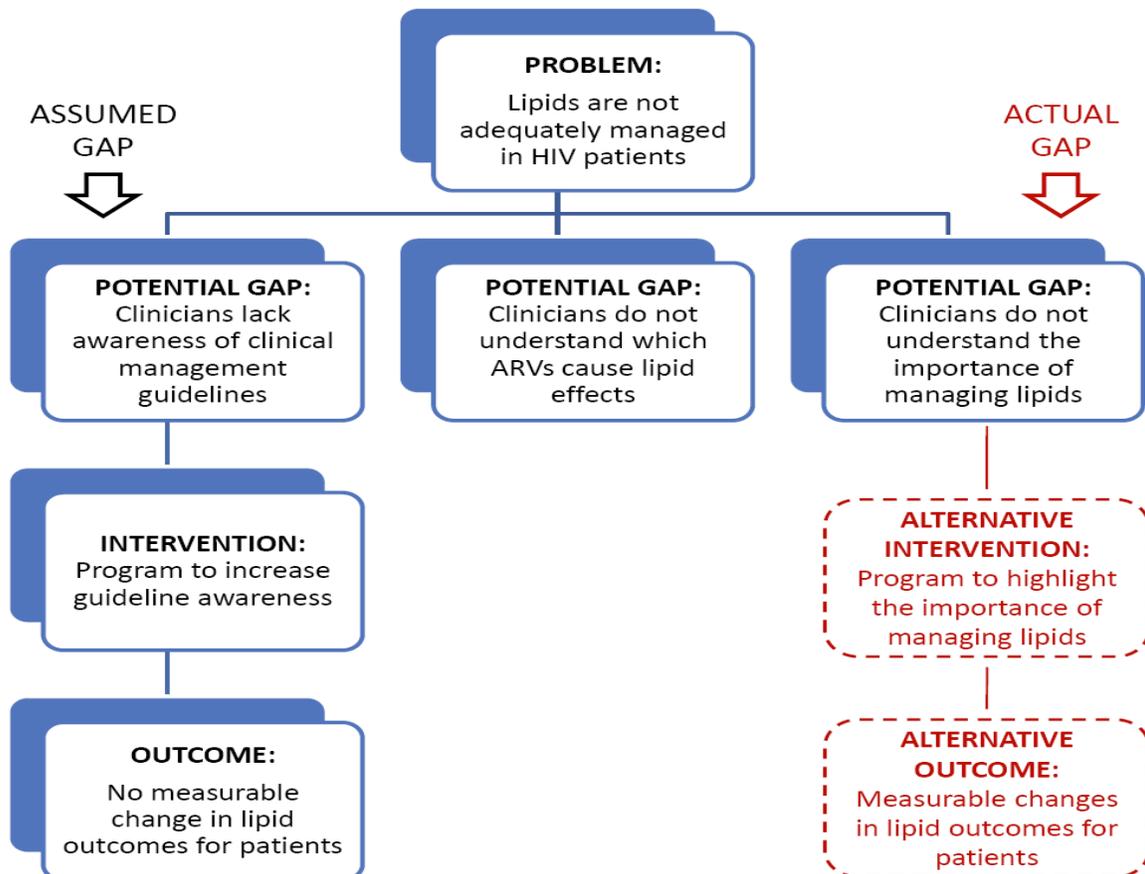
Why is an educational needs assessment important?

Medical practice and knowledge is continuously and rapidly evolving. New diagnostics tests, therapies and recommendations are always being put on the market and studies are constantly performed to reassess relative efficacies of current treatment options. Continuing education addresses these issues in order to keep clinicians up-to-date on new information, as well as reinforce quality information. Patients, too, have ongoing educational needs related to health literacy and understanding treatment options.

How do you know what healthcare providers and patients are actually facing out in the real world, and where the true educational gaps lie? Needs assessments are the best way to understand what challenges face healthcare providers and patients so that education is most relevant.

Educational needs assessments are used to direct and shape educational initiatives, and are a major component of the framework for effective continuing education. What would happen if you tried to conduct education without first understanding the needs of the population?

- (1) You risk the possibility that you are conducting education in an area that is well understood by the audience.
- (2) You would not have any indication on the effectiveness of your program.



In the above example, the education was designed assuming the problem was a lack of awareness of appropriate guidelines. However, the actual gap was not that physicians were unaware of the proper guidelines for management; instead, physicians did not understand the importance of proactive clinical management of this particular side effect. Thus, education was planned, using costly and valuable resources, to an area that little education was needed, and in the end, the intended outcome was not achieved.

What are the benefits of an educational needs assessment for planning and developing educational activities?

When adequate educational needs assessments of the target audience are conducted and education is linked to practice, education is more likely to:

- 1) Engage the audience
- 2) Meet the expectations of that audience
- 3) Increase or reinforce knowledge
- 4) Promote and reinforce best practices and evidence-based behaviors
- 5) Improve patient health.

In order to maximize the relevance and impact of an educational activity, it is critical to conduct a needs assessment that is thorough and relevant to the real practice challenges facing the target audience.

Specifically, the data from adequate needs assessments allow educators to:

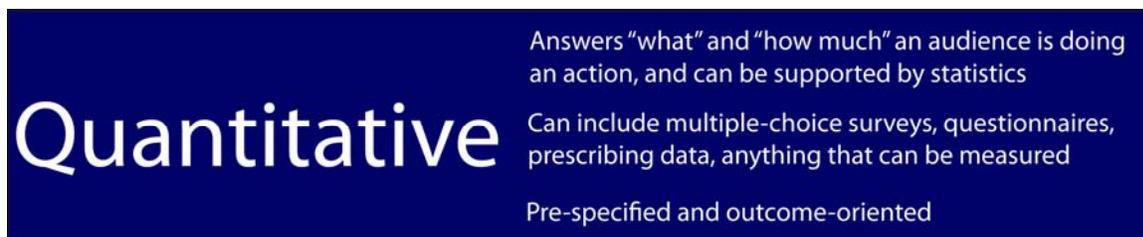
- 1) Identify clinically-relevant performance gaps that will be addressed by the educational activity in order to
 - Develop performance-based objectives and performance-based assessment measures to evaluate the impact of the program
 - Define the scope of the content to be included in the activity and how it is relevant to the daily practice of the target audience
- 2) Characterize the information-seeking practices of the target audience in order to determine the most effective ways to engage them in the educational activities
- 3) Identify patient-specific needs, including limited health literacy and behavior changes
- 4) Identify patient, practice, and systems barriers to the adoption of evidence-based practices that will need to be addressed in the educational activity, as well as strategies that will help clinicians overcome these barriers

Subjective vs. objective assessments

Learners have been shown to be inaccurate in self-assessing their educational needs. Subjective assessments, such as questionnaires and self-reflection activities, therefore, may not be as useful for obtaining rigorous data. One common example is polling members of a particular specialty society. While certain issues may be important to you, and verified by these members, this is a subjective audience and not necessarily representative of a national population. Objective, comprehensive assessments are necessary for demonstrating true need, as these are built upon validated criteria and truly represent healthcare practice patterns. Assessments such as case vignettes, standardized knowledge and skill assessment, peer reviews, and objective practice observation may be helpful to eliminate self-assessment bias. Other ways to limit bias are to ensure that the demographics of your sample can be generalizable for the population that you are attempting to capture.

What kinds of data can be obtained?

Primary quantitative assessment



Quantitative

Answers “what” and “how much” an audience is doing an action, and can be supported by statistics

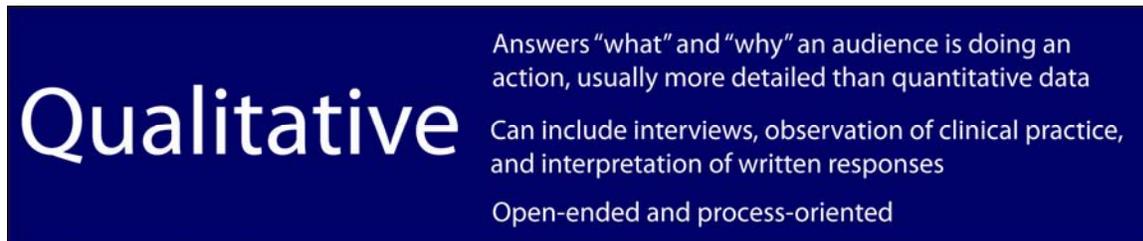
Can include multiple-choice surveys, questionnaires, prescribing data, anything that can be measured

Pre-specified and outcome-oriented

In conducting a needs assessment, it is vital to understand what is currently being done in the population you are attempting to reach. Quantitative assessments are built to understand the question of “what” or “how much” a certain population is doing something. If something is easily quantified, this may be the best approach to use.

Quantitative methods require a particular question that can be answered in a measurable way. Certain objectives are best answered by quantitative assessment, such as knowledge and practice pattern-based questions. Polling questions, such as asking clinicians “how many patients do you see each week with Hepatitis B?”, are particularly suited for this method of assessment, as the answer is objective and not open for interpretation. For patient assessments, a question such as “what medications are you currently taking to manage your HIV?” would be easily quantified. However, this approach is limited, as you almost need to have the answer to the question before you ask it, especially to create a multiple-choice survey format. In such instances, qualitative assessments may be more appropriate.

Primary qualitative assessment



Qualitative

Answers “what” and “why” an audience is doing an action, usually more detailed than quantitative data

Can include interviews, observation of clinical practice, and interpretation of written responses

Open-ended and process-oriented

In attempts to understand healthcare provider practice patterns, many times it is necessary to get beyond “how much” someone is doing something in order to find out “what” and “why” they are doing it. You can use quantitative measurements to determine **what** HAART regimen an infectious disease specialist would use for a particular patient, but you need qualitative measurements to determine **why** they prefer one guideline-approved regimen over another.

Some topics benefit from applying qualitative research to enhance quantitative survey design, such as when you are unsure what survey topics and questions to include. You might be interested in understanding what prevents HIV patients from optimally altering their lifestyle to manage cardiovascular disease. You want to do a national survey, but are not certain where to start in your survey design. Using qualitative research methods, you could conduct interviews with a small panel of HIV patients to discover their particular barriers in making lifestyle changes. Responses from this session could be grouped and analyzed in order to better inform survey design for your targeted audience.

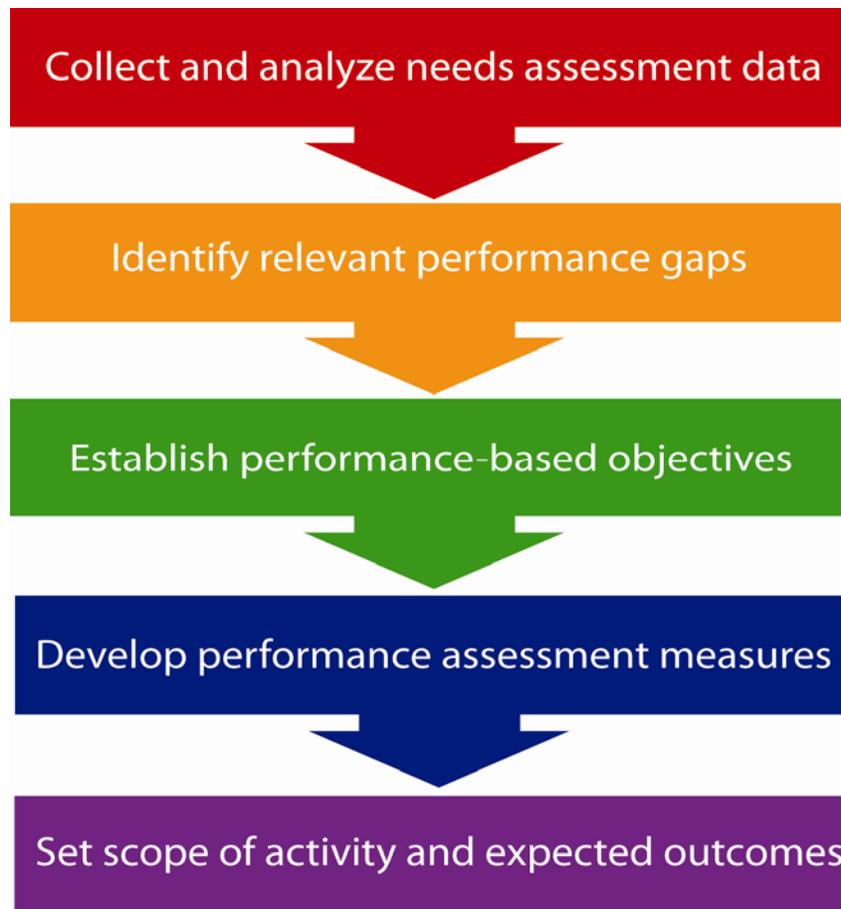
Complex or very detailed subject matter may be best investigated through qualitative approaches. In qualitative research, there exists a perception that it is more difficult to assess the quality of the methods and data. While there are several methods to improve the validity of qualitative data (see Mays and Pope⁴ for examples), basic research criteria must be included in every assessment: methodical design, unbiased data collection and analysis, and effective communication.

What next? Using needs assessment data to design continuing education

Designing education for practicing clinicians or patients has often been thought of in the most simplistic terms: beginning with overall disease epidemiology to identify needs, consulting a key opinion leader or advisory group of experts, defining a topic, writing general objectives related to the disease state, identifying faculty who could address the topic, planning and implementing the logistics of the program, generating an audience, and evaluating the satisfaction of the learners. The purpose of conducting a thorough and clinically relevant needs assessment is to use the needs

⁴ Mays N and Pope C (2000) Qualitative research in healthcare: Assessing quality in qualitative research. *BMJ* 320: 50-52.

assessment data in an effective educational planning process that leads to competency-based performance improvements for clinicians, or improvements in health literacy for patients.



Specific attention must be paid to what is clinically relevant to the daily practice or lives of those in the target audience as identified in the needs assessment, and what patient, practice, and systems barriers the learner might encounter. Designing educational activities to facilitate self-efficacy/confidence on the part of the clinician or patient in overcoming barriers is likely to enhance the overall effectiveness of the activity in contributing to improvements in patient health. Furthermore, needs assessment data can be used as a baseline assessment measure in evaluating the impact of the activity. A follow-up assessment of learners after they have participated in the activity can be used to compare responses to the baseline assessment and demonstrate differences or improvements associated with participation in the educational activity.

Needs assessment data can be used as a baseline measure in evaluating the impact of the activity.

****CONTINUING EDUCATION FOR HEALTHCARE PROVIDERS****

What factors should be considered when conducting an educational needs assessment for healthcare providers?

- 1) Formulate objectives for the study: What are you trying to learn? What are your hypotheses?
- 2) Decide on a target audience and sample: Where will your education be targeted? Whose needs are you measuring? How will you find a representative sample of your audience?
- 3) Gathering and aggregation of data: How will you collect data? What techniques will you use?
- 4) Analysis: How will you analyze your data? Can you compare it to anything?
- 5) What next? How will you distribute the information that you collected? How will the data you collect influence decision-making?

How does an educational provider gather primary data to make informed needs assessments?

In order to conduct a national needs assessment for healthcare providers, you must be comfortable in obtaining your own primary data. To begin any needs assessment, you must first develop a hypothesis about your targeted population. For example, if you are proposing to create education on increasing physician awareness of HIV practice guidelines, you may first hypothesize that the national physician population has limited awareness of these guidelines. To prove your hypothesis, you then develop a survey polling physicians on their awareness and knowledge of guidelines. This survey is emailed to members of your particular organization. Over the next few weeks you receive the responses and aggregate the results to find mean levels of awareness throughout the United States. But can you be assured that any of this has any meaning? How do you collect primary data to make informed assessments of need?

What can you measure?

The following is a sample of potential types of information that can be gathered in a needs assessment, followed by an example of a potential question.

| | |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Attitudes/Perceptions | <i>Do infectious disease specialists agree with the most recent guidelines on managing HIV?</i> |
| Barriers | <i>What are the barriers that rural providers face when managing patients with HIV?</i> |
| Confidence | <i>Are primary care physicians confident in their ability to manage patients with HIV?</i> |
| Knowledge | <i>What do physicians know about the mechanism of action of HAART therapies?</i> |
| Use of medications | <i>What initial treatment choice would a physician use in managing an HIV patient with a history of cardiovascular disease?</i> |
| Prevalence of medical conditions | <i>How often do clinicians see patients with opportunistic infections in their practice?</i> |
| Performance | <i>How closely do infectious disease specialists follow the AMA PCPI measures for optimal treatment of HIV patients with Type II diabetes?</i> |

What are some examples of clinician assessments?

| ASSESSMENT TYPE | PROS | CONS |
|----------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Case-vignette surveys | Can measure process of care; Cost-effective; Can easily control for co-variation | Not appropriate for assessing all issues |
| Interviews | Can provide rich data and insight into the clinical thinking process | Difficult to discern expertise of participant; Time-consuming |
| Chart/electronic medical record audits | Rich qualitative, as well as quantitative objective data | Concerns regarding HIPAA regulations; May not reflect national trends |
| Standardized patients | Valid and reliable data; Can be used for a variety of clinical areas | Expensive; Logistics can be hard to implement |
| Claims database | Able to accurately show physician prescribing patterns | Expensive; HIPAA concerns; May not relate or correlate to actual practice gaps |
| Member questionnaire | Easy to implement; Cost-effective; Quick quantitative data | Possible selection bias; Difficult to develop useful questions that show need |

How do I measure and analyze these types of needs assessments?

Quantitative techniques: The main reason for using quantitative techniques is that you can collect more data quickly, generalize findings to a larger population, and relate or segment the data.

- What percentage of respondents answered a particular way versus another?
- If you are comparing two different groups, such as PCPs vs. specialists, you can use statistics to determine if there is a difference between the responses within a certain margin of error.
- You can divide your data in many ways to look for differences within the same group. For instance, if your sample includes physicians that have academic appointments, you can determine whether affiliation with academia alters how they respond to certain questions.
- Other subanalyses that may be interesting include how long they have been practicing medicine, type of practice they are associated with, and regionality.

Qualitative techniques: Qualitative assessments are in some ways more time consuming, but, again, this fact does not make them a less valuable tool for assessing need. Individual responses can be categorized, grouped, and tabulated in order to gain insight into what particular topics came up most often.

The richness of qualitative data, however, may be best represented by quotes, used in lieu of or alongside supporting quantitative data.

****EDUCATION FOR PATIENTS AND OTHER NON-CLINICIANS****

What factors should be considered when conducting an educational needs assessment for patients?

- 1) Formulate objectives for the study: What do you want to know about patient health?
- 2) Decide on a target audience and sample: Where will your education be targeted? Whose needs are you measuring? How will you find a representative sample of your audience?
- 3) Gathering and aggregation of data: How will you collect data? What techniques will you use?
- 4) Analysis: How will you analyze your data? Can you compare it to anything?
- 5) What next? How will you distribute the information that you collected? How will the data you collect influence your educational programs?

How does an educational provider gather primary data to make informed needs assessments?

In order to conduct a needs assessment for a patient population, you must be comfortable in obtaining your own primary data. To begin any needs assessment, you must first develop a hypothesis about your targeted population. For example, if you are proposing to create education on increasing patient awareness of CD4 and viral load counts, you may first hypothesize that HIV patients have limited awareness of the importance of tracking their lab values. To prove your hypothesis, you then develop a survey polling HIV patients on their awareness and knowledge of the importance of knowing their lab values. This survey is emailed to members of your particular organization (or a representative sample of HIV patients within your local community). Over the next few weeks you receive the responses, and aggregate the results to understand the average level of awareness. But can you be assured that any of this has any meaning? How do you collect primary data to make informed assessments of need?

What can you measure?

The following is a sample of potential types of information that can be gathered in a needs assessment, followed by an example of a potential question.

| | |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Attitudes/Perceptions | <i>Do HIV patients prefer certain types of healthcare providers or settings over others?</i> |
| Barriers | <i>What are the barriers that HIV patients face when managing their condition?</i> |
| Confidence | <i>Are HIV patients confident that they are up-to-date with currently available treatments?</i> |
| Knowledge | <i>What do HIV patients know about the importance of tracking their lab values?</i> |
| Use of medications | <i>What medications are HIV patients commonly prescribed for initial therapy?</i> |
| Prevalence of medical conditions | <i>How common is HIV in the South?</i> |
| Performance | <i>How closely do patients adhere to the pharmaceutical and lifestyle recommendations given to them by clinicians?</i> |

What are examples of patient assessments?

| ASSESSMENT TYPE | PROS | CONS |
|-------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Patient survey/ member questionnaire | Easy to implement; Cost-effective; Quick quantitative data | Possible selection bias; Difficult to develop useful questions that show need |
| Interviews | Can provide rich data and insight into the clinical thinking process | Time-consuming for interviewer; Need large sample to eliminate personal preferences |
| Chart/electronic medical record audits | Rich qualitative, as well as quantitative objective data | Concerns regarding HIPAA regulations; May not reflect national trends |
| Claims database | Able to accurately show patient medication adherence | Expensive; HIPAA concerns; May not relate or correlate to actual practice gaps |

How do I measure and analyze these types of needs assessments?

Quantitative techniques: The main reason for using quantitative techniques is that you can collect more data quickly, generalize findings to a larger population, and relate or segment the data.

- What percentage of respondents answered a particular way versus another?
- If you are comparing two different groups, such as patients in region of the US versus another, you can use statistics to determine if there is a difference between the responses within a certain margin of error.
- You can divide your data in many ways to look for differences within the same group. For instance, if your sample includes patients with varying levels of education, you can determine whether the level of education alters how they respond to certain questions.
- Other subanalyses that may be interesting include demographics (age, race, gender) or length of time living with HIV.

Qualitative techniques: Qualitative assessments are in some ways more time consuming, but, again, this fact does not make them a less valuable tool for assessing need. Individual responses can be categorized, grouped, and tabulated in order to gain insight into what particular topics came up most often. For instance, you could ask patients what, in particular, they look for when choosing HIV education content.

The richness of qualitative data, however, may be best represented by quotes, used in lieu of or alongside supporting quantitative data.