CHAPTER 16:

EXPLORING DIFFERENT KINDS OF EVIDENCE

FOR REFLECTION

What kinds of evidence might influence you to use motivational approaches with your patients?

OVERVIEW

What evidence is there that motivational approaches help patients change their unhealthy behaviors? This question raises an issue about the kinds of evidence that influence what you do with your patients. Proponents of evidence-based medicine (EBM) use the highest quality of evidence derived from a hierarchy of quantitative research methods.[1] Your critical appraisal skills can help you select the best possible quantitative evidence for clinical intervention.[2]

However, an exclusive reliance on EBM guidelines can put practitioners into a "chemical straightjacket" because scientific rationality does not help most patients change their unhealthy behaviors. In addition, the left-brain, analytical approach can prevent practitioners from improvising (right-brain creative approach) in how to best use innovative methods for working with patients over time.

Qualitative research and continuous improvement methods provide insights in how to use innovative approaches to behavior change in your daily practice. An interdisciplinary, "whole-brain" approach, using quantitative, qualitative and continuous improvement methods, can help you develop, refine, and/or enhance the potency of interventions to help patients change their risk behaviors throughout their lives. Exploring different kinds of evidence may influence your decision whether to use motivational approaches with patients.

EXPLORING DIFFERENT KINDS OF EVIDENCE

Quantitative, qualitative, experimental research, and continuous improvement methods all provide different kinds of evidence for justifying whether to intervene in promoting health behavior change. Exploring these four perspectives can prepare you to reflect about the following questions.

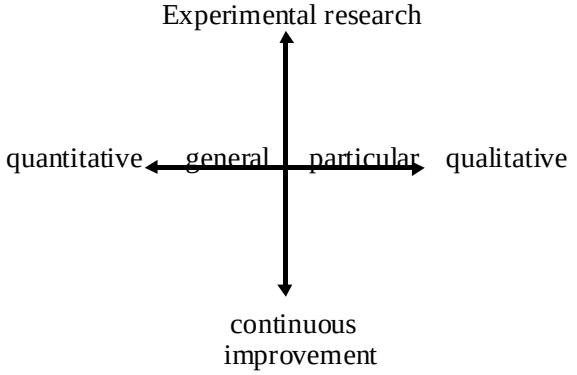
- *"Will motivational approaches help to reduce my frustration and enhance my satisfaction in working with resistant patients?"*
- *"Will these approaches help my patients change their risk behaviors?"*

If you practice using motivational approaches with your patients, your first-hand experience will provide you with a qualitatively different kind of evidence that may help you to answer these two questions more successfully than if you rely solely on evidence-based guidelines derived from randomized control trials (RCTs). To date, no RCT has addressed the first question. The current limitations of using only experimental, quantitative evidence (efficacy and effectiveness research studies) are described to highlight the need for using qualitative and continuous improvement methods to address health behavior change. Although this is a new area of research in medical care, there is emerging evidence that motivational approaches work. You can decide this question for yourself.

DIFFERENT KINDS OF EVIDENCE

Brief comparisons of the key concepts of these four kinds of evidence will orient you to the framework for exploring different perspectives on them (see Figure 16.1). More detailed descriptions of three of these concepts are provided later in this chapter.

Figure 16.1: Framework for Exploring Different Kinds of Evidence



Experimental research versus continuous improvement methods reflects the difference between ivory tower research versus real-world practice—RCTs in academic settings versus continuous improvement cycles in health care organizations, for example. RCTs are an example of experimental research that involves comparing interventions (an intervention versus a placebo or no intervention) on two groups. More specifically, efficacy and effectiveness trials determine whether an intervention works in ideal situations and in practice settings respectively. Such research produces hard evidence that interventions work, without considering whether or how these interventions can produce positive results longitudinally over time, with a full range of practitioners and practices.

Continuous improvement methods help to produce the best possible results in diverse, real-world practice. These methods produce positive results at an individual, group and/or organization level by testing the impact of multiple interventions, without necessarily having a control group as in experimental research. Data about key process and outcome measures are gathered and used to modify and improve the interventions on an ongoing basis in order to maximize the prospects of positive results. These "rapid cycle" improvement methods do not produce the same quality of hard evidence that one finds using RCTs, but they can produce positive results in practice.

Quantitative versus qualitative methods reflect the difference between measuring objective characteristics versus understanding the subjective experience of individuals and groups. For example, quantitative methods can assess the extent to which specific interventions had an impact on changing patients' risk behaviors with different socioeconomic and ethnic characteristics. In contrast, qualitative methods can be used to help understand different kind of issues: why behavioral interventions worked (the inner impact on patients), why risk behaviors are higher in lower-income groups, why the rates of risk behaviors vary with different demographic variables (age, sex, socioeconomic status, and ethnicity), and why organizations produce different outcomes. Both quantitative and qualitative approaches can be used synergistically to understand health behavior change issues.

The **general versus particular dimension** reflects a polarity between what will work for the average person or organization versus what will work best for a particular person or organization. Quantitative evidence from RCTs is useful for justifying what will work for the average patient based on the inclusion criteria of the trial. Most RCTs on drug effectiveness use one dose or a fixed range of doses: in other words, what specific dose works for the average patient. But in clinical practice, you have to address the particular needs of individual patients;[3] "one size does not fit all." Furthermore, with health behavior change, you not only can individualize interventions, but you also change them to meet patients' needs over time.

A. Quantitative Research

Quantitative research methods have taken precedent in health care and given rise to evidence-based medicine (EBM), which is taking center stage. To make rational decisions about health,[4] proponents of EBM advocate that you use:

- The best available evidence
- Clinical judgment
- Patient preferences

There are sophisticated guidelines for assessing the quality of the evidence, which can help you develop your critical appraisal skills for determining the best possible evidence, while experimental methods provide justification for using interventions with patients.[2;5;6] The evidence derived from quantitative research studies is listed in a descending order of quality to justify clinical action:

Experimental research

1. Randomized controlled trials (RCTs)
2. Meta-analyses
3. Before/after trials

Nonexperimental research

4. Cohort studies
5. Case control studies
6. Case series/reports

Whenever possible, you should use the highest level of research evidence to provide the best patient care.[6] RCTs, most of which use the health information and advice approach to behavior change, provide the highest quality of quantitative evidence. Confounding variables and different kinds of biases are more likely to distort the quality of the evidence as you descend the hierarchy of methods.[7] When suitable RCTs or systematic reviews are not available, you should seek out the next best available evidence.

RCTs provide evidence for using interventions to address risk behaviors and classify such interventions into three categories of effectiveness: proven, unproven, and disproved.[8] These classifications can help you decide to use effective interventions, and to stop using interventions that are inferior with regard to effectiveness, time efficiency, or cost.[9] Thus, the results of quantitative research can be used to justify using the best evidence-based program and to change programs that have proven to be ineffective. However, unproven interventions are not necessarily ineffective (disproved).[10] The decision to use unproven interventions is often a pragmatic issue of balancing potential benefits versus costs.

The current limitations of using experimental, quantitative research to address behavior change issues are summarized in Table 16.1.

Table 16.1: Limitations of Current Quantitative Research
1. Funding greater for experimental than for practical research
2. Decontextualized approach
3. Limitations of applying efficacy studies to clinical practice
4. Meta-analyses homogenize interventions and aggregate results
5. Lack of guidance in using clinical judgment—hard vs. soft data
6. Predominant use of fix-it interventions
7. Single use of interventions
8. Standardized use of interventions
9. Lack of organizational studies
10. Lack of comprehensive behavior change programs

Let's return to the example of tobacco use to highlight some specific limitations of relying solely on evidence derived from experimental, quantitative methods. Evidence-based guidelines cannot help you when proven interventions do not work. For example, the Agency for Health Care Research and Quality (AHRQ) guideline predominantly focuses on providing health education and advice to adult smokers, yet the majority of patients do not quit smoking in response to the guideline.[11] Furthermore, the guideline did not address adolescent smoking because of a lack of effective interventions. This omission is significant, given that adolescent smoking has increased at a time when adult smoking has decreased.[12]

The absence of proven interventions for helping adolescents quit smoking (secondary prevention) contributes toward a minimalist approach or, worse yet, inaction. But what if smoking were a slow virus (such as the AIDS virus) that killed off youth prematurely? How would the medical industrial complex respond? The absence of effective interventions for a disease is a challenge for action. Companies and academic institutions would devote huge resources to address this challenge. Why do we not devote the same level of research dedication and resources to develop more potent behavioral interventions for addressing the epidemic of adolescent smoking? In effect, we have a double standard when it comes to addressing medical and behavioral epidemics.

In the United States, the DARE program (primary prevention) was created to address drug, alcohol and smoking use among children. This program is a national school-based program that is delivered to children (usually age 10-13) by police officers, with support from schoolteachers. It attempts to build the self-esteem of children and provides health information and skill-refusal training. Yet several studies about this

multimillion-dollar program showed that it has had no effect on changing behavior in adolescents.[13-15] This program continues largely unchanged despite these discouraging results. Such evidence is useful in discouraging ineffective interventions. Now, let's return to the limitations described in Table 16.1.

1. Funding greater for experimental than for practical research

Funding predominantly supports the study of diseases over risk behaviors, and of experimental research (efficacy and effectiveness RCT studies) over practical research to assess the impact of comprehensive behavior change programs (implementation and feasibility studies in real world practice).[16;17] Yet a brief overview of these studies reveals the implementation gap between the world of experimental research and real-world practice.

a. Experimental Research

Efficacy studies are RCTs that assess the impact of interventions versus controls on patients in ideal conditions. These studies help to clarify whether an intervention works in the best of conditions. In contrast, effectiveness studies are RCTs that assess the impact of interventions on patients in typical conditions. The findings from such studies have limited generalizability to practitioners and patients in the community at large, because researchers recruit motivated and interested practitioners and patients to participate in these studies. Furthermore, the recruited practitioners are provided with additional support, beyond what is usually available in their practice, to carry out the study. These studies do not adequately address how practitioners in the community at large can implement these interventions in their daily work. Regrettably, most articles on such efficacy and effectiveness studies do not adequately describe behavioral interventions in ways that you can easily replicate and use in your clinical practice. This immediately creates a barrier to implementing proven interventions.

b. Practical Research

Implementation studies train large numbers of practitioners to assess whether and how they can use interventions in their daily work with patients.[18] These studies address how practitioners can use interventions routinely over time, not just with a limited number of patients in well-supported efficacy and effectiveness studies over a one-year period. Practitioners can further modify these methods to suit their individual circumstances and needs.

Feasibility studies take the process of dissemination one step further by introducing behavior change programs widely throughout all health care organizations. The lessons learned from implementation studies help to design strategies that maintain and enhance these programs over time.

2. Decontextualized approach

In drug studies, RCTs compare one drug versus another drug or placebo in treating two groups of patients. In such studies, it is appropriate to proceed in a hierarchical or top-down approach from experimental to practical research, and to use a reductionist approach for addressing drug treatments of diseases, in isolation from the context in which they occur. In other words, decontextualized, single-intervention methods are appropriate for such types of research about diseases. However, there are three major reasons why this approach has many limitations in addressing health behavior change:

- Many psychological and social factors affect patients' risk behavior, but these are often not part of such studies.
- Patients need multifaceted, individualized interventions to address the complex issue of behavior change in order to meet their changing needs over time. However, many RCTs on health behavior change do not take full advantage of using multifaceted interventions. Even when they do, they cannot inform you about which combination of interventions will work for your individual patient.
- Health care settings need to change in order to deliver multifaceted interventions systematically in a proactive and population-based way.

For these reasons, research about health behavior change needs to address both patient and organizational change issues.

RCTs often address only a few aspects of a much larger clinical challenge, particularly when addressing multiple-risk behaviors in association with a chronic disease.[19] For example, diabetes calls on patients to make multiple changes in their behaviors, but a single RCT cannot inform you how to develop such a chronic disease management program for diabetes. It is also a complex task to integrate multiple sources of evidence from RCTs in order to develop clinical guidelines and pathways for such programs.[20-25] Systematic reviews, however, can assist in developing these guidelines and pathways to address different aspects of managing a chronic disease.[26-28] Given that this is a new development in health care, the results of using such guidelines are mixed,[29-31] but some of these guidelines have had a beneficial impact.[32]

In effect, the majority of RCTs on behavior change fail to adopt and assess the impact of taking a systems and individualized approach to developing comprehensive behavior change programs. Decontextualized research studies provide limited guidance on how to develop such programs, yet we need to understand the psychosocial contexts that shape how patients develop their unhealthy behaviors if we are to successfully change them.

3. Limitations of applying efficacy/effectiveness studies to clinical practice

As mentioned earlier, the generalizability of the results from efficacy/effectiveness studies is limited in terms of how to use proven interventions in your clinical practice for

several reasons. First, these studies were conducted with a level of support that is often not available in routine practice. Second, practitioners who volunteer to participate in such studies are not always typical of practitioners in the community at large. Third, patients who participate in these studies are also not typical of the population at large. A number of factors contribute to selection bias and attrition rates in these trials that limit the generalizability of these results.

However, you can still use the best available evidence from efficacy and effectiveness studies as your first step in helping patients change. It is important to understand some additional limitations of using such scientific evidence. It offers little guidance in how you can use your clinical judgment and accommodate patient preferences, particularly when patients make so-called irrational decisions about their health behaviors. As described in Chapter 1, evidence based on scientific rationality is no match for human irrationality. Furthermore, these studies provide no guidance in how health care organizations can develop and improve behavior change programs over time.

4. Meta-analyses homogenize interventions and aggregate results

The conclusions of meta-analyses are based on aggregate results to determine the mean performance of interventions. This is an appropriate strategy for drug studies when the interventions are the same or similar. However, behavior interventions are delivered in a very variable manner, between and even within studies. Meta-analyses homogenize behavioral interventions as though they were all the same, when clearly this is not the case. Thus, a significant limitation of meta-analyses that assess behavioral interventions is that they do not differentiate between best and worst practices. In clinical practice, you would not settle for the mean performance.

The authors of a recent meta-analysis on lifestyle behavior concluded that there is little evidence for general practitioners to intervene in helping patients change their lifestyle behaviors, and that public health resources should not be directed toward such initiatives. However, their conclusions do not take into consideration the limitations of meta-analyses. Furthermore, their pessimism is also understandable in situations where general practitioners work in isolation with the minimal support of a health care team, and with an inadequate infrastructure that would enable them to work in a population-based manner. An alternative commentary about the data provided in this meta-analysis might read:

The impact of general practitioners using brief-advice interventions to help patients change their health behaviors is small. For this reason, research is needed to clarify which interventions are most effective for individual patients and to develop even more effective interventions. Health care teams need to learn how to use the best interventions by identifying studies with the highest success rates. Furthermore, we need to understand why some practitioners are much more effective than others in delivering the similar interventions. More important, health care settings need to restructure their

organizations to support health care teams in developing comprehensive behavior change programs that use multifaceted interventions with a variety of delivery methods: telephone counseling, lay health counselors, group sessions, and school and work site programs. To have a population-based impact on the behavioral determinants of health, these teams need to deliver individualized interventions to patients and to use public health resources in ways that help them work in an organized and systematic manner over time, using continuous improvement methods.

5. Lack of guidance in using clinical judgment

Results from RCTs and systematic reviews refer to the average patient who meets the selection criteria for the trial. Psychosocial data (such as values and perceptions about health behavior change) are seldom measured and used in RCTs that address unhealthy behaviors. Thus, you have to rely on your clinical judgment about how best to use psychosocial data when making decisions with patients and adapting the results from the average patient to your individual patient.[10] With respect to a menu of interventions proven to be effective, practice guidelines cannot assist you in making clinical judgments about appropriate interventions for your individual patient. You are still left with the challenge of discovering which of the proven interventions will work for that patient.

Clinical judgment is a relatively unexplored territory of EBM. Critical appraisal provides guidelines in how to assess the quality of research evidence in order to justify the use of an intervention to address a particular health issue. However, it does not provide guidance in how you can best use your clinical judgment to apply hard evidence or soft (psychosocial) data to an individual patient. Furthermore, it does not provide guidelines for how to incorporate patient preferences into the decision-making process.[33] For example, many practitioners make clinical judgments that antibiotics are inappropriate for many respiratory tract infections. Yet, for a variety of reasons, they overprescribe antibiotics. Such practice runs counter to the evidence, to their clinical judgment, and may not even accommodate patients' preference. Sometimes, practitioners can act in irrational ways that counter the tenets of good clinical judgment.

6. Predominant use of fix-it interventions

Education and advice programs, such as those for smoking and alcohol, have been shown to persuade only a minority of patients to change their risk behaviors.[11;34-40] One reason for this limitation of the RCTs on risk behaviors is that they predominantly use fix-it approaches. However, you can deliver a variety of motivational interventions and individualize them for patients, rather than using the same advice message repeatedly. In other words, motivational approaches can help you work with the majority of patients who resist change.[41;42] The agency of change thus goes beyond practitioner monologue (education and advice) to practitioner-patient dialogue (motivational approaches).

7. Single use of interventions

With the exception of well-funded research, such as the MATCH project,[43] many RCTs usually assess patients only once and then provide a limited number of interventions and follow-ups. If you have contact with patients over time, you may have a significant advantage over RCTs because you have multiple opportunities to intervene with individual patients over time in health care settings. In this regard, the real world has several significant advantages over "hit-and-run," time-limited, experimental research studies.

8. Standardized use of interventions

Many RCTs require practitioners to deliver behavioral intervention (for example, quit-smoking advice programs) in a highly consistent manner. However, practitioners often do not strictly comply with training protocols in delivering such interventions. Thus, the unit of analysis (patient) may not receive the same prescribed behavioral intervention (even specific advice) in a highly consistent way. Such nonpurposeful variation in the delivery of the intervention is viewed as "noise" or "contamination."

Some researchers regard such deviance from training protocols as tantamount to administering a drug with varying degrees of purity, an unacceptable practice in drug-disease studies. However, purposeful variation in delivering behavioral interventions can have beneficial impacts on patients. This may explain why flexible practitioners, who are more in tune with patients' needs, are more effective than rigid research protocols.

9. Lack of organizational studies

A major limitation of most RCTs is that they predominantly focus on physicians or patients as the unit of analysis, as opposed to a health care team or organization. RCTs that use the individual as the unit of analysis cannot guide health care organizations in how to implement proven interventions practice-wide. This shortcoming can be overcome to some extent if RCTs compare interventions at an organizational rather than an individual level. However, only a limited number of organizational studies have been conducted in comparison to the vast number of RCTs focusing on patients. To enhance the impact of behavioral interventions, we need to expand beyond individualistic, case-finding approaches, and to focus on the health care team working in a population-based manner. In other words, the health care organization needs to become the unit of analysis for assessing the impact of behavioral change programs.

10. Lack of comprehensive behavior change programs

Clinical effectiveness refers to the performance of practitioners using proven interventions in their practice. Merely exposing practitioners to clinical guidelines and evidence-based recommendations, however, achieves only modest results in changing practice behaviors.[29;44;45] Knowledge about appropriate interventions is necessary but is not sufficient to change practitioner and organizational behavior. Practitioners need organizational supports to develop and implement comprehensive behavior change

programs. A very limited amount of research has assessed organizational implications and the population-based impact of improving comprehensive behavior change programs over 10 to 20 years.

11. Moving beyond the limitations

You need to consider several issues in selecting proven interventions: the quality of evidence for supporting their use, their degree of effectiveness, and the appropriateness of using a particular intervention for a particular patient. Obviously not all interventions for behavior change are the same, nor are they equally effective for addressing risk behaviors.[46]

Overall, as has been shown, proven interventions are of limited effectiveness in addressing risk behaviors. The majority of patients remain unchanged even after using them. Your greatest challenge occurs when proven interventions (based on RCTs and systematic reviews) fail to help these patients change their risk behaviors. To address this challenge, you have to move beyond the limitations of RCTs to learn how to motivate patients to change over time. You can use state-of-the-art approaches, qualitative research, anecdotal case reports, your own clinical experience, and the advice of experienced clinicians to learn how to help these patients change.[47] You can also apply continuous improvement methods to develop your skills at individualizing your interventions for patients.

B. Qualitative Research

Qualitative analysis of case reports can enhance practitioner understanding of the change process for patients in ways that quantitative methods cannot. For example, brief quit-smoking advice delivered by doctors may help 5% or more of smokers to quit, but quantitative methods do not inform you why 5% responded and why 95% did not. Qualitative studies can help you to better understand why patients do and do not respond to behavioral interventions (advice-giving, motivational, or any other approach).[48] Furthermore, individual practitioners vary in their success rates in using similar interventions. Qualitative research studies can help clarify some of the differences between high-performing and low-performing practitioners and enhance our understanding of how interventions work. Such studies are seldom part of RCTs.

Qualitative research uses a variety of methods (in-depth interviews, focus group, narrative analysis) to understand how individualized interventions work with a particular patient or how organizations work with a panel of patients.[49] Qualitative methods can help you understand how the content, process, meanings and significance of interventions promote individual change: for example, how practitioner-patient dialogues affect patients' perceptions and values about the risks and benefits of their unhealthy behaviors. However, while such dialogues can help you develop individualized interventions and help patients motivate themselves to change their risk behaviors, such understanding only

enhances your ability to work with patients, but you still have to discover how best to work with an individual patient.

Thus, qualitative methods help explain what is going on behind the numbers in RCT research and identify factors needing attention and improvement. For example, the large multisite COMMIT trial on smoking cessation found very limited evidence for the effectiveness of physician counseling. An ethnographic study of patients who had received the physician-delivered smoking cessation intervention described their physicians as taking two roles:[50]

- An interventionist, doctor-centered role that emphasized authoritative, biomedical features:
  "He really didn't say too much. He just asked if I wanted to quit. Then he wrote some things and gave me some sheets. All he says when you go in is: 'How much are you smoking? When are you going to quit?' That is all he ever says."
- A personalized, patient-centered role, where physicians were seen more as equals, supportive, and empowering:
  "When a doctor who is a professional and has his own life, his own family, will actually come out and say, 'I'm going to help you quit smoking,' you kind of think, wow! Moral support, I mean, he's not pushing me. I've got to come halfway, and the doctor is going to come halfway."

From the patient's perspective, the personalized component of the physician intervention was most helpful. Moreover, patients noted the pressures and restrictions placed upon physicians, which limited their ability to intervene:

> *"It was a pretty brief visit. We didn't really talk about that much."*
> *"With the caseloads they've got nowadays, they're just too damn busy. If you didn't really want to quit, I don't think they're going to help much."*

A purely qualitative study (in-depth interviews of 21 forty-year-old men) drew the following conclusions about the cues to action in terms of changing at-risk behaviors: [51]

> *Health behavior determinants seem to be knowledge, attitude, confidence, social influence, experiences and possibilities for change. Individuals typically exhibit a wide range of these determinants, which makes it difficult to affect behavioral change through health education. Cues to action seem to arise from social influence, experiences, or underlying shifts in the possibilities of change. Experiences and social influence due to the health behavior in question seem to initiate changes in confidence, attitude and thereby motivation to change. Cues to action arising from these determinants are categorized as own illness or illness among friends and relatives, changes in self-perception, exceeded limits determined by the behavior in question, and social pressure. Shifts in the possibilities for change, such as change of partner or other life events, produce changes also affecting health behavior. A strategy to initiate changes in*

health behavior could be to create cues to action through personal experiences in the context of a specific health behavior or to establish contact with people when they are experiencing new life circumstances.

Qualitative methods complement and address some of the limitations of quantitative methods, and vice versa. Qualitative methods can help you understand why some practitioners have higher success rates in using motivational approaches and which interventions work best for individual patients. However, their conclusions about why practitioners and interventions vary in their success rates are open to a number of biases that are less likely to occur in the conclusions derived from quantitative methods.

C. Continuous Improvement Methods

RCTs provide one kind of foundation for identifying effective behavioral interventions.[52] What do you do when proven interventions identified from RCTs do not work? For example, RCTs encourage a health information and advice approach to behavior change that is suitable only for the approximately 5-20% of patients who are ready for change (see Chapter 1 for references). Do you give up on helping those other patients change their risk behaviors? How do you work when you are at or beyond the limits of the experimental evidence previously described?

Behavioral research often involves using multifaceted and complex interventions. Drug and behavioral research studies have many differences that create challenges in how to interpret and apply the results from behavioral RCTs. Unlike drug studies (RCTs) that provide fixed doses to the intervention group, behavioral interventions work better if practitioners purposefully vary how they deliver interventions to meet individual patients' needs. Thus, the results from behavioral RCTs cannot tell you how to deliver interventions to the "average patient" if the interventions were delivered in a highly individualized manner.

The task of evaluating the impact of continuous improvement is much more complex than evaluating a single intervention in an RCT, particularly when continuous improvement methods are used to refine multimodal interventions in an ongoing manner. Yet continuous improvement can overcome some limitations of experimental, research methods by involving you, your colleagues, and your patients in a collaboration to address behavior change at an organizational and individual level. First, you are not controlled by the research design. Second, you can select from a variety of proven interventions to use with organizations and patients. Third, when proven interventions fail, you can experiment, using a variety of good ideas and untested or unproven interventions, with organizations and patients over time. To actively involve your colleagues and patients in the change process of organizational and individual change, you can:

- Negotiate with them about which interventions seem most suitable
- Ask them what they think about how well these interventions are helping them
- Adjust or change interventions appropriately to suit their ongoing needs

The use of these interventions is often a pragmatic issue of balancing potential benefits versus costs.

Use a four-step process to address change for lifelong learning, and the P.A.R.E (**p**repare-**a**ct-**r**eflect-**e**nhance) cycle for improving your skills at motivating change in patients. These methods are described in more detail in the companion Book 2: *Beyond Advice: Developing Motivational Skills*. In both cases, a common process underlies each cycle for improvement. First, think about what and how you want to change something. Second, implement an attempt at change. Third, assess whether it worked or not. Fourth, learn from your experience, and improve on what you did. These methods can help you get good results without generating hard experimental evidence.

In contrast, experimental research can generate hard evidence to justify interventions, but it does not guarantee good results in practice, even if you use proven interventions. An exclusive emphasis on using RCT evidence to justify using interventions can devalue your use of your professional acumen and experience. Exclusive reliance on hard evidence (based on RCTs) impedes the process of effectively integrating quantitative, qualitative, research, and continuous improvement methods to develop state-of-the-science and state-of-the-art behavior change programs.

NEED FOR AN INTEGRATED APPROACH

Evidence-based methods help to evaluate whether interventions are effective in RCTs, because the primary intent of such research is to produce hard evidence to justify clinical interventions. Such research, however, does not adequately address the practical issue of how to produce the best results in a population-based manner. Interdisciplinary, multimodal and continuous improvement methods are more likely to enhance the prospects of reducing the incidence and prevalence of risk behaviors because their primary intent is to produce better results rather than hard evidence.

To address risk behaviors in a population-based manner, there is a need to integrate quantitative and qualitative research, and continuous improvement perspectives on evidence-based change. David Hunt has written an insightful book, *Beginning with Ourselves*, for practitioners, theorists, and researchers, where he argues that every practitioner is a psychologist in the broad sense, with a wealth of knowledge from a lifetime of personal experience.[53] This experiential knowledge (Hunt terms this Inside-Out) can provide a powerful complement to our formal education, which traditionally relies more heavily on expert knowledge and empirical research (Outside-In). With this

knowledge, practitioners can identify their own learning (practice) style as well as the different learning styles of patients, clients, or students. According to Hunt, the value of "beginning with ourselves" is threefold:

- Your practice style (interviewing, advising, counseling) is closely related to your preferred learning style.
- Awareness of your practice style helps you become aware of different learning styles and the needs of your patients.
- Understanding the strengths and limitations of your own practice style helps you shift and match your approach to meet the needs of different patients.

The value of using inside-out knowledge was captured in the story of Dr. W. in Chapter 1. In spite of being trained in the fix-it role, Dr. W. used his experiences and "inner wisdom" to change his role in working with patients.[54] By doing so, he reduced the risk of professional burnout and renewed his personal energy. The risk of burnout increases when practitioners rigidly adopt fix-it roles in dealing with risk behaviors and disregard their inner wisdom.

In addition to using evidence-based approaches (outside-in knowledge), we need to continuously learn from our experiences (inside-out knowledge) on how to improve our ability to address complex behavioral issues. The challenge of addressing risk behaviors in a population-based manner is learning how to use both quantitative and qualitative research, and continuous improvement methods in a synergistic, ecological manner. Depending on the circumstances, one method may be better than the other. Invariably, a blend of these methods is needed.

Reflect and Enhance:
In what ways have you increased your understanding about evidence to change? Based on your new learning, think about how you can improve your interactions with your patients.

MOVING ON

This chapter addressed different perspectives on evidence to justify changing your behavior and your practice setting. Your perspective will shape whether and how you apply quantitative and qualitative research and/or continuous improvement methods to reduce risk behaviors in the population.

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