PRACTITIONER’S GUIDE TO USING RESEARCH FOR EVIDENCE-INFORMED PRACTICE
PRACTITIONER’S GUIDE TO USING RESEARCH FOR EVIDENCE-INFORMED PRACTICE

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and

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# CONTENTS

Preface xi  
Acknowledgements xv  
About the Authors xvii  
About the Companion Website xix  

Part 1 Overview of Evidence-Informed Practice  

## 1 Introduction to Evidence-Informed Practice (EIP)  2

1.1 Emergence of EIP  4  
1.2 Defining EIP  4  
1.3 Types of EIP Questions  5  
1.4 EIP Practice Regarding Policy and Social Justice  13  
1.5 EIP and Black Lives Matter  13  
1.6 Developing an EIP Practice Process Outlook  14  
1.7 EIP as a Client-Centered, Compassionate Means, Not an End unto Itself  16  
1.8 EIP and Professional Ethics  17  

Key Chapter Concepts  18  
Review Exercises  19  
Additional Readings  19  

## 2 Steps in the EIP Process  21

2.1 Step 1: Question Formulation  22  
2.2 Step 2: Evidence Search  22  
2.3 Step 3: Critically Appraising Studies and Reviews  29  
2.4 Step 4: Selecting and Implementing the Intervention  30  
2.5 Step 5: Monitor Client Progress  33  
2.6 Feasibility Constraints  33  
2.7 But What about the Dodo Bird Verdict?  36  

Key Chapter Concepts  38  
Review Exercises  39  
Additional Readings  39
### Research Hierarchies: Which Types of Research Are Best for Which Questions?  40

- **3.1 More than One Type of Hierarchy for More than One Type of EIP Question**  41
- **3.2 Qualitative and Quantitative Studies**  42
- **3.3 Which Types of Research Designs Apply to Which Types of EIP Questions?**  43
  - Key Chapter Concepts  52
  - Review Exercises  53
  - Additional Readings  53

### Part 2 Critically Appraising Studies for EIP Questions about Intervention Effectiveness

### Criteria for Inferring Effectiveness: How Do We Know What Works?  56

- **4.1 Internal Validity**  57
- **4.2 Measurement Issues**  62
- **4.3 Statistical Chance**  65
- **4.4 External Validity**  66
- **4.5 Synopses of Fictitious Research Studies**  67
  - Key Chapter Concepts  71
  - Review Exercises  72
  - Exercise for Critically Appraising Published Articles  73
  - Additional Readings  73

### Critically Appraising Experiments  74

- **5.1 Classic Pretest-Posttest Control Group Design**  75
- **5.2 Posttest-Only Control Group Design**  76
- **5.3 Solomon Four-Group Design**  77
- **5.4 Alternative Treatment Designs**  78
- **5.5 Dismantling Designs**  79
- **5.6 Placebo Control Group Designs**  80
- **5.7 Experimental Demand and Experimenter Expectancies**  82
- **5.8 Obtrusive Versus Unobtrusive Observation**  83
- **5.9 Compensatory Equalization and Compensatory Rivalry**  83
- **5.10 Resentful Demoralization**  84
- **5.11 Treatment Diffusion**  84
- **5.12 Treatment Fidelity**  85
- **5.13 Practitioner Equivalence**  85
- **5.14 Differential Attrition**  86
- **5.15 Synopses of Research Studies**  88
  - Key Chapter Concepts  91
Contents

Review Exercises  92
Exercise for Critically Appraising Published Articles  92
Additional Readings  93

6  CRITICALLY APPRAISING QUASI-EXPERIMENTS: NONEQUIVALENT COMPARISON GROUPS DESIGNS  94

6.1 Nonequivalent Comparison Groups Designs  95
6.2 Additional Logical Arrangements to Control for Potential Selectivity Biases  97
6.3 Statistical Controls for Potential Selectivity Biases  101
6.4 Creating Matched Comparison Groups Using Propensity Score Matching  105
6.5 Pilot Studies  108
6.6 Synopses of Research Studies  110
Key Chapter Concepts  113
Review Exercises  114
Exercise for Critically Appraising Published Articles  114
Additional Readings  114

7  CRITICALLY APPRAISING QUASI-EXPERIMENTS: TIME-SERIES DESIGNS AND SINGLE-CASE DESIGNS  115

7.1 Simple Time-Series Designs  116
7.2 Multiple Time-Series Designs  118
7.3 Single-Case Designs  119
7.4 Synopses of Research Studies  125
Key Chapter Concepts  129
Review Exercises  130
Exercise for Critically Appraising Published Articles  131
Additional Reading  131

8  CRITICALLY APPRAISING SYSTEMATIC REVIEWS AND META-ANALYSES  132

8.1 Advantages of Systematic Reviews and Meta-Analyses  133
8.2 Risks in Relying Exclusively on Systematic Reviews and Meta-Analyses  135
8.3 Where to Start  135
8.4 What to Look for When Critically Appraising Systematic Reviews  135
8.5 What Distinguishes a Systematic Review from Other Types of Reviews?  142
8.6 What to Look for When Critically Appraising Meta-Analyses  143
8.7 Synopses of Research Studies  152
Key Chapter Concepts  155
Review Exercises  156
## Part 3 Critically Appraising Studies for Alternative EIP Questions

### 9 Critically Appraising Nonexperimental Quantitative Studies

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1</td>
<td>Surveys</td>
<td>161</td>
</tr>
<tr>
<td>9.2</td>
<td>Cross-Sectional and Longitudinal Studies</td>
<td>169</td>
</tr>
<tr>
<td>9.3</td>
<td>Case-Control Studies</td>
<td>171</td>
</tr>
<tr>
<td>9.4</td>
<td>Synopses of Research Studies</td>
<td>172</td>
</tr>
</tbody>
</table>

- **Key Chapter Concepts**
  - Review Exercises 179
  - Exercise for Critically Appraising Published Articles 179
  - Additional Readings 179

### 10 Critically Appraising Qualitative Studies

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1</td>
<td>Qualitative Observation</td>
<td>182</td>
</tr>
<tr>
<td>10.2</td>
<td>Qualitative Interviewing</td>
<td>183</td>
</tr>
<tr>
<td>10.3</td>
<td>Other Qualitative Methodologies</td>
<td>186</td>
</tr>
<tr>
<td>10.4</td>
<td>Qualitative Sampling</td>
<td>186</td>
</tr>
<tr>
<td>10.5</td>
<td>Grounded Theory</td>
<td>187</td>
</tr>
<tr>
<td>10.6</td>
<td>Alternatives to Grounded Theory</td>
<td>188</td>
</tr>
<tr>
<td>10.7</td>
<td>Frameworks for Appraising Qualitative Studies</td>
<td>189</td>
</tr>
<tr>
<td>10.8</td>
<td>Mixed Model and Mixed Methods Studies</td>
<td>193</td>
</tr>
<tr>
<td>10.9</td>
<td>Synopses of Research Studies</td>
<td>193</td>
</tr>
</tbody>
</table>

- **Key Chapter Concepts**
  - Review Exercises 200
  - Exercise for Critically Appraising Published Articles 201
  - Additional Readings 201

## Part 4 Assessment and Monitoring in Evidence-Informed Practice

### 11 Critically Appraising, Selecting, and Constructing Assessment Instruments

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.1</td>
<td>Reliability</td>
<td>205</td>
</tr>
<tr>
<td>11.2</td>
<td>Validity</td>
<td>208</td>
</tr>
<tr>
<td>11.3</td>
<td>Feasibility</td>
<td>214</td>
</tr>
<tr>
<td>11.4</td>
<td>Sample Characteristics</td>
<td>214</td>
</tr>
<tr>
<td>11.5</td>
<td>Locating Assessment Instruments</td>
<td>215</td>
</tr>
<tr>
<td>11.6</td>
<td>Constructing Assessment Instruments</td>
<td>216</td>
</tr>
</tbody>
</table>
Approximately a decade has elapsed since the second edition of this book was published. During that time there have been some important developments pertaining to evidence-informed practice (EIP). Those developments spurred us to write a new, third edition of our book. One such development was the preference to replace the term evidence-based practice (EBP) with the term EIP. We changed our title to conform to that change, and in Chapter 1, we explain why the latter term is preferred. The development of effective vaccines to fight the COVID-19 pandemic of 2020–2021 provided an example we could cite at the beginning of this book that we hope will help readers shed any ambivalence that they may have had about the relevance of research to helping people.

Another significant change is the growing commitment among social work and other human service practitioners to address social justice issues. Racial injustice, in particular, has become a key focus in our missions, especially in the aftermath of the recent police murders of innocent Black people. Consequently, we added a chapter that focuses exclusively on social justice and how to take an EIP approach to pursuing it. In fact, we have added attention to that issue in our first chapter, which now includes a section on Black Lives Matter and how President Barack Obama took an EIP approach when formulating his policy position regarding how to effectively reduce incidents of police misconduct and violence.

Yet another recent development has been the recognition of how rarely practitioners are able to evaluate their practice with designs that meet all of the criteria for causal inferences. Consequently, we have added much more attention to the degree of certainty needed when making practice decisions when evidence sufficiently supports the plausibility of causality to imply practice and policy decisions when some, but not all, of the criteria for inferring causality are met. In that connection, we have added content on the use of within-group effect-size benchmarks, which can be used to evaluate how adequately practitioners or agencies are implementing evidence-supported interventions.

**Organization and Special Features**

**Part I** contains three chapters that provide an overview of evidence-informed practice (EIP) that provide a backdrop for the rest of the book.

Chapter 1 introduces readers to the meaning of EIP, its history, types of EIP questions, and developing an EIP outlook. New material includes a section on research ethics and a section on EIP regarding social justice and Black Lives Matter.

Chapter 2 covers the steps in the EIP process, including new material on strategies for overcoming feasibility obstacles to engaging in the EIP process.

Chapter 3 delves into research hierarchies and philosophical objections to the traditional scientific method, including a critical look at how some recent politicians have preferred their own “alternative facts” to scientific facts that they did not like.
Part II contains five chapters on critically appraising studies that evaluate the effectiveness of interventions.

Chapter 4 covers criteria for making causal inferences, including material on internal validity, measurement issues, statistical chance, and external validity. Major new additions to this chapter include sections on inferring the plausibility of causality and the degree of certainty needed in making EIP decisions when ideal experimental outcome studies are not available or not feasible. To illustrate that content we have added two more study synopses to Chapter 4. Another significant change to this chapter was the removal of several pages on statistical significance, which we moved to a new, penultimate chapter on data analysis. We felt that the removed pages delved too far in the weeds of statistical significance for this early in the book, and thus might overwhelm readers.

Chapter 5 helps readers learn how to critically appraise experiments. We were happy with this chapter and made only some minor tweaks to it.

Chapter 6, on critically appraising quasi-experiments, also had few changes, the main one being more attention to the potential value of pilot studies regarding the plausibility of causality in regard to the degree of certainty needed in making practice decisions.

Chapter 7, on critically appraising time-series designs and single-case designs, has been tweaked in various ways that we think will enhance its value to readers. For example, we added several examples of time series studies to evaluate the impact of police reform policies aiming to reduce incidents of police violence.

Chapter 8 examines how to critically appraise systematic reviews and meta-analyses. The main changes in this chapter include increased coverage of odds ratios and risk ratios.

Part III contains two chapters on critically appraising studies for alternative EIP questions.

Chapter 9 does so regarding nonexperimental quantitative studies, including surveys, longitudinal studies, and case-control studies. A new addition to this chapter discusses how some survey results can have value even when based on nonprobability samples.

Chapter 10 describes qualitative research and frameworks to critically appraise qualitative studies. Additional details on qualitative methods as well as alternative frameworks to grounded theory has been added to this chapter.

Part IV contains two chapters on assessment and monitoring in EIP.

Chapter 11 covers critically appraising, selecting, and constructing assessment instruments. In our previous edition, this chapter looked only at appraising and selecting instruments. New in this edition is a section on constructing instruments.

Chapter 12 covers monitoring client progress. New in this edition is more attention to factors that impair the ability of practitioners in service-oriented settings to implement evidence-supported interventions with adequate fidelity and a new section on the use of within-group effect size benchmarks to evaluate that adequacy.

Part V contains two new chapters on additional aspects of EIP now fully covered in the previous sections.

Chapter 13 explains how to appraise and conduct data analysis in the EIP process. Some of the material in this chapter was moved from the previous edition’s Chapter 4. Other material appeared in an appendix on statistics in the previous edition. A major new section, which did not appear in our previous edition, shows how to calculate within-group effect sizes and compare them to benchmarks derived from meta-analyses of randomized clinical trials (RCTs) that can show practitioners and agencies whether their treatment recipients appear to be benefiting from treatment approximately as much as recipients in the RCTs.
Chapter 14 examines critically appraising social justice research studies. This is a new chapter, one that emphasizes the importance of being informed by research evidence in making decisions about efforts to promote social justice rather than being guided solely by noble intentions, emotions, or well-meaning ideologies. In addition, much of the content in this chapter examines participatory action research.

**Significant Additions to This Edition**

Among the changes that have been made in various chapters throughout this edition, the following are the most significant:

- Connecting EIP to social justice efforts, the Black Lives Matter movement, and reducing incidents of police misconduct and violence.
- Replacing evidence-based terminology with evidence-informed terminology.
- Increased attention to the value of limited studies that do not permit conclusive causal inferences, but that do provide enough support for the plausibility of causality when practice decisions do not require the degree of certainty associated with eliminating all threats to internal validity.
- Expanded coverage of qualitative methods.
- Constructing measurement instruments.
- A new chapter on data analysis.
- A new chapter on social justice.
- Calculating within-group effect sizes and comparing them to benchmarks to assess whether practitioners and agencies are implementing with adequate fidelity interventions that have strong research support in RCTs.
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This book is accompanied by a companion website.

www.wiley.com/go/rubin/researchguide3e

This website includes:

- Instructor’s Manual
- Test Banks
- PowerPoint Slides
- Sample Syllabi
OVERVIEW OF EVIDENCE-INFORMED PRACTICE
1 Introduction to Evidence-Informed Practice (EIP)

1.1 Emergence of EIP
1.2 Defining EIP
1.3 Types of EIP Questions
  1.3.1 What Factors Best Predict Desirable or Undesirable Outcomes?
  1.3.2 What Can I Learn about Clients, Service Delivery, and Targets of Intervention from the Experiences of Others?
  1.3.3 What Assessment Tool Should Be Used?
  1.3.4 Which Intervention, Program, or Policy Has the Best Effects?
  1.3.5 What Are the Costs of Interventions, Policies, and Tools?
  1.3.6 What about Potential Harmful Effects?
1.4 EIP Practice Regarding Policy and Social Justice
1.5 EIP and Black Lives Matter
1.6 Developing an EIP Practice Process Outlook
  1.6.1 Critical Thinking
1.7 EIP as a Client-Centered, Compassionate Means, Not an End unto Itself
1.8 EIP and Professional Ethics
  1.8.1 What about Unethical Research?

Key Chapter Concepts
Review Exercises
Additional Readings
You’ve started reading the third edition of a book about using scientific research evidence to inform your practice decisions that is being written at a time when the COVID-19 pandemic is on the verge of being conquered by vaccines that were developed and evaluated by means of research. So, despite the ambivalence – perhaps even disdain – that some might have about studying research or using it to inform their practice decisions, we must ask: Especially during this post-COVID era, why would any ethical, caring helping professional choose NOT to be informed by research?

If you approach this topic with an open mind, and if you actually look for research evidence that can enhance your practice, you’ll find many scientific studies that can help you to become more effective in your practice and to avoid doing harm. Seeking those studies and critically appraising them are part of what is called evidence-informed practice (EIP).

The term evidence-informed practice was more commonly called evidence-based practice when it became fashionable near the end of the last century. The main ideas behind it, however, are really quite old. As early as 1917, for example, in her classic text on social casework, Mary Richmond discussed the use of research-generated facts to guide the provision of direct clinical services as well as social reform efforts.

Also quite old is the skepticism about the notion that your practice experience and expertise – that is, your practice wisdom – are by themselves a sufficient foundation for effective practice. That skepticism does not imply that your practice experience and expertise are irrelevant and unnecessary – just that they alone are not enough.

Perhaps you don’t share that skepticism. In fact, it’s understandable if you even resent it. Despite the existence of research studies showing that some intervention approaches are ineffective and perhaps harmful, students learning about clinical practice have long been taught that to be an effective practitioner, they must believe in their own effectiveness as well as the effectiveness of the interventions they employed. Chances are that you have learned this, too, either in your training or through your own practice experience. It stands to reason that clients will react differently depending on whether they are being served by practitioners who are skeptical about the effectiveness of the interventions they provide versus practitioners who believe in the effectiveness of the interventions and are enthusiastic about them.

But it’s hard to maintain optimism about your effectiveness if influential sources – like research-oriented scholars or managed care companies – express skepticism about the services you provide. Such skepticism was catalyzed by a notorious research study by Eysenck (1952), which concluded that psychotherapy was not effective (at least not in those days). Although various critiques of Eysenck’s analysis later emerged that supported the effectiveness of psychotherapy, maintaining optimism was not easy in the face of various subsequent research reviews that shared Eysenck’s conclusions about different forms of human services (Fischer, 1973; Mullen & Dumpson, 1972). Those reviews, in part, helped usher in what was then called an age of accountability – a precursor of the current EIP era.

The main idea behind this so-called age was the need to evaluate the effectiveness of all human services. It was believed that doing so would help the public learn “what bang it was getting for its buck” and, in turn, lead to discontinued funding for ineffective programs and continued funding for effective ones. Thus, that era was also known as the program evaluation movement. It eventually became apparent, however, that many of the ensuing evaluations lacked credibility due to serious flaws in their research designs and methods – flaws that often stemmed from biases connected to the vested interests of program stakeholders. Nevertheless, many scientifically rigorous evaluations were conducted, and many had encouraging results supporting the effectiveness of certain types of interventions.

In addition to studies supporting the effectiveness of particular intervention modalities, perhaps most encouraging to clinicians were studies that found that one of the most important factors influencing service effectiveness is the quality of the practitioner-client relationship. Some studies even concluded that the quality of practitioners’ clinical relationship skills has more influence on
treatment outcome than the choices practitioners make about what particular interventions to employ. Although that conclusion continues to be debated, some studies show that practitioner effectiveness is influenced by both the type of intervention employed and certain common relationship factors (Cuijpers et al., 2019; Nathan, 2004).

1.1 Emergence of EIP

The accumulation of scientifically rigorous studies showing that some interventions appear to be more effective than others helped spawn the EIP movement. In simple terms, the EIP movement encourages and expects practitioners to make practice decisions – especially about the interventions they provide – in light of the best scientific evidence available. In other words, practitioners might be expected to provide interventions whose effectiveness has been most supported by rigorous research and perhaps to eschew interventions that lack such support – even if it means dropping favored interventions with which they have the most experience and skills.

The preceding paragraph used the words in light of the best scientific evidence, instead of implying that the decisions had to be dictated by that evidence. That distinction is noteworthy because some mistakenly view EIP in an overly simplistic cookbook fashion that seems to disregard practitioner expertise and practitioner understanding of client values and preferences. For example, the forerunner to EIP, EBP was commonly misconstrued to be a cost-cutting tool used by third-party payers that uses a rigid decision-tree approach to making intervention choices irrespective of practitioner judgment. Perhaps you have encountered that view in your own practice (or in your own healthcare) when dealing with managed care companies that have rigid rules about what interventions must be employed as well as the maximum number of sessions that will be reimbursed. If so, you might fervently resent the EBP concept, and who could blame you! Many practitioners share that resentment.

Managed care companies that interpret EBP in such overly simplistic terms can pressure you to do things that your professional expertise leads you to believe are not in your clients’ best interests. Moreover, in a seeming disregard for the scientific evidence about the importance of relationship factors and other common factors that influence positive outcomes, managed care companies can foster self-doubt about your own practice effectiveness when you do not mechanically provide the interventions on their list of what they might call “evidence-based practices.” Such doubt can hinder your belief in what you are doing and in turn hinder the more generic relationship factors that can influence client progress as much as the interventions you employ. Another problem with the list approach is its potential to stifle innovations in practice. Limiting interventions to an approved list means that novel practices are less likely to be developed and tested in the field. As you read on, you will find that EIP is a much more expansive and nuanced process than simply choosing an intervention from a list of anointed programs and services.

1.2 Defining EIP

The foregoing, overly simplistic view of EBP probably emanated from the way it was defined originally in medicine in the 1980s (Barber, 2008; Rosenthal, 2006). Unfortunately, the list or cookbook approach to EBP has probably stuck around because it seemed like a straightforward approach to making good practice decisions. It’s much simpler for funders and others to implement and monitor whether practitioners are using an approved intervention than it is to implement and monitor the complexities of the EIP process. For example, one study found that mental health authorities in six states mandated the use of specific children’s mental health interventions (Cooper & Aratani, 2009).

Fortunately, the revised definition of EIP – and revised acronym – incorporates practitioner expertise and judgment as well as client values and preferences (Sackett et al., 2000). The more current and widely accepted definition shows that managed care companies or other influential
The current and more comprehensive definition of EIP – one that is more consistent with definitions that are prominent in the current human service professions literature – views EIP as a process, as follows: EIP is a process for making practice decisions in which practitioners integrate the best research evidence available with their practice expertise and with client attributes, values, preferences, and circumstances. In other words, practice decisions should be informed by, and not necessarily based on, research evidence. Thus, opposing EIP essentially means opposing being informed by scientific evidence!

In the EIP process, practitioners locate and appraise credible evidence as an essential part, but not the only basis, for practice decisions. The evidence does not dictate the practice. Practitioner expertise such as knowledge of the local service context, agency capacity, and available resources, as well as experience with the communities and populations served, must be considered. In addition, clients are integral parts of the decision-making process in collaboration with the practitioner. Indeed, it’s hard to imagine an intervention that would work if the client refuses to participate!

Moreover, although these decisions often pertain to choosing interventions and how to provide them, they also pertain to practice questions that do not directly address interventions. Practitioners might want to seek evidence to answer many other types of practice questions, as well. For example, they might seek evidence about client needs, what measures to use in assessment and diagnosis, when inpatient treatment or discharge is appropriate, understanding cultural influences on clients, determining whether a child should be placed in foster care, and so on. They might even want to seek evidence about what social justice causes to support. In that connection, there are six broad categories of EIP questions, as follows:

1. What factors best predict desirable or undesirable outcomes?
2. What can I learn about clients, service delivery, and targets of intervention from the experiences of others?
3. What assessment tool should be used?
4. Which intervention, program, or policy has the best effects?
5. What are the costs of interventions, policies, and tools?
6. What are the potential harmful effects of interventions, policies, and tools?

1.3 Types of EIP Questions

Let’s now examine each of the preceding six types of questions. We’ll be returning to these questions throughout this book.

1.3.1 What Factors Best Predict Desirable or Undesirable Outcomes?

Suppose you work in a Big Brother/Big Sister agency and are concerned about the high rate of mentor-youth matches that end prematurely. A helpful study might analyze case-record data in a large sample of Big Brother/Big Sister agencies and assess the relationships between duration of mentor-youth match and the following mentor characteristics: age, race, ethnicity, socioeconomic status, family obligations, residential mobility, reasons for volunteering, benefits expected from volunteering, amount and type of volunteer orientation received, and so on. Knowing which factors are most strongly related to the duration of a match (whether long or short) can inform your
decisions about how to improve the duration of matches. For example, suppose you find that when
taking into consideration lots of different factors, the longest matches are those in which the youth
and mentor are of the same race and ethnicity. Based on what you learn, you may decide more
volunteers who share the same ethnicity as the youth being served are needed, efforts to match
existing volunteers and youth based on race and ethnicity should be implemented, or (evidence-
informed) training in culturally sensitively mentoring should be provided to mentors.

Suppose you are a child welfare administrator or caseworker and want to minimize the odds of
unsuccessful foster-care placements, such as placements that are short-lived, that subject children
to further abuse or that exacerbate their attachment problems. Your EIP question might be: “What
factors best distinguish between successful and unsuccessful foster-care placements?” The type
of research evidence you would seek to answer your question (and thus inform practice decisions
about placing children in foster care) likely would come from case-control studies and other forms
of correlational studies that are discussed in Chapter 9 of this book.

A child welfare administrator might also be concerned about the high rate of turnover among
direct-service practitioners in the agency, and thus might pose the following EIP question: “What
factors best predict turnover among child welfare direct-care providers?” For example, is it best to
hire providers who have completed specialized training programs in child welfare or taken elec-
tives in it? Or will such employees have such idealistic expectations that they will be more likely to
experience burnout and turnover when they experience the disparity between their ideals and ser-
vice realities of the bureaucracy? Quite a few studies have been done addressing these questions,
and as an evidence-informed practitioner, you would want to know about them.

1.3.2 What Can I Learn about Clients, Service Delivery,
and Targets of Intervention from the Experiences
of Others?

If you administer a shelter for homeless people, you might want to find out why so many home-
less people refuse to use shelter services. You may suspect that the experience of living in a shelter
is less attractive than other options. Perhaps your EIP question would be: “What is it like to stay
in a shelter?” Perhaps you’ve noticed that among those who do use your shelter there are almost
no females. Your EIP question might therefore be modified as follows: “What is it like for females
to stay in a shelter?” To answer those questions, you might read various qualitative studies that
employed in-depth, open-ended interviews of homeless people that include questions about shel-
ter utilization. Equally valuable might be qualitative studies in which researchers themselves lived
on the streets among the homeless for a while as a way to observe and experience the plight of being
homeless, what it’s like to sleep in a shelter, and the meanings shelters have to homeless people.

Direct-service practitioners, too, might have EIP questions about their clients’ experiences. As
mentioned previously, one of the most important factors influencing service effectiveness is the
quality of the practitioner-client relationship, and that factor might have more influence on treat-
ment outcome than the choices practitioners make about what particular interventions to employ.
We also know that one of the most important aspects of a practitioner’s relationship skills is empa-
thy. It seems reasonable to suppose that the better the practitioner’s understanding of what it’s
like to have had the client’s experiences – what it’s like to have walked in the client’s shoes, so to
speak – the more empathy the practitioner is likely to convey in relating to the client.

The experiences of others, not just clients, may also drive your EIP questions. For example,
imagine that you are an administrator of a child and family program and you are considering
choosing and adopting a new parent-training model. Selecting and implementing a new interven-
tion model is a complex process with lots of moving parts and potentially unforeseen consequences.
In this case, your EIP question may be: “What is the adoption and implementation process like for
different parent-training programs?” Studies that include interviews with administrators and staff
about their experience with the implementation process in their agencies could give you information about which model to choose, alert you to unanticipated challenges with the intervention and implementation process, and suggest strategies that you might choose to try and improve your success.

1.3.3 What Assessment Tool Should Be Used?

Practitioners often must select an assessment tool in their practice. Many times it is for the purpose of diagnosing clients or assessing their chances of achieving a goal or their level of risk regarding an undesirable outcome. Other purposes might be to survey community residents as to their service needs, to survey agency clients regarding their satisfaction with services, or to monitor client progress during treatment. Thus, another type of EIP question pertains to selecting the assessment tool that is the best fit for their practice setting and clientele.

Common questions to ask in selecting the best assessment instrument are:

- Is the instrument **reliable**? An instrument is reliable to the extent that it yields consistent information. If you ask eight-year-olds whether their parent is overly protective of them, they might answer “yes” one week and “no” the next – not because the parent changed, but because the children have no idea what the term *overly protective* means, and therefore are just giving a haphazard answer because they feel they must give some answer. If you get different answers from the same client to the same question at roughly the same point in time, it probably means there is something wrong with the question. Likewise, if an instrument’s total score indicates severe depression on October 7 and mild depression on October 14, chances are the instrument as a whole is unreliable.

- Is the instrument **valid**? An instrument is valid if it really measures what it is intended to measure. If youths who smoke marijuana every day consistently deny doing so on a particular instrument, then the instrument is not a valid measure of marijuana use. (Note that the instrument would be reliable because the answers, though untrue, would be consistent. Reliability is necessary, but it is not a sufficient condition for validity.)

- Is the instrument **sensitive** to relatively small but important changes? If you are monitoring client changes every week during a 10-week treatment period, an instrument that asks about the frequency of behaviors during the past six months won’t be sensitive to the changes you hope to detect. Likewise, if you are treating a child with extremely low self-esteem, meaningful improvement can occur without the child achieving high self-esteem. An instrument that can only distinguish between youths with high, medium, and low self-esteem might not be sufficiently sensitive to detect changes as your client moves from extremely low self-esteem to a better level of low self-esteem.

- Is the instrument **feasible**? If you are monitoring a child’s progress from week to week regarding behavioral and emotional problems, a 100-item checklist probably will be too lengthy. Parents and teachers may not want to take the time to complete it every week, and if you are asking the child to complete it during office visits, there go your 45 minutes. If your clients can’t read, then a written self-report scale won’t work.

- Is the instrument **culturally sensitive**? The issue of an instrument’s cultural sensitivity overlaps with the issue of feasibility. If your written self-report scale is in English, but your clients are recent immigrants who don’t speak English, the scale will be culturally insensitive and unfeasible for you to use. But cultural insensitivity can be a problem even if your scale is translated into another language. Something might go awry in the translation. Even if the translation is fine, certain phrases may have different meanings in different cultures. If most English-speaking Americans are asked whether they feel blue, they’ll probably know that blue means sad. Translate that question into Spanish and then ask “Esta azul? to a Spanish-speaking person who just
INTRODUCTION TO EVIDENCE-INFORMED PRACTICE (EIP)

crossed the border from Mexico, and you might get a very strange look. Cultural sensitivity also overlaps with reliability and validity. If clients don’t understand your language, you might get a different answer every time you ask the same question. If clients think you are asking whether their skin is blue, they’ll almost certainly say “no” even if they are in a very sad mood and willing to admit it.

Many studies can be found that assess the reliability and validity of various assessment tools. Some also assess sensitivity. Although there are fewer studies that measure cultural sensitivity, the number is growing in response to the current increased emphasis on cultural responsivity and attention to diversity in the human services professions.

1.3.4 Which Intervention, Program, or Policy Has the Best Effects?

Perhaps the most commonly posed type of EIP question pertains to selecting the most effective intervention, program, or policy. As noted previously, some managed care companies or government agencies define EBP (or EIP) narrowly and focus only on this effectiveness question. They will call your practice evidence-informed only if you are providing a specific intervention that appears on their list of preferred interventions, whose effectiveness has been supported by a sufficient number of rigorous experimental outcome evaluations to merit their “seal of approval” as an evidence-informed intervention. As noted earlier, this definition incorrectly fails to allow for the incorporation of practitioner expertise and patient values. The EIP process, however, allows practitioners to choose a different intervention if the “approved” one appears to be contraindicated in light of client characteristics and preferences or the realities of the practice context.

The process definition of EIP is more consistent with the scientific method, which holds that all knowledge is provisional and subject to refutation. In science, knowledge is constantly evolving. Indeed, at any moment a new study might appear that debunks current perceptions that a particular intervention has the best empirical support. For example, new studies may test interventions that were previously untested and therefore of unknown efficacy, or demonstrate unintended side effects or consequences that reduce the attractiveness of existing “evidence-informed” interventions when disseminated more broadly in different communities. Sometimes the published evidence can be contradictory or unclear. Rather than feel compelled to adhere to a list of approved interventions that predate such new studies, practitioners should be free to engage in an EIP process that enables them to critically appraise and be informed by existing and emerging scientific evidence. Based on practitioner expertise and client characteristics, practitioners engaging in the EIP process may choose to implement an intervention that has a promising yet less rigorous evidence base. Whether or not the chosen intervention has a great deal of evidence supporting its use, practitioners must assess whether any chosen intervention works for each individual client. Even the most effective treatments will not work for everyone. Sometimes the first-choice intervention option doesn’t work, and a second or even third approach (which may have less research evidence) is needed.

Thus, when the EIP question pertains to decisions about what intervention program or policy to provide, practitioners will attempt to maximize the likelihood that their clients will receive the best intervention possible in light of the following:

- The most rigorous scientific evidence available.
- Practitioner expertise.
- Client attributes, values, preferences, and circumstances.
- Assessing for each case whether the chosen intervention is achieving the desired outcome.