Understanding Evidence for Youth Violence Prevention
A Demonstration of CDC’s Interactive Tool

Natalie Wilkins, PhD
Sally Thigpen, MPA
Helen Singer, MPH
Richard Puddy, PhD MPH

Division of Violence Prevention
National Center for Injury Prevention and Control
Centers for Disease Control and Prevention
Why the Need for a Comprehensive Understanding of Evidence?
What is ‘Evidence?’

“Evidence can be defined as information or facts that are systematically obtained, i.e. obtained in a manner that is replicable, observable, credible, verifiable, or basically supportable.” (Rycroft-Malone & Stetler, 2004)

“For public health professional evidence is some form of data - including epidemiologic (quantitative) data, results of program or policy evaluations, and qualitative data - for use in making judgments or decisions,” (Brownson, Fielding, and Maylahn, 2009)
Framework for Thinking About Evidence

- Best Available Research Evidence
- Experiential Evidence
- Contextual Evidence

Evidence Based Decision Making
Framework for Thinking About Evidence

Best Available Research Evidence

Evidence Based Decision Making

Experiential Evidence

Contextual Evidence
Questions BARE Can Help Answer

• How much **scientific research** has been done on the program/strategy?
• What effects has the program had on your **desired outcomes**?
• How **rigorously** has the program been studied? How much confidence can we have in the validity of study findings?
• What **implementation guidance** is available, and what does that guidance tell us about capacity needed to successfully implement the program?
# Continuum of Evidence of Effectiveness

<table>
<thead>
<tr>
<th>Well Supported</th>
<th>Supported</th>
<th>Promising Direction / Emerging / Undetermined</th>
<th>Unsupported</th>
<th>Harmful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect</td>
<td></td>
<td>Some evidence of effectiveness</td>
<td>Ineffective</td>
<td>Practice constitutes risk of harm</td>
</tr>
<tr>
<td>Internal validity</td>
<td>True experimental design</td>
<td>Expected preventive effect</td>
<td>True or quasi experimental design</td>
<td>Any design with results indicating negative effect</td>
</tr>
<tr>
<td>Type of evidence/ research design</td>
<td>Quasi experimental design</td>
<td>Effect is undetermined</td>
<td>Any design with results indicating negative effect</td>
<td></td>
</tr>
<tr>
<td>Randomized control trials and meta-analysis / systematic review</td>
<td>Randomized control trials or quasi experimental design</td>
<td>Sound theory only</td>
<td>Randomized control trials or quasi experimental design</td>
<td></td>
</tr>
<tr>
<td>Quasi experimental design</td>
<td>Single group design</td>
<td>No research</td>
<td>Anecdotal / Needs assessment</td>
<td></td>
</tr>
<tr>
<td>Independent replication</td>
<td>Exploratory study</td>
<td>No sound theory</td>
<td>Program replication with evaluation replication</td>
<td></td>
</tr>
<tr>
<td>Program replication with evaluation replication</td>
<td>Anecdotal / Needs assessment</td>
<td>Program replication without evaluation replication</td>
<td>Possible program replication with/ without evaluation replication</td>
<td></td>
</tr>
<tr>
<td>Comprehensive</td>
<td>Partial</td>
<td>Partial program replication without evaluation replication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation guidance</td>
<td></td>
<td>Program replication with evaluation replication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied studies—different settings (2+)</td>
<td>Comprehensive</td>
<td>Program replication with evaluation replication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied studies—similar settings (2+)</td>
<td>Partial</td>
<td>Possible applied studies—similar/different settings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real-world informed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat real-world informed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not real-world informed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied studies—same/different settings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For more information:
Centers for Disease Control and Prevention
National Center for Injury Prevention and Control
Division of Violence Prevention
1-800-CDC-INFO • www.cdc.gov/violenceprevention • cdcinfo@cdc.gov
Framework for Thinking About Evidence

Best Available Research Evidence

Evidence Based Decision Making

Experiential Evidence

Contextual Evidence
What is Contextual Evidence?

• Measurable factors in the community that are likely to influence the implementation of a strategy.

• Provides information on whether a strategy is likely to be:
  – Feasible to implement
  – Useful
  – Acceptable to the local community
Questions Contextual Evidence Can Help Answer

- Does the community have the resources and/or capacity to implement the prevention strategy effectively? Who will implement the strategy?
- What are the characteristics of the setting/population to be served by the prevention strategy?
- Who will be implementing the strategy?
- How might setting/population characteristics affect implementation of the prevention strategy?
Measurable Contextual Variables Across the Social Ecology

- **Societal**
  - Laws and Policies
  - Social Norms and Values
  - Media

- **Community**
  - Employment Opportunities
  - Physical Infrastructure
  - Community History

- **Relationship**
  - Community Values
  - Family Health History
  - Social Capital
  - Peer Support
  - Family Values

- **Individual**
  - Income
  - Age, Gender, Cultural Identity
  - Individual Values
How do you Measure Contextual Evidence?

• Existing Sources of data
  – Census data
  – Local administrative data (hospital, school, law enforcement)

• Gathering new data
  – Community Assessments
  – Surveys
  – Focus Groups/Interviews
Framework for Thinking About Evidence

- Best Available Research Evidence
- Evidence Based Decision Making
- Contextual Evidence
- Experiential Evidence
What is Experiential Evidence?

• The *collective* experience and expertise of those who have practiced or lived in a particular setting.
• The knowledge and expertise of subject matter experts.
What has previously worked/not worked in the community?

Would this program appeal to stakeholders and participants?

What are common goals among stakeholders related to this issue?

How well matched are these goals to the programs based on the best available research evidence that are being considered?
How do you Measure Experiential Evidence?

Methods

• Reflective questions
• Communities of practice
• Expert panels
• Team decision making
• Other consensus processes
Putting it all Together:
Evidence-Based Decision Making

Key Characteristics

• Transparency
• Inclusiveness/Participation
• Openness/Explicitness
• Skilled Leadership
• Defined Process
Understanding Evidence

http://vetoviolence.cdc.gov/evidence
GET STARTED

This site will help you use evidence-based decision-making as you think about ways to prevent violence in your community.

HOW TO NAVIGATE

1. Use the arrows on the left and right side of the screen to navigate between the four learning modules.

2. Make sure to answer Knowledge Check questions that are asked throughout the modules. Your responses will help populate your output document at the end.

3. Refer to the Glossary located at the top of the screen anytime for definitions of key concepts and terms.

4. After completing all four modules, click through to the Conclusion page, where you will be able to register for your Continuing Education credits.

CONTINUED LEARNING

RESOURCE CENTER
Discover more content through videos, infographics, and summary documents you can take with you. Go Now

CONTINUUM
This tool will help you gauge the strength of best available research evidence you may be considering. Go Now

DISCOVERY LEARNING
Find content hidden around the site! Click on the Plus symbols in the top left corner of the web pages or use the "++" or "−−" key on your keyboard or visit Bonus Materials in the Resource Center. Go Now

It’s extremely important to look at both what we know from a research perspective and what we get from the field and from people in practice.

- Howard Spivak, Director, Division of Violence Prevention, Centers for Disease Control and Prevention
HOW TO GET STARTED

The accredited lesson modules on this site will help you incorporate evidence-based decision making into your violence prevention efforts.

The Progress Bar on the top of the site will help you navigate through the website and will keep track of your progress.

How to Get Started

1. Watch the Homepage Video to get an overview of the different types of evidence you will learn about.

2. Create a Login to make a user profile that will allow you to choose the area of violence prevention you would like to focus on, save your progress through the learning modules and get an output document customized to your input.

3. Go to the Introduction Page to view the introduction lesson module, then view each of the three remaining lesson modules in any order you wish.
LOGIN

USERNAME

PASSWORD

LOG IN

Not registered yet?
Forgot password?
Youth Violence

evidence-based prevention strategy

lack of jobs
low academic performance
gang violence

low incomes
substance abuse
limited youth activities
WHAT'S NEXT:
considerations & resources

INTRODUCTION
Note: Resources will only be provided for those Lesson Modules completed.

LEARN MORE
about evidence-based decision making

BEST AVAILABLE RESEARCH EVIDENCE RESOURCES
sources of research evidence

This report should help you apply your new knowledge for evidence-based decision making in your prevention work. The resources listed reflect the input you provided in the Lesson Modules. In addition, you may want to visit the Understanding Evidence Resource Center to find more resources.

The following websites may provide opportunities for learning more about Evidence-Based Decision Making:

- Analysis of the Future: The Delphi Method
  - creatingminds.org
  - keyword: Delphi method

- Health-evidence.ca
  - http://health-evidence.ca
  - Click 'Additional Resources'

- National Collaborating Centre for Methods and Tools
  - http://www.nccmt.ca
  - keyword: overview

Now that you have completed the Lesson Module on Best Available Research Evidence, it may be useful to know some of the resources that may help you find research evidence on prevention strategies.

This report contains only resources related to the field of Youth Violence. You may want to look in the Understanding Evidence resource center for resources related to other areas of violence prevention that overlap with your area of interest.
**Acceptability**
The extent to which the stakeholders find the strategy satisfactory or agreeable.
(http://www.ojp.usdoj.gov/BJA/evaluation/glossary/)

**Archival data analysis**
Archival data is information that has already been collected and/or documented. It can include records that are kept by governmental and other agencies, as well as records normally kept as part of the operation of an institution or organization.

**Best Available Research Evidence**
Best available research evidence enables researchers, practitioners, and policy-makers to determine whether or not a prevention program, practice, or policy is actually achieving the outcomes it aims to and in the way it intends. The more rigorous a study’s research design, the more compelling the research evidence, indicating whether or not a program, practice, or policy is effectively preventing violence (Ruddy & Wilkins, 2011).

**Capacity assessment**
Process to identify those particular areas of capacity that are strongest and those that need improvement.
(http://www.vppartners.org/sites/default/files/reports/assessmentpcf.pdf)

**Communities of Practice**
This concept is inclusive of the many ways that people with knowledge and experiences around a specific issue gather to share and collect their insight with a common goal in mind. It could range from something as informal as a listserv to a highly structured working group.

**Consensus**
The production of a common understanding among participants about issues and programs.
(http://www.ojp.usdoj.gov/BJA/evaluation/glossary/)


FREQUENTLY ASKED QUESTIONS

1. WHAT IS EVIDENCE?
Evidence is defined in many different ways. When we think about evidence based decision-making in particular, evidence is defined as information or facts that are systematically obtained (i.e., obtained in a manner that is replicable, observable, credible and verifiable) for use in making judgments or decisions (adapted from Rycroft-Malone et al, 2004 & Browson et al., 2009). This definition of evidence applies to best available research evidence as well as contextual and experiential evidence.

2. WHAT IS BEST AVAILABLE RESEARCH EVIDENCE?
Best available research evidence is information that enables researchers, practitioners and policy-makers to determine whether or not a prevention program, practice or policy is actually achieving its intended outcomes. Best available research evidence can also help to determine whether or not a prevention strategy is harmful. The more rigorous a study (e.g. true/quasi-experimental design, independent replication), the more compelling the research evidence is indicating whether or not a program, practice or policy is effectively preventing violence. The extent to which a prevention strategy has been replicated in multiple, applied settings with diverse populations (external/ecological validity), and the availability and accessibility of implementation supports (implementation guidance) are also important aspects of best available research evidence.

3. WHERE CAN YOU FIND BEST AVAILABLE RESEARCH EVIDENCE?
Registries of evidence-based programs are the best place to start when looking to find programs based on the best available research evidence. Technical assistance resource centers, which are typically tailored toward a particular area of violence prevention, also provide a variety of different resources for identifying prevention strategies based on the best available research evidence. In circumstances when there is very little research evidence on effective prevention strategies, technical assistance resource centers can also be very helpful. Technical assistance resource centers may aid in identifying known risk and protective factors and sound theories of change for your area of violence to guide your programmatic efforts as well as resources for evaluating them. A list of these registries and technical assistance resource centers can be found in the resource section.
Introduction to Evidence Based Decision-Making

When you make a decision, you often do research, consider your situation and learn from others. When you collect this information systematically and in a way that is credible, replicable and verifiable, you are using evidence based decision-making. Take this first module to learn more about evidence based decision-making and to unlock additional modules about different types of evidence.
Understanding Evidence: BEST AVAILABLE RESEARCH EVIDENCE MODULE SUMMARY

Introduction to best available research evidence

Best available research evidence enables researchers, practitioners, and policy-makers to determine whether or not a prevention program, practice, or policy is actually achieving the outcomes it aims to induce in the way it intends. The more rigorous a study's research design, the more compelling the research evidence, indicating whether or not a program, practice, or policy is effectively preventing evidence.

Understanding Evidence: CONTEXTUAL EVIDENCE MODULE SUMMARY

Introduction to contextual evidence

Contextual evidence refers to information about whether or not a strategy “fits” within the context in which it is to be implemented. In other words, contextual evidence provides prevention practitioners with information on whether a strategy is:

- Reasonable to implement
- Useful
- Likely to be accepted by a particular community

Contextual evidence provides guidance grounded in information from a variety of local data sources, such as findings from community needs assessment, and consensus, school, economic, or police data. Whether found in established local databases or newly collected, this information offers a “snapshot” of measurable community characteristics that may affect a particular decision.

"When a group is considering taking on a new, evidence-based or evidence-informed strategy, we always have to take a close look at the staff and resources they have on hand. We also recommend they collect information on their community's needs and assess that could affect the success of any new strategy."  
— Valerie Spurr Collins, MSW, LISC, Training and Technical Assistance Supervisor, FRIENDS National Resource Center

What questions can contextual evidence help to answer?
- Does the community have the resources and/or capacity to implement the prevention strategy effectively?
- Do the strengths documented in the research evidence match well with the needs of the community?
- What are the characteristics of the population to be served by the prevention strategy?
- Who are the people and organizations that will implement the prevention strategy?
- What are the characteristics of the setting for the proposed program, policy or practice that could affect its implementation?

Understanding Evidence: EXPERIENTIAL EVIDENCE MODULE SUMMARY

Introduction to experiential evidence

Experiential evidence is the collective experience and expertise of those who have practiced or lived in a particular setting. It also includes the knowledge of subject matter experts. These insights, understandings, skills, and expertise are accumulated over time and are often referred to as intuitive or tacit knowledge. Experiential evidence provides distinctive guidance in the form of “real world” experience gathered directly from multiple stakeholders. These stakeholders are familiar with a variety of key aspects about the setting (such as community norms and values), and have knowledge about the community in which a prevention strategy is to be implemented.

"People already know within themselves what the problem is... what it is they need... So I think the bottom line is being open-minded to what you're going to receive from the people."  
— Augustine Lee, Case Manager, Johns Hopkins Center for American Indian Health

What questions can experiential evidence help to answer?
- What can the experiences and knowledge of stakeholders tell us about what has previously worked or not worked with the specific community and/or population in question?
- What can the experiences and knowledge of stakeholders tell us about a program, practice, or policy’s possible appeal to stakeholders and participants?
- What common goals do the stakeholders have around this issue?
- What questions can the experiences and knowledge of stakeholders help to answer regarding the program, practice, or policy based on the best available research evidence?
“It’s extremely important to look at both what we know from a research perspective and what we get from the field and from people in practice.”

Howard Spivak, MD
Director, Division of Violence Prevention, Centers for Disease Control and Prevention
How can practitioners benefit from collaborating with researchers?
The important part about building a community around research and practice, is to have people who have expertise in both areas, who can work together, and that's the part that is really rewarding for someone like me, who works in research, because what we do this for is to make programs better, to make communities healthier.

Introduction to Evidence Based Decision-Making

PART 1

When you make a decision, you often do research, consider your situation and learn from others. When you collect this information systematically and in a way that is credible, replicable and verifiable, you are using evidence based decision-making. Take this first module to learn more about evidence based decision-making and to unlock additional modules about different types of evidence.
BEST AVAILABLE RESEARCH EVIDENCE

If you know how to recognize the strength of the research evidence across key dimensions, you will be better prepared to determine whether or not a prevention program, practice, or policy is actually achieving its intended outcomes.

EXPERIENTIAL EVIDENCE
CONTEXTUAL EVIDENCE
CONCLUSION

RELATED FAQS
What is Best Available Research Evidence?
Where can you find Best Available Research Evidence?
VIEW FAQS

RESOURCES
View more resources and tools to help you on your evidence based decision-making journey.
VIEW RESOURCE CENTER

MODULE SUMMARY
You can download or print the Best Available Research Evidence Module Summary here.
VIEW MODULE SUMMARY

You have to go the literature, you want to look for studies, you want to weight studies more heavily if they used rigorous designs, randomized trials, and so forth. The nice thing is, now there are a number of rating systems, really organizations around the country that have rating systems and they rate all sorts of programs on whether they're effective.

— Daniel Whittaker, Professor of Public Health at Georgia State University
CONTINUUM of EVIDENCE OF EFFECTIVENESS

How does your strategy map onto the Continuum?

Research is constantly emerging and evolving, making the use of best available research evidence a continuous journey. This tool will help you conceptualize where you are on this journey and what steps you can take to continue moving forward.

START ASSESSMENT

<table>
<thead>
<tr>
<th>Well Supported</th>
<th>Supported</th>
<th>Promising Direction / Emerging / Undetermined</th>
<th>Unsupported</th>
<th>Harmful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Found to be effective</td>
<td>Some evidence of effectiveness</td>
<td>Expected preventive effect</td>
<td>Ineffective</td>
<td>Practice constitutes risk of harm</td>
</tr>
<tr>
<td>True experimental design</td>
<td>Quasi-experimental design</td>
<td>Non-experimental design</td>
<td>No sound theory</td>
<td>Any design with results indicating negative effect</td>
</tr>
<tr>
<td>Randomized control trials and meta-analysis / systematic review</td>
<td>Quasi-experimental design</td>
<td>Single group design</td>
<td>Exploratory study</td>
<td>Any design with results indicating negative effect</td>
</tr>
<tr>
<td>Program replication with evaluation replication</td>
<td>Program replication without evaluation replication</td>
<td>Partial program replication without evaluation replication</td>
<td>Possible program replication with / evaluation replication</td>
<td></td>
</tr>
<tr>
<td>Comprehensive</td>
<td>Partial</td>
<td>None</td>
<td>Comprehensive / partial</td>
<td></td>
</tr>
<tr>
<td>Applied studies - different settings (2+)</td>
<td>Applied studies - similar settings (2+)</td>
<td>Real-world informed</td>
<td>Not real-world informed</td>
<td>Possible applied studies - similar / different settings</td>
</tr>
</tbody>
</table>
ASSessment

Question

Are there any indications from research or practice that this strategy has been associated with harmful effects?

○ Yes ○ No

ASSessment

Question

Is there at least one well-conducted (Randomized Control Trial or a Quasi-Experimental design) study on this strategy?

○ Yes ○ No

ASSessment

Question

Are any of the following formal systems in place to support implementation of the program or strategy?

○ A purveyor/developer who offers training/coaching
○ A website that provides tools, materials, videos, etc. to support implementation
○ An established community of practice among those who are currently or who have previously implemented the program

Communities of Practice: This concept is inclusive of the many ways that people with knowledge and experiences around a specific issue gather to share and collect their insights with a common goal in mind. It could range from something as informal as a listserv to a highly-structured working group.

○ Yes ○ No
CONTINUUM of EVIDENCE OF EFFECTIVENESS

How does your strategy map onto the Continuum?

Research is constantly emerging & evolving, making the use of best available research evidence a continuous journey. This tool will help you conceptualize where you are on this journey and what steps you can take to continue moving forward.

**START ASSESSMENT**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Well Supported</th>
<th>Supported</th>
<th>Promising Direction / Emerging / Undetermined More Research Needed</th>
<th>Unsupported</th>
<th>Harmful</th>
</tr>
</thead>
<tbody>
<tr>
<td>True experimental design</td>
<td>Found to be effective</td>
<td>Some evidence of effectiveness</td>
<td>Expected preventive effect</td>
<td>Effect is undetermined</td>
<td>Ineffective</td>
</tr>
<tr>
<td>Quasi-experimental design</td>
<td>Non-experimental design</td>
<td>Sound theory only</td>
<td>No research</td>
<td>True or quasi-experimental design</td>
<td>Practice constitutes risk of harm</td>
</tr>
<tr>
<td>Randomized control trials and meta-analysis / systematic review</td>
<td>Quasi-experimental design</td>
<td>Single group design</td>
<td>Exploratory study</td>
<td>Anecdotal / Needs assessment</td>
<td>Any design with results indicating negative effect</td>
</tr>
<tr>
<td>Program replication with evaluation replication</td>
<td>Program replication without evaluation replication</td>
<td>Partial program replication without evaluation replication</td>
<td>Program replication with evaluation replication</td>
<td>Possible program replication with / evaluation replication</td>
<td></td>
</tr>
<tr>
<td>Comprehensive</td>
<td>Partial</td>
<td>None</td>
<td>Comprehensive</td>
<td>Comprehensive / partial</td>
<td></td>
</tr>
<tr>
<td>Applied studies - different settings (2+)</td>
<td>Applied studies - similar settings (2+)</td>
<td>Real-world informed</td>
<td>Somewhat real-world informed</td>
<td>Not real-world informed</td>
<td>Applied studies - same / different settings</td>
</tr>
<tr>
<td>Possible applied studies - similar / different settings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**continuum results for:**

**IMPLEMENTATION GUIDANCE**

**partial**

For some programs, there may be some products, services, or activities to help researchers/practitioners implement them in different settings, but they may be limited in their availability and accessibility. It is important to note that since implementation support and guidance are limited for these programs, there is a chance that implementation issues (not the program itself) may be influencing outcomes.

**RELATED RESOURCES:**

Implementation Guidance is only one of six dimensions that are described on the continuum of the best available research evidence. Ideally, strategies will demonstrate strong evidence across as many of these dimensions as possible.

Remember that a well-informed evidence-based decision will need to include contextual and experiential evidence as described in detail in the corresponding Lesson Modules.

To learn more about how to strengthen the research evidence related to a specific strategy, the resources below may be helpful.

**RESOURCE LINKS**

- National Implementation Research Network [http://nirn.fpg.unc.edu/resources/implementation-research-synthesis-literature](http://nirn.fpg.unc.edu/resources/implementation-research-synthesis-literature)

- [http://nirn.fpg.unc.edu/resource-search](http://nirn.fpg.unc.edu/resource-search)
Welcome to the Evidence Resource Center. The resources and tools below will help you on your evidence-based decision-making journey.
CONCLUSION

Discover More

Learn more about evidence-based decision-making through the various tools and resources available on this site.

FREE CONTINUING EDUCATION CREDITS
CONTINUUM
WHAT'S NEXT

DISCOVER MORE

Now that you've completed the training, check out these features.

FREE CONTINUING EDUCATION CREDITS
Now that you have completed all the learning modules, you are eligible for free continuing education credits through the COC.

WHAT'S NEXT
Customized by your profile and your experience in the Learning Modules, What's Next is personalized to help you with your next steps.

CONTINUUM
This tool will help you gauge the strength of best available research evidence you may be considering.
This program provides a free continuing education opportunity by: International Association for Continuing Education and Training (IACET)

This program was funded and supported by: The Centers for Disease Control and Prevention

CDC, our planners, our content experts, and our presenters wish to disclose they have no financial interests or other relationships with the manufacturers of commercial products, suppliers of commercial services, or commercial supporters.

Presentations will not include any discussion of the unlabeled use of a product or a product under investigational use.

CDC does not accept commercial support.
Thank you!

Natalie Wilkins
nwilkins@cdc.gov

Sally Thigpen
sthigpen@cdc.gov

Helen Singer
hhsinger@cdc.gov

Rich Puddy
rpuddy@cdc.gov