Evidence Based Best Practices for Public Safety Agencies

Implementing Evidence Based Practices in Your Organization
On Behalf of the Justice Clearinghouse
November 1, 2017

By: Dr. Jeffrey C. Fox, PhD
Fox Public Safety: Training, Educating, and Consulting LLC

https://www.fox-publicsafety.com/
Linkedin
Course Description

This webinar will examine evidence based policy (EBP) development.

EBP is an approach that helps decision makers develop well-informed decisions about policies, programs, and projects by putting the best available evidence from research at the heart of policy development and implementation.

EBP has become popular among a range of policy communities, those within government agencies, research organizations, and think-tanks. EBP is a discourse or set of methods which informs the processes by which policies are formulated, rather than aiming to affect the eventual goals of the policy. It advocates a more rational, rigorous, and systematic approach, and moves beyond traditional notions of research to adopt a broader understanding.
Poll Question

Have you ever practiced or used evidence based policy development or management?

Yes_____ 

No_____
What is Evidence Based Policy/Management?

• Let us start with the purpose of evidence-based approaches: to improve public management and policy making by grounding decision making in evidence.

• “Evidence-Based Management (EBMgt) enhances the overall quality of organizational decisions and practices through reflective use of relevant and best available scientific evidence. EBMgt combines conscientious, judicious use of best evidence with individual expertise; ethics; valid, reliable facts; and consideration of impact on stakeholders. Its success is enhanced by quality connections among practitioners, management, educators, and scholars.”

“How empty is theory in the presence of fact!” Mark Twain, A Connecticut Yankee in King Arthur's Court

Insanity: doing the same thing over and over again and expecting different results. Albert Einstein, (attributed)
Evidence

The first point of contention and confusion concerns the issue of what constitutes evidence.

1. On one extreme are those who believe that evidence for decision making can, and in many cases should, come from any of a variety of sources—from experience and expert opinion through case studies to sophisticated experimental research—subjects to some caveats, over which there is further disagreement: that evidence is of high quality, the best available, good enough, the only available, or compliant with widely accepted standards in a research, policy, or management field.

2. At the other extreme are those who hold that only evaluations based on rigorous social science experimental research designs—either random control trials or, for some, quasi-experimental designs—can be evidence.

3. In the middle ground between these polar opposites are those who try to classify evidentiary methods in either hierarchies or matrices, suggesting that some methods are better suited than others for answering certain questions.

4. Finally, there are those who try to reconcile these divergent positions by suggesting that no evidentiary method is without serious flaws, and, therefore, evidence must be marshaled using a variety of methods and sources in an effort at triangulation: If multiple methods and sources point to the same conclusion, than managers and policy makers will have increased confidence in its veracity.

In the real world of management and policy making, most practitioners treat evidence as only one of several factors taken into account in decision making, the others being experience, feasibility, strategy, and politics. For practitioners, then, the question is not so much what is the best evidence, but rather what weight to give that evidence in their decision calculus.
Some Points to be Made

• Theory is theory not fact.
• With theory we are always dealing with probability or a percentage chance (%).
• Theory integration vs stand alone theories increase explanatory power.
• Common sense (Practitioner based)
• Generalizability – is the theory /result capable of applying to or for a wider audience than the research group in question.
• There is no such thing as perfect research.
• Theories are not created in a vacuum.
• Theory and theorist are not pure of heart and mind!
• Evidence based policy development is applicable to all disciplines whether it is for and/or from a soft or hard science.
EBMgt is simply an attitude of mind that:

- thinks in terms of evidence for decisions and about the nature of the evidence;
- asks questions such as, What is happening? How is it happening? Why? What are the consequences?
- is aware of the potential limitations of the different answers; and
- is interested in research to try to find the answers or at least to reduce the ignorance.
Evidence-Based Medicine

• Evidence-based medicine—“the systematic identification, appraisal and synthesis of clinical studies, particularly randomized clinical trials”—was advanced to replace the art of medicine and physician practices based on personal journeys but contradicted by scientific evidence.

• The struggle to change medical practice based on research evidence has a long history, with valuable implications for public safety agencies (PSAs). In the 1840s, Ignaz Semmelweiss found evidence that maternal death in childbirth could be reduced if doctors washed their hands before delivering babies. He then tried to apply this research to medical practice in Vienna, which led to his being driven out of town by his boss, the chief obstetrician. Hundreds of thousands of women died because the profession refused to comply with his evidence-based guidelines for some forty years. The story shows the important distinction between merely doing research and attempting to apply research to redirect professional practices. One way to describe people who try to apply research is the role of “evidence cop.”
Medical Beginnings

• New evidence shows that doctors resist changing practices based on new research just as much as PSAs do, if not more so. Closer examination reveals medicine to be a battleground between research and practice, with useful lessons for PSAs on new ways to promote research. Those lessons come from a new strategy called “evidence-based medicine,” “widely hailed as the long-sought link between research and practice” to solve problems like the following:

• An estimated 85 percent of medical practices remain untested by research evidence.

• Most doctors rarely read the 2,500 medical journals available, and instead base their practice on local custom.

• Most studies that do guide practice use weak, nonrandomized research designs.
Medical Beginnings

NIH convenes advisory boards to issue to physicians recommendations that are based on intensive reviews of research evidence on specific medical practices. These recommendations usually receive extensive publicity, and are reinforced by mailings of the guideline summaries to some one hundred thousand doctors. But according to a RAND evaluation, doctors rarely change their practices in response to publication of these guidelines. Thus three years after research found that heart attack patients treated with calcium antagonists were more likely to die, doctors still prescribed this dangerous drug to one-third of heart attack patients. Eight years after antibiotics were shown to cure ulcers, 90 percent of ulcer patients remained untreated by antibiotics.
Medical Beginnings

The basic premise of evidence-based practice is that we are all entitled to our own opinions, but not to our own facts. Yet left alone to practice individually, practitioners do come up with their own “facts,” which often turn out to be wrong. A recent survey of 82 Washington State doctors found 137 different strategies for treating urinary tract infections. No doubt the same result could be found for handling PSA calls/duties. A study evaluating the accuracy of strep throat diagnoses based on unstructured examination by experienced pediatricians found it far inferior to a systematic, evidence-based checklist used by nurses. The mythic power of subjective and unstructured wisdom holds back every field and keeps it from systematically discovering and implementing what works best in repeated tasks.
### Stylistic Differences Between Research Targeted to Academics and Research Targeted to Practitioners

<table>
<thead>
<tr>
<th></th>
<th>Academic</th>
<th>Practitioner</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Orientation of research</strong></td>
<td>Descriptive/predictive</td>
<td>Descriptive/prescriptive</td>
</tr>
<tr>
<td><strong>Focus of research</strong></td>
<td>Process</td>
<td>Outcomes</td>
</tr>
<tr>
<td><strong>Attitude</strong></td>
<td>Reflexive</td>
<td>Projective</td>
</tr>
<tr>
<td><strong>Data collection/analysis</strong></td>
<td>Thorough</td>
<td>Ad hoc, ambiguous</td>
</tr>
<tr>
<td><strong>Data aggregation</strong></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Referential system</strong></td>
<td>Theory</td>
<td>Practice</td>
</tr>
<tr>
<td><strong>Rhetorical devices</strong></td>
<td>Narrow and institutionalized</td>
<td>Wide and eclectic</td>
</tr>
<tr>
<td><strong>Criteria of goodness</strong></td>
<td>Method rigor</td>
<td>Practical appeal</td>
</tr>
</tbody>
</table>
Why does EBP matter?

We need evidence to:

• Understand the policy environment and how it’s changing.

• Appraise the likely effects of policy changes so we can choose between different policy options and subsequently assess their impacts.

• Demonstrate the links between strategic direction, intended outcomes and policy objectives, to show that there are clear lines of argument and evidence between what we are aiming for and what we are doing now.

• Determine what we need to do to meet our strategic goals and take them through to delivery.

• Communicate the quality (breadth and depth) of our evidence based to meet the open government agenda.
Attempts to establish what evidence is useful to policymakers

1. Quality/accuracy/objectivity
   This refers to the accuracy of the evidence.

2. Credibility
   Credible evidence relies on a strong and clear line of argument; tried and tested analytical methods; analytical rigor throughout the processes of data collection and analysis; and on clear presentation of the conclusions.

3. Relevance
   The key issue here is that evidence is timely, topical and has policy implications.

4. Practicalities
   This relates to the extent to which the evidence is accessible to policymakers; whether policymakers have access to it in a useful form and therefore the ease with which it can be translated into policy.
The Policy Cycle

1. Problem Definition/Agena Setting
2. Constructing the Policy Alternatives/Policy Formuation
3. Choice of Solution/Selection of Preferred Policy Option
4. Policy Design
5. Policy Implementatoin and Monitoring
6. Evaluation
The functions of the policy processes are simplified into four categories:

1. **Agenda Setting**: awareness of and priority given to an issue or problem;
2. **Policy Formulation**: the ways (analytical and political) options and strategies are constructed;
3. **Policy Implementation**: the forms and nature of policy administration and activities on the ground;
4. **Monitoring and Policy Evaluation**: the nature of monitoring and evaluation of policy need design implementation and impact.
EBP Low Chart

A. Apply the principles of evidence-based decision-making
   - Seek evidence (research literature, public health data & local information)
   - Consult health service personnel (clinicians, educators, managers, policy makers)
   - Consult consumers (patients, other health providers)

Step 1
Identify need for change

Step 2
Develop proposal for change

Step 3
Implement change

Step 4
Evaluate extent & results of change

B. Ensure sustainability, avoid duplication and integrate with existing systems

C. Document and investigate the change process in an action research approach
The flow of evidence in the policy process: Longer-term policy and strategy development

- Procuring, managing and carrying out research to provide new evidence
- Scoping the issue, asking the question, deciding what sort of evidence is needed
- Interpreting and applying new or existing evidence, monitoring and evaluating the policy once implemented

Evidence needed rapidly to answer pressing policy questions.
Factors influencing policymaking in Government

Experience & Expertise

Judgement

Pragmatics & Contingencies

Resources

Lobbyists, Pressure Groups & Consultants

Values

Habits & Tradition
Factors influencing policymaking in Government

1. Experience, Expertise and Judgement – Human and intellectual capital, tacit knowledge;

2. Resources – Policymaking and implementation occurs in the context of finite (usually declining) resources, indicating some kind of cost-benefit exercise;

3. Values – These include ideological and political beliefs. Values are strong driving forces behind policymaking and often influence the end result;

4. Habit and Tradition – Important features which often defy rational explanation in the twenty-first century;

5. Lobbyist, Pressure Groups and Consultants – This category also includes think tanks, opinion leaders and the media, all of whom are major influencing powers;

6. Pragmatics and Contingencies – of political life, such as timetables, parliamentary terms, capacities of institutions and unanticipated contingencies. Although these factors do not necessarily stand against EBP in principle, they do not compliment the strategic EBP approach.
An alternative way of categorizing the factors which policy and practice depend on.

- **Information**: ‘the range of knowledge and ideas that help people make sense of the current state of affairs, why things happen as they do, and which new initiatives will help or hinder’

- **Interests** – i.e. ‘self-interests’

- **Ideologies** – ‘philosophies, principles, values and political orientation’

- **Institutions** – ‘first the institutional environment shapes the way in which participants interpret their own interests, ideologies, and information. Second, organizational arrangements affect the decision process itself, such as who it empowered to make decisions.’

- In the realities of the political world, the value assigned to research is less than prevailing thought or opinion.

- Evidence therefore has a tough role of play if it is to gain wider credibility amongst decision makers.

- Time constraints and the resultant pressure should feature as a stand-alone factor.
The five s’s that limit EBP

1. **Speed:** Policymakers are under chronic time pressure, as well as political pressure, to be seen to be acting and therefore they are forced to process information quickly. This requires improvisation and also means that sometimes compromises have to be made. Occasionally, this leads to bad decisions.

2. **Superficiality:** Each policymaker has to cover vast thematic fields, and cannot possibly have an in-depth knowledge about every issue in those areas. They are therefore heavily dependent on the knowledge and integrity of the people who inform them. This raises difficult questions about who policymakers should turn to for advice, and how they can judge the advice given to them – for example, the increasing amount of advice coming from the NGO sector.

3. **Spin:** In the political world, perception is very important. For example, even though evidence has shown that beat policing is not the most cost-effective way of using police resources, this form of policing is still prioritized because there is a strong public perception that it will improve security. Perception guides political decisions.

4. **Secrecy:**

5. **Scientific ignorance:** There is a growing suspicion towards science and scientists among the public, which will have an effect on policies.
Nine key characteristics which policymaking should aspire to:

1. **Forward looking:** takes a long term view of the likely impact of policy
2. **Outward looking:** takes account of influencing factors and learns from elsewhere
3. **Innovative and creative:** questions the status quo and is open to new ideas
4. **Evidence based:** uses the best available evidence from a wide range of sources
5. **Inclusive:** is fair and takes account of the interests of all
6. **Joined up:** works across institutional boundaries and considers implementation
7. **Reviews:** keeps policy under review
8. **Evaluates:** builds evaluation into the policy process
9. **Learns lessons:** learns from experience of what works and what does not
Encouraging better use of evidence in policymaking

- Increasing the pull for evidence
- Require the publication of the evidence based for policy decisions
- Require departmental spending bids to provide a supporting evidence base
- Submit governmental analysis (such as forecasting models) to external expert scrutiny
- Provide open access to information – leading to more informed citizens and pressure groups
- Facilitating better evidence use
- Encourage better collaboration across internal analytical services (e.g. researchers, statisticians and economists)
- Co-locate policymakers and internal analysts
- Integrate analytical staff at all stages of the policy development process
- Link R&D strategies to departmental business plans
- Cast external researchers more as partners than as contractors
- Train staff in evidence use
Types of economic analysis used in economic evaluation

• **Cost-analysis** simply compares the costs of different initiatives without considering the outcomes to be achieved (or that have been achieved). The absence of information about outcomes is a major limitation of cost appraisal and evaluation. It cannot tell us much, or anything, about the relative effectiveness or benefits of different interventions.

• **Cost-effectiveness analysis** compares the differential costs involved in achieving a given objective or outcome. It provides a measure of the relative effectiveness of different interventions.

• **Cost-benefit analysis** considers the differential benefits that can be gained by a given expenditure of resources. Cost-benefit analysis involves a consideration of alternative uses of a given resource, or the opportunity cost of doing something, compared with doing something else.

• **Cost-utility analysis** evaluates the utility of different outcomes for different users or consumers of a policy or service. Cost-utility analysis typically involves subjective evaluations of outcomes by those affected by a policy, program or project, using qualitative and quantitative date.
Barriers to the use of evidence identified by public officials

Construction barriers
- Pathology of short term
- Competing understanding of its merits (political versus bureaucratic) reflected
- In an anti-evidence culture
- Ministerial indifference towards evidence
- Culture of risk aversion
- Poor commissioning of research

Environmental barriers
- 24/7 media cycle
- Crowded policy spaces (institutional layering)
- Public expectations for quick fixes
- Prevailing socio-economic conditions
- Problems inherent in multi-level
- Governance (less evident in NZ and UK)
- Poor strategic alignment across government

Institutional barriers
- Absence of clear roles and responsibilities for policy officers
- Dominant agenda-setting role of special advisors
- Poor engagement capacity of policy officers

System barriers
- Lack of support from politicians
- Short-term budgets and planning horizons
- Delivery pressures and administrative burdens
- Poor rewards and incentives
- Capability deficit in political awareness
Practice of systematic reviews

1. Developing the initial question.
2. Clarifying which studies are relevant.
3. Identifying studies.
4. Checking that the studies found meet the selection criteria.
6. Further coding of studies for synthesis.
7. Quality and relevance appraisal.
8. Synthesis.
10. Recommendations and guidance.
Document analysis with visual artifacts

Document analysis is a form of research in which documents are interpreted by the researcher to give voice and meaning around a topic. Generally, three types of documents are used in policy making document analysis:

1. Public records, the official records of an organization’s activities, for example, annual reports, policy manuals, strategic plans and so on.

2. Personal documents, such as first-person accounts of an incident, belief or experience, for example, calendars, emails, scrapbooks, blogs, duty logs, incident reports, reflections/journals and newspapers.

3. Physical evidence, including objects or artefacts found within the study setting, for example, flyers, posters, agendas, handbooks and training materials.
Cluster analysis in policy studies

Cluster analysis is a bottom-up, grounded analytic form of theory building in that is seeks connections between data through the power of careful statistical analysis rather than through preformed theories.

Deliberative policy analysis

What role, then, should deliberation play in the policy process? There are several possible answers to this question. These answers include seeing deliberation as:

1. a limited input into analysis of the relative merits of policy options;
2. a means of resolving conflicts across relevant actors and interests;
3. a form of public consultation;
4. a unique source of valuable inputs into processes; and
5. a comprehensive aspiration for whole systems of governance.

- Deliberative policy analysis can be located as part of the ‘argumentative turn’ in policy analysis. This turn treats public policy making as primarily a matter of communicative practice (as opposed to instrumental calculation or the aggregation and reconciliation of interest). Deliberative policy analysis has a particular set of standards that it can apply to the evaluation of communicative practices.
The barriers

There are four key barriers to bridging social science and policy that stand in the way of building meaningful knowledge networks between government and universities:

1. disconnection, mistrust and poor understanding between the worlds of ideas/research and action/practice;
2. a static view of academic research as a product, and system decision-making as an event, versus a dynamic view of both as social processes that need to be linked in ongoing exchange;
3. few skills or incentives in universities to do applied research; and
4. few skills or incentives in the system to use research.
What would the perfect evidence-based policy system look like?

1. Where policy advisors have the capacity to act and the competences to understand the choices available.
2. A policy system that works beyond the electoral cycle and focuses on long-term issues of national significance.
3. A system that utilizes existing capacity.
4. A system that is proactive to changes in the field of action.
5. Where there is room for experimentation.
6. Where innovation is incentivized.
7. Where the capacity to speak truth to power exists.
8. Where there are clear accountabilities.
9. Where policy and evidence are effectively integrated.
10. Where information systems allow for the effective flow of information from the front line.
11. Where evidence is freely debated and shared.
12. Where better practice is shared.
13. Where there is access to evidence and strong productive working relationships and knowledge institutions.
14. Where there is effective use of innovation intermediaries.
15. Where there are demand and supply side incentives to engage in evidence-based making.
Evidence-based managers work through a simple sequence:

1. collect evidence that a problem, or potential problem, exist;
2. diagnose the root causes of the problem;
3. prescribe the best possible solution;
4. implement the solution; and
5. check for evidence that the solution worked, and, if it did not, start again at step 1 by revisiting all available evidence.
Evidence, Statistics, and Darn Lies

Evidence itself, regardless of its quality or veracity, will never be enough. There are several reasons why this is so:

• there is no single, absolute definition of what constitutes valid evidence;

• one man’s “evidence” is another man’s “statistics and darn lies”; and

• in an organizational context, particularly a public management organization, political expediency can easily trump and truncate evidence-based philosophy, policy, and practice.
Three Broad Interrelated Activities: An Evidence-Informed Approach

Deciding and responding
Deciding how to respond to potentially significant problems and opportunities; consider available evidence and uncertainties, along with many other factors

Developing evidence
Providing additional evidence on problems and opportunities—especially their size significance, and the effectiveness of various approaches for addressing them

Communication and networking
Communicating effectively with relevant decision makers and others within one's organization—and, as appropriate with others—about problems and opportunities, including potential responses and evidence
Utilizing Research to Strengthen Legislation

Tennessee Bureau of Investigation (TBI) conducted research in order to discover just how prevalent human trafficking was in the state. TBI completed a research study entitled Tennessee Human Sex Trafficking and Its Impact on Children and Youth.

• As a result, TBI established a full-time statewide human trafficking unit. Since 2011, the Tennessee General Assembly has passed 39 pieces of legislation that have strengthened the laws to protect survivors of human trafficking, and the state has had several positive results in prosecuting offenders by employing the new human trafficking laws.
Partnerships to Increase the Availability of Resources

Tallahassee Police Department completed a research project entitled Pre-Arrest Diversion Program that diverts first-time misdemeanor offenders directly to a local behavioral health agency for intervention services. The intervention services provided by the behavioral health agency address criminogenic and substance abuse behaviors in order to reduce recidivism and improve public safety. The research utilized evidence-based intervention services that have significantly influenced recidivism rates for program participants. The Western Carolina University’s Department of Criminology and Criminal Justice guided the complex research effort.
Engaging the Community

The City of Redlands, CA, Police Department completed a research study entitled Translating “Near Repeat” Theory into a Geospatial Policing Strategy: A Randomized Experiment Testing a Theoretically Informed Strategy for Preventing Residential Burglary. The research project used a randomized controlled trial to test whether quickly notifying community residents that they are at an increased risk for a burglary and providing them with burglary prevention tips reduced incidents of further burglaries in the high-risk time period.

• This research was the first systematic test of a policing strategy designed to disrupt the near-repeat pattern of residential burglary. The project impacted the community in a positive way by making community members more aware of crime in their neighborhoods and causing them to be more vigilant about locking doors and windows, to watch out for their neighbors, and to be more likely to report a burglary to the police.
The Crime Prevention Matrix
The matrix mapped with 97 police intervention studies
Realms of effectiveness
• If we knew what it was we were doing, it would not be called research, would it? Albert Einstein

• One of the greatest tragedies of life is the murder of a beautiful theory by a gang of facts. Benjamin Franklin.
Poll Question

Does evidence based policy development or management have a place in your agency?
Yes_____
No_____
Questions?
If you have questions or would like a copy of the PPT please contact me.

Books by Dr. Jeff Fox


jcfpdf@msn.com
Office – 540-524-9103
Cell – 540-420-7423
References


Useful Web Sites

• Center for Problem-Oriented Policing: http://www.popcenter.org
• Coalition for Evidence-Based Policy: http://www.evidencebasedprograms.org
• CrimeSolutions.gov: http://www.crimesolutions.gov
• Fight Crime: Invest in Kids: http://www.fightcrime.org
• George Mason University’s Center for Evidence-Based Crime Policy: http://gunston.gmu.edu/cebcp
• Evidence-Based Policing Matrix: http://gemini.gmu.edu/cebcp/matrix.html
• International Association of Chiefs of Police: http://www.theiACP.org
• National Criminal Justice Reference Service: http://www.ncjrs.gov
• National Institute of Justice: http://www.nij.gov
• Office of Community Oriented Policing Services: http://www.cops.usdoj.gov
• Police Executive Research Forum: http://www.policeforum.org
• Police Foundation: http://www.policefoundation.org
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Advantages of administrative ‘big data’</th>
<th>Disadvantages compared with other data sources (i.e. national statistics or longitudinal surveys)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale</td>
<td>Large-to massive-scale collection. Often comprehensive for a whole population</td>
<td>Analysts cannot over-sample those sub-populations of particular interest</td>
</tr>
<tr>
<td>Disaggregation by geographical area</td>
<td>Gives a reliably granular picture at the small-area level</td>
<td>None</td>
</tr>
<tr>
<td>Frequency of updating</td>
<td>Updating occurs regularly (sometimes continuously) with all new transactions or contacts—usually annually, quarterly or even more often</td>
<td>Updating is on an externally fixed cycle and cannot be adjusted to capture specific events</td>
</tr>
<tr>
<td>Vulnerabilities</td>
<td>Achieving consistency in data reporting is a key compliance aspect for the managers and staff of agencies. Accuracy is required and inaccuracy may have seriously adverse consequences</td>
<td>Managers or staff may nonetheless ‘massage’ numbers where they can, to make their units’ performance look better. Implicit knowledge combined with some space for discretion in classification may make this hard to spot</td>
</tr>
<tr>
<td>Quality checks</td>
<td>Managers check returns and data, focusing on case-by-case consistency. Internal audit will selectively highlight inconsistencies affecting performance</td>
<td>Data quality is rarely cross-checked or tested using social science or statistical techniques or sophisticated data analytics—although external auditors may make more rigorous checks occasionally</td>
</tr>
<tr>
<td>Metadata</td>
<td>May be limited or inconsistently applied across organizations</td>
<td>Later analysts may not have access to the implicit knowledge used in choosing metadata tags</td>
</tr>
<tr>
<td>Coverage of the population</td>
<td>Captures people who normally resist being included in conventional surveys</td>
<td>Excludes people living ‘off the grid’ or not transacting with government agencies</td>
</tr>
<tr>
<td></td>
<td>Government incentives or coercion limit non-responses or incomplete data</td>
<td>Coverage may vary over time if administrative rules change the costs and benefits for trans actors</td>
</tr>
<tr>
<td>Data generated</td>
<td>Normally covers actual behaviors</td>
<td>Rarely captures intentions or perceptions</td>
</tr>
<tr>
<td></td>
<td>The variables collected make sense for administrative reasons, but are not necessarily defined in useful ways for wilder analysis</td>
<td>Some reactive components (i.e. recall of historic factual data)</td>
</tr>
<tr>
<td>Mode of collection</td>
<td>Less obtrusive than a separate survey. Penalties for misrepresentation. And cross-checks of documents may enhance accurate factual data</td>
<td>Beyond the original collection agency, most data may be available only in</td>
</tr>
<tr>
<td>Identification</td>
<td>Machine learning may let analyst compensate for missing registry links or identities</td>
<td></td>
</tr>
</tbody>
</table>
## Components of policy process and different evidence issues

<table>
<thead>
<tr>
<th>Stage of the policy process</th>
<th>Description</th>
<th>Different evidence issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agenda setting</td>
<td>Awareness and priority given to an issue</td>
<td>The evidence needs here are in terms of identifying new problems or the build-up of evidence regarding the magnitude of a problem so that relevant policy actors are aware that the problem is indeed important. A key factor here is the credibility of evidence but also the way evidence is communicated.</td>
</tr>
<tr>
<td>Formulation</td>
<td>There are two key stages to the policy formulation process: determining the policy options and then selecting the preferred option (see Young and Quinn, 2002: 13-14).</td>
<td>For both stages, policymakers should ideally ensure that their understanding of the specific situation and the different options is a detailed and comprehensive as possible – only then can they make informed decisions about which policy to go ahead and implement. This includes the instrumental links between an activity and an outcome as well as the expected cost and impact of an intervention. The quantity and credibility relevant across different contexts.</td>
</tr>
<tr>
<td>Implementation</td>
<td>Actual practical activities</td>
<td>Here the focus is on operational evidence to improve the effectiveness of initiatives. This can include analytic work as well as systematic learning around technical skills, expert knowledge and practical experience. Action research and pilot projects are often important. The key is that the evidence is practically relevant across different contexts.</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Monitoring and assessing the process and impact or an intervention</td>
<td>The first goal here is to develop monitoring mechanisms. Thereafter, according to Young and Quinn (2002), ‘a comprehensive evaluation procedure is essential in determining the effectiveness of the implemented policy and in providing the basis for future...’</td>
</tr>
</tbody>
</table>
Steps in the use of visual methods in policy making

1. Observation and Data Collection
   - Recording

2. Data Analysis and Interpretation
   - Artefact collection
     - (multiple records that include provenance, metadata, etc.)

3. Analysing
   - Data-display patterns
     - (artefact collection organized as evidence, eg, ticks, counts, descriptive themes, etc.)

4. Presenting
   - Writing and Reporting

Observations of visual artefacts

Insight
- (data-display pattern organized to communicate with specific audiences)
The Ladder of Inference

- Actions
- Beliefs
- Conclusions
- Assumptions
- Affixed Meaning
- Selected Data and Experience
- Real Data and Experience