EVALUATIVE THINKING

1. EVALUATIVE THINKING AND RECORD REVIEWS

How Can Record Reviews be Used Effectively?

Data that are collected for administrative and other purposes, such as registration data and attendance data "i.e., records," are often useful for evaluation. Once it has been determined what is available, how permission can be obtained and how access can be achieved, reviews of existing program and/or participant data records can be conducted.

- These data can be obtained from **internal sources** (i.e., an organization's own files), **or external sources** such as the records of another organization like those kept in a program participant's medical or school files (see examples of data sources, right).

- Sometimes specific questions can be added to standard record-keeping strategies and responses can be collected as part of a record review (e.g., a question for parents about program value could be added to a student intake or registration form).

It is always useful to consider types of data that already exist before initiating an evaluation project, and to devise strategies that utilize available information both to provide background and to help answer evaluation questions. **Record reviews are commonly combined together with surveys, interviews and observations to optimize usefulness.**

What Kinds of Data Can be Collected Using Record Reviews?

Like surveys, record reviews are very useful for collecting different kinds of data at the same time. Record reviews are commonly used to collect:

- **background information about participants** (e.g., race/ethnicity, age, gender, location, family composition)

- **status information about participants** (e.g., whether and how much they are working, what their income levels are, how much education or training they have completed, whether they have prior or multiple arrest records, whether they are owed child support)

- **behavioral data** (e.g., program attendance, program service utilization)

- **test results** (e.g., SAT or GRE scores, employment aptitude test scores, medical test results such as immunization status, TB test results)

- **other outcome data** (e.g., report cards, health or psychological assessments)

Record reviews can also be used to determine change over time by accessing records collected during different time periods, in addition, they are somewhat uniquely used to verify self-reported data. (For example, if participants report via surveys or interviews that they are not using particular drugs, blood or urine tests can be conducted to determine the truthfulness of their responses.) Record reviews are commonly used to obtain the same data from multiple locations so they can be compared to determine differences and similarities by site.

AVAILABLE RECORDS
(Administrative Data Examples)

Intake Forms

Participation/Attendance Rosters

Program Logs (e.g., daily activity descriptions)

Evaluation Forms (e.g., customer satisfaction surveys, session assessments)

Case Files or Case Management Data (these may include both internal data – such as progress toward internally established goals; and external data – such as reports about a participant's living arrangements, employment or childbearing status).

Exit or Follow-up Data

Assessments (these may also include both internal data – such as culminating knowledge measurements at the end of a cycle; and external data such as test scores, report card grades; scale scores on a behavioral scale; medical or substance use test results).

What Steps are Involved in Data Collection and Use?

For record reviews, the information of interest, usually answers to questions on a form, entries in a file, total or sub-scores on a test or battery of tests, are called **data elements**. While whole forms or databases with all results or facts may be collected, usually only specific data elements are the subject of analyses (for example a registration form may have information about a subject's address and background characteristics, employer address, job type, job tenure, pre-position training etc., but only the job type, job tenure and selected background characteristics such as age or gender are included in reporting). The following steps are typically followed when collecting and using record review data.

1. **Review existing data collection forms**. (It may be possible to suggest modifications or use of new forms for the future, but generally the evaluator is striving to use what is available.) It is extremely important at this stage to become familiar with definitions for each data element, (e.g., what constitutes FT as opposed to PT work status), to understand how the data elements are commonly used (e.g., to inform service providers about participant characteristics, to help providers diagnose which types of services would be helpful); and to clarify data ranges (e.g., scale scores on a test battery range from 5 to 15; younger adults are 20 – 49, baby "boomers" are those aged 50 – 64, seniors are 65+).

2. **Develop a code book** or at least a data element list keyed to data collection forms. This should be accompanied by a data dictionary describing each data element and possible values. Beware that definitions change: make sure you know when a definition is established.

3. **Officially request desired data**. This is best done in writing with details about how the data will be used. Sometimes data requests must be approved by external reviewers using specific processes that must be followed. Requesting data and securing access can be time consuming, so make sure to plan accordingly.

4. **Develop a "database"** for record review data. Record review data are commonly stored for analysis in Excel files, (or in SPSS, SAS or other statistical software files), but paper files or matrices work too.

5. **Develop an analysis plan with mock tables.** Plan to use data to describe programs or participants, and to present findings where possible. **Sometimes it is useful to start at this step and work backwards**.

6. **Think about and plan for recoding and recombination of available information.** Often data are captured with extended precision, but can be combined into categories that are simpler for use. (For example, information about participant age may be collected as exact birthdates, but reports of age data may show average age or number and percent of participants falling into age categories such as, 11 – 15, 16 or older.) In the second table example on the following page, the number of participants having "healthy" babies is shown for those in the program of interest and those not in the program. Data elements collected about each birth included the program status of the mother, the birthweight of the baby, and the baby's initial Apgar score[1]

7. **Enter and verify data** collected via hard copy format. **Review and clean data** submitted electronically. (For example if data were being collected for a group of middle school students, it would be critical to check the grade designations for all records and to remove any students with grades that didn't correspond to the known definition of middle school grades.) Be sure to do this **before** data analysis begins.

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[1] An APGAR score is a composite measure that evaluates a newborn baby on five simple criteria including **A**ppearance, **P**ulse, **G**rimace, **A**ctivity, and **R**espiration on a scale from 0 to 10.

BRUNER FOUNDATION
130 PROSPECT STREET :: CAMBRIDGE, MA 02139
TEL 617.492.8404 :: FAX 617.876.4002

info@brunerfoundation.org

EFFECTIVENESS INITIATIVES
311 MENDON CENTER RD. :: PITTSFORD, NY 14534
TEL 585-381-3098 :: FAX 585-385-2997

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Example of a Record Review Summary Table Describing and Comparing Age and Disability Diagnosis of Program Participants, by Site

Table x: Age and Primary Disability of Participants, by Site						
	Site 1	Site 2	Site 3	Site 4	CENTRAL	TOTAL
Number of Participants	32	45	33	43	157	**310**
AGE at INTAKE						
17 and Younger	3%	4%	0	0	10%	**7%**
18 – 21	0	13%	0	0	47%	**20%**
22 – 34	13%	29%	19%	7%	18%	**17%**
35 – 49	39%	27%	34%	40%	28%	**30%**
50 – 64	36%	22%	38%	47%	19%	**23%**
65 and Older	10%	4%	9%	7%	0	**4%**
PRIMARY DISABILITY						
Neurological	22%	60%	3%	98%	0	**27%**
Developmental/Cognitive	19%	31%	0	0	78%	**43%**
Physical	6%	0	0	0	2%	**2%**
Chronic Disease/Illness	3%	0	0	0	1%	**1%**
Psychiatric	19%	4%	97%	0	11%	**19%**
Sensory	9%	2%	0	0	1%	**1%**
Other	22%	2%	0	2%	7%	**6%**

Example of Comparative Evaluative Findings Determined Through Record Review

Table x: Comparison of Birth Outcome Results for Eligible Young Women, By Program Participation Status

	In Program		On Waiting List, Not in Program	
	Number	**%**	**Number**	**%**
Babies Born	18		22	
Born Healthy*	13	72%	14	61%
Not Born Healthy*	5	28%	8	39%

* The indicator of a healthy baby is birthweight above 5.5 pounds AND Apgar score 7 or above.

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What Are the Challenges or Limitations Involved in Conducting Record Reviews?

Most organizations collect and manage a considerable amount of data. It is increasingly possible to collect it by obtaining copies of paper forms, an extract (a copy of selected records from a database), or through direct access via the internet. Typically, there are four main roadblocks to effectively conducting record reviews. Challenges include:

1. Gaining access/managing confidentiality requirements

2. Dealing with missing or inaccurate data

3. Having minimal/no input regarding data definitions or data collection decisions

4. Selecting meaningful values from a preponderance of available information

While some of these challenges are beyond the control of the evaluator, it is important for those planning to conduct record reviews to be mindful of them.

(1) Effective use of record reviews requires that the evaluator or analyst must be selective and must thoroughly annotate how the desired data are defined, maintained, protected (i.e., kept confidential) and used. The data collector/evaluator must determine who oversees the data and what permissions and physical access requirements must be addressed (i.e., where extracts of files can be made available, or the evaluator needs to visit the files and collect/review information where the files are). Usually, as long as identifying information is protected and the evaluator can justify why the data are needed and how they will be used, access can be accomplished.

(2) The data obtained through record review are only as good as the data maintained by the source. Expect missing and possibly inaccurate data. Be sure to set thresholds for *missing* before obtaining the data (i.e., **set limits on how many cases can be missing a data element or missing entirely before a data element or data set cannot be used**). Be sure all definitions and data ranges are understood so it is clear when there are errors in existing databases.

(3) Unlike direct data collection through surveys, observations and interviews, it is very difficult to inform or influence which data elements are collected or how data are defined when they are collected by other departments or other organizations, usually for other purposes. It is also difficult to exert any pressure on those collecting data to ensure that they aggressively and carefully do so. The evaluator must work with what is available.

(4) As stated above, there is a lot of data available. Using record reviews requires the evaluator to be selective so that information obtained is manageable. **Working with record review data can be labor intensive, so it is important to obtain only those data elements that will directly relate to specific evaluation questions**. To secure permission, collect, clean and analyze a full set of records can be an involved process that leads to only basic descriptions or a single finding (see the table examples on the previous page). **It is exceptionally bad practice to collect whatever is available and then figure out how to use it.** Data collection and analysis should always be in alignment with preconceived questions and a carefully crafted analysis plan (see final section for suggestions regarding analysis planning).

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What Can You Do to Enhance Evaluative Use of Record Reviews?

There are definite steps that can be taken to enhance the effectiveness of record reviews so that findings from them can inform data-driven decisions. *(Using findings and making data-driven decisions are key elements of evaluative thinking.)*

1. DEVELOP A GOOD RECORD REVIEW PROTOCOL AND DATA DICTIONARY. Make sure you understand the data to be collected and analyzed and that stakeholders agree.

2. CAREFULLY SELECT WHICH DATA ELEMENTS TO COLLECT AND DEVELOP A MANAGEABLE DATA SHARING STRATEGY. If possible determine data completeness for both internal data (e.g., items on a registration form) and external data (e.g., scale scores on an assessment conducted by a clinician), and find out about any changes to definitions of the individuals or groups they describe. It is not uncommon for data collection forms to change slightly as they are used causing information differences for those who used the different forms. Most external data is managed by personnel who will be involved in the transfer of or access to the records to be reviewed. Forging good relationships with providers of information is key to getting what is needed as well as answers to any questions that arise.

3. DETERMINE ACCESS/PERMISSION NEEDS AND DEVELOP AN ANALYSIS PLAN BEFORE ATTEMPTING TO COLLECT DATA. Planning for use of record review data before it is collected is an essential step. It will help ensure that all necessary data and definitions are obtained. (It should be possible to identify what will be done with the results of each data element. If not, perhaps the data elements are not necessary or not useable.) An analysis plan also provides specific directions for what to do with data once it is collected so the analyst is not overwhelmed and the analysis process can be expedited.

   Suggestion: **Develop "dummy" tables to show how all data will be summarized.** These tables show column and row headings with blank spaces into which the actual data will be entered, and even footnotes clarifying definitions.

4. CONDUCT ANALYSES ACCORDING TO THE PLAN AND MAKE SURE THERE IS TIME TO VERIFY INFORMATION. Just like those used for surveys, good record review analysis plans must specify what procedures will be conducted with each data element. The analysis plan should also include directions for:

   - How data will be partitioned (e.g., by site, by group affiliation, by age, gender, FT or PT employment status etc.)

   - What happens when there are missing data (i.e., how much missing data is too much?) or out-of-range data (are there values out-of-range, i.e., too high or too low, given data definitions?)

   - How data will be recoded or combined (e.g., scores on the expression, connectedness, anxiety and depressive symptoms subscales are combined into a single mental health MH indicator)

   - What calculations are necessary (e.g., frequencies; measures of central tendency such as averages, medians or modes; cross-tabulations where two variables are considered at the same time)

   - How findings will be presented (in tables and/or graphs, with narrative summaries).

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