USING YOUR OMS DATA
May 2016

This document is part of several training modules created to assist in the interpretation and use of the Maryland Behavioral Health Administration Outcomes Measurement System (OMS) data. These other training documents are available on the OMS Datamart under "Additional Resources" (http://maryland.valueoptions.com/services/OMS_Welcome.html) and on the Beacon Health Options website. This "Using Your OMS Data" document will help administrators choose Datamart elements to report on the information that is most important to the organization. How to organize, track, and apply OMS data to an organization's administrative needs and goals will be discussed.

Across Maryland, various entities are responsible for the planning and coordination of behavioral health services within their jurisdiction(s). For the purposes of this document, the term "Local Behavioral Health Authority (LBHA)" is used to refer to Local Health Departments, Local Addiction Authorities, Core Services Agencies, and Local Behavioral Health Authorities.

The OMS Datamart is designed to provide agency administrators and Local Behavioral Health Authorities (LBHAs) with data to assess outcomes of the clients they serve. It allows managers to look at their agencies or jurisdictions as a whole in order to gain perspective on client trends. Such data can lead to a better understanding of the impact of treatment provided by an organization.

This document will:

1) Outline potential uses of OMS data.
2) Describe guidelines for choosing Datamart elements that are determined by the user's data needs.
3) Suggest questions that can be used to assist with interpreting data.
4) Identify other data sources that users may find helpful.
5) Summarize possible next steps.
6) Propose different considerations and formats when presenting and distributing OMS data.
7) Illustrate how all of these can be applied in a case example in which OMS data is used for a program evaluation (see Appendix A).

Potential Uses of OMS Data

There are several different ways in which the OMS data can be useful such as:

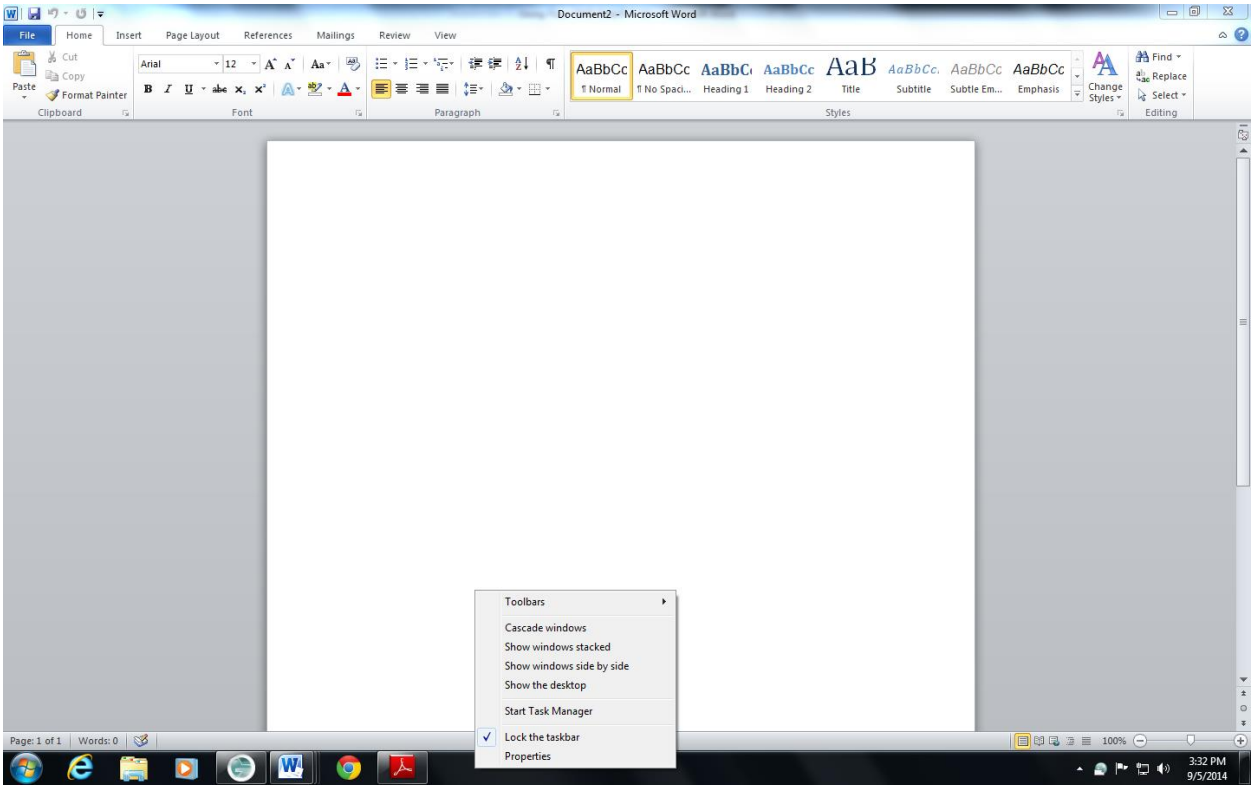
1) Comparing a program/jurisdiction to others
2) Providing data for required accreditation activities
3) Planning and implementing Quality Improvement (QI) and program evaluation projects
4) Responding to requests for information

Comparing a program/jurisdiction to others

The Public Datamart provides data that allows for comparisons between the State and/or the jurisdictions or Local Behavioral Health Authorities (LBHAs). Program level information can be

viewed in the Connected Datamart by both service providers and LBHAs. For service providers, including Local Addiction Authorities, this access is available through Beacon Health Options ProviderConnect. For LBHAs, this access is available through IntelligenceConnect. To make comparisons of OMS data (either between different groups in the Public Datamart or between the Public and Connected sites), the side-by-side function can be used to view these simultaneously. To access this:

1) Make sure the Datamart and worksheet are the only programs open.
2) Move the cursor onto the toolbar at the bottom of the screen that displays your program icons (the black bar in the graphic below), but **without touching any icons.**
3) Right click and select “Show windows side by side” (the fourth item down on the list).



In addition to these straightforward comparisons, a series of OMS Workbooks has been developed to allow users to calculate whether the differences seen are statistically significant. Details on how to use the OMS workbooks can be found in the *Determining Statistical Significance* document.

Accreditation

An increasingly important use for OMS data may be in helping programs to fulfill outcome measurement requirements for accreditation entities. Many may require programs to measure outcomes in a systematic way and incorporate findings into administrative and quality improvement activities, as well as to compare themselves to external data sets. The OMS data may assist in fulfilling some of these potential requirements.

Quality Improvement Activities and Program Evaluation

One of the key ways to incorporate OMS data into administrative activities is to use it as a quality improvement tool. Examples of such activities may include:

- Tracking key items of interest and bringing them to staff/provider meetings for discussion and brainstorming.
- Scanning across several OMS items to identify jurisdiction/program strengths and weaknesses for a needs assessment project.
- Examining outcomes for particular subsets of populations (e.g., comparing males and females on the substance use items) and using the data to inform clinical/administrative practices or procedures.

Tracking key items of interest and bringing them to a meeting can stimulate discussion and brainstorming.

OMS data can also be used in program evaluation (please see Appendix A for a case example). A program evaluation is designed to assess the impact of a new intervention, policy, procedure, or training initiative. The OMS data can be useful in measuring the impact of such activities, when they reach a large proportion of the clients served by the program or jurisdiction. It is, however, important to note that the OMS Datamart data does not meet research standards and therefore there are limitations on its interpretation.

There are a few steps that are generally included in a program evaluation (these do not always have to be followed sequentially):

1) *Identify the Purpose of the Evaluation*: What do you want to know? How will the information be used? These questions will help focus the evaluation.

2) *Determine Data Needs:* What data will answer the question? When using OMS data, this step involves identifying relevant items in the OMS and determining Datamart elements (items, time period, jurisdiction, etc.).

3) *Collect the Data (pre-intervention):* For OMS data, this involves collecting data from the OMS Datamart. Although this can be done retrospectively because the OMS Datamart contains historical data (particularly for mental health services), it is important to review the items available on the OMS Datamart prior to the intervention to ensure that you are aware of the "starting point" which will then help you set goals. "Collection" may involve printing the screen or documenting the data in another format. Other sources of data may also be useful, see "Incorporating Other Data Sources" later in this document.

4) *Implement the Intervention:* The intervention may be a program change, policy, procedure, training, etc.

5) *Collect the Data (post-intervention):* Revisit the OMS Datamart and collect more recent data, being sure to use the same parameters used prior to the intervention and a time frame that began after the intervention. How does the post-intervention data compare to the pre-intervention data?

6) *Interpret the Data:* Identify reasons for why the data changed or did not change.

7) *Determine Next Steps:* Based on the interpretation of the data, there may or may not be desired system or program changes.

8) *Present/Distribute the Data:* Share the results with other key stakeholders.

Regardless of the sequence of steps, an OMS program evaluation is one that uses OMS data to answer a question of interest in order to determine the effect of an intervention. However, when using the OMS data for program evaluation, it is important to consider other contextual factors that may have influenced the data (see "Interpreting Data" later in this document).

Responding to Requests for Information

There may be instances where an entity (e.g., board members, community stakeholders or federal and private grant application) requests outcome data or demographic information. The OMS Datamart may be useful in fulfilling this request. Examples include:

- An LBHA Board of Directors may request the percentage of employed clients in order to provide input into county plans for targeted employment and vocational services in the jurisdiction.
- The county may request information about homelessness among clients to make decisions about the allocation of housing vouchers and supports.
- An accreditation body may ask an agency, in its quality management activities, to describe the clients that it serves.
- A grant application focusing on smoking cessation may be strengthened by including current smoking rates for a program's clients.
- The State requires that OMS data, such as school performance and legal system involvement, be included in planning documents.

OMS data can be used to help determine the effect of a new intervention.

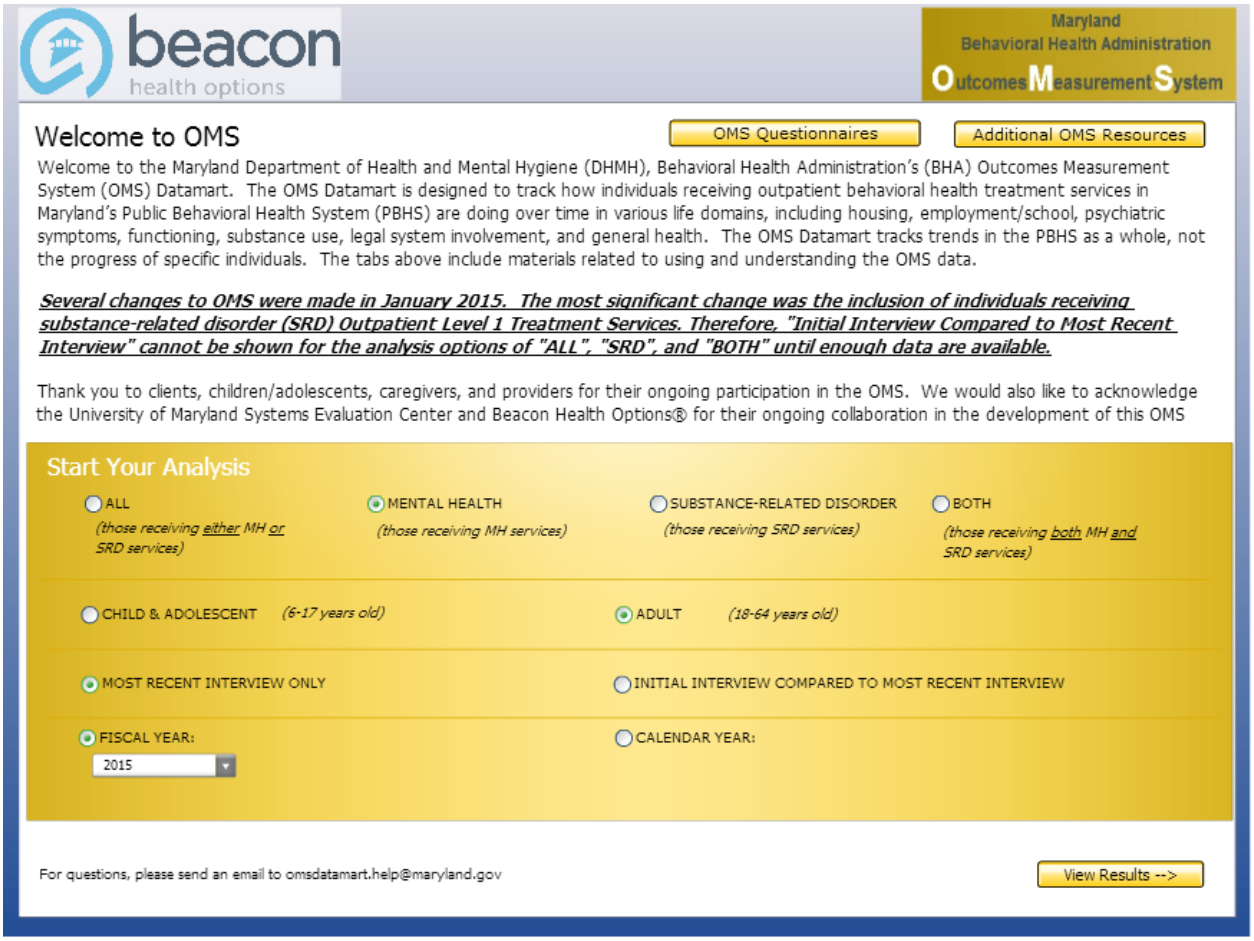
Guidelines for Choosing Datamart Elements

What do you want to know?

The Datamart contains a wealth of information and approaches to analyzing OMS data. The following section identifies a few key decision points and includes information to aid users in selecting the most useful data for their current need.

Services Received, Population, and Time Intervals

Begin by opening the OMS Datamart to the *Welcome Page.*



Services Received
Start the analysis by selecting which service group you wish to analyze:

ALL - those receiving either mental health or substance-related services
MENTAL HEALTH - those receiving mental health services, whether or not they received a substance-related disorder service
SUBSTANCE-RELATED DISORDER - those receiving substance-related disorder services, whether or not they received a mental health service
BOTH - those receiving both mental health and substance-related disorder services

Population
Select the population (i.e., Child & Adolescent or Adult) for the analysis. In most cases, choosing a population will be straightforward.

Point in Time or Change Over Time Analysis
Determine what will be more helpful in answering the question or exploring the data: **Most Recent Interview Only** (also known as **Point In Time/PIT**) or **Initial Interview Compared to the Most Recent Interview** (also known as **Change Over Time/COT**).

"PIT" data is a "snapshot" that shows the data for clients as a whole at a specific point in time, whereas "COT" demonstrates changes that have occurred for clients as a whole over time.

To make this decision, consider, "Why am I interested in this question and what will be done with the data?" When describing clients or reporting on what is often called "cross sectional" data, select **Most Recent Interview Only** (or PIT). This option provides a snapshot of the most up-to-date information on clients who have received services within the selected year. PIT data may be most helpful when a program or LBHA is conducting needs assessments, providing current descriptive information, submitting grant applications, or assessing the impact of a policy or program change. Finally, PIT data can help organizations to identify trends. For example, to track homelessness over time, a program can record data from the Datamart for every calendar year, across multiple years. By comparing each year side by side, it will be apparent if homelessness has increased, decreased, or stayed the same.

Alternatively, **Initial Interview Compared to the Most Recent Interview (or COT)** assesses how clients have changed since their initial OMS interview at that agency. For example, when providing examples of a program's strengths, selecting Initial Interview Compared to the Most Recent Interview provides opportunities to discuss how clients' outcomes may have improved since they started treatment. While PIT data is a reflection of changes for the entire population as a whole, COT data captures and summarizes changes across individuals within the population.

Choose "PIT" data for current descriptive information, needs assessments, grant applications, or trending. Use "COT" data to view client outcomes since starting treatment or to evaluate policy or program changes.

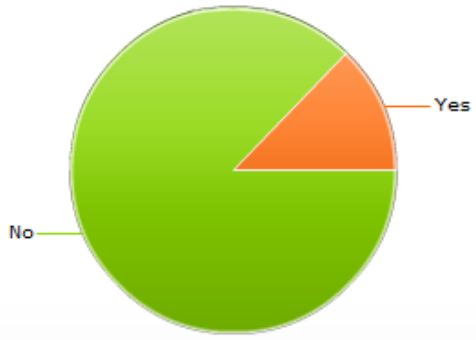
There will be many situations in which the user determines that both PIT and COT data are useful to answer their questions. For example, if a program is

emphasizing housing and monitoring the homelessness rate of their clients, the PIT data may show that, compared with other programs, a relatively large proportion of clients receiving services are homeless. However, the COT data may indicate that many individuals who were previously homeless then gained housing. Using both pieces of data shows that the program is engaging homeless individuals, while also demonstrating that clients are obtaining housing. An example of this is shown below.

PIT Homeless Data

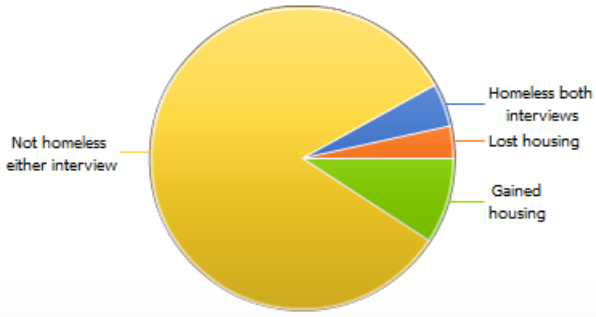
COT Homeless Data

Q3. Have you been homeless at all in the past six months?



Answer Options	# of Clients	%
No	38,645	87.2%
Yes	5,653	12.8%
Total	**44,298**	**100.0%**

Q3. Have you been homeless at all in the past six months?



Outcomes	# of Clients	%
Gained housing	2,017	9.2%
Not homeless either interview	18,175	82.7%
Homeless both interviews	1,021	4.6%
Lost housing	761	3.5%
Total	**21,974**	**100.0%**

Time Frame

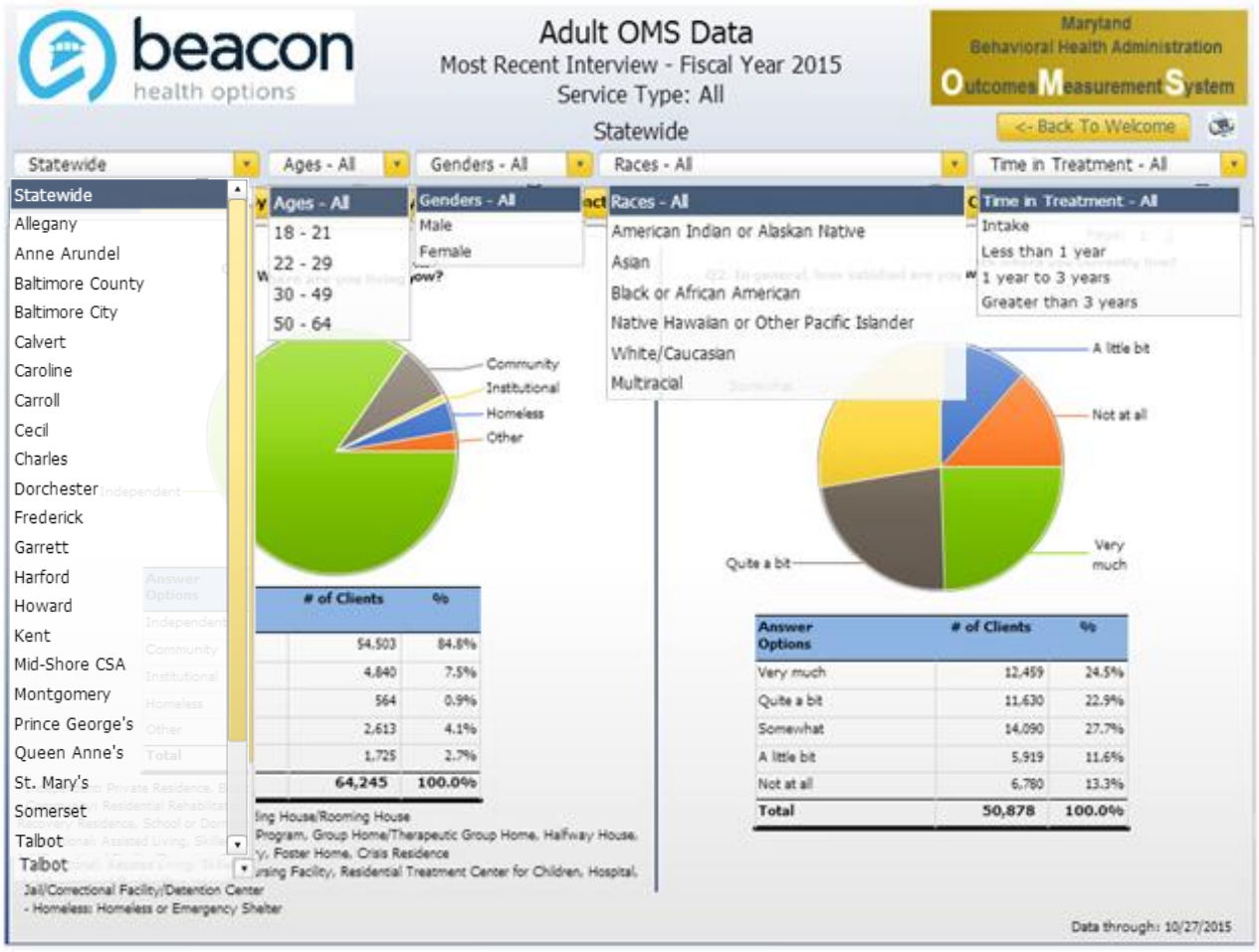
The final decision that needs to be made on the Welcome Page is the timeframe. Options include Fiscal Year and Calendar Year. The decision as to which time interval to select depends on how the data will be used. Fiscal Year data will provide data from July through June and can be useful if the program administratively runs on that time frame. Calendar year data will provide data from January through December and can be useful for presentations to the community.

Please note the Datamart is refreshed quarterly. Be sure to check the "Data through" date at the bottom right corner of the data screens to see when the data was last updated.

Subpopulations (i.e., using Filters)

Towards the top of the next screen in the Datamart, there are several drop-down menus or filters that include: jurisdiction, age, gender, race, and time in treatment. Using these filters, the characteristics of subgroups of clients can be examined to learn more about who is being served. For example, by looking at OMS data at the county level, it might become clear that a particular age group is proportionally underrepresented at the program level. This may lead to development of an outreach initiative to engage the age group in services. The most common use for these filters will likely be to report the client demographics of those served by the program.

OMS data can be filtered by jurisdiction, age, gender, race, and time in treatment.



Documenting Data

Once it has been determined which data parameters will be most useful in answering the question(s) of interest, it may be beneficial to keep a record of the parameters that were selected and the results. If two groups will be compared or if the same OMS result will be used again in the future, making notes will ensure consistency in comparisons. Key aspects to note include:

- Service types (All, MH, SRD, Both)
- Population (adults or children/adolescents)
- Type of analysis (PIT or COT)
- Time frame used (specific Fiscal/Calendar Year)
- Jurisdiction
- Population Filters (age group, gender, race, time in treatment)
- OMS question(s)
- Results (e.g., number and percentage of individuals in each result category).

This type of data documentation may not be necessary for every analysis. For example, if the data generated is only to be used one time, such as bringing the results of an item to a Board Meeting, printing out the screen may suffice.

Interpreting Data

Collecting and reviewing the data from the Datamart is only the first part of the process in understanding the results. The next steps are to interpret the data and determine what implications it might have.

In some situations, a statistical comparison between two groups might be useful for interpreting the data. There are four Excel workbooks available on the Datamart (under "Additional Resources" and the ASO website (under the OMS section of "Provider Information") that can be used to determine if the OMS results from two groups are statistically significant. However, it is not necessary to use these workbooks to interpret the data.

If a statistical comparison is done, it is important to recognize that "statistical significance" and "meaningful difference" may not be the same thing. Sometimes clinically meaningful details are not captured by statistical tests, whereas in other situations statistical tests highlight mathematical details that carry minor (or no) clinical importance.

Use the questions below to stimulate and guide discussion when interpreting OMS data (also included in Appendix B). The questions overlap; it does not matter how the change is categorized, the idea is to use the questions below to develop a few plausible explanations for the data.

When interpreting OMS data, try to develop a few plausible explanations for the data.

Questions include:

1) *Are these the expected results? Why or why not?*
   It is likely that some results were anticipated based on current knowledge about the clients receiving services or system characteristics. In many cases the data will support the expectations; in others the data may be somewhat surprising. In either situation, there may be more than one reason for the results. Questions 2-7 below can be helpful in identifying possible explanations for the data. If you are assessing the impact of an intervention, it is important to consider whether changes in data may have occurred for reasons unrelated to the intervention.

2) *Were the data affected by policies, procedures, or characteristics at the community, county, or state level?* There may be factors beyond clients' behaviors or program activities that influence the data. Changes that occur at a county or state level may impact outcomes. For example, if an adolescent program unexpectedly finds suspensions have greatly reduced in one year, the program may want to check if the county had similar results. If suspensions in the county decreased in the same way, the program may conclude this reduction is most likely due to policies that affect the entire county, not just the clients in their program. They may want to check with their county's Board of the Education to see if there have been any modifications to their suspension policies or procedures that may have had an influence on the frequency of suspensions.

3) *Were the data affected by contextual or programmatic factors?* Programs are dynamic entities that are frequently adjusting to meet the needs of their clients. Some changes may have an impact on the data. For example, if a program decided to start referring all new clients to an employment program upon intake, it may see an increase in clients' employment compared to last year's data. Program administrators would most likely attribute this change to their new program policy.

4) *Were the data affected by characteristics of individual staff members or the clients being served?* Data may be a reflection of staff members' or clients' characteristics; while some of these might be obvious, others may be less so. For example, a mental health clinic noticed changes in its substance use results several months after hiring a number of individuals with experience in both mental health and substance use treatment. The team believed that this was due to the specialized expertise of these new staff members in eliciting responses. An example reflecting client characteristics would be when a substantial increase of homelessness in the past year is observed at a program. The Director reviews the county's and state's OMS data which do not show similar increases. When the Director investigates why this change may have occurred at the program, staff members inform him that the program has received a large number of referrals from a new agency that specializes in serving individuals who are homeless or at risk of homelessness. This information leads the Director to believe that the increase in homelessness is likely due to the characteristics of the clients referred by this new agency.

If you are comparing two sets of data for program evaluation, you may also want to ask:

5) *Did the data change after the intervention? If so, how?* One method of answering this question is to review PIT data before the intervention begins, record the results, and then repeat the same analysis at an appropriate time interval after the intervention (keeping in mind that some interventions may take longer to have an impact than others). Another might be to examine COT data before and after an intervention. In some cases, both approaches may be appropriate. For example, an opioid treatment program (OTP) has added services provided by peers that offer psychoeducation and skill building. The program might then look at their PIT and COT data for the "satisfaction with recovery" item to see if the data changed. This would include the number and percentage of clients who were satisfied (PIT data) as well as the number and percentage of clients who reported an increase in satisfaction (COT data).

6) *If there is a change, is it meaningful?* If your results indicate a numerical change, the next step is to determine if the change is meaningful. For example, if satisfaction with recovery increased 6% after initiating ongoing WRAP (Wellness Recovery and Action Plan) training for clinicians, it would most likely be interpreted as meaningful change. However, if satisfaction had only increased by 1%, the difference may not be very meaningful and is likely a slight fluctuation in the data, even if that difference happened to be "statistically significant".

   Whether or not a change seems meaningful may be related to specific goals. For example, if a LBHA identified a goal to reduce smoking rates by 5% in the next year, and the OMS data indicate a 2% change, the LBHA Director may report that although they did not reach their target, the data indicates that they are moving in the desired direction.

   As mentioned earlier, there are Excel workbooks available on the Datamart and the ASO website which will help in determining statistical significance between two groups; however, only someone familiar with the program, community/context, goals, etc. can determine if the change was meaningful.

7) *Was implementation of the intervention a factor? What were some of the challenges encountered and how might they have affected the results?* These questions can be particularly helpful if an intervention, policy change, etc. did not have the expected impact. For example, a well-developed curriculum to promote healthy eating is unlikely to impact general health and obesity if very few actually attend the classes. Additionally, inconsistency across service providers when implementing a new treatment approach can also impact outcomes.

   Once a challenge is identified, there may be solutions to implement the intervention more effectively. Conducting classes during the day rather than the evening (or vice versa) might improve attendance at healthy eating classes. Reviewing staff documentation or creating a group supervision meeting specifically related to the new approach will help ensure consistency across service providers.

The following example illustrates how the seven questions can be applied to interpreting data for a program that chose to address smoking with a new intervention:

INTERPRETING DATA EXAMPLE

Program staff reviewed their OMS data and noticed that 60% of their adult clients smoke cigarettes (PIT). The program found a free smoking cessation group curriculum online and incorporated it into their programming. The staff hoped to reduce the number of clients who smoke to 40%. The rate reduced to 50% after six months of conducting the group. They had also hoped to decrease the number of cigarettes smoked each day (COT); this also decreased.

1) *Are these the expected results? Why or why not?* As the staff reviewed their OMS data, they initially asked themselves if the results were what they expected. Although the percentage of smokers did decrease, the decrease was less than hoped. The staff used Questions 2-7 to help identify possible explanations.

2) *Were the data affected by policies, procedures, or characteristics at the community, county, and/or state level?* After the group started, the state raised the tax on cigarettes. It is difficult to know to what extent the intervention influenced the decrease in smoking, because the tax increase may have been a disincentive to buy cigarettes.

3) *Were the data affected by contextual or programmatic factors?* The staff member who was leading the group left and another staff member assumed responsibility half-way through the curriculum. It is possible that this staff change may have affected the results.

4) *Were the data affected by characteristics of individual staff members or the clients being served?* Other than the change in group leader, no staff or consumer characteristics were identified as possible influences on the data.

5) *Did the data change after the intervention? If so, how?* Yes, the data changed. The percentage of clients smoking in PIT data decreased from 60% to 50%. The COT data show that clients were smoking fewer cigarettes per day. The COT data will allow one to see whether more of the people who stayed in the program quit smoking after the intervention. COT data also allow one to determine whether the number of cigarettes smoked per day has changed since the start of the intervention.

6) *If there is a change, is it meaningful?* Even though the program staff did not meet the identified goal, the changes were substantial enough to be meaningful. To gain further understanding of the statistical significance of the changes, the appropriate OMS Excel workbooks can be used. However, the staff agreed that their goal of 50% rate reduction may have been unrealistic.

7) Was implementation of the intervention a factor? What were some of the challenges encountered and how might they have affected the results? The online curriculum instructed that all participants should attend all sessions. However, many were not able to attend due to the unusually cold weather. Therefore, the program decided not to enforce the attendance rule. The lack of a “full dose” of the intervention may have affected the results.

Incorporating Other Data Sources

Some administrators may want to supplement the information from the OMS Datamart with data from other sources. This might include information collected by their agency such as billing information, insurance status, staffing information, etc. Additionally, there are other data that may be used by programs in-house on a regular basis (such as claims information, CRISP notifications, and Crystal reports) that can be used in tandem with the OMS data to gain a multifaceted perspective of clients served. For example, the MARF-004 Crystal report contains the unduplicated number of clients served during a fiscal year. Comparing this information to the "Counts" tab in the OMS allows one to calculate the percentage of individuals served in the jurisdiction who are represented in the OMS data.

In addition to the behavioral health data described above, administrators may also be interested in comparing their OMS data to similar variables found in state or national data. The following sites may be useful for this:

- **DHMH eHealth Statistics: http://www.chpdm-ehealth.org**
  - Includes information such as Medical Assistance eligibility, MCO enrollments, service utilization, as well as selected public health indicators.

- **DHMH BRFSS: http://www.marylandbrfss.org**
  - Contains Maryland specific data from the Behavioral Risk Factor Surveillance System from 1995 to 2012. Includes a wealth of information on public health as well as information about health insurance coverage, and primary care and hospital utilization.

- **Department of Planning Statistical Handbook: http://www.mdp.state.md.us/msdc/md_statistical_handbook12.pdf**
  - Contains county specific population and demographic information as well as information on income, poverty, employment, education, and housing.

- **US Census:** https://www.census.gov/data.html
  - Provides demographic and outcome data on the general population for different geographic jurisdictions.
  - Useful when comparing a county or state clinical population to the general population.

- **SAMHSA: http://www.samhsa.gov/data**
  - Offers several state and national databases related to outcomes and mental health and substance-related disorder services for children, adolescents, and adults**.**

- **SAMHSA – TEDS: http://www.icpsr.umich.edu/icpsrweb/SAMHDA/series/56**
  - Provides data related to clients attending programs for substance use disorders, for different geographic jurisdictions.

- **CDC:**
  http://www.cdc.gov/mentalhealth/index.htm
  http://www.cdc.gov/DataStatistics (use the search button at the top to type in a topic; only a subset is listed in bullets)
  - Include basic public health information on behavioral health issues for different geographic jurisdictions.

- **CDC: http://www.cdc.gov/nchs/fastats/default.htm**
  - Compiles national statistics on public mental health, illegal drug use, and smoking including conditions, life stages, healthcare and insurance.

Determining Next Steps
Based on the interpretation of the data, the results can be applied to continued program or system development. In some situations, this might mean changing policies, procedures, or programming to address concerns. In others, it may mean making no changes at all or continuing as is. Any next steps will be determined by the interpretation of the data, the agency's or program's goals, and available resources.

In many cases, the OMS data will highlight strengths of the program or LBHA jurisdiction. If this is the situation, recognizing and celebrating positive outcomes may be the only desired activity. For example, agency administrators may choose to use this as an opportunity to recognize staff for their excellent work or the LBHA may want to showcase a particular agency's success at their next Provider Meeting.

In other situations, the agency or LBHA may decide that the data interpretation points to a need for some type of improvement activity and that a planning process should be initiated to determine the best course of action. The agency or LBHA may want to explore possible program, procedural, or policy changes. For example, if a LBHA realized that their recovery satisfaction rates were lower than comparable counties, they may want to work with their programs to ensure that they refer clients to a local Wellness and Recovery Center more consistently or explore options for further enhancing its recovery-oriented culture.

After interpreting the OMS data, next steps might include changing policies or procedures, continuing as is, or possibly even collecting additional information.

Sometimes the data is difficult to interpret so the next step may be collecting more information from another source to clarify the situation or gain perspective. For example, the Advisory Board of a LBHA may be concerned that the LBHA's employment rates have declined over the past three years and requests an explanation. The LBHA Director checks the OMS data for the state and other comparable counties, and sees a similar trend. In addition, the LBHA Director obtains employment rates for the state as a whole (not just mental health or substance-related disorder clients) and sees a similar trend. Although this knowledge does not change the situation, it puts the LBHA's declining numbers in perspective and aids in interpreting the decrease as relative to the overall economy and employment options.

As part of any program evaluation, a decision will need to be made whether to continue, modify, or discontinue the intervention it was evaluating. It may be helpful to examine any challenges encountered during the implementation of the intervention. Using the smoking example

described earlier, if there had been no decrease in smoking, the program may decide to hold a second group and this time focus more on getting participants to attend all sessions. To help clients achieve this, the program may decide to offer each session twice a week so that there is a second option in case of poor weather or it might provide incentives to attend, such as snacks, food vouchers, etc. The program might also decide to survey the people who took the class for feedback about how to improve it prior to offering a second group.

Presenting and Distributing Data
When developing materials to present or distribute, it is important to consider the following:

1) *Who is the audience?* The audience may be clinic staff, clients, family members, board members, outside entities, or community stakeholders. The audience's familiarity with the program(s) and/or issues being addressed will guide decisions about what information may be helpful. Some background or contextual information is essential for the OMS data to have meaning; it is unlikely that most groups will understand the presenter's intended message with numbers alone.

   For example, a LBHA administrator seeking support from both his board and the county mental health service programs, may want to create two separate presentations to promote the same initiative addressing clients' obesity. Both presentations may include the same data depicting a steady increase in BMI over the past 5 years, but the background information would be tailored to the specific audience. All board members may not have an extensive background in mental health, so including information about how some psychiatric medications can contribute to weight gain will help them understand how increasing obesity is relevant to mental health services. Clinical audiences may already understand how obesity and mental health are related, but might desire additional information on the feasibility and effectiveness of the proposed initiative prior to lending their support to the project.

2) *How will information be distributed?* Different formats can be used to distribute data. Data can be developed into talking points for a staff meeting, distributed as a newsletter to community stakeholders, presented with slides at a board meeting, included in a marketing brochure, or shared through other means. The type of dissemination will influence the length, complexity, and overall content of how the data is presented. Brief talking points may be sufficient when presenting to staff members who are familiar with the program and the OMS. A more detailed slide presentation including background, contextual information, and graphics may be more appropriate when presenting to board members about the program and its outcomes. A one page bulleted summary is a useful "takeaway" for all types of audiences, particularly if a large amount of information is being covered.

3) *What is the best visual representation of the data?* Two primary considerations in determining the best visual representation include the type of data being presented as well as the audiences' degree of comfort with numbers and visual aids. Some of the most common ways to visually present data are:
   - Pie graph - may be most useful when showing percentages of a whole (such as demographic breakdowns of a population).
   - Bar graph - is helpful when comparing data between different groups (such as satisfaction with recovery at the clinic, agency, county, and state levels).
   - Line graph - makes it easier to show differences over time (such as the decline in the percentage that smoke over the past three calendar years).

- Table - is useful when there is a need to show a large amount of data in a limited amount of the space (such as school attendance, suspensions, and expulsions by jurisdiction).

Regardless of which visual representation is used, it is important to summarize what the graph or table is about and how it supports the issue being discussed. Because some people are able to understand graphs while others prefer seeing data in a table, it may be helpful to present or distribute both.

There is not one universal way to present data for every audience or situation. In the end, presenters are the best judge in determining what tools will be necessary to clarify how the data supports the message being shared.

Data can be presented and distributed in many ways; the goal is to do it in ways that best support the message.

Appendix A. Case Example: Using OMS Data

The Local Behavioral Health Authority serving ABC County has the opportunity to participate in a special initiative with a local university. Staff at one clinic will receive three days of intensive training in cognitive behavioral therapy (CBT) techniques, along with one year of monthly case consultation. There will be no cost for training one clinic; training for additional clinics will have a charge.

One of the three clinics in the county, the Elm Street Clinic, expresses a strong interest in participating. The LBHA agrees to have Elm Street Clinic participate in the project. If the LBHA and the Elm Street Clinic are satisfied with the training and consultation, the LBHA will try to identify funds to have the other two county clinics participate. The LBHA decides to conduct a small evaluation using OMS data to see if the training has an impact on the Elm Street Clinic's clients. The LBHA Director knows that CBT will most likely have an impact on psychiatric symptoms, particularly depression. Therefore, the OMS Datamart domain of "Psychiatric Symptoms" is reviewed and two variables are chosen for inclusion in the evaluation: the BASIS-24® overall score and depression/functioning subscale score.

The following is an outline of the steps that the LBHA Director used to evaluate the training:

Purpose: To conduct a program evaluation on the impact of the training initiative implemented at the Elm Street Clinic to decide if it should be implemented at the other two county clinics.

Datamart Elements:

Services Received: Mental Health
Population: Adults
Point in Time or Change Over Time Analysis: Change Over Time
Time Frame: Calendar Years 2012 and 2013 (the training will begin in January, 2013)
Subpopulations: Elm Street Clinic (through connected side of Datamart);
Age/Gender/Race/Time in Treatment: All

Documenting Data: The OMS Datamart screen for CY12 was printed to serve as the baseline data for the project. At the end of the training year, the same information was printed for CY13 and the two were compared. Data for the CY13 scale scores showed a greater decrease between initial and most recent interview than did the CY12 data; a decrease reflects fewer or less severe symptoms. This was true for both the BASIS-24® overall score and the depression subscale score.

Interpreting Data: Using the "Suggested Questions to Aid in Stimulating Discussion and Interpreting Data" list, the LBHA and Elm Street Clinic directors met with clinic supervisory staff to discuss the results:

1) *Are these the expected results? Why or why not?*
   All agreed that these were the expected results. They hoped and anticipated that this training would have an impact not only on individuals suffering from depressive symptoms, but that it could have a broader impact on other symptoms as well.

2) *Were the data affected by policies, procedures, or characteristics at the community, county or state level?*
The group could not identify any policies, procedures, or changes in characteristics that would have affected BASIS-24 scores, other than the training.

3) *Were the data affected by contextual or programmatic factors?*
Although they had not originally incorporated this as part of the implementation, the staff realized that they had informally started incorporating a "CBT peer supervision" agenda item to their weekly staff meetings. Even when the official university consultant was not present, the Director would often ask staff to share recent success or current struggles in using the techniques. This resulted in success sharing, brainstorming, and also peer support.

The group realized that this perceived influence on the success of the intervention could be considered a "procedural effect" (see question #2 above) or a "programmatic effect". They agreed that in the end it really didn't matter what they called it, but they recognized that it may have contributed to the results.

4) *Were the data affected by characteristics of individual staff members or the clients being served?*
The group agreed that the techniques seemed most useful with clients experiencing depressive symptoms. They also observed that it seemed easier for those clinicians who had already had some training in CBT to learn the techniques.

The group also recognized that they had been very enthusiastic about receiving this training; if clinicians in other clinics are less receptive, they might see different results. The supervisors also noted that several of the clinicians seemed to feel more positive about their work as they mastered and applied the CBT skills.

5) *Did the data change after the intervention? If so, how?*
Yes, the level of symptoms decreased. In CY12, the overall symptom score went from 1.7 (initial) to 1.5 (most recent); in CY13 the scores dropped from 1.6 to 1.2. The decrease in the scores in CY13 was larger than the decrease in scores in CY12. In CY12 the depression/functioning subscale went from 2.0 (initial) to 1.5 (most recent); in CY13 the scores went from 2.0 to 1.1. Again, the decrease in scores in CY13 was larger than the decrease in CY12.

6) *If there is a change, is it meaningful?*
The group decided that the results were meaningful, particularly for the depression/functioning subscale. The drop seemed to be large enough to suggest real change, particularly in relation to their prior data. Additionally, anecdotal information from sessions also supported that clients were successfully able to use many of the techniques to address challenges in their lives

7) *Was implementation of the intervention a factor? What were some of the challenges encountered and how might they have affected the results?*
   As the group observed with question 3, they actually added to the implementation through an informal peer supervision process. One challenge during the intervention was that the assigned university consultant changed during the course of the year. The group was not sure if this transition impacted the intervention in any way; it did affect the experience of the clinicians involved as it took them a couple of months to feel comfortable with the new consultant.

Incorporating Other Data

The LBHA Director also reviewed the OMS psychiatric symptom results for the other two clinics. The data for both looked similar to the pattern seen at the Elm Street Clinic prior to the training. The LBHA Director concluded that it was likely that these clinics would show similar results to the Elm Street Clinic if the CBT training was disseminated.

The LBHA Director thought it might be a good idea to review the volume of service/productivity data for the Elm Street clinicians who participated in the project to understand the impact of their participation on billable hours. The LBHA and Elm Street Clinic directors reviewed this data together. Although billable hours dropped during the first month of the project as the staff participated in the three day intensive training, it quickly increased back to its former level. Therefore, both directors determined that implementation of the training had not negatively impacted the financial status of the clinic.

Determining Next Steps

After reviewing the data and discussing the Elm Street Clinic's experience with this intervention, the LBHA decided to implement the CBT training program at the other two clinics. The LBHA asks Elm Street clinic staff members to help engage the other two clinics by sharing their positive experiences with the program. The LBHA also plans to have the other two clinics incorporate a "peer supervision" element to their implementation even though it is not a required part of the training.

Presenting and Distributing Results

The LBHA Director decided that creating one bar graph showing the initial/most recent comparison last year and the initial/most recent comparison this year was the most effective way to share the results with the other clinics. This graph would be presented at the next monthly Provider Meeting as the LBHA Director announced plans to further disseminate the intervention. A one-page bulleted description of the training would also be distributed during the meeting.

Appendix B. Suggested Questions to Aid in Stimulating Discussion and Interpreting Data

1) Are these the expected results? Why or why not?

2) Were the data affected by policies, procedures, or characteristics at the community, county or state level?

3) Were the data affected by contextual or programmatic factors?

4) Were the data affected by characteristics of individual staff members or the clients being served?

If you are comparing two sets of data for program evaluation, you may also want to ask:

5) Did the data change after the intervention? If so, how?

6) If there is a change, is it meaningful?

7) Was implementation of the intervention a factor? What were some of the challenges encountered and how might they have affected the results?