MARYLAND DEPARTMENT OF HEALTH

USING YOUR OMS DATA II

Behavioral Health Administration
University of Maryland Baltimore Systems Evaluation Center
May 2018

Thank You

- Thanks to the providers in the Public Behavioral Health System who have collected this data through OMS interviews

- Complete and accurate data collection is essential for better, more useful data

- The Behavioral Health Administration uses this data for a variety of reporting and system management activities

- This webinar is designed to help users also maximize their use of this data

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Overview

OMS Datamart Webinars

Past and Future

Past: (All PowerPoints on Beacon website)
- *How to Administer the OMS Interview* (January 2017)
- *How to Use OMS Data* (October 2017)

Current: *How to Use OMS Data II* (May 2018)

Future: *How to Use Available OMS Resources: Using Excel Workbooks to Determine Statistical Significance* (TBD)

OMS Information and Tools available at:

http://maryland.beaconhealthoptions.com/provider/prv_oms.html

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Public Model

Public OMS Datamart version—Available to general public (three access methods):

- **BHA Home Page** https://bha.health.maryland.gov/Pages/Index.aspx (Select Outcomes Measurement System (OMS) from the list under the General Information)

- **Beacon Behavioral Health Provider OMS Menu** http://maryland.beaconhealthoptions.com/provider/prv_oms.html (Select Outcomes Measurement System Datamart)

- **Direct** http://maryland.beaconhealthoptions.com/services/OMS_Welcome.html

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Connected Model

"Connected" OMS Datamart version (Providers and LBHAs/CSAs/LAAs)

- Providers with access to reports on ProviderConnect
    - Access based on Medical Assistance (MA) provider number
    - Generally, only one type of service (MH or SRD) is associated with each OMS provider number. Therefore, no choice is available for "Type of Service."

- Special Intelligence Connect Logon ID for LBHAs/LAAs/CSAs
    - Displays results for residents treated by providers in the jurisdiction

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Connected Model

"Connected" OMS Datamart version (Providers and LBHAs/CSAs/LAAs) *(continued)*

- <u>Access instructions regarding how to get into the Connected Datamart to view OMS data</u> available on Beacon Behavioral Health Provider OMS Menu

  - "OMS Datamart —User Guide for Providers"

  - "OMS Datamart—User Guide for LBHAs/CSAs/LAAs"

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Today's Goals

- Identify more sophisticated uses for OMS data

- Assist users to identify the OMS analysis types, data elements, and available filters that help to meet their needs

- Provide several examples using OMS data:
  - Identifying questions
  - Offering methods of presenting data
  - Showing analysis
  - Outlining conclusions
  - Discussing meaningfulness

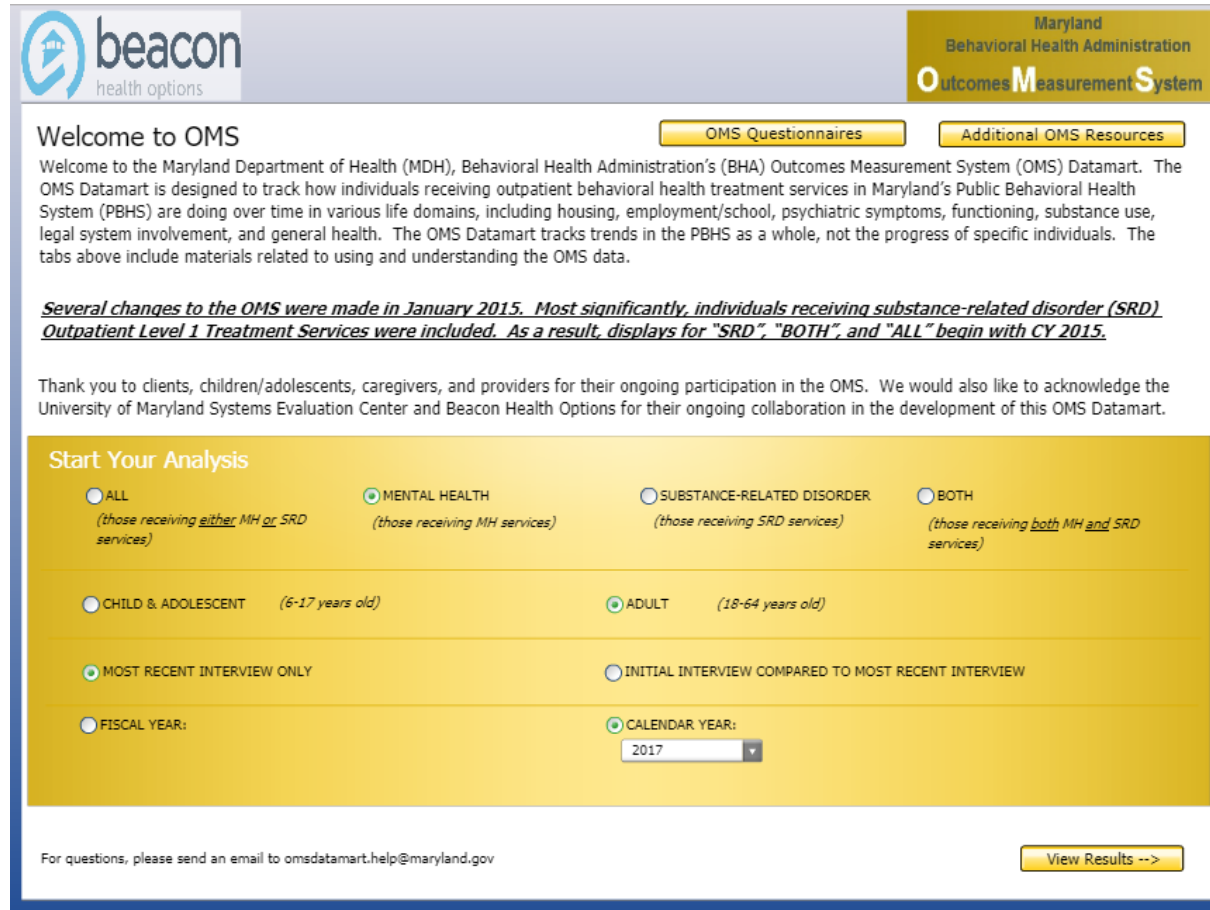- Identify other potentially relevant and useful data sources

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OMS Datamart

Domains, Data, and Trends

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Choosing Analyses

As seen on the OMS Datamart Welcome Page (next slide), there are several analysis options:

- Treatment type (MH, SRD, All, Both)

- Population of interest (Child and Adolescent vs. Adult)

- Type of analysis
  - Most recent interview (snapshot of a point in time)
  - Initial interview compared to the most recent interview (change over time)

- Timeframes of interest-Fiscal Year (FY), Calendar Year (CY)

- Potential Subpopulations (i.e., using Datamart filters)
  - Age, Gender, Race, Length of time in treatment

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Welcome Page

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Performance Measurement

- **Community integration/tenure** (Living Situation)

- **Reduction of symptoms** (Psychiatric Symptoms)

- **Maintenance of abstinence** (Substance Use)

- **Quality of life/relationships** (Recovery & Functioning, Employment [adolescents and adults])

- **Reduction of involvement with criminal justice** (Legal)

- **School Performance (**School [children and adolescents])

- **Health Status** (General Health, including cigarette and tobacco use)

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Potential OMS Data Use

- Tracking trends and outcomes over time (the focus of examples in this webinar)

- Responding to administrative needs

- Comparing programs/benchmarking
  - Comparing cohorts within a program
  - Comparing results across locations, or to jurisdictional or state results

- Measuring progress toward CQI program goals

- Evaluating programs

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Trend Example 1

Are children entering treatment now more symptomatic than in previous years?

- Choose the analysis options below on the Welcome Page
- Collect data on Psychiatric Symptoms scores (on Results Page)
- Return to Welcome Page and select a different year, repeat

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Trend Example 1

Are children entering treatment now more symptomatic than in previous years?

- To limit the analysis to new clients, select "Intake" in "Time in Treatment" filter on Results Page
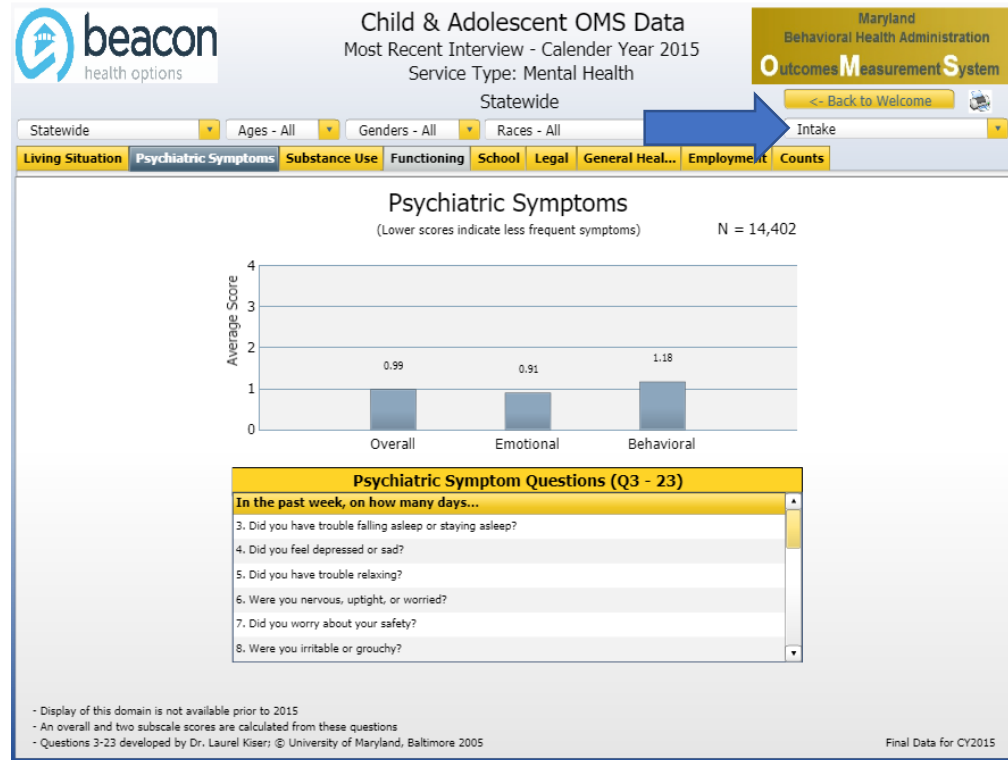
Trend Example 1

Are children entering treatment now more symptomatic than in previous years?

Youth Symptom Severity Index (YSSI) Scores			
Average Maryland Intake Scores for Most Recent Interview			
CY	Overall	Emotional	Behavioral
2015	0.99	0.91	1.18
2016	1.02	0.94	1.19
2017	1.04	0.96	1.20

Higher scores indicate more frequent/more severe symptoms. Scores range from 0 to 4.

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Trend Example 1

Are children entering treatment now more symptomatic than in previous years?

YSSI Scores
Average Maryland Intake Scores for Most Recent Interview

	CY 2015	CY 2016	CY 2017
Behavioral	1.18	1.19	1.20
Overall	0.99	1.02	1.04
Emotional	0.91	0.94	0.96

- - Overall   — Emotional   ····· Behavioral

Higher scores indicate more frequent/more severe symptoms.
Scores range from 0 to 4.

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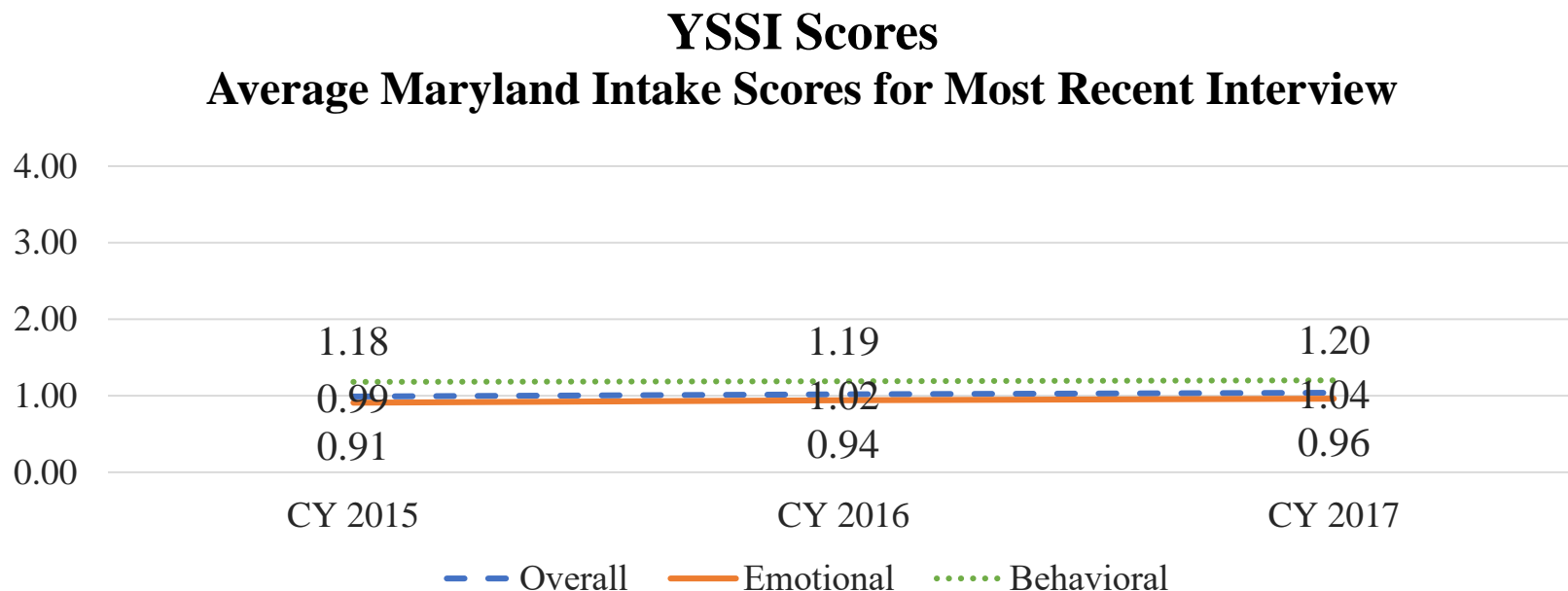
Trend Example 1

Are children entering treatment now more symptomatic than in previous years?

Analysis

- Slight increases in symptoms across the time periods in question

- Maximum increase was .05 on both emotional and overall scales

- Since scores range from 0 to 4, it is not likely that the changes are clinically significant

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Trend Example 1

Are children entering treatment now more symptomatic than in previous years?

Conclusion

- No, children entering treatment now are not more symptomatic than in previous years

- All children entering treatment appear to have more frequent and more severe behavioral symptoms than emotional symptoms, although differences appear minimal

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Trend Example 2

Has emphasis on adult smoking cessation made a difference?

- Choose the analysis options below on the Welcome Page

- Collect data on "Do you smoke cigarettes?" item (under General Health on Results Page)

- Return to Welcome Page and select a different year, repeat

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Trend Example 2

Has emphasis on adult smoking cessation made a difference?

Percent OMS Adults Smoking Cigarettes by Year

	CY 2015	CY 2016	CY 2017
	44.6	47.3	50.1

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Trend Example 2

Has emphasis on adult smoking cessation made a difference?

Analysis

- Percent of OMS adults who report smoking increased each year from 2015 to 2017

- Based on total number of people smoking, there was an increase of 5.5 percent

- It appears that the emphasis on smoking cessation has not helped

BUT

- More information may be needed for an informed conclusion

- Breaking the numbers down by treatment type might be instructive

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Trend Example 2A

Has emphasis on adult smoking cessation made a difference?

- Are changes different across different treatment types?
    - ALL (most recent OMS interview regardless of treatment type)
    - Mental Health (MH) (most recent OMS for those in MH treatment)
    - Substance-Related Disorder (SRD) (most recent OMS for those in SRD treatment)

- Evaluate by again examining "Do you smoke cigarettes" over the same period

- Datamart selections

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Trend Example 2A

Has emphasis on adult smoking cessation made a difference?

Percent OMS Adults Smoking Cigarettes by Treatment Type and Year
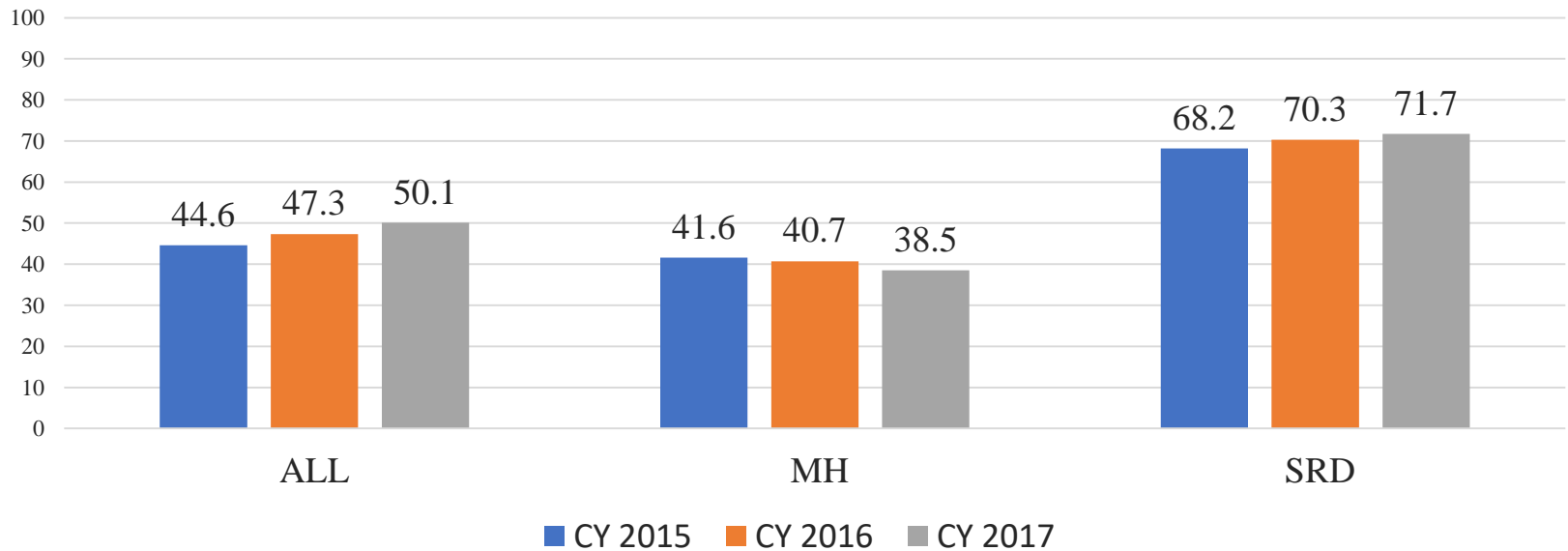
	ALL	MH	SRD
CY 2015	44.6	41.6	68.2
CY 2016	47.3	40.7	70.3
CY 2017	50.1	38.5	71.7

■ CY 2015　■ CY 2016　■ CY 2017

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Trend Example 2A

Has emphasis on adult smoking cessation made a difference?

Analysis/Conclusion

- Examining data by type of treatment shows different results
    - ALL increased
    - MH decreased
    - SRD increased
- Looking at other factors might provide additional information
    - Gender
    - Age
    - Length of Time in Treatment

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Trend Example 2B

Has emphasis on adult smoking cessation made a difference?

Gender

- Is there difference in smoking trends between women and men?

- Evaluate "Do you smoke cigarettes" again over same time period

- Datamart selections; use Gender filter on Results Page to get data for men and women

Trend Example 2B

Has emphasis on adult smoking cessation made a difference?

- Data can be presented in various ways

- The method of presentation should be chosen by determining:
    - The information that needs to be emphasized
    - How the information can be most easily understood by the intended audience

- Three graphic displays of the same data follow:
    - Different emphasis on the information
    - Different levels of complexity of interpretation

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Trend Example 2B1

Has emphasis on adult smoking cessation made a difference?

Percent of OMS Adults Smoking Cigarettes by Gender, Treatment Type, and Year
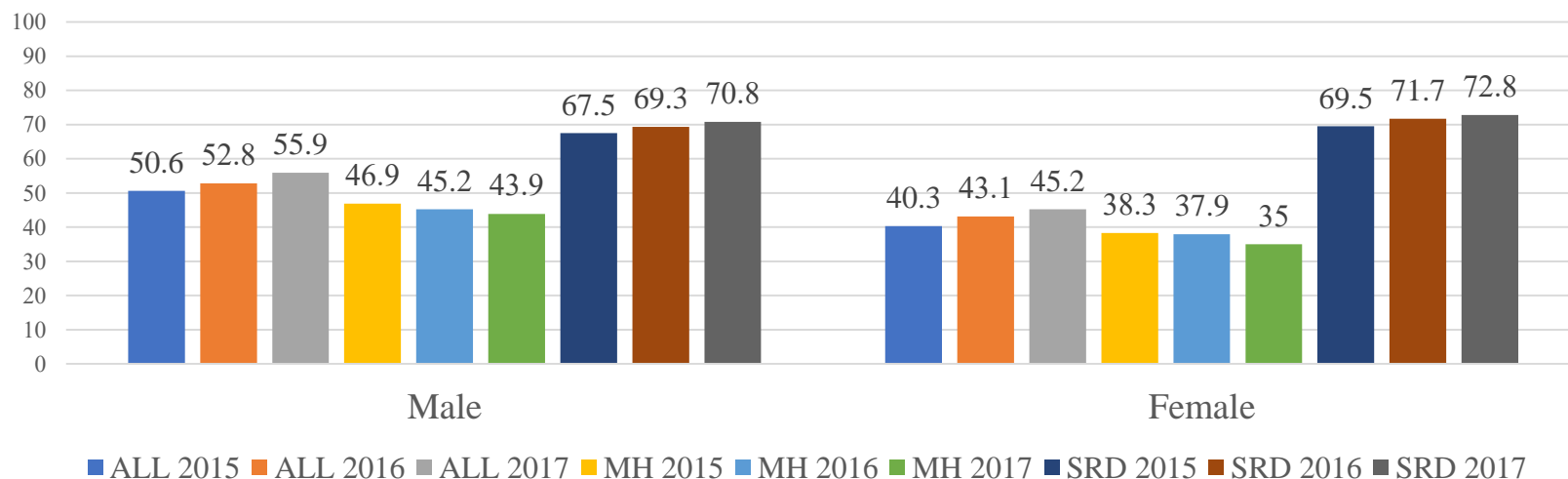
Emphasizes differences within genders, over time, by treatment type.

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Trend Example 2B2

Has emphasis on adult smoking cessation made a difference?

Percent of OMS Adults Smoking Cigarettes by Gender, Treatment Type, and Year

Emphasizes gender differences within treatment types over time.

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Trend Example 2B3

Has emphasis on adult smoking cessation made a difference?

Percent of OMS Adults Smoking Cigarettes by Gender, Treatment Type, and Year
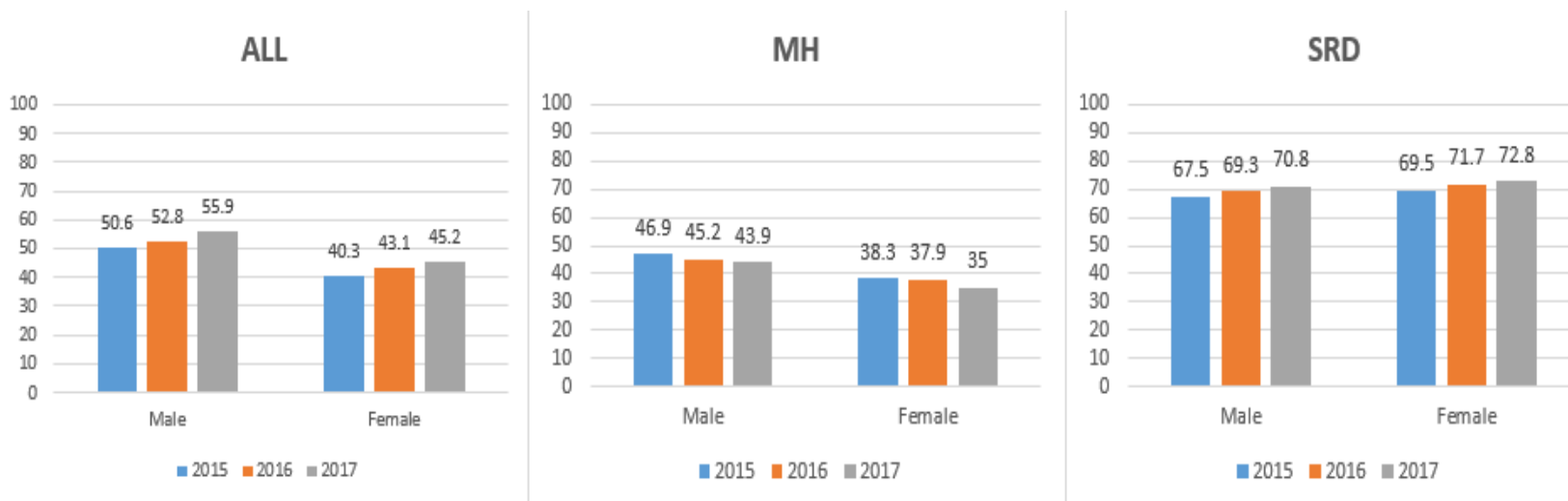
Emphasizes the change over time within treatment types by gender.

Trend Example 2B

Has emphasis on adult smoking cessation made a difference?

Analysis/Conclusion

- Percentages for men and women are different
  - In ALL and MH, smaller percentage of women smoke
  - In SRD, slightly larger percentage of women smoke
- Changes within each group are similar in direction, either increase or decrease
- Changes within each group are similar in magnitude across genders

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Trend Example 2B

Has emphasis on adult smoking cessation made a difference?

Analysis/Conclusion (continued)

- Three graphs show different emphases
  - Display 2B1 emphasizes the differences within gender over time by treatment type
  - Display 2B2 emphasizes gender differences within treatment type over time
  - Display 2B3 emphasizes the change over time within treatment types by gender

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Trend Example 2C

Has emphasis on adult smoking cessation made a difference?

Age

- Is there a difference in smoking trends based on age?

- Evaluate "Do you smoke cigarettes" again over same time period

- Datamart selections; use Age filter on Results Page to obtain Age Groups percentages

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Trend Example 2C

Has emphasis on adult smoking cessation made a difference?

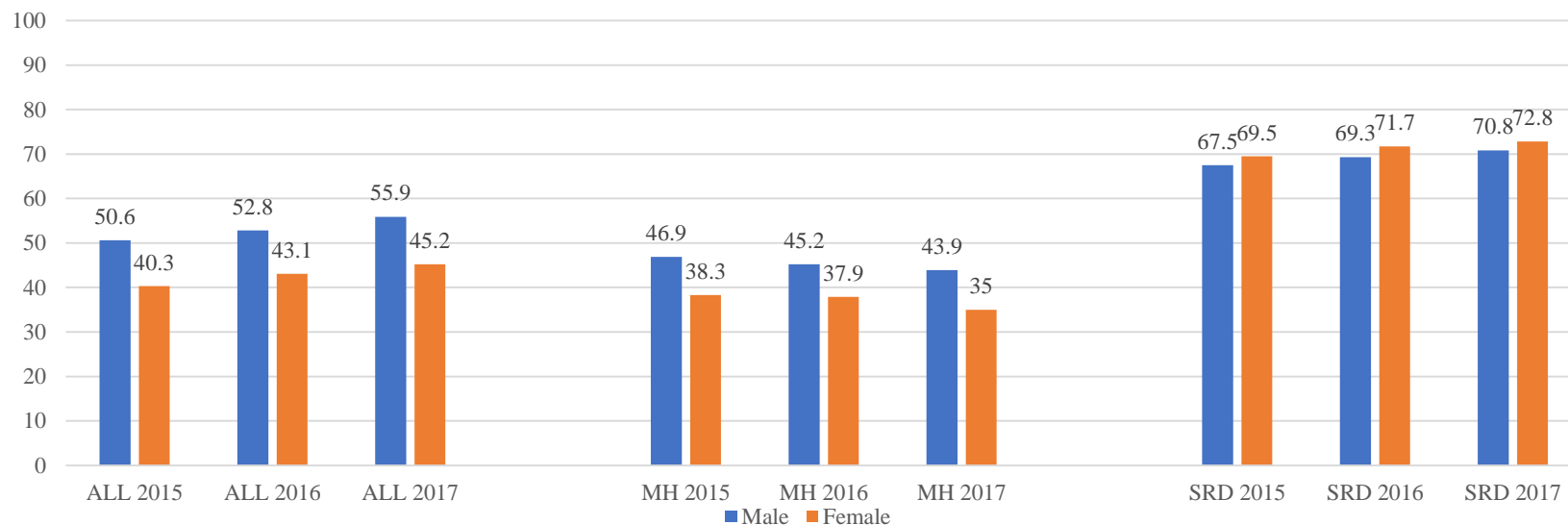**Percent OMS Adult Smoking Cigarettes by Age, Treatment Type, and Year**
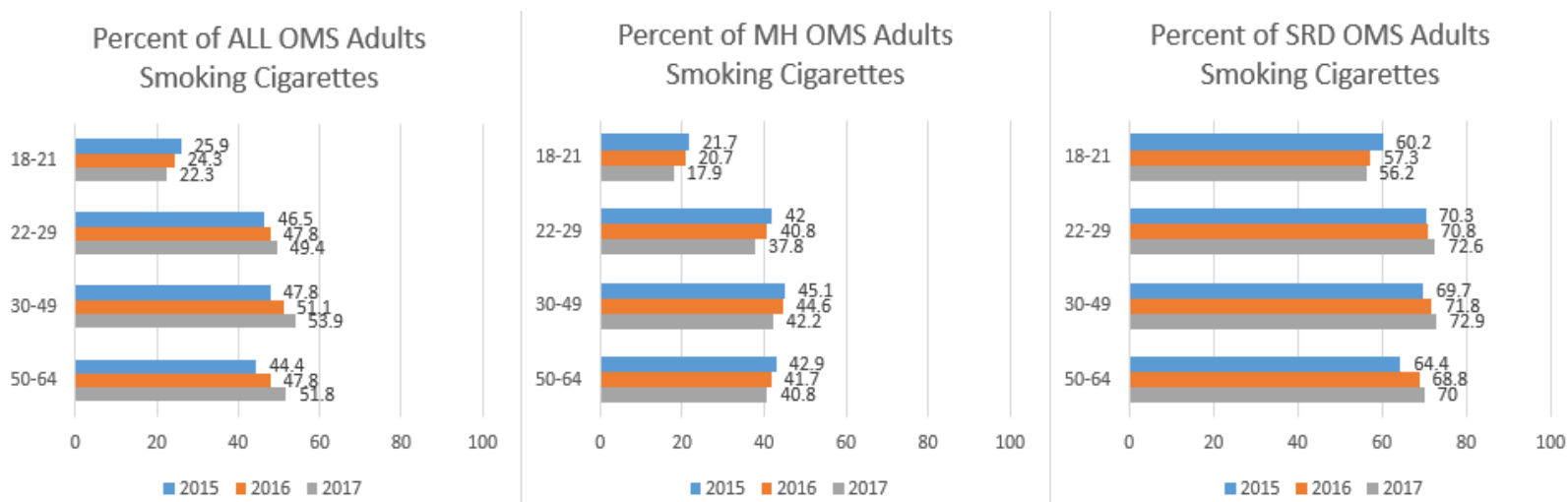
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Trend Example 2C

Has emphasis on adult smoking cessation made a difference?

Analysis/Conclusion

- For each group, a smaller percentage of younger individuals smoked than older individuals

- For those in MH service, declines in every age group

  - Younger groups declined more

- For those in ALL and SRD groups

  - Those in 18-21 group showed a decline in smoking; other age groups showed increases

  - Increases were greater in the older groups

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Trend Example 2D

Has emphasis on adult smoking cessation made a difference?

Length of time in treatment

- Is there a difference in smoking trends based on the length of time in treatment?

- Evaluate "Do you smoke cigarettes" again over the same period

- Datamart selections; use Time in Treatment filter on Results Page to obtain percentages *(Note: "greater than 3 year" data is not available for those in SRD services because not in OMS until 2015)*

Trend Example 2D

Has emphasis on adult smoking cessation made a difference?

Percent of OMS MH Adults Smoking Cigarettes by Length of Time in Treatment and Year
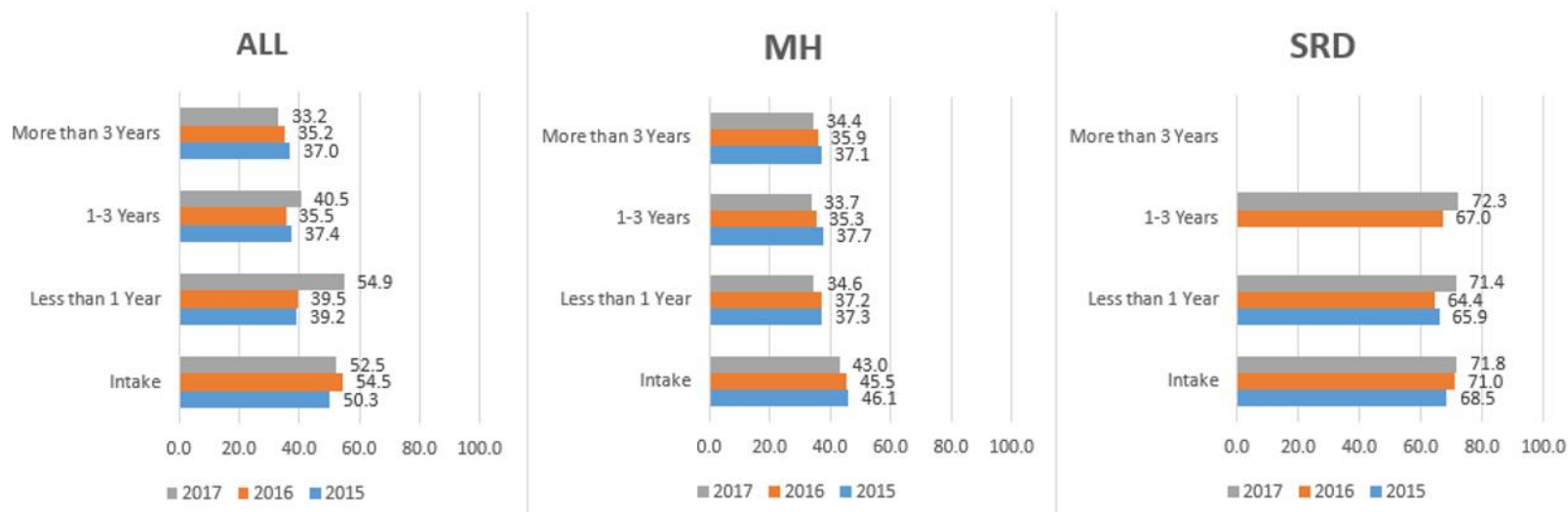
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Trend Example 2D

Has emphasis on adult smoking cessation made a difference?

Analysis/Conclusion

- No clear patterns for ALL, SRD except ALL/More than three years

  - ALL/More than three years data driven by the MH population since SRD population only started OMS participation in 2015

  - SRD data is further confounded by the addition of Opioid Treatment Programs into OMS in October 2016

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Trend Example 2D

Has emphasis on adult smoking cessation made a difference?

Analysis/Conclusion *(continued)*

For MH, declines are similar for every length of time in treatment group

- Based on the total percentage of people smoking, there was a decrease of 3.1%

- It might appear that the emphasis on cessation had an effect

- However, similar patterns of decrease are seen across treatment time categories

  - Intake group declined slightly more than those in treatment more than 3 years

  - Largest decrease was in the 1 to 3 year group

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Trend Example 2E1

Has emphasis on adult smoking cessation made a difference?

- Length of time in treatment did not show consistent patterns

- Therefore, looking at changes for each individual in the aggregate may be more instructive (i.e, change-over-time)

- Datamart offers "Initial compared to most recent interview"
  - Will show the status for each individual at intake and most recent interview
  - This analysis was limited to MH adults because:
    - More data is available
    - Data is available over longer time period
    - Will provide a better picture of any changes over time

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Trend Example 2E1

Has emphasis on adult smoking cessation made a difference?

- Is there a difference in changes in smoking between initial and most recent OMS?

- Evaluate changes in response to "Do you smoke cigarettes?" again over same time

- Datamart selections:

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Trend Example 2E1

Has emphasis on adult smoking cessation made a difference?

- Results table:

Outcomes	# of Clients	%
Stopped smoking	4,224	11.6%
Not smoking either interview	19,614	53.8%
Smoking both interviews	9,859	27.1%
Started smoking	2,740	7.5%
Total	36,437	100.0%

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Trend Example 2E1

Has emphasis on adult smoking cessation made a difference?

Percent Change in Smoking Status, Initial Versus Most Recent OMS Adults in MH Population

	Stopped smoking	Not smoking either time	Smoking both times	Started smoking
2013	9.6	44.9	38	7.6
2014	10.5	46.8	35.6	7.1
2015	12	50	31.1	6.8
2016	11.6	51.7	29.5	7.2
2017	11.6	53.8	27.1	7.5

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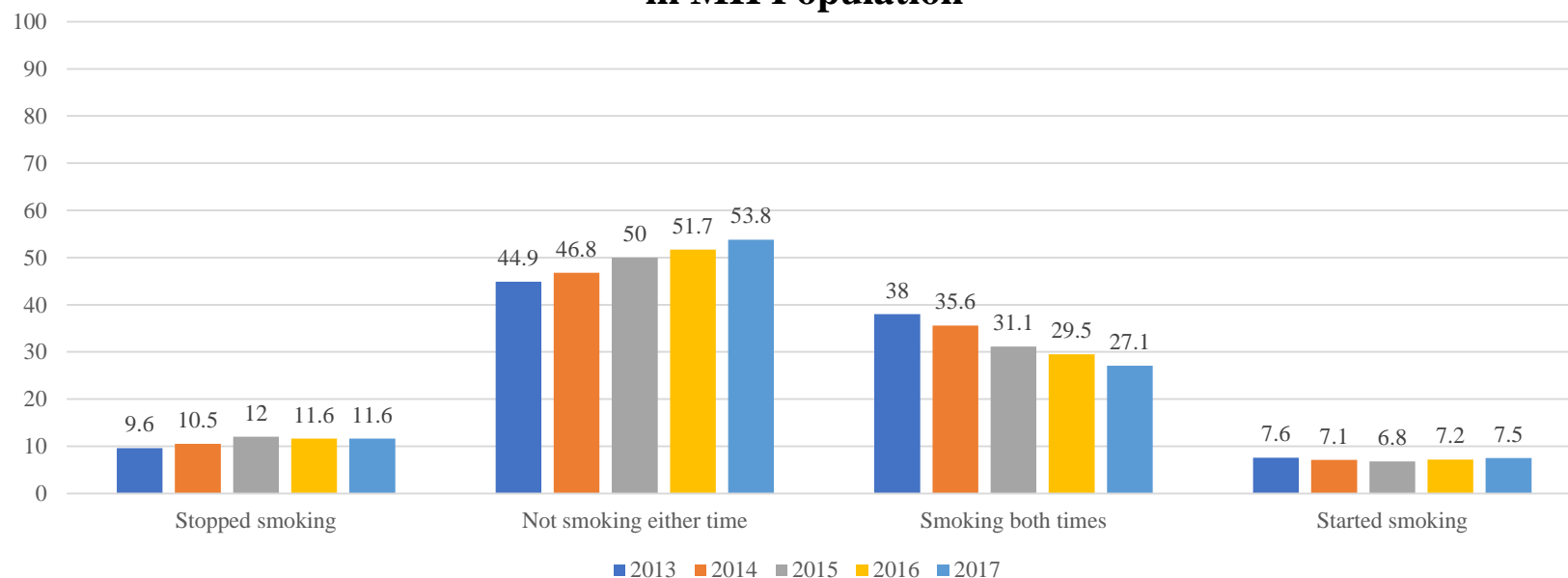
Trend Example 2E1

Has emphasis on adult smoking cessation made a difference?

Analysis/Conclusion

Percent of MH clients who:

- Stopped smoking has increased slightly between 2013 and 2017
- Were not smoking at either initial or most recent interview has increased quite a bit between 2013 and 2017
- Were smoking at both interviews has steadily decreased over this time period
- Started smoking has not varied greatly over this period

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Trend Example 2E1

Has emphasis on adult smoking cessation made a difference?

Analysis/Conclusion *(continued)*

- An emphasis on adult smoking cessation seems to have made a difference for those adults who remain in MH treatment; but interpretation is complex

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Trend Example 2E2

Has emphasis on adult smoking cessation made a difference?

- The complexity of this interpretation can be reduced by combining categories into two outcome categories:
  - Positive status: Stopped smoking, not smoking either interview
  - Negative status: Started smoking, smoking both interviews

Outcomes	# of Clients	%
Stopped smoking	4,224	11.6%
Not smoking either interview	19,614	53.8%
Smoking both interviews	9,859	27.1%
Started smoking	2,740	7.5%
Total	36,437	100.0%

Positive ← (Stopped smoking, Not smoking either interview)

Negative ← (Smoking both interviews, Started smoking)

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Trend Example 2E2

Has emphasis on adult smoking cessation made a difference?

Percent Change in Smoking Status, Initial Versus Most Recent OMS Adults in MH Population

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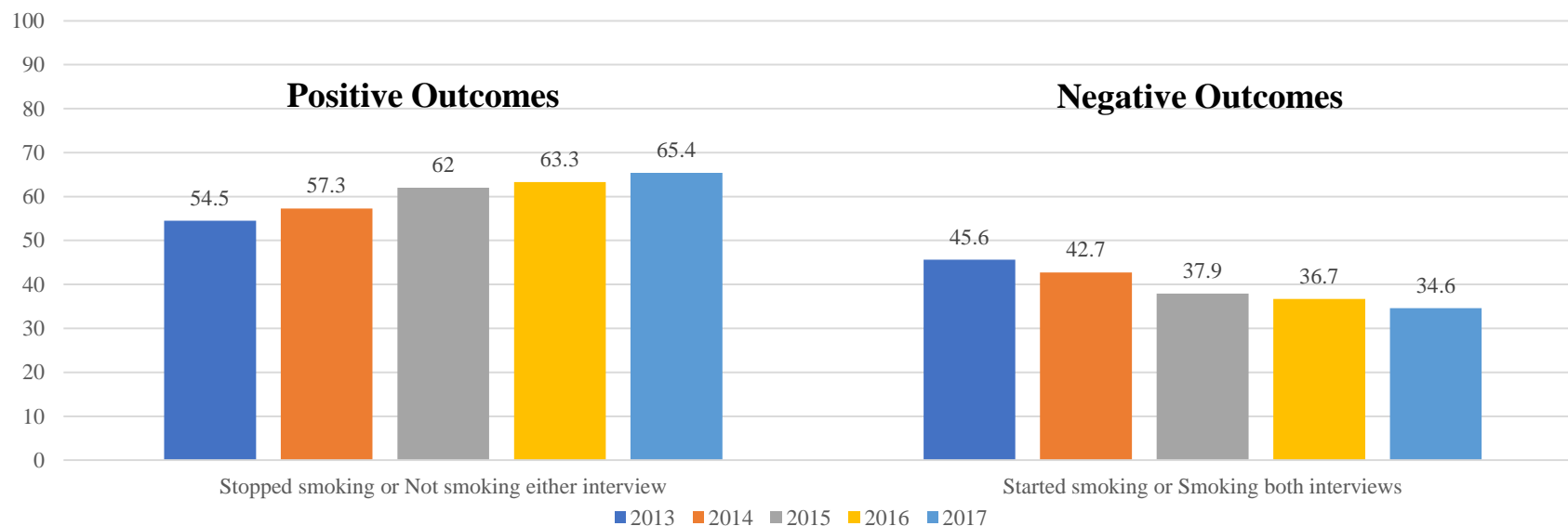
Trend Example 2E2

Has emphasis on adult smoking cessation made a difference?

Analysis/Conclusion

Creating two outcome categories of "positive" and "negative" clarifies the trend for those remaining in MH treatment over time:

- An increasing percent of adults remaining in MH treatment either stop smoking or are not smoking at either the initial or most recent interview

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Trend Example 2E2

Has emphasis on adult smoking cessation made a difference?

Analysis/Conclusion *(continued)*

- A decreasing percent of adults remaining in MH treatment either start smoking or are smoking at both the initial and most recent interview

- The emphasis on adult smoking cessation appears to have made a difference for those adults remaining in MH treatment

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Trend Example 3

Has employment changed among adults in MH treatment?

- There are times when using OMS data in isolation may be insufficient

- In these cases, external data sources may be useful

- One example is in employment data

- To maximize the data available for this example:
    - Limiting to MH data
    - Including data from 2006 - 2017 *(note: not all of which is still publicly available on the Datamart but is being used for purposes of illustration)*

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Trend Example 3

Has employment changed among adults in MH treatment?

- Use the Datamart selections for the Welcome Page below
- Then examine "Employed Now or in the Past Six Months" item under Employment on Results Page

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Trend Example 3

Has employment changed among adults in MH treatment?

**Percent Employed Within the Past 6 months OMS
Adults in MH Treatment by Year**

Year	Percent
2006	34.10
2007	35.00
2008	33.70
2009	30.60
2010	29.10
2011	29.40
2012	29.40
2013	31.10
2014	32.90
2015	32.60
2016	34.30
2017	35.30

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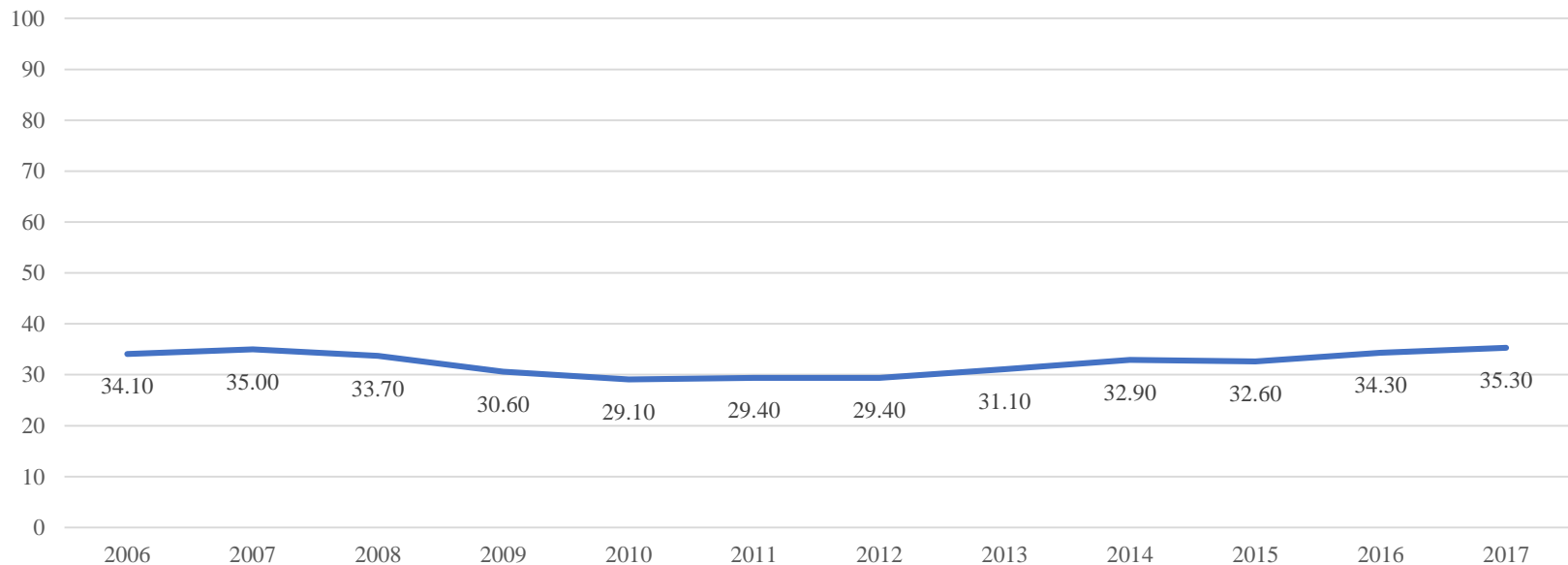
Trend Example 3

Has employment changed among adults in MH treatment?

Analysis

- No obvious interpretation is evident
- Employment declines until 2010, then increases again back to earlier levels
- The declining trend coincides with the recession beginning 2008/2009
- This leads to the question of how employment in MH adults compares with Maryland employment data during this time period

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Trend Example 3

Has employment changed among adults in MH treatment?

Analysis *(continued)*

- Maryland Unemployment Rates available from U.S. Bureau of Labor Statistics:

https://data.bls.gov/timeseries/LASST240000000000003?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true

- These statistics provide unemployment rates. However, the OMS data is presented in terms of employment. Therefore, a Maryland employment rate must be calculated in order to compare the same type of data.

  - Maryland employment rates are calculated by subtracting the unemployment rate from one [1 - unemployment rate = employment rate].

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Trend Example 3

Has employment changed among adults in MH treatment?

Percent Employment Rates by Year, OMS MH Adults* and Maryland
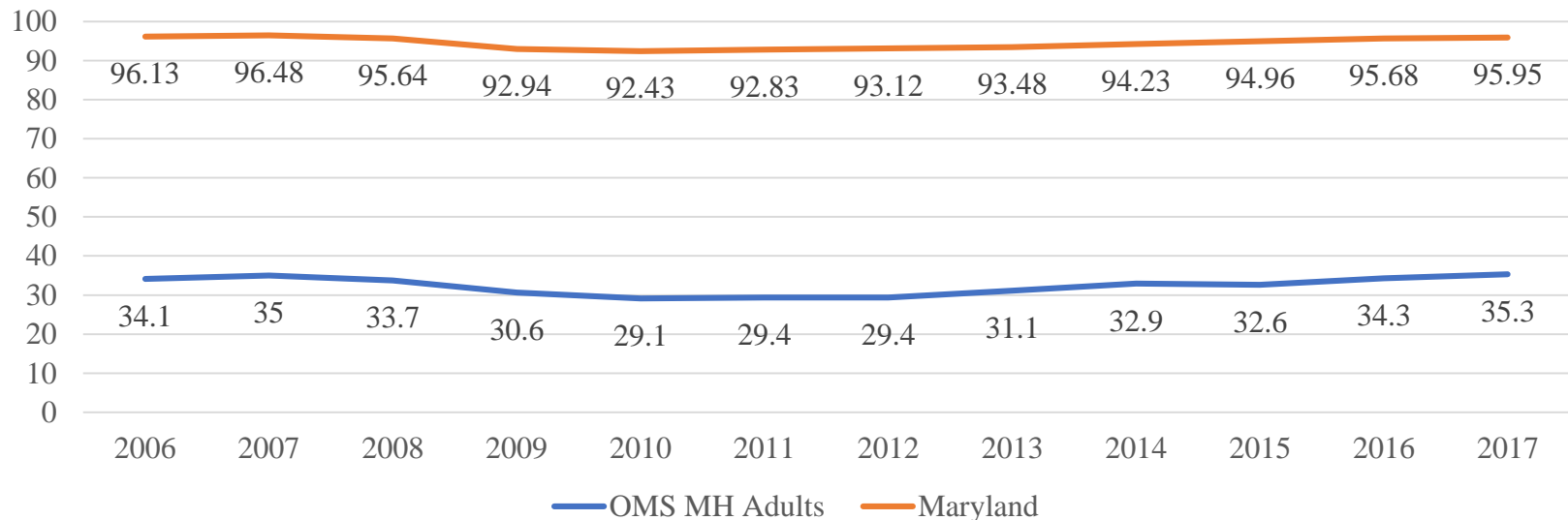
* OMS MH Adults currently employed or employed within the past six months.

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Trend Example 3

Has employment changed among adults in MH treatment?

Analysis/Conclusion

- The trend among MH adults appears very similar to, though far below, the trend for Maryland in general

- A correlation statistical analysis can be used to identify the relationship between two sets of data.

  - In this example, the Pearson *r* correlation test results in a correlation of .967

  - A Pearson *r* of 1.00 indicates a "perfect" correlation

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Trend Example 3

Has employment changed among adults in MH treatment?

Analysis/Conclusion *(continued)*

- MH adult employment is very strongly related to the employment rate of Maryland
  - This is not a complete surprise—if the employment rate is down, it will be harder for everyone, including adults receiving MH services, to find jobs

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Other Data Source Examples

Behavioral Risk Factor Surveillance System (BRFSS)
- State and national information on various population based health issues
- https://www.cdc.gov/brfss/index.html
- http://www.marylandbrfss.org/

National Survey on Drug Use and Health (NSDUH)
- https://nsduhweb.rti.org/respweb/homepage.cfm

Youth Risk Behavior Survey (YRBS)
- https://phpa.health.maryland.gov/ccdpc/Reports/Pages/yrbs.aspx

National Health Interview Survey
- https://www.cdc.gov/nchs/nhis/index.htm

Population: Maryland State Data Center-Department of Planning
- http://www.mdp.state.md.us/msdc/

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Summary

- The OMS Datamart enables users to conduct analyses using various parameters

- OMS data can be used for a many purposes, including performance measurement
  - A common use of OMS data is to explore trends over time

- Today's webinar illustrated three examples of trend analyses:
  - Child symptomatology
  - Adult smoking cessation
  - Employment

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Summary

- Additional filtering may aid data interpretation
  - Clearer patterns for smoking cessation emerged when data was filtered by year, service type, gender, age, length of time in treatment, or using a change-over-time analytic approach.

- Data displays can influence your message
  - Line graphs work for simple trend data
  - Bar graphs work well for displaying more complicated data
    - Grouping bar graphs in different ways can emphasize different aspects of the results

- External data sources can provide context for OMS data

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