Panel

- **Hope Cassidy-Stewart, MHS – Maryland Department of Health, Baltimore, MD**
  - Ryan White Part B Grantee
- **Natalie Flath, MPH – Baltimore City Health Department, Baltimore, MD**
  - Ryan White Part A Grantee
- **Catherine Ng'ang'a – Total Healthcare Inc., Baltimore, MD**
  - Ryan White Part A, B, & C Subrecipient
- **Dr. Amanda Rosecrans, MD – Baltimore City Health Department, Baltimore, MD**
  - Ryan White Part A & B Subrecipient

Context – Maryland CAREWare

The Baltimore City Health Department and Maryland Department of Health partnered to implement **Maryland CAREWare** – a shared statewide data system for all Baltimore EMA Part A and Maryland Part B subrecipients

- Phased roll out in 2016/2017
- 50+ providers (direct entry and upload from local CW or EMR)
- Most providers used Maryland CAREWare for 2017 RSR CLD file

Context – City/State Partnership

Maryland CAREWare Team

o Led implementation and statewide roll-out

o Provides ongoing support for system and users

o Ongoing joint data quality assurance and improvement activities

o Ongoing partnership to use data for performance measurement, quality improvement, and evaluation

Increasing demand for data

Performance Measures

Inform Planning Council

Inform Patient Care

Program Monitoring

Quality Assurance

Program Planning

ACCOUNTABILITY

Quality Improvement

Care Continuum

Clinical Outcomes

Decision Support

Federal Reporting Requirements

Resource Allocations

Goals

- To build confidence around our data
- To create a culture around data utilization
- To use data to drive quality improvement projects
    - → Better patient outcomes

Activity

✓ Pilot a data roundtable feedback mechanism

Evaluating Data Round Table Project

o Created a baseline data set with demographic, service utilization and clinical data measures for the prior fiscal year (FY 2016)

o Ran aggregate and client-level reports to assess missing/unknown values, outliers, and unmet performance measures for participating sub-recipient

⇒ Data Round Table Project Occurred

o Created a post-intervention dataset to assess for improvement in data quality for fiscal year 2016

Data Round Table Activity

1. Ran aggregate and client-level reports
   - Demographics
   - Clinical
   - Performance Measures

2. Sent data to subrecipient

3. Conducted Data Round Table

4. Subrecipient identified "Exception Causes"

5. Together identified next steps and deadlines
   (2 month working timeline)

Reasons for missing data "Exception Causes"

❑ In Source Data EMR/Sub-recipient files but not in CAREWare

❑ Not anywhere in Source Data EMR or CAREWare

❑ Definite Gap in HIV/Comprehensive Care

Internal Note Keeping for Evaluating and Monitoring Project for Implementation Fidelity

Internal Data and Management / Evaluation Checklist

Provider name: _____

1. **Demographics**

    Goal: Reduce the number of unknown/unreported values for HIV status, HIV date, gender, age, race/ethnicity, and HIV Risk group, enrollment date of care, insurance status, federal poverty level and housing status

    o Run CAREWare Reports

    Aggregate
    1) RDR report: Reports → Reports → HRSA Reports → RDR → Select Provider → Select Date → Check 'Part C detail' (include if Part C provider) → Check 'All clients receiving any service' → Create RDR

    Client-Level
    2) Build Custom report with client names and fields generating demographic information in the RDR report
    3) Populate Excel sheet of missing data by client name and filter by those who received OAHS, MCM and non-MCM due to data entry requirements

    o Identify the categories with missing data
    o Send data to Provider prior to meeting
    o Provider will identify exception cause
    o Identify project queue and deadlines
    o Selected timeframe in CAREWare: _____
    o Date of data extraction: _____

3) Clinical

Goal: reduce the number of unknown/unreported Viral Load/CD4 (ambulatory record but no viral load or CD4 record), Anti-retroviral Therapy (ambulatory record but no HAART record), Hepatitis C screening, Syphilis Screening, TB screening and Pap smears (ever).

o   Run CAREWare Reports

Aggregate

1) RDR report: Reports → Reports → HRSA Reports → RDR → Select Provider → Select Date →Check 'Part C detail' (include if Part C provider) → Check 'All clients receiving any service' → Create RDR

Client-Level

2) See Performance Measures

o   Identify the categories with missing data
o   Send data to Provider prior to meeting
o   Provider will identify exception cause
o   Identify project queue and deadlines
o   Selected timeframe in CAREWare: _____
o   Date of data extraction: _____

4) HRSA/HHS Performance Measures

Goal: Identify sub-recipients who are not meeting the measurements – linkage to HIV medical care (newly diagnosed and linked within 90 days), retention in HIV medical care, prescription of HAART and viral load suppression.

o   Run CAREWare Reports

Aggregate

1) Administrative Options → Performance Measures → Multiple Performance Measure Aggregate Report → Select Provider Domain → BCHD_Two Primary Care visits>=3mos Apart (BCHD01) & HAB: viral load suppression (Core01) & → HAB: Prescription of antiretroviral therapy (Core02) → Select As of Date (e.g., 02/28/2017)

Client-Level

1) Administrative Options → Performance Measures → BCHD_Two Primary Care visits>=3mos Apart (BCHD01) → Select Provider Domain → Single Performance Measure Client List → Select Date (example 9/30/2017) → Select 'Not in Numerator (clients not meeting performance measure) → List to Quick Paper List (using Stephon's customized fields in a template)
2) Administrative Options → Performance Measures → HAB: viral load suppression → Select Provider Domain → Single Performance Measure Client List → Select Date (example 9/30/2017) → Select 'Not in Numerator (clients not meeting performance measure) → List to Quick Paper List (using Stephon's customized fields in a template)
3) Administrative Options → Performance Measures → HAB: Prescription of antiretroviral therapy → Select Provider Domain → Single Performance Measure Client List → Select Date (example 9/30/2017) → Select 'Not in Numerator (clients not meeting performance measure) → List to Quick Paper List (using Stephon's customized fields in a template)

Note: If we would like to take a deeper dive into each client not meeting the measure, we can select List to 'Real Time Lookup List' and explore the client's service needs

Data Round Table Activity

1. Ran aggregate and client-level reports
2. Sent data to subrecipient
3. Conducted Data Round Table
4. Subrecipient identified "Exception Causes"
5. Together identified next steps and deadlines
            (2 month working timeline)

Tools

o Client Level Data Custom Report

o Ryan White Service Report (RSR)

o Ryan White Data Report (RDR)

o Performance Measure Worksheet

   o Single Performance Client List (identify clients who are not meeting the performance measure)

   *All example data are dummy

Aggregate Level Data

Poverty Level (Item 9)
Denominator: Clients with OAHS, MCM, or CM services (N = 490)

Response Category	N	%
Below 100%	291	59.4%
100 -138%	26	5.3%
139 – 200%	13	2.7%
201 – 250%	7	1.4%
251 – 400%	9	1.8%
401 – 500%	0	0.0%
More than 500%	1	0.2%
Missing/Out of range	143	29.2%

Housing Status (Item 10)
Denominator: Clients with OAHS, MCM, CM or Housing services (N = 490)

Response Category	N	%
Stable	294	60.0%
Temporary	39	8.0%
Unstable	18	3.7%
Missing/Out of range	139	28.4%

HIV/AIDS Status (Item 12)
Denominator: Clients with OAHS, MCM, or CM services (N = 490)

Response Category	N	%
HIV-negative (affected)	0	0.0%
HIV-positive, not AIDS	208	42.4%
HIV-positive, AIDS status unknown	209	42.7%
CDC-defined AIDS	73	14.9%
HIV-indeterminate (<2 yr old infants only)	0	0.0%
Missing/Out of range	0	0.0%

1. Total number of unduplicated clients:

	No.	%
HIV-positive	465	99.8
HIV-indeterminate (under 2 years)	0	0
HIV-negative (affected)	0	0
Unknown/unreported (affected)	1	0.2
Total	466	100

2. Total number of new clients:

	No.	%
HIV-positive	126	27.0
HIV-indeterminate (under 2 years)	0	0
HIV-negative (affected)	0	0
Unknown/unreported (affected)	0	0
Total	126	27.0

3. Gender:

	HIV+ / Ind. No.	%	HIV-affected No.	%
Male	363	77.9	0	0
Female	97	20.8	1	0.2
Transgender	5	1.1	0	0
Unknown/unreported	0	0	0	0

4. Age:

	HIV+ / Ind. No.	%	HIV-affected No.	%
Under 2 years	0	0	0	0
2-12 years	0	0	0	0
13-24 years	36	7.7	0	0
25-44 years	258	55.4	0	0
45-64 years	158	33.9	1	0.2
65 years or older	13	2.8	0	0
Unknown/unreported	0	0	0	0

5. Race, Non-Hispanic Ethnicity:

	HIV+ / Ind. No.	%	HIV-affected No.	%
American Indian or Alaska Native	4	0.9	0	0
Asian	0	0	0	0
Black or African American	404	86.7	0	0
Native Hawaiian or Other Pacific Islander	0	0	0	0
White	15	3.2	0	0
More than one race	2	0.4	0	0
Unknown/unreported	5	1.1	0	0

6. Race, Hispanic Ethnicity:

	HIV+ / Ind. No.	%	HIV-affected No.	%
American Indian or Alaskan Native	0	0	0	0
Asian	0	0	0	0
Black or African American	2	0.4	0	0
Native Hawaiian or Other Pacific Islander	0	0	0	0
White	1	0.2	0	0
More than one race	1	0.2	1	0.2
Unknown/unreported	31	6.7	0	0

7. HIV Risk Group(s):

	HIV+ / Ind. No.	%	HIV-affected No.	%
MSM	220	47.2	0	0
IDU	51	10.9	0	0
MSM/IDU	13	2.8	1	0.2
Hemo/Coag Disorder	0	0	0	0
Heterosexual contact	203	43.6	0	0
Blood transfusion	3	0.6	0	0
Perinatal transmission	3	0.6	0	0

This section includes only clients who were HIV-POSITIVE/INDETERMINATE and had at least one OUTPATIENT/AMBULATORY MEDICAL care visit during the reporting period.

1. Total number of unduplicated clients with visits for ambulatory medical care by gender:

	No.	%
Male	318	79.5
Female	77	19.2
Transgender - FtM	0	0
Transgender - MtF	5	1.2
Transgender - Unknown	0	0
Unknown/unreported	0	0
Total	400	100

2. Number of clients who were newly diagnosed with AIDS during this reporting period:

No.	%
2	0.5

3. Number of HIV-positive clients known to have died during this reporting period:

No.	%
0	0

4. Number of clients on antiretroviral therapy at any time during the reporting period:

No.	%
274	68.5

5. Number of clients whose last OAMC visit was:

	No.	%
< 3 months ago	220	55.0
3-6 months ago	93	23.2
7-12 months ago	87	21.8
> 12 months ago	0	0
Total	400	100

6. Latest CD4 count in reporting period:

	No.	%
< 200	25	6.2
>= 200	304	76.0
No test in period	71	17.8

7. Latest Viral Load count in reporting period:

	No.	%
< 200	275	68.8
>= 200	63	15.8
No test in period	62	15.5

8. Pregnancy:

a. Number of women who were HIV-positive and were pregnant during this reporting period:

No.	%
0	0

b. Number of pregnant women who received antiretroviral medications to prevent the transmission of HIV to their children:

No.	%
0	0

c. Number of infants delivered to pregnant women:

No.	%
0	0

d. Report the HIV status at the end of the reporting period of the infants delivered:

	No.	%
HIV-positive, confirmed	0	0
HIV-indeterminate	0	0
HIV-negative, confirmed	0	0

9. Screening information:

	Screened		Positives		Treated	
	No.	%	No.	%	No.	%
Hepatitis C	132	33.0	32	24.2	0	0
Syphilis	335	83.8	130	38.8	0	0

Client-Level Data

Client-Level Data Template

Sample CAREWare Client Level Report Formal	
Has Core Medical Service?	Housing Arrangement
URN	FirstOAMCvisitinlast365days
Client ID	#OAMCvisitsinlast365days
Last Name	#MCMvisitsinlast365days
First Name	#NonMCMvisitsinlast365days
DOB	ReceivedViralLoadinlast365days
Gender	ReceivedCD4Countinlast365days
HIV Date	Last Viral Load Date
HIV Status	Last Viral Load Result
HIV Risk Factor	Screened For Hepatitis C Since HIVDX
Insurance Type	Screened For TB Since HIVDX
Household Income	Cervical Cancer Screening
Household Size	ScreenedforSyphilisinlast365days
Poverty Level	Has PCP Prophylaxis
	Prescribed HAART

ClientID	Received-*OAMC*-*MCM*-*NonMCM*	HIVStatus	HIVRiskFactor	InsType	HHIncome	HHSize	PovertyLev	HousingArr
2	TRUE	HIV-positive (AIDS status unknown)	MSM	Medicaid	22200	1	184%	Stable/Permanent
3	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Medicaid	0	2	0%	Temporary
4	TRUE	HIV-positive (not AIDS)	Heterosexual	No Insurance	18000	1	149%	Stable/Permanent
5	TRUE	HIV-positive (AIDS status unknown)	Not Specified	Unknown	0	1	0%	
6	TRUE	HIV-positive (AIDS status unknown)	MSM	Medicaid	0	1	0%	Stable/Permanent
7	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Medicaid				Stable/Permanent
8	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Other public (e.g. Champus, VA)	0	1	0%	
9	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Other public (e.g. Champus, VA)	0	1	0%	Stable/Permanent
10	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Unknown	0	1	0%	Stable/Permanent
11	TRUE	HIV-positive (AIDS status unknown)	MSM	Medicaid	9600	1	80%	
12	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Medicare (unspecified)	2328	1	19%	Unstable
13	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Medicare (unspecified)	11052	1	92%	Stable/Permanent
14	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Medicaid	2220	1	18%	Stable/Permanent
15	TRUE	HIV-positive (AIDS status unknown)	MSM	Unknown	0	1	0%	Stable/Permanent
16	FALSE	HIV-positive (AIDS status unknown)	MSM	Unknown	0	1	0%	
17	TRUE	HIV-positive (AIDS status unknown)	MSM	Medicaid	14440	1	120%	Stable/Permanent
18	TRUE	HIV-positive (not AIDS)	MSM	Medicaid	0	1	0%	Stable/Permanent
19	TRUE	HIV-positive (AIDS status unknown)	Not Specified	Unknown	0	1	0%	
20	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Medicaid	29000	1	240%	Stable/Permanent
21	TRUE	HIV-positive (AIDS status unknown)	IDU					
22	FALSE	HIV-positive (AIDS status unknown)	Heterosexual	Unknown	0	1	0%	
23	TRUE	HIV-positive (AIDS status unknown)	MSM	Medicaid	21840	1	181%	
24	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Private (Deprecated)	28000	1	232%	
25	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Unknown	23000	1	191%	Stable/Permanent
26	TRUE	HIV-positive (not AIDS)	MSM	Other	31500	1	265%	
27	TRUE	HIV-positive (AIDS status unknown)	MSM	Medicaid	0	1	0%	Stable/Permanent
28	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Medicaid	8820	1	73%	Stable/Permanent
29	TRUE	HIV-positive (AIDS status unknown)	MSM	Medicaid	0	1	0%	
30	TRUE	HIV-positive (AIDS status unknown)	MSM	Medicaid	24128	1	200%	Temporary
31	TRUE	HIV-positive (AIDS status unknown)	MSM	Unknown	0	1	0%	
32	TRUE	HIV-positive (AIDS status unknown)	MSM	Private - Employer	32000	1	265%	Stable/Permanent
33	TRUE	HIV-positive (AIDS status unknown)	MSM	Private (Deprecated)	0	1	0%	
34	TRUE	HIV-positive (AIDS status unknown)	MSM	Medicaid	0	1	0%	Stable/Permanent
35	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Unknown	0	1	0%	
36	TRUE	HIV-positive (not AIDS)	Heterosexual	Medicaid	12000	1	100%	Stable/Permanent
37	TRUE	HIV-positive (AIDS status unknown)	MSM	Unknown	0	1	0%	
38	TRUE	HIV-positive (AIDS status unknown)	IDU	Medicaid	8796	1	73%	Stable/Permanent
39	TRUE	HIV-positive (AIDS status unknown)	Heterosexual	Medicare (unspecified)	18000	1	149%	
40	TRUE	HIV-positive (AIDS status unknown)	MSM	Medicaid	0	1	0%	Stable/Permanent
41	TRUE	HIV-positive (AIDS status unknown)	IDU		0	1	0%	

#OAMCvisitsinlast365days	#MCMvisitsinlast365days	#NonMCM	ReceivedViralLoadinlast365days	ReceivedCD4Countinlast365days	ScreenedForHepCSinceHIVDX	ScreenedForTBSinceHIVDX	CervicalCancerScreening	ScreenedforSyphilisinlast365days	PrescribedHAART
6	5	6	Yes	Yes	Yes	Yes	Not In Denominator	Yes	Yes
0	1	0	No	No	No	No	Not In Denominator	Yes	No, Other
2	2	0	Yes	Yes	Unknown	No	Not In Denominator	Yes	Yes
3	0	1	No	No	No	No	Not In Denominator	Yes	No, Other
9	13	3	Yes	Yes	Yes	Yes	Not In Denominator	Yes	Yes
4	3	1	No	Yes	Yes	No	Not In Numerator	Yes	Yes
3	3	2	Yes	Yes	No	No	Not In Denominator	Yes	No, Other
4	4	1	Yes	Yes	Unknown	No	Not In Denominator	Yes	No, Other
3	5	0	Yes	Yes	Unknown	Yes	In Numerator	Yes	Yes
1	1	0	Yes	Yes	Unknown	Yes	Not In Denominator	Yes	No, Other
3	4	7	Yes	Yes	Unknown	Yes	In Numerator	Yes	Yes
6	6	10	No	No	Unknown	Yes	In Numerator	No	Yes
3	3	4	Yes	No	Unknown	Yes	Not In Denominator	No	Yes
9	5	4	Yes	Yes	Yes	Yes	Not In Denominator	Yes	Yes
0	0	0	No	No	No	Yes	Not In Denominator	No	No, Other
1	2	0	No	Yes	Unknown	Yes	Not In Denominator	Yes	Yes
3	3	1	No	Yes	Yes	Yes	Not In Denominator	Yes	Yes
0	2	0	No	No	No	No	Not In Denominator	No	No, Other
3	4	2	No	No	Unknown	Yes	In Numerator	Yes	Yes
1	1	0	No	No	Unknown	No	Not In Numerator	Yes	No, Other
0	0	0	No	No		No	Not In Denominator	No	No, Other
2	1	2	Yes	Yes	Unknown	Yes	Not In Denominator	Yes	No, Other
4	5	1	Yes	Yes	Yes	Yes	In Numerator	Yes	Yes
4	11	2	Yes	Yes	Unknown	Yes	Not In Denominator	Yes	Yes
0	0	2	No	No	Yes	Yes	Not In Denominator	No	No, Other
2	4	1	Yes	Yes	Yes	Yes	Not In Denominator	Yes	No, HAART payment as
5	6	3	Yes	Yes	Yes	Yes	Not In Denominator	Yes	Yes
4	4	1	Yes	Yes	Yes	Yes	Not In Denominator	Yes	Yes
6	4	3	Yes	Yes	Unknown	Yes	Not In Denominator	Yes	Yes
1	0	1	No	No	No	No	Not In Denominator	Yes	No, HAART payment as
4	4	1	No	No	Unknown	Yes	Not In Denominator	Yes	Yes
1	3	0	Yes	Yes	Yes	Yes	Not In Denominator	Yes	No, Other
21	10	4	Yes	Yes	Unknown	No	Not In Denominator	Yes	Yes
2	2	1	Yes	Yes	Unknown	No	Not In Denominator	Yes	Yes
2	2	2	Yes	No	Unknown	Yes	Not In Numerator	Yes	Yes
1	0	0	No	No	No	No	Not In Denominator	Yes	No, Other
2	2	2	No	No	Unknown	Yes	Not In Denominator	Yes	Yes
9	7	7	Yes	No	No	Yes	In Numerator	Yes	Yes
7	7	3	Yes	No	Yes	Yes	Not In Denominator	Yes	Yes
1	2	0	No	No	Unknown	Yes	Not In Numerator	No	No, Other

Data Round Table Activity

1. Ran aggregate and client-level reports
2. Sent data to subrecipient
3. Conducted Data Round Table
4. Subrecipient identified "Exception Causes"
5. Together identified next steps and deadlines
   (2 month working timeline)

Reasons for missing data "Exception Causes"

❑ In Source Data EMR/Sub-recipient files not in CAREWare

❑ Not anywhere in Source Data EMR or CAREWare

❑ Definite Gap in HIV/Comprehensive Care

Outcomes

o Piloted the data roundtable mechanism with two subrecipients

       o Evaluated the data quality improvement among the two subrecipients

              o We observed improvement!!

o Did not observe data quality improvement across **all** subrecipients providing clinical care in the EMA = case for scale up

Selected Indicators for Evaluation at the Subrecipient Level

Priority Core Demographics	Priority Clinical Outcomes
HIV Risk Factor	Viral Load Suppression
Housing Status	Prescribed ARV
Health Insurance Status	
Federal Poverty Level	

Sub-recipient 1

	Number in denominator	Number in denominator
	(%) Missing Pre-Data Roundtable^	(%) Missing Post-Data Roundtable^^
Race	465 (7.8%)	491 (7.9%)
HIV Transmission Risk	521 (6%)	492 (6.9%)
Housing Arrangement	**465 (50.9%)**	**556 (22.2%)**
Health Insurance Status	**465 (33.3%)**	**491 (16.3%)**
Poverty Level	**465 (53.2%)**	**491 (49.6%)**
Viral Load Test	**400 (15.5%)**	**318 (3.8%)**

^Data extracted December 6, 2017 for the measurement year prior to the data roundtable activity extracted from the RDR report
^^Data extracted post data roundtable activity using the same measurement period as the baseline.

Sub-recipient 2

	Number in denominator	Number in denominator
	(%) Missing Pre-Data Roundtable^	(%) Missing Post-Data Roundtable^^
Race	742 (2.6%)	775 (4.1%)
HIV Transmission Risk	**1,258 (23%)**	**1,017 (4.1%)**
Housing Arrangement	**742 (14.4%)**	**773 (10.1%)**
Health Insurance Status	**742 (7.7%)**	**783 (4.8%)**
Poverty Level	**742 (20.9%)**	**783 (16%)**
Viral Load Test	**512 (8.2%)**	**487 (3.1%)**

^Data extracted November 20, 2017 for the measurement year prior to the data roundtable activity extracted from the RDR report
^^Data extracted post data roundtable activity using the same measurement period as the baseline.

Subrecipients

o What did you do with the information and technical assistance provided?

o How did the technical assistance aid in internal processes around data collection, evaluation, and monitoring clinical outcomes?

o Has your internal process improved or changed?

Next Steps - Data Roundtables

o Continue work with pilot subrecipients to further improve data quality

o Review client level data completeness with all sub-recipients in preparation for 2018 Ryan White Service Report (RSR) reporting

o Implement data roundtables with additional subrecipients

- o Prioritize based on initial 2018 data quality review
- o Tailor intensity of data roundtable process based on need

o Develop and implement ongoing data quality reports to address missing and invalid data throughout the year

Lessons Learned

o Data quality improvement activities are not just for RSR season!

o Partnership across funding sources and jurisdictions is essential
  o Reduces burden of duplicative activities
  o Increases access to multiple data sources for data validation

o Your data will never be as complete and accurate as you want –
  o USE IT ANYWAY AND USE IT OFTEN!
  o The more you use data, the more data quality issues you find & fix
  o As data quality improves, you are able to use your data in new ways

Questions & Discussion

o Have you implemented similar data quality improvement activities?
- o What have you learned from this work?

o Are there new, different, or enhanced data quality improvement activities that you plan to implement after this conference?

Thank You

Questions?