



Measuring Health Outcomes

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May 6, 2014

SAMHSA-HRSA Center for Integrated Health Solutions (CIHS)

- Make Integrated Healthcare a National Standard of Practice
- Create and Operate a World-class National Technical Assistance Center
- Support the Success of the SAMHSA PBHCI and HRSA Grantees

SAMHSA Primary and Behavioral Health Care Integration (PBHCI) Program

Program Purpose: To establish projects for the provision of coordinated and integrated services through the co-location of primary and specialty care services in community-based mental and behavioral health settings.

Goal: To improve the physical health status of adults with serious mental illnesses (SMI) who have or are at risk for co-occurring primary care conditions and chronic diseases served in community mental health settings.



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PBHCI Data Collection

National Outcome Measures (NOMS)

- SAMHSA performance measures
- Every six months

Mechanical Health Indicators

- BMI, Blood Pressure, Breath CO, Waist Circumference
- Every six months

Lab Health Indicators

- Fasting Plasma Glucose/HgbA1c, Cholesterol
- Every 12 months



3

Using the Data

Consumer Level

- Individual Wellness Dashboard
- Morning Huddle Report

Population Management

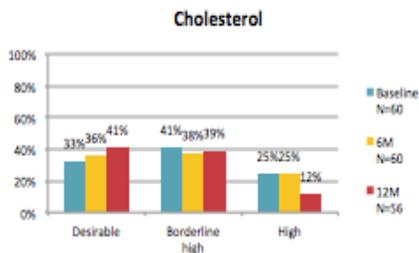
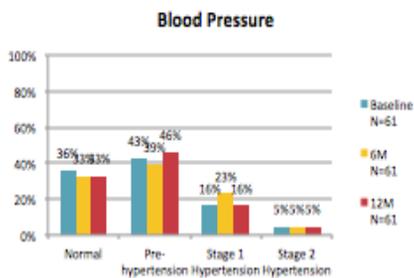
- Planning Health Interventions
- Measuring Health Outcomes
- Address Health Disparities

Sustainability

- Cost Savings
- Marketing Materials



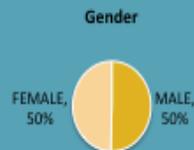
Physical Health: A Closer Look



Por Tu Salud Evaluation Update May 2013

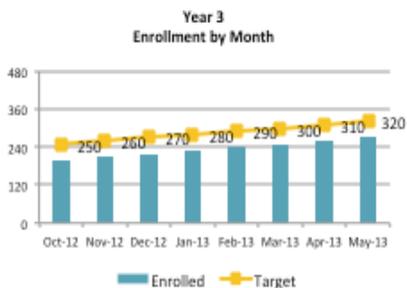
Evaluation Team
Emy Lou Pesantes, M.B.A., M.S.W.
Constanza Covarrubias, B.A.
Elena Garcia

Demographics



Enrollment

A total of **275** individuals have been enrolled in **Por Tu Salud**. In order for the project to meet the enrollment target for the end of Year 3, **21** members should be enrolled for the next 4 months.



Wellness Activities

Solutions for Wellness

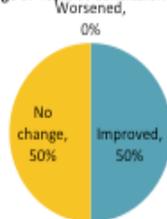
Benefits & Barriers of Healthy Eating

57 members attended at least one group in May. On average, members attended **3** groups.

Pre- & Post-Tests

There were a total of **4** members who completed a Pre and **Post-test**.

Knowledge of Topic at Conclusion of Module



Technical Assistance

Individual Technical Assistance

- Phone and video consultations, e-mail
- Medicaid Health Home Consultation to States

Group Learning Experiences

- Regional and State Based Learning Communities
- Trainings and Presentations
- National Webinars

Tools

- Web-based Resources (<http://www.integration.samhsa.gov>)
- Training Curricula
- White Papers and Factsheets
- eSolutions Newsletter

Measuring Health Outcomes

Connecting Behavioral and Primary Care

Mary Moran
Project Director
Centerstone

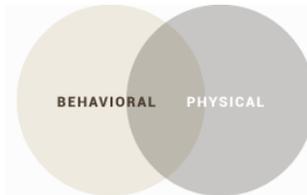
Katie Sewall Martin
Evaluator
Centerstone Research Institute

OUTLINE

- **Grant Summary**
 - Current physical health of clients
- **Physical Measurements**
 - What we collect
 - How are they being used
 - Challenges/Solutions
 - Success Stories/Lessons Learned
- **Physical Health Questions**
 - What we collect
 - How are they being used
 - Challenges/Solutions
 - Success Stories/Lessons Learned
- **Health Service Data**
 - What we collect
 - How are they being used
 - Challenges/Solutions
 - Success Stories/Lessons Learned
- **Future Plans**

Motivation to Pursue Funding

- Large population of clients with severe mental illness
- Untreated or undertreated chronic physical health conditions
- Clients who either did not have primary care providers, or were not actively engaged with their PCPs



Grant Overview

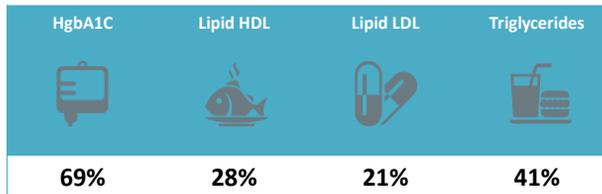
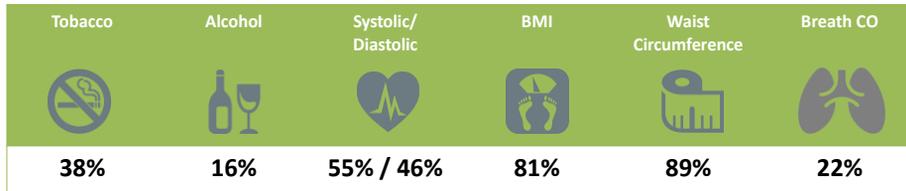
- Received funding from PBHCI SAMSHA grant in Fall 2012 to integrate care
- Formed partnership with Unity Physician Partners to deliver primary care in our behavioral health clinic
- Added Well-Connect component that provides care coordination, promotes wellness and teaches self-management of chronic health conditions



Well-Connect:
an Integrated Care Solution

at Centerstone

Client Risk Factors at Intake



Physical Measurements

Collecting Vitals and Blood draws

- How is this used for CLIENTS:
 - Clients are presented with an individualized score card

Well-Connect:
an Integrated Care Solution
at Centerstone

Individual Wellness Report, 04/07/14
Name: Donald Duck
Grant ID: 1001

Progress on Key Health Indicators

Category	Indicator (Goal)	Baseline 3/29/2013	6-Month Reassessment 7/24/2013	12-Month Reassessment 12/26/2013	18-Month Reassessment
Weight	BMI (18.5-24.9)	19.1	19.8	19.8	
	Weight	145	147	147	
Blood Pressure	Waist Circumference (Male <40.1, Female <34.4)	31.9	33.1	33.1	
	Systolic BP (90-130)	148	121	127	
Blood Sugar	Diastolic BP (60-80)	88	78	79	
	Fasting Glucose (70-99)	-	-	63	
	Hemoglobin A1c (<5.7)	6.3	-	11.8	
Heart Health	Total Cholesterol (<200)	151	-	158	
	HDL Cholesterol (>40)	68	-	51	
	LDL Cholesterol (<130)	73	-	79	
	Triglycerides (<150)	63	-	118	
Lungs	Breath CO (<10)	24	11	11	
Substance Use (past 30 days)	Tobacco Use	Daily or Almost Daily	Daily or Almost Daily or Almost	Daily or Almost Daily or Almost	
	Alcohol Use	Daily	Once or Twice Daily	Daily	



Physical Measurements

Collecting Vitals and Blood draws

How is this used for STAFF:

- Staff receive a weekly updated Biomarkers Risk Report that indicates client severity and information on which groups would be useful

Client ID	First Name	Last Name	Care Group	ICB Care Coordinator	Date Last Seen (enter date of last assessment)	Next Message Due (enter date)	ICB Type	Reassessment Date	Weight (lb)	Blood Pressure (S/D)	Blood Pressure (D/D)	Height (inches)	DMF (1-25)	Metabolic Inflammation (1-5)	Brain (1-5)	Vital Risk Factor (1-5)	Pharmaceutical (1-5)	HgbA1c (1-5)	Lipid Cholesterol	Lipid LDL (1-5)	Lipid HDL (1-5)	Lipid Triglycerides (1-5)	Biomarkers Risk Factor (1-5)	Lipid Risk Factor (1-5)		
1	3001	Clark	Keen	2	Caroline	12/02/14	15	Every 14 Days	Enrollment	12/31/2015	160	82	275	65	45.7	4.3	4	3	1	5.5	95	55	130	110	1	4
2	3001	Clark	Keen					8 Months	7/24/2015	162	80	277	65	45.7	4.3	4	3	1	5.5	95	55	130	110	1	4	
3	3001	Clark	Keen					5 Months	12/26/2015	162	80	277	65	45.7	4.3	4	3	1	5.5	95	55	130	110	1	4	
4	3003	Lee	3	Andra	1/19/2015	28		Enrollment	4/10/2015	124	62	222	65	36.9	3.0	2	3	5.6	110	47	112	117	1	3		
5	3003	Lee	3	Andra	3/25/2015			Enrollment	3/25/2015	132	58	227	65	37.6	3.2	4	4									
6	3004	Lee	Luther	3	Andra	1/29/2015	37	Every 28 Days	Enrollment	4/02/2015	92	68	174	68	27.6	4.2	3	1	6	104	45		516	2	5	
7	3004	Lee	Luther	3	Andra	1/29/2015	37	Every 28 Days	Enrollment	4/02/2015	92	68	174	68	27.6	4.2	3	1	6	104	45		516	2	5	
8	3005	Lionel	Luther	2	Caroline	1/26/2015	41	Every 14 Days	Enrollment	4/02/2015	158	80	190	68	28.9	4.2	4	3	1	5.5	95	55	130	110	1	4
9	3005	Lionel	Luther	2	Caroline	1/26/2015	41	Every 14 Days	Enrollment	4/02/2015	163	82	271	65	44.9	5.4	1	3								
10	3006	Peter	2	Andra	1/20/2015	21	Every 14 Days	Enrollment	4/02/2015	111	75	95	62	17.3	2.4	3	1	4.8	62	30	45	74	1	1		
11	3006	Peter	2	Andra	1/20/2015	21	Every 14 Days	Enrollment	4/02/2015	111	75	95	62	17.3	2.4	3	1	4.8	62	30	45	74	1	1		
12	3007	Marie	2	Caroline	1/22/2015	36	Over 45 Days	Enrollment	3/4/2015	125	70	202	65	33.0	4.0	3	3	1	6.4	78	27	52	200	3	6	
13	3007	Marie	2	Caroline	1/22/2015	36	Over 45 Days	Enrollment	3/4/2015	125	70	202	65	33.0	4.0	3	3	1	6.4	78	27	52	200	3	6	
14	3007	Marie	2	Caroline	1/22/2015	36	Over 45 Days	Enrollment	3/4/2015	125	70	202	65	33.0	4.0	3	3	1	6.4	78	27	52	200	3	6	
15	3008	Harri	1	Caroline	1/26/2015	41	Every 7 Days	Enrollment	5/7/2015	132	70	240	68	38.2	4.0	1	4	5.1	100	70	62	140		4		
16	3008	Harri	1	Caroline	1/26/2015	41	Every 7 Days	Enrollment	5/7/2015	132	70	240	68	38.2	4.0	1	4	5.1	100	70	62	140		4		
17	3009	Harri	1	Caroline	1/26/2015	41	Every 7 Days	Enrollment	5/7/2015	132	70	240	68	38.2	4.0	1	4	5.1	100	70	62	140		4		
18	3014	Charles	Kramer	2	Andra	1/22/2015	70	Over 60 Days	Enrollment	5/28/2015	175	88	285	70	34.2	5.0	1	4	1	10	178	58	160	1	7	



Physical Measurements

Challenges:

- Consistently drawing blood or requesting blood work on all clients**
SOLUTION: Refer to weekly report to ensure follow-up on missing information
 Flexibility around staff meeting client where they are (e.g., another location, client's home if necessary)
- Convincing all clients to agree to blood draws**
SOLUTION: Working on creating incentives to encourage blood draw
 Working with staff to frame blood draw in a positive way
- Fasting for blood draws**
SOLUTION: Trying to schedule blood draws as early in morning as possible
 Going to client if timing and transportation is a problem
 Providing snacks for clients that have fasted
- Coordinating with primary care entity to facilitate the blood draws**
SOLUTION: Creating procedures to streamline the process
 Fostering a give and take of assistance to the PCP as needed
 Including primary care doctor in weekly meetings



Physical Measurements

Success Story/Lessons Learned

- Clark had blood sugar readings over 600
- Primary Care Doctor interpreted results as non-compliance with medical advice
- Team monitored diet, medication, and blood sugar daily
- Advocated for doctor to refer to endocrinologist
- Learned Clark has insulin resistant diabetes
- With health coaching and monitoring by endocrinologist, his diabetes is under control



Physical Health Questions

Incorporating Additional Physical Health Questions

- How is this used for CLIENTS:
 - Facilitating a dialogue about clients' physical health needs and limitations that directly impact their plan for service
 - Alerts clients to any previously undiagnosed/unknown conditions

1. Have you EVER been told by a doctor or other health professional that you had (check all that apply):

- Type II diabetes/high blood sugar
- Type I diabetes/high blood sugar
- High blood pressure/Hypertension
- High cholesterol
- Obesity
- Asthma
- Chronic bronchitis, emphysema or COPD
- Other lung disease *describe* _____
- Heart disease *describe* _____
- Arthritis or other rheumatic disease
- Cancer *describe* _____

In the past 6 months, about how often do you do LIGHT OR MODERATE leisure-time physical activities for AT LEAST 10 MINUTES that caused ONLY LIGHT sweating or a SLIGHT TO MODERATE increase in breathing or heart rate?

- _____ Times per
- Day
 - Week
 - Month
 - 6 Months (Total)
 - Unable to do this activity
 - Never



Physical Health Questions

• Incorporating Additional Physical Health Questions

• How is this used for STAFF:

- Using questions in conjunction with physical measurements and service data to determine Level of Care Groups, Which Wellness Groups to Offer

Client ID	Last Name	First Name	Case Manager	ICD Code	Condition	Date Last Screened	Day of Last Screen	Alert Message	NMPS Type	Intervention	Yr/Issue	Actual Date	Eligible	Eligible Period (1-12)
1	1001	Clark	Kent	2	Cardiome	10/20/14	19	Every 14 Days	Standard	9/29/2013	12M	10/20/14	10/20/14	10/20/14
2	1001	Clark	Kent	2	Cardiome	10/20/14	19	Every 14 Days	Standard	7/24/2013	12M	10/20/14	10/20/14	10/20/14
3	1001	Clark	Kent	2	Cardiome	10/20/14	19	Every 14 Days	Standard	10/20/2013	12M	10/20/14	10/20/14	10/20/14
4	1003	Lobo	Lane	3	Andia	2/19/12	20		Standard	4/12/2013	12M	2/19/12	2/19/12	2/19/12
5	1003	Lobo	Lane	3	Andia	2/19/12	20		Standard	9/20/2013	12M	2/19/12	2/19/12	2/19/12
6	1004	Law	Luther	3	Andia	3/16/12	27	Every 28 Days	Standard	4/8/2013	12M	3/16/12	3/16/12	3/16/12
7	1004	Law	Luther	3	Andia	3/16/12	27	Every 28 Days	Standard	9/22/2013	12M	3/16/12	3/16/12	3/16/12
8	1005	Lionel	Luther	2	Cardiome	2/16/12	41	Every 14 Days	Standard	4/8/2013	12M	2/16/12	2/16/12	2/16/12
9	1005	Lionel	Luther	2	Cardiome	2/16/12	41	Every 14 Days	Standard	9/22/2013	12M	2/16/12	2/16/12	2/16/12
10	1006	Patex	Parker	2	Andia	10/20/14	21	Every 14 Days	Standard	4/28/2013	12M	10/20/14	10/20/14	10/20/14
11	1006	Patex	Parker	2	Andia	10/20/14	21	Every 14 Days	Standard	1/16/2013	12M	10/20/14	10/20/14	10/20/14
12	1006	Patex	Parker	2	Andia	10/20/14	21	Every 14 Days	Standard	1/16/2013	12M	10/20/14	10/20/14	10/20/14
13	1006	Patex	Parker	2	Andia	10/20/14	21	Every 14 Days	Standard	1/16/2013	12M	10/20/14	10/20/14	10/20/14
14	1006	Patex	Parker	2	Andia	10/20/14	21	Every 14 Days	Standard	1/16/2013	12M	10/20/14	10/20/14	10/20/14
15	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/6/2013	12M	9/22/13	9/22/13	9/22/13
16	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
17	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
18	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
19	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
20	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
21	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
22	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
23	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
24	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
25	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
26	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
27	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
28	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
29	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
30	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
31	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
32	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
33	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
34	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
35	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
36	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
37	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
38	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
39	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
40	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
41	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
42	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
43	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
44	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
45	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
46	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
47	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
48	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
49	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13
50	1007	Janey	Mason	2	Cardiome	9/22/13	56	Over 45 Days	Standard	5/22/2013	12M	9/22/13	9/22/13	9/22/13

Care Group 1 = See client every 7 days (once a week)
 Care Group 2 = See client every 14 days (once every 2 weeks)
 Care Group 3 = See client every 28 days (once a month)
 Care Group M = Maintenance, see as needed

Care Group 1 = See client every 7 days (once a week)

Care Group 2 = See client every 14 days (once every 2 weeks)

Care Group 3 = See client every 28 days (once a month)

Care Group M = Maintenance, see as needed

Alert: Over 45 Days

Alert: Over 60 Days

Alert: Over 90 Days



Physical Health Questions

Challenges:

- 1. Increased burden of paperwork on staff**
SOLUTION: Modification of tool per their suggestions
 Growing utility of the information collected
- 2. Increased time and burden for client**
SOLUTION: Giving option of splitting up enrollment process into multiple sessions
- 3. Had to reduce duplication of questions asked**
SOLUTION: Consulting with program staff about questions that are already asked and where and when they need to be asked





Physical Health Questions

Success Story/Lessons Learned

- Joy was referred because she was over utilizing the emergency room
- Joy reported that she was having strokes
- Team recognized inconsistencies in self-report and her presentation
- Team sought ER discharge paperwork
- Determined client had congestive heart failure and was not managing it
- Plan to continue to try to engage her with a PCP and care team
- Her mental health symptoms and cognitive deficits continue to be a barrier



Health Service Data

Collecting and Electronically Receiving Information about Service Utilization

PCP History, External Referral Follow-ups, ER Visits, Hospitalizations, Kept/Missed Appointments

- **How is this used for CLIENTS:**
 - PCP information is used to assist the client in finding a PCP of their choice or receiving services from our on site physician



Unity Physician Partners, Inc.





Health Service Data

•Collecting and Electronically Receiving Information about Service Utilization

•PCP History, External Referral Follow-ups, ER Visits, Hospitalizations, Kept/Missed Appointments

- **How is this used for STAFF:**

- External Referrals and Follow-ups – Used to determine our success with clients engaging in their own health management
- ER Visits and Hospitalizations – Used as alerts to initiate client contact
 - Provide information on areas of perceived over utilization
 - Will be utilized in determining cost savings
- Missed Appointments – Ensures follow-up on clients that miss crucial appointments such as medication refills
- Kept Appointments – Used to monitor different care groups



Health Service Data

Challenges:

- 1. Determining what data we need to monitor**

SOLUTION: Trial and error. Often getting a lot of data and not sure how to use it. But after time passed and processes got solidified, it would become obvious which data would be useful and how to incorporate

- 2. Some of the ER and Hospitalizations not reported consistently**

SOLUTION: Able to get electronic claims data from one MCO
Working with staff to consistently report in system when information is learned



Health Service Data

Success Story/Lessons Learned

1. Suzy recently missed several medication appointments
 - Ran out of medication
 - Streaked through the assisted living facility
 - Lost housing
 - Could have been prevented
 - Team now receives missed appointment alerts that are easy to use



Health Service Data

Success Story/Lessons Learned

2. ER and Hospitalization data has been beneficial to engage clients who are difficult to engage otherwise
 - Meeting clients at crisis points increases their likelihood of engagement in new behaviors
 - Alerts team to reoccurring medical issues that clients may not have reported to behavioral health providers
 - Helps team to assist clients in developing self management skills that can ultimately reduce admissions



Sustainability Plans

- Partnerships with payors to engage MCO members
- Seek funding for service mixes that lead to better outcomes
- Improve use of data to identify health risks, provide individualized care
- Maximize funding sources for wellness activities (e.g., peer coaching, teaching illness management)
- Educate behavioral health staff about the impact of physical health conditions on client's well-being
- Educate primary care staff about the impact of behavioral health conditions on client's follow-through on medical recommendations

