



SAMHSA-HRSA Center for Integrated Health Solutions

Using Data to Address Health Disparities

Washtenaw County Community Support
and Treatment Services

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About the Speakers

Trish Cortes, RN, MS is the Director of Community Support and Treatment Services. Trish is also the Co-PI for the PBHCI project.

Brandie Hagaman, MPH is the Program Administrator that oversees the staff and daily activities of the PBHCI project.

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Objectives of presentation

- Learn about one aspect of the data collection methods for the project
- Provide an overview of the demographics of the CMH population and the PBHCI enrollees
- Show the relevance for goal setting and improved health outcomes for certain chronic conditions
- Provide program interventions
- Lessons learned in regards to health outcomes and data collection

Overview of PBHCI project

- Staffing includes-5 Nurse Case Managers, 3 Peer Support Specialist, 1 Registered Dietician and 1 Family Medical Nurse Practitioner
- Recruitment strategy was to stratify data to target highest risk populations for targeted conditions
- Accepted referrals for treatment teams and safety net primary care partners
- Felt strongly that administration, medical director and CIO be at the table for the entire project

Data Collection

Wellness note

- Developed to meet the data needs of the PBHCI project
- Many versions with users input before final product was programmed
- Ability to track specific health outcomes and to develop and assess health related goals
- Rolled out to all nurses in agency as primary documentation note

Wellness note

Wellness Note

Basic Info | Demographics | Overall Health | Medications | Review Goals | **Add Goals** | Behavioral Health Outcomes | Signatures

Goals

Date: 03/15/2013

| | | | |
|------|-----------------------------------|---|---|
| Type | <input type="checkbox"/> Alcohol | <input type="checkbox"/> Elimination | <input type="checkbox"/> Primary Care |
| | <input type="checkbox"/> Diabetes | <input type="checkbox"/> Hypertension | <input type="checkbox"/> Skin Integrity |
| | <input type="checkbox"/> COPD | <input type="checkbox"/> Medication Adherence | <input type="checkbox"/> Tobacco |
| | <input type="checkbox"/> Drugs | <input checked="" type="checkbox"/> Other | <input type="checkbox"/> Weight |

Goal

To follow up with solution to problem with bladder pacemaker

CHARACTERS LEFT: 29940

This Goal is a recommendation ⓘ

0 Goals

Basic Info | Demographics | Overall Health | Medications | Review Goals | **Add Goals** | Behavioral Health Outcomes | Signatures

Save & Exit | Save | Cancel

Assessing Wellness note goals

Goal Status

Status ▼

- Active
- Active
- Met
- No longer applicable
- Void

Notes

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Intervention/Education

Behavioral

Med Education

Medication Reconciliation

Other

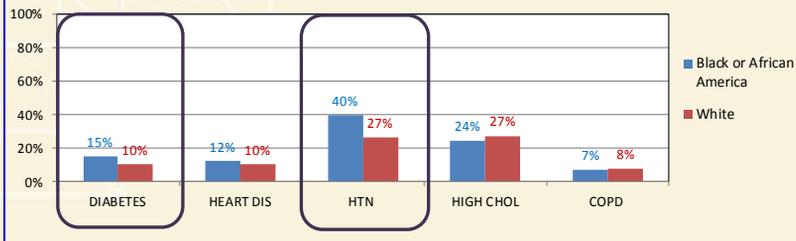
Notes

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Overview data

PERCENT WITH GIVEN CONDITION, BY RACE

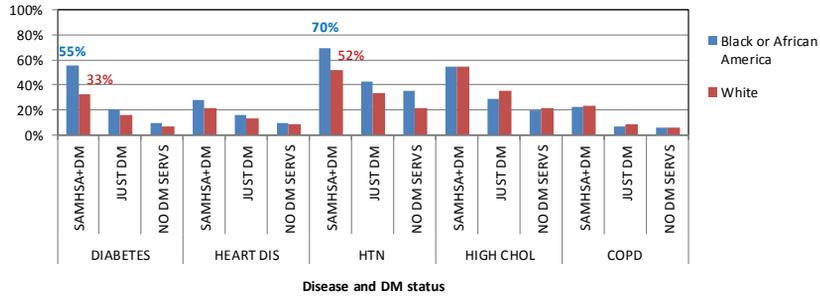
pool = CMH consumers with PHR since 4/1/09, source=PHRs



Overview data

PERCENT OF CMH CONSUMERS WITH GIVEN DISEASE, BY DM STATUS

pool = CMH consumers with PHR, source=PHRs

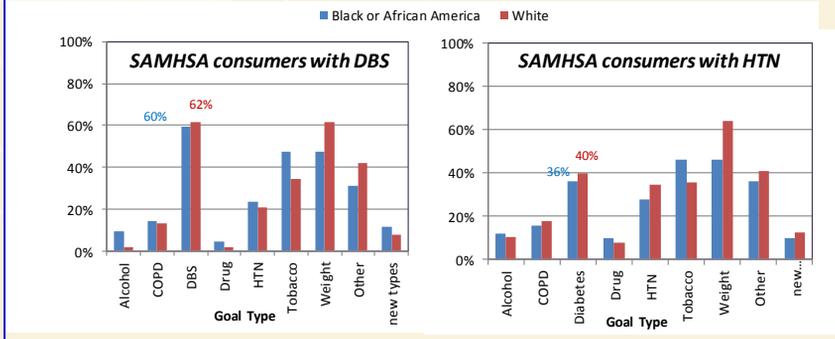


Health Goals

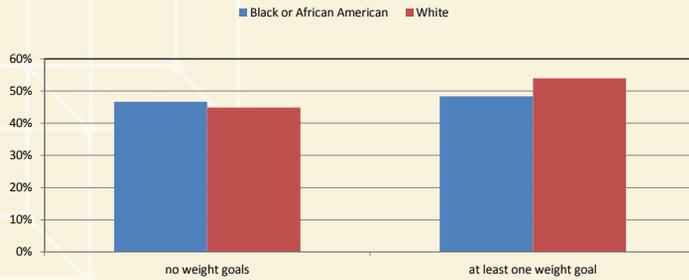
PERCENT OF DBS/HTN SAMHSA CONSUMERS WITH GIVEN GOALS

pool = SAMHSA consumers with Diabetes, source=PHRs

pool = SAMHSA consumers with Htn, source=PHRs



Body Mass Index

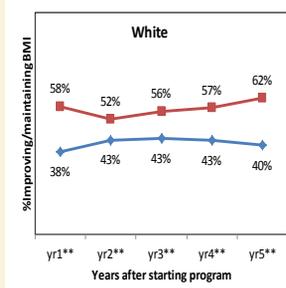
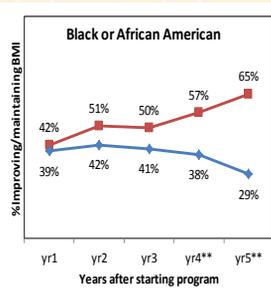


- With no weight goals 47% of African American and 45% of Whites improve
- With weight goals 48% of African American and 54% of Whites improve

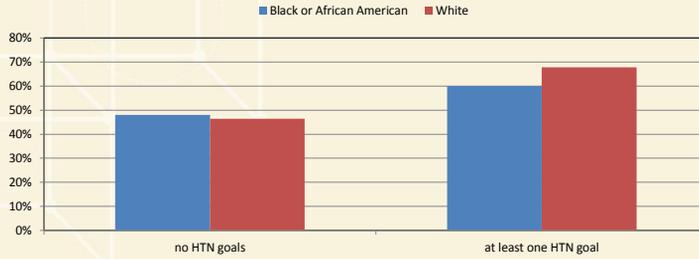
Body Mass Index

BMI: Percent improving/maintaining outcomes, disease management vs. CMH population

■ behavioral health plus disease management ◆ Just behavioral health



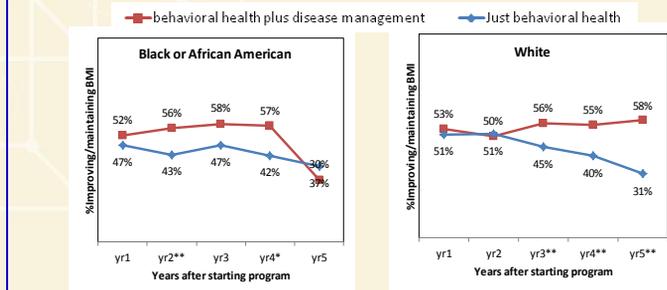
Blood Pressure/ Hypertension



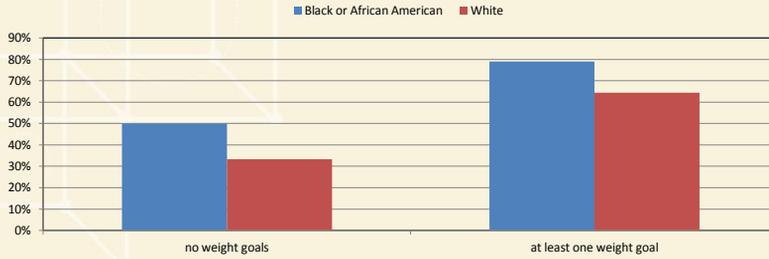
- With no HTN goals 48% of African American and 46% of Whites improve
- With weight goals 60% of African American and 68% of Whites improve

Blood Pressure

systolic: Percent improving/maintaining outcomes, disease management vs. CMH population



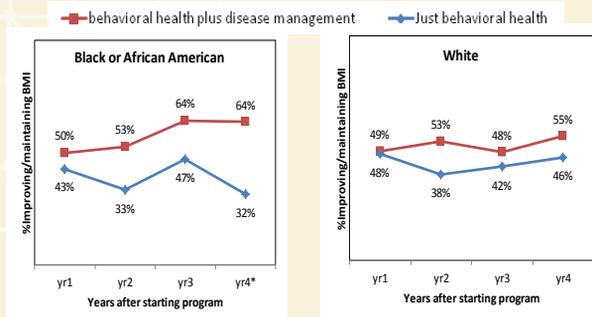
Triglycerides



- With no weight goals 50% of African American and 33% of Whites improve
- With weight goals 79% of African American and 64% of Whites improve

Triglycerides

TRIGLYCERIDES: Percent improving/maintaining outcomes, disease management vs. CMH population



Interventions

- Care coordination with primary care and specialty care
- Individual nursing contacts
- Certified peer support specialists contacts
- Variety of wellness groups at building sites and in community
- Communication with mental health treatment team

Health Disparities

- This subset of the population is typically at a higher risk for chronic conditions
- Many in our program had not been previously receiving health services so initial interventions could have big health implications
- Once received health education and care coordination they were engaged in their health and adherent to medications
- Confidence in health activities is gained by the one on one interventions that are provided
- Continue to look at this and use this information going forward with programming

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Lessons Learned

- Throughout program looked at data as a whole and then decided to look at data from the population health perspective and this is what we discovered
- Having health conversations that leads to goal setting can make health more of a priority and show improved outcomes
- Consistency in staff
- Continuous quality improvement in regards to data collection and interventions

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Centerstone's BE Well Program

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(CRI Research & Evaluation Division)

Jonathan T. Macy, M.P.H., Ph.D. (School of Public Health, Indiana University)

Maren Sheese, LCSW, LCAC (CSI Program Director)

CRI CENTERSTONE
RESEARCH
INSTITUTE



INDIANA UNIVERSITY
SCHOOL OF PUBLIC HEALTH
Bloomington

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Presenters:

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John Putz, M.A., John currently works with Dr. Kathryn Mathes to lead program evaluation activities of Centerstone's SAMHSA integrated healthcare grant in Bloomington, Indiana, CRI's evaluation of the National Council's CDC-funded National Behavioral Health Network, and several clinical research projects.



Matt Andry, M.D. is an Assistant Clinical Professor at Indiana University School of Medicine and president of Andry Medical Services. He is a leader in the fields of personalized and preventative family medical care, bio-identical hormone replacement therapy, and hormonal/behavioral weight management. He serves as the Medical Director for Centerstone's SAMHSA integrated healthcare grant in Bloomington, Indiana.

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Metabolic Disease: A Key Health Disparity in the SMI Population

- **Metabolic disease** (obesity, dyslipidemia, hypertension, diabetes, and co-occurring tobacco use) - **a significant challenge for those living with serious mental illness** (SMI; i.e., schizophrenia, bipolar disorder, recurrent major depression).
- Prevalence in general public of 37.3% (Vancampfort et al., 2013)
- Prevalence in individuals diagnosed with bipolar disorder of 49.3% (Vancampfort et al., 2013)
- Prevalence in individuals diagnosed with schizophrenia up to 51.9% (Mitchell et al., 2013)

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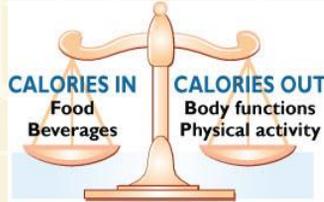
Metabolic Disease: A Key Health Disparity

- In the United States, 50-80% of adults living with serious mental illness smoke **34-44% of all cigarettes sold** (Compton et al., 2006).
- **50% of women and 41% of men diagnosed with SMI meet CDC guidelines for obesity** (compared to 27% of women and 20% of men in the general population; Dickerson et al., 2006).
- Metabolic disease has been postulated to be the **primary cause of the observed 25-year mortality gap** between those living with serious mental illness and the general population (Parks et al., 2010).
- SMI population **less likely to receive pharmacological interventions** aimed to reduce the morbidity associated with metabolic disease (Newcomer & Hennekens, 2007)
 - **88% of seriously mentally ill patients diagnosed with dyslipidemia received no pharmacological intervention to lower their cholesterol**
 - **30% of those diagnosed with diabetes received no medication for the treatment of diabetes**
 - **62% of those diagnosed with hypertension received no medication to lower their blood pressure**

BE Well: A Multidisciplinary Approach to Target Health Disparities in those Living with SMI

- Dietary Counseling
- Physical activity education and provision/coaching
- Behavioral modification (awareness models)
- Emotional Support
- Staff, case manager education
- Medical Management
 - Care coordination between providers
 - Medication review, education, and management

Obesity Energy Balance



INTAKE

OUTPUT

| | |
|-----------------|-----------------------|
| What we eat | 70% RMR |
| How much we eat | 20% Physical Activity |
| When we eat | 10% Digestion |

Targeting Obesity: A Key Health Disparity

Calories IN Determined by:

- Cost
- Time
- Social Pressures
- Availability
- Psychological influences
 - Stress Eating, B.E.D.
- Metabolic influences
 - Glycemic homeostasis
 - Myriad Neurohormonal Pathway

Calories OUT Determined by:

- 70% of burned calories used for RMR
- 20% only used for exercise/physical activity
- 10% spent on food processing (thermic effect of food)

Protein can be as high as **30%!**

Fats and **Carbs** as little as **2%!**

Obesity and Genetics

“Thrifty Gene” Hypothesis, Dr. James Neel, University of Michigan Medical School, 1962

- Repeated episodes of famine **select for genes that promote survival during low food states.**
- Cited over 800 times in the medical literature

Updates:

- Dr. Claude Bouchard, PhD Human Genomics Lab, LSU
- Found **127 genes correlated with obesity** in 5 categories
 - **1. Thift, lowering of metabolic rates**
 - **2. Hyperphagia, increased eating behavior**
 - **3. Sedentary tendencies, low physical activity**
 - **4. Low lipid oxidation, poor fat-burning**
 - **5. Elevated adipogenesis, elevated lipid storage capacity**
- **The biological predisposition to obesity: beyond thrifty genes**

International Journal of Obesity (2007) 31, 1337–1339; doi:10.1038/sj.ijo.0803610; published online 13 March 2007

Obesity and Metabolism

Maximizing Metabolic Rate for weight loss:

- **Protein Intake:** 1.0-1.5 grams/kg of ideal body weight required to prevent (minimize) body muscle loss
- **Exercise:** reduces muscle loss and improves insulin sensitivity
- **Glucose/Insulin Management:**
 - » Reduce hyperinsulinemia (metformin, incretin mimetics)
 - » Reduce hypoglycemic episodes and hunger
- **Address thyroid deficiency if present**
- **Medication (add or eliminate)**
- **Address significant sex-hormone deficiencies/imbbalances**
 - Testosterone deficiency in men
 - PCOS, Estrogen Dominance (especially perimenopausal)

Managing Metabolism for Weight Loss

Glucose/Insulin Management

Insulin resistance/hyperinsulinemia very common

- at least 38% of the population demonstrates some insulin resistance

Problems with hyperinsulinemia and insulin resistance:

- increases fat storage (via increased LPL)
- increased appetite (central insulin resistance and falling glucose levels)
- loss of beta cell mass
- interferes with sex-hormone functions (PCOS in premenopausal women, hypogonadism in men)
- increases “inflammation”

Addressing Health Disparities in the SMI Population

- The present study utilized the **collaborative care approach** (wherein a multidisciplinary treatment team, including case management staff, work to coordinate care between medical and mental health providers; Reilly et al., 2012) to target the disproportionate prevalence of metabolic disease in those living with SMI.
- The integrated care literature offers support – in both medical and psychiatric outcomes – for targeting metabolic risk associated with chronic disease in the SMI population.

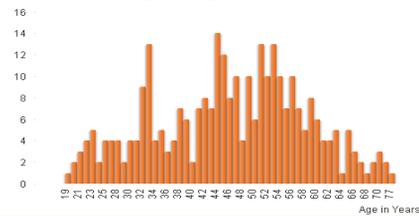
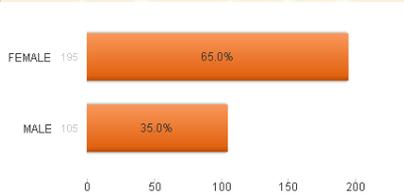
Addressing Health Disparities in the SMI Population

- Druss et al. (2001) reported functional health outcomes for 120 individuals living with SMI assigned to an intervention consisting of **case management**, **wellness education**, and provision of **integrated care services** in an outpatient mental health clinic (i.e., the collaborative care approach) and a treatment-as-usual intervention in a standard general medical care clinic.
- Collaborative care **targets health disparities** in the SMI population
 - More likely to **receive primary care visits**
 - More likely to **receive recommended preventative care**
 - More likely to **report satisfaction with care**
 - Greater **improvement on measure of physical health status**

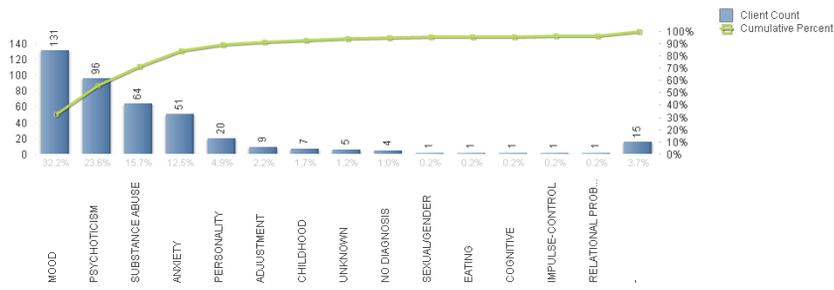
Demographics

289 BE Well participants

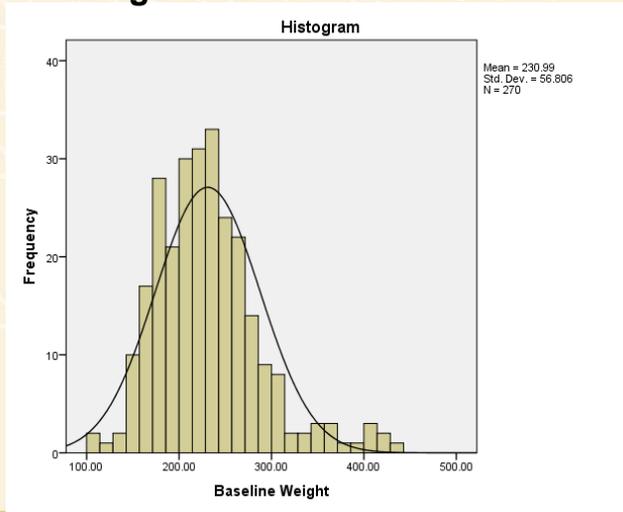
Average Age: 46 years



Primary Mental Health Diagnosis



Weight at Baseline: All Clients



Weight: 6 Months Post-Enrollment

Table 1
Weight Change at 6M Follow-up (N = 145)

| | <u>Mean Weight</u> | <u>SD</u> |
|--------------|--------------------|-----------|
| Baseline | 236.25 lbs | 57.36 lbs |
| 6M follow-up | 231.83 lbs | 57.44 lbs |
| Change | -4.41 lbs*** | 13.84 lbs |

Weight: 12 Months Post-Enrollment

Table 2
Weight Change at 12M Follow-up (N = 106)

| | <u>Mean Weight</u> | <u>SD</u> |
|---------------|--------------------|-----------|
| Baseline | 232.97 lbs | 52.81 lbs |
| 12M follow-up | 226.22 lbs | 50.77 lbs |
| Change | -6.75 lbs** | 21.05 lbs |

Weight: 18 Months Post-Enrollment

Table 3
Weight Change at 18M Follow-up (N = 73)

| | <u>Mean Weight</u> | <u>SD</u> |
|---------------|--------------------|-----------|
| Baseline | 235.13 lbs | 55.80 lbs |
| 18M follow-up | 225.57 lbs | 58.36 lbs |
| Change | -9.56lbs** | 23.14 lbs |

Weight: 24 Months Post-Enrollment

Table 4
Weight Change at 24M Follow-up (N = 46)

| | <u>Mean Weight</u> | <u>SD</u> |
|---------------|--------------------|-----------|
| Baseline | 234.62 lbs | 63.31 lbs |
| 18M follow-up | 219.90 lbs | 65.89 lbs |
| Change | -14.72 lbs*** | 24.35 lbs |

Discussion

- Our findings both offer support for the **utility of collaborative care interventions to target health disparities** in the SMI population
- We found population-level levels of weight reduction (i.e., anyone exposed to the programming who also exhibited baseline risk) that have **exceeded that reported in the intervention groups of similar programs**
- The significant **reductions in weight were strengthened by findings of clinically significant weight loss**
- Our work will add to the integrated care literature through the addition of follow-up intervals beyond one-year
- Our **future work will consider the role of race, gender, SES, service utilization, and baseline psychiatric diagnosis** in explaining health changes



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Funding

IU School of Public Health Bloomington; Faculty Research Grant (HCV Study, PI: Dr. Macy)
U.S. Department of Health & Human Services; SAMHSA PBHCI Grant SM059625



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