# *DATA-DRIVEN PRACTICE TO IMPROVE OUTCOMES IN ADDICTIONS AND MENTAL HEALTH: THE BEHAVIORAL HEALTH DATA ANALYTICS COLLABORATIVE*

Grand Rounds

May 18, 2022

University at Buffalo
School of Social Work

# Learning Objectives

- Identify the purpose, uses, and benefits of a data warehouse for clinicians and organizational leaders
- Explain NYS's shift to Value-Based Payments (VBP) and the role of Independent Practices Associations (IPAs) regarding VBP
- Describe the implications of IPAs for rural behavioral health

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# *OUTLINE*

BHDAC Team
Overview of IPBH, IPA
Data Warehouse
Clinical Integration
Value-Based Payments
Project Next Steps

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# *BEHAVIORAL HEALTH DATA ANALYTICS COLLABORATIVE*

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Integrity Partners for Behavioral Health, IPA (IPBH)

# Integrity Partners for Behavioral Health (IPBH)

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Integrity Partners for Behavioral Health, IPA, Inc.

Chief Executive Officer

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Integrity Partners for Behavioral Health, IPA, Inc.

Director of Continuous Quality Improvement & Strategic Initiatives

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Director of Finance and Operations

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**Brad Linn, PhD**

UB School of Social Work
Visiting Assistant Professor

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*"HOW DO WE IMPROVE CLIENT OUTCOMES WHILE DECREASING COSTS?"*

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# *INTEGRITY PARTNERS FOR BEHAVIORAL HEALTH, IPA (IPBH)*

# Integrity Partners for Behavioral Health

**Integrity Partners for Behavioral Health, IPA (IPBH)**

- NYS Behavioral Health Care Collaborative (1 of 18)
- 14 Counties, 8 Community-based Rural Organizations
- Types of Partners: Mental Health & Substance Use Disorder
- Negotiates VBP arrangements on behalf of IPBH Partners

**Priorities:** 1) Data Analytics, 2) Clinical Integration, 3) Continuous Quality Improvement, and 4) Fiscal Integration

**Behavioral Health Data Analytics Collaborative Benefits**

- Making meaning out of EHR data for IPBH and Partners
- Designed to drive evidence-based practice, reduced cost of care, and drive data-driven advancements in mental health sector

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# *DATA WAREHOUSE*

# Statistical and Data Management Team
# Collaborating UB Statistical Units

- Department of Biostatistics, School of Public Health and Health Professions (SPHHP)
  - Education, methodological development, and scientific collaboration,
- Population Health Observatory, SPHHP
  - Long history of creation, maintenance, and use of data warehouses
- Biostatistics, Epidemiology, and Research Design Core, UB Clinical and Translational Science Institute (CTSI)
  - CTSI's vision is to improve health and reduce health disparities in our community

# What is a Data Warehouse?

**Centralized repository based on an extract of organizational/network data, usually drawn from multiple sources structured to facilitate analysis and reporting with the final goal of assisting in decision making**

Some common features:

- Generally, it contains only alpha-numeric data (not other content, ex., documents)
- Stored separately from the primary application and databases
- The data is processed, cleaned, and often transformed to a uniform data model

**With the healthcare sector generating more and more electronic data, data warehouses have become more common as all stakeholder realize the significant benefits.**

# Why Create a Data Warehouse?

To foster improved outcomes for patients, populations, and the provider organizations by:

1. Gaining knowledge on the current operations and decision-making processes
2. Understanding our populations and how they are changing (ex., demographics)
3. Understanding individual patient behavior, ex., patients are moving from provider to provider
4. Understanding the influence of external factors on our populations and patients by merging in other data sources into the warehouse, ex., criminal justice data.

# Why Create a Data Warehouse? (cont.)

5. Enabling intervention evaluation
    - What interventions are being used?
    - Are our intervention are working?
    - Are they working consistently from organization to organization?
    - Identify best practices
    - Identify those providers with the less than optimal outcomes
    - Assist determining optimal treatment for a given patient
    - Develop performance benchmarks

**The data warehouse when combined with appropriate analytic tools creates knowledge!**

# How Do We Develop a Data Warehouse?

- Establish your goals!
- Delineate the specific roles and responsibilities of both participating organizations and individuals
- Develop a governance model for the data warehouse which will clearly identify who will be responsible for each aspect of its operation and use
- Determine a data ownership model
- Develop a business model
- Describe the model for use and sharing of data and analytic results

# How Do We Develop a Data Warehouse? (cont.)

- Obtain appropriate technology and support
  - Reliable highspeed network for data transfer
  - Continuously increasing storage space
  - A variety of software applications
  - IT staff
- Obtain the appropriate data expertise
  - Data managers
  - Data analyst/statistician
- Plan for the significant cost
  - Start-up cost
  - Sustainability (use, maintenance, and growth)
- Plan for a multi-year commitment

# What are the Challenges?

- Requires substantial planning and infrastructure development
- Requires considerable resources to design and implement successful
- Data warehousing requires a deep commitment and trust
  - Provider are sharing data and results are produced which may not appear to directly benefit a given unit or individual
- The original data may be stored in various diverse systems

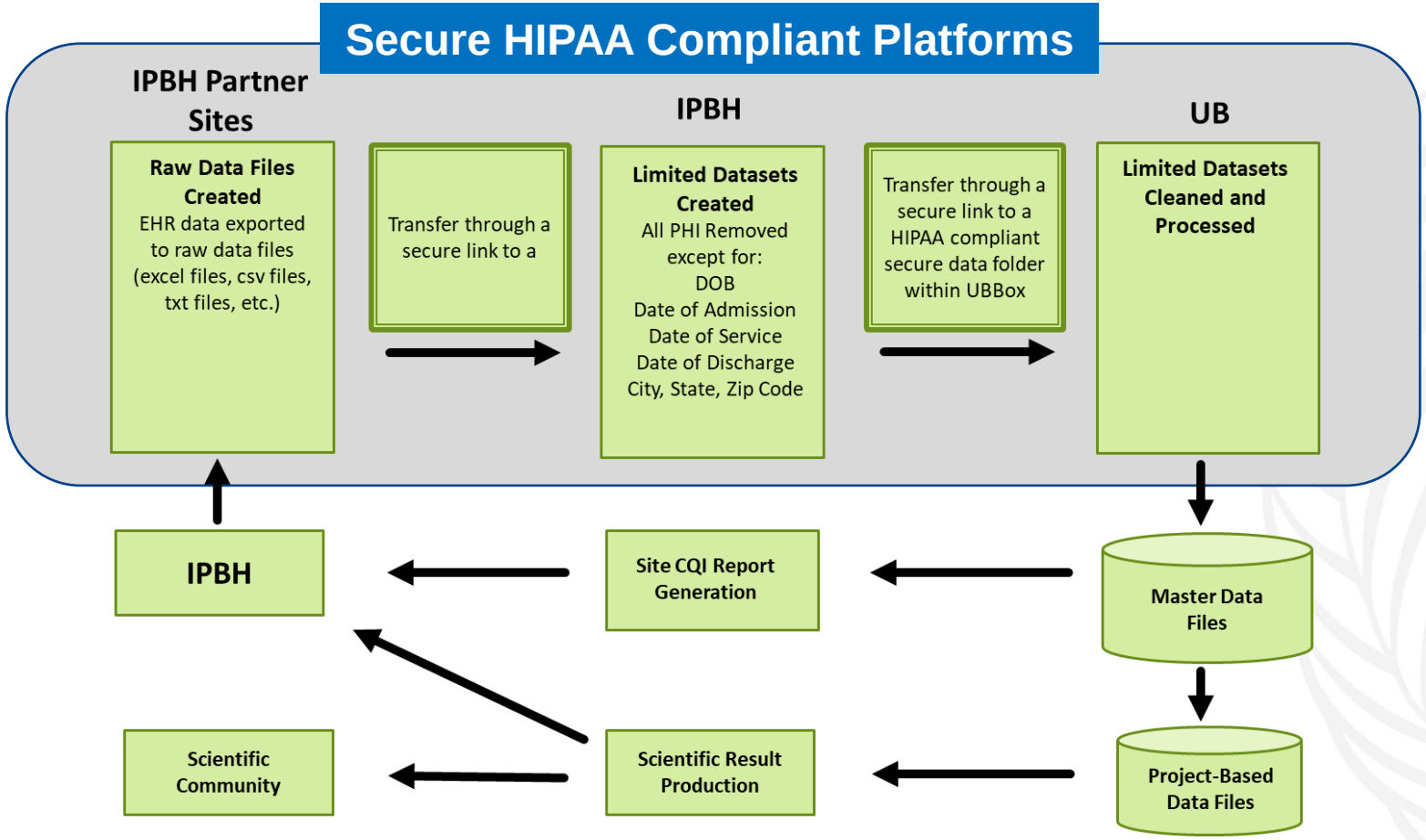
# What are the Challenges? (cont.)

- Data may require reformatting/transformation before integration
- Data quality may vary and poor data quality can occur
- Data contain personal information that requires careful data security and safeguard for patient privacy
- The initial benefit may be limited
  - But over time the data will grow, the experience of those assessing it, as will value!

# Behavioral Health Data Analytics Collaborative (BHDAC) Data Warehouse

- The BHDAC Data Warehouse is based on the extraction of the EHR and billing data from 22 partner sites
  - Partners sites utilized a variety of system and there exist a large degree of heterogeneity in variables collected and variable definitions
- The warehouse was created with two main goals:
  - To facilitate outcome-based research initiatives around the treatment of patients with addictions and mental health disorders in a rural setting
  - To create a mechanism for timely CQI reporting needs to allow for better clinical and operational decisions

# BHDAC Data Warehouse Structure




IT support:

- UB IT
- SPHHP IT

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# *IPBH AND VALUE-BASED PAYMENTS*

# BHCCs/IPAs and Their Role in VBP Arrangements

What are the primary goals of an Independent Practices Association (IPA)

- Represent the Partner organizations (22 in IPBH)
  - Data Analytics
    - Used for clinical integration and CQI
  - Clinical Integration
    - 5 Models integrated across IPBH Network
  - Financial Integration
    - Reduce total cost of care

IPAs and Value-Based Payments

- Person-Centered focusing on outcome
- Three Levels: No Risk, Partial Risk, and Full Risk
- Negotiate VBP arrangements on behalf of their networks

UB Partnership

- CQI to drive evidence-base practice
- Research to drive advancements in behavioral health

# BHCCs/IPAs and Their Role in VBP Arrangements

## Level 1: Shared Savings Only (using FFS)

- Underlying fee contract remains in place; VBP model sits on top of current contract
- Shared savings model (Upside only): If performance beats target, savings are generated and shared
- Provider quality score impacts percentage of savings shared with Provider

## Level 2: Shared Savings + Risk (using FFS)

- Underlying fee contract remains in place; VBP model sits on top of current contract
- Shared savings + Shared Risk (Upside / Downside): If performance beats target, savings are generated and shared; if performance is worse than target, losses are generated and shared
- Due to the inclusion of downside risk, a larger percentage of upside savings are shared

## Level 3: Global Capitation

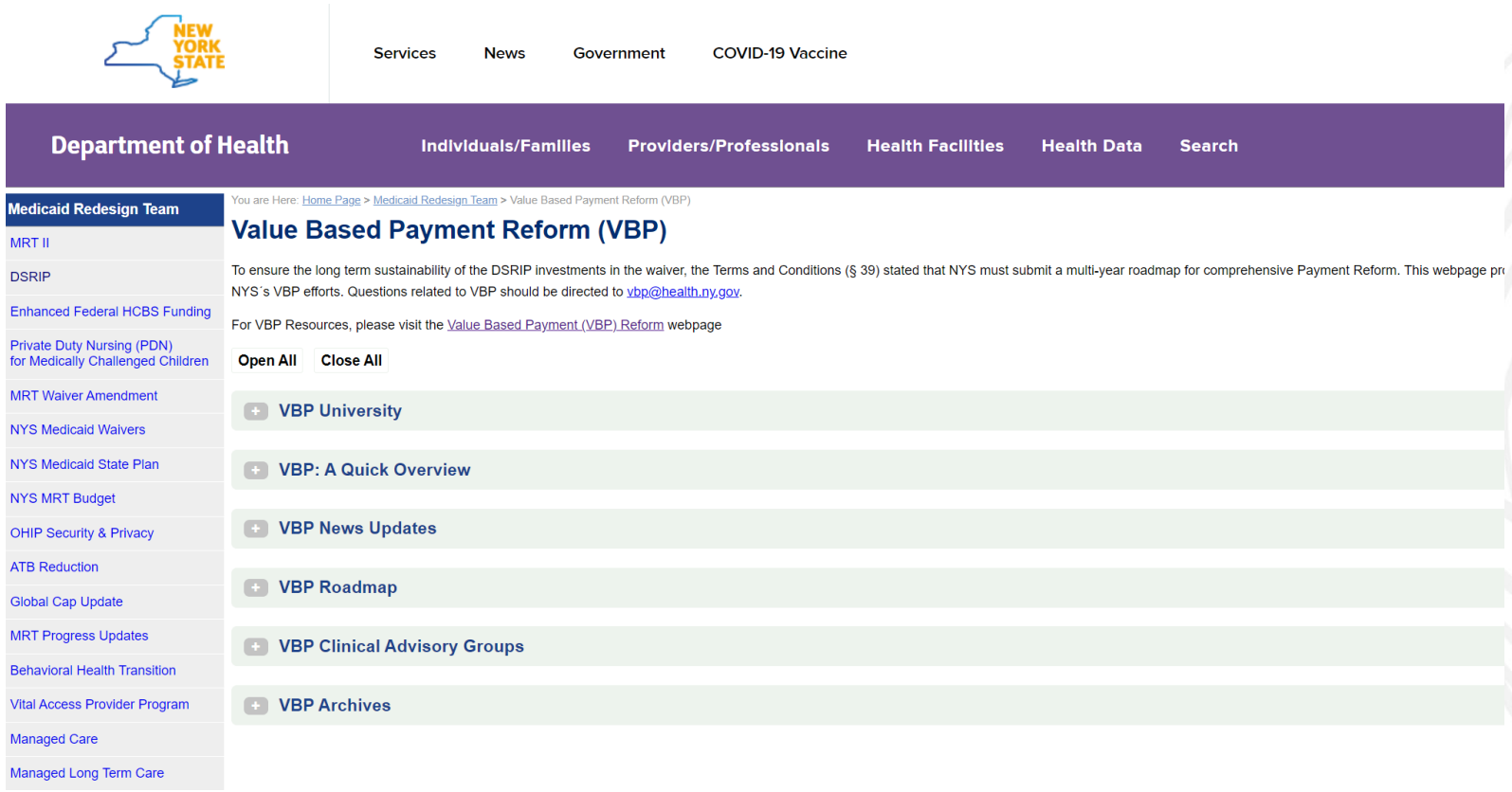
- Upfront PMPM payment / percent of premium pass through, with quality-based component
- All savings and losses held by provider

From the Fidelis Care's Approach Presentation, May 2019

# BHCCs/IPAs and Their Role in VBP Arrangements (cont.)

**For more information:**

*https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/vbp_reform.htm*



# Overview: Behavioral Health Data Analytics Collaborative

- **Great interest in expanding Integrity/UB Data Warehouse**
- **Operational Goals**
  - Facilitate **Clinical Integration** and **Fiscal Integration**
  - For CQI, data will remain separated by individual Partners
  - For VBP arrangements, data will be integrated according to VBP reporting requirements
  - There will be 2 types of reports:
    - Partner Level CQI Report
    - Network Level CQI Report

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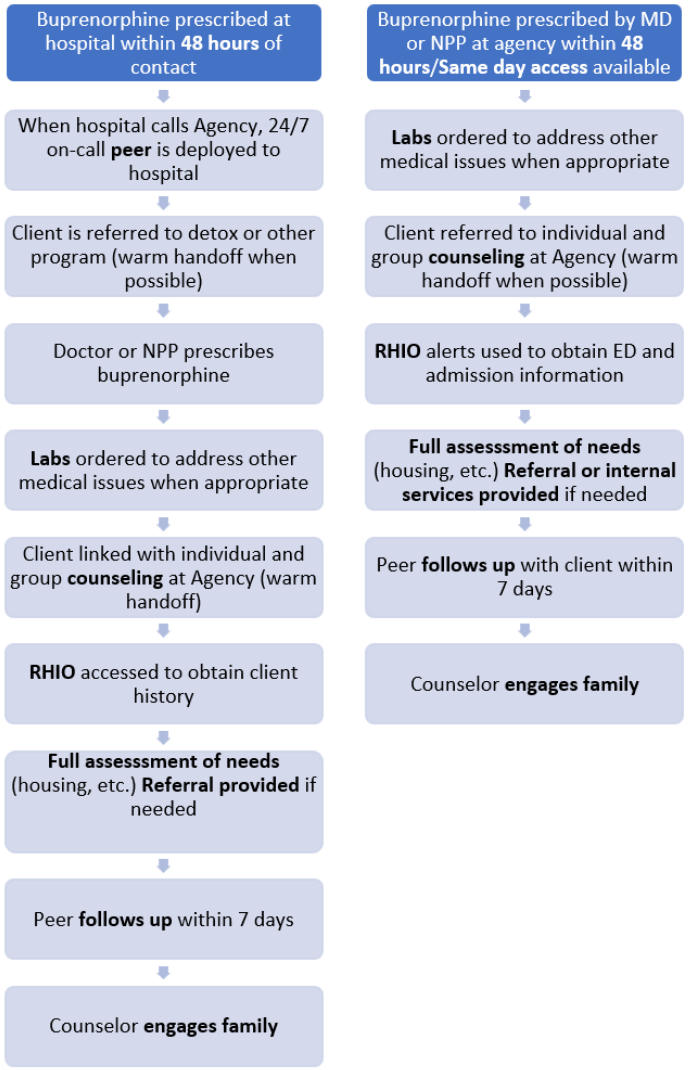
# *IPBH AND CLINICAL INTEGRATION*

# Overview: How Clinical Integration Works

## Clinical Integration

- **Clinical Quality Assurance Committee**
  - Responsible for Clinical Integration based on analyses by IPBH staff
  - Models are developed in collaboration by Partner CQI Directors
  - Nicki conducts an analysis of comparability to the model (how closely Partners' programs match the model
  - Nicki then analyzes data to see who has the best outcomes
  - **Example:** Medication Assisted Treatment

### MAT Workflow Analysis



# Overview: How Clinical Integration Works (cont.)

## MAT Workflow Analysis

- Buprenorphine prescribed at hospital within **48 hours** of contact
- When hospital calls Agency, 24/7 on-call **peer** is deployed to hospital
- Client is referred to detox or other program (warm handoff when possible)
- Doctor or NPP prescribes buprenorphine
- **Labs** ordered to address other medical issues when appropriate
- Client linked with individual and group **counseling** at Agency (warm handoff)
- **RHIO** accessed to obtain client history
- **Full assesssment of needs** (housing, etc.) **Referral provided** if needed
- Peer **follows up** within 7 days
- Counselor **engages family**

- Buprenorphine prescribed by MD or NPP at agency within **48 hours/Same day access** available
- **Labs** ordered to address other medical issues when appropriate
- Client referred to individual and group **counseling** at Agency (warm handoff when possible)
- **RHIO** alerts used to obtain ED and admission information
- **Full assesssment of needs** (housing, etc.) **Referral or internal services provided** if needed
- Peer **follows up** with client within 7 days
- Counselor **engages family**

## PH & BH Integration

- IPBH PH & BH Clinical Integration Model
- Full Understanding Between PH & BH Roles
- Full Communication Until Patients are Transferred and In Treatment
- PH & BH Staff Meet on a Regular Basis (Monthly or Qrtly)
- Integrated Scheduling System with Warm Handoff
- Open Access Daily with Evening Hours
- Continuity of Care: With Warm Handoff From ED, Facilitated by Peers

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# Overview: How Clinical Integration Works (cont.)

## MAT Workflow Analysis

**Buprenorphine prescribed at hospital within 48 hours of contact**

When hospital calls Agency, 24/7 on-call **peer** is deployed to hospital

Client is referred to detox or other program (warm handoff when possible)

Doctor or NPP prescribes buprenorphine

**Labs** ordered to address other medical issues when appropriate

Client linked with individual and group **counseling** at Agency (warm handoff)

**RHIO** accessed to obtain client history

**Full assesssment of needs** (housing, etc.) **Referral provided** if needed

Peer **follows up** within 7 days

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**Buprenorphine prescribed by MD or NPP at agency within 48 hours/Same day access** available

**Labs** ordered to address other medical issues when appropriate

Client referred to individual and group **counseling** at Agency (warm handoff when possible)

**RHIO** alerts used to obtain ED and admission information

**Full assesssment of needs** (housing, etc.) **Referral or internal services provided** if needed

Peer **follows up** with client within 7 days

Counselor **engages family**

## Peer Program Model Levels

### Non-Negotiable

***Standardized Training***

1. Peer Certification for peers
2. Supervisory Training
   - Supervisors must be Qualified Health Practitioners if supervising OASAS certified peers
   - IPBH will provide *Self-Reflection Tool for Supervisors of Peer Specialists* to all peer supervisors, and the *Employment of Peers: A Needs-Based Toolkit to Advance Organizational Readiness* to organizations with new peer programs

***Referral Network***

1. Clients are referred in many ways

***Meet Clients Where They Are***

1. Peers work with clients to help them reach their goals

***Treatment Team***

1. Peers advocate, share resources, build relationships
2. Peers work with clinicians to ensure they are supporting clients in the best way possible

### Recommended

***Standardized Training***

1. Peer Certification for peers
2. Supervisory Training
   - Supervisors must be Qualified Health Practitioners if supervising OASAS certified peers
   - Supervisors need to understand the peer role thoroughly and offer support, guidance, and structure
   - IPBH will provide *Self-Reflection Tool for Supervisors of Peer Specialists* to all peer supervisors, and the *Employment of Peers: A Needs-Based Toolkit to Advance Organizational Readiness* to organizations with new peer programs

***Outreach***

1. Peers notify and educate organizations on available peer services

***Referral Network***

2. Clients are referred in many ways, including from the following:
   - self-referral
   - hospitals
   - jails
   - other behavioral health organizations

### Highly Recommended

***Standardized Training***

1. Peer Certification for peers
2. Supervisory Training
   - Supervisors must be Qualified Health Practitioners if supervising OASAS certified peers
   - Supervisors complete peer training specific to supervising peers
   - Supervisors need to understand the peer role thoroughly and offer support, guidance, and structure
   - IPBH will provide *Self-Reflection Tool for Supervisors of Peer Specialists* to all peer supervisors, and the *Employment of Peers: A Needs-Based Toolkit to Advance Organizational Readiness* to organizations with new peer programs
3. Ongoing training on self-care, boundaries, engagement, etc.

***Outreach***

2. Peers notify and educate the following organizations on available peer services:
   - jails
   - courts
   - homeless shelters

***Treatment Team***

1. Peers advocate, share resources, build relationships, lead recovery groups and mentor clients
2. Peers work with clinicians to ensure they are supporting clients in the best way possible
3. Participating in a peer learning collaborative will allow peers to mentor and support each other and discuss successes and barriers to care

# Overview: Behavioral Health Data Analytics Collaborative

## Fiscal Integration

- **Example: MAT Fiscal Integration**
  - Fiscal integration is based on VBP arrangements.
  - Data Warehouse will be used to assess Cost of Care and to recommend cost saving strategies that complement strategies for better outcomes

***Summary of MAT Program Step Cost per Patient, per Week Combined***

| | | Cost per Patient (per week) Based on Time in Program | | | | |
|---|---|---|---|---|---|---|
| MAT Program Step # | Step Description | 1 Week | 2 Weeks - 1 Month | 1 - 3 Months | 4 - 6 Months | 7 Months - 1 Year |
| 1 | Prescribe or administer first dose of buprenorphine within 48 hours of contact | $ 136.46 | $ 75.07 | $ 37.54 | $ 32.72 | $ 32.72 |
| 2 | After first dose of buprenorphine is prescribed or administered, provide warm handoff to next level of care | $ 7.10 | $ 7.10 | $ - | $ - | $ - |
| 3 | Follow-up with patient within 3-7 days of first dose | $ 11.21 | $ 3.31 | $ - | $ - | $ - |
| 4 | Provide full assessment of needs | $ 65.61 | $ 23.43 | $ 11.72 | $ 11.72 | $ 11.72 |
| 5 | Offer counseling and groups within 3-7 days | $ 45.52 | $ 34.92 | $ 24.22 | $ 23.11 | $ 23.11 |
| 6 | Use of peers to assist in warm-hand off, setting up appointments for counseling, etc. | $ 6.86 | $ 6.86 | $ 6.86 | $ 6.86 | $ 6.86 |
| 7 | Labs done within 3 days of buprenorphine administration to address any other diagnoses (such as Hepatitis C) | $ 4.66 | $ 4.66 | $ 2.33 | $ 2.33 | $ 2.33 |
| 8 | Within 3-7 days, provide support for food, housing and access to health insurance | $ 3.30 | $ 3.30 | $ - | $ - | $ - |
| 9 | Family engagement | $ 7.50 | $ 7.50 | $ 7.50 | $ 7.50 | $ 7.50 |
| 10 | Use RHIOs or other sources to obtain information on the number of ER visits, etc. | $ 0.76 | $ 0.76 | $ 0.76 | $ 0.76 | $ 0.76 |
| 11 | Administrative Cost and Overhead | $ 15.42 | $ 15.42 | $ 15.42 | $ 15.42 | $ 15.42 |
| | **Total Cost per Patient, per Week** | **$ 304.41** | **$ 182.33** | **$ 106.34** | **$ 100.42** | **$ 100.42** |

| | | Cost per Patient (Cumulative) Based on Time in Program | | | | |
|---|---|---|---|---|---|---|
| MAT Program Step # | Step Description | 1 Week | 1 Month | 3 Months | 6 Months | 1 Year |
| 1 | Prescribe or administer first dose of buprenorphine within 48 hours of contact | $ 136.46 | $ 436.75 | $ 774.57 | $ 1,199.93 | $ 2,050.66 |
| 2 | After first dose of buprenorphine is prescribed or administered, provide warm handoff to next level of care | $ 7.10 | $ 35.49 | $ 35.49 | $ 35.49 | $ 35.49 |
| 3 | Follow-up with patient within 3-7 days of first dose | $ 11.21 | $ 24.46 | $ 24.46 | $ 24.46 | $ 24.46 |
| 4 | Provide full assessment of needs | $ 65.61 | $ 159.34 | $ 264.78 | $ 417.09 | $ 721.71 |
| 5 | Offer counseling and groups within 3-7 days | $ 45.52 | $ 185.18 | $ 403.14 | $ 703.58 | $ 1,304.47 |
| 6 | Use of peers to assist in warm-hand off, setting up appointments for counseling, etc. | $ 6.86 | $ 34.29 | $ 96.02 | $ 185.18 | $ 363.51 |
| 7 | Labs done within 3 days of buprenorphine administration to address any other diagnoses (such as Hepatitis C) | $ 4.66 | $ 23.30 | $ 44.28 | $ 74.57 | $ 135.16 |
| 8 | Within 3-7 days, provide support for food, housing and access to health insurance | $ 3.30 | $ 16.49 | $ 16.49 | $ 16.49 | $ 16.49 |
| 9 | Family engagement | $ 7.50 | $ 37.52 | $ 105.05 | $ 202.60 | $ 397.70 |
| 10 | Use RHIOs or other sources to obtain information on the number of ER visits, etc. | $ 0.76 | $ 3.79 | $ 10.62 | $ 20.47 | $ 40.19 |
| 11 | Administrative Cost and Overhead | $ 15.42 | $ 77.12 | $ 215.93 | $ 416.43 | $ 817.44 |
| | **Total Cost per Patient, Cumulative** | **$ 304.41** | **$ 1,033.73** | **$ 1,990.82** | **$ 3,296.30** | **$ 5,907.27** |

# Overview: Behavioral Health Data Analytics Collaborative (cont.)

## Significance of the Behavioral Health Data Analytics Collaborative (BHDAC)

- The BHDAC is an unmatched opportunity to learn what treatments work and with which patient profiles.
- The BHDAC will identify predictors and risk indicators to help better customize treatment programs.
- The BHDAC will facilitate elevating the impact of evidence-based treatment models.
- The BHDAC will help reduce the total cost of care.

# Overview: Behavioral Health Data Analytics Collaborative (cont.)

**NYS Office of Mental Health, Office of Addiction Services and Supports, and Division of Managed Care**

*"These are the types of collaborations we would like to encourage."*
***Bob Myers, Senior Deputy Commissioner, OMH***

*"Phenomenal step forward." And "This is exactly the direction we are looking for." And "This will help shape NYS policy."*
***Pat Lincourt, Associate Commissioner, OASAS***

*"What you are proposing is needed in the market." And "By doing this, you're solving a lot of problems we see in the future." And "We are behind you, highly encouraging you…"*
***Joe Katagiri, Associate Commissioner, Division of Managed Care***

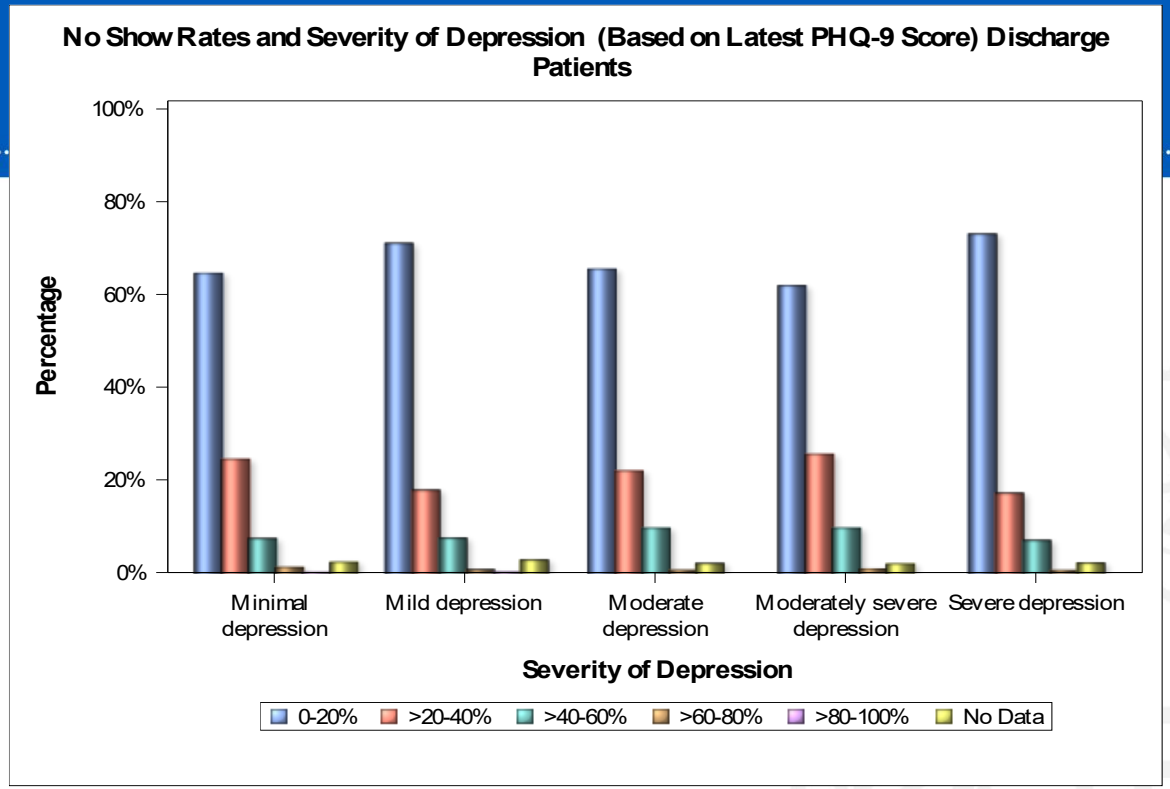
# BHDAC Accomplishments to Date

IRB approval for limited data-set

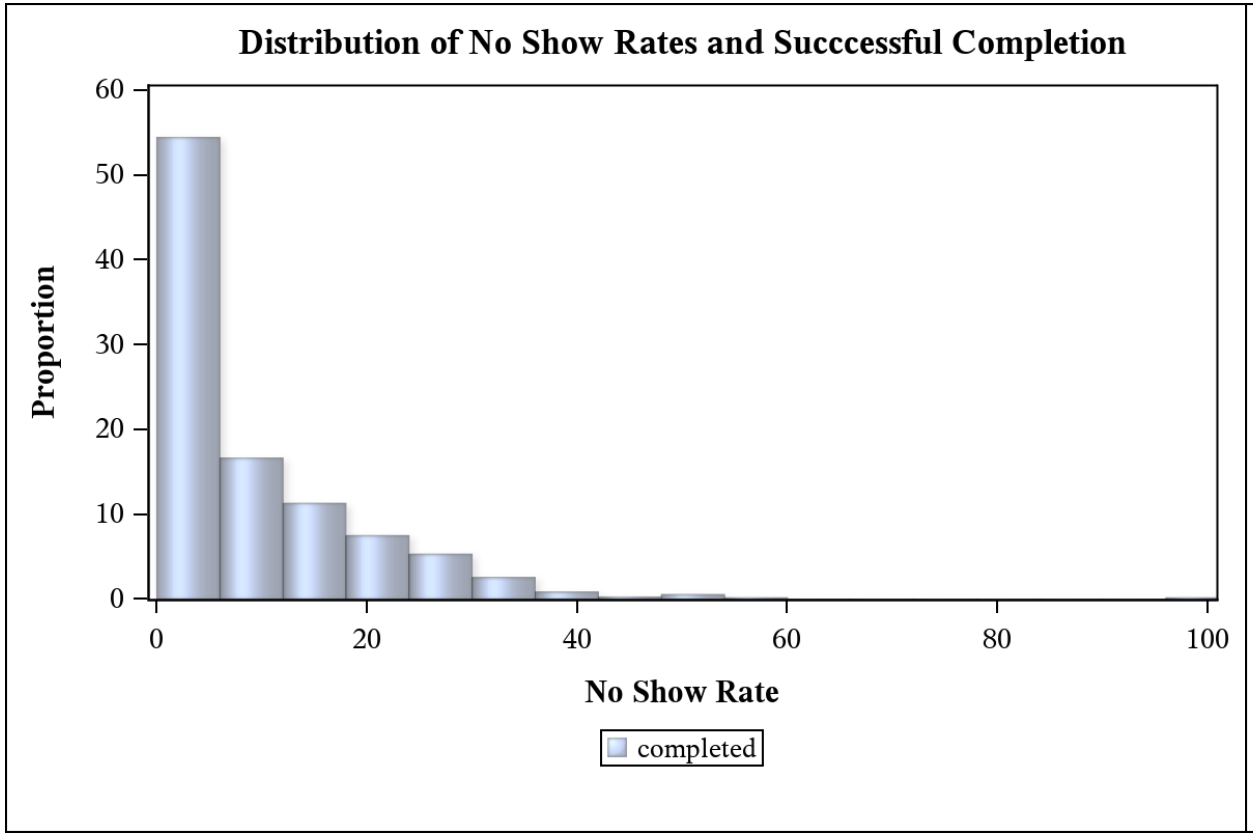
Seeking IRB approval for identified data

Data warehouse

CQI reports




| | 0-20% | | >20-40% | | >40-60% | | >60-80% | | >80-100% | | No Data | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % | N | % | N | % |
| Severity of Depression | | | | | | | | | | | | | | |
| No Data | 2019 | 53.02 | 790 | 20.75 | 310 | 8.14 | 45 | 1.18 | 63 | 1.65 | 581 | 15.26 | 3808 | 100.00 |
| Minimal depression | 414 | 64.49 | 157 | 24.45 | 47 | 7.32 | 8 | 1.25 | 1 | 0.16 | 15 | 2.34 | 642 | 100.00 |
| Mild depression | 325 | 70.96 | 82 | 17.90 | 34 | 7.42 | 3 | 0.66 | 1 | 0.22 | 13 | 2.84 | 458 | 100.00 |
| Moderate depression | 223 | 65.59 | 75 | 22.06 | 33 | 9.71 | 2 | 0.59 | . | . | 7 | 2.06 | 340 | 100.00 |
| Moderately severe depression | 153 | 61.94 | 63 | 25.51 | 24 | 9.72 | 2 | 0.81 | . | . | 5 | 2.02 | 247 | 100.00 |
| Severe depression | 136 | 73.12 | 32 | 17.20 | 13 | 6.99 | 1 | 0.54 | . | . | 4 | 2.15 | 186 | 100.00 |
| Total | 3270 | 57.56 | 1199 | 21.11 | 461 | 8.11 | 61 | 1.07 | 65 | 1.14 | 625 | 11.00 | 5681 | 100.00 |


Distribution of No Show Rates and Succcessful Completion
Proportion
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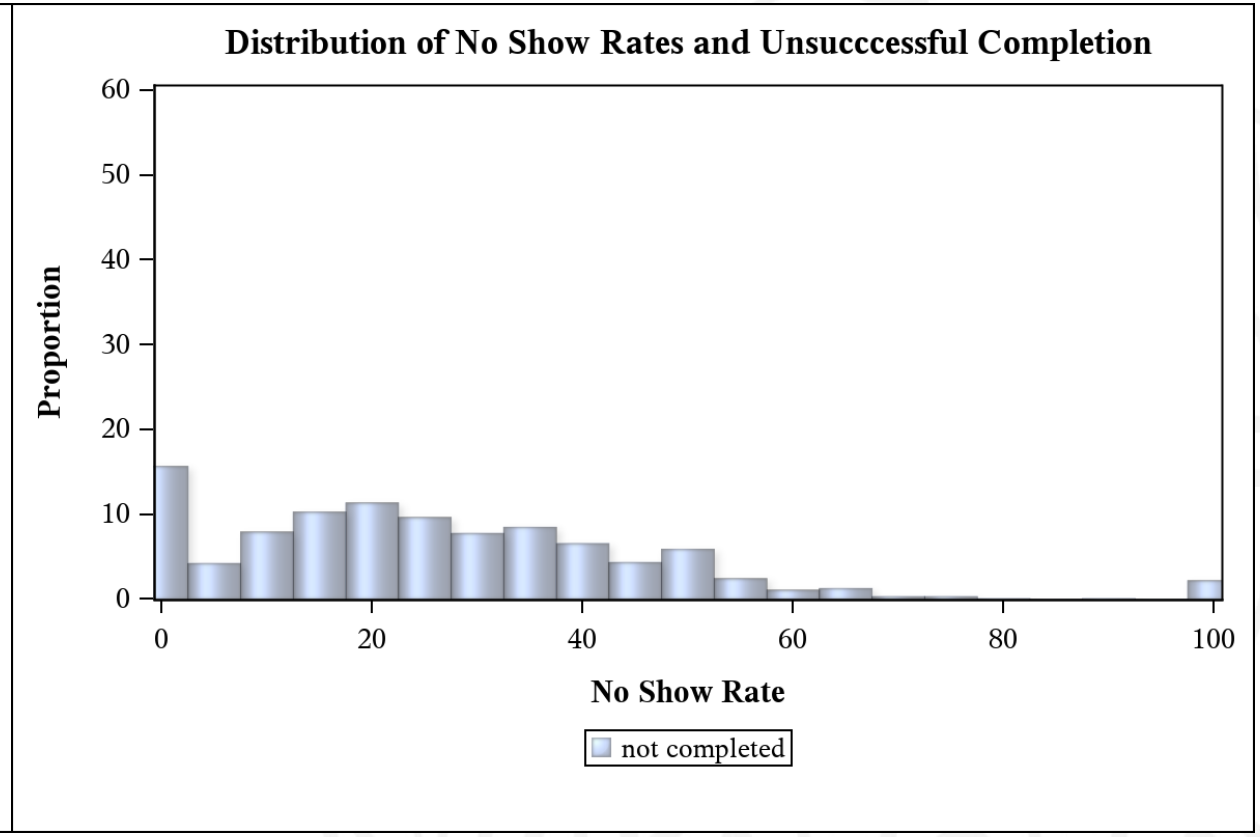
Distribution of No Show Rates and Unsuccessful Completion
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No Show Rate
not completed

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# *PROJECT NEXT STEPS*

# Project Next Steps

- Super MSO and why it's critical for Rural Mental Health
  - IPBH BHCC and Capital Behavioral Health Network BHCC
- Expanding team
- Additional data inclusion
- Website development
- Dissemination plan

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# *Q+A*