Reframing Implementation Science to Address Inequities in Healthcare
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Acknowledgements

• **Funding:** New York State Office of Mental Health; Robert Wood Johnson Foundation, NIH (P50MH115843; T32 MH019960-23; 1R01MH104574-01; 1U01MH115502-01) SAMHSA (H79SM062310)

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Key Points

• Integrating implementation science and healthcare disparities research is important for reducing inequities in care

• Reframing implementation science can make unique contributions to healthcare disparities research
“Of all the forms of inequality, injustice in healthcare is the most shocking and inhumane.”

—Martin Luther King Jr., 1966

Source: Dittmer, 2009: (“The Good Doctors”) MLK Jr. remarks at the 2nd Annual Convention of the Medical Committee for Human Rights, Chicago, March 26, 1966
What are Healthcare Disparities?

SOURCE: Gomes and McGuire, 2001
Quality of Depression Care in U.S. Adults By Race and Ethnicity

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No Treatment</strong></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>40.2</td>
</tr>
<tr>
<td>Latino</td>
<td>63.7</td>
</tr>
<tr>
<td>Asian</td>
<td>68.7</td>
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<tr>
<td>Blacks</td>
<td>58.8</td>
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<tr>
<td><strong>Adequate Treatment</strong></td>
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<tr>
<td>White</td>
<td>33</td>
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<tr>
<td>Latino</td>
<td>22.3</td>
</tr>
<tr>
<td>Asian</td>
<td>13.1</td>
</tr>
<tr>
<td>Blacks</td>
<td>12.1</td>
</tr>
</tbody>
</table>

Source: Alegria et al. (2008): Data from the Collaborative Psychiatric Epidemiology Surveys
Multiple Populations Face Healthcare Disparities

- American Indians/Alaska Natives
- Asian Americans
- Blacks or African Americans
- Hispanics or Latinos/as
- Native Hawaiians or Other Pacific Islanders
- Low socio-economic groups
- Geography: urban or rural
- Gender
- Age
- Disability status
- Sexual orientation
- Serious mental illness
Determinants of Healthcare Disparities

Cultural Context

Health Care System Factors
- Health services organization, financing, and delivery
- Health care organizational culture, quality improvement

Patient Factors
- Beliefs and preferences
- Race/ethnicity, culture, and familial context
- Education and resources
- Biology

Clinical Encounter
- Provider communication
- Cultural competence

Provider Factors
- Knowledge and attitudes
- Competing demands
- Bias

Source: Kilbourne et al., AJPH, 2006; 96: 2113-2121
Culture Matters in Health as it Shapes

- Health behaviors (e.g., diet, physical activity)
- Illness experiences
- Client-provider interactions
- Clients interactions with the healthcare system
Healthcare Disparities Research

• Detect → Do disparities exist?
• Understand → Why do disparities exist?
• Intervene → Do interventions work?
• Implement → How to best implement interventions, services and/or policies to eliminate disparities?

IMPLEMENTATION RESEARCH CAN HELP!

Source: Baumann (2018); Kilbourne et al., AJPH, 2006; 96: 2113-2121
Implementation Science and Healthcare Disparities Research

- Improve the quality and outcomes of services
- Make treatments generalizable
- Emphasize contextual factors and multi-level approaches

Sources: Cabassa & Baumann (2013)
Underrepresentation of Hispanics in 75 Clinical Trials for Common Mental Disorders (2001-2010)

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Whites (%)</th>
<th>Hispanics (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD</td>
<td>58%</td>
<td>5%</td>
</tr>
<tr>
<td>Major Depression</td>
<td>62%</td>
<td>19%</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>37%</td>
<td>1%</td>
</tr>
<tr>
<td>Bipolar Disorder</td>
<td>71%</td>
<td>8%</td>
</tr>
<tr>
<td>Total</td>
<td>61%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: Santiago et al., 2014
• “All that is needed is to culturally adapt interventions”

• “Focus on testing the efficacy and effectiveness of interventions in minority communities”

• “One size fits all: Just scale up interventions, it will improve the quality of care for everyone”

Reframing Implementation Science to Address Healthcare Disparities
Examples of Implementation Science Research Questions Focusing on Healthcare Disparities

- What predicts whether stakeholders will feel sufficient tension to make a change in disparity outcomes?
- Which policies, incentives, and requirements for implementing a clinical intervention have been most associated with better success at reducing disparities?
- Which characteristics of a clinical intervention predict better success at reducing disparities?
1. Focus on reach from the very beginning
2. Design and select interventions with implementation in mind
3. Implement what works
4. Develop the science of adaptations
5. Use an equity lens for implementation outcomes
Visualizing Health Equity: One Size Does Not Fit All Infographic

Equality

Equity
What? QIs ESTs

How? Implementation Strategies

Processes

Implementation Outcomes
- Feasibility
- Fidelity
- Penetration
- Acceptability
- Sustainability
- Uptake
- Costs

Service Outcomes*
- Efficiency
- Safety
- Effectiveness
- Equity
- Patient-centeredness
- Timeliness

Outcomes

Patient Outcomes
- Satisfaction
- Function
- Health status/symptoms

*Institute of Medicine Standards of Care

Source: Proctor et al 2008 Admin. & Pol. in Mental Health Services
Focus On Reach From The Beginning

Communities
Settings
Providers
Clients

Processes

What?
QIs
ESTs

How?
Implementation Strategies

Implementation Outcomes
Feasibility
Fidelity
Penetration
Acceptability
Sustainability
Uptake
Costs

Service Outcomes*
Efficiency
Safety
Effectiveness
Equity
Patient-centeredness
Timeliness

Patient Outcomes
Satisfaction
Function
Health status/symptoms

Implementation Research Methods

Attention to Reach

- **Community:** Two cities with different service systems

- **Setting:** Supportive Housing to bring the intervention to people’s doors steps

- **Provider:** Use of peer specialists to deliver intervention. They bring trust, credibility, hope, and feasibility

- **Client:** Diverse pool of people with serious mental illness who are overweight or obese (BMI ≥ 25) with few exclusionary criteria to resemble actual clients in this setting
Design and Select Interventions with Implementation in Mind

- Partner with stakeholders from the very beginning
- Focus on end-users at all levels
- Consider the ecology of practice

WHAT?

QIs
ESTs

Sources: Glasgow et al. (2012); Cabassa et al. (2016)
HEALTH AND WELLNESS PHOTOVOICE PROJECT
What is Photovoice?

• A participatory action research method that entrusts people with cameras to document their everyday lives and inform social action

• Goals:
  – Enable people to record, reflect, and illustrate their lived experiences through photographs and narratives
  – Promote a critical dialogue and knowledge about community issues
  – Reach change agents and policymakers

Source: Wang et al., 2004
Study Aims:
• Engage clients in a dialogue about their physical health and wellness
• Generate community knowledge to inform the implementation of health interventions in housing agencies

Sample:
• Purposive sample of 16 tenants at 2 supportive housing agencies in NYC

Methods:
• Six weekly sessions were conducted at each agency
• Each session included:
  • Short individual photo-elicitation interviews
  • Group dialogue discussions

Source: Cabassa et al., *Qual Health Research*, 2013, 23:618-630
Lessons Learned

• Photovoice generated information about clients’ preferences for health interventions:
  – Format: peer-based
  – Content: weight loss, physical activity
  – Methods: experiential learning, skills acquisition
  – Setting: Supportive housing

• Participatory methods are useful for the selection and development of interventions
Trajectory of Projects with Implementation in Mind

- Hybrid Effectiveness/Implementation Trial in Supportive Housing
- Pilot Testing a Healthy Lifestyle Intervention in Supportive Housing
- Health and Wellness Photovoice Project
HOW?
Implementation Strategies

Implement what works . . . .

- Increase trust, partnerships and ownership
- Build capacity, resources collaborative networks
- Test implementation strategies
Community Partners in Care

Outcomes: CEP better than RS on:
- Mental Health-related quality of life
- Increasing Physical Activity
- Reducing risk factors for homelessness
- Shifted services use for depression away from hospital and specialty care into primary care

Sources: Wells et al., 2013
<table>
<thead>
<tr>
<th>Plan Strategies (n = 17)</th>
<th>Educate Strategies (n = 16)</th>
<th>Finance Strategies (n = 9)</th>
<th>Restructure Strategies (n = 7)</th>
<th>Quality Management Strategies (n = 16)</th>
<th>Attend to Policy Context Strategies (n = 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gather Info:</strong></td>
<td><strong>Develop Materials:</strong></td>
<td><strong>Modify Incentives:</strong></td>
<td><strong>Facilitate Financial Support:</strong></td>
<td><strong>Inform and Influence Stakeholders:</strong></td>
<td><strong>Change accreditation or membership requirements</strong></td>
</tr>
<tr>
<td>Conduct local needs assessment</td>
<td>Develop effective educational materials</td>
<td>Alter incentives/allowance structures</td>
<td>Place on fee for service lists/formularies</td>
<td>Use mass media</td>
<td>Develop and organize quality monitoring systems</td>
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<tr>
<td>Assess for readiness and identify barriers</td>
<td>Develop a glossary of implementation</td>
<td>Use capitated payments</td>
<td>Fund and contract for the clinical innovation</td>
<td>Prepare patients/consumers to be active participants</td>
<td>Develop tools for quality monitoring</td>
</tr>
<tr>
<td>Visit other sites</td>
<td></td>
<td>Penalize</td>
<td></td>
<td>Increase demand</td>
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<tr>
<td><strong>Select Strategies:</strong></td>
<td><strong>Educat:</strong></td>
<td><strong>Reduce or increase patient/consumer fees</strong></td>
<td><strong>Facilitate relay of clinical data to providers</strong></td>
<td><strong>Shadow other clinicians</strong></td>
<td><strong>Remind clinicians</strong></td>
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<tr>
<td>Develop a formal implementation blueprint</td>
<td>Distribute educational materials</td>
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<td>Use advisory boards and workgroups</td>
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<td>Tailor strategies to overcome barriers and honor preferences</td>
<td>Conduct educational meetings</td>
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<td>Obtain and use patient/consumer and family feedback</td>
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<td>Stage implementation scale up</td>
<td>Conduct ongoing training</td>
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<td></td>
<td>Centralize technical assistance</td>
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<td>Model and simulate change</td>
<td>Make training dynamic</td>
<td></td>
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<td></td>
<td>Provide clinical supervision</td>
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<tr>
<td><strong>Build Buy-In:</strong></td>
<td><strong>Conduct</strong></td>
<td><strong>Make new funding</strong></td>
<td><strong>Intervene with patients/consumers to enhance uptake and adherence</strong></td>
<td><strong>Purposefully re-examine the implementation</strong></td>
<td><strong>Use data warehousing techniques</strong></td>
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<td>Conduct local consensus discussions</td>
<td>Outreach visits</td>
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<td>Use an improvement/implementation advisor</td>
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<td>Involve executive boards</td>
<td>Use train-the-trainer strategies</td>
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<td>Use data experts</td>
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<td>Identify and prepare champions</td>
<td>Provide ongoing consultation</td>
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<td>Capture and share local knowledge</td>
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<tr>
<td>Involve patients/consumers and family members</td>
<td><strong>Inform and Influence Stakeholders:</strong></td>
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<td></td>
<td>Organize clinician implementation team meetings</td>
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<tr>
<td><strong>Initiate Leadership:</strong></td>
<td><strong>Recruit, designate, and train for leadership</strong></td>
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<td><strong>Develop Relationships:</strong></td>
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<td>Build a coalition</td>
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<td>Develop resource sharing agreements</td>
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<td>Obtain formal commitments</td>
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<td>Develop academic partnerships</td>
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</table>

Source: Powell et al., 2012
Science of Adaptation

**Why**
- Distinct sociocultural context
- Threat to social validity

**What**
- Surface and/or deeper level
- Context

**How**
- Systematic and collaborative
- Document (pre, during, post)

**Impact**
- On implementation, services and/or client outcomes.

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Sources: Cabassa & Baumann (2013); Rabin et al., 2018; Stirman et al., 2017
Make adaptations systematic and visible

• Document the process and methods of adaptation
  – Clarify the process, steps and methods used to enhance fit
  – Document the how, what and why of adaptations
  – Systematically study the links between adaptations and outcomes

• Use existing adaptation models and/or guidelines
Common Characteristics of Adaptation Frameworks

- Follow a systematic, step-wise process
- Iterative approach
- Data driven: Move from formative to evaluation research
- Combine top-down and bottom up approaches.
- Some involve stakeholders

Sources: Baumann, Cabassa & Stirman, 2018; Barrera et al., 2013; Ferrer-Wreder et al., 2012
Document what is adapted

• Critical for balancing fidelity and adaptation
  – Some level of adaptation is necessary since interventions are rarely “street ready”

• Core functions vs. form
  – Intervention needs to be “mature”

• Content and approaches to train providers

• Adapt context to enhance intervention fit

• Adaptation of intervention and/or implementation approach

• Adaptation with implementation and sustainability in mind
  • Can this be done in routine practice settings

Sources: Rabin et al., 2018; Stirman et al., 2017; Schoenwald et al., 2001
System for coding and tracking of adaptations

BY WHOM are modifications made?
- Individual practitioner/facilitator
- Team
- Non-program staff
- Administration
- Program developer/purveyor
- Researcher
- Coalition of stakeholders
- Unknown/unspecified

WHAT is modified?
Content
(Modifications made to content itself, or that impact how aspects of the treatment are delivered)
Context
(Modifications made to the way the overall treatment is delivered)

TRAINING AND EVALUATION
(Modifications made to the way that staff are trained in or how the intervention is evaluated)

At what LEVEL OF DELIVERY
(for whom/what are modifications made?)
- Individual patient level
- Group level
- Individual practitioner level
- Clinic/unit level
- Hospital level
- Network level
- System Level

What is the NATURE of the Content modification?
- Tailoring/tweaking/refining
- Adding elements
- Removing/skipping elements
- Shortening/condensing (pacing/timing)
- Lengthening/extending (pacing/timing)
- Substituting
- Reordering of intervention modules or segments
- Integrating the intervention into another framework (e.g., selecting elements)
- Integrating another treatment into EBP (not using the whole protocol and integrating other techniques into a general EBP approach)
- Repeating elements or modules
- Loosening structure
- Departing from the intervention (‘drift’)

Context modifications are made to which of the following?
- Format
- Setting
- Personnel
- Population

Figure 2 System of classifying modifications to evidence-based programs or interventions.

Source: Stirman et al, 2013
Example of Documenting Adaptations

<table>
<thead>
<tr>
<th>Session</th>
<th>By whom</th>
<th>Why</th>
<th>What was done (Add, cut, modify)</th>
<th>When</th>
<th>Perceived impact</th>
<th>Changes to fidelity measure</th>
</tr>
</thead>
</table>

Sources: Rabin et al., 2018; Stirman et al., 2017
Use an Equity Lens for Implementation Outcomes

<table>
<thead>
<tr>
<th>Implementation Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility</td>
</tr>
<tr>
<td>Fidelity</td>
</tr>
<tr>
<td>Penetration</td>
</tr>
<tr>
<td>Acceptability</td>
</tr>
<tr>
<td>Sustainability</td>
</tr>
<tr>
<td>Uptake</td>
</tr>
<tr>
<td>Costs</td>
</tr>
</tbody>
</table>

Equity

- Feasibility
- Fidelity
- Penetration
- Acceptability
- Sustainability
- Uptake
- Costs
Example of Questions

• Do organizations that serve large populations of racial/ethnic minorities achieve the same implementation outcomes (e.g., fidelity, cost, sustainability) as those that serve predominantly non-Hispanic Whites?

• What factors contribute to inequities in implementation outcomes between organizations serving different populations?

• What implementation strategies produce more equitable implementation outcomes among organizations serving different populations?
Future Areas of Inquiries

• Achieving inclusion and representation

• Reconfiguring the intervention development and refinement process

• Expanding the science of adaptation

• Developing implementation trials that focus on reducing health care disparities
Thank You // Gracias
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