NIATx PRIMER
Unpacking the Implementation Tools from NIATx - A Comprehensive Implementation Strategy

Lynn Madden, PhD, MPA
Assistant Professor, Yale University School of Medicine
CEO, APT Foundation, Inc.

GEORGIAN IMPLEMENTATION SCIENCE FOGARTY TRAINING (GIFT) PROGRAM
ILIA STATE UNIVERSITY & YALE UNIVERSITY
Accelerating Impact: Immersive Summer Bootcamp in Implementation Science and Biostatistics
JULY 10-12, 2024

NIATX WAS ORIGINALLY A PARTNERSHIP OF TWO GRANT PROGRAMS IN 2003

SAMHSA/CSAT

Strengthening Treatment Access and Retention

The Robert Wood Johnson Foundation

Paths to Recovery

It has since been deployed extensively in the US, across many areas of healthcare and in the carceral system.

International deployment includes extensive work in Ukraine, Tajikistan, Kazakhstan, Kyrgyzstan and newly developing work in Peru, Moldova and potentially Georgia.

NIATx Settings

NIATx has been **deployed extensively in the US**, across many areas of healthcare and more recently in carceral settings. NIATx is in the evaluation phase of a JCOIN study in which 55 jails in the US were recruited regarding efforts to increase Medications for Opioid Use Disorder (MOUD) (Molfenter, Taxman, MPIs) as well as in NIDA funded grant in West Virginia aimed at scaling up and integrating care for OUD, HIV and HCV in 20 primary care settings, (Altice, Madden, Feinberg, MPIs)

NIATx Settings

International deployment includes extensive work in Ukraine since 2014 as a framework for scaling up Medications for Opioid Use Disorder for the purposes of preventing HIV and improving the HIV cascade. (NIDA funded, Altice, PI) an RO1 for essentially the same purpose in Central Asia that includes Tajikistan, Kyrgyzstan, and Kazakhstan. (Altice, Madden, MPIs) and more recently funded work in Peru for the decentralization of HIV care (Altice, Sanchez) and for work in carceral settings in Moldova, Tajikistan, Kazakhstan and potentially Georgia.

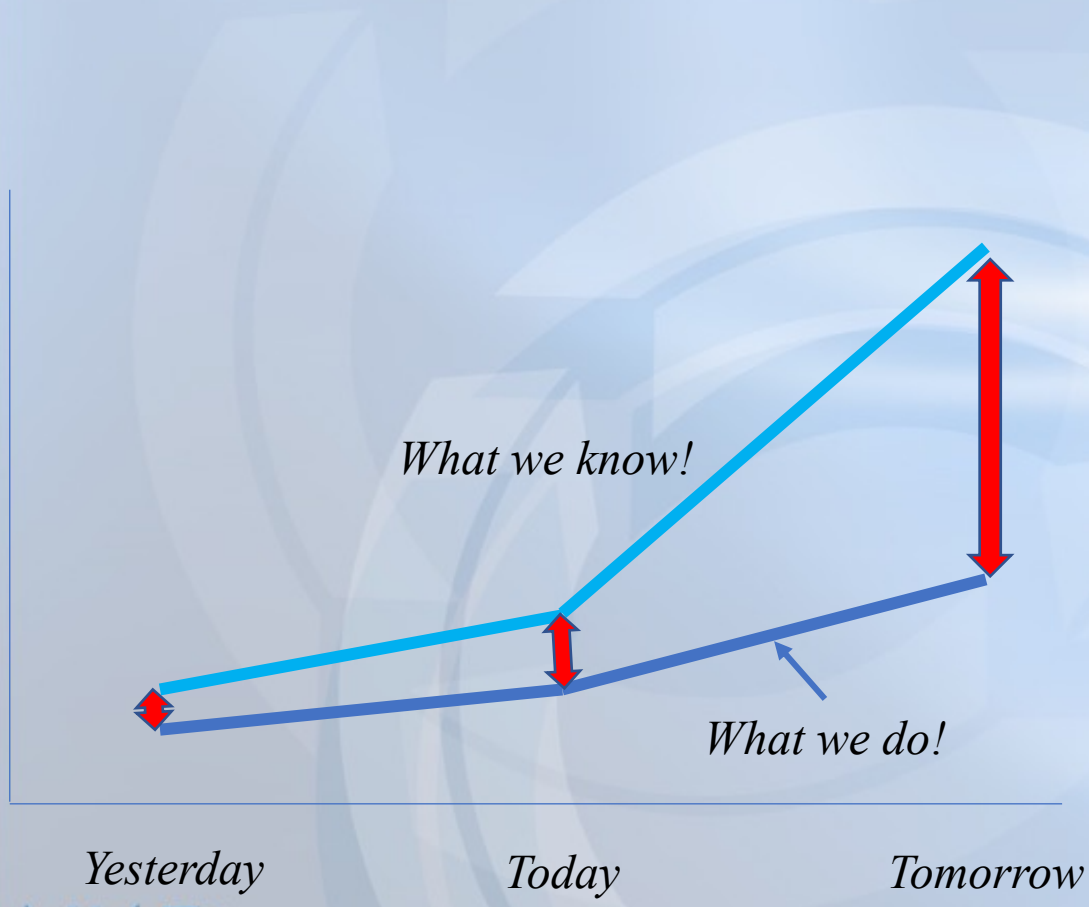
NIATx as an Evidence-based Practice

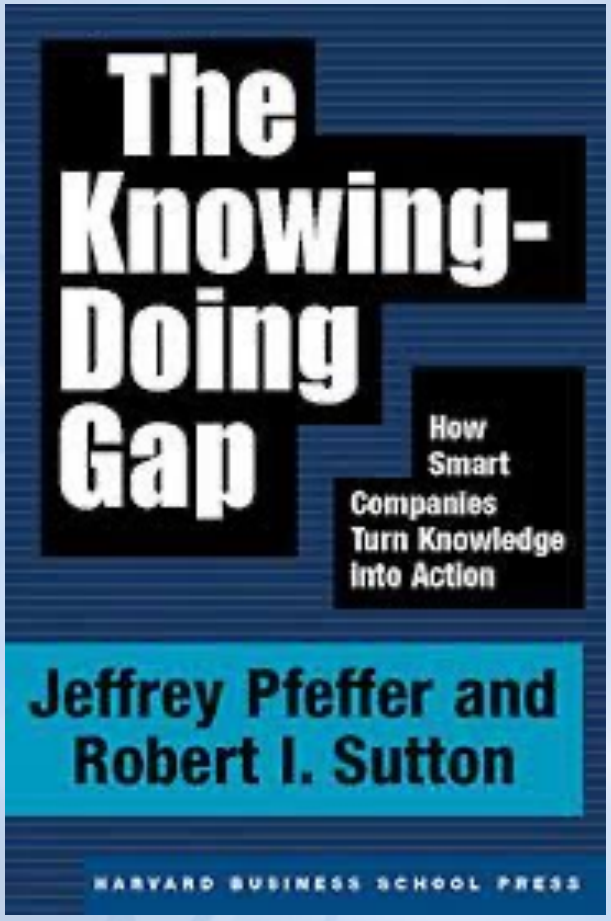
The NIATx Model was originally developed as a demonstration project supported by the Robert Wood Johnson Foundation (RWJF) and the US Substance Abuse and Mental Health Administration (SAMHSA). The seminal article that emerged from this demonstration pilot was authored by McCarty et al., (2007), and described the impact of the NIATx model on access and retention in addiction treatment settings.

Since then, more than 60 peer-reviewed publications support the effectiveness of the NIATx model. The model has expanded to include use in adopting evidence-based practices and in mental health, child welfare, criminal justice, gerontology, integrated care, mobile technologies and other human service settings.

https://niatx.wisc.edu/niatx-as-an-evidence-based-practice/

The Know-Do Gap





A Systems Thinking Orientation

Starting Assumptions

- Everyone is acting as they should, given the system they are in.
- Your current system is perfectly designed to produce the results it is currently producing.
  - *To produce different results you must change the system. (THE PROCESSES)*
- We all contribute to the system that we are a part of, both positively and negatively.

W. Edwards Deming

Social Psychology and Engineering team up

- NIATx tools were developed by engineers and social scientists (primarily psychologists and public policy) attempting to mediate clinical/organizational process in order to short circuit the dreaded 17-year evidence to practice gap.
- David Gustafson, PhD, Professor Emeritus, University of Wisconsin, Madison is the key architect. He also is the founder of CHESS – the Center for Health Enhancement Systems Studies at UW.

Essential Learning Collaborative Components

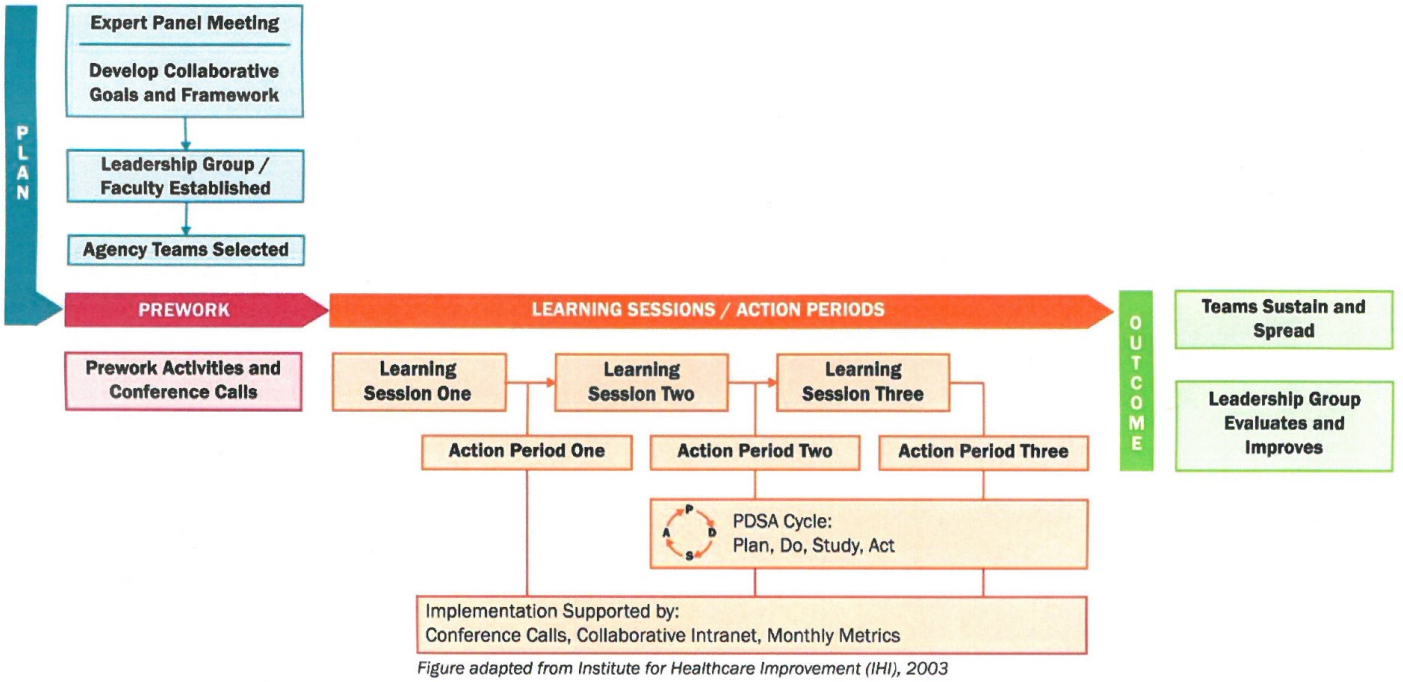


Figure adapted from Institute for Healthcare Improvement (IHI), 2003

Markiewicz, J., 08

center for CHILD & FAMILY HEALTH

NCCTS The National Center for Child Traumatic Stress

epic IMPLEMENTATION CENTER

Institute for Healthcare Improvement (IHI), 2003

Why A Process Model?

- Customers are served by processes.
- 85% of customer related *problems* are caused by organizational processes.
- To better serve customers, organizations must improve processes.
- THE MODEL ASSUMES GOOD INTENTIONS

Four NIATx AIMS

- Reduce Waiting Time
- Reduce No-Shows
- Increase Continuation
- Increase Admissions

Five Key Principles

Evidence-based predictors of change

1) Understand and involve the customer
2) Focus on key problems
3) Select the right change agent
4) Seek ideas from outside the field and organization
5) Do rapid-cycle testing

Key concept - Co-production of knowledge

- Principles of Knowledge that is developed by change teams and coaches
- Context based
- Pluralistic
- Goal orientated
- Interactive
- Four elements of working with co-production approach
- Equality
- Diversity
- Accessibility
- Reciprocity

(Albert Norstrom, et al. Nature Sustainability, 2020)

NIATx Toolkit

- AIM setting and Coaching/Facilitation
- Change teams – Executive Sponsor, Change Leader, Data manager. Change teams are 'coached', generally externally at first
- Rapid Cycle PDSAs (all data is useful. Fail fast) A change must be doable in a 2 – 4 weeks.

- PDSAs are guided by the following facilitated tools:
- the Walk Through
- Nominal Group Technique
- Flowcharting
- Simple pre-post metrics, development of SMART goals (Specific, Measurable, Attainable, Relevant, and Time bound)
- Project Charter

COACHING/FACILITATION

- NIATx Coaching happens in 3 (not necessarily linear) phases:

- Building Relationships
- Building Capacity
- Building Sustainability

(Opening the Black Box of Organizational coaching for implementation. Fledderman K, Jacobson N, Horst J, Madden LM, Haram E, Molfenter T. BMC Health Serv Res. 2023 Feb)

Conducting a Rapid Cycle Change Exercise

PDSA cycles

Plan the change

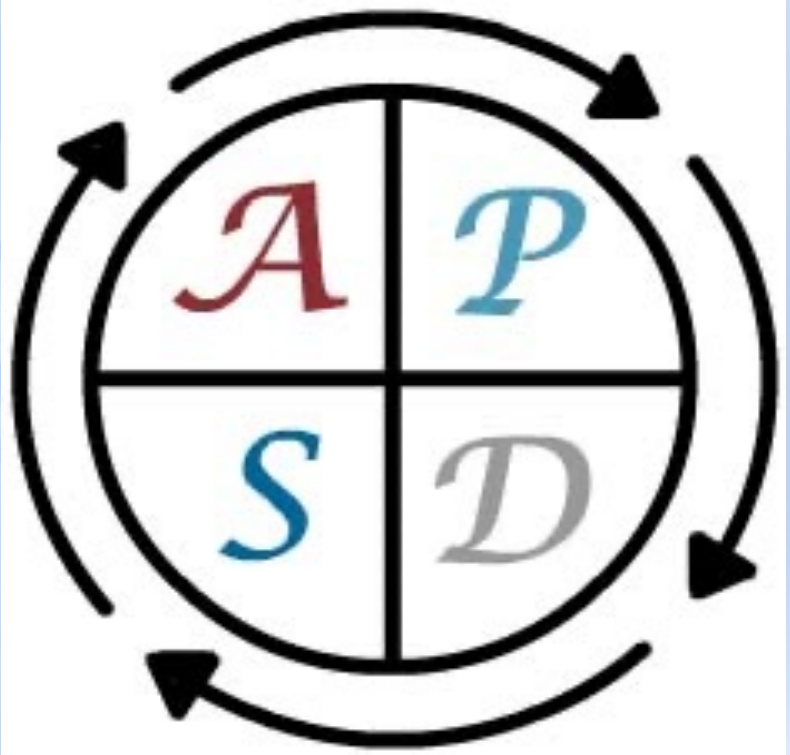
Do the plan

Study the results

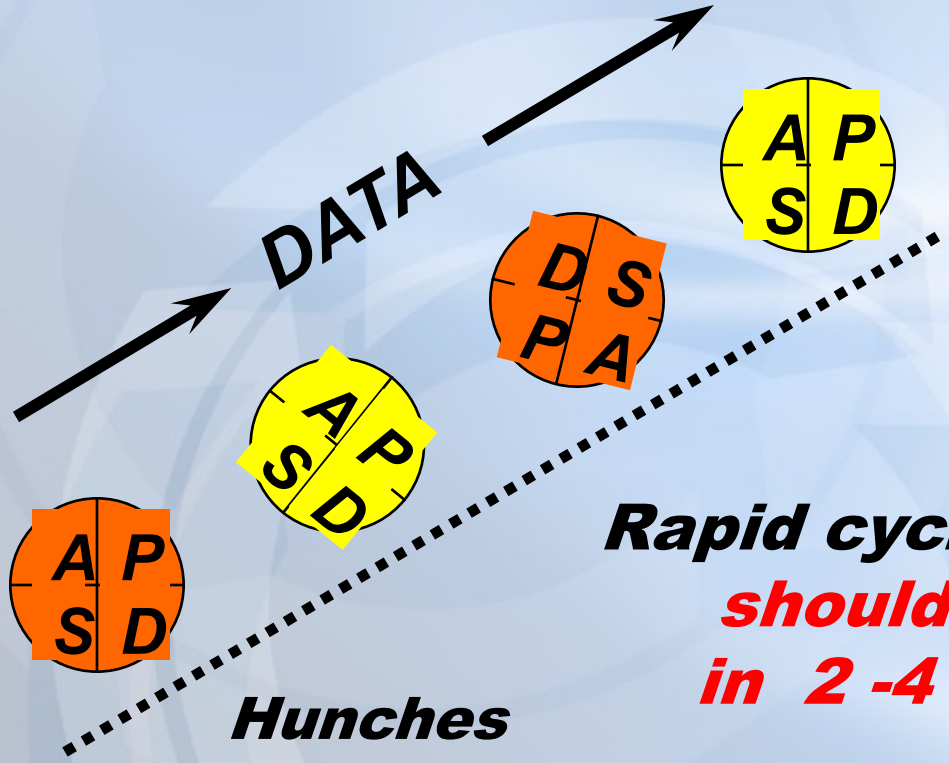
Act on the new knowledge

Rapid cycle changes

Changes should be doable in 2 -4 weeks



Change Cycles
PDSA - Sustain



Changes That Result in Improvement

Rapid cycle changes should be do-able in 2 -4 weeks !!!!!

Hunches Theories Ideas

Rapid-cycle Testing

Start by asking three questions:

1. What are we trying to accomplish?
2. How will we know a change is an improvement?
3. What changes can we test?

Model for Improvement
Langley, Nolan, Nolan, Norman, & Provost. *The Improvement Guide,* San Francisco, Jossey-Bass Publishers, 1996

Conducting a Walk-through

- Play the role of a client and a client's family member seeking treatment at your agency.
- Try to think and feel as the client/family member would, and think about what they would want changed.
- Ask staff what changes would make the process better for clients and for staff.
- Compile a list of client and staff needs and possible improvements that could address these needs.

One of the benefits of NIATx is that it is a way to involve staff, improve morale, and move toward creating new opportunities.

NIATx sees change as a regular and ongoing element of our work. How do you determine what to change?

How do you find new ideas? And generate baseline data?

One important way is found in the **Nominal Group Technique**

Delbecq, A. L., Van de Ven, A. H., & Gustafson, D. H. (1975). *Group techniques for program planning*

NIATx – Breakthrough Innovations

- AIM Setting – issues are complex, but can be approached by evidenced based AIM setting.

- Rapid Cycle Change – appeals to both logic and emotion.
- Implementation is guided with simple approaches that emphasize coaching and relationship building. Teams gain implementation/performance improvement capacity and ownership of solutions.

- The Walk-through – an opening experience.

- Business case and/ or clinical outcome – change is tied to strategic advantage – right now. The advantage is tied to population level health outcomes AND ultimately to the organization/field.

Starting a Change Project

- Set the AIM and select a change team – name a change leader, an executive sponsor, and data person.
- Conduct a walk-through.
- Collect baseline data. (Nominal Group Technique, Flowcharting, local data)
- Review baseline data and walk-through.
- Suggest a process change that might move toward the desired aim.

CASE EXAMPLES

Small sequential changes, big impact

Rhode Island Department of Corrections

- Change #1 Continuing all persons entering incarceration on their existing MOUD
- Change #2 Screening ALL others for OUD (SISQ – Wakeman)
- Change #3 offering all who screened positive induction to MOUD as indicated.
- Change #4 active discharge planning with community agencies that included introductions prior to release

- Outcome: reduced post incarceration overdose death in Rhode Island by **63% in one year.**
- Initial evaluations that included explicit questions regarding OUD and warm hand-offs post incarceration were key components in this approach – **"promising practices"**

AIM: Reducing wait time – a known barrier to treatment access

- APT Foundation, an organization that serves persons with substance use disorders and mental health needs wanted to improve both access to care and retention in care as the first steps in improving both clinical and financial performance. Benefits to the person, public health and the organization.
- Wait time is endorsed as the key reason that people don't enter SUD treatment. (Andrews, Molfenter) INITIAL WAIT TIME to TREATMENT WAS OVER THREE WEEKS.

AIM: Reducing wait time – a known barrier to treatment access

- Methods proven to increase access to treatment are informed by identifying and eliminating the barriers that prevent people from readily accessing services. This is true across all health services.
- Retention is improved by shifting programs in ways that reduce program level demand on patients. People/patients come back if the program is engaging to them and includes evidenced based care. Both aims are achieved by making changes based on consumer feedback – gained through organization level data.

A series of process level changes were introduced over a two-year period

- A change team was formed
- Walk throughs were conducted
- NGTs were performed with ALL staff
- Initial changes included both sequencing admission process steps and task shifting (promising practices)
-

(Madden, Farnum, et al. *Addiction*. 2018)

Table 1. Summary of phase 1 change projects to improve wait time and access.[1]

Identified Barriers	Change Project to Address Barriers
• Admission occurred only after results from purified protein derivative (PPD) for tuberculosis were read.	• PPD was placed (but not read) before admission since positive findings are not a contraindication for beginning methadone maintenance
• Patients required to provide documentation or contact information to verify addiction history and/or treatment failure. Information had to be received in writing prior to admission	• Modified requirement for external documentation of addiction history
• Patients required to pay back balances and upfront fees to cover administrative costs, physical exam (PE), and tapering (in case of discontinuation of methadone maintenance)	• Discontinued back-balance payment requirement and upfront administrative, PE, and tapering fees
• Patients admitted only if self-pay or with insurance coverage	• Eligible patients admitted irrespective of insurance coverage or ability to self-pay. Following admission, patients without insurance were assisted in procuring it (e.g. Medicaid, etc.)

[1]Phase 1 barriers to wait time (interval between first face-to-face appointment and first dose of methadone) and access were identified following an initial walk-through of extant intake procedures.

Table 2. Summary of phase 2 change projects to reduce potential barriers to treatment access or retention.[1]

Identified Barriers	Change Projects to Address Barriers
Long wait time: • Admission process divided into screening, intake, physical exam (PE) and methadone initiation--all conducted on different days by appointment • Full physical exam needed prior to admission	• Regularly scheduled walk-in screening, intake, medical screening, and methadone initiation available on same day • Medical screening for contraindications conducted prior to admission; PE performed on walk-in basis after admission
Counseling: • Patients were assigned a counselor whom they met with one-on-one by appointment only and sometimes assigned to a scheduled treatment group	• Primary mode of counseling changed to "drop-in" groups; walk-in individual counseling available on request or as-needed
Methadone dosing: • Non-standardized dosing protocol • Sub-therapeutic maintenance dosing	• Standardized dosing protocol implemented • Therapeutic maintenance target dose within a maximum of 30 days (i.e., ≥90 mg daily)

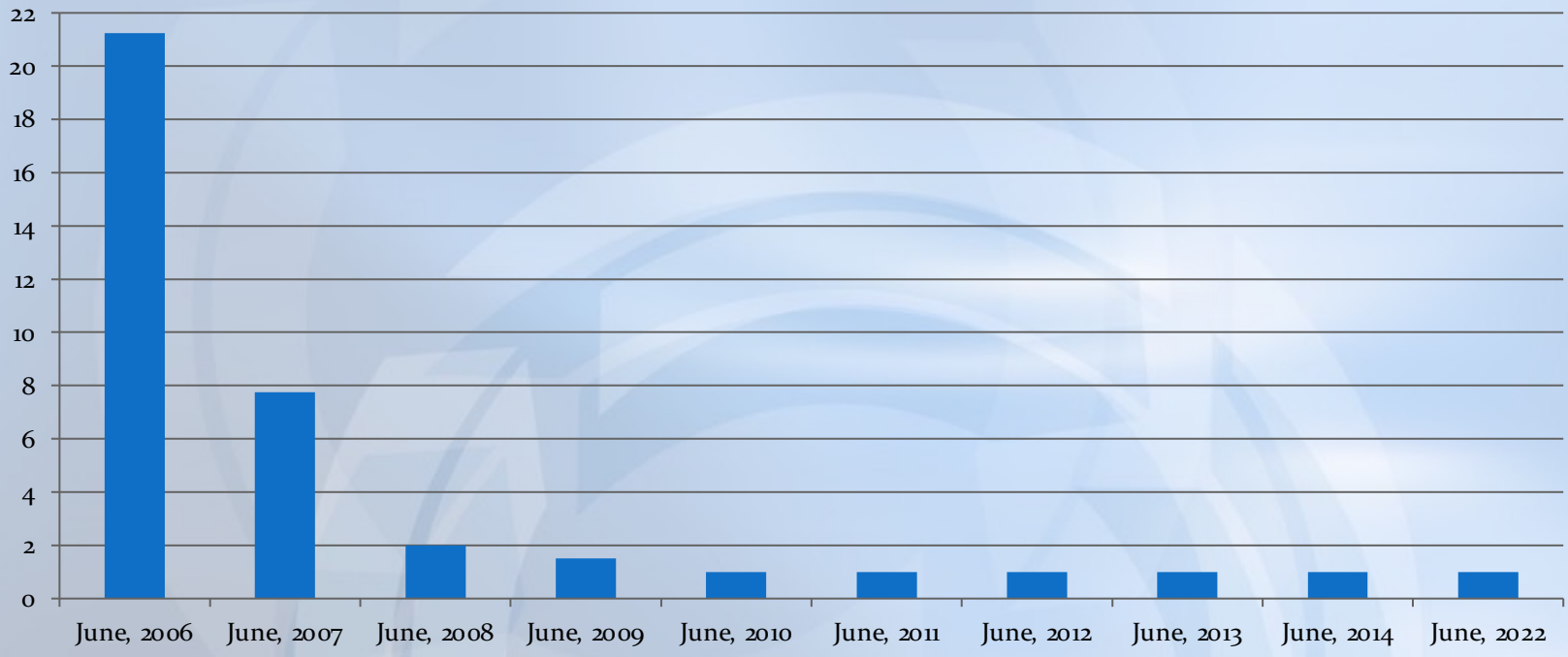
[1]*Phase 2 barriers to access, retention, and capacity were identified by change team members.*

Table 2. Summary of phase 2 change projects to reduce potential barriers to treatment access or retention.[1]

Identified Barriers	Change Projects to Address Barriers
Take-home methadone doses: • Eligible patients not receiving take-home medication • Reliance on patient request	• Routine review of patients' take-home dose eligibility performed by clinical teams • Eligible patients were contacted to review criteria and complete relevant paperwork
Administrative discharge criteria: • Inability to pay for services • Ongoing substance use • Behaviors deemed "inappropriate" by providers such as arguments or non-attendance • No standardized protocol	• Inability to pay no longer a criterion for discharge • Ongoing substance use (unless unsafe) no longer a discharge criterion • Inappropriate behaviors (unless a risk to patient or staff safety) no longer a discharge criterion • Patients discharged only after review by clinical team and approval of chief executive officer confirming safety risk or absence of treatment efficacy

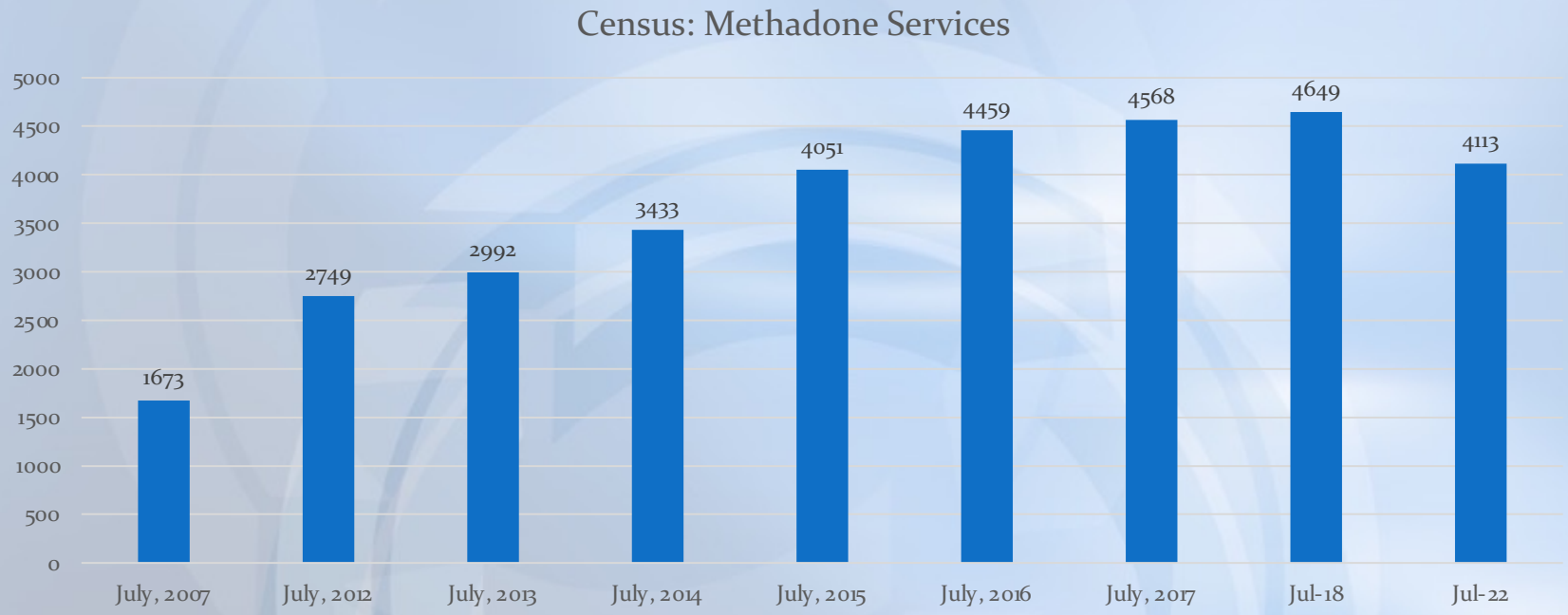
[1]*Phase 2 barriers to access, retention, and capacity were identified by change team members.*

Waiting Days to Admission



CENSUS

MAT Services



Was rapid access working? Some staff were skeptical

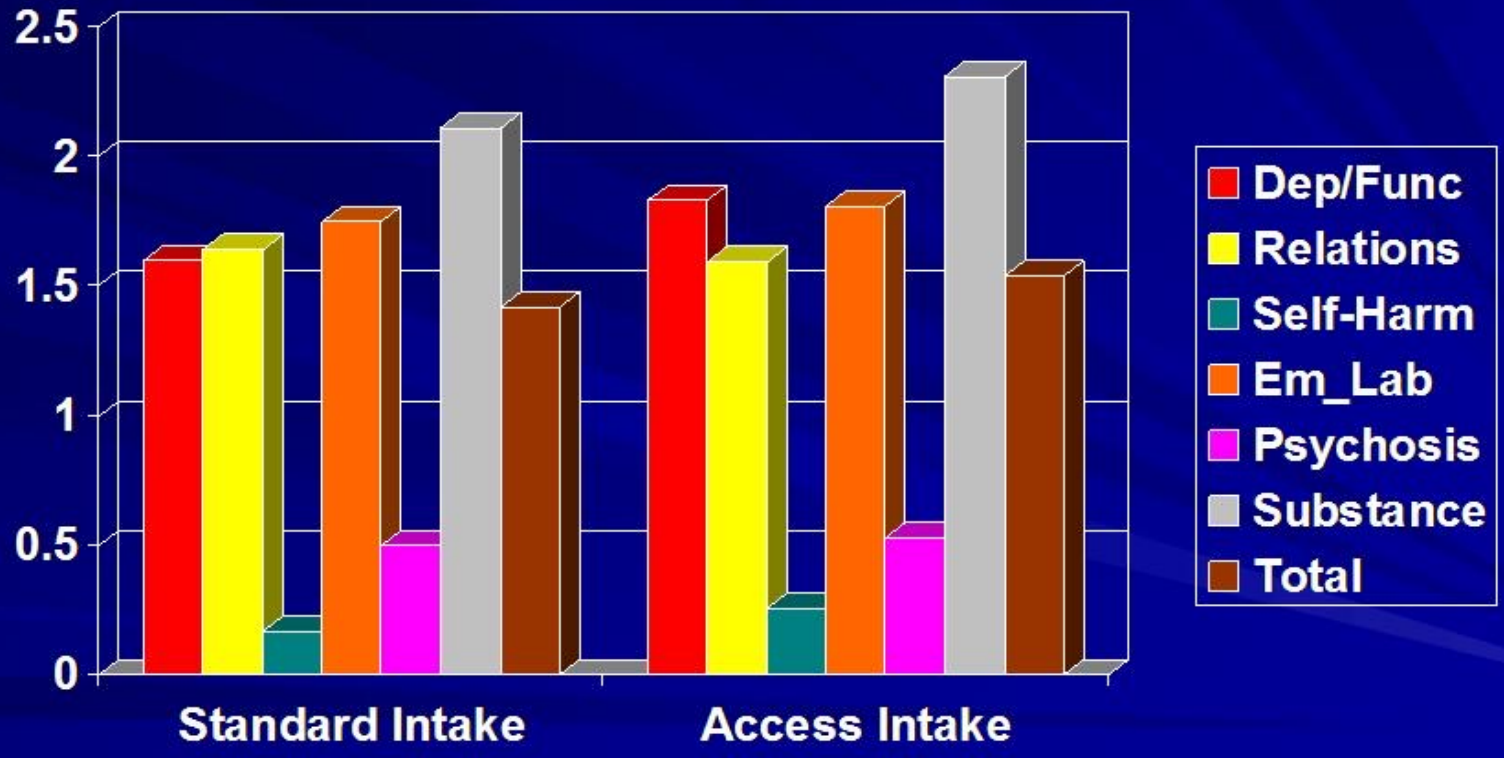
Behavior and Symptom Identification Scale (BASIS-24 Copyright; Eisen, et al 2004, 2006)

- Brief, efficient client-centered self-report of symptoms and problems with web-scoring and benchmarking
- Inform and monitor the impact of client-treatment and program-improvement changes
- Domains: 1) Depression/Functioning;
  2) Relationships;
  3) Self-Harm;
  4) Emotional Lability;
  5) Psychosis;
  6) Substance Abuse;
  7) Total Score

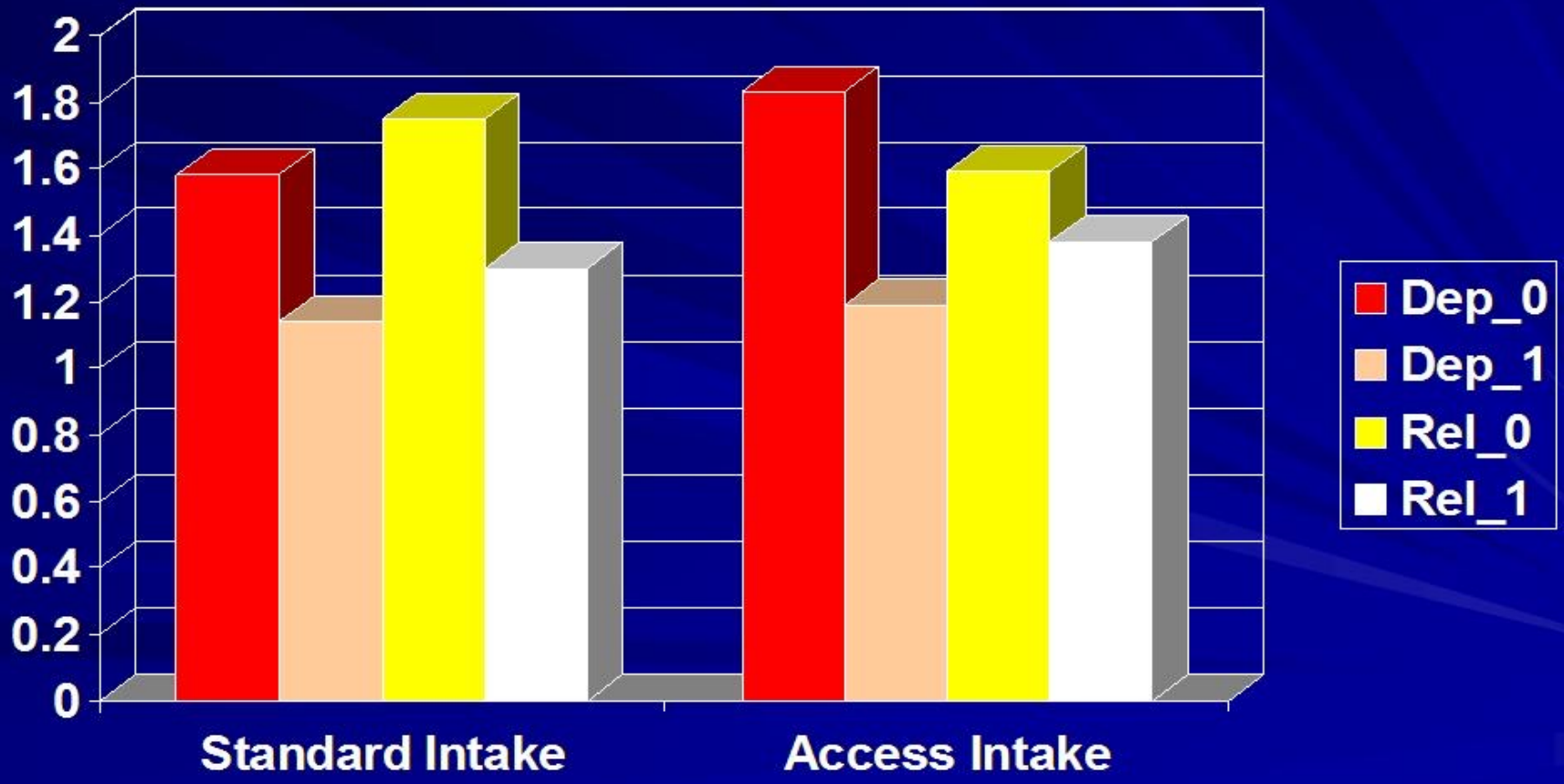
PARTICIPANT CHARACTERISTICS

Age	34.08 (10.53) Years (range 16-66)
Education	74% High School graduates
Employment	30% FT or PT
Gender	63% Men; 37% Women
Ethnicity/Race	67% European American 15% African American 14% Hispanic American 4% Other/Multi-ethnic
Marital	12% Married, 65% Single, 23% s/w/d

BASIS-24 Subscale Differences with Changes in Intake Procedures



Depression and Relationship Problems over Time Across Intake Procedures



BASIS-24 Differences and Intake Changes

- Change to Open Access Intake related to higher severity of Total score, $t(2519)=3.4$, $p<.001$, and Depression/Functioning ($t=4.5$), Self-Harm ($t=3.7$), and Substance Abuse ($t=3.6$) than Standard Intake
- Significant reduction in severity from admission to midpoint assessment for Total score, $F(1,721)=191.6$, $p<.0001$, and all 6 BASIS-24 subscales
- Open Access Intake had higher admission Depression scores than Standard Intake, but no differences at midpoint assessment, $F(1,730)=5.9$, $p<.015$
- Standard Intake had higher admission Relationship scores than open Access Intake, but no differences at midpoint assessment, $F(1,730)=5.7$, $p<.008$

Good for clients/Good for APT/ Good for community

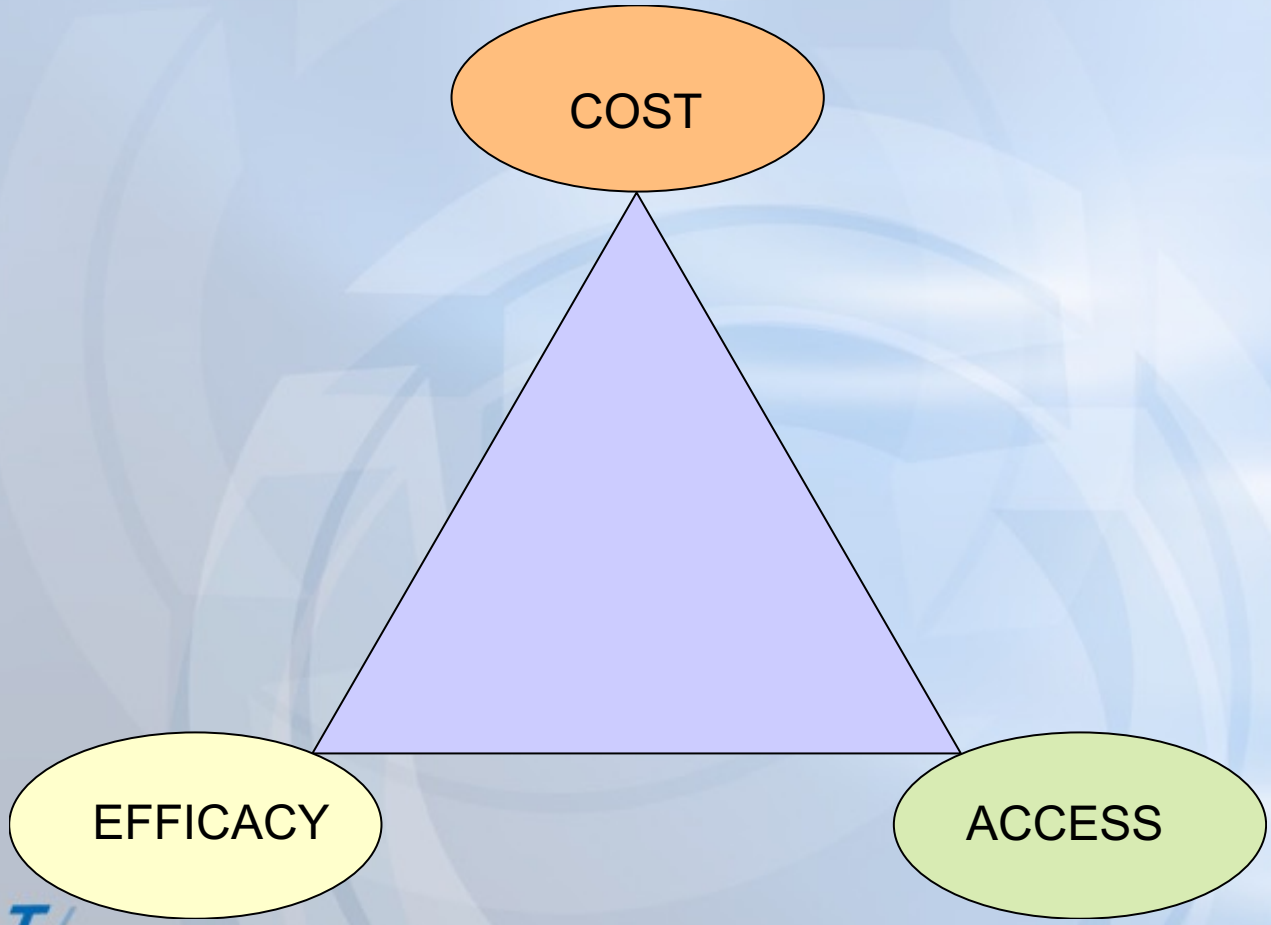
- As time to treatment declined more clients entered treatment. Barriers to access were systematically addressed and ultimately included 'bundling' all services needed for admission and diagnosis on the same visit. We did more than ten change cycles to move toward our aim.

- Though those who entered more quickly were more acutely ill, they gained as much improvement as their less acute peers. In other words, more people got more better as APT improved access.

- As the census grew, APT reduced its reliance on grant dollars from 53.4% to 22% and achieved an increasingly positive margin which supports patient care and is shared with staff. Today that number is less than 5%.

Performance Management Metric

Services that people can and will come to, that we can pay for, and that work.



CONCLUSIONS

- People will engage in services if we reduce demands on the process. They will stay if it works for them and is easy to stay. **What do we know about what people actually want and about what they think they need?**

- It is important to use transparent metrics understandable to payers, clinical staff and patients to evaluate service offerings and improvements.

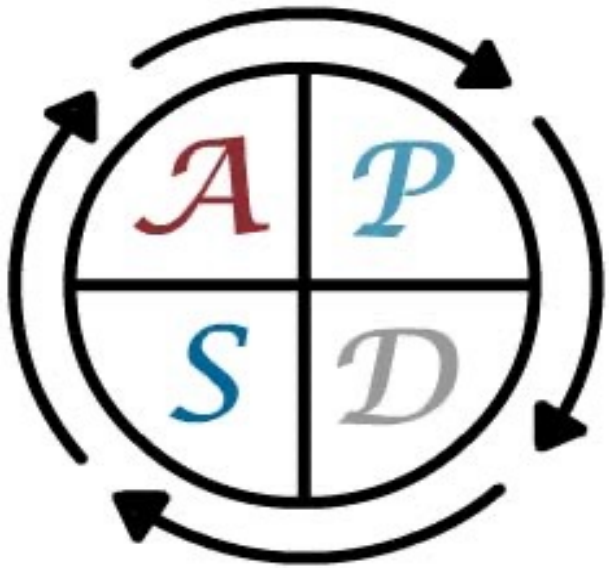
- Building Implementation/Change Capacity leads to sustainability

Leading Change Teams

- Establish direction with a clear aim
- Create a sense of urgency – articulate how baseline data shows the need for important improvements
- Provide accountability
- Involve the right staff
- Communicate, communicate, communicate
- Engage senior leaders
- Motivate and inspire
- Commit to empowerment
- Create a process for short term wins

Making Changes

- **PDSA Cycles**
  - **P**lan the change
  - **D**o the plan
  - **S**tudy the results
  - **A**ct on the new knowledge
    - Adapt
    - Adopt
    - Abandon
- Two to four week cycles



Detours

- Projects not related to goals
- No feedback
- Insufficient leadership
- No business case/strategic advantage
- Large change cycles

DON'T FORGET

- Small changes really matter!
- For support, go to the website – NIATx.net (in English)
- For questions – email colleagues and networks, including me.
- lynn.madden@yale.edu

Selected Peer Reviewed Publications

NIATx as an Evidence-based Practice

The following is a partial list of NIATx-related research published in peer-reviewed publications:

- Fleddermann, K., Jacobson, N., Horst, J., Madden, L. M., Haram, E., & Molfenter, T. (2023). Opening the “black box” of organizational coaching for implementation. BMC health services research, 23(1), 106. https://doi.org/10.1186/s12913-022-08948-6
- Chokron Garneau, H., Assefa, M. T., Jo, B., Ford, J. H., 2nd, Saldana, L., & McGovern, M. P. (2022). Sustainment of Integrated Care in Addiction Treatment Settings: Primary Outcomes From a Cluster-Randomized Controlled Trial. Psychiatric services (Washington, D.C.), 73(3), 280–286. https://doi.org/10.1176/appi.ps.202000293

NIATx as an Evidence-based Practice

- White, V. M., Molfenter, T., Gustafson, D. H., Horst, J., Greller, R., Gustafson, D. H., Jr, Kim, J. S., Preuss, E., Cody, O., Pisitthakarm, P., & Toy, A. (2020). NIATx-TI versus typical product training on e-health technology implementation: a clustered randomized controlled trial study protocol. Implementation science : IS, 15(1), 94.
- Ford, J. H., Osborne, E. L., Assefa, M. T., McIlvaine, A. M., King, A. M., Campbell, K., & McGovern, M. P. (2018). Using NIATx strategies to implement integrated services in routine care: a study protocol. BMC Health Services Research, 18(1), 431.
- Freese, T. E., Padwa, H., Oeser, B. T., Rutkowski, B. A., & Schulte, M. T. (2017). Real-world strategies to engage and retain racial–ethnic minority young men who have sex with men in HIV prevention services. AIDS Patient Care and STDs, 31(6), 275–

NIATx as an Evidence-based Practice

- Madden, L., Bojko, M. J., Farnum, S., Mazhnaya, A., Fomenko, T., Marcus, R., … & Dvoryak, S. (2017). Using nominal group technique among clinical providers to identify barriers and prioritize solutions to scaling up opioid agonist therapies in Ukraine. International Journal of Drug Policy, 49, 48–
- Gustafson Jr, D. H., Maus, A., Judkins, J., Dinauer, S., Isham, A., Johnson, R., … & Atwood, A. K. (2016). Using the NIATx model to implement user-centered design of technology for older adults. JMIR Human Factors, 3(1), e2.
- Pearson, F. S., Shafer, M. S., Dembo, R., del Mar Vega-Debién, G., Pankow, J., Duvall, J. L., … & Patterson, Y. (2014). Efficacy of a process improvement intervention on delivery of HIV services to offenders: a multisite trial. American Journal of Public Health, 104(12), 2385-2391.

NIATx as an Evidence-based Practice

- Gustafson, D. H., Quanbeck, A. R., Robinson, J. M., Ford II, J. H., Pulvermacher, A., French, M. T., … McCarty, D. (2013). Which elements of improvement collaboratives are most effective? A cluster-randomized trial. Addiction, 108(6):1145-57. PMCID: PMC3651751. doi: 10.1111/add.12117
- Quanbeck, A. R., Madden, L., Edmundson, E., Ford, J. H., McConnell, K. J., McCarty, D., & Gustafson, D. H. (2012). A business case for quality improvement in addiction treatment: evidence from the NIATx collaborative. The Journal of Behavioral Health Services & Research, 39(1), 91–
- McCarty D, Gustafson DH, Wisdom JP, Ford J, Choi D, Molfenter T, Capoccia V, Cotter F. (2007). The Network for the Improvement of Addiction Treatment (NIATx): enhancing access and retention. Drug and Alcohol Dependence, 88(2-3):138– PMCID: PMC1896099