



Does Process Improvement in Substance Abuse Treatment Agencies Change Client Outcomes?

Assessing client outcomes for Oregon and Washington agencies participating in NIATx

SUMMARY

From 2008 to 2010, researchers from the [Oregon Health & Science University](#) in Portland studied the feasibility of using state administrative data systems to assess changes in Medicaid costs and criminal justice system involvement among patients after treatment in five substance abuse treatment agencies that used a process improvement model developed by NIATx (Network for the Improvement of Addiction Treatment). The Washington state- and Oregon-based agencies were:

- Asian Counseling and Referral Service in Seattle, a multiservice agency founded to meet the needs of Asians and Pacific Islanders
- CODA in Portland, Ore., specializing in outpatient and methadone treatment
- Daybreak, providing treatment for adolescents in the Spokane, Wash., area
- Mid-Columbia Center for Living, located in Hood River, Ore., a multimodality community mental health center serving rural communities
- Perinatal Treatment Services for pregnant and parenting women in Seattle and Tacoma, Wash

NIATx (Network for the Improvement of Addiction Treatment)

All five agencies had applied the NIATx process improvement model developed and implemented under *Paths to Recovery*, a Robert Wood Johnson Foundation (RWJF) national program conducted in partnership with the federal Center for Substance Abuse Treatment's Strengthening Treatment Access and Retention (STAR) program.

NIATx uses process improvement strategies adapted from private industry to increase the number of people who enter and remain in substance abuse treatment. Established in 2003, NIATx also created a learning community for participating agencies and guided them in using the model. NIATx is based within the [University of Wisconsin-Madison](#)

Center for Health Enhancement Systems Studies. For more information, see the [Appendix](#).

RWJF and the Center for Substance Abuse Treatment each made separate grants to substance abuse treatment agencies under *Paths to Recovery*. Four of the five agencies in this study were *Paths to Recovery* sites; one (Mid-Columbia Center for Living) was a STAR site. For more on *Paths to Recovery*, see the [Program Results Report](#).

Building on *Paths to Recovery*

This project built on *Paths to Recovery* by using NIATx data and state administrative data systems to study outcomes for clients who received outpatient substance abuse treatment at the five agencies. It was designed to determine whether improvements in access to and retention in treatment could be linked to client-level outcomes, such as Medicaid use, criminal justice involvement, and employment.

Methodology

The researchers:

- Analyzed treatment access and retention at the five agencies for two years after participation in *Paths to Recovery* or STAR
- Compared Medicaid costs before and after enrollment in outpatient substance abuse treatment for 703 patients receiving outpatient substance abuse treatment at four Oregon facilities. Two of these sites had used NIATx process improvement strategies, and two (control sites) had not. The researchers used funds from a National Institute on Drug Abuse grant, awarded in October 2009, to add the control sites.

They linked data from two administrative databases: Oregon’s Medicaid Management Information System, which has details on coverage, procedure codes and billing, and the state’s substance abuse database, which compiles information on treatment admission and discharge, basic outcomes, and specific diagnoses.

Findings

The researchers reported findings on access to and retention in substance abuse treatment to RWJF.

- Between September 2003 and December 2007, days between the first client request for services and treatment were significantly reduced from an average of 32 days to 12 days for the five agencies.
- In the same time period, days between assessment and first treatment were significantly reduced from an average of 18 days to 2 days.

- An average of 90 percent of clients contacting the agencies received an initial assessment. Of those, more than half (57%) completed four subsequent sessions of outpatient treatment.
 - Across the five agencies, an average of 82 percent of clients completed one session, 73 percent completed two sessions, and 67 percent completed three sessions.
 - The percentage of patients completing four sessions ranged from 37 percent to 94 percent.

The team presented findings on Medicaid use by clients of four agencies in Oregon (two NIATx and two controls) at an AcademyHealth conference in June 2011.

- Medicaid costs dropped an average of \$3,603 after clients enrolled and remained in substance abuse treatment in the NIATx and control sites for one year.
 - Most of the savings (89%) came from lower acute care billings (for emergency department and inpatient hospital care).
 - Outpatient care costs increased from 49 percent of overall Medicaid costs before treatment to 60 percent following enrollment in substance abuse treatment. This change reflected the shift from the acute care to the outpatient setting.
- Provider participation in NIATx process improvement strategies did not appear to impact overall Medicaid costs. However, use of the NIATx model can still reduce overall costs by improving patients' access to screening and outpatient treatment services.

Challenges and Implications

Data Challenges

The researchers faced major challenges accessing and linking data, which impacted the completion of the planned analysis during the grant period. They were also unable to study the link between access to and retention in substance abuse treatment and employment outcomes as planned because states only collect data on people receiving public funds, such as Temporary Assistance for Needy Families.

Implications for Future Research

According to Project Director Kim Hoffman, PhD, the greatest impact of this project was the creation for the first time of relationships and data sharing agreements between state administrators. With these relationships in place, future researchers will be able to more easily access and analyze outcomes for substance abuse treatment clients in Oregon and Washington state.

[Lessons Learned](#) also highlight implications for future research.

Lessons Learned

- 1. Be prepared for research projects to take a back seat when states cut their budgets.** Frequent staff turnover, common during budget crises, delayed researchers' access to state data. It took time for new staff to get up to speed on what data they were allowed to release. (Project Director Kim Hoffman)
- 2. Check into possible restrictions on sensitive data from states before beginning a research project.** The researchers were unable to access data on criminal justice involvement by adolescents who received substance abuse treatment in Washington due to state restrictions on release of such data. (Project Director Hoffman)
- 3. Work with state agencies to gain more timely access to data.** Researchers experienced lengthy delays gaining access to data for this study. Project Director Hoffman suggested building funding into project budgets to cover reimbursing states for staff time needed to obtain data.
- 4. Educate policy-makers about the importance of a project.** "If state legislators and policy-makers are interested in the outcomes of a study—if it is tied to a legislative report on Medicaid expenditures, for example—then they will exert pressure on the agencies to produce the data. It shouldn't just be the researcher waiting in the wings," said Hoffman.
- 5. Be prepared for technical and administrative hurdles when linking information from different state databases.** Linking Oregon's Medicaid and substance abuse databases gave researchers access to a wider variety of client outcomes than a single database would. However, merging data involved a complex linking methodology, and Oregon had to hire a consultant to guide them through the process.
- 6. Allow time to build relationships between departments that have never shared data before.** Oregon's Addiction and Mental Health Division and Department of Corrections had never had data sharing agreements before, notes Hoffman. Relationship building was necessary before data could be exchanged on patients' involvement in the criminal justice system.

Funding

RWJF funded this study with a grant of \$99,835, under RWJF's *Substance Abuse Policy Research Program*, a national program that funded projects that identify and assess policies to reduce the harm caused by substance abuse (1994 to 2010). This project addresses the program's aim of defining, measuring, and tracking treatment quality. For more on the *Substance Abuse Policy Program*, see the [Program Results Report](#).

Afterward

As of November 2011, the researchers were continuing their analysis of criminal justice and Medicaid data and preparing articles on Medicaid findings as well as their

methodology in linking state administrative databases. A \$50,000 grant from the National Institute on Drug Abuse awarded in October 2009 was funding this work.

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Vulnerable Populations

APPENDIX

The NIATx Model

NIATx Principles

- Understand and involve the customer. Asking customers what they think needs to be improved had more predictive power in separating successful from unsuccessful organizations than all other factors combined.
- Fix the key problems. Solve the problems that keep the executive awake at night. This secures executive support and establishes a business case for testing strategies.
- Pick a powerful change leader. The person who leads change should have a position of authority, a close working relationship with the chief executive, respect from colleagues and sufficient time to devote to the initiative.
- Get ideas from outside the organization or field. Others can offer fresh perspectives on problems, challenges and solutions.
- Use rapid-cycle testing to establish effective changes. Testing changes on a small scale dispels the myth that change is hard. NIATx uses the Plan-Do-Study-Act cycle:
 - Plan the change: pick the goal, predict outcomes and identify steps to get there.
 - Do the plan: test the change for a short time and examine problems and results.
 - Study the results: compare the predicted outcomes with the actual results.
 - Act on knowledge: adopt, adapt or abandon the change and set the next cycle.

NIATx Aims

These performance measures were the NIATx aims:

- To reduce wait time between the first request for help and the first treatment session
- To reduce no-shows
- To increase admissions
- To increase continuation rates by keeping people in treatment longer