Washington State Institute for Public Policy
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January 2015

Updated Inventory of Evidence-based, Research-based, and Promising Practices: *Prevention and Intervention Services for Adult Behavioral Health*

The 2013 Washington State Legislature passed 2SSB 5732 which established the following:

> *The systems responsible for financing, administration, and delivery of publicly funded mental health and chemical dependency services to adults must be designed and administered to achieve improved outcomes for adult clients served by those systems through increased use and development of evidence-based, research-based, and promising practices.*[1]

The legislation directed the Washington State Institute for Public Policy (WSIPP) to create, in consultation with the Department of Social and Health Services (DSHS), University of Washington Evidence-Based Practice Institute (EBPI), University of Washington Alcohol and Drug Abuse Institute (ADAI), and the Washington Institute for Mental Health Research and Training (WIMHRT), an inventory of evidence-based, research-based, and promising practices. The legislation allowed one year for developing the initial inventory. The inventory of interventions and policies in adult mental health and chemical dependency services was published in May 2014.[2] DSHS used the inventory and input from the steering committee, established in 2SSB 5732, to develop a strategy to improve behavioral health.[3]

2SSB 5732 did not contain language directing WSIPP to update this inventory in the future.[4] Because of the fairly short time period to develop the inventory, we were unable to review some interventions identified as high priority by DSHS and the Health Care Authority prior to the publication deadline. Through a WSIPP Board-approved contract with the Pew-MacArthur Results First Initiative, we were able to review four additional programs and update the literature on supported housing for chronically homeless adults. Two promising programs were also identified by the UW institutes.

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[1] Second Substitute Senate Bill 5732, Sec. 2(1), Chapter 338, Laws 2013.
[2] Miller, M., Fumia, D., & Kay, N. (2014). *Inventory of evidence-based, research-based, and promising practices prevention and intervention services for adult behavioral health.* (Doc. No. 14-05-4101). Olympia: Washington State Institute for Public Policy. http://www.wsipp.wa.gov/Reports/538
[3] The first report on the strategy to improve behavioral health was published in August 2014. http://leg.wa.gov/JointCommittees/ABHS/Documents/2014-07-18/5a%20-%20The%20Behavioral%20Health%20Improvement%20Strategy%20Implementation%20Status%20Report.pdf
[4] 2SHB 2536 from the 2012 legislative session directed WSIPP and EBPI to prepare a similar inventory for children's mental health, child welfare, and juvenile justice. The language in that bill did authorize updating the inventory on a periodic basis.

The Inventory

Our approach to developing the inventory is the same as we have used in the other policy areas where the legislature has directed WSIPP to establish inventories.[5] Further information on our approach can be found in the May 2014 report.[6]

For this update, we reviewed four additional topics. The following three topics are research-based:

- ✓ Cognitive Behavioral Therapy for schizophrenia/psychosis
- ✓ Medicaid Health Homes
- ✓ Motivational Interviewing to enhance engagement in substance abuse treatment

The fourth topic is a promising practice.

- ✓ Wellness Recovery Action Plan (WRAP)

In addition, UW solicited nominations for promising practices from the DSHS mailing list of providers, service coordination agencies, and other stakeholders. From the nominations, two additional interventions were determined to be promising.

- ✓ Integrated Cognitive Therapies Program for Co-occurring Mental Illness and Substance Abuse
- ✓ Therapeutic Community

Changes to the original inventory

Since publishing the original inventory in May 2014, we have made a change to the way we operationalize the definition of research-based. For the original inventory, if an intervention did not have at least one desired outcome with a p-value[7] of less than 0.1, we considered the program to be promising. Following considerable re-analysis, we found that for a typical program that WSIPP has analyzed in criminal justice and K–12 education—with typical costs and outcomes—a p-value cut-off of 0.20 produces benefits that exceed costs roughly 75% of the time. Thus, we determined that programs with desired outcomes with p-values less than 0.2 should be considered research-based rather than promising. As a consequence of that change, the following programs were reclassified from promising to research-based:

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[5] Pennucci, A., & Lemon, M. (2014). *Updated inventory of evidence- and research-based practices: Washington's K–12 Learning Assistance Program.* (Doc. No. 14-09-2201). Olympia: Washington State Institute for Public Policy; EBPI, & WSIPP (2014). *Updated inventory of evidence-based, research-based, and promising practices for prevention and intervention services for children and juveniles in the child welfare, juvenile justice, and mental health systems*; and Drake, E. (2013). *Inventory of evidence-based and research-based programs for adult corrections* (Doc. No. 13-12-1901). Olympia: Washington State Institute for Public Policy.

[6] Miller, et al., (2014). Op. cit.

[7] The p-value is a statistical concept that indicates the likelihood that an outcome might be observed just by chance. For example, a p-value of 0.1 indicates that the outcome might be observed by chance 10% of the time.

- ✓ Primary care in community-based addiction centers
- ✓ Matrix Intensive Outpatient Program (IOP) for the Treatment of Stimulant Abuse
- ✓ Relapse Prevention Therapy

After updating the literature, Brief Intervention in a medical hospital was reclassified from research-based to evidence-based.

Finally, we determined that Dialectical Behavior Therapy (DBT) for co-morbid substance abuse and serious mental illness could be classified as research-based with respect to the program's effect on psychiatric symptoms and promising based on its effect on substance abuse.

Identifying Evidence-Based, Research-Based, and Promising Practices

The legislature established definitions for evidence-based, research-based, and promising practices for adult behavioral health in 2SSB 5732.[8] These definitions were used to assemble the list of promising practices and define interventions as evidence-based and research-based. The following definitions are taken verbatim from the bill.

Evidence-based practice

A program or practice that has been tested in heterogeneous or intended populations with multiple randomized, or statistically controlled evaluations, or both; or one large multiple site randomized, or statistically controlled evaluation, or both, where the weight of the evidence from a systemic review demonstrates sustained improvements in at least one outcome. "Evidence-based" also means a program or practice that can be implemented with a set of procedures to allow successful replication in Washington and, when possible, is determined to be cost-beneficial.

Research-based practice

A program or practice that has been tested with a single randomized, or statistically controlled evaluation, or both, demonstrating sustained desirable outcomes; or where the weight of the evidence from a systemic review supports sustained outcomes as described in subsection (14) of this section but does not meet the full criteria for evidence-based.

Promising practice

A practice that, based on statistical analyses or a well-established theory of change, shows potential for meeting the evidence-based or research-based criteria, which may include the use of a program that is evidence-based for outcomes other than those listed in subsection (14) of this section (defining "evidence-based").

[8] RCW 71.24.025.

For each program where research was available, WSIPP conducted meta-analysis and benefit-cost analysis to determine the level of evidence. If outcome evaluations exist, but the evidence indicated a non-significant (p-value greater than 0.2) effect on desired outcomes in the expected direction, then the program was designated as promising. When we could locate no rigorous outcome evaluations for a program, or the effect on outcomes was mixed, the institutes at the University of Washington (ADAI, WIMHRT, and EBPI) reviewed the program to determine whether it met the criteria for promising.

In the inventory, each program is designated as evidence-based, research-based, or promising according to definitions and procedures described above. If a program is not listed on the inventory, we have not yet had the opportunity to review it or it does meet the criteria for promising.

The inventory is located at the end of this document. Further information on the individual programs can also be found on our website by clicking here.

Limitations

The benefit-cost analyses in this report reflect only those outcomes that were measured in the studies we reviewed and are "monetizable" with the current WSIPP benefit-cost model. At this time we are unable to estimate monetary benefits for some relevant outcomes, such as global functioning, social connectedness, or reductions in symptoms for some disorders such as schizophrenia. One outcome in particular, homelessness, was measured in evaluations of several programs we reviewed. While the current WSIPP benefit-cost model does not estimate the benefits of reducing homelessness, we examined a recent comprehensive benefit-cost study of housing vouchers to test the sensitivity of our results.[9]

Acknowledgments

We would like to thank leadership and staff at DSHS, Behavioral Health and Service Integration Administration, and the Health Care Authority for their guidance in creating the list of high priority interventions to review for the inventory and their assistance in describing/explaining specific programs. Representatives of the three UW institutes provided guidance on identifying promising programs. We are especially grateful to Maria Monroe-DeVita, Eric Trupin, and Dennis Donovan for assembling an excellent team to review programs. We are also grateful to Dr. Lydia Chwastiak who provided insight in understanding cognitive behavioral therapy for psychosis.

[9] Carlson, D., Haveman, R., Kaplan, T., & Wolfe, B. (2011). The benefits and costs of the Section 8 housing subsidy program: A framework and estimates of first-year effects. *Journal of Policy Analysis and Management*, *30*(2), 233-255.

January 2015

Updated Inventory of Evidence-Based, Research-Based, and Promising Practices

Intervention Services and Treatment for Adult Behavioral Health

More information on the programs and findings can be found by clicking here**

Budget area	Program/intervention	Manual	Level of evidence	Cost-beneficial	Reason program does not meet evidence-based criteria (see full definitions below)	Percent minority
Mental Illness	Assertive Community Treatment (ACT)	Yes	⦿	No (4%)	Benefit-cost	32%
	Cognitive-Behavioral Therapy for anxiety	Varies*	⦿	Yes (99%)	Heterogeneity	8%
	Cognitive-Behavioral Therapy for depression	Varies*	⦿	Yes (100%)	Heterogeneity	11%
	Cognitive-Behavioral Therapy for posttraumatic stress disorder (PTSD)	Varies*	●	Yes (100%)		52%
	Cognitive Behavioral Therapy for schizophrenia/psychosis	Yes	⦿	No (59%)	Benefit-cost	24%
	Collaborative primary care for depression	Varies*	●	Yes (100%)		24%
	Collaborative primary care for anxiety	Varies*	●	Yes (94%)		35%
	Collaborative primary care for depression with comorbid medical concerns	Varies*	⦿	Yes (99%)	Heterogeneity	18%
	Crisis Intervention Team (CIT)	Yes	P	N/A	Research on outcomes of interest not yet available	N/A
	Forensic Assertive Community Treatment (FACT)	No	P	No (0%)	Benefit-cost/Weight of evidence/Single evaluation	39%
	Forensic Integrative Re-entry Support and Treatment (FIRST)	Yes	P		Research on outcomes of interest not yet available	N/A
	Forensic Intensive Supportive Housing (FISH)	Yes	P		Research on outcomes of interest not yet available	N/A
	Illness Management and Recovery (IMR)	Yes	P	No (17%)	Benefit-cost/Weight of evidence	41%
	Individual Placement and Support (IPS) for individuals with serious mental illness	Yes	⦿	No (66%)	Benefit-cost	58%
	Integrated Cognitive Therapies Program for Co-occurring Mental Illness and Substance Abuse	Yes	P	N/A	Research on outcomes of interest not yet available	N/A
	Medicaid Health Homes	Yes	⦿	N/A	Single evaluation	71%
	Mental health courts	Varies*	●	Yes (100%)		41%
	Mobile crisis response	No	⦿	No (28%)	Benefit-cost	57%
	Peer Bridger	No	P	N/A	Research on outcomes of interest not yet available	N/A
	Peer support for serious mental illness					
	Peer support: Substitution of a peer specialist for a non-peer on the treatment team	Varies*	⦿	No (20%)	Benefit-cost	52%
	Peer support: Addition of a peer specialist to the treatment tream	Varies*	⦿	No (1%)	Benefit-cost	56%
	Primary care in behavioral health settings	No	⦿	No (56%)	Benefit-cost	42%
	Primary care in integrated settings (Veteran's Administration, Kaiser Permanente)	No	⦿	No (51%)	Benefit-cost	44%
	Primary care in behavioral health settings (community-based settings)	No	⦿	No (16%)	Benefit-cost	39%
	PTSD prevention following trauma	Varies*	●	Yes (98%)		31%
	Wellness Recovery Action Plan (WRAP)	Yes	P	N/A	Weight of evidence	45%
	Supported housing for chronically homeless adults	Varies*	⦿	No (0%)	Benefit-cost	64%
	Trauma Informed Care: Risking Connection	Yes	P	N/A	Research on outcomes of interest not yet available	N/A

Key:

●	**Evidence-based**
⦿	**Research-based**
⦸	**Produces null or poor outcomes**
P	**Promising**

**http://www.wsipp.wa.gov/ReportFile/1583/Wsipp_Updated-Inventory-of-Evidence-based-Research-based-and-Promising-Practices-Prevention-and-Intervention-Serivces-for-Adult-Behavioral-Health_Benefit-Cost-Results.pdf

Budget area	Program/intervention	Manual	Level of evidence	Cost-beneficial	Reason program does not meet evidence-based criteria (see full definitions below)	Percent minority
Substance Abuse	**Early intervention (at-risk drinking and substance use)**					
	Brief Alcohol Screening and Intervention for College Students (BASICS): A Harm Reduction Approach	Yes	⦿	Yes (74%)	Heterogeneity	15%
	Brief Intervention in primary care	Yes	●	Yes (94%)		24%
	Brief Intervention in emergency department	Yes	●	Yes (78%)		79%
	Brief Intervention in medical hospital	Yes	●	Yes (75%)		54%
	Treatments for substance abuse or dependence					
	12-Step Facilitation Therapy	Yes	⦿	No (66%)	Benefit-cost	48%
	Anger Management for Substance Abuse and Mental Health Clients: Cognitive-Behavioral Therapy	Yes	P	N/A	Research on outcomes of interest not yet available	N/A
	Behavioral Couples (Marital) Therapy	Yes	P	N/A	Weight of evidence	N/A
	Behavioral Self-Control Training (BSCT)	Yes	⦿	No (23%)	Benefit-cost	24%
	Brief Cognitive Behavioral Intervention for Amphetamine users	Yes	⦿	No (67%)	Benefit-cost/Heterogeneity	N/A
	Brief Marijuana Dependence Counseling	Yes	●	Yes (92%)		52%
	Cognitive Behavioral Coping Skills Therapy	Yes	●	Yes (99%)		36%
	Community Reinforcement and Family Training (CRAFT) for retaining clients in treatment	Yes	P	N/A	Research on outcomes of interest not yet available	N/A
	Community Reinforcement Approach (CRA) with Vouchers	Yes	⦿	No (62%)	Benefit-cost/Heterogeneity	3%
	Contingency Management					
	Contingency management (higher-cost) for substance abuse	Yes (guidelines)	●	Yes (79%)		48%
	Contingency management (higher-cost) for marijuana abuse	Yes (guidelines)	●	Yes (79%)		48%
	Contingency management (lower-cost) for substance abuse	Yes (guidelines)	⦿	No (60%)	Benefit-cost	57%
	Contingency management (lower-cost) for marijuana abuse	Yes (guidelines)	⦿	No (51%)	Benefit-cost	50%
	Day treatment with abstinence contingencies and vouchers	No	P	N/A	Single evaluation/Weight of evidence	96%
	Dialectical Behavior Therapy (DBT) for co-morbid substance abuse and serious mental illness	Yes				22%
	Dialectical Behavior Therapy: Effect on psychiatric symptoms	Yes	⦿	N/A	Single evaluation	22%
	Dialectical Behavior Therapy: Effect on substance abuse	Yes	P	N/A	Weight of evidence	22%
	Family Behavior Therapy (FBT)	Yes (for adolescents)	⦿	No (69%)	Benefit-cost/Heterogeneity	9%
	Holistic Harm Reduction Program (HHRP+)	Yes	⦿	No (60%)	Benefit-cost	42%
	Individual Drug Counseling Approach for the Treatment of Cocaine Addiction	Yes	⦿	No (54%)	Benefit-cost	44%
	Matrix Intensive Outpatient Model (IOP) for the Treatment of Stimulant Abuse	Yes	⦿	No (62%)	Weight of evidence	52%
	Motivational Enhancement Therapy (MET) (problem drinkers)	Yes	P	No (10%)	Benefit-cost/Single evaluation/Weight of evidence	N/A
	Motivational Interviewing to enhance treatment engagement	Yes	⦿	No (66%)	Benefit-cost	49%
	Node-link mapping	Yes	P	N/A	Weight of evidence	61%
	Parent-Child Assistance Program	Yes	P	N/A	Weight of evidence	N/A
	Peer support for substance abuse	No	⦿	No (54%)	Benefit-cost/Single evaluation	86%
	Preventing Addiction-Related Suicide (PARS)	Yes	P		Research on outcomes of interest not yet available	N/A
	Relapse Prevention Therapy	Yes	⦿	No (58%)	Benefit-cost	77%
	Seeking Safety: A Psychotherapy for Trauma/PTSD and Substance Abuse					
	Seeking Safety: Effect on PTSD	Yes	⦿	No (71%)	Benefit-cost	55%
	Seeking Safety: Effect on substance abuse	Yes	P	No (71%)	Benefit-cost/Weight of evidence	55%
	Supportive-Expressive Psychotherapy for substance abuse	Yes	P	No (43%)	Benefit-cost/Weight of evidence	50%
	Therapeutic Community	Yes	P	N/A	Research on outcomes of interest not yet available	N/A
	Medication-assisted treatment					
	Buprenorphine/Buprenorphine-Naloxone (Suboxone and Subutex) treatment	Clinical guidelines	●	Yes (90%)		46%
	Methadone maintenance treatment	Clinical guidelines	●	Yes (99%)		78%

Key:

● **Evidence-based**
⦿ **Research-based**
⦸ **Produces null or poor outcomes**
P **Promising**

Notes:

* Varies: This is a general program/intervention classification. Some programs within this classification have manuals and some do not. The results listed on the inventory represent a typical, or average, implementation. Additional research will need to be completed in order to establish the most effective set of procedures within this general category.

Reasons programs may not meet suggested evidence-based criteria:

Benefit-cost: The WSIPP benefit-cost model was used to determine whether a program meets this criterion. Programs that do not achieve at least a 75% chance of positive net present value do not meet the benefit-cost test.

Heterogeneity: To be designated as evidence-based under current law or the proposed definition, a program must have been tested on a "heterogeneous" population. We operationalized heterogeneity in two ways. First, the proportion of minority program participants must be greater than or equal to the minority proportion of adults 18 and over in Washington State. From the 2010 Census, of all adults in Washington,76% were white and 24% minority. Thus, if the weighted average of program participants had at least 24% minorities then the program was considered to have been tested on a heterogeneous population. Second, the heterogeneity criterion can also be achieved if at least one of the studies has been conducted on adults in Washington and a subgroup analysis demonstrates the program is effective for minorities ($p \leq 0.2$). Programs passing the second test are marked with a ^. Programs that do not meet either of these two criteria do not meet the heterogeneity definition.

Program cost: A program cost was not available to WSIPP at the time of the inventory. Thus, WSIPP could not conduct a benefit-cost analysis.

Research on outcomes of interest not yet available: The program has not yet been tested with a rigorous outcome evaluation.

Single evaluation: The program does not meet the minimum standard of multiple evaluations or one large multiple-site evaluation contained in the current or proposed definitions.

Weight of evidence: Results from a random effects meta-analysis ($p > 0.20$) indicate that the weight of the evidence does not support desired outcomes, or results from a single large study indicate the program is not effective.

Definitions:

Evidence-based: A program or practice that has been tested in heterogeneous or intended populations with multiple randomized and/or statistically-controlled evaluations, or one large multiple-site randomized and/or statistically-controlled evaluation, where the weight of the evidence from a systematic review demonstrates sustained improvements in at least one of the following outcomes: child abuse, neglect, or the need for out of home placement; crime; children's mental health; education; or employment. Further, "evidence-based" means a program or practice that can be implemented with a set of procedures to allow successful replication in Washington and, when possible, has been determined to be cost-beneficial.

Research-based: A program or practice that has been tested with a single randomized and/or statistically-controlled evaluation demonstrating sustained desirable outcomes; or where the weight of the evidence from a systematic review supports sustained outcomes as identified in the term "evidence-based" in RCW (the above definition) but does not meet the full criteria for "evidence-based."

Promising practice: A program or practice that, based on statistical analyses or a well-established theory of change, shows potential for meeting the "evidence-based" or "research-based" criteria, which could include the use of a program that is evidence-based for outcomes other than the alternative use.

Cost-beneficial: A program or practice where the monetary benefits exceed costs with a high degree of probability according to WSIPP.

Suggested citation: Miller, M., Fumia, D., & Kay, N. (2015). *Updated Inventory of evidence-based, research-based, and promising practices prevention and intervention services for adult behavioral health.* (Doc. No. 15-01-4101). Olympia: Washington State Institute for Public Policy.

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Washington State Institute for Public Policy

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