

Research Based Prevention Outcomes

State Incentive
Grants | SIG



WASHINGTON STATE

October 2006
Report 4.58a



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Analysis Division

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Title: Research Based Prevention Outcomes

Abstract: This report examines the prevention steps in 18 Washington communities that were more effective in reducing community-wide use of alcohol, tobacco and other drugs among middle school youth. Federal authorities funded these communities to spearhead research-based prevention efforts from 1999 to 2002.

All communities were expected to follow six basic steps:

1. Mobilize their communities
2. Conduct data-based planning
3. Reach the target population
4. Achieve a broad program array
5. Adopt more evidence-based practices
6. Implement program components with fidelity

We expected that community mobilization would be the keys to success among small rural and cultural communities. Adequate implementation of all the steps and high fidelity in program implementation would be most important for urban communities. Results confirmed this.

Four communities were classified as "best implementers": one urban, two rural, and one cultural community. The four best implementers demonstrated large decreases in all types of substance use (alcohol, binge drinking, marijuana, tobacco, and other drugs) among 8th grade youth in 2002 and among 10th grade youth two years later. Best implementers also achieved decreases in risk factors associated with substance use and increases in protective factors that 'prevented' such use, as expected by the "risk and protective factor" model.

Community-wide outcomes of best implementers were compared to those of average and poor implementers and two groups of communities: a random sample of the rest of the state and a set of 'similar' communities derived from cluster analysis. Results were statistically adjusted using demographic survey variables and community archival characteristics most related to youths' substance use.

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- Better work process
- Better decisions
- Better outcomes

To the
Reader



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Dear Reader,

This is to introduce you to the importance of new findings in the context of past research efforts and policy contexts to make prevention more effective.

Since the mid-1990s, substance use prevention research has examined the context in which prevention services are delivered. While the identification of "best practice" programs, and their delivery with fidelity, has remained central, some researchers have focused on identifying community characteristics that make program delivery success more likely.

While there are several theories on how to do this, they are similar in that they describe a planning model that requires:

- **Community mobilization** – that is, key leaders and agencies involved in the planning process with local support and engagement.
- **Identification of needs** – including risk factors and target populations, as in a public health approach.
- **The correct choice of programs** – including their cultural appropriateness and adaptation.
- **A feedback mechanism** – which includes evaluation and re-assessment.

Most Washington State prevention providers have been trained in a way of thinking that incorporates the **Communities that Care** model developed by the Social Development Research Group at the University of Washington, and the seven-step, and now five-step model used by **Center for Substance Abuse Prevention (CSAP)** and their local trainers, the **Western Center for Applied Prevention Technology (WestCAPT)**. The most recent version of this planning model is the **Strategic Prevention Framework** utilized by the new State Incentive Grant that Washington State will be implementing in the next three years. The chart to the left depicts the steps within a cultural, sustainable context.

What is important in the findings described here is that no research has confirmed that better planning and implementation lead to better outcomes. *Until now.*

The research attached confirms the importance of community mobilization particularly in small rural and cultural communities. It provides useful lessons on how to make prevention efforts more effective, not only with "best practice" programs but also paying attention to issues of local control, engagement, knowing the culture and adapting practices to achieve better outcomes.

Thank you for your attention,

A handwritten signature in blue ink, appearing to read "Doug Allen".

Doug Allen, Director
DSHS Health and Recovery Services Administration
Division of Alcohol and Substance Abuse

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Research Based Prevention Outcomes

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Report 4.58a | Substance Use Outcomes Among Adolescents in Communities that Received State Incentive Grants

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WITH

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ABSTRACT

THIS STUDY examines the relationship between the quality of implementation of a research-based prevention framework and the outcomes achieved in 18 communities funded by the Washington State Incentive Grant (SIG) from 1999 to 2002. The study retrospectively hypothesizes a model for measuring implementation quality that weighs components of the framework differently in urban areas than in rural or small cultural communities. This model accurately predicts substance use outcomes in the funded communities.¹

Key Finding

- In urban areas, those communities that utilized all of the discrete stages of the planning framework achieved the best outcomes. In rural and/or cultural communities, a high level of community mobilization and engagement achieved the best outcomes. See overall results below, for the 15 communities that had outcome measures.

Detailed Community Wide Outcomes

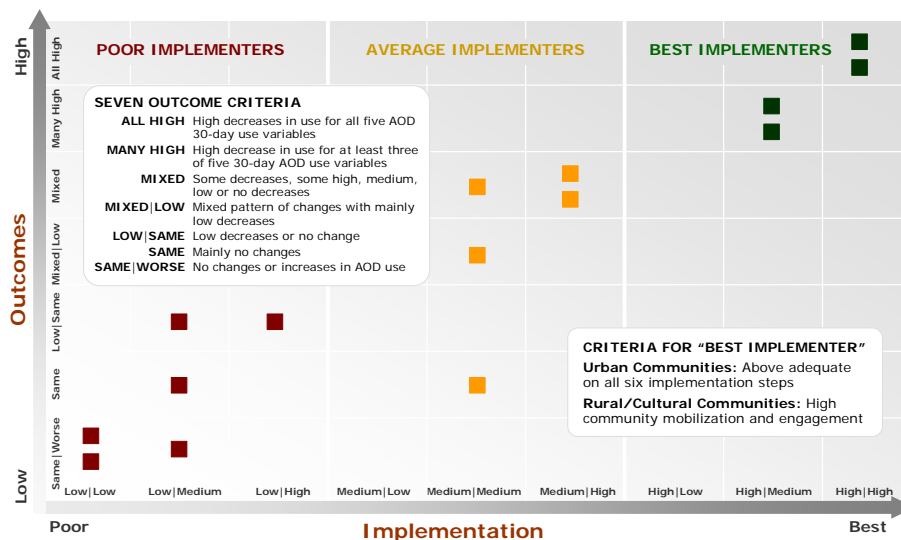
- Best SIG community implementers achieved large decreases in substance use from 2000 to 2002 among targeted 8th graders, while changes in other SIG communities were similar to or worse than the rest of the state.
- In 2004, 10th graders from the “best implementers” communities, who were 8th graders during the project, had lower rates of substance use than other 10th graders.
- Communities with best implementation showed large changes in risk and protection factors – decreasing degrees of risks associated with higher substance use and increasing levels of protective factors that “prevented” such use.

Summary Plot Outcomes by Implementation

2000-2002 Decreases in Substance Use among 8th Graders by Poor, Average and Best Implementers

NOTE: Correlation between higher levels of implementation and better outcomes (substance abuse decreases) was .94.

Note: Outcome data was available for 15 of the 18 communities.



¹ Standard, reliable measures of 30-day substance use were available from school-administered surveys for the 2000 baseline year and for the 2002 and 2004 follow-up years for the 15 SIG communities (data was missing for one average and two poor implementers), for similar SIG-like communities and for a random sample of the state. We tested the relationship between levels of implementation and outcomes controlling statistically for the effects of differences in other community factors: economic deprivation, race/ethnicity, gender composition, school performance, school retention, family problems, child and family health, AOD problems, AOD availability, and teen substance abuse.

Introduction

Since the mid-1990s, science-to-practice efforts in the prevention field have drawn attention to the importance of context in assessing the utilization of evidence-based practice. While the identification of best practice programs, and their delivery with fidelity, has remained central, some researchers have focused on the identification of community planning process characteristics that make program delivery success more likely. Public and private grant-making organizations have followed these developments by outlining and sometimes requiring specific planning and implementation steps that grantees must follow. There are several implementation frameworks that describe theories on how to do this, but they are similar in that they describe a planning model that requires community mobilization by key leaders and key agencies, identification of needs (including risk factors and target populations, as in a public health approach), the choice of prevention programs that correctly target needs and populations, and a feedback mechanism that includes evaluation and re-assessment.

One of the most well know frameworks is the Communities that Care (CTC) model developed by the Social Development Research Group at the University of Washington, and most Washington State prevention providers have been trained in some components of this model. Another framework used in Washington State is the seven-step, and now five-step model used by the federal Center for Substance Abuse Prevention (CSAP) and their local trainers, the Western Center for Applied Prevention Technology (WestCAPT). The most recent version of this planning model is the Strategic Prevention Framework utilized by the new State Incentive Grant received in 2005. Although the steps in each of these models are described in different order and with different emphases, they are quite similar in their key components: coalitions of stakeholders mobilize their communities, they conduct needs assessments that include local data relating to substance use, and they make plans based on that data to determine the right evidence-based practices to implement.

Does better attention to the implementation steps of a planning framework lead to better prevention outcomes? This study represents an effort to start answering this question. Matching prevention programs to specific community contexts (contexts that differ widely in need, readiness, and capacity) is harder than it might seem, as demonstrated by the process evaluation of the 1999 Washington State Incentive Grant (SIG). The current study extends the scope of that qualitative evaluation by statistically testing for community-wide outcomes using quantitative data from youth surveys collected after the grant period ended.

Study Methods

Implementation Measures: Six Steps

The SIG evaluation measured the extent to which communities were successful on each of the following six implementation steps or components. Whether they:

1. Mobilized their communities, as measured by community coalitions inclusiveness, support and engagement
2. Conducted community-wide planning, including data assessment prior to strategic planning
3. Reached the target population with prevention services
4. Achieved broad program array with interrelated goals
5. Adopted evidence-based practices
6. Implemented programs with fidelity

Note: Two other components we measured in the original evaluation were NOT used in this study: program evaluation and sustainability. These mainly affect longer term outcomes, while this study tests for shorter term ones.

The six steps listed above were monitored by way of formal reports and were also observed directly by researchers in the qualitative evaluation of community prevention efforts.

Two researchers who had extensive cross-site responsibilities independently ranked each community on each of the implementation steps: one researcher using mainly quantitative data based on written reports from each site's project coordinators, the other using mainly qualitative data gathered by four full-time researchers over two years of observation and interviews in 2000-01.

Inter-rater reliability was tested by calculating correlations between the two independently derived rankings. Overall rankings agreed at a 0.68 correlation level, at 0.86 when two communities were excluded because either the qualitative or quantitative data were missing. Inter-rater reliability for any given component was weaker, varying from 0.53 to 0.60.

Hypothesized Criteria for Ranking Overall Level of Implementation




The next task was to develop a comparative ranking of communities based on an overall assessment of how each community performed on the six individual implementation steps.

During the fieldwork period of the SIG evaluation, the field team recorded their observations of how well the communities were implementing their grants. This rich qualitative data led us to hypothesize that the importance of implementation steps varied among types of communities.

In urban/suburban communities, we noted that overall implementation success seemed to depend on following carefully all implementation steps. In smaller or cultural communities, on the other hand, successful implementation derived mainly from the mobilization and engagement of key leaders. They based their decisions on shared community experiences.

Implementation theory does in fact predict that complex communities with successful implementation emphasize community readiness and follow all logical, data-driven steps. However, a growing body of research suggests that success for smaller rural communities and cultural/ethnic communities depends on "buy-in" among tightly knit groups. So, based on both theory and our fieldwork, we proposed the following overall ranking system.

Hypothesized Criteria for "Best, Average, Poor" Overall Levels of Implementation

CRITERIA VARIED BY TYPE OF COMMUNITY		
Three Main Levels	For Urban Communities	For Rural Cultural Communities
BEST=4 	Above adequate on all six necessary steps*	Community mobilization = HIGH
AVERAGE=5 	One poor step (one weak link in the logical chain)	Community mobilization = AVERAGE
POOR=6 	Two or more poor steps (weak links in the chain)	Community mobilization = LOW
Three Sublevels	Each main level can be subdivided by High, Medium, Low Program Fidelity	Each main level can be subdivided by High, Medium, Low Engagement

* Because of the lower inter-rater reliability of the discrete steps, we decided to be conservative and ranked a community as having an "adequate" level of implementation of each step only if the two researchers' rankings agreed.

Note: This results in 9 total sub-groupings of implementation as displayed in the charts.

For the best: HH=2, HM=2, HL=0 | **For the average:** MH=2, MM=3, ML=0 | **For the poor:** LH=1, LM=3, LL=2

We theorized that in small communities engagement of key community leaders can lead to good public-health-type decisions provided the decision-making was thoughtful and based on shared knowledge. It is their mobilization around this shared knowledge that leads to good implementation. In urban communities prevention partners may come from widely different segments of the community. In these communities, the discrete steps of the planning model need to be followed to arrive at an agreed-upon perspective prior to choosing an effective prevention program.

Testing Hypothesized Level of Implementation Against Outcomes

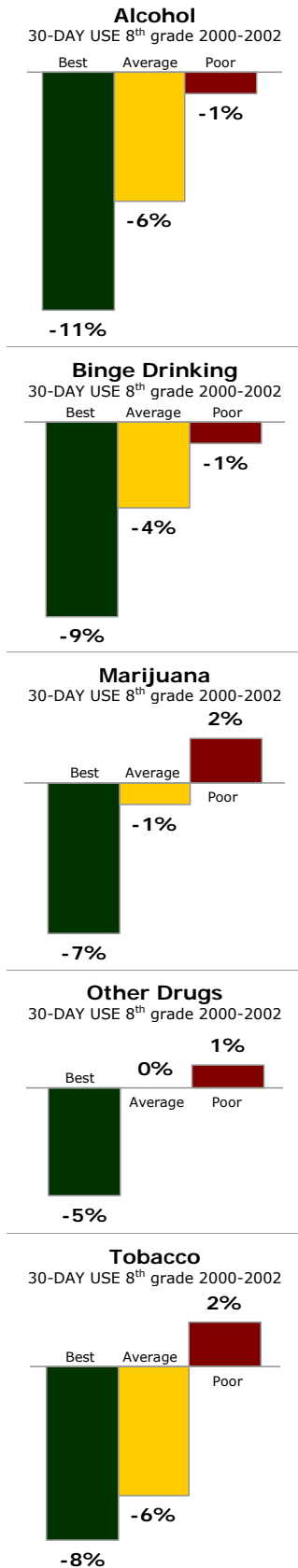
Using community-level youth survey data, we tested whether our theorized best implementers actually did achieve better outcomes, controlling for measurable differences in the youth and communities involved. *See Attachment 5 for comparison groups and statistical methods used.* Major findings are presented in the following pages of this report.

Testing Alternative Models of Levels of Implementation

Commonly used prevention frameworks do not differentiate between community types when they identify different planning processes or implementation steps as important. Our field observations – that urban or more impersonal settings employ different processes than small rural/cultural communities – flies in the face of standardized practice. Therefore, we tested alternative models of implementation quality without differentiating between urban and rural communities.

1. We found that alternate ways were NOT highly related to outcomes. *See Attachment 3.*
2. We investigated whether other possible combinations of implementation components were statistically better predictors of community-wide outcomes – i.e. provided a better empirical fit with the actual outcomes. We found that this was NOT the case. The best empirical predictors matched closely the hypothesized study criteria of level of implementation presented above. *See Attachment 4.*

Best Implementers had the Highest Community Wide Decreases in Substance Use Rates (2000-02 changes among 8th graders)



Prevention interventions funded by SIG occurred mainly in two years, the 2000-01 and 2001-02 school years, after an initial slow start during the Spring and Summer of 2000. So we focused on changes in substance use rates between the Fall of 2000 and the Fall of 2002.

Most of the SIG communities targeted their intervention efforts to middle school students and many of these youth were in 8th grade in the Fall of 2002, at the end of the funding period. So we focused on substance use changes among 8th grade youth.

We took the differences in various substance use rates between 2000 and 2002 among 8th graders to generate estimates of the impact of prevention efforts.

- The results displayed on the left show consistently larger decreases among best implementers for use of all substances: alcohol, marijuana, other “harder” drugs, and tobacco.
- Average implementers achieved smaller changes mainly in alcohol and tobacco use, while poor implementers revealed almost no change or actual increases in use.

Of course other differences between the communities could have affected the change in use rates, other than the level of prevention implementation. When we contrasted changes in rates for best and average implementers compared to those of poor ones, we statistically controlled for the effects of demographic and other community factors we knew were related to youth substance use.

THE STATISTICAL ADJUSTMENT

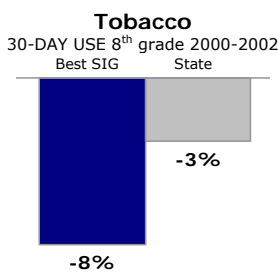
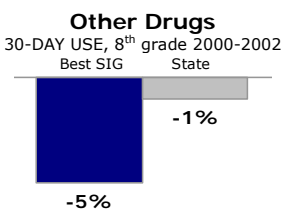
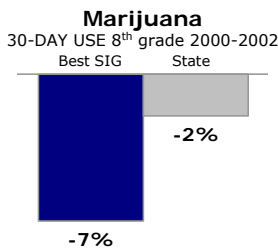
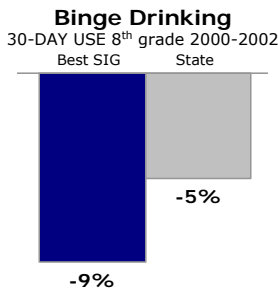
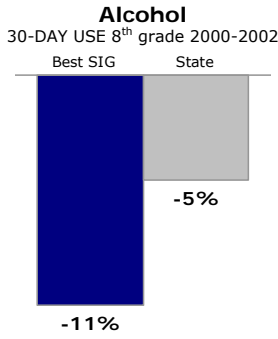
We had measures of race/ethnicity and gender and archival indicators of community-wide challenges: economic deprivation, school performance, school retention, family problems, child and family health, AOD availability, AOD problems and teen substance abuse.

- We still found large statistically significant results for best implementers for almost all substances, even after controlling for these other influential factors (see table below: Best vs. Poor). These results were not too surprising. We knew that the four best implementers confronted challenges similar or worse than ones present among all SIG funded communities (see page 7).
- Among average implementers the only significant difference in use rates was for tobacco (see Average vs. Poor, below).

30 Day Use	Best vs. Poor		Average vs. Poor	
	Effect*	Significance	Effect*	Significance
Alcohol	- 1.10	p = .0001	- 0.27	p = .18 n.s.
Binge Drinking	- 0.71	p = .03	- 0.25	p = .25 n.s.
Marijuana	- 1.17	p = .0001	- 0.18	p = .24 n.s.
Other Drugs	- 0.66	p = .03	- 0.03	p = .92 n.s.
Tobacco	- 0.50	p = .06	- 0.42	p = .001

*Effects are log-odd coefficients derived from logistic regression analysis of clustered data N=7,188 youth in 31 clusters or school districts

Decreases in Substance Use Were Greater for SIG Best Implementers Compared to the Rest of the State and Similarly Challenged Communities (2000-02 changes among 8th graders)



In the past few years we have seen general declines in substance use rates among all school youth in Washington State. This is probably due to changing societal, school and family norms but it is also due to more and better prevention activities.

It was important to assess whether good implementation of research-based prevention achieved better outcomes than other communities in the rest of the state and, in particular, a set of matched comparison communities.

- We found that the decreases in the use rates for best implementers were at least twice as large as those for the rest of the state. (See the left side of the page.)

THE STATISTICAL ADJUSTMENT

We estimated 2000-2002 differences in use rates among eighth graders for the rest of the state and calculated whether the extra differences for best SIG implementers were statistically significant. The results were statistically adjusted for demographic and other measured community differences and challenges.

- Statistically adjusted results show that best implementers had consistently higher changes in all measures of ATOD use compared to the rest of the state.

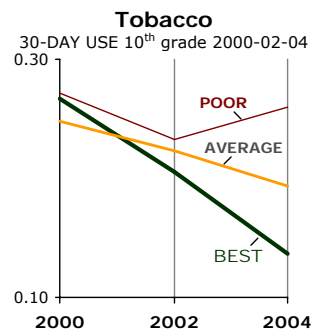
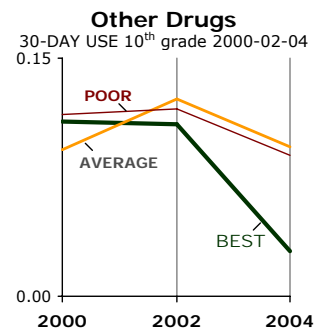
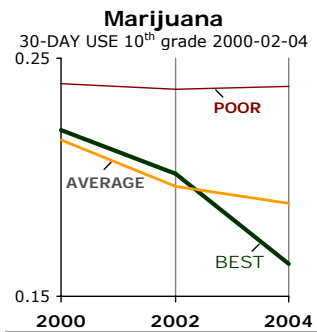
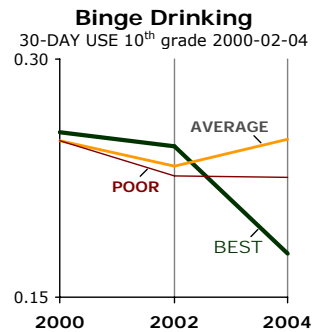
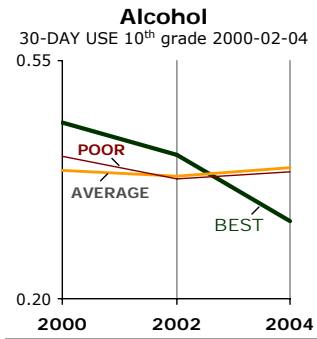
Statistical significance at the .05 level was achieved only for alcohol use, but we found a consistent pattern for other substances. Significance levels ranged from .10 for tobacco to .15 for binge drinking and marijuana, to .33 for other drugs. This is mainly due to the small sample of youth among best implementers (see table below: Best vs. State).

Similar results were obtained when comparing best implementers with other communities matched by cluster analysis on the closest pattern of challenging factors by school district. The largest decrease among best implementers was for alcohol use. Statistical significance almost reached the .05 level for alcohol (.06) for other drugs (.06) and for tobacco (.08, see table below: Best vs. Similar).

Statistical Significance of Differences in 2000-2002 Changes in ATOD Use: Best Implementers Versus Comparison Groups				
Change in 30 Day Use	Best vs. State		Best vs. Similar	
	Effect*	Significance	Effect*	Significance
Alcohol				
For the state or similar sites	- 0.29	p = .0001	- 0.18	p = .01
Extra change for best SIG	- 0.59	p = .004	- 0.46	p = .06
Binge Drinking				
For the state or similar sites	- 0.44	p = .0001	- 0.36	p = .0001
Extra change for best SIG	- 0.36	p = .16	- 0.19	p = .46
Marijuana				
For the state or similar sites	- 0.21	p = .14	- 0.09	p = .50
Extra change for best SIG	- 0.37	p = .16	- 0.38	p = .21
Other Drugs				
For the state or similar sites	- 0.23	p = .33	0	p = .98
Extra change for best SIG	- 0.20	p = .33	- 0.45	p = .06
Tobacco				
For the state or similar sites	- 0.26	p = .03	- 0.21	p = .03
Extra change for best SIG	- 0.31	p = .096	- 0.34	p = .08

* Effects are log-odd coefficients derived from logistic regression analysis of clustered data. For state comparisons n=26,501 and 144 clusters, for similar sites n=5,856 and 33 clusters.

Preventive Effects Carried Over to High School for SIG Best Implementers (2000-02-04 ATOD use among 10th graders)



Research on prevention suggests the strategic importance of preventing substance use among youth before they reach high school, assuming carry-over effects of early prevention into later years. Here we test whether these carry-over effects occurred in SIG communities.

Most youth we have been analyzing as 8th graders in 2002 were 10th graders in 2004 – except for the small number dropping out and transferring in or out of other school districts. So we examined if, in fact, substance use was lower among best implementers in this 2004 group of 10th graders compared to:

1. Previous 10th graders in 2000 and 2002, and
2. Average or poor implementers in those years.

We had such data for three of the four best implementers. Middle school youth in urban setting often go to different high schools.

We found that:

- Use rate trends among 10th graders in prior years, 2000 to 2002, reflected the general statewide trends, and were similar for all three SIG implementation levels: best, average, poor.
- Use rates dropped notably in 2004 among best implementers for all substances while they generally stayed the same or got worse for average and poor implementers.

2000-02-04 trends are displayed on the left of this page.

THE STATISTICAL ADJUSTMENT

We examined the extent to which observed differences between best implementers and other SIG communities were due to measurable characteristics other than implementation: demographics of 10th graders and community-wide challenging factors.

- Statistically adjusted differences in 2002-2004 use rates among 10th graders between best and poor implementers were all in the same direction and relatively large for all substances, except for the moderate difference for marijuana (see Best vs. Poor in table below).
- Statistically adjusted differences between average and poor implementers were all in the same direction, for all substances, but much smaller (see Average vs. Poor below).
- Coefficients for any one substance did not achieve traditional levels of statistical significance (.05 level). This was due to the small sample size for best implementers (n=195 in 2000) and small coefficients for average implementers. However, the pattern of these results (all coefficients being negative) was statistically significant.

Statistically Adjusted Differences in Changes of Rates of ATOD Use for 10 th Graders From 2002 to 2004				
30 Day Use	Best vs. Poor		Average vs. Poor	
	Effect*	Significance	Effect*	Significance
Alcohol	- 0.50	p = .03 Probability that all factors would be negative**	- 0.05	p = .03 Probability that all factors would be negative**
Binge Drinking	- 0.40		- 0.07	
Marijuana	- 0.27		- 0.14	
Other Drugs	- 1.04		- 0.17	
Tobacco	- 0.70		- 0.52	

* Effects are log-odd coefficients derived from logistic regression analysis of clustered data N=4,912 and 22 clusters

**If there were no effects attributable to SIG implementation (best vs. poor or average vs. poor) and the coefficients for the implementation regressors were truly zero, one would expect random variation to be as likely to result in a positive coefficient as well as a negative coefficient.

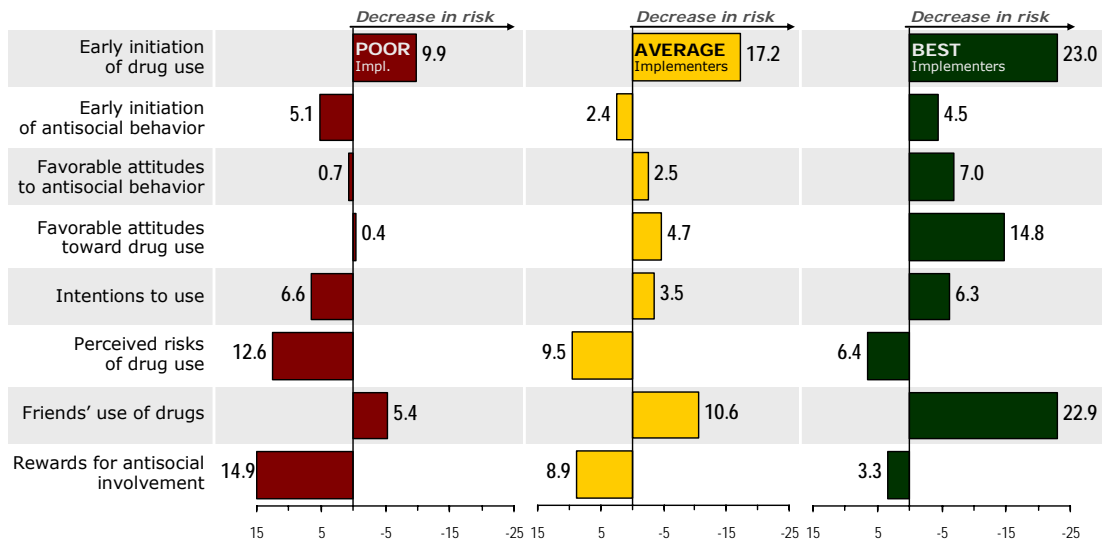
Risk and Protection Factors Improved for Best Implementers, Changed Less for Average Implementers and Got Worse for Poor Implementers (2000-02 changes among 8th graders)

Now we turn to find out whether other anticipated changes occurred as predicted by the theoretical model. The model suggests that prevention works best by reducing “risk factors” - ones that facilitate or encourage substance use behavior, and by increasing “protective factors” - ones that help protect persons from the influence of risks. These risk and protective factors exist in four domains: peer/individual, family, school, and community.

We had reliable, scaled measures of many of these factors since most are included in the student survey. We calculated the differences in the percentage of youth at risk or with protection in 2002 among 8th graders from those in 2000. We expected to find more favorable changes in risk and protection factors among best SIG implementers compared to average and poor ones. (See the graph below depicting changes in risk factors at the peer/individual domain; space limitations preclude displaying all the results).

Profiles of Changes in Peer/Individual Risk Factors from 2000-2002

By Level of Implementation



The major findings are:

- The risk-protection profiles showed larger positive changes for best SIG implementers compared to average and poor ones: larger decreases in risks and larger increases in protection. Poor implementers showed either no changes or changes for the worse.
- The magnitudes of the changes were large: some risks went down 12-23 percentage points and some protection factors increased 10-14 percentage points.

For best implementers – The following risk factors decreased the most:

Early initiation of drug use	By 23 percent (from 52 to 29 percent)
Friends' use of drugs	By 23 percent (from 53 to 30 percent)
Favorable attitudes towards drug use	By 15 percent (from 45 to 30 percent)
Perceived availability of drugs	By 12 percent (from 47 to 34 percent)
Favorable attitudes to antisocial behavior	By 7 percent (from 41 to 34 percent)
Intentions to use	By 6 percent (from 36 to 30 percent)
Low school commitment	By 4 percent (from 38 to 34 percent)

For best implementers – The following protective factors increased the most:

Social skills	By 14 percent (from 54 to 68 percent)
Rewards for pro-social involvement in schools	By 10 percent (from 43 to 53 percent)
Belief in the moral order	By 6 percent (from 56 to 62 percent)

Among poorer implementers – Risks that changed most for the worse were:

Rewards for antisocial behavior	That became more appealing
Perceived risks of drug use	That were seen as less important
Academic failure	That effected more youth

Among poorer implementers – The protective factor that decreased the most was:

Opportunity for pro-social involvement both with peers and within families

NOTE: Complete results, for all risk and protection factors, are available upon request.

Lessons Learned Include the Importance of Local Control, Cultural Sensitivity, Hands on Training and Coaching, Central Support in Evaluation and Overcoming Common Barriers

The SIG experience offers practical lessons that can help us improve implementation.

1. Sites that had local control and were more culturally sensitive fared better.

The role of community coalitions and their influence in selecting staff and programs was very important. Issues were most apparent when cultural differences were present. Two of the four best implementers were sites that had both local control and were culturally sensitive. A third best implementer learned fast:

“ . . . they didn't necessarily know the folks at the implementation sites; once they hired people with whom the schools were already familiar, things improved – enrollment increased in prevention programs, there was greater parental involvement, facilitators and students began to spend time together outside the programs, and they began community improvement programs.”

An innovatively changed program scored low on a traditional measure of program fidelity, but had highly positive, statistically significant outcomes.

Among three of the four poorest implementers, the relationship between the grantee and the implementation sites was distant, typically a county-level administration attempting to mobilize a local community or neighborhood. It was observed that grantees:

“ . . . didn't seem to have a history of a relationship with the people in the local sites who were running the programs . . . ”

“ . . . were out of touch with the implementation sites both interpersonally and structurally . . . ”

[Were] “ . . . imposing structure and defining relationships from above [that] usually met with resistance and resentment . . . ”

2. Technical assistance needs to have hands-on training and on-site coaching

This pioneering effort *[received]* *“ . . . a small technical assistance budget . . . ”*

“ . . . there was “paper implementation” of the prevention logic model, not much ‘hands-on coaching’ in the communities on how to put each step into practice . . . ”

“ . . . responses from Olympia and the U of W were often slow . . . there were many communication barriers . . . rarely face-to-face . . . ”

One urban community, one of the best implementers, *“really got it.”*

Research indicates that training that extends beyond theory, discussion, and practice, and also includes on-site coaching results in high implementation (see table below).

TRAINING COMPONENTS	Knowledge	Skill Demonstration	Use in the Classroom
Theory and Discussion	10%	5%	0%
. . . + Demonstration in Training	30%	20%	0%
. . . + Practice and Feedback in Training	60%	60%	5%
. . . + Coaching in Classroom	95%	95%	95%

SOURCE: Joyce and Showers, 2002.

3. “Central” support in monitoring performance and overcoming barriers is crucial

“ . . . tracking and monitoring implementation performance was left to researchers, but not often used to improve implementation.”

“ . . . meetings were mainly for reporting and getting new directions, not for sharing lessons learned . . . ”

Researchers noted “. . . often insufficient support in addressing barriers arising mainly among small urban and rural areas and ethnically diverse communities for:

- *Lack of transportation for youth*
- *Problems with staff-turnover*
- *Cultural/language adaptation of evidence-based programs*
- *Guidance in innovating, while maintaining major program components.”*

More collaborative planning across funding sources and local decision bodies was recognized as creating efficiencies in implementing prevention activities. Different data, language, planning, and reporting requirements created barriers:

- Between local representatives of different prevention programs and state agencies.
- Between small neighborhood communities, city and county planning groups

Efforts were started to facilitate more collaborative processes, standardizing planning timing and processes statewide, but they were largely in the “paper implementation” stage.

Recommendations Include Different Tasks for Local Areas, Central Organizations and State Policy Makers

In local areas

It is important that community coalitions be in touch with community needs, know the culture, and be engaged, thus encouraging grass-root support and remaining “ready” to organize and act.

Central and regional organizations

Authorities should offer on-site coaching, develop useful monitoring tools, and provide feedback on performance at the various steps of prevention implementation. They should also help remove commonly encountered barriers while supporting local control, engagement, and community appropriate innovations.

State policies

State agencies should continue developing and/or modifying policies to facilitate more collaborative planning among diverse planning bodies to make better use of prevention funding.

From Research to Practice

Report findings have already informed the implementation of new funding for research-based prevention in Washington State. New implementation strategies derived from lessons learned include: choosing community grantees based on community readiness and grassroots support, developing better training based on on-site coaching and mentoring, more focused monitoring of the implementation process and planning use of results along the way.

**Research Based Prevention Outcomes
Attachments**

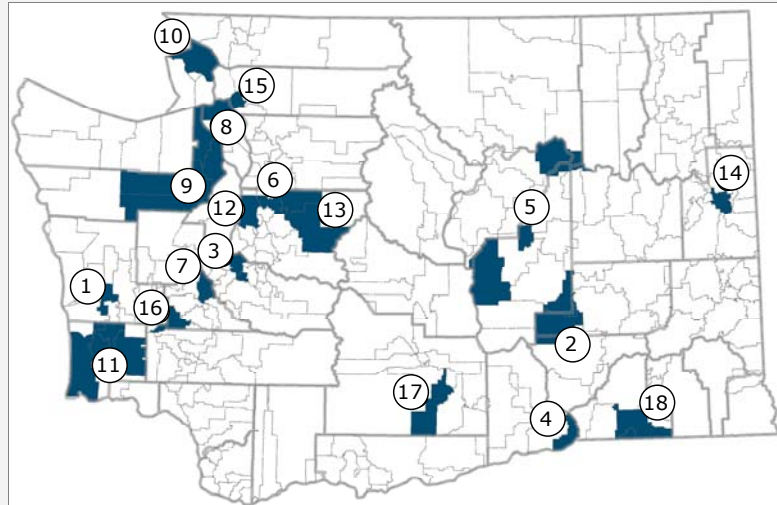


The 18 SIG Communities Represented Various Geographical Areas in the State and Were Representative of Most Ethnic/Racial Groups

Located in 18 communities across Washington State, the State Incentive Grants (SIG) provided funding to 18 communities, involving 25 school districts, for research-based prevention planning and efforts. Here we show the geographical distribution of the communities, yearly dollar amounts of the grants, and characteristics of the youth served.

State Incentive Grant (SIG) Communities

Underway late-1999 through mid-2002



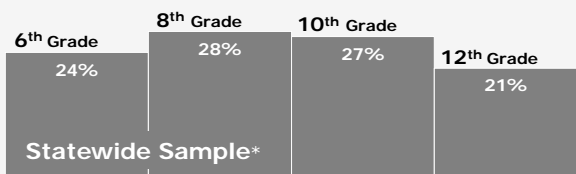
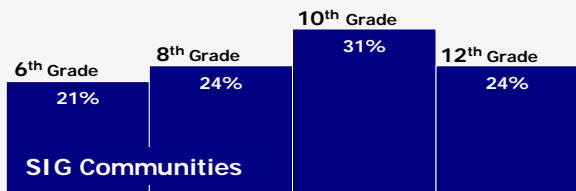
SIG Recipient

- 1 Aberdeen School District
- 2 City of Othello
- 3 Crossroads Treatment Center
- 4 Educational Service District 123
- 5 Grant County Prevention and Recovery
- 6 Lake Washington School District
- 7 North Thurston School District
- 8 Oak Harbor School District
- 9 Olympic Educational Service District 114
- 10 Orcas Island School District
- 11 Pacific County Health & Human Services & Willapa Children's Service
- 12 Seattle Public Schools
- 13 Snoqualmie Valley Community Network
- 14 Spokane County Community Services
- 15 Swinomish Tribe
- 16 Together! Rochester Organization of Families
- 17 Toppenish Police Department/City of Toppenish
- 18 Walla Walla County Department of Human Services

County	Targeted Youth	Amount*
Grays Harbor	570	\$ 77,287
Adams	700	79,632
Pierce	690	117,471
Benton	320	107,534
Grant	530	143,120
King	670	125,074
Thurston	2,050	105,190
Island	1,420	138,266
Jefferson	540	116,272
San Juan	140	69,626
Pacific	640	67,000
King	400	129,458
King	1,650	164,195
Spokane	420	121,359
Skagit	150	94,525
Thurston	440	85,402
Yakima	660	103,404
Walla Walla	880	79,867

*The amounts represent annual program service costs. The total grant of \$8.9 million was distributed over a four-year time span.

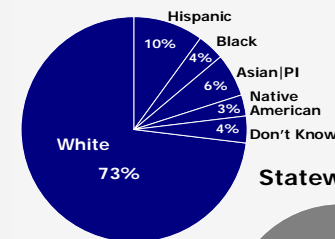
Year in School



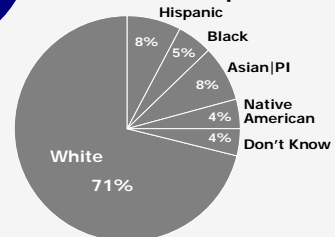
*Minus the few SIG school districts that were part of the statewide sample.

Race | Ethnicity

SIG Communities



Statewide Sample*



Gender was equally distributed between male and female



Some of the Best SIG Implementers Began with the Greatest Community Challenges

Frequent concerns about external validity of prevention outcomes are the following: “Are the successful outcomes among best implementers due to implementation efforts or due to other favorable community characteristics? Did they face fewer challenges to begin with? Would the positive outcomes occur in our “worse” communities, those facing the greatest challenges?” To answer these concerns in the prior sections we presented the results of statistical adjustments, ones that checked whether outcomes occurred even after controlling for some of these other community characteristics. However, we did not show how these characteristics were distributed among the SIG pilot communities and among the SIG best implementers.

To do this we had to discover how “challenging characteristics” were distributed in all the communities in the state. Since SIG communities frequently had school district boundaries, we analyzed the frequency in which all districts in the state were clustered from “better-off,” to “worse-off” based on known challenges. We did a statistical cluster analysis of school district data on extreme economic deprivation, racial/ethnic composition, school performance, school retention, family problems, child and family health, AOD availability, AOD problems and teen substance abuse. These factors and related archival indicators were derived from prior research that found them associated with higher substance use among adolescents.²

We found that four major classes of school districts existed in the state in the year 2000, those:

BETTER OFF (18 percent of districts): Community was economically well off, students had good school performance and high retention rates. The community measured low in family problems, low in teen substance abuse, and had fewer AOD problems.

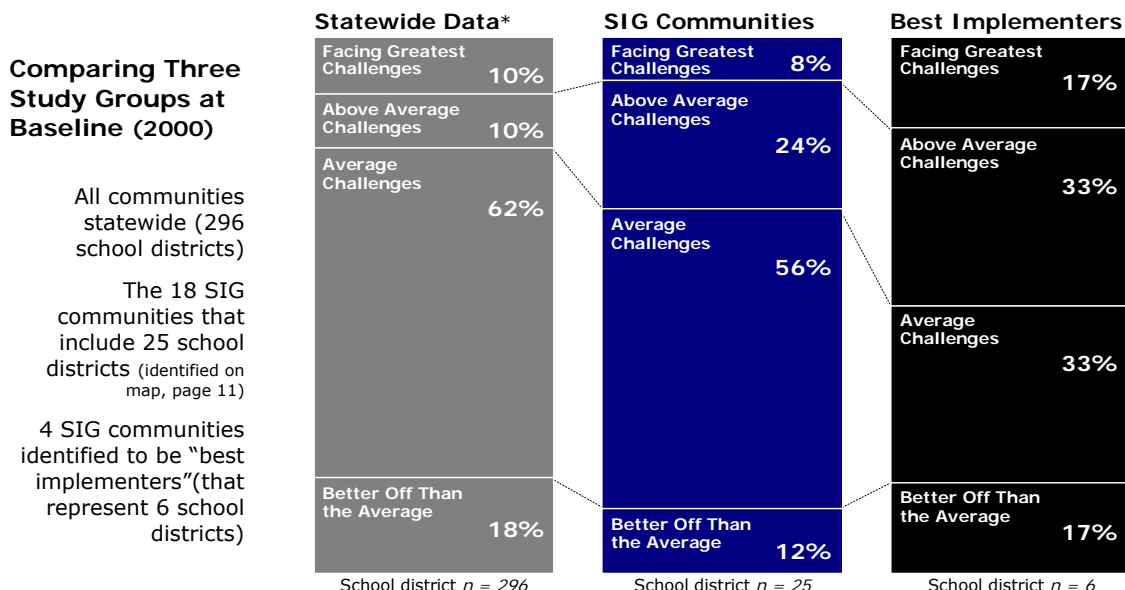
AVERAGE (62 percent of districts): Community had average poverty levels and average scores for teen substance abuse. Measures showed one of three factors – child and family problems, school problems, or AOD problems – scored high.

BELOW AVERAGE (10 percent of districts): Community was poor, with high AOD availability. Family problems scored high.

WORSE OFF (10 percent of districts): Community was poor and scored high in AOD problems and teen substance abuse. School performance and retention was poor, and the community had higher percentages of Hispanic and American Indian residents.

We then found that the 18 SIG communities represented twenty five different school districts who faced slightly more challenges than the state as a whole (see graph below).

The best implementers represented six school districts a large proportion of which faced even greater community challenges (see “Best Implementers” in the chart below).



*Minus the few SIG school districts that were part of the statewide sample.

² Kohlenberg, Barga, Becker, Flewelling, Kabel, “Local Geography Risk Factor Validity Analysis with Recommendations for Local CORE-GIS Profiles,” Washington State Department of Social and Services, Research and Data Analysis, July 2004.

Other Conceptual Definitions of Levels of Implementation Were Weakly Related to Patterns of Changes in ATOD Use

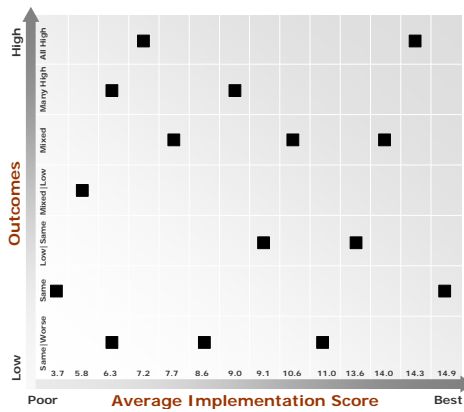
We first present post-hoc results of alternative definitions due to the innovative/controversial nature of our definition of ‘best’ implementers. We tested, post-hoc, whether alternative ways of conceptualizing levels of implementation were better related to community-wide outcomes. Since these alternative ways are deemed to apply to all communities we took *all the SIG communities together*, the 15 for which we had substance use outcomes, *without distinguishing between larger urban ones and smaller rural/cultural ones*.

ALTERNATIVE 1

Average score across all six steps

We calculated the overall average rank for each community across all six implementation components. This is theoretically meaningful if we assume that all components are equally important and we believe that doing better on some implementation component can compensate for doing poorly on others (like Grade Point Average in schools).

- It was not related to the pattern of outcomes: correlation of .08, explaining less than 1 percent of the variance in the patterns of ATOD use.

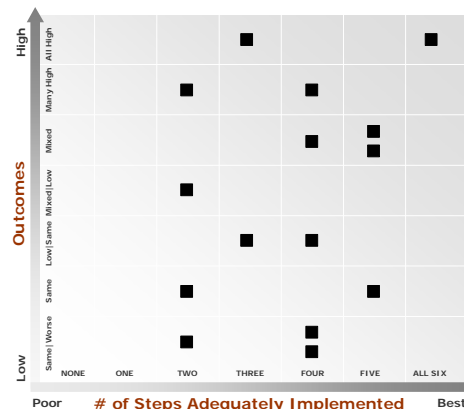


ALTERNATIVE 2

Number of steps implemented adequately

We calculated the number of steps that were implemented above a certain threshold (since we only had ranked data we chose the rank above the bottom third). This is a measure that stresses the logical interdependence of all components: if one or more are not adequately implemented the entire effort is compromised and may totally fail.

- It was only weakly related to the patterns of outcomes: correlation of .24, explaining only 6 percent of the variance in ATOD use.

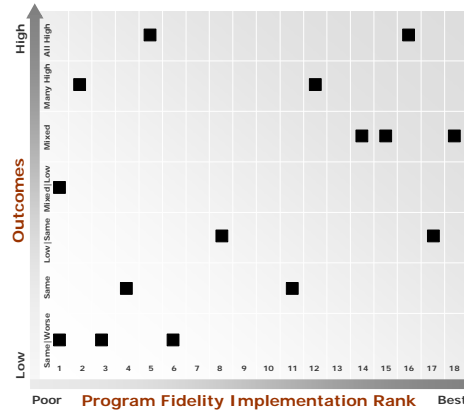
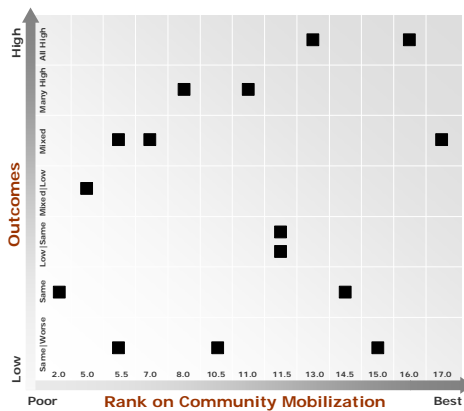


ALTERNATIVE 3

Certain steps are important: community mobilization or program fidelity or both

Some researchers have identified community mobilization as most important, usually in the form of an active, engaged, inclusive community coalition. Others stress that program fidelity is the most important, regardless of community context or organizational/planning factors, since “science based” programs have been shown to be effective.

- Mobilization and fidelity factors by themselves or taken together, across all communities, were also weakly related to outcomes: correlations of .19, .38, and .39 respectively, explaining only 4, 14, and 15 percent of the variance in ATOD use patterns.

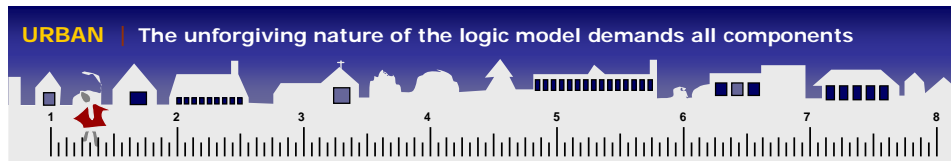


A Best Fit Analysis Found that Different Measures of Level of Implementation Were Most Related to Patterns of Changes in ATOD Use in Urban versus Rural/Cultural Settings

We next differentiated larger urban communities from small rural/cultural ones, then conducted best-fit analysis and found that:

In urban settings, two components were most related to outcomes:

1. Implementing all steps adequately (or at best missing only one), and
2. Achieving high program fidelity
 - Bivariate correlations with ATOD use were .82 and .79 respectively. The multiple correlation of the two with ATOD use was .89, explaining 79 percent of the variance.



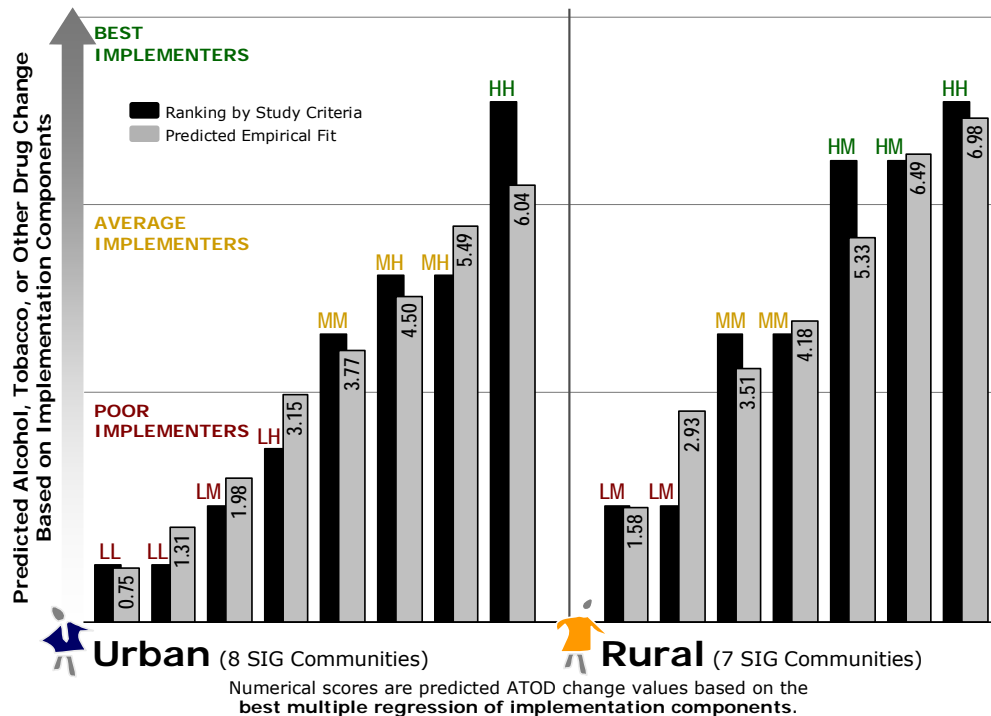
In rural/cultural group settings, two features were highly related to outcomes:

1. Community mobilization and engagement
 - Bivariate correlations with ATOD use were .81 and .38 respectively. The multiple correlation of the two with ATOD use was .88, explaining 77 percent of the variance.



Conclusion: Factors that were empirically most related to outcomes were the same ones identified as important based on qualitative findings on the process of implementation and the theoretical importance of 'context'. Furthermore the percent of variance explained were similar: 88 percent for the study criteria and 79 and 77 percent using empirical best-fit criteria.

The chart below compares implementation rankings among the eight urban SIG communities and the seven rural/cultural ones using study criteria (black bars) and best-fit criteria (grey bars). The rankings were very similar: the use of best-fit criteria produced similar rankings.



RESEARCH METHODS USED FOR THESE ANALYSES

Research Design: In the research literature on prevention outcomes “*Design inadequacies have [also] been noted. These include insufficient numbers of communities, poor specification of outcomes, inflated expectations regarding the size of the intervention effects, and weakness in the planning and implementation of the interventions . . . along with lack of standards regarding the nature of the intervention across participating sites and the many uncontrollable factors that may also influence community-level rates of substance use.*”³

Findings in this report were generated using research methods which had various desirable features:

1. A quasi-experimental design composed of the following:
 - A detailed, two-year process evaluation that captured some of the main challenges encountered in implementing evidence based practices. -These challenges were deemed responsible for the great variety of level of prevention implementation actually occurring among the 18 communities;
 - More than one-year follow-up on outcomes, 2002 and 2004 compared to the 2000 baseline year;
 - Specific individual data on characteristics and outcomes of all 8th and 10th graders and community contextual data on a relatively large number of SIG communities and comparison communities;
 - Two comparison groups: a group of matched communities and the rest of the state.
2. Statistical modeling that allowed for the “clustered” nature of student responses (using the “SURVEYLOGISTIC” SAS procedure). We controlled for two possible confounding effects:
 - Differences in the demographic composition of youth in each community; and
 - Differences in community contextual characteristics known to be related to rates of teen substance use.
3. Well measured variables:
 - The independent variable, level of prevention implementation based on six implementation steps reliably ranked independently from a set of qualitative (observation/interview) data on local processes of implementation and from written reports and quantitative data;
 - Dependent variables, with standard measures of outcomes – five 30 day ATOD use questions asked in the same way on the youth school survey administered every two years;
 - Intermediate variables – reliable scales of risk and protective factors.
4. Detailed process evaluation of implementation in local communities and statewide that could generate insights on practical lessons to increase the number of communities successfully implementing evidence based prevention.

Research Limitations: The major limitation, one that we could not control, was the small sample of best implementers. This affected the statistical significance of some of our results. Findings based on statistical trends need to be replicated with larger sample sizes.

Furthermore, only one of the eight larger urban communities became a best implementer. Lessons learned about what works in urban communities are based on only one successful case. More research is needed to ascertain other factors leading to best implementation among these communities, particularly ones affecting cultural/ethnic communities that exist in large urban settings.

WHAT PREVIOUS ANALYSES HAD FOUND

In the aggregate, average SIG outcomes for all 15 SIG communities were no better than the rest of the state or a set of similar communities (average 2000-02 changes among all 8th graders).

This was expected since only four of the 15 SIG communities implemented prevention in a way that promised to be effective. Many SIG communities did prevention poorly and their risk factors got worse through time, rather than better, leading to increases in substance use, not decreases.

The process evaluation report published in March 2003 found that much more and better technical assistance was needed and was not provided on building effective local community coalitions, developing partnerships, and using data for planning. Central authorities also missed helping local communities in concrete ways: in overcoming barriers related to transportation, high costs of program purchase and training providers, and sharing learning experiences among the “pioneers.”

³ Flewelling, et al, *Implementing Research-based Substance Abuse Prevention in Communities: Effects of a Coalition-based Prevention Initiative in Vermont*, Journal of Community Psychology, Volume 33, Number 3, pp 333-53, 2005.



WASHINGTON STATE

State Incentive Grants | SIG

This report examines what prevention steps in 18 Washington communities were more effective in reducing community-wide use of alcohol, tobacco and other drugs among middle school youth.

Four communities were classified as “best implementers”: one urban, two rural, and one cultural community.

The four **best implementers demonstrated large decreases in all types of substance use** (alcohol, binge drinking, marijuana, tobacco, and other drugs) among 8th grade youth in 2002 and among 10th grade youth two years later.

Results confirmed that **community mobilization was the key to success** among small rural and cultural communities.

Adequate implementation of all the steps in currently accepted prevention models and **high fidelity in program implementation** were most important for urban communities.



RDA Research & Data
Analysis Division