Promoting Alternatives to the Use of Seclusion and Restraint

Issue Brief #2

Major Findings from SAMHSA's Alternatives to Restraint and Seclusion State Incentive Grants (SIG) Program

MARCH 2010

About the Series:

Promoting Alternatives to the Use of Seclusion and Restraint

The Substance Abuse and Mental Health Services Administration (SAMHSA) has developed, in collaboration with partners at the Federal, State, and local levels, consumers, and national advocacy organizations, a series of issue briefs on the use of seclusion and restraint. The purpose of this series is to provide information on the use of seclusion and restraint throughout the country, efforts to reduce their use, and their impact at the individual/family, program, and system levels. For an overview of the background and history of the initiative to reduce the use of seclusion and restraint, please refer to the first issue brief in the series, entitled Promoting Alternatives to the Use of Seclusion and Restraint—Issue Brief #1: A National Strategy To Prevent Seclusion and Restraint in Behavioral Health Services*, which is available at* **http://www.samhsa.gov/matrix2/seclusion_matrix.aspx.**

Introduction

Over the past decade, there has been a significant shift in attitude and practice on the use of seclusion and restraint in mental health treatment settings. In 2002, the Substance Abuse and Mental Health Services Administration (SAMHSA) identified the reduction and eventual elimination of seclusion and restraint in mental health and substance abuse treatment as a key priority. Accordingly, SAMHSA developed the Alternatives to Restraint and Seclusion (ARS) State Incentive Grants (SIG) program, with the purpose "to support States in their efforts to reduce and ultimately eliminate the use of restraint and seclusion in institutional and community-based settings that provide mental health services (including services for people with co-occurring substance abuse and mental health disorders)" (Center for Mental Health Services, 2004).

This issue brief, the second in a series on the use of seclusion and restraint, provides a summary of evaluation data from this first cohort of State grantees funded through SAMHSA's ARS SIG program.

SAMHSA's SIG Program

Overview

The ARS SIG program provides recipients with funding over a 3-year period to:

1. Increase the number of programs that adopt best practices involving alternative approaches to the use of restraint and seclusion, including staff training models and other multifaceted approaches; and
2. Collect data to document the program's impact on reducing seclusion and restraint use and adoption of alternative practices.

Eligibility

Eligible applicants included States, the District of Columbia, territories, and federally recognized American Indian tribal governments with jurisdiction over mental health issues. Applicants had to be not-for-profit organizations and had to serve adults with serious mental illness or children or youth with serious emotional disturbance. In addition, applicants had to demonstrate the capacity to collect and report data, including seclusion and restraint incidences, to the Protection and Advocacy for Individuals with Mental Illness (PAIMI) program.

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Grant Awards

In 2004, SAMHSA awarded a maximum total of $237,000 per year to each grantee for up to 3 years. Grantees for the first round of the ARS SIG program included State mental health authorities in the following States: Hawaii, Illinois, Kentucky, Louisiana, Maryland, Massachusetts, Missouri, and Washington. Technical assistance was provided to the States through a contract with the National Association of State Mental Health Program Directors (NASMHPD) National Technical Assistance Center, now referred to as Office of Technical Assistance (OTA).

The model implemented by all eight grantee sites in the first round was based, with minor variations, on the *Six Core Strategies for Reducing and Eliminating Seclusion and Restraint*©, developed by OTA [For details, please refer to http://www.nasmhpd.org/publicationsOTA.cfm]. The *Six Core Strategies*© include Leadership; Debriefing; Use of Data; Workforce Development; Tools for Reduction; and Inclusion of Consumers, Family Members, and Advocates. Though not explicitly the original intent, the ARS SIG evaluation served additionally as an assessment of the effectiveness of the *Six Core Strategies*©.

Evaluation of the SIG program

Evaluation Questions

Evaluation questions related to the ARS SIG program included:

1. Do interventions based upon research evidence ("best practices") have a positive effect in reducing rates of seclusion or restraint?
2. Does the magnitude of this effect vary according to characteristics of facilities/programs (e.g., mission, size, ownership) and of the population they serve (e.g., clinical and demographic characteristics)?
3. Does the magnitude of the reduction effect vary according to the extent to which components of best practice interventions were fully implemented as planned (with fidelity), with greater fidelity resulting in more positive outcomes?
4. Does the magnitude of the reduction effect vary according to a combination of site characteristics and fidelity?
5. Is there a relationship between consumer injuries and seclusion and restraint rates?

Table 1: Facility Type

Facility Type (n=43)	
Free standing psychiatric facility	79.0%
Residential program	7.0%
Other types of facilities/programs	14.0%

Table 2: Facility Size

Facility Size (n=43)	
50 or fewer beds	20.9%
51-100 beds	27.9%
101-200 beds	27.9%
More than 200 beds	23.3%

Table 3: Facility Population

Facility Population (n=43)	
Adults	72.1%
Children and adolescents	9.3%
Adults and children/adolescents	18.6%

Methods

Evaluation Participants. The unit of analysis for the evaluation was the individual facility. Evaluation data were collected on 43 (82.7 percent) of 52 facilities that participated in the first round of the SAMHSA-funded ARS SIG and the consumers within those facilities.

These 43 facilities were from seven of the eight States of ARS SIG program. (Note: Hawaii, which had seven facilities included in the grant program, had considerable variability in how the program was implemented across the State. As a result, the State's data could not be combined with the larger dataset for analysis). As reflected in Table 1, the majority of the facilities were freestanding psychiatric facilities. Table 2 shows that, although the facilities varied in size, the majority of facilities (approximately 56 percent) had between 51 and 200 beds. Finally, Table 3 illustrates that the majority of the facilities served adults.

Data Collection and Instruments. The following four types of data for the period from 2003 to 2007 were collected during the evaluation:

Characteristics of the facility (e.g., mission, size), gathered using an instrument known as the Facility/Program Characteristics Inventory (FPCI);

The extent to which elements of the *Six Core Strategies*© were implemented by the facilities over time, as measured by a fidelity scale developed for the project and entitled the *Inventory of Seclusion and Restraint Reduction Interventions* (ISRRI);

Individual consumer-level information for all admissions to the facility during the study period; and

Consumer-level information on individual seclusion and restraint events.

Analytic Methods. Analytic methods used for the evaluation consisted of an assessment of fidelity to the *Six Core Strategies*© in each facility based on ISRRI scores and measurement of changes in seclusion and restraint rates across facilities using a linear modeling and meta-analytic approach.

Fidelity Assessment. Fidelity is an important concept in assessing the effectiveness of a program such as the *Six Core Strategies*©. If an evaluation identifies no effect of the program, without assessment of fidelity it is impossible to determine whether this is because the program is intrinsically ineffective or because it was poorly implemented. The ARS fidelity instrument, the ISRRI, contains 138 items representing specific activities in the six domains (i.e., Leadership, Debriefing, Use of Data, Workforce Development, Tools for Reduction, Consumer/Family/Advocate Involvement) and a separate domain of Oversight/Witnessing of the *Six Core Strategies*©.

For example, an item in the Leadership domain is that the facility has a written policy that identifies seclusion and restraint reduction as a goal, while an item in the Tools for Reduction domain is that the facility has a sensory/comfort room. Facilities were required midway and near the end of the project to identify which items had been implemented and the date of implementation. This made it possible to create an implementation trend line for each facility and to group the facilities according to patterns of implementation process as represented by the shape of the trend line. This process resulted in five categories:

Stable implementation: Facilities that reached a predetermined threshold (20 percent of items), then leveled off with no further increase or decrease for at least 4 months (n=28);

Continuing implementation: Facilities that reached the threshold and continued to increase but had not sustained implementation for 4 consecutive months by the end of the grant period (n=7);

Discontinued implementation: Facilities that had reached the threshold but subsequently dropped below the threshold (between the first and second administration of the ISRRI) (n=1);

Decreased implementation: Facilities that reached the threshold then declined by 10 percent or more (n=5); and

Never implemented: Facilities that never crossed the 20 percent threshold (n=2).

Meta-Analysis. Meta-analysis, generally speaking, is a method commonly used to combine (synthesize) results from multiple studies, which individually might have had diverse results due to differing features of each study, in order to identify an overall measure of effectiveness that is independent of study differences. Use of the meta-analysis for the ARS evaluation was based on the assumption that individual facilities were analogous to separate studies. Combining the results of the *Six Core Strategies*© in all facilities, taking into account differences among the facilities, provided a measure of the effectiveness of the program independent of these unique facility characteristics.

The meta-analysis synthesized the effect of the *Six Core Strategies*© on seclusion and restraint rates in the facilities as a group, taking into account differences among the facilities and their populations that might influence the relative effectiveness of the program at particular sites.

Dose-Effect Analysis. A dose-effect analysis assessed the relationship between the degree of implementation and changes in seclusion and restraint rates over time.

Major Findings

The majority of the facilities (n=28, 65.1 percent) reached stable implementation of the *Six Core Strategies*© at the end of the project period.

Seclusion Rates

Of the 28 facilities that reached stable implementation, 20 (71.4 percent) were able to reduce seclusion hours per 1,000 treatment hours by an average of 19 percent (p=.001). These facilities were also able to reduce the percentage of consumers secluded by an average of 17 percent (p=.002). Of the 20 facilities, 16 facilities (80.0 percent) significantly reduced seclusion hours per 1,000 treatment hours (p<.10); while 12 facilities (60.0 percent) significantly reduced the percentage of consumers secluded (p<.10).

Facilities that reached stable implementation showed a greater decrease in seclusion hours per 1,000 treatment hours between pre- and post-implementation than facilities in the other implementation groups (r=.88; p=.02). However, facilities that were still attempting to implement the *Six Core Strategies*© at the end of the project (but had not reached stability) showed the greatest decrease in the percentage of consumers secluded (r=.40; p=.03) in comparison to the facilities in the other implementation groups.

Restraint Rates

More than half of the 28 facilities that reached stable implementation (n=15, 53.6 percent) were able to reduce restraint hours per 1,000 treatment hours by an average of 55 percent (p=.083), while 16 of the 28 facilities (57.1 percent) in this group were also able to reduce the percentage of consumers restrained by an average of 30 percent (p=.027). Thirteen facilities (86.7 percent) significantly reduced restraint hours per 1,000 treatment hours (p<.10), while 9 facilities (56.2 percent) significantly reduced the percentage of consumers restrained (p<.10).

Facilities that reached stable implementation showed the greatest decrease in restraint hours per 1,000 treatment hours between pre- and post-implementation compared to facilities in the other implementation groups (r=.46; p=.05).

Seclusion and Restraint Rates Relative to Facility Characteristics

An examination of data relative to characteristics of the facilities/programs showed significant reductions in *seclusion* hours per 1,000 treatment hours and the percentage of consumers secluded across facilities with different missions, specialties, security, ownership, size, and receipt of technical assistance and site visits. There were similar reductions in *restraint* hours per 1,000 treatment hours and the percentage of consumers restrained across facilities with different missions, specialties, security, population, and number of site visits.

Results Specific to the Proposed Evaluation Questions

Specific to the proposed evaluation questions, results showed the following:

- Interventions based upon research evidence ("best practices") ***do*** have a positive effect in reducing rates of seclusion or restraint. The strength of the evidence base for the various components of the *Six Core Strategies*© is mixed; however, all strategies attain the level of expert consensus in the field of seclusion and restraint reduction.
- The magnitude of this effect varies ***to a limited degree*** according to characteristics of facilities/programs (e.g., mission, size, ownership) and of the population they serve (e.g., clinical and demographic characteristics).
- The magnitude of the reduction effect ***generally does*** vary according to the extent to which components of best practice interventions were fully implemented as planned (fidelity), with greater fidelity resulting in more positive outcomes. Although there were a few exceptions, in general, facilities with stable implementation showed more significant reductions in seclusion and restraint than the other categories of implementation.
- The variability of the extent to which rates were reduced in relation to site characteristics and fidelity was ***indeterminate***, as the number and variety of the facilities were not sufficient for data analysis.
- The relationship between consumer injuries and seclusion and restraint rates is ***undetermined***, due to the need for further investigation.

General Conclusions

Overall, the SAMHSA ARS SIG program was successful in both implementation and outcomes, in that a large majority (95 percent) of facilities/programs succeeded in implementing evidence-based strategies to some extent, and most achieved a degree of reduction in seclusion and restraint rates. More specifically, the evaluation results of the first cohort of SAMHSA ARS SIG grantees demonstrate notable reductions in the use of seclusion and restraint in facilities/programs where effective approaches and tools, specifically those included in the *Six Core Strategies*©, were consistently implemented. These reductions were observed across various types of facilities and with a variety of consumer populations.

Strengths and Limitations of the SIG Evaluation

Outcome Data. The evaluation described within this issue brief provides an overview of outcomes for the first cohort of SAMHSA's ARS SIG program. Limitations are inherent in the evaluation of the implementation of strategies within a complex program in real world settings, as it is difficult to control for extraneous variables (e.g., community context, program characteristics, and characteristics of the clients) that may impact outcomes. In addition, at the national level, reduction of seclusion and restraint has been a high-profile issue for policymakers and advocates, and programs may focus on this issue regardless of the receipt of grant funding to address the issue. Finally, rates of seclusion and restraint could have been affected by broader trends such as changes in the characteristics of the Nation's inpatient population or macroeconomic factors that might have affected, for example, characteristics of inpatient facilities such as staffing patterns.

Strengths of this evaluation include the ability to measure the effect of the intervention as well as the fidelity to the intervention (using the ISRRI). In addition, in response to the limitations related to extraneous variables, data on characteristics of consumer population were statistically adjusted.

Generalizability. A limitation on the generalizability of findings is that only 2 of the 43 facilities were private psychiatric hospitals, as opposed to State-owned facilities. Generalizability is enhanced, however, by the use of licensed data formats from the NASMHPD's Research Institute Behavioral Healthcare Performance Measurement System©, which allows for comparability with any facility maintaining Joint Commission accreditation. Additionally, any such facility may use the public-domain ISRRI to assess implementation status in relation to outcomes (see http://www.ars.samhsa.gov).

Apart from being primarily State owned, the facilities were rather heterogeneous, as were the consumer populations within, which helps to enhance the generalizability of the findings. In addition, to ensure that this diversity did not diminish the measured impact of the *Six Core Strategies*©, a random effects model was used during analysis.

Next Steps

Next steps based on findings to date include assessing whether some of the specific domains of the *Six Core Strategies*© may have a greater effect than others on decreasing seclusion and restraint. Particularly in the current climate of severe resource constraints in which allocation of resources must be prioritized, there is a tremendous need for knowledge about which activities will return the greatest value.

It is also critical to gain a better understanding of which barriers and facilitators affect the degree of implementation of ARS strategies. Given the clear relationship between the degree of implementation and the achievement of successful outcomes, an understanding of contextual factors that determine an organization's capacity to implement effective strategies will have a great impact on the goal of reducing the use of seclusion and restraint everywhere.

Finally, an evaluation of the second cohort of grantee communities will be conducted, providing the opportunity for comparison across a larger number of sites. Information from this evaluation will provide further insight into the degree to which grantees are implementing the *Six Core Strategies*© and the impact of this implementation on reducing the use of seclusion and restraint.

The reduction of seclusion and restraint in mental health and substance abuse care continues to be a high-priority issue throughout this country. Individuals continue to be injured needlessly because of unsafe seclusion and restraint practices. The evaluation described within this issue brief provides some of the first outcome data specific to the use of alternative strategies within mental health settings. Although much research is still to be done in this area, the data within this evaluation provide a significant step forward in demonstrating solid evidence that supports the use of alternatives to seclusion and restraint.

References

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