State Agency Policy and Program Coordination in Response to the Co-Occurrence of HIV, Chemical Dependency, and Mental Illness

Beth Meyerson, MDiv, PhD[a]
Bong-Chul Chu, MHA, PhD[a]
M. Valerie Mills, PhD, MSW[b]

SYNOPSIS

The co-occurrence of HIV infection, chemical dependency, and mental illness challenges federal and state governments to develop flexible and coordinated health policy and financing for public health services. State agencies play a critical role in the organization and support of these services at the local level. With emerging stress upon state government budgets and concomitant increasing need for publicly funded services, state agency coordination may be an important policy safety net to assure services for populations at the margins of health systems. Despite this important potential role, nothing is known about the degree to which state HIV, substance abuse, and mental health agencies coordinate policies and/or programs in response to these co-morbid conditions.

Objective. This study sought to establish a conservative and initial understanding of state HIV, substance abuse, and mental health agency coordination of policy and program in response to the co-occurrence of HIV, chemical dependency, and mental illness.

Method. Estimation of coordination was accomplished through the comparison of three surveys conducted among state substance abuse directors (1998), state AIDS directors (1999), and state mental health directors (2000). Data from 38 states were reviewed.

Results. The most frequently reported state agency activities included coordinating funding, engaging in integrative planning activities, and conducting staff cross-training. When compared for association with state characteristics, coordination among state agencies was found to be associated with Early Intervention Services (EIS) designation, higher rates of AIDS generally, higher rates of AIDS among African Americans, and higher rates of AIDS among Hispanic populations. Given the limitations of comparing three disparate surveys, we determined the estimate of interagency coordination to be conservative and preliminary.

Conclusion. While this study was useful as an initial step toward identifying state interagency policy and program coordination in response to the co-occurrence of HIV, chemical dependency, and mental illness, there were methodological challenges that should be addressed in future studies of state agency coordination. Several recommendations were advanced.

[a]Policy Resource Group, LLC., Warrenton, MO

[b]Substance Abuse and Mental Health Services Administration (SAMHSA), Rockville, MD

Address correspondence to: Beth Meyerson, Policy Resource Group, LLC,.25832 Sheperd Glen Lane, Warrenton, MO 63383; tel. 636-456-5100; fax 636-456-3760; e-mail <Bmeyerson@policyresourcegroup.com>.

"The more we know about HIV transmission, the more we know we need to improve collaboration and understand each others' approaches."[1]

HIV, mental illness, and chemical dependency interact in complicated ways to escalate the level of risk for or severity of disease.[2–8] Their co-occurrence disproportionately affects women, ethnic and racial minorities, and people who are economically disenfranchised.[9,10] Low income populations depend upon publicly funded programs for their primary care and for specialized treatment to address chemical dependency, mental illness, or infectious disease. Often these people live with multiple and confounding health issues, and therefore require health services that address their co-occurring health conditions.[11,12]

Coordination of health services for HIV, substance abuse, and mental health requires flexible and cooperative health systems and policy; however, our extant systems of health care in the U.S. are not sufficiently lithe to respond to the complex health needs of populations. Health policy is often disease-focused, resulting in isolated systems of care.[11–13] In spite of structural and policy isolation, there are several examples of community- or hospital-based programs that attempt to coordinate HIV, substance abuse, and/or mental health services.[3,4,10,14–16] The continued success of local projects such as these requires a health policy environment that reinforces coordination across the customarily distinct public programs of HIV, substance abuse, and mental health services.

State agencies are important actors in the creation of policy incentives for coordination among HIV, mental health, and substance abuse public health systems due to their role in the organization and financing of health services. State substance abuse and mental health agencies have an opportunity to create change through federal public financing favoring state autonomy in substance abuse and mental health services, and state AIDS programs are permitted under some categorical federally funded programs to coordinate HIV with substance abuse and/or mental health services. In spite of the importance of state activity to coordinate services, state-level interagency policy and program coordination is not well understood.[1] (Unpublished data, Meyerson BE, Policy Resource Group, LLC., Warrenton, MO; 2000. Toward the development of a model to predict state agency collaboration.)

From 1998–2000, the Substance Abuse and Mental Health Services Administration (SAMHSA) conducted and/or financed separate surveys among state HIV, substance abuse, and mental health program directors to identify (among other things) whether and how coordination was occurring between and among the state-level programs. Surveys were conducted among state substance abuse directors in 1998,[17] among state AIDS directors in 1999,[1] and among state mental health program directors in 2000.[18] The three surveys were developed at different times, by different organizations, and for different survey audiences. Though extant survey instruments were shared in the course of survey development, each survey was unique. The primary focus of the substance abuse survey instrument was not state-level coordination among substance abuse, HIV, and mental health programs; however, several items in the survey instrument measured state agency coordination activity. The survey conducted among state AIDS directors was informed by the substance abuse director survey instrument, and measured the coordination of state HIV, mental health, and substance abuse agencies. The survey of mental health directors measured state mental health agency coordination with state substance abuse and HIV agencies.[18]

These three surveys were important yet distinct measures of state HIV, mental health, and substance abuse agency coordination. Each survey identified several important issues for policy leaders concerned with the development of coordinated policy and programs. However, due to differences in survey instruments and respondent populations, they could not establish a shared understanding among state directors across these disciplines with respect to interagency coordination occurring at the state level. A shared understanding of state HIV, mental health, and substance abuse agency policy and program coordination needed to be established. Investigators and SAMHSA anticipated that the extant surveys had the potential to provide the data necessary for such an endeavor, and that such a comparison could inform future and more comprehensive evaluations of state interagency coordination. This article reports the findings of a comparison among the three surveys of state agencies to establish a preliminary understanding of policy and program coordination among state HIV, substance abuse, and mental health agencies in response to the co-occurrence of HIV, chemical dependency, and mental illness.

METHODS

The study objectives included the identification of policy and program coordination among state substance abuse, HIV, and mental health agencies, and the examination of the relationship between selected state characteristics and reported coordination behaviors. Survey items selected for inclusion in this study were those that matched among the three surveys.

Coordination was defined as the coordinating behavior reported across all three surveys on a selected item.

A qualitative analysis of the survey instruments was conducted to identify items that matched exactly, as well as those items with correlated meaning ("fuzzy match"). The fuzzy match items were recoded to accommodate a precise match. Table 1 contains the final set of coordination variables grouped by investigator-selected category.

Several state characteristics were selected for comparison with coordination variables based on the contributions of organizational theory[3–6,14,19–21] and the interests of a federal work group convened by SAMHSA. Selected state characteristics included state organizational structure measured by a code system representing the arrangement of state agencies within the state cabinet,[18] the percent of substance abuse facilities offering services for persons with HIV,[22] U.S. region and metropolitan designation, whether the state was designated as an early intervention services (EIS) state, AIDS case rates by state and for African American and Hispanic subpopulations,[23] and four FY99 federal allocations to states: (*1*) the Community Mental Health Block Grant (SAMHSA), (*2*) the Substance Abuse Prevention and Treatment Block Grant (SAMHSA), (*3*) the HIV prevention grant to states (Centers for Disease Control and Prevention), and (*4*) the Ryan White Title II grant combined with the AIDS Drug Assistance Program grants to states (Health Resources and Services Administration).

Table 1. Survey variables selected for comparison across three surveys by investigator-selected category

Written agreements
- Existence of memorandum of agreement (MOU)
- Existence of qualified service agreement (QSA)

Joint planning
- Participation on an interagency task force
- Participation on HIV-prevention community planning group
- Participation on Ryan White planning council or consortia

Solicit information from the other agencies for grants or plans
- HIV agency solicitation of other agencies
- Substance abuse agency solicitation of other agencies
- Mental health agency solicitation of other agencies

Funding coordination
- Agencies produced joint funding announcements
- Agencies coordinated funding

Joint initiatives
- Agencies sponsored staff development or cross-training

The sample was comprised of the 38 states that completed the HIV survey, the mental health survey, and Part I of the substance abuse survey. Sample states represented all regions of the country. Of the sample, 68% (26 states) possessed an EIS designation, and the sample was generally metropolitan in designation when using the Office of Management and Budget (OMB) designation for states with population centers of at minimum 50,000 people. *EIS* refers to early intervention services for HIV. EIS is an annual SAMHSA designation for states that have a minimum AIDS case rate of 10 per 100,000 population. States designated as such are required to direct between 2% and 5% of the substance abuse prevention and treatment block grants toward early intervention services among substance abuse clients with HIV. The terms *EIS* and *set aside* are often used interchangeably.

Data were analyzed and reported through descriptive statistics, bivariate correlations, ANOVA, chi-square, and multiple regressions. A multiple regression (MR) was conducted to identify whether each of the selected state characteristics was associated with greater frequency of reported coordination activity after adjusting for the effects of other variables included in the models. The MR was also intended to examine how a combination of the state variables could jointly explain the pattern of coordination activity (e.g., R^2 statistics). For the purpose of conducting a series of bivariate analyses, chi-square tests were used to examine the relationships between state characteristics and reported coordination behaviors (yes/no). Then bivariate correlations and ANOVA were examined to identify the relationships between each state characteristic and the number of reported coordination activities, and bivariate correlations examined the relationships between state characteristics themselves. Correlations above $+/-0.40$ were noted when they were significant at the 0.05 level.

RESULTS

Coordination was conservatively defined as agreement across all three surveys on a particular item. A key finding from this study was the lack of agreement among surveys on matched items. No survey item measuring coordination was found to have agreement across all three surveys for all states in the sample. As noted in Table 2, the survey item with the most agree-

Table 2. Frequency of agreement among surveys on selected variables (*n*=38)

Variables	*Frequency (percent)*
Mental health agency solicits input from other agencies on grants or plans	29 (76.3%)
Existence of qualified service agreement	27 (71.1%)
Existence of memorandum of understanding	19 (50.0%)
Substance abuse agency solicits input from other agencies on grants or plans	17 (44.7%)
Agencies coordinate funding	15 (39.5%)
Participation on HIV-prevention community planning groups	14 (36.8%)
Participation on Ryan White consortia or planning councils	14 (36.8%)
Agencies produce joint funding announcements	13 (34.2%)
HIV agency solicits input from other agencies on grants or plans	12 (31.6%)
Task force or other coordination mechanism	11 (28.9%)
Staff development or cross-training	11 (28.9%)

ment was whether the mental health agency solicited input from the other agencies on grants or plans, and this agreement was found in 76.3% of the states. Closely following was the item measuring whether the state agencies had a qualified service agreement in place regarding interagency coordination. Here, survey agreement was observed for 71% of the states.

Disagreement among surveys was controlled by coding only items with agreement across all three surveys as a reported coordination. This data management technique, though useful for analysis, resulted in a conservative estimate for reported interagency policy and program coordination. This approach was chosen in view of the methodological challenges inherent in the study.

The mean number of cumulative and reported state interagency coordination activities out of the possible 11 measured was 1.7 (standard deviation [SD] 1.4, range 6) for the period of 1998–2000. There were no agreed upon and reported interagency coordination behaviors for nine states (see Table 3).

Interagency policy and program coordination was measured by several self-reported organizational behaviors. Written agreements delineating interagency relations (memoranda of understanding or qualified service agreements), participation in joint planning efforts (interagency task force, HIV-prevention community planning group, or Ryan White planning council or consortia), agency solicitation of input for the development of grants or plans, coordination of funding, and the conduct of staff cross-training were measured expressions of interagency coordination.

Table 3. Cumulative state interagency coordination behaviors (n=38)

Number of coordination behaviors	*Frequency of states reporting*	*Percent*	*Cumulative percent*
0	9	23.7	23.7
1	10	26.3	50.0
2	8	21.1	71.1
3	8	21.1	92.1
4	2	5.3	97.4
6	1	2.6	100.0
Total	38	100.0	

Table 4 reports the frequency of coordination reported for particular comparison items after controlling for disagreement. The most frequently reported activity was the coordination of funding, which was reported by 31.6% of states. While findings do not clarify the meaning of "coordination of funding," it appears that it does not mean the procurement of projects through coordinated funding announcements,

Table 4. Frequency of state agency coordination (*n*=38)

Coordination activity	*Frequency (percent)*
Written agreements	
Memorandum of understanding	2 (5.2)
Qualified service agreement	0 (0)
Joint planning	
Task force or other mechanism	9 (23.7)
Participate on HIV-prevention community planning group	10 (26.3)
Participate on Ryan White consortia or planning councils	3 (7.9)
Solicitation of input for grants or plans	
HIV solicitation of others	5 (13.2)
Mental health solicitation of others	1 (2.6)
Substance abuse solicitation of HIV	11 (28.9)
Funding coordination	
Production of joint funding announcements	0 (0)
Coordinate funding	12 (31.6)
Joint initiatives	
Conduct staff development or cross-training	11 (28.9)

as no state reported this behavior. Staff cross-training was reported by 28.9% of states, and 28.9% of states reported the solicitation of input by the substance abuse agency for the development of grants or plans. Participation on an HIV-prevention community planning group was reported by 26.3% of states, and 23.7% of states reported participation on an interagency task force to achieve coordination.

The relationship between state characteristics and reported interagency program and policy coordination was investigated three different ways: state characteristics were associated with each of the selected survey items measuring interagency coordination, state characteristics were associated with the cumulative reported interagency behaviors by category, and state characteristics were associated with the cumulative reported interagency behaviors. Three interagency activities were found to be associated with state characteristics: state development or cross-training, participation on an interagency task force, and solicitation of input from other agencies by the HIV program (see Table 5). The state characteristics of note ($p \leq 0.05$) included the level of substance abuse block grant funding to the state, EIS designations, and rates of AIDS generally and among African American and Hispanic populations.

The examination of the association of state characteristics with cumulative interagency coordination behavior by category found that states reporting joint planning activities tended to have EIS designations ($F=7.5$; $p \leq 0.01$) and metropolitan designations ($F=5.1$; $p \leq 0.05$). States with higher mean rates of AIDS among African Americans tended to report activities related to the coordination of funding ($F=3.9$; $p \leq 0.001$).

When examining the relationship of state characteristics with cumulative reported coordination activity (e.g., number of reported behaviors out of the 11 measured), it was found that states reporting higher cumulative numbers of activities to coordinate programs and policies across agencies tended also to possess four particular state characteristics. Moderate bivariate correlations were observed for EIS designation ($r=0.44$; $p \leq 0.01$), state AIDS case rate ($r=0.48$; $p \leq 0.001$), AIDS case rates among African Americans ($r=0.66$; $p \leq 0.001$), and AIDS case rates among Hispanic populations ($r=0.43$; $p \leq 0.01$).

A multivariate regression model examined independent effects of the covariates in the model. Strong bivariate correlations were observed between several state characteristic variables, suggesting colinearity in a regression model. State AIDS case rates were highly correlated with AIDS rates among African Americans ($r=0.83$; $p \leq 0.001$), and with HIV prevention grant funding ($r=0.81$; $p \leq 0.001$). Ryan White Title II/ADAP (AIDS Drug Assistance Program) funding was highly correlated with HIV prevention grant funding ($r=0.94$; $p \leq 0.001$). State characteristics selected for input were those that were moderately to strongly correlated with the number of reported coordination activities, and statistically independent of the state characteristics considered for the regression model. To systematically examine the extent of multicollinearity/independence among the selected indicators measuring the state characteristics, each of these independent variables was regressed on all of the other independent vari-

Table 5. Associations observed between interagency coordination and state characteristics (*n*=38)

Coordination behavior	*State characteristic*	*Test statistic*
Staff development or cross-training (0 or 1)	AIDS rates among African Americans (continuous)	$F=3.4$[a]
Participation on an interagency task force (0 or 1)	Substance abuse block grant funding level (continuous)	$F=5.8$[a]
HIV solicitation of other agencies for grants or plans (0 or 1)	EIS designation (0 or 1)	$X^2=4.29$[a]; OR=.38
	AIDS rates among African Americans (continuous)	$F=2.73$[c]
	AIDS rates among Hispanic Populations (continuous)	$F=4.82$[b]
	State AIDS rates (continuous)	$F=12.37$[b]

[a] $p \leq 0.05$

[b] $p \leq 0.01$

[c] $p \leq 0.001$

able(s). None of the cases exceeded standard R^2 cutoff levels (i.e., 0.64 and 0.36 for the tolerance), implying that there were not serious colinearity problems among the selected independent variables.[24] These characteristics included EIS designation and AIDS rates among African Americans. AIDS rates among African Americans were observed to be the strongest of epidemiologic measures correlated with the level of coordination (r=0.66; $p \leq 0.001$), and as such was the only epidemiologic variable entered into the model given the colinearity with state AIDS rates and AIDS rates among Hispanic populations.

A hierarchical regression was conducted, entering AIDS rates among African Americans followed by EIS designation to control for the effects of each variable. Through this approach, we assessed the extent of decomposition of the effects of the covariates in the model. The criterion was F to enter 0.05 and F to remove 0.10. Results indicated that AIDS rates among African Americans accounted for 42% of the variance in number of reported coordination activities (adjusted R^2=0.42; $p \leq 0.001$). The addition of EIS designation was neither appreciable nor statistically significant. When the order of entry was reversed in a subsequent regression, EIS and AIDS rates among African Americans accounted for 41% of the variation in reported coordination activity (adjusted R^2=0.41; $p \leq 0.001$). A partial F test was significant (F=12.59; $p \leq 0.05$), suggesting the remaining importance of EIS as an important variable for future analyses.

DISCUSSION

This project examined one method of measuring policy-related activities across complex institutions. We presented the findings from a comparison of extant surveys, and will consider the challenges emerging in the study as suggestions for future approaches to measuring coordination across state agencies. Despite method challenges, a conservative and preliminary estimate of state interagency policy and program coordination was established, and several state characteristics were found to be related to the estimate of interagency coordination.

A primary finding was that state agencies did not agree on the coordination behavior that was measured. This finding was not entirely surprising given the time lapse between surveys (up to one year), the discrete nature of the surveys, the potential variation in respondent information regarding coordination activity, or the probable diversity of interpretation of coordination. The observed disagreement reflects the general lack of consensus regarding the definition of terms in the literature,[1,4,10,12,14,19,21] and points to the central limitation of the study, which was one of measurement. Measures of self-reported perception aside, the question remains as to whether disparate surveys provide an accurate estimate of coordination. It is prudent to state that observed and reported agreement forms a conservative and preliminary estimate of state interagency policy and program coordination; however, such an estimate is not precise and may not be accurate, given the potential unreliability of these measures. Notwithstanding, the agreement is noteworthy and may suggest continuity of coordination activity during the 1998–2000 time period, particularly among states with higher rates of HIV generally, and among African Americans and Hispanic populations. Future, more careful analyses would be required to confirm this notion.

Findings indicate that disagreement among states with regard to program and policy coordination may be of greater importance than the actual reported and agreed-upon coordination behaviors. The low level of agreement among state agencies on selected variables demonstrates the need to establish common understanding or agreement regarding what constitutes state agency coordination, and may also highlight the importance of evaluating agency coordination using one survey tool and reconciling for conflicting responses at the time of report. The validity of estimation of coordination can be improved in terms of its interpretations/meanings when we confirm that the disagreement did not actually come from measurement error or other sources of error, but from the real differences in thoughts among the agencies. Implementing precise wordings and placing consistent time frames among the three surveys would reduce the noise to a certain degree.

This study brings forth the challenge associated with the assessment of coordination activities, particularly when evaluating the behavior from the perspectives of the actors involved and over disparate time periods. As with the realities of coordination, the research design was less than perfect. Data had to be reduced and recoded, and several coordination behaviors could not be measured or represented because they were not measured by each survey, or the directors themselves did not agree on the coordination behavior being measured. Initiating this study with extant data sets, as challenging as it was, produced an understanding of state-level coordination among HIV, substance abuse, and mental health agencies, and reinforced the need to conduct evaluations with all actors (HIV, substance abuse, and mental health directors) simultaneously.

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