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Focus on alcohol & drug abuse: improving service delivery for individuals with co-occurring disorders: new perspectives on the quadrant model

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Abstract

This column summarizes findings of a study that examined the usefulness of the quadrant model for improving service delivery for persons with co-occurring disorders. The authors discuss treatment recommendations, goals and barriers related to delivering care, policy recommendations for implementing evidence-based interventions, and strengths and limitations of the model. They conclude that although the quadrant model is useful for conceptualizing systems-level factors for improving delivery, its further development is unlikely to result in improved care at the clinical level. They call for research to develop and implement evidence-based practices targeted to specific populations of persons with co-occurring disorders.

Numerous models have been advanced for dealing with the complexities of diagnosing and treating co-occurring mental and substance use disorders. Principal among these is the quadrant model, which focuses on improving service delivery for individuals with co-occurring disorders by establishing a common conceptual framework to guide systems integration and resource allocation (1).

As originally published, the model categorized individuals into four quadrants: low and high substance use severity crossed with low and high severity of mental illness (2). [A graphic illustration of the quadrant model is available as an online appendix to this column at ps.psychiatryonline.org.] Severity was not explicitly defined but was understood as dysfunction in psychological, cognitive, social, and job performance. Further developments of the model mapped broad service settings to the four quadrants, providing a mechanism for addressing symptom severity and the level of coordination of the service system on a continuum from less severe to more severe disorders and from consultation and

collaboration to integrated services, respectively. In a study published in *Psychiatric Services* last year, the quadrant model was shown to be a feasible multistate tool for articulating the characteristics and service use patterns of individuals with co-occurring disorders (3).

Drawing on this framework, in 2002 the Substance Abuse and Mental Health Services Administration (SAMHSA) presented a landmark report to the U.S. Congress that outlined the need for a coordinated, integrated response to the special needs of persons with co-occurring disorders (4). Congress responded by appropriating funding to develop State Incentive Grants for Treatment of Persons With Co-occurring Substance Related and Mental Disorders, also known as Co-occurring State Incentive Grants (COSIG). The COSIG program provides funding to states to develop or enhance their infrastructure and capacity to provide “accessible, effective, comprehensive, integrated and evidence-based treatment services” to persons with co-occurring disorders; the program is based largely on the quadrant framework (5).

In a study funded by SAMHSA, we examined the utility of the quadrant model for guiding the efforts of federal and state policy makers and program administrators seeking to improve service delivery for individuals with co-occurring disorders. In a review of the literature published between 1990 and 2006, we found a number of studies to be particularly helpful in characterizing quadrant I (low severity of substance abuse and mental illness) (6–8), quadrant II (low severity of substance abuse and high severity of mental illness) and quadrant III (high severity of substance abuse and low severity of mental illness) (3,9), quadrant IV (high severity of both disorders) (10–13), and all quadrants (4,14,15). We then organized a Listserv for an expert panel of 50 clinical, policy, and research experts and federal, state, and local program staff. Panel members were selected on the basis of their expertise and experience related to diagnosing and treating co-occurring disorders. Between January and July 2006, we asked the panelists to complete four sets of e-mail exercises on critical aspects of the literature review. The RAND Human Subjects Protection Committee approved the research protocol, and informed consent was obtained from the panelists.

In this column we present the findings from the literature review and expert panel exercises in four sections—treatment recommendations, goals and barriers related to delivering care, policy recommendations for implementing evidence-based interventions, and strengths and limitations of the quadrant model—followed by our conclusions in regard to the model’s usefulness.

Recommendations for persons with co-occurring disorders

The expert panelists had different views on how to define and operationalize severity of both mental disorders and substance use disorders. Although the panelists agreed that certain populations of persons with co-occurring disorders are most likely to be encountered in a particular treatment system, they also noted that most co-occurring disorders populations could be encountered in more than one treatment system. Panelists’ responses enabled us to develop a number of treatment recommendations for individuals with co-occurring disorders that span the continuum of care. The recommendations for screening, assessment and diagnosis, treatment, and support for recovery apply to individuals with substance abuse or

dependence who do not have severe mental illness. The recommendations can be implemented in any treatment system. [A table listing these recommendations is available as an online appendix to this column at ps.psychiatryonline.org.]

Goals and barriers related to delivering care

Drawing on additional feedback from the panelists, we then developed a composite picture of the goals and barriers for delivering recommended care for co-occurring disorders across the main operational systems components identified in the literature review: financing arrangements, regulatory and accreditation requirements, information system capacity, work-force qualifications, and community and consumer involvement. The goals at each level of the system reflect stakeholders' interests in standardizing the policies, programs, and processes that have an impact on care for co-occurring disorders across service delivery systems. For example, the panelists noted that providers should be able to bill for all recommended components of treatment services across the continuum of care, that states should develop and adopt a universal set of licensing requirements for all care providers, that requirements for clinical data should be standardized across the systems of care, and that providers in all systems should receive adequate preparation for interaction with patients who have co-occurring disorders and be fluent with relevant assessment and screening tools and diagnostic terminology.

The expert panel also identified a number of barriers to achieving these goals that illustrate the significant, multilevel differences that exist between the substance abuse treatment system and the mental health system as well as serious limitations that permeate both systems. For example, system-specific funding streams, such as federal block grants, prevent substance abuse treatment providers from accessing funding for mental health care; licensing requirements and confidentiality regulations for substance abuse treatment providers and mental health care providers are separate; standardized assessment and screening tools that can be used by both substance abuse treatment providers and mental health care providers are lacking; and workforce preparation for effective service delivery for co-occurring disorders is inadequate in all systems of care at all levels.

Policy recommendations

Rather than planning for service improvement by quadrant, panelists recommended planning for service improvement by use of evidence-based clinical principles for treatment matching, in which the readiness level of the client guides the level and type of intervention. We identified six evidence-based interventions that appear to have a strong likelihood of improving service delivery for individuals with co-occurring disorders regardless of service setting: screen for substance use, psychiatric disorders, and risk of harm to self and others; if screening is positive, refer to a licensed addiction and mental health professional with experience in co-occurring disorders for further assessment; before the referral, ensure that clinical information can be shared between providers and that follow-up on the referral can be done with both the provider and the consumer; determine one or more appropriate providers of services on the basis of clinical need; collect and integrate performance, quality improvement, and outcomes information about both mental health and substance use

problems; use the best medication available that matches the needs of the patient and presumptive diagnoses. We note that these practices need to be operationalized at the clinical level before they can be implemented effectively.

We then outlined specific steps that federal and state policy makers should take to meet the system requirements for effective implementation of each evidence-based intervention. [A table listing these steps is available as an online appendix to this column at ps.psychiatryonline.org.] For example, for the first intervention we recommend the following policy changes: enhance flexibility of Medicaid funding to cover comprehensive screening; reform the current design and implementation plan for the National Health Information Infrastructure to better address needs for information, care, and support; and offer incentives to providers to use information technology more widely for clinical care support. Many of the policy recommendations overlap with those of the Institute of Medicine (14).

Strengths and limitations of the quadrant model

The quadrant model is an important framework and training tool for systems planners and providers interested in improving service delivery for individuals with co-occurring disorders. By offering a shared terminology and common understanding of co-occurring disorders across the mental health and substance abuse treatment fields, the model illustrates the diversity of the population with co-occurring disorders, the fluctuations over time in the conditions of persons with co-occurring disorders, the range of interactions between the two conditions, and ways to integrate care across systems. In addition, by drawing attention to the fact that different populations of persons with co-occurring disorders typically receive care in different systems, the model helps to promulgate the view that each of these systems has responsibility for its particular population.

However, the model falls short with respect to guiding improvements in the delivery of treatment services for co-occurring disorders at the clinical level. Because of the lack of clarity with respect to the definitions of severity and the lack of correspondence between quadrants and specific treatments and treatment settings, the model cannot be relied upon for discrete decision making about treatment of specific patients at the clinical level.

Conclusions

Although the quadrant model is useful for conceptualizing systems-level factors that continue to impede high-quality service delivery for individuals with co-occurring disorders, the results of this study suggest that further development of the quadrant model is unlikely to result in improved care for co-occurring disorders at the clinical level. Rather, in order to attain the highest levels of service quality to which the field aspires, a number of different actions are required.

In the near term, federal and state policy makers can implement specific policy changes to promote the use of evidence-based clinical interventions that are appropriate for the majority of patients with co-occurring disorders. The recent funding by Congress of the COSIG,

Policy Academy, and the Co-occurring Center for Excellence initiatives represent initial steps that should be continued and used to develop further efforts.

Over the longer term, additional studies should be conducted that focus on operationalizing evidence-based practices at the clinical level and developing treatment protocols for each element of recommended care. These protocols should explicitly identify what evidence-based practices need to be implemented for which specific co-occurring disorders population, by whom, when, and how these practices will be funded. Providers, policy makers, and researchers should work together to determine the content of each protocol. Equally, if not more importantly, these stakeholders should also work to develop performance and quality improvement measures and incentives that track, monitor, and support improved outcomes of care, not just the protocols and process of care. Ideally these measures would provide specific real-time feedback to clinicians and administrators on outcomes and would be used for continuous quality improvement.

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