

Value-Based Insurance Designs in the Treatment of Mental Health Disorders

Alesia Ferguson, PhD; Christopher Yates, BA; and J. Mick Tilford, PhD

The rising cost of healthcare over the last few decades does not equate to better health outcomes for residents of the United States compared with those of other countries, suggesting considerable waste in the system.¹ Strategies are required to improve efficiency in healthcare by improving health outcomes and containing costs while simultaneously maintaining standards of quality and satisfaction. Investments in those conditions and services that demonstrate the best opportunities to provide value should be considered. Changing the environment to prevent behaviors that contribute to the development of disease is one promising approach, as are improved strategies for effective healthcare delivery.² The concept of value-based insurance design (V-BID) is an example of a valuable healthcare delivery strategy with the potential to improve health outcomes at a lower cost.

The literature to date has primarily focused on V-BID in healthcare for the management of chronic disease.³ Some V-BIDs have been implemented through large firms working with insurance companies and employees to incentivize adherence to medication, healthy lifestyles, and other primary and preventive strategies.^{4,6} However, V-BIDs are not unique to private insurance and can be implemented in public insurance through Medicaid and Medicare.^{7,9} The expansion of healthcare services using insurance exchanges presents viable opportunities for implementing new strategies for healthcare delivery, including V-BIDs.¹⁰

This article describes the application of V-BID for mental health care services. The literature is sparse in discussions of implementing V-BID for the treatment of mental health disorders, including implementing best practices and the associated challenges. We first present an overview of V-BID and its challenges, along with a discussion of the health and societal cost implications of mental health disorders in the United States.

ABSTRACT

Objectives: To explore the feasibility of applying value-based insurance designs (V-BIDs) to the treatment of mental health disorders and address any additional challenges posed.

Study Design: Literature review.

Methods: This study consisted of 3 steps. First, we reviewed the historical literature on V-BIDs and challenges revealed by various programs. Second, we reviewed the literature on the cost, scope, and various treatment options for mental health disorders. Third, we analyzed potential challenges in applying V-BIDs to mental health disorders.

Results: Many challenges exist in applying V-BID to the management and treatment of physical and mental health disorders, such as getting buy-in from insurance companies and from large employers, and adherence issues for those with diminished capabilities to comprehend program benefits and those lacking family support. Additional challenges specific to mental health disorders include: a) privacy (ie, sensitivity issues) in implementing the program in certain settings; and b) sociodemographic variables, along with perceptions of mental disorder severity and need that currently affect the take-up of mental health services.

Conclusions: Research projects focused on applying V-BID to mental health disorders that address these challenges and demonstrate cost savings will be needed (ie, comparative effectiveness research studies), along with additional information on changes in disability-adjusted life-years, and on-demand responses across different mental health services, populations, and care settings.

Am J Manag Care. 2016;22(1):e38-e44

METHODS

This study consisted of 3 steps. First, we reviewed the historical literature on V-BIDs and challenges revealed by various programs. Second, we reviewed the literature on the cost, scope, and various treatment options for mental health disorders. Third, we analyzed potential challenges in applying V-BIDs to mental health disorders.

Cost Containment in Healthcare

Per capita, Americans spend more on their healthcare than residents of any other country, clearly illustrating significant waste in the system.¹ Healthcare spending is expected to grow at 5.8% per year from 2012 to 2022, which is 1% greater than the expected growth in the gross domestic product.¹¹ As a result of the Affordable Care Act (ACA) of 2010, numerous strategies continue to be implemented to manage healthcare costs.¹² For example, improvements to the concept of managed care are being introduced through accountable care organizations focused on health promotion and on using various payment methods to control costs, such as prospective payment systems, bundled payments, or some other form of capitation with additional pay-for-performance incentives for other quality outcomes, primarily through Medicaid and Medicare.⁹ There are additional considerations of technological integration (ie, electronic health records) for improving tracking, referrals, billing, and, ultimately, patient outcomes while reducing cost.

V-BID in Healthcare

V-BID has multiple dimensions and applications in healthcare. A key principle of V-BIDs is that not all services need to cost the same for all patients. Costs per service, or per patient, can be designed based on what will give the best value, where value is the improved health outcome over cost.¹³ V-BID can be separated into 2 categories: one targeting “clinically valuable co-payment reduction” and the second targeting “patients with select clinical diagnosis”; the second approach is less common and may be more difficult to implement.¹³

Increases in patient co-pays or deductibles in an insurance plan have been used to reduce moral hazard (ie, overuse of healthcare). However, increases in what patients have to pay have resulted in the early mismanagement of some diseases, potentially leading to increased need for acute care, emergency department (ED) care, and long-term care.¹⁴ For example, lack of adherence to dia-

Take-Away Points

Prior studies examining value-based insurance design (V-BID) have focused on their application to the treatment of chronic physical disease. Here, application of V-BID to mental health disorders is examined.

- V-BID in the treatment of mental health disorders needs to be explored as a potential cost-effective strategy with substantial societal benefits, given likely challenges.
- Additional challenges in applying V-BID to mental health disorders may be encountered, such as privacy and mental health usage variables.
- Additional information on life-years saved, disability-adjusted life-years, and demand elasticity for various mental health services across various populations will help in the application of effective V-BID in the treatment of mental health disorders.

betic medicine, due to reluctance of the patient to pay, can lead to medical complications and an overall increase in cost to the healthcare system.¹⁵ Therefore, there may be value in reducing patient co-pays and deductibles in the management and screening of some diseases.

V-BID in the treatment of physical disease (eg, chronic disease related to obesity) has shown success in a number of settings.^{3,5,6,13} Choudhry and colleagues, for example, looked at 76 existing V-BID plans focused on pharmaceutical adherence and found 5 features that influenced success in medication adherence for patients: generous plans, plans targeting high-risk patients, plans offering wellness programs, plans with the option to order medication by mail, and plans with no disease-management programs. Note, though this last one seems contradictory, the authors explained this may be due to a ceiling effect, or the fact that lifestyle modification may reduce the need for medication, making the patients seem as though they are being nonadherent in such a program. These plans were focused on managing diabetes, cholesterol, and hypertension.³ Further studies are needed to learn how to best structure V-BIDs so they can more effectively ensure improvements in both the quality of healthcare delivery (ie, measurably improved health outcomes) and in actual reduced costs over time.^{16,17}

Challenges of V-BID in Healthcare

Challenges are inherent in implementing V-BIDs, and difficulties arise in identifying the groups of diseases or individuals for which V-BID will result in cost savings. V-BIDs also become challenging to implement when patients who are choosing among healthcare services and insurance plans have difficulty understanding their details and distinguishing which will be most beneficial to them.^{18,19} Well-designed pilot projects are needed to see how various populations (ie, varying socioeconomic backgrounds, pre-policy adherence profiles) respond to and utilize V-BIDs in disease treatment.²⁰ Specifically, establishing price responsiveness for the treatment and management of vari-

ous diseases, then applying the most effective pricing for deductible and co-pays, is imperative to optimize the outcome and proper application of any V-BID program. Large insurers or firms can then tailor health plans to a particular employee or member with a particular disease and use innovative strategies to improve adherence in the program (ie, active counseling, ThinkingFit program for dementia).^{6,21-24}

A survey of 80 companies (ie, employers, health plans, academic researchers, and employee benefit consultants) revealed 10 challenges in applying V-BID, from “obtaining and integrating data” (seen as the greatest challenge) to “gaining support from top management.” Other important challenges include “keeping the momentum going,” “enrolling employees in disease management,” and “getting the employees to use the new benefits.” These challenges further demonstrate the necessity of multiple parties (ie, employees, physicians, and management) to cooperate to get a V-BID program to work. Communicating the program’s structure and intent to everyone is important, along with implementing incentives for behavioral change and program adherence.²³

RESULTS AND DISCUSSION

Cost of Mental Health Disorders in the United States

The cost of treating mental health disorders in the United States is high. In 1990, the total expenditure for mental health was estimated at \$74.6 billion; by 2009, it had risen to \$155.3 billion, as estimated by the Substance Abuse and Mental Health Services Administration (SAMSA; figures adjusted to 2012 US\$).²⁵ Further, the cost of services for mental health disorders was estimated at 6.9% of all health expenditures in 1990, with a slight reduction to 6.3% by 2009. In 2011, more than 41 million Americans were estimated to have a mental health disorder, with another 20 million having substance abuse problems.²⁵ Mental and behavioral disorders include schizophrenia, alcohol and drug use disorders, unipolar depressive and bipolar affective disorders, anxiety disorders, childhood behavioral disorder, idiopathic intellectual disability, and many more. Within these categories are often subcategories: unipolar depressive disorder can include major depressive disorder and dysthymia, for instance.²⁶

Disability-adjusted life-years (DALYs), calculated as the sum of years lost due to premature or early mortality and the years lost due to a disability, are useful in measuring the burden of mental health disorders.²⁶ Globally, in 2010, mental and behavioral disorders were responsible for 7.4% of the total DALYs, up from 5.4% in 1990, with total DALYs at 361 days per 1000 population, across all

age groups. In high-income global regions, such as North America and Western and Central Europe, mental and behavioral disorders account for 11% of DALYs—a percentage expected to grow.²⁶

The impact of mental health disorders is often not fully realized, with many general health issues treated only as physical disease when the root causes are mental. Some estimates state that only half of all mental illnesses are recognized by primary care physicians, and only half of those with a recognized mental health disorder receive treatment.²⁷ Such estimates support the reshaping of healthcare delivery, in which the treatments of mental and physical health are integrated and addressed by a multidisciplinary team of care providers (ie, social workers, physical therapists, occupational therapists, and various medical doctors) to increase efficiency and reduce costs,²⁷ and support exploration of additional strategies to improve the treatment of mental health disorders.

Furthermore, the total cost of mental health disorders is not fully reflected in direct healthcare costs. Mental illness and substance abuse have related indirect costs from reduced employment and arrest, as well as physical disease, and, significantly, ED visits that are not directly linked to the particular mental disorder. It is estimated that 44.7% of those who visit the ED for any condition also suffer from a mental illness and/or have been identified as having a substance abuse problem.²⁵ In 2010, of 129.8 million total ED visits in the United States, 13.3% resulted in a hospital admission, resulting in further costs to the healthcare system.²⁸ Of the 129.8 million, using the 44.7% estimate, more than 58 million could be assumed to have a mental health disorder and/or substance abuse problem.

Another study has shown that mental health disorders are responsible for 10% of children’s hospitalizations.²⁹ Within the penal system, victim and societal external costs are substantial, and educational systems also are influenced by mental disorders. SAMSA reported in 2013 that 27.7% of adolescents who failed a grade were also diagnosed with a severe emotional disturbance.²⁵ Poor performance in school can limit later success in entering college and attaining and keeping employment. Additional financial, physical, and emotional impacts for family members of those with a mental health disorder are difficult to assess³⁰; they may result largely from a lack of social support.³¹⁻³³

Applying V-BID to Mental Health

Because the costs of not adequately and effectively identifying and treating those with mental health disorders early are high, cost-effective, improved strategies to address the problem are needed. V-BIDs offer some promise. The appli-

cation of V-BID to mental health disorders needs to include an understanding of the scope of mental illnesses and a thorough review of successful treatment programs, especially those that have produced improved outcomes (especially long-term outcomes) at relatively low cost. Patient adherence to medication that controls early signs of a mental health disorder and programs that address some of such disorders' causes (eg, stress, physical illness), are areas of practical focus in a V-BID program, as are treatment methods that combine strategies of low drug usage with alternative treatment methods (ie, cognitive-behavioral strategies). Managing mental health disorders entirely with pharmaceuticals can potentially have negative consequences depending on the class of medication, age group, and individual response, ranging from cardiologic side effects, weight gain, and insomnia to loss of fertility and suicide.^{27,34-37}

Consequences of overtreatment and misdiagnosis of mental health disorders are also quite severe, making it imperative to apply V-BID sensitively and in a clinically correct manner. Milder forms of depression, for example, seem to respond more effectively to self-help strategies (eg, physical exercise, family support and other social support, and other forms of cognitive behavioral therapy) than to pharmaceutical treatment.³⁸ Conversely, the treatment of severe mental health disorders must not be trivialized; ineffective undertreatment with pharmaceuticals must be avoided.

Other innovative strategies exist. Blonk and colleagues (2006) found that a combination of workplace interventions (eg, adjustments to workplace environment) and individual-focused techniques (eg, conflict management) among self-employed individuals on sick leave due to work-related psychological issues was more effective at helping them return earlier (on average, by 200 days) than cognitive-behavioral therapy alone.³⁹

In any early implementation of V-BID for mental health disorders, the focus should be on the most common ailments and those with the most potential for cost savings. In the United States in 2010 for example, 7,977,606 Medicaid beneficiaries had a mental disorder, with the largest category (4,070,153 beneficiaries) being mood disorders (ie, bipolar disorders and depressive disorders) costing more than \$4 billion a year to treat²⁵—a good place for V-BID pilot programs to begin. Treatment for mood disorders varies significantly, and includes numerous pharmacological and psychological therapies.⁴⁰ Effectiveness of these treatments, alone or in combination, is highly dependent on cultural variations in acceptance and implementation; age appropriateness is also a consideration. Many mental health disorders, for example, peak around the age of 14 years and again around age 24 to 25 years.²⁵ Interventions for these

age groups to increase adherence and success are likely to vary (ie, insurance coverage for counseling visits and pharmacy costs to encourage parents to seek earlier treatment).

Reviews of the cost-effectiveness of various interventions in the treatment of mental health disorders indicate significant uncertainty and a need for further systematic research, in which patients' long-term outcomes/end points are addressed in ways others than physician opinion.^{36,41-43} Rodgers and colleagues reviewed 17 studies on the clinical effectiveness and cost-effectiveness of low-intensity interventions for the prevention of relapse after a depression event, and found inadequate evidence of success and inconsistencies across studies.⁴² Similarly, in 2006, Marshall and Rathbone evaluated 7 studies that met their criteria for early intervention for schizophrenia (and/or people with prodromal systems), and found that there were insufficient trials to establish best practices; they suggested international collaborative work on interventions for these disorders.⁴³ A review in 2011 by the same authors found most studies to still be small, diverse, and inconclusive; however, some interventions showed signs of promise, such as phase-specific and early intervention studies.⁴⁴ More recently, Bee and colleagues completed a systematic review of community-based interventions that aimed to improve the quality of life for children of parents with serious mental disorders and found high-quality cost data to be lacking.⁴⁵

The Recovery After an Initial Schizophrenia Episode (RAISE) multimodal, multidisciplinary early treatment program for first-episode psychosis is a large, prospective, randomized, controlled study that completed enrollment of 404 subjects in 2012; they were followed for 2 years. The results should offer some answers on the clinical and cost-effectiveness of the program's intervention compared with other current prevailing treatment approaches.⁴⁶ RAISE will look at successful outcomes for patients in a real-world community setting using current funding mechanisms. Large systematic projects such as RAISE could provide needed cost-effectiveness end points to inform implementation of V-BID in the treatment of some mental health disorders.

Limited literature exists on V-BID cost-effectiveness applied specifically to mental health disorders. A computer simulation model focused on V-BID application across several diseases showed that V-BID, for the management of antidepressant medications, showed initial promise with the cost per quality-adjusted life-year of less than \$30,000.⁴⁷ V-BID effects on DALYs should also be studied as another extended measure of reduction in burden.

Many V-BID programs are demand-driven, meaning they primarily rely on changes in individual behavior

(eg, reduced co-pays for medicines to encourage maintenance of disease treatment or increased co-pays to serve as disincentives for low-value services).⁴⁸ V-BID programs can also be supplier-driven to incentivize physicians to provide higher-quality care at reduced costs. Encouraging primary care physicians to recognize early signs of mental health disorders while treating physical ailments, and to recommend effective programs or use of appropriate care through a psychiatrist, psychologist, clinical social worker, or other qualified therapist or counselor, could save money in the long term and reduce other chronic health outcomes. Therefore, designing some incentive to be given to the physician for identifying and following up with a patient's mental health care through an appropriate specialist could become one aspect of V-BID for mental health treatment. However, this would be difficult without concerted efforts to train primary care physicians to better understand the signs and symptoms of mental health illnesses. Nevertheless, both demand-side and supply-side incentives within V-BID need consideration for the treatment of mental health disorders.

Other Challenges in Applying V-BID to Mental Health

V-BID is challenging regarding the treatment of all illnesses, including mental health disorders, and the latter present additional challenges. For example, privacy concerns (among other sensitivity issues) is important when implementing a workplace V-BID program. An initial strategy in a V-BID program offered through a large employer gathers information on all employees and tailors a health insurance plan or healthcare program for each individual. This is often done through a personal assessment form,⁴⁹ but mental health disorder and substance abuse information—private and sensitive data for an employee—may prove difficult to gather in this manner. The employee may be inclined to not be entirely truthful about such information; if shared at all (and if the issue is even identified), they are likely to divulge it only to their primary care physician or psychiatrist.

Without an assessment of the extent of occurrence of mental health disorders and associated variables in the workplace, an employer may not have the ability to construct a V-BID program to directly address mental health disorders, much less tailor a program to each employee. However, employers could strategically design programs for some mental health disorders within the context of a broader program that also addresses physical disease (ie, incentivized exercise and stress management programs) and employees could be incentivized to visit a counselor when experiencing stress-related or substance abuse prob-

lems. Still, the treatment of mental health disorders also involves family members or caregivers, which poses additional complications. Strategic ideas can involve and engage the family and community at large through schools, church, and various family-centered settings—but these strategies may lie outside the scope of V-BID plans. However, innovative programs should consider any overlapping ideas to reach and incentivize family involvement, resolve access needs, and appeal to varying populations.

The literature on behavioral models of healthcare use demonstrate that the likelihood of a person receiving care for a mental health disorder is highly dependent on sociodemographic characteristics (eg, education, sex, race), access to services (eg, health insurance coverage), and the underlying disorder (eg, specific type, perceived need)^{50,51}—all of which new V-BID programs for the treatment of mental health disorders must consider. In a study of 2258 adults aged 19 to 32 years, Vanheusden and colleagues found that only 34.6% of adults with psychopathology made use of any mental health services. Although the study did not find differences in sociodemographic characteristics in individuals seeking primary services, those seeking specialty services were likely to be female and economically inactive and to have a lower level of education.⁵²

McAline and Mechanic, in their national telephone study across 60 US communities, found that those with severe mental health disorders were likely to be African American males without health insurance and with criminal involvement.⁵³ Such inequity issues driven by sociodemographic characteristics have chronically plagued attempts to successfully treat mental health disorders, making programs difficult to implement or evaluate across various populations. Removing barriers associated with these variables need to be integrated into mental health services to better reach these particular populations and should be considered in potential V-BID application. As the ACA evolves and more Americans get health coverage, changes in access to mental health services will likely ensue. Still, issues of stigma and perceived need among various populations may nonetheless continue to hinder access; they need to be addressed in a comprehensive V-BID program.

CONCLUSIONS

V-BID incorporates incentives—such as lowered co-pays and deductibles—for additional consumption of upfront health services ranging from pharmacy usage, wellness and counseling programs, and consultation with physicians to online support access. V-BID applied to mental health disorders could prove cost-effective, with improved health

and reduced consumption of health services resulting in the long run. That, at least, is the goal. Implementation and management costs of such V-BIDs also must be considered in a full cost analysis. The cost savings of an effective mental health V-BID will not necessarily be realized within healthcare systems; a complete analysis must consider all welfare and social costs, which could be substantial.

Implementation of V-BID in the treatment of mental health disorders presents challenges, the first major one being insurance companies' and large employers' acceptance. Their buy-in is necessary to ensure the V-BID programs are implemented and sustained over the long run. Investment in these programs for mental health disorders will grow if pilot programs can demonstrate cost savings, as well as increased employee adherence and productivity. Other challenges include privacy issues for implementation in the workplace and adherence issues for those with diminished capabilities to comprehend program benefits and/or lack of family support. Research projects—such as comparative effectiveness research studies—focused on applying V-BID to mental health disorders and on demonstrating cost savings can generate additional information on effective strategies and treatments to reduce DALYs, and on-demand response for various mental health services across various populations.

Author Affiliations: Department of Environmental and Occupational Health (AF) and Department of Health Policy and Management (JMT), Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences, Little Rock; Green Bay Packaging, Arkansas Kraft Division (CY), Morrilton, AR.

Source of Funding: None.

Author Disclosures: The authors report no relationship or financial interest with any entity that would pose a conflict of interest with the subject matter of this article. The views expressed are those of the authors and do not necessarily reflect the views of the University of Arkansas for Medical Science or Green Bay Packaging. During the preparation of this manuscript, Mr Yates was an undergrad student at the University of Arkansas Little Rock, and is also a technical writer for Green Bay Packaging.

Authorship Information: Concept and design (AF, CY, MT); acquisition of data (AF, CY, MT); analysis and interpretation of data (AF, CY, MT); drafting of the manuscript (AF); critical revision of the manuscript for important intellectual content (CY, MT).

Address correspondence to: Alesia Ferguson, PhD, Department of Occupational and Environmental Health, Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences, 4301 West Markham, Slot 820, Little Rock, AR 72207. E-mail: aferguson@uams.edu.

REFERENCES

- Cutler DM, Ly DP. The (paper) work of medicine: understanding international medical costs. *J Econ Perspect*. 2011;25(2):3-25.
- Loewenstein G, Brennan T, Volpp KG. Asymmetric paternalism to improve health behaviors. *JAMA*. 2007;298(20):2415-2417.
- Choudhry NK, Fischer MA, Smith BF, et al. Five features of value-based insurance design plans were associated with higher rates of medication adherence. *Health Aff (Millwood)*. 2014;33(3):493-501.
- Gibson TB, Wang S, Kelly E, et al. A value-based insurance design program at a large company boosted medication adherence for employees with chronic illnesses. *Health Aff (Millwood)*. 2011;30(1):109-117.
- Kapowich JM. Oregon's test of value-based insurance design in coverage for state workers. *Health Aff (Millwood)*. 2010;29(11):2028-2032.
- Kim YA, Loucks A, Yokoyama G, Lightwood J, Rascate K, Serxner SA. Evaluation of value-based insurance design with a large retail employer. *Am J Manag Care*. 2011;17(10):682-690.
- Fendrick AM, Martin JJ, Weiss AE. Value-based insurance design: more health at any price. *Health Serv Res*. 2012;47(1, pt 2):404-413.
- Encinosa WE. Value-based insurance design in Medicare. *Appl Health Econ Health Policy*. 2009;7(3):149-154.
- James J. Health policy briefs: pay-for-performance. *Health Affairs* website. http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief_id=78. Published October 11, 2012. Accessed December 2015.
- Buttorff C, Tunis SR, Weiner JP. Encouraging value-based insurance designs in state health insurance exchanges. *Am J Manag Care*. 2013;19(7):593-600.
- National health care expenditure projections, 2012-2022. CMS website. <https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/downloads/proj2012.pdf>. Accessed September 9, 2014.
- Burns LR, Pauly MV. Accountable care organizations may have difficulty avoiding the failures of integrated delivery networks of the 1990s. *Health Aff (Millwood)*. 2012;31(11):2407-2416.
- Chernew ME, Rosen AB, Fendrick AM. Value-based insurance design. *Health Aff (Millwood)*. 2007;26(2):w195-w203.
- Fendrick AM, Chernew ME. Value-based insurance design: a "clinically sensitive" approach to preserve quality of care and contain costs. *Am J Manag Care*. 2006;12(1):18-20.
- Gibson TB, Mahoney J, Ranghell K, Cherney BJ, McElwee N. Value-based insurance plus disease management increased medication use and produced savings. *Health Aff (Millwood)*. 2011;30(1):100-108.
- Fairman KA, Curtiss FR. Making the world safe for evidence-based policy: let's slay the biases in research on value-based insurance design. *J Manag Care Pharm*. 2008;14(2):198-204.
- Lee JL, Maciejewski M, Raju S, Shrank WH, Choudhry NK. Value-based insurance design: quality improvement but no cost savings. *Health Aff (Millwood)*. 2013;32(7):1251-1257.
- Henrikson NB, Anderson ML, Hubbard RA, Fishman P, Grossman DC. Employee knowledge of value-based insurance design benefits. *Am J Prevent Med*. 2014;47(2):115-122.
- Pauly MV, Blavin FE. Moral hazard in insurance, value-based cost sharing, and the benefits of blissful ignorance. *J Health Econ*. 2008;27(6):1407-1417.
- Farley JF, Wansink D, Lindquist JH, Parker JC, Maciejewski ML. Medication adherence changes following value-based insurance design. *Am J Manag Care*. 2012;18(5):265-274.
- Dannhauser TM, Cleverley M, Whitfield TJ, Fletcher BC, Stevens T, Walker Z. A complex multimodal activity intervention to reduce the risk of dementia in mild cognitive impairment--ThinkingFit: pilot and feasibility study for a randomized controlled trial. *BMC Psychiatry*. 2014;14:129.
- Thomson A, Schang L, Chernew ME. Value-based cost sharing in the United States and elsewhere can increase patients' use of high-value goods and services. *Health Aff (Millwood)*. 2013;32(4):704-712.
- Dalzell MD. 5 threats to value-based insurance design. *Manag Care*. 2011;20(10):28-30,33-34.
- Corlette S, Downs D, Monahan CH, Yondorf B. State insurance exchanges face challenges in offering standardized choices alongside innovative value-based insurance. *Health Aff (Millwood)*. 2013;32(2):418-426.
- Substance Abuse and Mental Health Services Administration. *Behavioral Health, United States, 2012*. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2014. HHS Publication No. (SMA) 13-4797. <http://www.samhsa.gov/data/sites/default/files/2012-BHUS.pdf>. Published 2013. Accessed December 2015.
- Murray CJ, Vos T, Lozano R, et al. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet*. 2012;380(9859):2197-2223.
- Porter ME. Value-based mental health care delivery. Harvard Business School Institute for Strategy and Competitiveness website. http://www.hbs.edu/faculty/Publication%20Files/2012.02.29%20Value-Based%20Mental%20Health%20Delivery_db29fc61-98a3-421d-a734-2c46d2989c73.pdf. Published February 29, 2012. Accessed July 16, 2014.

28. National Hospital Ambulatory Medical Care Survey: 2010 emergency department summary tables. CDC website. http://www.cdc.gov/nchs/data/ahcd/nhamcs_emergency/2010_ed_web_tables.pdf. Accessed September 11, 2014.
29. Bardach NS, Coker TR, Zima BT, et al. Common and costly hospitalizations for pediatric mental health disorders. *Pediatrics*. 2014;133(4):602-609.
30. Department of Mental Health and Substance Dependence: Noncommunicable Diseases and Mental Health. Investing in mental health. World Health Organization website. http://www.who.int/mental_health/media/investing_mnh.pdf. Published 2014. Accessed December 28, 2015.
31. Magliano L, Fiorillo A, De Rosa C, Malangone C, Maj M; National Mental Health Project Working Group. Family burden in long-term diseases: a comparative study in schizophrenia vs. physical disorders. *Soc Sci Med*. 2005;61(2):313-322.
32. Magliano L, Fiorillo A, Malangone C, De Rosa C, Maj M; National Mental Health Project Working Group. Social network in long-term diseases: a comparative study in relatives of persons with schizophrenia and physical illnesses versus a sample from the general population. *Soc Sci Med*. 2006;62(6):1392-1402.
33. Tilford JM, Payakachat N. Progress in measuring family spillover effects for economic evaluations. *Expert Rev Pharmacoecon Outcomes Res*. 2015;15(2):195-198.
34. Marano G, Traversi G, Romagnoli E, et al. Cardiologic side effects of psychotropic drugs. *J Geriatr Cardiol*. 2011;8(4):243-253.
35. Lindsey PL. Psychotropic medication use among older adults: what all nurses need to know. *J Gerontol Nursing*. 2009;35(9):28-38.
36. Garcia G, Logan GE, Gonzalez-Heydrich J. Management of psychotropic medication side effects in children and adolescents. *Child Adolesc Psychiatr Clin N Am*. 2012;21(4):713-738.
37. Morris J, Stone G. Children and psychotropic medication: a cautionary note. *J Marital Fam Ther*. 2011;37(3):299-306.
38. Jorm AF. Mental health literacy. public knowledge and beliefs about mental disorders. *Br J Psychiatry*. 2000;177:396-401.
39. Blonk B, Brenninkmeijer V, Lagerveld SE, Houtman I. Return to work: a comparison of two cognitive behavioral interventions in cases of work-related psychological complaints among the self-employed. *Work Stress*. 2006;20(2):129-144.
40. Stephanson M. Evidence-based best practice interventions for the treatment of mood disorders: annotated information package. NZ Dept Public Health and General Practice website. <http://www.nmdhb.govt.nz/filesGallery/New%20Website/04When%20I%20Need%20Care/Mood-DisordersAIP.pdf>. Published September 2007. Accessed September 11, 2014.
41. Andrews G, Sanderson K, Slade T, Issakidis C. Why does the burden of disease persist: relating the burden of anxiety and depression to effectiveness of treatment. *Bull World Health Organ*. 2000;78(4):446-454.
42. Rodgers M, Asaria M, Walker S, et al. The clinical effectiveness and cost-effectiveness of low-intensity psychological interventions for the secondary prevention of relapse after depression: a systematic review. *Health Technol Assess*. 2012;16(28):1-130.
43. Marshall M, Rathbone J. Early intervention for psychosis. *Cochrane Database Syst Rev*. 2006;(4):CD004718.
44. Marshall M, Rathbone J. Early intervention for psychosis. *Cochrane Database Syst Rev*. 2011;(6):CD004718.
45. Bee P, Bower P, Byford S, et al. The clinical effectiveness, cost-effectiveness and acceptability of community-based interventions aimed at improving or maintaining quality of life in children of parents with serious mental illness: a systematic review. *Health Technol Assess*. 2014;18(8):1-250.
46. Kane JM, Schooler NR, Marcy P, et al. The RAISE early treatment program for first-episode psychosis: background, rationale, and study design. *J Clin Psychiatry*. 2015;76(3):240-246.
47. Braithwaite RS, Omokaro C, Justice AC, Nucifora K, Roberts MS. Can broader diffusion of value-based insurance design increase benefits from US health care without increasing costs? evidence from a computer simulation model. *PLoS Med*. 2010;7(2):e1000234.
48. Neumann PJ, Auerbach HR, Cohen JT, Greenberg D. Low-value services in value-based insurance design. *Am J Manag Care*. 2010;16(4):280-286.
49. Health plan capabilities to support value based benefit design. National Business Coalition on Health website. <https://www.nbch.org/NBCH/files/cclibraryFiles/File/00000000489/VBBD%20Report%20for%20Health%20Plans.pdf>. Published October 2009. Accessed September 11, 2014.
50. Elhai JD, Ford JD. Correlates of mental health service use intensity in the National Comorbidity Survey and National Comorbidity Survey Replication. *Psychiatr Serv*. 2007;58(8):1108-1115.
51. Saxena S, Thornicroft G, Knapp M, Whiteford H. Resources for mental health: scarcity, inequity, and inefficiency. *Lancet*. 2007;370(9590):878-889.
52. Vanheusden K, van der Ende J, Mulder CL, van Lenthe FJ, Verhulst FC, Mackenbach JP. The use of mental health services among young adults with emotional and behavioural problems; equal use for equal needs? *Soc Psychiatry Psychiatr Epidemiol*. 2008;43(10):808-815.
53. McAlpine DD, Mechanic D. Utilization of specialty mental health care among persons with severe mental illness: the roles of demographics, need, insurance, and risk. *Health Serv Res*. 2000;35(1, pt 2):277-292. ■

www.ajmc.com Full text and PDF