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Interventions and Models of Their Delivery to Reduce the Burden of Mental Illness: Reply to Commentaries

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Abstract

Our article in the January issue of *Perspectives on Psychological Science* (Kazdin & Blase, 2011) recommended developing a portfolio of models to deliver psychotherapeutic interventions with the goals of reaching a larger and more diverse segment of the population in need of mental health services and reducing the burden of mental illness. The commentaries offer several novel extensions to advance the goals. Among the topics raised in the commentaries are the role of moderating influences, the importance of a public health model for intervention research and application, the need to organize and manage our knowledge base and current treatments more effectively, the potential utility of priming-based interventions, the importance of cost measures, and novel applications to extend treatment broadly to veterans in need of services. The commentaries stimulated additional points to address the original goals including the utility of identifying interventions (e.g., lifestyle changes) that can reach many people in need and that can have broad outcome effects on mental and physical health, the importance of “disruptive innovations” (i.e., innovations that qualitatively change the nature of what and how services are delivered) from a business perspective, and the need for improved assessment to track the burden of mental illness in an ongoing way and to evaluate subgroups not being reached with our current interventions.

Keywords

psychological interventions, reducing the burden of mental illness

The personal, social, and monetary burdens of mental illness are enormous. There is a high prevalence rate of psychiatric disorder (25% in the United States), leaving aside psychosocial dysfunctions that do not meet formal diagnostic criteria but do impair functioning and contribute to the burden of mental illness (Kessler & Wang, 2008). The majority of individuals who experience dysfunction do not receive services; the paucity of services is particularly acute for several groups (e.g., individuals of a minority or living in rural areas, children, and the elderly). Although advances in developing evidence-based psychotherapies have been remarkable, the dominant model of delivering psychosocial treatment (individual, in-person, one-to-one treatment) is not likely to reach the majority of individuals in need. Our article recommended developing a portfolio of models of delivery with the dual goals of increasing the proportion and diversity of individuals reached with effective interventions and reducing the burden of mental illness (e.g., incidence, prevalence; Kazdin & Blase, 2011).

We are delighted to have the benefit of such a diverse set of commentators whose contributions to the conceptual,

methodological, and empirical literatures on intervention research have been especially influential. We address key issues of the commentaries, and convey how they qualify, alter, and improve on the recommendations in our article. Finally, we conclude with additional points stimulated by the commentaries overall.

Commentaries, Rejoinders, and Perspectives

Shoham and Insel (2011, this issue) alert us to the importance of searching for moderating influences that may determine which treatment is best for whom. The issue they raise has broad relevance. In virtually all randomized controlled treatment trials (e.g., in oncology, pharmacology, psychotherapy, inter alia) the usual case is that not everyone responds equally well, or at all, to a given treatment—so it is important to

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determine these moderating influences and the best-suited individuals for each treatment. A guiding question for two generations of psychotherapy researchers has focused on the moderators of psychotherapy (e.g., Kiesler, 1971). The most well-cited version of this is “*What* treatment, by *whom* is most effective for *this* individual with *that* specific problem and under *which* set of circumstances (Paul, 1967, p. 111). The importance of one of these moderating influences (“for whom”) was emphasized by Shoham and Insel in their discussion of Attribute (personal characteristics) \times Intervention effects. We agree greatly with the importance of moderators as reflected in our own research but also in our recreational pastime of trying to figure out what mediated moderation and moderated mediation are, all the while knowing they are important. Yet, in the nature of intervention research and parsimony, one begins by looking for main effects (i.e., treatments that in fact can effect change in most individuals). For example, ethnic and cultural diversity can moderate treatment but we already know that some treatments exert a main effect with diverse groups (Miranda et al., 2005) and getting these to the people can have impact now. Also, the search for moderators is not difficult, but their use for decision making in patient care is not at all straightforward. Among the challenges is establishing high levels of sensitivity and specificity so that patients are assigned to various treatments to which they might be best suited. In addition, many seemingly straightforward moderators including biological and psychological characteristics of the individual and environmental influences have systematic and unsystematic error we are just beginning to understand (e.g., jumping genes, imprinted genetic effects, and epigenetic effects).

Attribute \times Intervention, a first-order interaction, is not likely to capture the “real” interactions that influence outcome. We believe the authors would subscribe to Attribute \times Environment \times Intervention effects to recognize the important experience (environment) and attribute (e.g., polymorphisms here and there) combinations. Until there is personalized psychotherapy (à la personalized medicine) that could be scaled up, we need to increase greatly the less personalized, but still effective, psychotherapy. As an analogue, the same amounts of vitamins and minerals are not needed for each individual. We use recommended doses (often based on research) because if those doses reach most people, the health of individuals and our nation would be better. That does not gainsay the benefit for more individualized recommended doses. Effective interventions, whether vitamins or evidence-based psychosocial treatments, need disseminable versions that can be delivered on a large scale.

Shoham and Insel (2011) also remind us that we do not know the mechanisms by which therapeutic change occurs, and this is definitely an important issue, even in current dissemination efforts. An abbreviated intervention may unintentionally sacrifice an important ingredient, as they note. A critical goal for developing a portfolio will be to scale up our interventions for greater reach while maintaining therapeutic

impact. Their cogent concern is answered well in the Chorpita et al. (2011, this issue) article in which distillation of common elements of treatment need not necessarily sacrifice effectiveness.

The proposal by Atkins and Frazier (2011, this issue) draws on a successful model from a public health initiative to contain the H1N1 virus. This model integrated three tiers of interventions at the universal, targeted, and intensive levels. This focus on reorganization of existing treatments alerts us to the need for structuring a multilevel approach to mental health, seamlessly integrating and unifying prevention and treatment and using multiple settings (e.g., in the community) and providers (e.g., lay individuals). The three tiers of intervention could address the goal we proposed in our article, namely, reducing the burden of mental illness and unifying disparate intervention models. We concur with their recommendation. Yet, it will still be necessary to scale up the interventions for each of the three tiers. We noted that the intensive intervention level cannot be scaled up now, but their model actually could make the need for intensive treatment less. That is, successful preventive efforts reduce the need for treatment. However, this shifts the need from scaling up intensive treatment to scaling up the universal and targeted interventions. There are many evidence-based interventions at these other two tiers, but those tiers evoke the same tears we shed in relation to treatment. Can we scale them up to reach most people in need? Otherwise, we risk continuing to fail to reach the large portion of the population in need that simply does not have access to these services.

Chorpita et al. highlight the challenge of disseminating our existing treatments and complement the commentary by Atkins and Frazier. The authors contend that if we fail to organize and manage the treatments we currently offer, developing new treatments will not help us to achieve the goal of reducing the burden of mental illness. They highlight the need to strategize better ways to use what we know to make our treatments more easily disseminable. The creative conceptual and empirical work on disseminating common elements of existing treatments could be very important in scaling up our interventions for greater reach. Yet, the challenges remain: Can we scale up effective intervention elements in a form that reaches most people in need? Current common elements that work may still be the individual, one-to-one dominant treatment model, which we argued will need to be complemented by scores of other models.

Shalev and Bargh (2011, this issue) provide a fascinating and novel model for reaching large groups of people in everyday settings. Their suggestion of priming-based interventions is in keeping with our goal of using novel treatment delivery models. Because the nonconscious automatic processes they target are unintentional and operate outside of awareness, priming interventions do not require the volitional engagement of the patient. Thus, interventions can be scaled up to reach many people and do not have to be costly because they can be administered through nontraditional agents and settings. Priming techniques might promote positive emotions,

evoke self-management or regulation strategies, or foster therapeutic benefits related to such domains as loneliness and isolation. Such interventions might produce change that is therapeutic in its own right or sensitize individuals to change with other interventions that might be easily delivered but less likely to be effective on their own (e.g., communication and public health messages, television appeals). We had argued that reducing the burden of mental illness would profit from, and actually require, collaborations with areas well beyond mental health fields. Shalev and Bargh provide a creative model from social psychology, a sibling field that clearly has much to offer in extending the reach of interventions that can influence mental health.

Yates (2011, this issue) underscores the importance of cost measures of treatment in several ways: cost of delivering the intervention, monetary benefits in outcomes (e.g., patient income from their employment, patient use of health care and social services), and the cost per increment of therapeutic gains. Simply put, cost cannot be ignored in any effort to extend effective interventions so that they reach the many in need of services. This novel measure of “impact per dollar” provides a specific metric that might be useful to integrate in interventions at all levels. Cost is related to the reach of an intervention. Yates notes this aptly by conveying that the challenge is to deliver scaled-up interventions on a plastic spoon (rather than the golden ladle of individual psychotherapy) to as many people as possible.

It is inspiring, instructive, and, for us as citizens, very reassuring to learn of the range of innovations in the Veterans Health Administration (VA), as described by Sloan, Marx, and Keane (2011, this issue). The authors point out the clear intent of this health care system to reach as many people as possible using several delivery opportunities (e.g., Internet, videoconferencing, laypersons, and cell phones). With the portfolio of models already in use, ever-increasing numbers of veterans have access to the services provided by the VA. Naturally, due to its record number of clients, the system experiences the strain of this unprecedented use of its resources. Thus, their example wonderfully illustrates the importance of even further broadening our portfolio of treatment delivery models not only to reach more people in need, but also to sustain their care once they are entered into it. As the largest health care system in the United States, as noted by the authors, with some centralized opportunities and challenges, the VA might be the place to further pursue the goals and the model we suggested. The only additions would be to evaluate empirically the extent of reach (e.g., proportion of individuals in need of services who actually receive them) and the impact on the burden of mental illness (incidence of new disorders or dysfunctions and prevalence). This knowledge might provide key insights that could be transferred outside of the system.

Closing Comments

A central goal of our article was to focus attention to reducing the burden of mental illness and reaching the large swath of

individuals who are not receiving services. Our idea was that a portfolio of models of delivery would be needed to increase the reach of interventions in relation to those in need of services. No one model is likely to reach even a given segment of the population because of the range of real and perceived barriers to seeking or providing services. The commentators have provided novel extensions of our recommendations and have highlighted a multipronged approach that could accelerate advances in reducing the burden. The commentaries have stimulated additional points to address the original goals of our article.

First, we begin the research and services delivery agenda with the goal of reducing the burden of mental illness. We look to how psychotherapy might help and how current knowledge might be used (e.g., common elements of treatment, less costly delivery methods, both in the commentaries), but also we look beyond psychotherapy to examine whether other interventions might contribute. For example, are there non-psychotherapeutic interventions that might address the goal? We have seen priming-based interventions as one possibility in the commentaries. Another would be lifestyle changes that can improve physical and mental health (Walsh, 2011). These changes include exercise, better nutrition and diet, time in nature, improved relationships, recreation and enjoyable activities relaxation and stress management, spiritual involvement, and service to others, several of which have an evidence base already. One or more of these lifestyle changes may be feasible as a type of intervention that can serve both to prevent and treat psychological impairment and dysfunction. An added strength is that some of the same lifestyle interventions promote both physical and mental health. This adds a different dimension to our original article, namely that, when possible, high priority might be given to interventions that have reach within the population in need but that also produce broad or cascading therapeutic effects beyond some target focus (e.g., depression, anxiety). Such interventions would be very sensitive to the cost issues also raised in the commentaries.

Second, we see diverse disciplines as relevant to reducing the burden of mental illness, even if all of the interventions were psychotherapy in one form or another. Other disciplines have specialties that will help with penetration of our interventions to potential consumers. As one example, the notion of *disruptive technology* or *disruptive innovation* in business refers to innovations that alter a product and its delivery in novel ways. The change or innovation is not the usual evolutionary or incremental step in product development, but rather it provides something different and serves—indeed develops—a market that is not being served (e.g., Christensen, Grossman, & Hwang, 2009). Examples are evident in manufacturing (e.g., interchangeable parts, assembly line in car production), new products (e.g., cell phone, smartphone, tablet), consumer purchasing (e.g., credit cards, apps to make purchases with smartphones), and health care (e.g., home pregnancy tests, services such as flu shots or blood pressure testing in stores and shopping malls). Such interventions often

provide simpler, less expensive, or more convenient solutions to problems and can be scaled to reach people. Packaging our interventions so some of them are “disruptive” could have huge impact for the goal of reducing the burden of mental illness.

Finally, and perhaps most central to the goal, is the need for improved assessment along two fronts. First, ongoing (regular) assessment at the national level will be needed to measure the burden of mental illness. We mentioned in our article models already available that could be brought to bear. We will need assessment of indices of the burden of mental illness to provide a backdrop and baseline for evaluating progress. The assessment of indices of the burden of mental illness might include such measures as incidence, prevalence, impairment, or disability-adjusted life years (disease burden), or quality of life years.

Second, assessment will be needed to evaluate what subgroups are and are not being reached with the portfolio of evidence-based interventions. The portfolio of delivery models is not a list of more creative ways to reach the same people or to modernize the dominant model of delivery (e.g., use of technology but still delivering one-to-one treatment). Multiple parties are in need of care, and we would benefit from seeing who was and was not effectively reached by our overlapping models of treatment delivery. That same assessment might well guide the development of treatments or turn the turrets of interventions in one area to a target group in need of services but not yet reached.

A portfolio of models of delivery was designed to reach diverse segments of the population in need. To illustrate our purpose in doing so, we borrow from an example in the field of visual arts. In a Jackson Pollock painting, different quantities of different colors of overlapping paint are applied through a variety of creative methods to cover an entire canvas. Such methods of paint application included the use of brushes, sticks, trowels, knives, basting syringes, and flinging or directly pouring or dripping the paint onto the canvas, among other nontraditional means—all with a purportedly intentional vision of how the piece should appear when complete (Pollock, 1947–1948). As applied to our portfolio idea, we need different but overlapping intervention models (e.g., our paint) applied through a variety of creative deliveries (e.g., our brushes, sticks, trowels) to reach as many people as possible (e.g., to cover our canvas of people in need). We need overlapping models because no single delivery model is likely to be perfectly suited to a given population or subpopulation. Again, the most critical point of departure for progress may be beginning to reduce the burden of mental illness, obtaining measures that will allow us to evaluate progress, and then developing models of delivery that improve in their reach and scalability. We are grateful to the commentators for elaborating in creative ways the range of options that might be used to accomplish these goals.

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