# Promoting Racial/Ethnic Equity in Psychosocial Treatment Outcomes for Child and Adolescent Anxiety and Depression

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Anxiety and depression are the most prevalent and least treated pediatric mental health problems. Racial/ethnic minority youths face greater risks for developing anxiety and depression and experience higher burden as they are less likely to receive adequate mental health services for these conditions or to have their needs met. Further, standard evidence-based interventions for youth anxiety and depression may show diminished effects with racial/ethnic minority youths and with families of lower socioeconomic status. While community-level interventions to combat structural racism and reduce population-level risk are sorely needed, many youths will continue to require acute treatment services for anxiety and depression and interventionists must understand how to bring equity to the forefront of care. In this review, we adopt a health

system framework to examine racial/ethnic disparities in system-, intervention-, provider-, and patient-level factors for psychosocial treatment of pediatric anxiety and depression. Current evidence on disparities in access and in efficacy of psychosocial intervention for anxious and depressed youths is summarized, and we use our work in primary care as a case example of adapting an intervention to mitigate disparities and increase equity. We conclude with recommendations for disparity action targets at each level of the health system framework and provide example strategies for intervening on these mechanisms to improve the outcomes of racial/ethnic minority youths.

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Anxiety and depression are the most prevalent pediatric mental health conditions, impacting nearly 30% of youths by the end of adolescence (1). Anxiety and depression frequently co-occur due to shared etiological factors such as biological sensitivity to stress and withdrawal in response to threat (2). These interlinked disorders typically onset in childhood (anxiety) and adolescence (depression) and have a chronic course of remission, relapse, and cascading functional impairment. Youths with anxiety and depression report higher rates of substance abuse and suicidal ideation (3, 4) and difficulty functioning in school (5) and at home (6). Families also experience significant impacts, including negative physical and mental health outcomes for parents, poorer family functioning, and increased costs related to treatment (6).

These impacts are critically compounded for youth and families from historically marginalized groups. Anxiety and depression are, in part, disorders of environmental sensitivity, and racial/ethnic minority youths in the United States are more likely to be burdened by high levels of chronic stress. Broadly, compared to Non-Hispanic White (NHW) youths, racial/ethnic minority youths have greater exposure to violence, poverty, and neighborhood

## **HIGHLIGHTS**

- Racial/ethnic minority youths face greater risks for developing anxiety and depression and experience higher burden from disorder as they are less likely to receive adequate mental health services for these conditions or to have their needs met.
- Increasing access to services for anxiety and depression is of critical and immediate importance for racial/ethnic minority families. Issues of access may be associated with the physical location of services (e.g., primary care or telehealth) or with barriers of language, income, or financing.
- Both service settings and research treatment protocols frequently require families of ethnic/racial minority youths to fit themselves to the demands of care, in ways that may not be culturally compatible (e.g., little parent involvement in treatment) or practically feasible (i.e., weekly sessions during parent working hours). Whenever possible, non-essential aspects of intervention should be freed to match patient preferences and constraints, and interventions for anxiety and depression should be adopted that have broad impacts and options for personalization of goals.

deprivation (7). Prevalence rates reflect this difference in risk. Rates of mood disorders are significantly higher for Latinx adolescents compared to NHW youth, and anxiety disorders are more prevalent in Black compared to NHW teens (1). Racial/ethnic minority youths also may face a more chronic course of illness (8), as they disproportionately experience more aversive environments over time (9). Indeed, the impacts of anxiety and depression may be underestimated, due to the practice of adjusting models to "equate" for presence of other risk factors, such as poverty, that are aggregated in the lives of racial/ethnic minority youths.

# CONCEPTUAL MODELS OF RACIAL/ETHNIC HEALTH **DISPARITIES**

Biopsychosocial models of the impact of racism and disparities on health (10) and conceptual models to describe mechanisms of disparities in mental health outcomes (7, 11) have been proposed. Models emphasize the importance of systemic causes such as government policies that enforce structural racism, including residential segregation (9) and racialized incarceration (11), as well as everyday interactions that reinforce racism such as implicit bias of health care providers (12). Clearly, broad community-level interventions to address the risks related to structural racism are needed. However, even with strong financial investment and community buy-in, these strategies are likely to take considerable time to develop and implement. Furthermore, even given substantial reduction in population-level risk, there will continue to be a sizable number of youth and families who need acute treatment for pediatric anxiety and depression.

In this context, we focus on strategies to address racial/ ethnic disparities within mental health services for anxiety and depression in youths. While inequities occur at many points along the care cascade, including screening, evaluation, and long-term trajectories following care, we presently focus on disparities in treatment receipt and outcome. Our work is guided by a health system framework (Figure 1), focusing on the interplay of patient, provider, and intervention factors within the context of the larger health system. This model is adapted from Kilbourne (13) to include features of intervention programs, such as the breadth and type of mechanisms targeted, flexibility of application, and burden of implementation. The patient, provider, intervention, and system domains come together within the clinical encounter and to reinforce or mitigate disparities in care. Given the existence of evidence-based psychosocial treatments for youth anxiety and depression, we take a "top-down" approach, with attention to adapting evidence-based interventions to work within communities and current systems of care. This is intended as an efficient approach to make quality services more immediately available to those with highest need. We

recognize this as an alternative to "bottom-up" approaches, where research agendas and interventions are developed in collaboration with community stakeholders. Indeed, Community-Based Participatory Research (CBPR) has led to successful community-researcher partnerships and mental health programs (14) and has resulted in improved community engagement and meaningful action and change within organizations (15). We view both topdown and bottom-up approaches as beneficial to addressing aspects of the health disparities puzzle, each approach with benefits and limitations (16).

To ground our discussion of the health systems model that guides our work, we provide a brief snapshot of the evidence on racial/ethnic disparities in access to services and in efficacy of psychosocial interventions for pediatric anxiety and depression. We acknowledge significant heterogeneity of experiences between and within racial/ethnic groups (e.g., migration patterns, language use, experiences of discrimination) and attention to these experiences will be important in understanding and decreasing disparities. Here, our summary focuses broadly on members of the Latinx and Black youth community, as these are the two largest racial/ethnic minority groups in the US (17), and there are the most data on these youths and families. Next, we describe our own work in primary care as a case example of adapting an intervention to mitigate disparities, and we conclude by proposing recommendations for mitigating disparities and making mental health services more equitable for racial/ethnic minority youth moving forward.

# **DISPARITIES IN ACCESS TO AND ENGAGEMENT IN** YOUTH MENTAL HEALTH SERVICES

Despite the substantial impact of anxiety and depression, only 1 in 5 anxious and 2 in 5 depressed adolescents report any lifetime service use for these problems (18), and reported use is even lower for Black and Latinx teens (18-20). Youth from racial/ethnic minority groups are less likely to initiate care (21), more likely to discontinue treatment prematurely (21, 22), and less likely to receive minimally adequate care for depression (23). Some of these disparities may be related to experiences of racial discrimination in health system (24, 25), but other factors also play an important role. Racial/ethnic minority families may prefer the less stigmatizing setting of primary care over specialty mental health (21, 24), leading to a mismatch when such services are not available. Intersectionality of risk also may produce disparities in use of services. For instance, lack of mental health providers in areas where racial/ethnic minority youth live may pose practical barriers to accessing care (26). Families served by Medicaid face limited mental health locations willing to accept their insurance coverage, leading to high travel demands and long appointment wait times. Barriers such as expensive or limited mass transit, traffic, and inflexible work schedules

Intervention mechanisms of action, breadth of target, flexibility (dosing, goal selection, family involvement), demands on patients and providers Health care system Clinical encounter organization and delivery match or mis-match between systems, financing, organizational patient, provider, and culture, quality improvement intervention factors **Patient** Provider race / ethnicity / culture / intervention knowledge, clinical language, family context, knowledge, attitudes, bias, beliefs and preferences, prior competing demands, personal experiences and expectations, race / ethnicity / culture / environmental risk, biological language other person-level substrates

FIGURE 1. Health care system framework of racial/ethnic disparities in psychosocial mental health services for youths.<sup>a</sup>

for lower SES parents may further limit ability to attend on-site appointments in specialty mental health settings, particularly during traditional business hours (27).

# DISPARITIES IN RESPONSE TO PSYCHOSOCIAL INTERVENTIONS

Multiple research studies over the past 50 years suggest that there are effective psychosocial interventions for pediatric anxiety (28) and depression (29), with anxiety treatments having the largest effect sizes in the youth mental health literature (30). Evidence-based interventions for anxiety and depression are based largely on cognitive-behavioral therapy (CBT) and teach a variety of skills aimed at changing youths' cognitions (interpretations, thoughts, beliefs) and behaviors (coping strategies, approach behaviors, activity selection, communication skills) to reduce negative affect and improve mood and functioning. For adolescent depression, interpersonal psychotherapy (IPT-A) is also well-established (29) and focuses on social problem-solving and resolution of interpersonal stress to improve mood.

Although these evidence-based interventions work well, on average, it is less clear whether treatments are as effective for racial/ethnic minority youths (30). Many trials have not reported results by race/ethnicity, likely because of the very low numbers of enrolled minority

youths, with especially poor inclusion of Native American, Native Hawaiian/Pacific Islander, and Asian-American youths (31). The largest multi-site trials for anxiety and depression have included sufficient Latinx and Black youths for moderator analyses, but results of these tests have not been encouraging. For example, in the multi-site Child/Adolescent Anxiety Multimodal Study (CAMS), NHW youths were significantly more likely to achieve remission than Latinx youths (32, 33), and NHW youth were less likely to have a relapse in the long-term follow-up of the TORDIA depression trial, compared to all other race/ethnic groups (34). In CAMS, Black youths attended fewer intervention sessions, were rated by their therapists as being as less engaged in therapy and as demonstrating less mastery of CBT concepts, and were less likely to achieve remission of anxiety (35). Intersectional risk factors partially accounted for the association between race and outcomes in CAMS, but disparities in outcomes persisted after statistically controlling for income and single-parent family structure. Overall, participants from lower income families had worse outcomes in both CAMS (32) and in the large-scale Treatment of Adolescents with Depression Study (TADS) (36), and racial/ethnic minority youths were more likely to have this risk factor.

These results are troubling, but there are counterexamples of interventions working well for racial/ethnic

<sup>&</sup>lt;sup>a</sup> Adapted from Kilbourne et al. (13)

minority youths. Pina and colleagues (31) identified 7 anxiety and 10 depression clinical trials that (a) enrolled a sample with at least 75% of youths identifying as a racial/ ethnic minority or (b) conducted subgroup or moderator analyses by racial/ethnic minority status. Of these, 11 indicated the "standard" evidence-based treatment for anxiety and depression tested in the trial had undergone adaptation to better match the needs of racial/ethnic minority youths. Pina et al. (31) categorized these adaptations within a variety of heuristic models (for review see Refs. (37–39)). Within our health systems framework (Figure 1), adaptations appeared most often at the intersection of provider and patient characteristics, such as providing for racial/ethnic match between youth and clinicians. A smaller number of studies adapted aspects of the evidencebased intervention models, for example, by translating intervention materials, employing culturally relevant metaphors, and increasing parent involvement in treatment. Adaptation to address health system barriers was rarer and focused on providing services in primary care or via telehealth.

Overall, these 11 studies had positive effects. In samples that were "majority minority", interventions separated reliably from control conditions. In trials composed of multiple racial/ethnic groups, disparities in treatment outcome were generally not found, although small sample size and low power make interpretation of these null results difficult. With this caveat, however, the results of adapted evidence-based interventions appear to be notably more positive than the outcomes from the multi-site RCTs of "standard" interventions for anxiety and depression, which frequently showed disparities in outcomes by race, ethnicity, and income (31-35).

## **BRIEF BEHAVIORAL THERAPY FOR PEDIATRIC ANXIETY AND DEPRESSION**

Over the past 19 years, our group has worked to iteratively develop and test a psychosocial intervention program-Brief Behavioral Therapy (40) (BBT) for pediatric anxiety and depression-designed to be an efficient and effective model for practice. In brief, BBT is a transdiagnostic protocol designed to treat anxiety and depression by combining behavioral elements evidence-based treatments for both disorders (exposure for anxiety and behavioral activation for depression). BBT has been delivered in primary care settings in 8-12 sessions by Masters-level clinicians (see Refs. (40-43) for detailed intervention description). BBT did not include cultural-contextual adaptations for any specific group, but the structure and content of the program was designed early-on to be sensitive to patient, provider, intervention, and health system features that may perpetuate disparities. We describe our efforts with BBT as an illustration of the health system disparities framework in Figure 1.

### Health System-Level Adaptations

We began by targeting primary care as the deployment focus for BBT. As discussed earlier, primary care is often identified as a less stigmatizing and more accessible facet of the health system for racial/ethnic minority families. We also viewed primary care as a desirable intervention site from health system and payer perspectives. Anxious and depressed youths experience high levels of somatic symptoms, including recurrent abdominal pain and headache, and utilize significantly more health services than non-affected youths (44, 45). Effective mental health treatment for anxiety and depression may reduce use of physical health services for these symptoms.

### **Intervention-Level Adaptations**

Our most significant adaptations have occurred at the intervention level. Nearly all treatment programs for anxiety and depression target either disorder, not both, despite their substantial comorbidity. Further, treatment manuals are frequently developmentally segregated, with very few interventions (and none in depression) aiming to work for both children and teens. Although the style of delivering content can (and should) vary by youth developmental level, the core concepts and behavioral techniques (e.g., exposure and behavioral activation) remain consistent across many evidence-based protocols for children and adolescents. However, as a result of the narrow tailoring of many manuals, there is a significant lift for providers to establish expertise in multiple treatment programs and an added burden to systems in training costs. This segregation by disorder and developmental level also works against families. Anxiety and depression run in families, and parents may have multiple children of different ages seeking care, potentially requiring parents to navigate the terminology and materials of different programs for the same problem. Racial/ethnic minority parents and youths also may experience a better fit to a transdiagnostic intervention allowing for a personalized focus within a broad "acceptable" range of anxious, depressive, and somatic symptoms. In BBT, the manual describes core concepts and provides examples of how they can applied with youth of different clinical presentations and developmental

The mechanisms targeted in BBT were also selected with an eye toward equity. CBT interventions for anxiety and depression include a large number of techniques designed to impact central and associated deficits in cognitive and behavioral skills (e.g., psychoeducation, cognitive restructuring, assertiveness training, problem solving, behavioral activation, exposure, relaxation, communication skills, mindfulness, etc.) (46). Even within a single manual, this shotgun approach to intervention complicates clinician training and limits dissemination. Further, it may result in youths receiving an inadequate ideal dose of core intervention components, an outcome that may be especially likely for racial/ethnic minority

youths who have higher rates of early discontinuation from therapy. In developing BBT, we winnowed down the broad array of available CBT techniques by focusing on remediating two core behavioral deficits shared by anxiety and depression: We sought to: (a) reduce youths' avoidance of threat and (b) increase youths' approach behaviors toward rewarding life experiences. These mechanisms map onto transdiagnostic Research Domain Criteria (47) (RDoC Negative Valence Systems, Potential and Sustained Threat; RDoC Positive Valence Systems, Reward Learning) and are targeted through the technique of graded engagement, a combination of exposure (anxiety) and behavioral activation (depression) techniques (42). From the perspective of families, these technical goals are translated as "doing what you need and want to do in life" even in the face of negative affect. Youths and parents are encouraged to (a) identify how anxiety/depression is interfering with functioning, and (b) collaborate with their provider to develop personalized plans to engage or re-engage with these critical life tasks. This framework was selected to explicitly allow youths to guide treatment targets, with the hope that this strategy would create a "match" between intervention, patient, and provider for diverse families (see Figure 1).

In addition, the dosing of BBT was designed to be flexible. The dosing schedule for intervention sessions specified a minimum dose (8 sessions) with flexibility to add an additional 4 sessions and to deliver all 8–12 sessions within an extended 16-week timeframe. This algorithm was designed to encourage frequent sessions to build skills but also to accommodate practical barriers to weekly treatment participation more frequently encountered by lower income families and racial/ethnic minority youths.

#### **Provider-Level Adaptations**

Many of our intervention-level adaptations were designed to also reduce provider burden. To increase the cultural competence of our providers, we have emphasized using youth and parent metaphors and language for distress, and we have sought to hire bicultural and bilingual interventionists and staff. At this point, the BBT program has not been translated into languages other than English, and this remains a key area for future work.

#### **Patient-Level Adaptations**

At the patient level, parental involvement in sessions was allowed to vary flexibility to meet cultural preferences. In addition, as described in the intervention level, the dosing schedule for the intervention was designed to be flexible (while still maintaining a minimum effective dose), and the core mechanisms targeted in BBT (reduction of avoidance/increase in approach) were framed to accommodate youth and family goals and preferences.

#### **Impact on Disparities**

The first large scale RCT of BBT enrolled 185 youths across and nine primary care sites, and the project was

powered to test moderation of effects by Latinx ethnicity (43). In this RCT, youths (age 8–17) with anxiety and/or depression were referred by pediatric clinicians and randomized to either BBT delivered on-site in primary care or to an assisted referral to care (ARC) model linking families with outpatient community mental health services. Results indicated strong and superior effects for BBT on anxiety and functioning outcomes, comparable to the results of the CAMS anxiety trial (48), despite adaptations made to increase BBT flexibility (e.g., variable dosing, flexible parent involvement). BBT did not separate from ARC on depression outcomes; this may be due to a relatively lower baseline level for depression in the sample and substantial reduction in depression scores in both BBT and ARC.

Latinx identity significantly moderated the effects of BBT, but not precisely as anticipated. As expected, results indicated that disparities in outcome in the ARC community treatment arm were very large; only 7% of Latinx youths showed an adequate response to intervention in ARC compared to 33% of NHW youths who responded in the ARC comparison condition. Unexpectedly, moderation was also active within the BBT group, where Latinx youths had significantly superior response to BBT than NHW youths (76% vs. 52%). At 4-month follow-up, Latinx youths maintained their gains, although the significance of selected moderation analyses waned with attrition and loss of power (49). Further, the BBT intervention demonstrated significant cost-effectiveness for the sample as a whole and for Latinx youth (50). Although these results were encouraging, the total number of Latinx youths enrolled in the BBT trial was still small (n = 38), and results were limited in this trial to families able and willing to complete assessments and interventions in English. The BBT sample also scored relatively less high on measures of intersectional risk, as all participating families were enrolled in pediatric care at sites that required health insurance.

#### **Next Iteration of Adaptations**

As our program of work continues, we aim to iteratively improve and chip away at sources of mental health care disparities. At the system level, we have partnered with a network of community health centers to recruit a more racially/ethnically diverse and more economicallydisadvantaged sample. At the provider level, we are testing the feasibility of using interpreters in sessions to allow English-speaking interventionists to increase their capacity to work with linguistically diverse families, as a bridging strategy while we move toward a translated version of the BBT model and increased training of a bilingual provider workforce. At the patient level, we are testing a web-supported telehealth delivery model of the intervention and are experimenting with decoupling parent-youth sessions to better accommodate parent work schedules that may not line up with weekly afterschool appointments for their child. Based on

TABLE 1. Strategies to address health care system disparities for pediatric anxiety and depression

Level <sup>a</sup>	Potential mechanisms of disparity	Potential strategies to address	Examples/Resources
Patient	Mismatch between patient and/or family preferences for types of care and available services	Involve parents in engagement and intervention sessions	Tested level of caregiver involvement as a moderator of effectiveness of anxiety treatment for Latinx youths (51)
	Previous experiences of racism within health encounters	Match patients with providers of same race/ethnicity, if preferred by patients	Meta-analysis of adult patient preferences for ethnic/racial match by group (52)
	Cultural stigma towards mental health care	Use paraprofessionals or community members as interventionists; provide intervention group drawn from same culture/race/ethnicity to reduce stigma and increase social support	Qualitative analysis of promotores regarding youth anxiety/depression treatment (53) Group-treatment for anxious Black adolescents in school settings (54) Systematic review of use of communit mental health workers to address disparities in mental health (55)
Provider	Limited provider knowledge regarding potential systemic, structural, and person-level burdens placed upon racial/ethnic minority patients	Beyond cultural competence, train providers in sensitive patient-provider communications (e.g., to acknowledge and discuss experiences of racism with patients, culture, and cultural beliefs of patients); provide training to providers on implicit bias reduction, cultural humility, and traumainformed approaches to care	Adapted "standard" evidence-based prevention program to address experiences with racism and reduce suicidal ideation in Black teens (56) Meta-analysis of effects of therapist cultural competence on outcomes (57)  Commentary and guidelines for discussing experiences of racism within healthcare encounters (58, 59)
Intervention	Narrow focus on disorder-specific mechanism of intervention action limiting range of effects Low intervention flexibility (dosing, goal selection, family involvement)	Craft treatments to target mechanisms that cut across disorders to allow for efficient intervention  Provide flexibility in intervention delivery (dosing, scheduling, setting, telehealth)	Developed transdiagnostic intervention across anxiety and depression and tested in diverse youths (43, 60)  Conceptual models and guidelines for adapting interventions for cultural responsiveness (37, 38, 61, 62)
	High intervention burden for families	Focus on patient/family preferences in treatment goals; convenient delivery of services (e.g., telehealth)	Tested in-person versus telehealth models of delivery for anxiety treatment in Latinx youths (63)
	Content culturally incompatible with experiences, metaphors, or language of patient or family	Materials are culturally adapted, for example, allow treatment targets to flex according to family goals	Review and summary of adaptations to evidence-based interventions for youths (31) Meta-analysis of culturally adapted psychotherapies (64)
Health care system	Inflexible organizational structure limits access to services	Embed mental health providers outside of specialty mental health such as within primary care; develop integrated care models, in addition to co-located care	
	Inadequate expertise in mental health across language and cultural barriers	Enhance the diversity of the workforce; develop relationships with and internally train interpreters who have specialization/expertise in mental health concerns (e.g., suicide and safety assessment)	
	Inequitable financial burden and reimbursement policies	Promote equitable payment for more easily accessible services (e.g., telehealth); provide medical financial assistance to low-income families	Analysis of growth in behavioral telehealth services as a function of state parity laws (68)  American Academy of Pediatrics statement on equitable payment for telehealth and behavioral telehealth services (69)

<sup>\* &</sup>quot;Level" in this context refers to the components of the health care system framework of racial/ethnic disparities in psychosocial mental health services for youths depicted in Figure 1 and described in text.

feedback from our initial case series in community health centers, we are also re-working our intervention psychoeducation materials about "stress and mood" to explicitly discuss minority stress, socioeconomic stress, and experiences with racism as both chronic and acute stressors.

# **RECOMMENDATIONS MOVING FORWARD**

In Table 1, we step back from our BBT case example and take a broader look at strategies to reduce disparities in the care of racial/ethnic minority youths suffering from anxiety and depression. The table is broken into strata corresponding to the system-, intervention-, provider-, and patient-level factors in our conceptual model of racial-ethnic disparities in the health service system (Figure 1). Within each of these strata, we identify disparity action targets and provide examples intervening on these mechanisms. These targets and strategies are by no means comprehensive; they are exemplars of short- to intermediate-term opportunities to improve care for youth. In framing these areas, we sought to identify targets that would be immediately clinically relevant (e.g., to a community clinic currently seeing anxious, diverse teens) not simply a guide for further research on disparities or suggestions for new treatment development.

Across levels, consistent themes emerge. Increasing access to services is of critical and immediate importance for racial/ethnic minority families. Issues of access may be associated with the physical location of services (e.g., primary care or telehealth) or with barriers of language, income, or financing. Flexibility is another central theme. Both service settings and research treatment protocols frequently require ethnic/racial minority families to fit themselves to the demands of care, in ways that may not be culturally compatible (e.g., little parent involvement in treatment) or practically feasible (i.e., weekly sessions during parent working hours). Whenever possible, non-essential aspects of intervention should be freed to match patient preferences and constraints, and interventions should be adopted that have broad impacts and options for personalization of goals. Discrimination is a factor that threads through these levels as well-whether through limited cultural knowledge of providers or experiences of racism in and outside the health setting. Educational and training initiatives to shape an inclusive, equity-oriented mental health workforce are recommended. Further, participatory approaches have the potential to reduce mental health treatment disparities, as well as disparities at other points of care (e.g., screening and identification), by engaging and involving community members in identifying and addressing community needs.

Our thoughts and recommendations exist within a larger conversation reckoning with racism, intersectional

risk, and long-standing exclusion of racial/ethnic minority youths and families from adequate health care. Our analysis at the health system level is a part of this dialog, and we view work on reducing disparities in the health system as iterative and expansive in its goals.

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