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MAPping Los Angeles County: Taking an Evidence-Informed Model of Mental Health Care to Scale

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We describe the scaling up of an evidence-informed model of care, Managing and Adapting Practice (MAP) in Los Angeles County, California. MAP complemented an array of evidence-based programs selected by the county as part of a large system reform effort designed to improve care for children and adolescents. In addition, we discuss the MAP model for training therapists and present data both on how the training model performed and on the outcomes of youths treated by therapists trained in MAP. We examined the success of two different training pathways for MAP therapists: (a) national training model and (b) MAP agency supervisor model (i.e., train the trainer). We also examined utilization of MAP and outcomes of clients served by MAP. Both the national training and MAP agency supervisor model were successful in producing MAP therapists in a timely fashion and with acceptable competency scores. Furthermore, a large number of clients were receiving MAP services. Finally, outcomes for youth treated with MAP were strong, with effect sizes ranging from .59 to .80 on the Youth Outcome Questionnaire. These data support the notion that scaling up a mental health services approach in a system can be achieved through a strong and broad partnership among relevant stakeholders, can involve a train-the-trainer model, and can result in strong outcomes for clients.

For decades, there has been considerable concern about the rates of mental health problems in youth (e.g., Hoagwood & Olin, 2002), especially given the large and potentially growing number of such youth who do not receive adequate treatments (e.g., Tang,

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Hill, Boudreau, Yucel, Perrin, Kuhlthau, 2008) and the fact that many childhood and adolescent disorders are linked to disorders in adulthood (e.g., Copeland, Shanahan, Costello, & Angold, 2009). Clinical scientists have focused considerable efforts on the development and testing of mental health treatments. In fewer than 40 years, more than 400 randomized controlled trial papers have been published testing more than 500 different psychosocial treatment programs designed to ameliorate a wide variety of childhood problems (Chorpita, Daleiden, et al., 2011). Although the development of a multitude of what have been called evidence-based treatments (EBTs) represents a critical step for the field, several identified limitations create opportunities for continued advancement of the field (e.g., Beidas & Kendall, 2010; Chorpita, Rotheram-Borus, et al., 2011; Schoenwald & Hoagwood, 2001; Southam-Gerow, Rodríguez, Chorpita, & Daleiden, 2012). Scientists and policymakers have come to recognize that dissemination and implementation of EBTs and other services may benefit from a multilevel and ecological approach that considers a host of factors likely to influence the effectiveness of a particular EBT or service implementation (Greenhalgh, Robert, MacFarlane, Bate, & Kyriakidou, 2004).

This article provides detail and data related to one component of an ambitious system reform initiative in Los Angeles County (LAC), California, to dramatically increase the use of EBTs and evidence-based practices (EBPs) in the county. Specifically, this article focuses on the large-scale implementation of a novel approach to evidence-informed mental health services for children and adolescents called Managing and Adapting Practice (MAP). MAP is a system that allows providers to select and manage existing EBTs or, when needed, to build an evidence-informed, individualized treatment plan for a youth. To guide the development of treatment plans, MAP relies on the use of structured protocols and dedicated information resources that leverage findings from hundreds of randomized clinical trials. For more details on MAP, see Chorpita and Daleiden (this issue). First, we describe the history of the initiative in LAC, including how MAP was selected as one of the service approaches to be implemented. We also describe the training approach for MAP in some detail. Finally, we present data on various aspects of the implementation of MAP in LAC, including (a) training outcomes (e.g., practitioners and supervisors trained, success rate of practitioners meeting MAP training standards), (b) utilization of MAP by youth in LAC, and (c) the outcomes of youth treated with MAP.

In 2004, the voters of California passed the Mental Health Services Act (MHSA). As a result, a new and dedicated funding source was created solely for new and transformed mental health services in the state of California by taxing 1% of each dollar of income earned

over $1 million. As of a report dated January 31, 2011, the MHSA had generated more than $6.5 billion in additional revenue, with projected annual revenues over $750 million per year for the next several years (California Department of Mental Health, 2011). Taking into account population and poverty statistics, LAC receives approximately 28% of the available MHSA funding every year. The MHSA is composed of five plans—Community Services and Supports; Prevention and Early Intervention (PEI); Workforce, Education, and Training; Capital Facilities and Technology; and Innovations. The Community Services and Supports Plan was the first and largest plan to be rolled out statewide in 2006. Its guidelines contained the blueprint for 58 counties in California to develop a plan for treatment and intensive service within their respective county mental health system.

In 2007, the LAC Department of Mental Health (DMH) started planning for the MHSA PEI Plan. This was an extensive planning process over a 2-year period that involved multiple county departments, provider agencies, clinical staff, consumers, and other stakeholders. The LAC DMH PEI Plan included the implementation of more than 50 EBTs, promising practices, and community-defined-evidence practices in eight different geographic regions within LAC. Shortly after state approval of the LAC DMH PEI Plan in 2009, the economic crisis had come to impact counties in California by reducing existing resources for mental health services and leaving MHSA funding as the main, and possibly the only, source of funding for ongoing mental health services. To manage these challenges within its own mental health system and to maintain the viability of the existing system of providers, LAC proactively transformed the mental health system through the implementation of the PEI Plan.

By the fourth quarter of Fiscal Year 2009–2010, when LAC DMH initiated this transformation of mental health services, funding via the PEI Plan represented the primary funding source for services and thus a critical revenue source for both directly operated county clinics and contracted mental health providers serving children, youth, and families. However, the challenge was that these agencies had to undergo a transformation by developing a PEI Program and train staff to implement one or more of a large variety of different EBPs for the early intervention part of the program. For six of the EBPs, LAC DMH offered free training: Trauma-Focused Cognitive Behavioral Therapy (TF-CBT; e.g., Cohen & Mannarino, 1996), Seeking Safety (SS; e.g., Najavits, Gallop, & Weiss, 2006), Positive Parenting Program (Triple P; e.g., Sanders, Markie-Dadds, Turner, & Ralph, 2004), Child-Parent Psychotherapy (CPP; e.g., Lieberman, Van Horn, & Ippen, 2005), Group Cognitive Behavioral Therapy of Major

Depression (GCBT-MD; e.g., Lewinsohn, Clarke, Hops, & Andrews, 1990), and Cognitive Behavioral Intervention for Trauma in Schools (CBITS; Stein et al., 2003). Following the transformation, LAC DMH understood that there was need to address a wider array of mental health issues (e.g., anxiety disorders) by implementing additional EBP, promising practices, and community-defined evidence.

Almost 90% of mental health services for children and youth provided via LAC DMH funding are provided via contracts with a network of providers. Those providers (along with the directly operated county clinics) serve approximately 78,000 (76,000–80,000) children and youth per year. Thus, implementing the transformation while solving for the unintended gaps in services created by the initial plan was an enormous task to undertake. Making the undertaking even more complex was the need for LAC DMH and the agencies to implement the changes swiftly. Overall, LAC DMH and provider agencies worked to ensure that service delivery remained seamless and that there were minimal disruptions to the direct service workforce. Some of the resulting implementation challenges included (a) demand for training for hundreds of clinical staff in a limited time frame, (b) limited capacity of EBT developers to train in large numbers, (c) time taken away from service delivery for the extensive training of the multiple EBTs needed, and (d) the potential impact of staff turnover on the projected training investments.

Prior to the LAC system reform effort, a statewide provider organization, the California Alliance of Child and Family Services, had organized a series of MAP trainings to build capacity among its members to deliver evidence-informed services in addition to EBT programs. These "early adopter" organizations became the foundation for the grassroots effort advocating for the adoption of MAP in LAC, led locally by the Association of Community Human Service Agencies. After 6 (4–6) months of implementation of the selected PEI Practices, LAC DMH added MAP as an option for providers and their PEI Programs to serve children and adolescents who were experiencing symptoms of depression, anxiety, disruptive behavior, and trauma, creating an immediate demand for MAP training.

The addition of MAP to the LAC transformation plan was due not only to strong demand for MAP from provider organizations and agencies but also to the fit of MAP for the needs of LAC DMH. As Chorpita, Bernstein, and Daleiden (2011) demonstrated, it is possible to use the evidence base and knowledge of the youths in a mental health system to estimate how many youths can be served by a given array of EBTs. This methodology involves a structured comparison of youth characteristics (problem type [e.g., anxiety, depression], client age, client gender, and client ethnicity [and

potentially other variables]) with participant characteristics in studies of EBTs, and thereby can show which sets of EBTs best serve a given client population. In the case of LAC, before the addition of MAP, there were notable gaps in the previously selected EBTs coverage of the LAC client population (e.g., anxiety, depression in younger clients). Thus, the MAP system not only was the object of strong practitioner and service organization demand but also helped to broaden the array of services LAC had developed to meet client needs.

Accordingly, the LAC-sponsored implementation of MAP involved an ambitious strategy, developed and directed through the partnership of LAC DMH, PracticeWise (the purveyor of MAP), the California Institute for Mental Health (CiMH), and the community of mental health providers. This strategy contained a number of elements, including (a) two 1-day orientations to provide providers with temporary authorization to claim for services, (b) regularly scheduled 5-day MAP direct service trainings with 6 months of follow-up phone consultation, (c) agency-based training support though implementation of a supervision and consultation track to allow agencies to develop in-house MAP supervisors and trainers (i.e., train the trainer), (d) a credentialing pathway for providers trained in MAP outside the LAC-sponsored initiative, and (e) an annual 1-day MAP symposium and workshop to encourage sustainability of the practice among the growing group of MAP-trained practitioners in the county. Overall, this multiagency collaboration led to a rapid rollout of a new practice to a very large number of practitioners.

Several mechanisms were considered for evaluation of this initiative, including internal evaluation by either the LAC DMH Implementation and Outcomes Division or PracticeWise. The desirability of "independent" evaluation ultimately led to the selection of CiMH as the evaluator and provider of technical support for the MAP initiative. After considerable discussion and debate among stakeholders, LAC DMH and CiMH identified a variety of service indicators and selected a single overall outcome measure for use with all youth in the system, the Youth Outcome Questionnaire (YOQ; Wells, Burlingame, & Rose, 2003). They also identified one target-area measure for each of the four primary targets approved for the MAP PEI implementation: anxiety (Revised Children's Anxiety and Depression Scale; Chorpita, Moffitt, & Gray, 2005), depression (Patient Health Questionnaire–9; e.g., Kroenke, Spitzer, & Williams, 2001); disruptive behavior (Eyberg Child Behavior Inventory; Eyberg & Pincus, 1999), and trauma (UCLA-PTSD-Recall Interview; e.g., Steinberg, Brymer, Decker, & Pynoos, 2004). In addition to implementing the measure training, data collection, analysis, and reporting for the evaluation, CiMH also played a role in providing
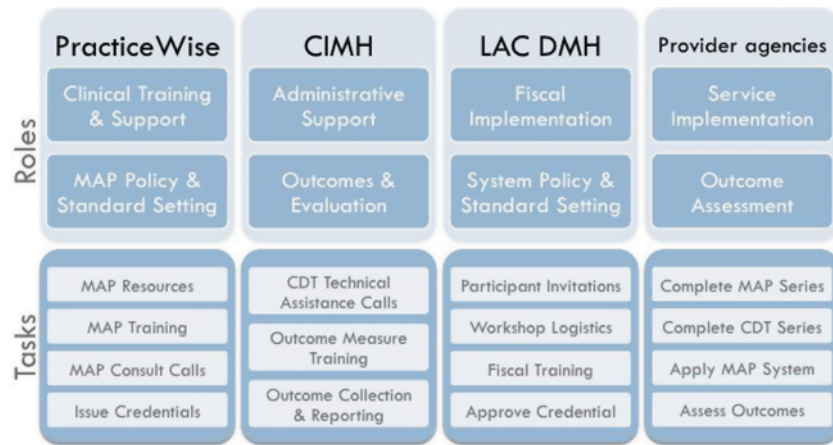
FIGURE 1   Collaboration among stakeholders in the Managing and Adapting Practice (MAP) training initiative. *Note.* CIMH = California Institute for Mental Health; LAC DMH = Los Angeles County Department of Mental Health; CDT = Community Development Team. (Figure appears in color online.)

administrative consultation to participating agencies, a component of their Community Development Team model (Sosna & Marsenich, 2006). Figure 1 provides a summary of the roles played and tasks completed by the different stakeholders throughout the project.

MANAGING AND ADAPTING PRACTICE

MAP is a *system* or infrastructure for supporting EBP and empirically informed health and human services. The MAP approach to providing direct services for mental health is *not* a manualized approach and is in fact not a treatment program per se. Rather, MAP is a set of decision-guidance frameworks and tools to help therapists and systems manage the implementation and adaptation of evidence-informed care across a diverse service array and multiple treatment targets. Table 1 provides a set of principles that guide MAP. In providing direct service, a MAP practitioner is guided in clinical decision making and best practice by a structured set of coordinating models and supported by a collection of information resources (see Chorpita & Daleiden, this issue, for description of these models and resources). The development of competence (e.g., in a therapist or supervisor) in the MAP model is both guided and evaluated through the completion of professional portfolios that incorporate modular learning curricula and service experiences (cf. PracticeWise, 2012).

CURRENT AIMS

The LAC DMH system reforms have greatly changed the landscape of mental health services in LAC. This article presents our ongoing collaboration to support large-scale practice improvement efforts under a limited time frame involving multiple partners (i.e., PracticeWise LLC, LAC DMH, CiMH, participating private mental health agencies, and practitioners at those agencies). Specifically, we (a) illustrate two professional development pathways for training and credentialing practitioners in MAP, (b) provide descriptive data about the participation and outcomes of professional development services for practitioners, and (c) present utilization rates and clinical outcomes related to clients treated using MAP's direct service component.

METHOD

The MAP Professional Development Program

To help individuals develop proficiency with MAP, a professional development program (PDP; PracticeWise, 2010) was developed to specify formal role descriptions that support both formal and informal development opportunities. Roles defined in the PDP include resource use, direct service provision, and supervisory and training (a.k.a., train-the-trainer) classes. Although the PDP involves a larger array of roles, Figure 2 depicts the roles most relevant to the LAC initiative: those of MAP therapist and MAP agency supervisor.

The LAC transformation required clear definition of the set of providers who would be eligible to submit billing claims and receive reimbursement for the delivery of MAP services under PEI funding. Therefore, LAC selected achievement of the MAP therapist role, as defined in the PDP, as meeting the minimum qualification for full authorization to receive funding for MAP services. Based on the PDP specifications, this decision dictated that the required professional development experiences should include at least 52 hr of training and supervision

TABLE 1
The MAP Framework

Is Outcome Centered	Clinical progress and therapeutic practices are measured and systematically monitored at the client case level.
Is Information Oriented	Emphasizes the common roles that information serves in decision-making, rather than requiring a specific set of instruments. For example, a MAP process guide identifies where indicators of client progress commonly guide expert decision-making in evidence-based practices rather than require that a particular instrument be used with a particular cutting score.
Supports a Common Language	By identifying common elements of interventions with scientific evidence of effectiveness across the behavioral health service domain, the MAP system provides an integrated lexicon to which the terminology of specific programs and disciplines is readily translated.
Integrates Multiple Evidence Bases	The MAP system highlights four sources of evidence that are referenced and prioritized during healthcare decision-making, including case-specific information, case aggregate information, services research, and causal mechanism research. Different stakeholder groups and professional disciplines often place differential values and priorities on use of evidence from these sources, so the MAP system explicitly labels information from these sources, seeks to bring information from all of these sources into the decision-making situation, and provides guidance for determining the relative priority of information from each of these evidence bases when making common clinical decisions.
Coordinates Observed and Expected Values	By identifying common elements across evidence bases and obtaining indicators of client progress, clinical practice, and research findings, the MAP system integrates both the observed outcomes of clients and practitioners with the expected outcomes from the research and service systems. All of this information is organized for decision-making through the use of a standardized visualization tool, the Clinical Dashboard.
Is Self-Correcting	The MAP tools, such as the PWEBS database and Practitioner Guides, are routinely updated based upon ongoing review of the scientific literature. As new evidence and practices appear in the scientific literature, new components are identified for the MAP system and are delivered directly to users of the MAP System through the existing infrastructure. Similarly, the MAP system's use of individual client monitoring and visualization through the Clinical Dashboards provides a strong mechanism for self-correction of clinical care during health service provision.
Promotes Public Visibility	The MAP system provides a central visualization tool with the Clinical Dashboard, but also promotes transparency and public scrutiny of (a) the underlying evidence used to inform decisions and (b) the underlying logic used to reach a final decision and course of action. The PWEBS database and the MAP process guides are examples of specific tools for exposing such underlying data and logic.
Process Management	The MAP system adopts a continuous quality improvement strategy for managing the process of change. Common steps of this strategy include goal setting, assembling supports and applying procedures, testing results, and review and adaptation.

Note: MAP = Managing and Adapting Practice; PWEBS = PracticeWise Evidence-Based Services.
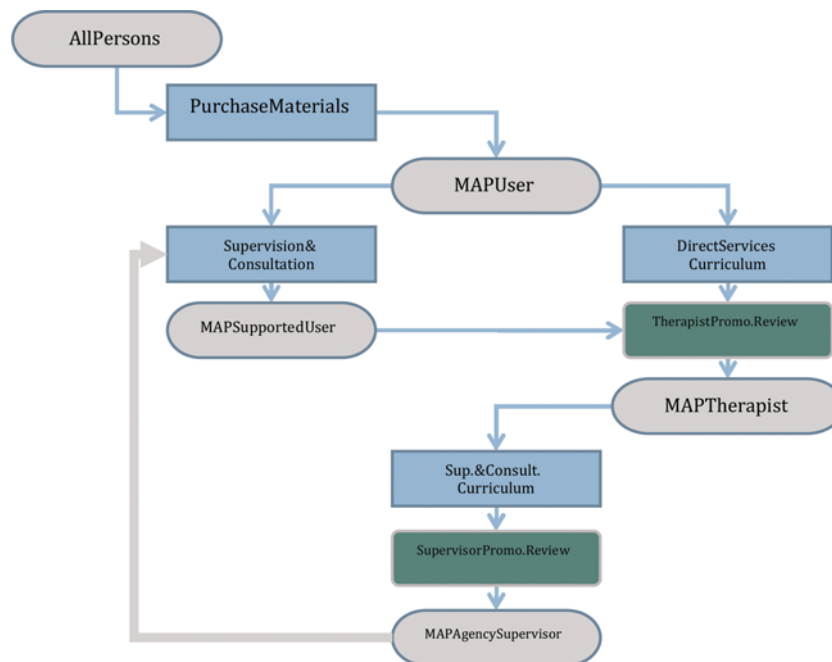

FIGURE 2   The Managing and Adapting Practice (MAP) professional development program sections relevant to Los Angeles County Department of Mental Health transformation. (Figure appears in color online.)

over at least a 6-month period, provision of services to at least two clients, and successful completion of a promotion review. The first step in becoming a MAP therapist is getting access to the core information resources upon which the direct service system relies (see Chorpita & Daleiden, this issue). Doing so gives the practitioner the title, MAP user.

As shown in Figure 2, there are two paths to becoming credentialed as a MAP therapist. The first proceeds along the right side of the figure through what is called the Direct Services Curriculum. On this path, a practitioner participates in a Direct Services training provided by PracticeWise trainers. These trainings consist of a 5-day (40-hr) training and 6 months of biweekly phone consultation (i.e., 12 calls), for a total of 52 hr of training and consultation. After the 52 hr, the practitioner submits materials in a MAP Therapist Portfolio for review. Through the rest of the article, this method is referred to as the *national training* (NT) pathway.

The second way to achieve MAP therapist status is through the *agency supervisor* (AS) pathway. This path also involves 52 hr of training and consultation, though under the supervision of a MAP agency supervisor and not the national training team. The AS is an individual who is credentialed as a MAP therapist and a MAP AS. As depicted in Figure 2, the MAP AS training pathway involves attaining MAP therapist status and then completing the Supervision and Consultation Curriculum, followed by a Supervisor promotion review. The Supervision and Consultation Curriculum consists of 2 days of training (i.e., 16 hr) plus 6 months of monthly consultation calls (i.e., 6 hr), resulting in 22 hr of training.

Rapid Scaling

One immediately apparent problem was that MAP services funded under PEI could take months to become available due to the developmental nature of the training requirements (i.e., requiring a minimum of 6 months of supervised activity), yet agencies obviously could not take a 6-month break from billing and delivering services while waiting for the appropriately trained workforce to develop. Realistically, even accepting a 6-month delay would have required thousands of providers in the county to start their MAP training in the same week (the 1st week of the fiscal year) so that they would all come online as early as possible.

To address this problem, LAC DMH issued a temporary authorization to claim for MAP services for a 1-year period to individuals who established that they had completed a minimum of 8 hr of MAP training under an approved authority, either a national trainer or a qualified agency supervisor or training professional. This solution still required that hundreds of therapists would begin their training in the same week, which

would not have been possible under the NT pathway, which involves relatively small training cohorts and two training professionals, nor under the AS pathway, given the limited number of MAP ASs at the beginning of the LAC initiative. Thus, LAC DMH sponsored two 1-day kickoff trainings, in which several hundred providers per day were led through the initial steps of their training program by more than half a dozen MAP training professionals. These providers then continued their training throughout the following year, during which time services could be delivered under PEI funding.

These decisions were consistent with the quality improvement orientation of MAP in that (a) initiation of a defined training experience marked the commencement of a quality improvement process, (b) the authorized authority established an explicit quality support structure, (c) the 1-year period set a minimum pace for the improvement activity, and (d) the successful promotion review event clearly marked an achievement of professional competence for independent practice.

Therapist Portfolio

As is clear from Figure 2, becoming a MAP Therapist via the NT or AS path or becoming a MAP AS have the need to pass one (or more) promotion review in common. The MAP therapist promotion review is based on submission of the MAP Therapist Portfolio, a document that outlines and records the basic requirements for attaining MAP therapist status. For the trainee, the portfolio serves as a resume of MAP experiences. From the perspective of a MAP agency supervisor training prospective MAP therapists, the portfolio is like a curriculum vitae, reflecting the practitioner's learning experiences and outcome achievements. Documented in the MAP Therapist Portfolio are experiences *learning* concepts and practices and *case experiences* using the MAP system. In terms of learning goals, a provider must obtain both didactic and experiential experiences with more than 30 different concepts and practices (for details, see Chorpita & Daleiden, this issue).

Providers also must obtain case experience using MAP with multiple clients over at least 6 months, including treating clients with more than one target problem (e.g., anxiety, depression, trauma, disruptive behavior). Also, the provider must demonstrate use of the MAP information resources and coordination models in planning, reviewing, and/or adapting treatment (see Chorpita & Daleiden, this issue); relatedly, the provider must submit a demonstration of the use of specific MAP information resources with two cases. These materials are reviewed against PracticeWise, LLC, minimum quality standards. Successful promotion to MAP therapist status requires satisfying the learning and case experience standards, including the materials review.

The MAP AS path also has a similar review, the Supervisor Promotion review. This review has as a key outcome for the supervisor the training of at least six practitioners who submit their own MAP Therapist Portfolios for review. As noted, the PDP involves a broader array of roles with differing degrees of expertise with MAP. This article focuses solely on MAP therapists trained via the NT and MAP AS routes.

Practitioner Participants

For this article, we report data collected by PracticeWise during the course of trainings conducted between April 2010 and December 2012 through either private or publicly sponsored activities. During that time, more than 1,770 practitioners (and 127 agency supervisors) participated in MAP training. Of the 1,770 practitioners, 1,266 were trained via the NT pathway in groups of 24 trainees per training event. Data were not available on the total number of practitioners who began MAP development via the AS approach, but 504 practitioners submitted MAP Therapist Portfolios for review upon completion of their training and service experience with a MAP AS. To ensure that data were drawn from providers who had sufficient opportunity to complete MAP requirements, training data were analyzed for the population of practitioners for whom at least 1.5 years had elapsed since they began MAP development. In addition, due to a modification to the MAP Therapist Portfolio requirements in the summer of 2010, for which portfolio-based data are reported, the final population for analysis was practitioners trained between August 2010 and June 2011 ($N = 504$ for the NT pathway and 283 for the AS pathway).

Practitioner Training Outcomes

Training outcomes were measured using practitioner performance on the Therapist Portfolio. We examined the following data for practitioners trained via the NT and AS paths separately: (a) Promotion Review pass rates on first attempt, (b) overall Promotion Review pass rates including resubmission attempts, (c) time to successful Promotion Review (measured in days from initial training date to date of successful promotion), and (d) practitioner score on the case materials review rubric. As previously noted, each practitioner seeking promotion to MAP therapist status was required to submit materials for at least two cases as part of his or her Therapist Portfolio.

Utilization Data

The service delivery and cost data reported in this article were gathered from the LAC DMH administrative information system as of July 2012 and assembled by the LAC DMH PEI Administration into a countywide report for Fiscal Year 2012 (July 2011–June 2012). Additional service-related information was collected on a subset of cases. For this article, we report utilization data related to MAP, specifically the number of unique clients claimed using MAP.

Client Descriptive Data

Based on administrative claim data, 11,929 unique clients participated in MAP services during Fiscal Year 2012 (July 1, 2011 to June 30, 2012). These clients were 58% male (42% female) with Hispanic (69%), Black (17%), White (8%), and Other (6%) ethnicities represented. The client age distribution was 0 to 5 years (7%), 6 to 15 years (74%), and 16 to 25 years (19%). The five most common diagnoses at intake for youth receiving MAP services were disruptive behavior disorder (15%), depressive disorder not otherwise specified (12%), attention-deficit/hyperactivity (10%), oppositional defiant disorder (10%), and anxiety disorder not otherwise specified (7%). In the preceding fiscal year (July 1, 2010 to June 30, 2011), 5,173 unique clients had participated in MAP services.

Data from the CiMH evaluation, as provided from 68 private provider agencies and nine directly operated LAC DMH sites, included 11,634 clients, of which 11,162 (95.9%) participated in at least one session. Initial treatment focus for the cases were anxiety (20.7%), depression (31.2%), disruptive behavior (44.0%), or trauma (4.0%). As of December 2012, the CiMH report indicated that 2,580 youth had completed a course of MAP. Of these youth, 1,172 (42.4%) had parent-report pre/postdata available. For the individual focus areas, the percentage of cases with parent report pre/postdata available were 43.5% (anxiety), 46.4% (depression), 39.9% (disruptive behavior), and 32.5% (trauma).

Client Outcomes

Client outcomes (pre to post) were measured using the YOQ and the YOQ–Self-Report (YOQ-SR), a 64-item measure completed by the parent/guardian (YOQ) or child client (YOQ-SR) designed to measure changes in functioning using six subscales (Interpersonal Distress, Somatic, Interpersonal Relationships, Critical Items, Social Problems, Behavioral Dysfunction) along with a total scale (Wells et al., 2003). Scores on the total scale exceeding 46 (YOQ) and 47 (YOQ-SR) are considered to be in the clinical range. Psychometric studies have been supportive of the reliability and validity of the measure (e.g., Ridge, Warren, Burlingame, Wells, & Tumblin, 2009; Wells et al., 2003).

RESULTS

Overview

We sought to answer several questions with these data. First, we asked if we could train therapists quickly and successfully, as measured by the extent to which our training approach produced favorable training outcomes (i.e., therapists who completed the training curriculum and met the defined standards). Second, given that we offered two different training pathways, NT and MAP AS, we also wondered whether there would be differences between the two in terms of training outcomes. Third, we wondered to what extent therapists would use MAP with their clients in the LAC system once trained, and fourth, how well would MAP work with clients served in the LAC system.

Training quickly and successfully. Following the initial MAP information meetings, demand emerged rapidly with more than 80 provider agencies registering for trainings during the first year and with demand increasing as the year progressed. As of the end of 2012, more than 1,700 clinicians completed their training, representing an average of 51.5 new clinicians per month over a 33-month period. This constitutes credible evidence that the MAP direct service model can be scaled rapidly within a large system.

In terms of specific training outcomes, for the eligible population with follow-up data in the NT pathway ($n = 504$), 74% of trainees who began MAP completed their portfolios and successfully achieved MAP therapist status. Because we were unable to track who began training under the AS pathway, the comparable rate is unknown for the AS pathway. For successful training completers, the average time to completion was comparable for the NT Pathway (342 days, $SD = 99$) and AS pathway (323 days, $SD = 81$). Although the success rate upon first submission of the MAP Therapist Portfolios tended to be slightly higher for the NT (86%) than for the AS (81%) pathway, $\chi^2(1, n = 667) = 3.74$, $p = .053$, the two pathways did not differ in final success rates. Thus, the two pathways both seemed to result in comparable success for practitioners at a comparable rate.

Differences between the two training pathways. The next question addressed was that of quality of the development process. This was evaluated by the structured, external ratings of the case materials submitted by practitioners for their portfolio reviews. The average ratings for both the NT ($M = 2.15$, $SD = 0.27$, $n = 874$ cases) and AS ($M = 2.02$, $SD = 0.25$, $n = 554$ cases) pathways were in the proficient range (i.e., $1 = $ needs work, $2 = $ proficient, $3 = $ advanced), but the average quality rating for the NT pathway was significantly higher than that for the AS pathway, $t(416) = 8.87$, $p = .000$, $ES = .485$. A similar result was evident at the low end of the distribution in that case material success rate for the AS pathway was 4% below that of the NT pathway, $\chi^2(1, n = 1,418) = 15.99$, $p = .000$. Thus, both pathways yielded MAP therapists who assembled case materials with a level of quality in the desired range, but those in the NT pathway assembled somewhat higher quality materials.

Practitioners use of MAP with clients. The high level of interest by provider agencies and enrollment of clinicians in the MAP professional development suggested that MAP would address an important service need for the system, but it remained an empirical question how many clients that clinicians would identify as appropriate for MAP. From an LAC PEI county-wide report for Fiscal Year 2012, 11,929 children and youth received MAP services. MAP accounted for 28% of children and youth receiving PEI services and 22% of PEI claims and expenditures during the year. The same period utilization of the other six EBTs, which were in operation at the introduction of MAP to the service array was TF-CBT ($n = 9,966$, 23.5%), Seeking Safety ($n = 8,603$, 20.3%), Triple P ($n = 3,806$, 9.0%), CPP ($n = 1,462$, 3.5%), GCBT-MD ($n = 455$, 1.1%), and CBITS ($n = 87$, 0.2%). Thus, at this point, the three programs of MAP, TF-CBT, and Seeking Safety have received widespread acceptance and application within the array. In an effort to encourage continued development, application, and distribution across multiple EBTs, LAC DMH has enforced a policy that no more than 40% of each provider agency's total PEI contract allotment may be expended on MAP services.

Youth and family outcomes. With agency, clinician, and client level engagement in place, our final analysis examined whether the MAP system as implemented in LAC could produce favorable outcomes for youth. As previously noted, the YOQ was selected by LAC DMH as the primary cross-program, cross-problem area measure of client status. Overall, data from parents and youth indicated that on average, clients were beginning MAP services at a level of impairment in the clinical range and ending MAP services within the normal range. Paired t tests of the pre–post change indicated the clients improved significantly based on parent report, $t(1171) = 28.60$, $p < .001$, $d = .76$, and youth report, $t(481) = 16.96$, $p < .001$, $d = .80$. These outcomes are depicted in Figure 3.

For the CiMH-administered outcome evaluation, the YOQ and YOQ-SR were administered at the beginning and end of the MAP service episode regardless of
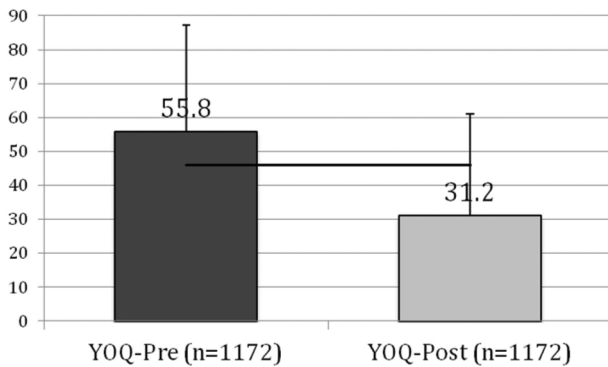
FIGURE 3   Managing and Adapting Practice outcome at posttreatment, parent report. *Note.* Error bars shown represent standard deviations. Solid line represents clinical cut-score. YOQ-SR = Youth Outcome Questionnaire–Self-Report.

whether one or more problem areas were the focus of treatment. From these data, approximately 6% of clients had MAP service episodes with multiple treatment foci. Therefore, analysis of outcomes for the four problem areas was not completely independent as clients with multiple problem foci during a MAP service episode were included in multiple problem area analyses. Similar to the overall analysis, with the exception of the analysis for youth report for the disruptive behavior, results indicate that on average clients were beginning MAP treatment in the clinical range and ending in the normal range of functioning. Similarly, all analyses indicated significant pre–post changes in functioning regardless of the problem area that was the focus of treatment. Effect sizes for the four problem areas were as follows: YOQ Anxiety = 0.70 ($n = 303$); YOQ-SR Anxiety = 0.94 ($n = 104$); YOQ Depression = 0.80 ($n = 437$); YOQ-SR Depression = 0.97 ($n = 249$); YOQ Disruptive = 0.79 ($n = 569$); YOQ-SR Disruptive = 0.54 ($n = 198$); YOQ Trauma = 0.59 ($n = 42$); YOQ-SR Trauma = 0.79 ($n = 23$). Although not reported further here, CiMH
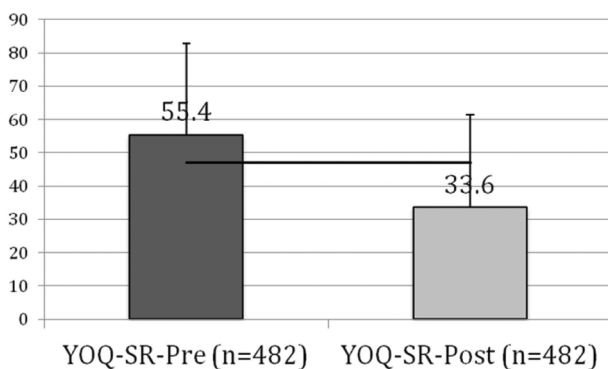

FIGURE 4   MAP outcome at posttreatment, youth self-report. *Note.* Error bars shown represent standard deviations. Solid line represents clinical cut-score. YOQ-SR = Youth Outcome Questionnaire–Self-Report.

(2013) reported similar findings based on the analysis of the specific symptom measures that were administered at the beginning and ending of each specific treatment focus rather than the beginning and end of the overall MAP service episode.

DISCUSSION

Provider agencies played a central role in advocating for inclusion of MAP as an evidence-informed approach to direct services. Two pathways for developing providers were successfully implemented for a large number of practitioners to support a large-scale system-wide transformation of mental health services for children and adolescents in the most populous county in the United States. The data reported in this article provides strong preliminary evidence that the MAP training approach was successful from start (i.e., moving practitioners through the training process via two different pathways) to finish (i.e., producing practitioners who can meet MAP therapist credentialing standards via either pathway). Further, the findings provide preliminary evidence that therapists will use MAP with a variety of clients treated in a large public mental health system and that the clients treated with MAP experience significant improvements on standardized measures.

The MAP training approach was consistent with recent recommendations related to training professionals in complex competencies. For example, many studies have concluded that training models reliant only on seminar-style teaching rarely produce lasting changes in provider behavior (e.g., Beidas & Kendall, 2010; Grimshaw et al., 2001; Herschell, Kolko, Baumann, & Davis, 2010; Lyon, Stirman, Kerns, & Bruns, 2011). Consistent with recommended best practices, the MAP training approach involved a variety of teaching approaches, relying on a multicomponent approach during a training week and then requiring ongoing consultation concurrent with use of the MAP approach with clients (cf. Herschell et al., 2010). It was thus reassuring that using these recommended, though more labor intensive strategies, produced such strong outcomes in terms of practitioners successfully completing the credentialing requirements, as well as producing preliminary but promising outcomes.

It is also noteworthy that our approach to training involved two pathways: one, a more typical purveyor-driven model, wherein the training and consultation was provided by national experts, and the other, a train-the-trainer model, wherein credentialed individuals in an organization provided training and consultation to therapists. The latter approach involves a potential loss of fidelity because (a) the national experts are not directly involved in the training process and (b) the

training approach of the local trainer is up to her or him. Our data suggest that the train-the-trainer approach produced outcomes similar to those of the national training approach. Although these data are preliminary, they are encouraging insofar as a train-the-trainer approach to scaling up complex evidence-based services is likely to be more appealing and efficient to many organizations. It is important to keep in mind that although we had two distinct pathways, they both shared common resources (e.g., the MAP tools, MAP training curricula). In that sense, there remained in both pathways a level of standardization designed to encourage fidelity to the system.

Although preliminary, it is significant that the outcomes reported here for MAP are strong and consistent with outcomes found for many EBTs in the literature (e.g., Chorpita, Daleiden, et al., 2011). Given that MAP produced positive outcomes for children/adolescents with four different primary problems, there is ample data to support efforts to replicate and extend this finding. Although there is no comparison group against which to evaluate these results, a recent county-wide report (Innes-Gomberg & Taguchi, 2013) compared outcomes across six of the EBPs implemented in LAC (including MAP) for which at least 50 cases had available pre–post data. The average change score for these six treatments on the YOQ was 16 points, compared to the change score for MAP of 24 points. MAP had the highest change score among the six, with the next highest being 18 points. Although this does not directly address the lack of comparison group, it does help place the outcomes achieved in the context of other EBPs in LAC.

An appeal of MAP to systems considering its adoption include its flexibility across multiple problem/target areas, especially considering studies that demonstrate that youth treated in community clinics differ from youth treated in research clinic-based trials in terms of the level of comorbidity (e.g., Southam-Gerow, Chorpita, Miller, & Gleacher, 2008; Southam-Gerow, Weisz, & Kendall, 2003). A number of factors affected the completion rates for the outcome measures (e.g., some measures did not cover the entire age range of the population, licensing, distribution, training on the measures occurred over time, etc.). Thus, although measure completion improved over time, the outcome data reported here represent only a fraction of completed MAP cases. As a result, these data, though promising, should be interpreted cautiously. Further, it will be important to confirm these findings by problem area as more data are available.

Finally, the project represents a novel approach to dissemination and implementation. In general, such research typically involves the study of efforts to adapt and fit an established program to new settings, like a large county mental health system. In the case of MAP in LAC, however, there are a few notable differences. First, as Chorpita and Daleiden (this issue) make clear, MAP is not a program or protocol; instead, it is a system for making clinical choices guided by the best available evidence. As such, the goal of training therapists in MAP is not helping them develop expertise in a particular set of practices; rather, they are trained to align their clinical work with evidence from multiple sources.

A second distinction between this project and typical dissemination and implementation studies concerns the fact that MAP was not a program developed for a specific child diagnostic or problem. Instead, MAP evolved from the endemic system-level problem of meeting the needs of a diverse array of clients. Because of this starting point, MAP was (and may continue to be) a solution to a critical business problem facing many mental health service systems: namely, that despite training a workforce in a variety of EBTs, there are far too many clients in systems for whom none of the EBTs is appropriate. In the case of LAC, claims for MAP have already reached nearly 25% of all claims in the system, suggesting that practitioners deemed the approach highly relevant for clients in the system. It is important to note that we do *not* view MAP as a replacement for EBTs; instead, MAP is a complement to EBTs and one that many systems may find as highly relevant as LAC DMH did.

In short, these findings are consistent with our earlier work in Hawai'i (e.g., Daleiden et al., 2006) and suggest that services based on the MAP system may go to scale rapidly and can be delivered effectively. Of course, just because a service can work, does not mean that it will work on a consistent and sustainable basis. Achieving outcomes for youth, families, and communities through effective delivery of services requires more than good infrastructure, good tools, and adequately knowledgeable and skilled practitioners. In the absence of performance management and routine support, good service design and professional development activities are likely insufficient to sustain daily practitioner behavior that includes routine engagement of clients, application of knowledge, and delivery of best practices.

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