**A REVIEW OF THE EFFICACY OF THE PEDIATRIC INTEGRATED CARE MODEL**

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Mental health care for the pediatric population is extensive as many illnesses arise at this age and continue throughout a person’s life. Most care is not delivered by a specialist such as a Child and Adolescent Psychiatrist but rather in the office of the pediatrician or family practice provider. Workforce shortages among pediatric mental health specialists requires care to be delivered by primary care or not delivered at all. The proportion of pediatric primary care devoted in mental health care varies by the availability of specialized resources, school identification strategies, payment models, ethnicity and enrollment in government health programs and the willingness of the primary care provider to deliver such specialized care. The cost of such care has been estimated to be about twelve billion dollars. (Peron R, Bisko RH, Blumberg SI et al Mental Health surveillance among children in the United States 2005-2011 MMWR Suppl 2013,62(2):1-35.)

The above-mentioned structural barriers to quality, local and timely care are longstanding and have been approached with alternatives to usual service system practices. Efforts have been made to adapt a quarter century old adult chronic care paradigm as a way of improving outcomes. (Wagner EH, Austin BT VonKorff M. Improving outcomes in chronic illness Manag Care Q 1996:74(4)511-544. These models are sub grouped under the larger title of collaborative care which was elaborated in a clinical practice guidelines document by the American Academy of Child and Adolescent Psychiatry in 2010. ([https://www.aacap.org/App Themes/AACAP/docs/clinical-practice-center/guide.to.building-collaborative-mental-health-care-partnerships.pdf](https://www.aacap.org/App%20Themes/AACAP/docs/clinical-practice-center/guide.to.building-collaborative-mental-health-care-partnerships.pdf)) There are four components to each of the different kinds of collaborative care and they comprise mental health education, psychiatric consultation to primary care, care coordination and direct clinical service. While seemingly straightforward the processes of each of these components is modifiable, customizable, site specific, resource adjusted and system centered.

The design of the integrated collaborative care model and members roles:

The usual configuration of the integrated collaborative care model unites the primary care clinician, a care manager and the consulting child and adolescent psychiatrist (CAP) into a family centered, holistic service. The model expands and augments the elements of the basic skill set of each of these team members beyond that of routine care. The participation of all three solves the dilemma of inadequate understanding of the child patient within a family and community ecology. The impact of mental illness and behavioral impediments to acute and ongoing health care disorders are best understood in the context of the child’s relationships with family, community and self, the child’s potential, limitations and resilience, and the history of pervious heath care and trauma related experiences that impinge upon the present health issues

The Care Manager: The care manager, often a social worker by training, engages with the collaborative team and patient and family through an eclectic and integrated set of tasks. Beyond brokering supportive services which may be the sum total of a social worker’s traditional responsibilities much more is achieved in this model. The care manager may provide updates on progress and functioning on key measures both to the team *from the family* and updating and refining plans and treatments *to the family.* Additionally, communication and interaction with community affiliates (school, extracurricular, extended family and caregivers) are ways that the integrated model closes gaps on important aspects of the child’s life and facilitates a more facile engagement with patient, family and community.

Primary care clinician: The team leader of the integrated collaborative care model is the Primary care clinician (PCC). This role is expanded from the narrow delivery of physical health evaluation and treatment. It is certainly not unusual for the PCC to be responsible for mental health care of straightforward non-complex mental illnesses. With consultation from the child and adolescent psychiatrist which could be described as a specific and collegial educational and technical support and ultimately a default back up service to the PCC. With a model that builds in assurances of timely availability of comprehensive psychiatric methods of assessment and intervention the PCC can be free to take on complex cases with the understanding that a handoff to a higher level of experience and expertise is always available. THE PCC is then equipped to manage increasingly complex, comorbid and challenging illnesses.

Child and Adolescent Psychiatrist: Typically housed off site but available by video, telephonic and internet methods is expected to provide evidenced based, family focused, child centered suggestions to team members. The CAP is responsible for reviewing the medical record and whatever other methods the team and health system devises to store medical, psychological, social, educational and ecological data that the team has determined to be relevant along with the interim and outcome measures and larger functional achievement contained in the registry. Specific services that are usual functions of the CAP include diagnostic refinement, attainable and achievable treatment planning, a biopsychosocial treatment formulation and specific medication and psychosocial interventions. As multiple collaborators are involved in the care, the CAP provides oversight of progress through review of the various methods determined to evaluate progress. Regularly schedule team meetings that review cases and develop routines for clinical sharing are necessary responsibilities.

While integrated care might be thought of as a setting specific activity i.e., inpatient or outpatient, while difficult to manage logistically, it could exist within a health system as a format to follow the child through every facet of care. Almost 70% of the studies were randomized effectiveness trials. The diagnostic and symptomatic targets of the collaborative models included behavior, attentional, depression, anxiety, substance use and risk-taking behaviors, eating disorder, and autism spectrum disorders.

Effectiveness of the model:

A recent review considered a number of questions that current studies of the model may have failed to answer. After an extensive review of published studies the authors analyzed high quality papers most of which employed randomized effectiveness methodology. Many different illnesses were the focus of the collaborative models interventions and included behavior problems, ADHD, anxiety, depression, autism, eating disorders as well as risky behaviors and addiction. The studies were a mixed bag of collaborative models which limited the generalizability of the conclusions. It would seem that further studies are necessary to definitively resolve questions of cost effectiveness, fidelity to the model and adoption by clinicians, generalizability of the population serviced, sampling bias, burdens to the participants, retention and adequacy of treatment dosage, barriers to implementation and billing and coding conundrums, Alicia Callejo-Black, BA, David V Wagner, PhD, Krishnapriya Ramanujam, PhD, Ann Jeline Manabat, Sarah Mastel, BS, Andrew R Riley, PhD. A Systematic Review of External Validity in Pediatric Integrated Primary Care Trials Journal of Pediatric Psychology, Volume 45, Issue 9, October 2020, Pages 1039-1052,  <https://doi.org/10.1093/jpepsy/jsaa068>.

However other reviews cast a more positive light on what we know about collaborative care. . A review of 6 randomized controlled trials and nonrandomized quasi-experimental studies focused on the question of rates of treatment initiation and completion that was improved due to the collaborative care model . The findings of this review indicate that the integrated/collaborative care model within the pediatric primary care setting is associated with increased mental health treatment initiation and completion and higher patient satisfaction. The model was also associated with improved child adaptive behavior and positive mental health outcomes. Kimberly Burkhart, PhD1 , Kenneth Asogwa, MD2 , Nida Muzaffar, MD2 , and Mary Gabriel, MD. Pediatric Integrated Care Models: A Systematic Review. Clinical Pediatrics 2020, Vol. 59(2) 148–153.

The largest metal analysis of integrated clinical service model which included more than 13.000 participants had more to say about how well the model produced better care. Compared to usual office based stand alone providers the integrated model was modest superiority. When models where providers were more tightly tethered around a patients needs the effectiveness of integrated care was larger. It appeared that the model does not serve every need equally well. Treatment was better delivered than prevention. And better for mental health disorders than for addiction. Asarnow JR, Rozenman M, Wiblin J, et al, Integrated medical-behavioral care compared with usual primary care for child and adolescent behavioral health a meta analysis. JAMA Pediatrics2015:169(10)929-937.

As medical care becomes better elaborated around specific conditions the range of individual’s participating, the division of labor, roles, responsibilities is increasingly more common. Primary care as the point of contact with youth and their families must share in the advantages of team-based care as is a standard in other medical specialties. To meet the needs of caring for complex organ system disorders including brain and mind the range of the primary care clinician must be bolstered and supported. The clinical studies on the collaborative care model increasingly show that as the roles, responsibilities and integrating tasks of a clinical care team are acquired and delivered, the coordination of care to children and adolescents is superior to serial, segmented, standalone independent practitioners that is already an outmoded model in other fields of medicine.