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Organizational Capacity to Deliver Effective Treatments for Children and Adolescents

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Abstract

Treatment and services research in the general medical sector has emphasized the importance of addressing organizational capacity to improve interventions for patients with chronic conditions. Efficacious interventions for child and adolescent mental disorders without substantial enhancements in mental health organizational capacity will not result in improvements for children. This paper (a) lists some organizational enhancements that have resulted in improved medical care, (b) briefly underscores recent market trends such as state healthcare reform efforts, increased use of electronic records and contracting initiatives that push consolidation of agencies, and (c) describes one example of the organizational development of child behavioral services that will enhance treatment delivery.

Keywords

Systems of care; Organizational capacity; Population health management; Population health

Introduction

Interventions with documented efficacy are more available than ever, but child and adolescent mental health services in communities are generally considered inaccessible, ineffective, inefficient and uncoordinated (Harris et al. 2007; Singh 2009; AAP 2009). These concerns have led to strong calls for reform. In response, the child and adolescent mental health services field focused for more than two decades on Systems of Care (SOC; Pumariega et al. 2003; Winters and Metz 2009). SOC provided a set of aspirations for child services that aimed to limit restrictiveness of setting, enhance family involvement and increase coordination to improve child functioning. However, SOC has been criticized because changes in outcomes for children were not achieved (Cook and Kilmer 2009; Bickman et al. 1999).

A major problem at this point seems to be that coordinating ineffectual systems is putting the cart before the horse. Three decades of health services research in medical settings for adults with chronic illness underscored that a focus on either improving individual clinician care, as the focus of evidence based treatments, or coordinating systems alone is inadequate to improve patient outcomes as is emphasized in the SOC. Instead, a comprehensive population health approach that includes change for patient, family, clinician, practice/organization and accountable healthcare system embedded in the community is necessary to achieve high quality services and improved long term outcomes (Coleman et al. 2009; Epping-Jordan et al. 2004). High-quality preventive and treatment interventions exist for children and adolescents with or at risk of mental disorders. The research-practice gap, which, in part, is due to lack of sufficient

training, treatments and implementation science, may largely be inadequate organizational capacity of child mental health service agencies.

General medical settings have increasingly focused on organizational capacity and their panels of patients. Population health management strategies, based upon public health frameworks, have been applied extensively in many fields and require strong organizational frameworks (Lin and Moutsiakis 2009; US Preventive Services Task Force, 2008; Angstman et al. 2009). Yet mental health has been slow to respond. In part, this may be because of perceived differences between mental healthcare and other types of medical care. The latter is often seen as procedure-focused and emergent or acute care. However, an increasing amount of medical care is focused on chronic medical services like diabetes and hypertension that require motivated patients, ongoing decision making, recurrent assessment, case management and rehabilitative services, which are features common to effective mental health services. Recently, renewed attention to the possibilities of a broader population health framework applied to mental health has been described in several influential reports (e.g., National Academies Press, 2000, 2006, 2009; IOM's series of reports including prevention, adolescent health, and Integrating MH and substance abuse) as well as by advocates for mental health reform (e.g., SAMHSA, MHA). This emerging consensus offers insight into the possibilities for dramatic restructuring that might enhance the well-being of children and adolescents with mental disorders. The purpose of this manuscript is to describe the organizational features necessary for child mental health services to adopt a broader population health approach.

Organizational Features

The last decade of science in child mental health services has emphasized the development and implementation of specific treatments for children and adolescents with particular disorders. Improving the diffusion of new evidence-based prevention and treatment services one at a time, while a sign of maturity for the field of child mental health interventions research, will not be sufficient to improve the mental health status of most children and adolescents. The overall system is ineffective for consistently delivering any adequate treatment to needy children in a timely and consistent manner (La Greca et al. 2009; Kazdin 2003). These evidence-based interventions need to be consolidated in effective system models that employ decision support for patients and clinicians, information sharing and analysis and system financing that supports best practices as noted in the Institute of Medicine Quality reports (2006), the Chronic Care models (Etz et al. 2008; Simon 2009) and the medical home studies touted in current health care reform debates (Carney et al. 2009; Domino et al. 2009). Examples from other fields of health care, science, engineering and social policy may be helpful to consider in finding the path to change from a singular focus on individual providers operating in isolation with panels of patients to a comprehensive and accountable process. In fact, leaders in psychiatry and psychology have called for similar changes in their responses to these documents. (Keyser et al. 2008).

Effective expert systems or organizations that manage complex health or social problems have attributes that allow them to function across settings and time for individuals and groups that are served. Some of the key attributes are listed below:

- *Organizational design and function* The study of effective and efficient organizations underscores key elements that are almost universally present in high performing groups (Upenieks 2003; Miron et al. 2004). These elements that support quality are motivated leadership, positive culture and climate among front line workers, external motivation for improvement, and information infrastructure that allows for feedback loops, performance appraisal and benchmarking against self and others.

- *Accountability monitoring and actions* Effective expert systems in computer science, engineering and general healthcare all use accountability monitoring and intervention cycles derived from industrial design science (Thompson et al. 2003). Although some industries monitor individual workers, most advanced systems monitor overall system outcomes and use rapid cycle improvement processes of various types to improve quality (Wagner et al. 2001). This is especially important when individual practice variation or input varies across sites or procedures or when outcomes reflect a variety of determinants (Jamtvedt et al. 2003). Thus, overall monitoring of patients across settings and time is likely to be much more productive than monitoring of individual visits. Still, early evidence suggests that individual feedback systems can be useful for improving care among child and adolescent psychotherapists when supervision is adequate (Hawkins et al. 2004; Lambert et al. 2001).
- *Rational and efficient distribution of resources*: One of the most significant differences between the “old” and the “new” model is the emphasis in the new model on caring for a **panel or population** of patients over time and settings regardless of their ‘visit’ status. This is different from SOC or patient lists developed by specialists groups in that the entire range of persons from healthy to ill are included and requires such systems to address prevention. In addition, SOC mandates individual planning and delivery of services separately from any consideration of re-structuring community delivery and without coordinated information exchange that monitors patient well-being. This reframing of the targets for the revised healthcare system sets in motion a range of different administrative structures, service arrays, staffing patterns, etc. The old model of service delivery focuses on caring for individual patients as they seek care during a specific visit and often within a particular type of site such as inpatient, residential, day treatment or clinic. In contrast, the new models support **population management strategies** that include early identification, standardized assessments, decision support, ongoing monitoring and structuring care around long term interactions in settings that support the patient and family in the care process.
- *Regional authority*: British health planners as early as the middle of last century noted the need to form regional structures to monitor the population health more broadly (Bullen et al. 1996). Canadian healthcare policymakers have come to similar conclusions and launched a variety of regional healthcare planning and practice initiatives (Reamy 1995). In the U.S., the evidence for improvements in specialty care using population methods and regional planning is impressive. For example, pediatric clinical care, transplantation, trauma, and burn services have reorganized their healthcare delivery systems to address problems similar to those currently confronting mental health (Di Napoli et al. 2009; Watson 2002; Smith et al. 2000). Specifically, faced with increasingly complex treatment practices for the most severe patients, limited numbers of pediatric subspecialists, long wait times, lack of outcomes data and inappropriate care in many locations, pediatric critical care, transplant, trauma and burn services developed sophisticated regional delivery systems. The results have been reductions in mortality and costs, published outcomes and standards, and a credentialing system. In the past fifteen years, other subspecialists that are not associated with major surgical procedures or events have moved to similar models of regional organization with credentialing of centers, publication of outcomes and monitoring of patients over time and across settings. These include cystic fibrosis, genetics, sickle cell disease and inflammatory bowel disease (Matel and Milla 2009; Seetharamaiah et al. 2009). There are some key differences between mental healthcare and other medical conditions that might influence the ability to implement such regional systems. Many medical conditions are procedure based or have definitive diagnostic tests which make them easier to identify, monitor and track. However,

other conditions such as asthma, developmental delay and hypertension all share characteristics with mental disorders in that they are common, often under identified, difficult to monitor outcomes and extend along a continuum. All benefit from case management services often from trained individuals who are not professionals, and all have an important social component. Fortunately, there are emerging models of successful regional systems with some of these.

- *Centers of excellence:* Child mental health service delivery is currently complicated by the same issues that these other disciplines faced: extremely limited access to the most highly trained specialists, a rapidly expanding armamentarium of complex treatments, little to no tracking of patients over time and across settings, and no monitoring of outcomes. In part, these problems are attributable to the assumption that individual providers need to be competent rather than creating competent systems. No individual provider can know all the nuances of the various assessment tools, comorbidities and treatments, let alone communicate with families and other service settings over time and space. On the other hand, centers of excellence in child mental health services should have access to the most sophisticated assessments and treatments, have a single point of intake and communication with referral sources, provide monitoring and tracking services across a region, and evaluate practice continuously. Moreover, the rapid expansion of electronic health records, regional and insurer data warehouses and informatics applications for communicating with patients in real time means that mental health professionals will be forced to coordinate communication efforts with regional efforts in the near future for reimbursement and quality of care. The literature from trauma services and perinatal programs provides an excellent framework with which to lay out the principles and tasks necessary for developing regional child mental health programs and their respective centers of excellence. Evaluating long term outcomes and costs for such centers as is done with transplant and cystic fibrosis is an important function to ensure that these labels are not meaningless.
- *Information systems* Most discussions of digital technology in medical care have focused upon the electronic health record. Such records have been slow to migrate to the mental health clinics because of high startup costs, an inpatient focus and workflow concerns. However, changes in reimbursement systems such as incentives for use of electronic health records and the cost of conducting quality audits without EHRs are increasing their uptake (Fischer et al. 2008). More importantly than basic EHRs, the uses of other types of digital technology have larger implications for improving mental health services and enhancing research on the same. These other types of technology can be grossly divided into those technologies that provide patient and family engagement with their care and the systems to those that provide decision support for the clinician and practice, although some technologies do both. For example, computerized psychosocial screening and assessment in pediatric or community mental health rooms may facilitate recognition and correct diagnosis of these patients (Julian et al. 2007). Logistical challenges frequently prevent paper-based psychosocial screening from occurring. Front office staff members often lack the time to distribute and score paper questionnaires, and clinicians have competing clinical responsibilities during brief visits with patients (Stevens et al. 2008). Touchpad computers in the waiting room or at-home screening prior to office visits with secure wireless connections can help overcome these logistical challenges. Because patients and/or their caregivers directly answer psychosocial questions in waiting rooms or in their homes via this technology, neither clinic staff nor clinicians must take time to administer, score and transcribe screening tools and more detailed assessments for these concerns. While patient time to complete assessments is more available than clinician time, it is also clear from early studies that the salience of

such assessments is low for individuals who are not attending appointments soon or actively engaged in healthcare seeking. For example, parents of children seeking care seem willing to complete assessments in waiting rooms but only a small minority complete assessments at home (Horwitz et al. 2002). Digital assessments like these could be used to monitor treatments and side effects.

- Decision support tools for evidence based care:* The development of adaptive testing tools through the NIH Roadmap Initiative known as “PROMIS” will allow highly efficient assessments across multiple domains in real time (Hays et al. 2009). Adaptive testing regressions employ known patterns of response from large samples to selectively administer questions to respondents based on last previous response. Simulation studies suggest that most patients can complete assessment tools in one-quarter to one-half the time that usual paper based assessments take, especially for more narrow band assessments like depression (Gardner et al.2002). Even more important than assessment tools for clinicians will be digital technologies that engage patients and their families more effectively. Some of these support learning, symptom management and self care for parents or adolescent patients. These include online therapeutic workbooks and cognitive therapy supports for depression to self-management training tools for adolescents with ADHD. Even more interesting are tools that help primary care clinicians, teachers and therapists manage their patients on psychotropic medications. New tools for assessing symptoms and side effects in real-time using interactive voice response telephone systems and text messaging systems are currently under study for patients with mental disorders on psychiatric medications. These types of tools will help primary care clinicians manage the increasingly demanding nature of recommendations from the Food and Drug Administration and others for careful follow-up and monitoring of youth with psychiatric illness, especially those on medications.
- Client and family relevance:* Patient and family participation in therapy or treatment is one of, if not, the best predictor of successful outcomes of interventions (Weisz et al. 2009; Joiner and Wagner 1996). However, success in engaging patients and families in routine services remains elusive with most community mental health settings experiencing high rates of dropouts at each phase of treatment (Chen 1991). A growing body of research supports specific interventions from motivational interview training for pediatricians referring children to special intake interventions to increase retention. Similarly, telephone case management and motivational interviewing appear to improve adolescent retention in services (Henderson 2008). Communitywide engagement strategies with primary care offices, telephone support services and patient intake interventions will not be affordable to any but the largest mental health agencies unless they are done on a geographic or population basis. Support for family activation and engagement in service planning is also being garnered from national family support, education and advocacy organizations. (Hoagwood 2010) For example, the National Alliance for the Mentally Ill has recently issued a new guide for families, called “Choosing the Right Treatment: What Families Need to Know about Evidence-based Practices” (Gruttadaro et al. 2007). The attention by family-based organizations to delivery of effective research-based services and to active involvement of families in mental healthcare delivery foreshadows a new opportunity for restructuring the child and adolescent mental health system. Emphasis on active family involvement, informed choice, and use of research-informed strategies signals a new stance on the roles of families in a re-structured system.

Increasing Capacity in Child Mental Health Services

Specific recommendations to implement the features listed above are beyond the scope of this document as each particular item will require financing, policy, technology and social change. However, one could imagine the likely ways that current market, technical and professional currents will push the organizational capacity of child and adolescent mental health systems.

In the mental health specialty sector, the increased costs of electronic health records, economies of scale, the growing complexity of treatments and quality/pay for performance reimbursement will gradually push consolidation that is already occurring in the general medical sector. In fact, the percent of physicians working in solo practice has declined for more than a decade, and the trend is accelerating (Robinson 1998). Thus, expanding mental health clinician agencies could adopt organizational designs, electronic tools, family engagement strategies and other population health strategies if their financing supported such action (Mechanic 1993).

However, the limited growth of resources in the mental health sector outside of psychotropic drug costs as compared to all health spending and the already strained workforce suggest that the mental health specialty sector will not likely play a leadership role on a large scale in these transformations.

On the other hand, the rapid growth of accountable care organizations and aligned medical systems with deeper pockets in the general medical sector (Shortell and Casalino 2008) will increasingly draft regional mental health systems to meet the comprehensive needs of their larger populations. Such organizations will have the resources to provide aligned financial incentives, electronic health records, decision support, outcomes monitoring, and centralized tracking with regional outreach. They will push behavioral components to employ evidence based technology and patient specific tracking and communication. Some examples of such organizations exist today and include large behavioral healthcare components. Nationwide Children's Hospital has more than 800,000 visits to its clinics annually in Ohio and almost 77,000 of them are behavioral health visits to their extended network of 14 outpatient mental health sites. All of these behavioral health sites are implementing an electronic medical record linked to the general medical record in an enterprise data warehouse. Safety data and outcomes are also entered into the warehouse. Satisfaction measurement, access and outcome results are being tabulated for each clinic and clinician. Some of the clinics have partnered with their co-located general pediatric clinics to use waiting room computerized assessments by families and others use electronic registration and reminder systems for behavioral patients, all of which are supported by systems run through the main pediatric hospital system. Electronic prescriptions for all patients allow for monitoring of inappropriate combinations of medications and information for psychotherapists who might not otherwise know about medications. The system also allows for training of psychiatric nurses, therapists and psychiatrists in the use of such tools for their future practice.

Conclusion

The laudable focus on improving the efficacy of preventive and treatment services for children and adolescents has resulted in an ever expanding repertoire of interventions for children and adolescents with or at risk of mental disorders. Unfortunately, the delivery system has not kept pace. Early recognition of system inadequacies led to a focus on coordination of public services and family involvement through the System of Care approach with mixed results.

Now, state healthcare reform initiatives, the mandated advent of electronic health records and decision support tools and market forces which favor consolidation, all of which have fundamentally altered general healthcare services, are beginning to change mental health

systems in profound ways. Hopefully, these changes will provide the opportunity to focus on a population health orientation that carefully considers both individual family and contextual factors in a system that is organizationally capable of responding because of strong design characteristics, information technology and accountability systems.

Although it is possible that some mental health systems will evolve these capacities independently, the need for coordination with medical systems and the greater resources available in the pediatric healthcare system make it more likely that child and adolescent mental health services can best develop these capacities in partnership with general medical systems with strong infrastructure and ambitions to become more comprehensive accountable care organizations.

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