

Preventing Youth from Falling Through the Cracks Between Child/Adolescent and Adult Mental Health Services: A Systematic Review of Models of Care

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Abstract Optimizing the transition between child and adolescent mental health services (CAMHS) and adult mental health services (AMHS) is a priority for healthcare systems. The purpose of this systematic review is to: (1) identify and compare models of care that may be used to facilitate the transition from CAMHS to AMHS; and (2) discuss trends and implications to inform future research and practice. Results identified three models of care which move beyond healthcare services and incorporate a broader range of services that better meet the dynamic needs of transition-aged youth. Joint working among providers, coupled with individualized approaches, is essential to facilitating continuity of care.

Keywords Transition · Mental health · Adolescent · Child development · Systematic review · Health services research

Introduction

According to reports from the World Health Organization, “Mental health disorders account for nearly half of the disease burden in the world’s adolescents and young adults” (Ezzati et al. 2004; World Health Organization 2009). Currently, there are inconsistencies in service delivery and practice standards for maintaining continuity of care as youth transition from child and adolescent mental health services (CAMHS) to adult mental health services (AMHS) (Davidson and Cappelli 2011; Davis et al. 2006; McLaren et al. 2013; Singh et al. 2005, 2008; Waddell et al. 2005). Research evidence from Australia, Canada, the United Kingdom, and the United States have identified difficulties in obtaining access to care and providing coordinated and integrated services for youth transitioning to adult services (Maslow et al. 2011; McConachie et al. 2011; McGorry et al. 2013; Pottick et al. 2008; Singh et al. 2005). Transition is

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often characterized by complexity as it typically coincides with the highest risk for onset of serious mental health disorders; requiring an array of community and vocational services to address the diverse needs of youth (Crowley et al. 2011; Davidson 2011; Davidson and Cappelli 2011; Taylor et al. 2012).

Improving continuity of care for transition-aged youth requiring mental health services has been identified as a top priority for many governments and institutions around the world and different approaches to addressing these transitions are being piloted across the globe (Carver et al. 2015). Challenges with the transition from CAMHS to AMHS may be attributed to: (1) the complex primary and specialized service needs of youth with mental health disorders, and (2) the experience of concurrent developmental transitions, such as the shift to independent living, post-secondary education or entering the workforce, and developing new relationships/social networks (Blum et al. 2003; Kutcher et al. 2010; Kutcher and McLuckie 2013; Paul et al. 2014; Rosen et al. 2003). These challenges are compounded by the fact that there is often no clear linkage or pathway between CAMHS and AMHS. The organization and functioning of these health services are complex and may vary by geography, governance, forms of delivery, financing, and service type (Lavis et al. 2012; Prior et al. 2014; Schmid et al. 2010; Wendt et al. 2009). Despite efforts to develop holistic services and programs for youth to adult transitions in mental health areas, it is alarming that after almost two decades of transitions research, there continues to be a lack of standards and models of care guiding research and service planning and delivery for transition-aged youth (Davidson et al. 2006; Embrett et al. 2015; Gorter et al. 2014; Lamb and Murphy 2013; McGorry et al. 2013; Nguyen and Gorter 2014; Swift et al. 2014).

Although several programs that provide transition services exist, we define a ‘model of care’ as an integrated system of services that facilitate best practices of care and in this study, such models must be specifically designed to address the needs of transition-aged youth as they progress from CAMHS to AMHS. We differentiate these integrated models of care from programs or services geared to transition-aged youth that may not be specifically designed to assist youth as they transition between systems. Transition services for youth with mental health disorders have been evaluated elsewhere (Di Rezze et al. 2015; Embrett et al. 2015; Randall et al. 2016). The purpose of this review is to (1) identify and compare models of care that may be used to facilitate the transition from CAMHS to AMHS; and (2) discuss trends and implications to inform future research and practice.

Methods

The procedures for reporting followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher et al. 2009). To help ensure clinical and policy relevance, a Steering Committee was established to oversee the study. Committee membership includes researchers, clinicians, policymakers, as well as young adults and family representatives with experience in transitions for youth with mental health disorders. TN & ME conducted the search, article screening, and study selection. TN, ME, and NB conducted the quality assessment. All team members contributed to the study design, data extraction, and analysis.

Information Sources

To identify relevant studies, five prominent healthcare databases were searched: CINAHL, Embase, HealthSTAR, MEDLINE, and PsycINFO. Keywords related to mental health, transition, youth, and models of care. The keywords were modified as necessary for each database.

Study Selection and Eligibility Criteria

All article titles and abstracts were screened for relevance based on inclusion criteria below. Once the title and abstract reviews were completed, a full-text review of remaining articles was performed to determine eligibility. Eligibility criteria consisted of: (1) having an explicit description of a model of care that supports continuity of care for youth and young adults aged 12–25 as they transition from CAMHS to AMHS; (2) youth with mental health disorders in the study sample; (3) peer-reviewed journals; (4) English language; and (5) published between January 2003 and November 2015. References of the included articles were also examined to identify additional articles that met the inclusion criteria.

Data Extraction

The name, purpose, description of the model of care, and implications for organization and delivery of mental health transition services were extracted from the eligible articles (see Table 1). The included articles were assessed for their methodological quality based on a quality assessment scoring system for quantitative and qualitative primary research studies (Kmet et al. 2004). Scores can range from 0 to 1, with higher scores indicating greater

Table 1 Data extracted from the articles included in the systematic review

| Model of care | Purpose | Transition elements | Transition determinants | Implications | Study population |
|---|---|---|---|--|---|
| <p>Framework for Understanding Mental Health Service Utilization (Munson et al., 2012) United States Quality score: quantitative 0.62; qualitative 0.90</p> | <p>Understanding utilization of service for youth with mental disorder in transition</p> | <p>Understanding the type of user, as determined by (1) Dynamics (2) Mechanisms (3) Context (4) Intersectoral</p> | <p>Understanding the type of user (continuous user, single gap user, multiple gap users and discontinuers) will help develop more effective transition programs through predicting and preemptively address issues with service utilization</p> | <p>Lack of service user (disengagement) is due to: (1) Developmental changes in perceptions of service when needed (2) Perceptions that services were not effective/ alternative options (drugs) (3) Undesired side effects of service use (4) Lack of resources to access service use</p> | <p>Youth with diagnosed mood disorder Age: 18–25 years</p> |
| <p>Transition to Independence Process (TIP) (Haber et al., 2008) United States Quality score: quantitative 0.85</p> | <p>Summarize principles and operational characteristics thought to be associated with effective transition</p> | <p>(1) Living conditions (2) Educational opportunities (3) Employment and career</p> | <p>The extent to which youth are engaged in determining/ achieving life goals, the provisions of non-stigmatizing supports, and family involvement</p> | <p>One on one relationship b/w transition facilitator and the patient Transitions require a planning process that highlights the individual life goals of the youth</p> | <p>Youth diagnosed and undiagnosed mental illness Age: 14–29 years</p> |
| <p>Transition Service Integration Model (TSIM) (Certo et al., 2003) United States Quality score: N/A</p> | <p>Describes the relationship between public support systems that will improve the effectiveness of transitions for youth with mental disorder graduating from secondary school</p> | <p>(1) Special education (2) Rehabilitation (3) Developmental disability</p> | <p>The extent to which resources and expertise with each element of transition is integrated to promote a development of organization and independence for each youth</p> | <p>The transition planning between school and competitive employment in adulthood needs to be started before education ceases in order to enhance and maintain access to community and employment support</p> | <p>Youth with significant disabilities (mental and physical)</p> |

quality (Kmet et al. 2004). Three of the authors carried out these assessments and their scores were averaged.

Results

The search identified 1441 articles identified across the five electronic databases (see Fig. 1). After screening the titles and abstracts, 13 articles were retrieved for full-text review. Eleven of these articles did not meet the inclusion criteria, as the study samples did not include youth with mental health disorders, and were excluded. One additional article was identified through the reference checking of the remaining two articles. A total of three articles formed this systematic review and three distinct models of care were identified: (1) the Framework for Understanding Mental Health Service Utilization (FUMHSU) (Munson et al. 2012); (2) the Transition to Independence Process (TIP) model (Haber et al. 2008); and, (3) the Transition Service Integration Model (TSIM) (Certo et al. 2003).

Quality Ratings

Of the three included studies, two met the criteria for quality assessment. The study by Certo et al. (2003) could not be evaluated as it was mainly descriptive and not a primary research study. One of the evaluated studies had quantitative elements that were rated for quality (Haber et al. 2008; mean score = 0.82). The other evaluated study had both quantitative and qualitative elements that were rated for quality (Munson et al. 2012; mean quantitative score = 0.62, mean qualitative score = 0.90).

Identified Models of Care

Framework for Understanding Mental Health Service Utilization

The FUMHSU model stratifies youth with mental health disorders into different categories (continuous user, single gap user, multiple gap users, and discontinuers) that describe their service use patterns over time through engagement and disengagement in transition services (Munson et al. 2012). Four interacting sets of determinants are used to characterize the category of user: dynamics, mechanisms, context, and intersectoral views. *Dynamics* refers to personal characteristics such as age, life stage, behavioral beliefs, self-image, emotional stability, and self-efficacy. *Mechanisms* refer to the motivation of the user to engage with services, such as intention to use the mental health system, perceived efficacy of treatment, and knowledge of care. *Context* refers to living situations such as family network, community support, and employment. *Intersectoral views* refer to the ability of public institutions and health systems to provide needed care between different service environments.

To identify which category each user will fall into, the model emphasizes the perspective of the user based on the developmental changes he or she experiences, effects of treatment, resources to access treatment, and social opinions of service use. The interaction of these elements determines how these perceptions lead to reactions to service use opportunities over time, and the resulting impacts on transitions.

Transition to Independent Process Model

The TIP model was designed to guide processes for coordinating efforts of various specialties and community institutions within three interacting domains: (1) living conditions; (2) educational opportunities; and (3) employment and career (Haber et al. 2008). An individualized transition approach is used to identify public services needed to support young adults between 14 and 25 years with emotional and/or behavioural conditions to become self-sufficient (Clarke 2012). Life goals, provision of appropriate non-stigmatizing supports, and involvement of family and key stakeholders in the transition process are discussed and reinforced (Clarke 2012). In order to achieve these goals, the TIP model suggests the involvement of a transition facilitator or navigator to provide one-on-one support for transitioning youth. Seven principles or core competencies that can be used in guiding facilitators include: (1) qualitative features of facilitator-youth interactions (e.g., encouraging sharing of thoughts); (2) neutralizing judgmental reactions; (3) using positive eye contact and body language;

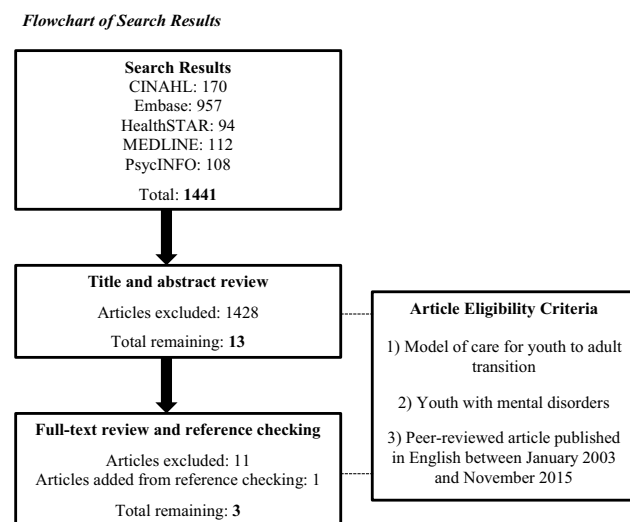


Fig. 1 Flowchart of search results

(4) asking open-ended questions; (5) providing affirmation and descriptive praise; (6) reflecting for understanding; and (7) offering descriptive assistance if necessary (Clarke 2005, 2012; Haber et al. 2008).

Transition Service Integration Model

TSIM describes how three primary systems (special education, rehabilitation, and developmental disability) contribute to the process and outcome of transition to adulthood for youth with moderate to profound intellectual disabilities (Certo et al. 2003). TSIM suggests that siloing among the three systems is a major contributing factor to the poor health outcomes of this population in adulthood; when the systems function in isolation, they will not adequately serve youth's needs for transition (Certo et al. 2003). All three systems must work collaboratively to serve the diverse needs of youth and to achieve optimal outcomes as they transition to adulthood (Certo et al. 2003; Luecking and Certo 2003).

The intended primary outcome of TSIM is that youth realize competitive employment opportunities and inclusion in the community. The *special education* element describes skills development during early life that can impact life course outcome. A *one-stop shop* approach is emphasized at the transition point for the youth in their last year of high school (Certo et al. 2003). The model describes how the resources of school-based supports can be integrated with post-school employment supports in order to attain competitive employment. *Rehabilitation* is focused on job placement as an end goal. To achieve this, an organized, community-based classroom approach that incorporates community engagement is used to promote independence and paid employment for the youth. The *developmental disability* system focuses on integrating the youth into the community using long-term community supports (Certo et al. 2003).

Discussion

This review aimed to examine current models of care in mental health. Three models of care were identified: FUMHSU, TIP, and TSIM. Although this review identified a limited number of models of care, this review provides an in-depth description of existing strategies and begin to delineate key constructs within the various models of care. Despite differing foci, the three models of care reviewed in this study provide complementary insight into complex systems of care and essential services that should be considered to ensure continuity of care for transition-aged youth. Policymakers may consider using the components and strategies in these models when designing transition

services to inform change in practice and service delivery. For example, TIP and TSIM examine transition services from a systems (macro-level) perspective and provide guidance on integrating transition services across various systems to facilitate more comprehensive and individualized approaches to services, treatments, and interventions. The TIP model explicitly recommends the use of a facilitator or navigator to work one-on-one with the youth to bridge across systems. The TSIM takes a different approach by emphasizing the shared responsibility of all services to collaborate together, which helps avoid the need for a navigator to bridge systems. In contrast, FUMHSU focuses on the individual (micro-level) perspective, including the characteristics and expectations of the individual youth in transition, and how personal, social, and environmental factors influence their use of mental health services. An advantage of this approach is the facilitation of a better understanding among healthcare providers regarding how youth perceive the value and benefits of transition services. Thus, FUMHSU may complement TIP and TSIM by identifying what factors may lead youth to begin, remain in, or discontinue treatment.

All three models emphasize a more comprehensive approach to transitions by extending services beyond healthcare to address needs related to community participation, employment, housing, and independent living (Certo et al. 2003; Haber et al. 2008; Munson et al. 2012). While the TIP model focuses on empowering youth to become self-sufficient by coordinating different levels of care to promote independence, TSIM focuses on employment and participation within the community. FUMHSU emphasizes the importance of collaboration between public institutions and health systems to promote coordinated and comprehensive transition planning and service delivery. These findings are well aligned with recent evidence that suggest a more holistic approach to services to address the dynamic needs of transitioning youth (Stewart et al. 2014).

These findings also help build capacity among policymakers to promote joint working and collaboration between various systems of care and providers in the planning and delivery of transition services. Gorter et al. (2015) found that current services and systems are working in silos with limited communication among them. Thus, an integrated and coordinated approach towards transition planning is needed among systems of care (Hamdani et al. 2011; Nguyen and Gorter 2014). Ideally, a multidisciplinary team consisting of providers from various service sectors would be involved in assisting youth and families navigate and coordinate services, resulting in effective care while avoiding overlap in service delivery (Gall et al. 2006; Singh et al. 2010).

A key message for healthcare providers and transition planners promoted in each model is that it is essential that

transition services be tailored to each individual youth. This means providing a guide and strategies to engage youth in transition planning in the TIP model (Clark 2012; Luecking and Certo 2003); an individualized rather than a single recipe approach in the TSIM model (Certo et al. 2003); and promoting client- and family-centred care that tailor services to each youth's personal characteristics and motivation, living situation, and public supports in the FUMHSU model. In all three models, youth and their families (broadly defined to include friends, siblings and peers in addition to parents) are identified as needing to be actively engaged in every step of a transition process (pre-transition, during transition, and post-transition) that includes services tailored to developmental needs and personal goals. The models also place importance on assisting youth with accessing existing public supports (e.g., education, social security, housing supports, rehabilitation, and social services) (Certo et al. 2003; Haber et al. 2008; Munson et al. 2012).

The lack of specific services that address sexual and intimacy issues is one aspect where each model of care seems to be lacking given their importance for a successful transition for this age group (Davidson and Cappelli 2011; Di Rezze et al. 2015). We hypothesize that this lack of attention is due, at least in part, to the sensitive nature of these topics; youth and families may need support and education in expressing their needs and concerns. Thus, providers working in transition research and practice may consider providing additional information and education on sexuality and intimacy during transition planning.

The findings also suggest areas for further exploration and research, including issues of sexuality, culture, finance, environment, and administration in transition planning in order to facilitate a holistic approach to care (Anderson et al. 2014; Nguyen and Baptiste 2014a, b; McGrandles and McMahon 2012).

Limitations

The community-based models identified here present a promising approach to helping transition-aged youth to maintain continuity of care as they move from CAMHS to AMHS. The major limitation of this review is that only published literature was examined. A future study may consider including grey literature to thoroughly explore additional models of care.

Conclusions

There is a global call to support youth who are transitioning from CAMHS to AMHS. Results of this systematic

review revealed a paucity of academic literature surrounding models of care that support continuity of care for youth receiving mental health services over this important developmental stage. Although only three models are identified in this review, the findings describe important strategies and delineate key constructs within these models, which go a long way toward promoting integrated and holistic care.

Importantly, the findings from this review confirm that complex and multifaceted challenges exist when it comes to ensuring that transition-aged youth have appropriate continuity of care in mental health service delivery. Youth and families require support from multiple systems of care to address their diverse needs that extend beyond health (Fraser 2007; Lindgren et al. 2013; While et al. 2004). Collectively, the identified models offer new insights into how services can be organized to better meet the needs of vulnerable youth, and highlight important gaps that must be considered when planning the delivery of services for youth. More specifically, these models of care reveal that the current silos in service design and delivery can be overcome through enhanced collaboration. In addition, greater efforts need to be directed towards ensuring that services are client- and family-centred in order to facilitate continuity of care and successful transitions to adult care.

Key Messages

- Although current models of care include factors beyond healthcare, the
- current gaps in models of care relate to issues of sexuality, culture, finance, environment, and administration.
- The three identified models of care suggest an integrated and collaborative approach is essential for supporting continuity of care and facilitating successful transitions from CAMHS to AMHS.
- The findings of this review offer knowledge and strategies to inform policy to design effective client and family-centred transition services.

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Compliance with Ethical Standards

Conflict of Interest All authors declare no conflict of interest.

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