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A Wraparound Approach to 'Whole of Student' Issues: Education, Health, and Community Services Review of Literature Project Report



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Report prepared by:

Associate Professor Therese M. Cumming, Lead Project Investigator
Professor Iva Strnadová, Project Investigator
Dr Robyn Lonergan, Research Assistant
School of Education, Arts and Social Sciences, UNSW Sydney

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Contact: Associate Professor Therese M. Cumming
School of Education
UNSW Sydney
t.cumming@unsw.edu.au

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Table of Contents

<i>Executive Summary</i>	4
<i>Introduction</i>	7
<i>The Ten Principles of the Wraparound Process</i>	9
<i>Theoretical Framework of Wraparound</i>	11
<i>Wraparound in the Context of Site-Based Education</i>	12
<i>Systematic Review of Articles</i>	14
Identification of articles	15
<i>Evidence Base for School Wraparound Programs</i>	15
<i>Findings Relating to Research Question 1</i>	17
Controlled studies	18
Non-controlled studies	19
Wraparound effect on academic performance	21
Wraparound effect on school-related behaviours	21
Wraparound stakeholders' perceptions of efficacy.....	22
Wraparound process /program model efficacy	23
Wraparound leadership (principals and facilitators).....	24
Wraparound efficacy and interagency collaboration	24
Wraparound in alternative education settings.....	25
Wraparound role in transitions from more-to- less restrictive environment.....	25
<i>Summary points from Research Question 1</i>	26
<i>Findings Related to Research Question 2</i>	28
Wraparound team functioning	31
Funding availability	32
Leadership	33
Nature of the wraparound program on offer	34
Stakeholder buy-in	35
Turnover/absentee rates of stakeholders	36
Formalised role descriptions	36
Readiness and implementation practices	37
Communication issues	38
<i>Summary points from Research Question 2</i>	38
<i>References</i>	40
<i>Appendix A</i>	51
<i>Appendix B</i>	65

Executive Summary

This report details a review of the research base relating the delivery of formal wraparound services in support of students with complex support needs. A systematic review of literature was conducted and peer-reviewed articles were analysed to determine what evidence exists regarding the efficacy of formal wraparound services employed with school-aged students, and to identify the barriers and enablers of effective school-related wraparound models in providing integrated wraparound services for these students.

Findings from the investigation regarding the efficacy of wraparound services for school-aged youth are summarised as:

- Although there is some evidence for positive effects of wraparound on academic performance, particularly in the long term, evidence is stronger for its effects on school-related behaviours. For example, wraparound services appear to have an identifiable positive impact on absenteeism, class disruptive behaviours and the experience of being at school. Length of intervention and the quality or fidelity of the wraparound programme would appear key.
- The diversity of stakeholders consulted were overwhelmingly positive and optimistic concerning the efficacy of school-based wraparound, despite also identifying significant barriers.
- The efficacy of wraparound processes was difficult to assess. School-centred wraparound is described variously in terms of a standalone process, an ecological model, an extension of intervention processes in schools, and a guiding principle in community schools. The general consensus is that wraparound has proved efficacious if applied with fidelity over an adequate time period.

- Leadership style of both principals and facilitators has been shown to be important in ensuring that wraparound services are effective. The background knowledge and expertise of the individual undertaking the facilitator role is acknowledged as central to a successful programme.
- Interagency collaboration is acknowledged to be an important factor in wraparound efficiency. The literature tended to focus on reasons why collaboration has been found to be ineffective, with poor information sharing and communication often creating problems. One study found that collaboration was more effective when wraparound was based in the school context.

The article analysis identified a number of factors that could act as barriers to the effectiveness of school-centred integrated wraparound programmes. Nine factors are summarised below:

- Collaborative functioning of the wraparound team was the most commonly mentioned factor, with differences in culture, priorities and protocols creating difficulties with communication and information sharing. Availability and commitment of professional partners willing to accept the workload of providing effective wraparound was also noted as a potential barrier.
- The sourcing of adequate funding and consequent resource allocation within the complex process of wraparound was noted as an important barrier or enabler.
- A lack of strong, effective and open-minded leadership of principals, facilitators and key decision makers.
- Aspects of the programme offered could act as barriers or enablers. The stage at which students were recruited to participated, the cultural appropriateness and

adaptability of the programme, the length of the programme, the intensity of the wraparound services, consistency of personnel, student and family engagement with the programme, and the care offered after exit were noted as important to overall wraparound efficacy.

- Lack of commitment of stakeholders such as school principals, teachers and staff, participants and their families, the local community, external agencies, and relevant political systems.
- Participant absenteeism or dropping out of the programme was noted as having a major effect on efficacy, but so did changes amongst wraparound team members interacting with the student, and policy makers at state and national level.
- Lack of formal understanding between team members regarding goals, roles and responsibilities was found to increase inefficiencies.
- A lack of thorough planning and careful groundwork at the early stages of contemplation and preparation. Preliminary work before implementing wraparound was indicated as being time consuming and must include, for example, informing and ensuring understanding and buy-in of school staff, students, community, and external agencies; cross-agency training for wraparound team members; gathering adequate resources; designing a high-fidelity programme; and developing clear referral pathways.
- Clear and ongoing communication within the team and between stakeholders was considered crucial to the efficacy of wraparound.

Introduction

This report provides a research base to inform best practice in the delivery of education-centred formal wraparound services to support the complex support needs of school-aged students in New South Wales (NSW), Australia. While the history and much of the literature around wraparound models is focused on students with emotional/behavioural disorders, the authors of this report acknowledge that these students often present with what is referred to as complex support needs, that is they are vulnerable youth who experience social marginalisation and social issues, including: (a) mental health issues, (b) cognitive disability, (c) physical disability, (d) behavioural difficulties, (e) family dysfunction often resulting in involvement with out of home care (OOHC) or juvenile justice, (f) social isolation, (g) drug or alcohol misuse, or (h) early disengagement from education (Dowse, Cumming, Strnadová, Lee, & Trofimovs, 2014). As wraparound models of support are designed to address any and all of these needs for each individual student, their application is not reserved solely to students with identified emotional/behavioural disorders, but to any student presenting with the complex support needs listed above.

The NSW Department of Education provides support based on a student's needs rather than a diagnosis or label, and this includes the provision of services for students requiring behavioural support. Data from the Centre for Education Statistics and Evaluation (CESE, 2015) identified that in 2015, 557 students with 'behaviour disorder' were enrolled in support classes and Schools for Specific Purposes (SSPs) and 1,758 students with 'emotional disturbance' were enrolled in support classes and SSPs in the NSW public schools.

Information contained in the current report is drawn from a systematic review of the literature commissioned by the UNSW Gonski Institute for Education. The aim of the systematic review was to map the peer-reviewed literature relating to wraparound models

utilised for students being educated in schools or alternate education settings. The research questions driving this literature review were:

1. What evidence exists regarding the efficacy of formal wraparound services employed with school-aged students with complex support needs?

2. What are the barriers and enablers of effective school-based or school-linked wraparound models in providing integrated wraparound services for students with complex support needs?

This report describes the development of the concept of wraparound, the education-based context of wraparound, and the methodological approach taken to the systematic review.

With reference to the research questions, the report then details findings from the analysis of peer-reviewed literature that fulfilled the criteria of the literature search.

Definition of Wraparound

The use of the term “wraparound” originated in the 1970’s in the context of service provision to children and young people with identified mental health issues. Wraparound models developed in response to the commonly fragmented and disjointed response to diagnosis from varied professionals, e.g., medical, doctors, psychiatrists, educationalists, and social workers in the existing “system of care” model (Cavanagh, 2013). Collaborative models such as wraparound have continued to gain attention from practitioners, researchers, and policymakers, particularly in urban areas. because they offer tangible approaches for coordinating and integrating the supports and resources of various community agencies, including schools, child welfare, health and mental health, case management, prevention programming, and afterschool care (Anderson, 2016).

Wraparound, defined as a process of co-ordinated service provision, is closely related to the system of care approach, but focuses on the practical implementation of case management in service provision (Kern et al., 2017; Stroul, 2002). Over time, wraparound has become a generic term used to describe various multiple service delivery systems designed to address the complex support needs of young people and their families and has moved beyond the original medical-based model. Wraparound provisions have become acknowledged as potentially offering both “informal” and “formal” supports. Informal supports include persons important to the individual, e.g., family, friends, schoolteachers, and coaches of sporting teams. Formal supports are professional service providers and include psychologists, psychiatrists, special educators, counsellors, social workers, mental health workers, providers of medical services. Formal supports may be based within (school-based) or externally (school-linked) to schools. Wraparound coordinators may be employees of the school system or of external agencies.

The wraparound process for an individual consists of four phases: (1) engagement and team preparation; (2) initial plan development; (3) plan implementation and development; and (4) transition. The process is developmental and activities characteristic to each phase have been identified (Walker et al., 2004). The concept of wraparound has broadened over time however, and practices have become diverse. Bruns et al. (2008) developed the ten principles of authentic wraparound to clarify the use of the term.

The Ten Principles of the Wraparound Process

(Bruns et al., 2008)

1. *Family voice and choice*: The goals and perspectives of the young person, their families and advocates must be a primary consideration.

2. *Team based*: The intervention must be a committed and collaborative effort of a team consisting of family members, professionals, and other stakeholders, and must be available over an extended period of time.
3. *Natural supports*: Where possible a wraparound plan should utilise the natural (informal) support systems available through friends and family, neighbours, school, church and community.
4. *Collaboration*: The development of a wraparound plan of service should be based on a consensus reached through discussion that includes input from all team members.
5. *Community based*: The intent of wraparound service provision should be to support the individual in the least restrictive setting possible; ideally in the home or in out-of-home care and attending mainstream school.
6. *Culturally competent*: Elements of the wraparound process should be designed, planned and delivered in a way that demonstrates “respect for the values, preferences, beliefs, culture and identity of the child/youth and family, and their community” (Bruns et al., 2008, p. 7).
7. *Individualised*: Wraparound services need to be flexibly and innovatively developed for the individual, drawing upon the best empirical evidence available of effective treatment, and on community and professional experience. Both informal and formal (expert) supports may be required.
8. *Strengths based*: The development of the wraparound plan should focus on strengths, not deficits. Capabilities, knowledge, skills and other assets already present in the individual, the family, team and local community are key.
9. *Unconditional*: There is a commitment by the collaborating team members to pursue the wraparound process to a conclusion where the wraparound is no longer required, although setbacks may potentially necessitate flexibility in approach.

10. *Outcome based:* Wraparound plans must identify assessable outcomes and include indicators of progress and success. Ongoing measurement and evaluation allow for the wraparound plan to be modified as necessary.

A continuing lack of conformity to these principles necessitated a more structured model of wraparound, the “high fidelity wraparound” model. Adherence to principles is considered paramount in high fidelity wraparound and detailed guidelines are provided, although advocates of wraparound acknowledge that individual contexts require some flexibility. “high fidelity wraparound (Wrap) is an evolving, evidence-informed practice to help sustain community-based placements for youth with serious emotional disturbances through the use of intensive, customized care coordination among parents, multiple child-serving agencies, and providers” (Snyder, Marton, McLaren, Feng, & Zhou, 2017, p. 167).

Theoretical Framework of Wraparound

It is generally acknowledged that schools contain many students with challenging behaviours and complex support needs and for some of these students, these behaviours are ongoing despite the implementation of evidence-based interventions. The broadening of the application of wraparound beyond the medical model has necessitated an ecological perspective (e.g., Farmer et al. 2016; Savina et al. 2014), specifically Bronfenbrenner’s ecological systems theory (Bronfenbrenner, 1989). According to this theory, the development of a school-aged individual is viewed as child-centric with encircling systems of relationships, with the micro-systems including families, schools, peers, and neighbourhoods and the macro-systems extending to broader domains including cultural and political contexts (Bronfenbrenner, 1989). [Through the lens of ecological systems theory, the wraparound for an individual young person can be usefully viewed as reaching inwards to the micro-systems of the school and outwards beyond the school.](#) The support required for the student may include collaboration with professionals working in systems beyond the school, ideally in the form of a physical “inreach” into the school system, although outreach to agencies in the local community and beyond may be required. (McIntosh, Bohanon, & Goodman, 2010; Messina, Kolbert, & Hyatt-Burkhart, 2015).

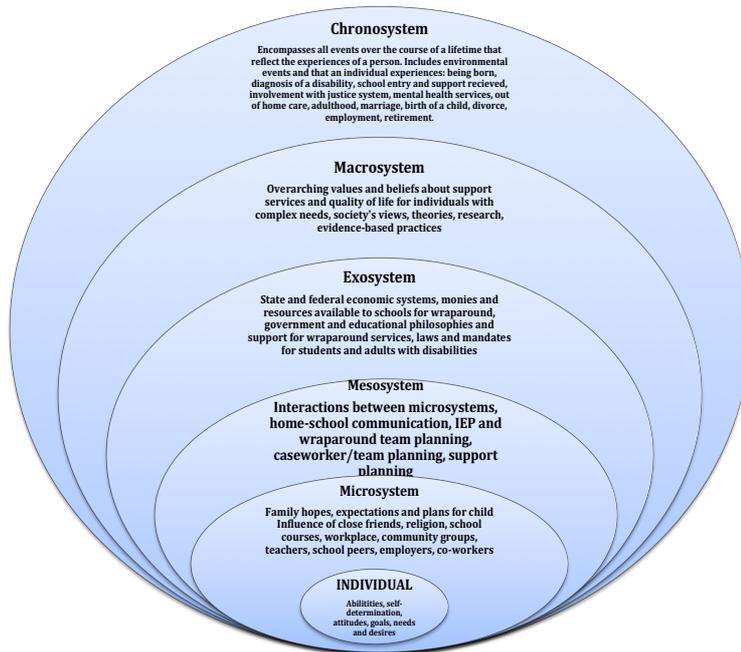


Figure 1. Bronfenbrenner's Ecological Theory of Human Development applied to wraparound

Wraparound in the Context of Site-Based Education

One of the most prevalent evidence-based practices in the education literature relating to behaviour is Positive Behavioural Interventions and Supports (PBIS). PBIS consists of three tiers of intervention. Tier 1 interventions are intended to support the majority of the student population (80%) and consist of universal practices that are implemented throughout the school, in all settings. Tier 2 interventions support the 15% of students who are determined to be at risk and are focused on rapid responses and high efficiency. Tier 3 interventions are designed to address the serious and ongoing emotional and behavioural problems of a small minority (1-5%) of students ([OSEP Technical Assistance Center on](#)

Positive Behavioural Interventions and Supports, 2015). Interventions at this tier are individualised. Formal wraparound provisions can be an essential component of this third tier (Bruns et al., 2016; Eber, Hyde, & Suter, 2011). Together with the Response to Intervention (RTI) framework (O’Conner & Sanchez, 2011) and complementary to Multiple Systemic Therapy (MST) (Fuchs & Deshler, 2007), formal wraparound provisions with interagency approaches are a logical extension to provisions already provided by schools.

School-based wraparound initiatives are focused on improving educational achievement. Wraparound services provided in the school context recognise the need to adopt a shared agenda, as students with emotional or behaviour disorders will present with challenging behaviours that will impact on their ability to learn (Kern et al., 2017; Messina et al., 2015). They also often have comorbid issues (complex support needs) such as mental health issues, drug and alcohol misuse, unstable housing, and involvement with the juvenile justice system that require the involvement of outside agencies for support (Cumming, Strnadová, & Dowse, 2014).

Interagency approaches merging with site-based education are most apparent in community schools (Anderson & Cornell, 2015; Eber, Sugai, Smith, & Scott, 2002). Though community school programming clearly varies, Oakes, Maier, and Daniel (2017) in a review of U.S. community schools, found they shared four common features: (a) integrated student supports, (b) expanded learning time and opportunities, (c) family and community engagement, and (d) collaborative leadership and practices. The term “integrated student supports” is referred to alternatively as “wraparound services” (p. 5) in this review. Valli et al. (2014; 2018) described four school-community partnership categories. Listed from least to most comprehensive in purpose and design these are: (a) family and interagency collaborations, (b) full-service schools, (c) full-service community schools, and (d)

community development. Although all categories have the potential, full-service schools are often referred to specifically as wraparound schools (Valli et al., 2016).

At a full-service school, wraparound services may be school-based or school-linked. In school-based wraparound, the services are on site and the school takes on the coordinating role with day-to-day management of the physical space and the responsibility of engaging and organising formal agency supports. Integrated services provided on-site have been found to be desirable, as this circumstance assists in the creation of a community and culture of collaboration between school personnel, community agencies, parents, and students intended to promote student mental and physical health and academic success (Caldas et al., 2019). School-linked wraparound services may or may not be on-site, the school is an important collegial partner, but it may share the role of lead agency with another core community-based agency.

Systematic Review of Articles

Through an exploration of peer-reviewed articles, the systematic review aimed to examine the current evidence base for the effective provision of wraparound services in supporting school-age students with complex support needs. Specifically, answers were sought to the following research questions relating to the provision of authentic wraparound services offered to school-age children and young people with complex support needs.

Research question 1. What evidence exists regarding the efficacy of formal wraparound services employed with school-aged students with complex support needs?

Research question 2. What are the barriers and enablers of effective school-based or school-linked wraparound models in providing integrated wraparound services for students with complex support needs?

Identification of articles

The following criteria were established for inclusion in the review:

1. For practical reasons only articles written in English were considered.
2. Only articles published between 2009-2019 were included, as the field is evolving and the literature quite extensive. Publications of the last decade would identify current trends and still capture older relevant work through meta-analysis or systematic reviews.
3. Only peer-reviewed journal articles were included, as they provide the foundation for an evidence base.
4. The focus of the articles had to be on school-age children and/or young people, aged 5-18 years, before transition from school to adult services.
5. Articles must have reported on or described collaborative planning for students with complex support needs, the school or education setting, and formal support services provided. The basic tenets of wraparound had to be present.

The following databases were searched for relevant peer-reviewed articles during May-June 2019: PsychINFO, ERIC, Medline, Google Scholar Advanced Search. By searching the reference lists of the most recent relevant articles, and several current dissertations, the process of chaining was used to further explore for relevant articles. At the end of the process, 50 articles were identified as fulfilling the criteria. These articles were then carefully examined to find material of relevance to the two research questions.

Evidence Base for School Wraparound Programs

Of the 50 articles identified from the systematic review, three distinct groups emerged, as summarised in Table 1. Studies that examined changes over time (referred to as implementation studies) are likely to inform both research questions more usefully than point-in-time surveys of practice. Longitudinal studies of practice, which include matched

controls, provide the strongest evidence-base for best practice. Within the parameters of this systematic review only four (Biag & Castrechini, 2016; Caldas, Gomez, & Ferrara, 2019; Malloy, Sundar, Hagner, Pierias, & Viet, 2010; Walker, Kerns, Lyon, Bruns, & Cosgrove, 2010) of the twenty implementation studies located were ; . The most common type of implementation studies identified was pre-post studies of wraparound interventions of targeted populations - but with no control group, often small sample sizes, and no measurement of fidelity to the principles. A similar situation was noted by Suter and Bruns in their 2008 review. The site-based studies were mostly aimed at justifying funding for specific wraparound models of service delivery. Five longitudinal site-based studies were identified.

The most common survey of practice study found was also that of a targeted population of students with emotional and behavioural disorders (EBD). One possible explanation for the preponderance of targeted population studies could be the characteristics of EBD are generally disruptive to the learning process. A further four studies were site-based point-in-time surveys of practice. Eight of the included studies were discussion or opinion pieces considering current practice, and these varied in nature and purpose.

The inclusion of literature reviews that met the criterion provided assurance that past findings relevant to the research questions were included in the current analysis. Three of the literature reviews were published in 2009, and one in each of 2011, 2012, 2014, and 2017.

Table 1

Types of articles identified in the systematic review (N= 50)

Article type	Number	Description
Implementation studies	20	Studies that examined changes over time. Included controlled studies ($n = 4$), studies of target populations ($n = 11$), site-based case studies ($n = 5$).

Surveys of practice	23	Point-in-time studies. Included studies of a target population ($n=11$), site-based case studies ($n=4$), other (e.g., editorial, opinion piece, position paper ($n=8$)).
Literature reviews	7	Reviews published 2009-2019. Included literature reviews, one systematic review and one meta-analysis.

Plotting the fifty articles identified between 2009-2019 according to date of publication reveals a bimodal distribution (Table 2). Early articles strongly reference the medical model of wraparound with education institutions as more tangential wraparound agencies. More current articles show an increased interest in school-based or school-linked wraparound programs, with an increase in peer-reviewed articles regarding wraparound as part of the full-service community school movement in the USA.

Table 2

Distribution of articles identified by the systematic review

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Number of articles	5	4	7	7	2	1	1	7	8	6	2- up till June

A summary of the articles can be found in Appendix A.

Findings Relating to Research Question 1

What evidence exists regarding the efficacy of formal wraparound services employed with school-aged students with complex support needs?

Controlled studies

Evidence of the efficacy of wraparound within the parameters of the research question was first sought within controlled studies. Controlled studies provide the strongest evidence base of the possible efficacy of formal wraparound service provision. A relevant early meta-analysis (Suter & Bruns, 2009) identified seven experimental or quasi-experimental controlled studies (1986-2008) that compared the effects of wraparound practices on young people (aged 3 – 21 years) compared with a control group. These studies specified children with emotional and behavioural disorders and reflected the principles essential to the wraparound process including a multidisciplinary team approach committed to providing a formal support network. However, the studies identified were not education-focused, with target populations noted as mental health (3), child welfare (2), juvenile justice (1), and both juvenile justice and mental health (1). Mean treatment effects varied but were generally small including mental health outcomes (0.31), overall youth functioning (0.25), school functioning (0.27), and juvenile justice-related outcomes (0.21). The overall mean effect size across all outcomes for all studies was 0.33. The studies that involved juvenile justice clients were reported as having mean effect sizes of 0.22 and 0.55. The authors state that interpretation of results was difficult, due to a lack of consistency across the studies in terms of intended outcomes, target populations, implementation fidelity, and methodological concerns. They concluded that their meta-analysis, although reflecting findings that were largely positive, did not provide sufficient data on which to make a definitive claim of the efficacy of wraparound.

This report is based on a systematic review that focused on the efficacy of wraparound use with young people with complex support needs undertaking formal education in schools or alternate settings and is thus narrower in focus. Four controlled studies were identified from 2009-2019, and results were found to relate to two broad areas;

those of effect on academic performance (e.g., SAT results, GPA, achievement in maths and literacy) and those relating to behaviour (e.g., discipline incidents, behavioural functioning, attendance rates). Of the four studies, two reported an advantage in academic performance in favour of students who received wraparound services. One reported a small effect size (Caldas, Gomez, & Ferrara, 2019) and one a moderate effect size (Walker, Kerns, Lyon, Bruns, & Cosgrove, 2010). A third study (Biag & Castrechni, 2016) based in a full-service school with a wraparound program found that there was no relationship between receiving support services and academic achievement. In considering wraparound effect on school-related behaviour, one study (Walker, Kerns, Lyon, Bruns, & Cosgrove, 2010) found that there was no relationship between wraparound use and discipline incidents. Another study concluded (Malloy et al., 2010) that participation in a wraparound program had a significant and moderate effective size ($ES = .44$) on behavioural functioning, and a third study (Biag & Castrechni, 2016) linked use of support service wraparound to a significantly negative difference in attendance rate.

In summary, from the small number of controlled studies analysed ($n = 4$) the more recent studies tended to support those conducted prior to 2009. There are indications that overall wraparound services may have a small to moderate positive treatment effect on students with complex support needs. Areas considered were those of the efficacy of a wraparound program on improving academic performance and improving school-related functional behaviours. However, findings varied a great deal and it is not possible to reach any conclusions from this small number of disparate studies.

Non-controlled studies

The remaining peer-reviewed studies identified in the systematic review were also very varied in purpose, participant number, outcomes, methodology and in how findings were reported. Common to these studies was that no statistical comparison was provided with a

matched control group. In most cases, surveys, school records, and structured interviews were the data sources. In others, a model or point of view was presented, with the authors providing an evidence base to support their perspective. Findings are reported from studies focused on targeted populations (e.g., school-age students with emotional and behavioural disorders in mainstream schools, young people transitioning from psychiatric hospitals or juvenile correction centres, school refusers, teenaged parents), site-based studies (e.g., community schools with wraparound programs, mainstream schools with integrated wraparound programs). Included also are discussion-type papers, and further specific literary reviews published 2009-2019.

Outcomes reported from the 46 articles that were not controlled studies were found to relate to eight broad areas:

1. Wraparound effect on academic performance ($n=6$)
2. Wraparound effect on school-related behaviours ($n = 12$)
3. Wraparound stakeholders' perceptions of efficacy ($n= 9$)
4. Wraparound process/program model efficacy ($n = 12$)
5. Wraparound leadership (principals and facilitators) ($n = 7$)
6. Wraparound efficacy and interagency collaboration ($n = 7$)
7. Wraparound in alternative education settings (e.g., juvenile justice, home schooling, special schools, pull-out programs) ($n = 3$)
8. Wraparound role in transitions from most-to-least restrictive environment (e.g., incarceration or hospital to home/school) ($n = 5$)

While the first two areas mirrored those of the controlled studies, the others indicate how diverse the areas addressed were. Some few articles identified for the systematic included no material relevant to this question, other articles reported on more than one area

(hence N does not equal 50). The details of findings from relevant articles are provided in Appendix B. It should be noted how cautionary most reported findings are. [Each of these broad areas will be discussed in turn.](#)

[Wraparound effect on academic performance](#)

Of the six studies, only the two oldest (Eber, Hyde, & Suter, 2011; Kutash et al., 2011) found a significant increase in academic performance. The other four studies (2016-2018) were more cautious in their conclusions, indicating only that positive effects were found or that there was some improvement. These results mirrored those of the controlled studies in being inconsistent but tending to show that wraparound had a potentially positive effect on academic performance.

[Wraparound effect on school-related behaviours](#)

Of the twelve articles reporting on behaviours, all reported evidence of improvement, some indicating a moderate to strong effect. The specific school-related behaviours investigated were school functioning (Anderson, 2011; Shailer et al., 2013), absenteeism (Anderson-Butcher et al., 2018; McKay-Brown et al., 2019), office discipline referrals (Anderson-Butcher et al., 2018; Eber et al., 2011), school placement failure (Eber et al., 2011; Test et al., 2009), disruptive behaviour (Puddy et al., 2012), reduction in juvenile justice involvement (Shailer et al., 2013), and frequency of community agency referrals for families (Test et al., 2009). Articles also referred to studies that asserted that school wraparound practices led to students experiencing reduced mental health needs (Effland et al., 2011; Fallon & Mueller, 2017; Painter, 2012; Shailer et al., 2013), improvement in adaptive functioning (Fries et al., 2012; Puddy et al., 2012), and progress in increasing social interaction with peers together with more positive experiences at school (McKay-Brown et al., 2019). Several studies indicated that the period of time the student had been receiving

wraparound services determined the measured success of the intervention (e.g., Anderson, 2011; Painter, 2010; Puddy et al., 2012).

Wraparound stakeholders' perceptions of efficacy

Stakeholders is a term that refers to any groups or individuals who are involved in the wraparound process, and who would be expected to be invested in the outcome. Various stakeholders included in these articles involved families, case managers or facilitators, school administrators, probation officers, counsellors, psychologists, teachers, school-based mental health providers, and community school coordinators. The methodology of the nine studies varied (see Appendix A for details), as did the findings and many crossed-over with responses relevant to the second research question. Although stakeholders noted inefficiencies in the process, they reported that the wraparound model: increased family support and engagement with the school (Anderson et al., 2017; Senior et al., 2016), significantly improved school climate (Anderson et al., 2017; Anderson-Butcher et al., 2018; Anderson et al., 2017), produced more school-community partnerships (Anderson et al., 2017), provided more positive experiences for youth transitioning from juvenile justice or hospital (Maximoff et al., 2017), significantly impacted students' lives in a positive way (Munoz et al., 2015); and freed school staff from loss of non-teaching time (Senior et al., 2016).

Stakeholders listed some of the factors that decreased the efficacy of wraparound: low competency of the facilitator or case manager (Anderson et al., 2010; Bartlett & Freeze, 2018; Maximoff et al., 2017); lack of commitment of adult stakeholders (Anderson et al., 2010), a school culture that did not reflect a child-centred and strength-based philosophy (Anderson et al., 2010; Maximoff et al., 2017), absence of effective school-based mental health services and other needed supports (Anderson et al., 2010), lack of support for

collaborative practice at school, system and government level (Bartlett, 2018), lack of availability of agency partners in remote areas (Bartlett & Freeze, 2018), lack of adequate outcome-based measures and/or the use of data (Bartlett & Freeze, 2018), and lack of time and resources (Maximoff et al., 2017).

Wraparound process /program model efficacy

Both Anderson (2016) and Bartlett and Freeze (2018) noted the difficulties of finding valid ways to measure wraparound. Kazak et al. (2010) asserted that wraparound efficacy could be enhanced by longitudinal (pre-, during, and post-intervention) assessment of relevant aspects of students' lives, in order to build an evidence base. Kutash et al. (2011) skirted these issues by directly comparing the efficacy of four different school-based mental health models in terms of outcomes and found the integrated wraparound model superior in gains in emotional functioning, decrease in functional impairment, and in reporting the highest school attendance.

Some articles considered wraparound within a systems approach or within the context of other models. Fallon and Mueller (2017) considered wraparound as part of an ecological system, emphasising that efficacy increased when culturally responsive integration extended across components. Bartlett and Freeze (2018) found that the community school model aligned well with the principles of wraparound, and Charlton et al. (2018) suggested that an integrated system of Positive Behavioural Instructional Support, Response to Intervention and Tier 3 wraparound was a model that offered many benefits. Kern et al. (2017) cited evidence that having a mental health centre integrated into the school increased the efficiency of wraparound by increasing accessibility to essential services.

Many of the articles noted barriers, and Anderson (2016) observed that for a model to be efficacious, relationships are key and politics inescapable. These observations are backed

up by Sanders' (2016) findings concerning leadership style and the importance of the development and maintenance of relations with partners. Anderson's belief that at least five years need to elapse before outcomes become apparent and that program effectiveness can be evaluated are supported by other articles that specifically referenced length of time as an important enabler of a successful wraparound program (Fries et al., 2012; Puddy, 2012).

Wraparound leadership (principals and facilitators)

Two themes emerged in regard to leadership- the nature of leadership necessary for a school offering wraparound services, and what role in the school structure best supported an effective facilitator of wraparound. It was agreed that the leadership of the principal was important and was accomplished through the creation and positive support of a shared vision (Valli et al., 2018), by creating a culture of collaboration necessary for building and maintaining partnerships (Bartlett, 2018), and by supporting wraparound through the creation of an adaptable and flexible environment (Peterson & Durrant, 2013). Various views were expressed as to what role in the school was best adapted to wraparound facilitation. It was suggested that these could include: most special educators who were given extra training (Farmer et al., 2016), school mental health workers such as school counsellors, psychologists, or social workers (Mellin et al., 2011), and specially appointed family support workers (Senior, Carr, & Gold, 2016).

Wraparound efficacy and interagency collaboration

The literature provides evidence that interagency collaboration supports the efficacy of wraparound by reducing fragmentation, duplication, and redundancy of services (Bartlett, 2018; Mellin, 2009). A dysfunctional team can also diminish the efficacy of the wraparound process. McLean (2012) noted that interdisciplinary team member differences in knowledge and philosophical approach, power imbalances in the team, competition for limited resources, and individual differences in attitude and commitment all impact useful collaboration.

Mellin et al. (2011) reported that teams were most functional when roles were interdependent and team members displayed interdisciplinary flexibility. Strnadová et al. (2017) found that poor communication was often a result of confusion regarding role responsibilities, and that agencies were often reluctant to share necessary information in a timely and accessible manner, if at all. These authors concluded that efficient collaboration within a team was largely dependent on the commitment of the individuals comprising the wraparound team, but it has also been found that interagency teams did not rate well in their ability to reflect on the collaborative process (Mellin et al., 2011). Of relevance is that a study cited in Coldiron et al. (2017) did find that programs based at a school did achieve better interagency collaboration than those based in the community (Nordness, 2005).

Wraparound in alternative education settings

The literature reference to wraparound effectiveness in alternative education settings was scant. Goldenson (2011) reported that wraparound programs offered to suspended or expelled youth in alternate programs have been found to be effective and led to improvement in behavioural, academic, and social adjustments. McKay et al. (2019) reported on a 14-week pull-out program for school refusers and found that this program was enough to produce positive effects on attendance, progress in mental health recovery, and improved school experiences upon return for at least six months. Puddy et al. (2012) described a half day pull-out program and found that the degree of improvement in behaviours could be predicted by the overall amount of wraparound services received during the program. Wraparound in alternative education settings has some evidence of success, but long-term effects appeared to be dependent upon the time and intensity of the intervention.

Wraparound role in transitions from more-to- less restrictive environment

This form of wraparound has additional elements related to the reality of transitioning from a regulated environment back into the community and to mainstream schooling. Three

of the five included articles referred to transition from juvenile justice facilities (Coldiron et al., 2017; Nisbet et al., 2012; Strnadová et al., 2017), one from hospital (Savina et al., 2014), and one from either (Maximoff et al., 2017). Coldiron reported a controlled study (Carney & Buttell, 2003) that found that the provision of wraparound services, rather than the conventional referral to agencies in isolation, was significantly more successful in terms of school attendance, positive school behaviours, and pro-social behaviours. Nisbet et al. (2012) reported collaborative teamwork improved the attitudes of external agencies towards juvenile justice, who subsequently wanted more collaboration and involvement in case management of transitioning youth. However, this collaboration was found to be complex and demanding of time and resources, with problems of cross-disciplinary communication and information sharing (Strnadová et al., 2017). Savina et al. (2014) noted that fewer than half of special education teachers in schools received any communication regarding children returning from a more restrictive environment, and this made it more difficult to organise timely and efficacious wraparound. Wraparound was found to be more successful for transitioning youth if there was: (a) consistency and continuity between environments with reliable support provision; (b) gradual, smooth change; (c) good interagency communication; (d) youth and family participation in the plan; (e) discharge planning that began immediately upon admission, and (f) positive attitude of the school towards the returning student (Maximoff et al., 2017; Strnadová et al., 2017).

Summary points from Research Question 1

1. Although there is some evidence of positive effects of wraparound on academic performance, particularly in the long term, evidence would appear to be stronger for the effects on school-related behaviours. For example, mental health wraparound services appear to have an identifiable positive impact on absenteeism, disruptive classroom behaviours, and

the experience of being at school. The length of intervention and the fidelity of the wraparound program is key.

2. The diversity of stakeholders consulted were overwhelmingly positive and optimistic concerning the efficacy of school-based wraparound, although most reports were through semi-structured interviews, anecdotal more often than data based, and may reflect an investor bias. In many of the articles, stakeholders also indicated significant barriers to efficacy of the wraparound model.

3. Because of its complexity, and differing manifestations, the efficacy of the total experience of the wraparound process is difficult to assess. Wraparound is described in terms of a standalone process, an ecological model, an extension of intervention processes in schools, and a guiding principle in community schools. The consensus is that wraparound is efficacious if applied with fidelity over an adequate time period. Ungar et al. (2012) conducted extensive case studies of youth with complex support needs who were multiple service users and summarised characteristics that make an efficacious wraparound intervention for school-age youth: (a) offered at different levels of intensity, (b) efficiently coordinated through collaborative teaming, (c) of an appropriate length, (d) negotiated with the student and family, (e) provided along a continuum from least to most intrusive, and (f) evidence-based.

4. The leadership style of both principals and facilitators has been shown to be important in ensuring that wraparound services are effective. The background knowledge and expertise of the individual undertaking the facilitator role is acknowledged as central to a successful program, and special educators, school psychologists, school counsellors, school social workers and family support workers have support for the role in the literature.

5. Interagency collaboration is acknowledged to be an important factor in wraparound efficiency. The literature tended to focus on reasons why collaboration has been found to be ineffective, with poor information sharing and communication often creating problems. One study found that collaboration was more effective when wraparound was based in the school context.

6. The effects of wraparound in alternative education settings were found to be similar to those in mainstream schools. Observable improvements were seen in school-related behaviours and the maintenance of improvement depended on the length of the program and the intensity of the service provision. Students transitioning into the school from more restrictive environments were recognised as needing effective wraparound processes. This was reported as only coming about through strong interagency collaboration and substantial, meaningful and timely communication between the institution and the receiving school so that appropriate support could be provided.

Findings Related to Research Question 2

What are the barriers and enablers of effective school-based or school-linked wraparound models in providing integrated wraparound services for students with complex support needs?

In order to build a comprehensive understanding of barriers and enablers, all articles were examined for references to factors that impacted upon effective provision of school-based or school-linked wraparound. Barriers act to hamper the provision of effective wraparound support of students with complex support needs. Enablers act to enhance efficiency of wraparound service delivery. It was apparent that these factors exist on a continuum; as a simple example, competition office space within a school may seriously hinder the ability of professionals to meet with students receiving wraparound services in a

timely manner, but ample space may actively enhance the process. In this summary, factors may be described in terms of barriers or enablers on the understanding that barriers exist where insufficient enabling circumstances occur.

The analysis of the literature led to the identification of nine main areas where barriers and enablers were reported as particularly relevant. The significance of these areas varied by the context in which the wraparound services operate. Many of the areas are interdependent, e.g., a lack of funding for the wraparound initiative could have multiple flow-on effects in many areas but have been considered separately if reported as such in the articles. These factors are listed in Table 2 in the order of frequency with which references were found across the articles identified in the literature search. It should be noted that issues relating to the functioning of the wraparound team were identified in the article analysis twice as frequently ($n = 51$), as those following funding ($n = 24$) and leadership ($n = 23$).

Table 2

Factors identified in the literature that act as enablers for wraparound

Factor	Enabling circumstance
Wraparound team functioning	Wraparound teams collaborate effectively, resulting in streamlined service provision to students, maximised use of resources, and systematic evaluation of wraparound processes.
Funding availability	Availability of sufficient and suitably allocated funds from school resources, participating partners, and/or specific grants.



Leadership	Strong, effective leadership of principal, wraparound facilitator, and participating partners.
Nature of the wraparound program on offer	Program is context-specific, team and family-based, seamless, individualised and culturally sensitive.
Stakeholder buy-in	Stakeholders share common goals, clearly understand their roles and responsibilities, and have a shared sense of commitment and of accountability.
Turnover/absentee rates of stakeholders	Low turnover/absentee level amongst leaders, staff, students, external agencies, and significant government personnel.
Formalised role descriptions	Expectations and responsibilities of wraparound team members are outlined through appropriate policies, protocols and procedures, or in memoranda of understanding.
Readiness and implementation practices	The program is implemented only after the completion of high-quality preliminary work and the school is deemed ready for implementation.
Communication	There are clear, consistent, timely, two-way, multiple level communication exchanges between all stakeholders.



Each of these factors will be considered in turn:

Wraparound team functioning

Effective interagency collaboration within the wraparound team received most attention in the identified literature (e.g., Mellin, Anderson-Butcher, & Bronstein, 2011). Much of the literature noted the need for external agencies to boundary span, due to the complicated collaborations involved when supporting students with complex support needs. Boundary spanning refers to agencies such as schools, mental health experts and social workers reaching across borders to other agencies in order to build relationships, interconnections and interdependencies that enable effective collaboration (Williams, 2002). External agencies have traditionally operated as ‘silos’ (Biag & Castrechni, 2016) and infrequently as partners in the context of the school system (Coldiron et al., 2015). Effective wraparound teams together build shared expectations and agendas that result in all having similar priorities (Weist, 2012) and accepting shared responsibility for outcomes (Bartlett, 2018). Interpersonal relations between the team members ideally reflect understanding, trust and flexible cooperation; undamaged by any potential power imbalances within and between stakeholder groups (McLean, 2012). Effective boundary spanning decreases the potential for duplications and acts to streamline service delivery (McKay-Brown et al., 2019; Valli et al., 2018).

Information-sharing was also considered an important enabler of collaborative service provision. Barriers to information-sharing were mentioned frequently as originating from a sense of responsibility to maintain the privacy of the student-client (Strnadová, Cumming, & O’Neill, 2017; Thielking, Skues, & Le, 2018). Furthermore, established differences in priorities and protocols commonly existed between the agencies, acting as barriers to a shared understanding of the relevance of available information, and differences in everyday data

systems resulted in difficulties in the sharing of information (McKay-Brown et al., 2019). Higher levels of collaboration were achieved by regular team reflection and evaluation of processes. It was noted that time must be set aside on a regular basis for this team activity (Mellin, Anderson-Butcher, & Bronstein, 2011; Weist et al., 2012).

In addition to building team interdependency and effective information-sharing, authors asserted that team members must demonstrate genuine commitment to the wraparound process. As wraparound entailed a considerable workload that included frequent collaborative case planning meetings, this required a willingness to invest considerable time (Golding, 2010). Not unsurprisingly, effective teams take time to develop a culture of effective collaboration (Strnadová, Cumming, & O'Neill, 2017). The development and functioning of effective teams can be considerably hampered by a lack of service providers, as often occurs in rural and remote areas (Shailer, Gammon, & De Terte, 2013; Theilking, Skues, & Le, 2018).

Funding availability

Funding was a commonly acknowledged necessity to wraparound success. Resource requirements ranged from generalised (e.g., Charlton et al., 2018) funds for trained personnel to perform specific functions (McLean, 2012), funds for suitable and compatible data systems (Anello et al., 2017), and funds to buy the time required to implement an effective wraparound process (Maximoff, Taylor, & Abernathy, 2017). Enabling funds were noted as coming from various sources such as school system allocations; local, state, and federal grants; bureaucratic health agencies (such as Medicare); and fee-for-service mechanisms (Weist et al., 2012). Additionally, resource allocation was noted as important. Funds needed to be available where they were most needed to enable the success of the complex wraparound process (McLean, 2012).

Leadership

Enabling aspects of principal leadership, leadership shown by wraparound facilitators, and leadership in the participating partnerships were all considered significant to the success of the wraparound process. Facilitator leadership received the most comments ($n = 12$), followed by that of principals ($n=8$), and leadership within partnering external agencies ($n=3$) was acknowledged. Without a clear description of the roles undertaken by these key personnel in different programs, it was not always clear whether, for example, the principal was acting in the role of wraparound facilitator as well as principal of the school; or whether the wraparound facilitator, or principal, acted as the major liaison between the school and external agencies. Principal leadership was recognised as significant in building the infrastructure within schools to develop and support any form of wraparound (Kern et al., 2017). Strong school leaders possess a good understanding of all aspects of leadership (Sanders, 2016), and problem solve to build consensus around the new understandings necessary for successful collaborative partnerships (Valli et al., 2018).

Wraparound facilitators in school-centric models are likely to be part of the school-community. Facilitators serve as the ‘linchpin’ in providing services to students in need (Munoz, Owens, & Bartlett, 2015). A strong facilitator who acts to coordinate services has been shown to enhance the effectiveness of wraparound services (Puddy, Roberts, Vernberg, & Hembrick, 2012). Possibly influenced by the original mental health model of wraparound, several authors asserted that the school psychologist or the school mental health worker would be the logical person to take a leading role in the facilitation of school-based wraparound (Hess et al., 2017; Mellin, Anderson-Butcher, & Bronstein, 2011; Theilking, Skues, & Le, 2018). However, Farmer et al. (2016) believed that special educators who are trained in the area of interventions for students with emotional and behavioural disorders may

best fill this role. Senior, Carr, and Gold (2016) described the advantages of the facilitator being a family social worker based at the school three days a week who can coordinate the services across the school, families and external agencies.

The presence of strong, open-minded leadership from key decision makers within the partnership agencies was also noted to enable effective wraparound. This support enhances efficient and successful collaboration in the wraparound team (Savina, Simon, & Lester, 2014), and acts to mitigate any entrenched siloing of services (Thielking, Skues, & Le, 2018). Beyond team functioning, explicit and confident leadership from external partners will also be a positive indication of buy-in to the program by community, external agencies, and political entities.

Nature of the wraparound program on offer

Many barriers (and complementary enablers) relevant to the wraparound program were noted within the design and implementation of the program. Statements were made in the literature regarding the effects of at what stage (preventative or interventionist) students were asked to engage with the program (Kern et al., 2017); the length of time of the intervention (Fries, Carney, Blackman-Urteaga, & Savas, 2012).; the adaptability of the program to local and to individual needs (Golding, 2010); the continuity of personnel administering client care (Senior, Carr, & Gold, 2016); the continuity of care post the wraparound intervention (Ungar, Liedenberg, & Ikeda, 2012); cultural cohesion across components of the students' eco-system (Leonard, 2011); cultural appropriateness of the program particularly to non-traditional and minority students (Fallon & Mueller, 2017; Kern et al., 2017); the student and/or family involvement in the program (Shailer, Gammon, & De Terte, 2013); and, teacher involvement in the wraparound planning (McKay-Brown et al., 2019).

Stakeholder buy-in

The articles discussed how the committed support of stakeholders could have an enabling (or disabling) effect on effective wraparound programs. Anderson, Chin, Min, and Watkins (2017) noted strong leadership from the principal but barriers to teacher buy-in and past unsuccessful reform efforts. Other barriers included lack of teacher awareness of student needs, diversity of teacher expectations, and teacher burnout (Anderson-Butcher, Paluta, Sterling, & Anderson, 2018); teachers feeling overwhelmed by the breadth of wraparound services and believing that teaching and learning (the basic mission of the school) would be compromised (Anderson, 2016); and a lack of training opportunities, particularly prior to implementation of a wraparound model (Anderson, Houser, & Howland, 2010). To summarise, lack of teacher buy-in has strong potential to sabotage the effectiveness of a wraparound program, but strong teacher advocacy would enable wraparound, as teachers are able to provide supports to the student within the classroom environment.

Wraparound principles include families/caregivers as an essential support for students (Bruns et al., 2008), and buy-in critically involves the family as a whole unit (Senior, Carr, & Gold, 2016). Without this support, students are not likely to cooperate with the program or will quickly disengage. The family provides potential links to the local community (e.g., relatives, church, clubs and sporting groups) that are the source of much of the informal support required for students both during and after the wraparound intervention (Shailer, Gammon, & De Terte, 2013). The absence of an individualised community-network acts as considerable barrier to effective results from wraparound.

Acknowledgement of the value of wraparound at the political level was sketchy but positive. For example, at the national level in the USA, Anderson (2016) refers to the *Every Student Succeeds Act* (2015), noting that this act not only emphasises the importance of

schools to authentically engage with the families of their students but also states the importance of community connections if schools are to improve support for their students. This political statement enables wraparound principles. At the individual agency level, official accreditation and practice documents of US national associations of counsellors, psychologists and social workers have increasingly supported interagency team collaboration – an essential component of wraparound (Mellin, Anderson-Butcher, & Bronstein, 2011). This buy-in has the potential to influence political decisions made at various levels about how scarce financial resources are shared (Ungar, Liebenberg, & Ikeda, 2012). The articles indicated that political recognition of the value of wraparound has strong enabling potential.

Turnover/absentee rates of stakeholders

Turnover amongst school leaders (Anderson, 2016; Anderson-Butcher, Paluta, Sterling, & Anderson, 2018; Bartlett, 2018) and personnel in schools and supporting agencies (Charlton et al., 2018) creates instability and inconsistency that can hinder the effective implementation of wraparound. Further barriers to a successful outcome occur because the target population of students with complex support needs have high absentee rates (Bruns et al., 2016) and high dropout rates (Anderson, 2016). The same issues of turnover and absenteeism result from changes in staff at the state and national level, where different personnel had different understandings and priorities and have the power to withdraw support and funding (Anderson, 2016; Charlton et al., 2018).

Formalised role descriptions

An effective collaborative team has a shared understanding of participants' roles (Thielking, Skues, & Le, 2018) and is prepared to take informed, shared responsibility (Bartlett, 2018). A clear description of the roles and responsibilities at the leadership level (Anderson, Chen, Min, & Watkins, 2017; Bartlett, 2018) is important, and as interdisciplinary team members are disparate in their goals and beliefs, clear understandings

and explicit communication is essential. Effective collaboration is enabled through careful management with well-defined roles and responsibilities (Strnadová, Cumming, & O'Neill, 2017; Thielking, Skues, & Le, 2018). Unforeseen barriers that may become obvious during implementation are those of the professional incompetence of school-based or external clinicians to work with the target students, or a lack of skill in interagency collaboration (Eber, Hyde, & Suter, 2011; Savina, Simon, & Lester, 2014; Weist et al., 2012). These barriers could be overcome with adequate professional development.

Readiness and implementation practices

The four stages of implementation of wraparound have been described as: contemplation, preparation, action, and maintenance (Effland, Walton, & McIntyre, 2011). The implementation process is lengthy and resource intensive (Fallon & Mueller, 2017). It can take up to five years to see tangible academic improvements from wraparound programs (Anderson, 2016).

The delivery of professional development, both during the preliminary stages and throughout implementation, is a major enabler of the success of wraparound. Training in principles and practices is essential for staff and students, and ongoing for new students and staff as they join the school (Anderson, Houser, & Howland, year?). Cross-agency training is particularly important for wraparound team members (Mellin, 2009; Strnadová, Cumming, & O'Neill, 2017). One example of an essential practice that must be agreed upon and well-understood is that of clear referral pathways (McKay-Brown et al., 2019).

A great deal of effort is needed to establish effective wraparound (Anderson-Butcher, Paluta, Sterling, & Anderson, 2018). Schools and/or districts vary in their degree of readiness to implement wraparound. A high level of buy-in by stakeholders, adequate resources, and a great deal of preliminary effort will enable success (Charlton et al. 2018). An insistence on

high fidelity outcomes in the early stages promotes successful outcomes for students (Effland, Walton, & McIntyre, 2011).

Communication issues

Good communication is paramount in any team-based collaboration. In wraparound programs, communication is crucial at multiple levels. For example, facilitators must communicate effectively with team members, external agencies, community supports, parents, and students (Anderson, Chen, Min, & Watkins, 2017), and school leaders interact with the community, families, and the wraparound team. Effective communication between team members is particularly enabling for wraparound, as collaboration relies on the ability to connect with each other through words and actions across boundaries that have traditionally defined disciplines (Shailer, Gammon, & De Terte, 2013). Teams need to build a consistency of terminology (Charlton et al., 2018), and a workable compatibility in philosophical orientation, goals, and practices across all professional partners in the team. This is enabled through ongoing team discussion, reflection, and most likely, some degree of compromise.

Summary points from Research Question 2

What are the barriers and enablers of effective school-based or school-linked wraparound models in providing integrated wraparound services for students with complex support needs?

1. Barriers and enablers are opposite ends of a factor continuum. Nine factors were identified: wraparound team functioning, funding availability, leadership style, nature of the program on offer, stakeholder buy-in, turnover and/or absenteeism of stakeholders, role clarification, readiness and implementation practices, and communication.

2. Collaborative functioning of the wraparound team was the most commonly mentioned factor, with differences in culture, priorities, and protocols creating difficulties with communication and information sharing. The availability and commitment of professional partners willing to accept the workload of providing effective wraparound was also noted as a potential barrier to the efficacy of wraparound.
3. The sourcing of adequate funding and consequent resource allocation within the complex process of wraparound was noted as an important barrier or enabler.
4. Strong, effective and open-minded leadership of principals, facilitators and key decision makers within partnership agencies was considered paramount to wraparound success.
5. Wraparound efficacy was contingent upon program characteristics, such as: (a) the stage at which students were recruited to participated, (b) the cultural appropriateness and adaptability of the program, (c) the length of the program, (d) the intensity of the wraparound services, (e) consistency of personnel, student and family engagement with the program, and (f) the care offered after exit.
6. Six important stakeholder groups whose commitment was central to wraparound effectiveness included: school principals, teachers and staff, participants and their families, the local community, external agencies, and relevant political systems.
7. Participant absenteeism and dropping out of the program were noted as having major effects on efficacy, as did changes amongst wraparound team members interacting with the student, and policy makers at state and national level.
8. Lack of formal understanding between team members regarding goals, roles and responsibilities was found to negatively impact the effectiveness of wraparound. Also noted were different degrees of professional competence in both the ability to work as in a team and to work with school-age students with complex support needs.

9. The eventual efficacy of a wraparound program was found to be dependent on thorough planning and careful groundwork at the early stages of planning and preparation. Research indicated that the preliminary work before implementing wraparound was time consuming, as it included informing and ensuring understanding and buy-in of school staff, students, community, and external agencies; cross-agency training for wraparound team members; gathering adequate resources; designing a high-fidelity program, and; developing clear referral pathways.
10. Clear and ongoing communication within the team and between stakeholders was considered to be crucial to the efficacy of wraparound.

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Appendix A

Summary of Articles

Author (year)	Type of Study	Participants	Location	Research method	Purpose of the study
Anderson-Butcher, Paluta, Sterling, & Anderson (2018)	Implementation study (multiple case studies)	Students enrolled in four low SES elementary (K-5) schools (2012-2014) during the first three years of implementing the Community Collaboration Model for School Improvement. (Of a total enrolment of 2,563, an average of 818 participated in the after-school program, 150 received Care Team wraparound, and 175 received school-based mental health services).	Ohio, USA	Mixed methods case study included records reviews, survey data collection with teachers and staff, and interviews and focus groups with key stakeholders.	To explore outcomes associated with the adoption and implementation of a community school's approach that included wraparound.
Anderson (2011)	Implementation study (target population)	Students (N=365, 72% males) with emotional and behavioural challenges, referred to a federally funded System of Care program (Dawn Project); average age of referral 12.55 years.	Indiana, USA	School and clinical functioning data collected (1999-2005) at 6-month intervals up to 36 months. Quantitative analysis with hierarchical linear modeling used to examine school functioning change trajectories.	To study the relationship between school and clinical functioning over time in a System of Care. (SOC defined as wraparound p.482)
Anderson (2016)	Survey of practice (editorial)	N/A	USA		Research-based summary of community-based interagency collaboration.
Anderson, Chen, Min, & Watkins (2017)	Implementation study (target population)	Seven elementary schools undertaking Providence Full Service Community School initiative (PFSCS).	Providence, Rhode Island, USA	Semi-structured interview data from 18 stakeholders in 2009, and 16 in 2013. Purposeful sampling to ensure diversity of experiences including families and various agencies and systems involved in children's social services. Grounded theory approach in 2009, and in both studies analytic induction and constant comparison methods. Participatory and iterative.	This article compares findings from a baseline (2009) and 4-year follow-up study of the PFSCS, documenting changes in stakeholder perceptions about the project.

Anderson, Cousik, & Dare (2016)	Survey of practice (position paper)		Indiana, USA		Argues that school need to take greater responsibility to support children in foster care and state custody. Recommends systems of care, full purpose partnership model and full-service schools, all of which have wraparound as part of policy.
Anderson, Houser, & Howland (2010)	Survey of practice (multiple case study)	Four elementary schools in a large urban school district in the Midwest. Three of the schools were in their third year of the Full Purpose Partnership program, while the fourth was in its first year.	Indianapolis, Indiana, USA	Multi-case emergent study regarding model implementation. Semi-structured interviews (2006-2007) and focus groups were conducted with 35 members of stakeholder groups that included district and agency administrators, school principals, school staff, and School and Family Care Coordinators. To gather further information a participant observer shadowed Care Coordinators.	The purpose was to present findings from a process evaluation of the first four schools adopting the Full Purpose Partnership approach in order to increase understanding of the dynamics of the program both within and among the four schools.
Anello, Weist, Eber, Barrett, Cashman, Rosser, & Bazyk (2017)	Survey of practice (survey development)	Participants were 346 individuals from a national sample of professionals currently working with Positive Behavioural Interventions and Support (PBIS) and School-based Mental Health (SMH) programs and/or community members who support these services.	USA	A mixed method design of qualitative (survey of relevant stakeholders, consultation with key informants) and quantitative analyses (survey development, psychometric analyses)	To detail a first step in the process of improved interconnection of PBIS and SMH by describing the development of a process and tool for schools/districts to assess readiness for connecting PBIS and SMH through an integrated system.
Bartlett, (2018)	Implementation study (multiple case study)	Three established community schools- two urban and one rural were purposefully sampled. A total of 15 key stakeholders were interviewed.	Manitoba, Canada	Qualitative, multi-case study in which data collection methods included direct observations in the community schools, detailed field notes, comprehensive document reviews, and in-depth semi-structured interviews.	The purpose was to examine the extent to which collaborative practice was occurring in community schools from the perspective of key stakeholders; to inform enhanced practice and/or to highlight the need for organizational and system level reform to practices and policies.

Bartlett & Freeze (2018)	Survey of practice (multiple case study)	Purposeful sampling of three community schools from different school divisions. 15 participants among them principals, teachers, a counsellor, community school connectors, parents, and partnering services.	Manitoba, Canada	Multi-case study in which semi-structured interviews were conducted and within-case and cross-case analysis of the responses using pre-existing categories of the 10 guiding principles.	Explores the experiences and perspectives of stakeholders in community schools as they relate to practices that reflect the 10 guiding principles of the wraparound approach in these schools.
Biag & Castrechi ni (2016)	Implementation study (controlled; targeted population)	Students at six K-8 low income full-service community schools with predominantly (72%) Latino enrolment.	Redwood City, Northern California	Students' longitudinal academic and program participation records were analysed using multi-level models. Comparisons made between participants and non-participants.	This study investigated how short- or long- term engagement in single and multiple strategy areas (family engagement, extended learning, and social support services) influenced students' attendance and academic achievement.
Bruns, Duong, Lyon, Pullmann, Cook, Cheney & McCauley (2016)	Survey of practice (targeted population)	Descriptive only: students, drawn from 30 schools, were included in wraparound based on their high risk for disciplinary actions, academic failure, and the presence of behavioural health issues.	Seattle, USA	Description only of at Tier 3 level: Short-term crisis intervention, assessment and referral to external mental health services, and team-based wraparound care coordination.	To review the empirical support for school-based delivery of mental health interventions by multiple tiers and describe a community-academic partnership.
Caldas, Gómez & Ferrara (2019)	Implementation study (controlled targeted population)	128 full-service community school (FSCS) students closely matched with 187 non FSCS born between 1991 and 1996.	New York State, USA	Statistical analysis to compare high school educational outcomes (e.g., test scores, cumulative GPA, aspirations, graduation with advanced diploma) between students who attended Key Elementary (the only FSCS in the district) and President Magnet School (a comparison school).	To report the effects of attending an elementary full-service community school (FSCS) on a variety of student academic outcomes in high school.
Charlton, Sabey, Dawson, Pyle, Lund, & Ross (2018)	Survey of practice (targeted incidents)	27 state education agency leaders.	USA	Critical incident technique to identify events associated with changes in practice. <i>Research Question 1:</i> What specific events helped facilitate the scale-up of MTSS in the participating states? <i>Research Question 2:</i> What specific events hindered the scale-up of MTSS in the participating states?	The purpose of this study was to identify the specific events, resources, and supports that helped or hindered the work of scaling up an integrated Multiple Tiered Support System (MTSS) approach as viewed from the perspective of MTSS leaders in state education agencies.

				<i>Research Question 3:</i> What do state MTSS leaders wish had or could happen to enhance MTSS scale-up?	
Chuang & Wells (2010)	**eliminated				
Coldiron, Bruns & Quick (2017)	Literature review			Literature review 1986-2014, divided into 5-year increments. A keyword search was performed with terms such as (Wraparound) AND ("Wrap-Around" OR "Wrap Around") AND (Wraparound Services) AND (Wraparound Process) AND (Intensive Community-based Services) AND (Intensive Care Management). "Literature" was defined broadly to include articles in peer-reviewed journals, unpublished dissertations and theses, and books and book chapters.	This narrative review of the Wraparound literature set out to answer three main questions. What characterizes the Wraparound research over the past 25 years, including the aims, foci, and predominant methods and measures? Second, what evidence is emerging? And third, what notable gaps exist and should be addressed in future research?
Eber, Hyde, & Suter (2011)	Implementation study (targeted population)	395 students with emotionally and behaviourally disabilities receiving wraparound as Tier 3 PBIS through the Illinois PBIS Network	Illinois, USA	Students tracked using the Systematic Information Management of Education Outcomes online database system known as SIMEO. The collected data targets the emotional, behavioural, and academic outcomes of the students.	The purpose of this article is to explore how wraparound can be implemented successfully in schools to meet the needs of students with emotional and behavioural challenges.
Effland, Walton, & McIntyre (2011)	Implementation study (targeted population)	Youth ($n = 515$, mean age 13.67, $SD = 3.1$) with severe emotional and behavioural needs, who received intensive community-based services in 65 sites under a demonstration grant.	Indiana, USA	65 communities were assessed for stage of development (stage 1-4), of the wraparound support system. 56 youth were interviewed in 7 communities in Stage 1, 63 youth were interviewed in 13 communities in Stage 2, 309 youth were interviewed in 17 communities in Stage 3, and 79 youth were	The purpose of our study was to examine the relationships among the implementation of necessary support conditions for wraparound, wraparound fidelity and youth outcomes.

				interviewed in 15 communities in Stage 4 to determine youth outcomes. The Wraparound Fidelity Index was administered by telephone interviews with wraparound facilitators at multiple times.	
Fallon & Mueller (2017)	Implementation study (targeted population)	Participant: 13-year-old seventh grade student who had immigrated from Puerto Rico a year previously. She had been diagnosed with attention deficit hyperactivity disorder (ADHD) and depression and received special education services for a specific learning disability.	Massachusetts, USA	Interagency team undertook comprehensive assessment and developed an IEP with antecedent strategies to decrease likelihood of inappropriate behaviour, and explicitly modelled, taught, and practiced these strategies at home. Data collection included tracking progress on inappropriate behaviour and following directions.	The purpose of this paper is to provide a description of culturally responsive wraparound supports and present data from a preliminary case study.
Farrell & Humphrey (2009)	Survey of practice (discussion paper)		UK		This paper discusses some of the challenges of educating pupils with social emotional and behavioural difficulties in five areas: working with families, educational attainments, inclusion, transition from school to college/work, and early intervention and prevention.
Farmer, Sutherland, Talbot, Brooks, Norwalk, & Huneke (2016)	Survey of practice (position paper)		US	-	To argue the application of ecological theory and a dynamic systems perspective to students with emotional and behavioural disorders.
Fries Carney, Blackman-Urteaga, & Savas (2012)	Implementation study (targeted population)	42 teens between the ages of being 13 to 21 who were already pregnant or parenting and shared other criteria that indicated a high risk of dropping out of school.	Michigan, USA	This project used a mixed methods format for determining the effects of the wraparound intervention, with pre/post-test descriptive analysis and a qualitative analysis of exit interviews and focus group summaries.	The purpose of this article is to review and disseminate findings involving the use of wraparound service to support teen parents who were a high-risk of school dropout.

Goldenso n (2011)	Literature review	Youths suspended or expelled for behavioural issues and in alternate education programs.	Ontario, Canada	Method not specified other than focus is on articles relating to interventions relevant to higher risk students – namely systems of care and wraparound.	To review current strategies used to address mental health in the context of the broader school-based context and to highlight specific biopsychosocial risk factors endemic in suspended and expelled youth placed in alternative programs.
Golding (2010)	Survey of practice (targeted population)	Individual case studies of children and young people in foster care or who have been adopted.	Worcestershire, UK	Discussion paper with case examples.	This paper explores the strengths, challenges and barriers of multi-agency and specialist working to meet the needs of children and young people in foster care or who have been adopted.
Hess, Pearrow, Hazel, Sander, & Wille (2017)	Survey of practice (targeted population)	Programme case studies of school psychologists working in a comprehensive behavioural health model, coordinated care in juvenile justice, and in participating with social workers to train as “mental health first aid” intervention trainers.	Colorado, USA	Discussion paper with current case examples.	The authors argue that school psychologists should advocate for, and become leaders in, the delivery of tiered mental health supports, and formalized collaborative efforts with community agencies to address students’ mental and behavioural health.
Kazak, Hoagwood, Weisz, Hood, Kratochwill, Vargas & Banez (2010)	Survey of practice (position paper)	Children and adolescents with emotional or behavioural needs.	USA	Focus is on the inclusion of evidence-based assessment and interventions, including prevention, within a developmentally driven and culturally responsive contextual model.	To describe a meta-system approach (<i>key components listed as including families, cultural norms and values, and service sectors such as schools, paediatric health centres, specialty mental health systems, juvenile justice systems, child protection services, and substance use treatment systems</i>) to improving mental health outcomes for children and adolescents with a focus on the evidence-based assessment and interventions, including prevention.
Kern, Mathur, Albrecht, Poland, Rozalski, & Skiba (2017)	Survey of practice (position paper)		USA		In this paper, the authors present arguments for the development of future policy relative to the need for school-based mental health services, and make recommendations for implementation of these services.

Kutash, Duchnowski, & Green (2011)	Implementation study (multiple case studies)	<p>Convenience sample of four different schools' representative of the most frequent structural types used by school districts to provide mental health services to students.</p> <p>1. Integrated Program ($n=50$) – comprehensive service that integrated services from the school system and various community agencies; 2. Milieu Program ($n=51$) – used school employed professionals; 3. Pull-Out Program 1 ($n=23$) - used school employed staff and providers contracted from a community agency; 4. Pull-Out Program 2 ($n=24$) –contracted for services from a community agency.</p>	South Florida, USA	<p>Written information or reports, informal interviews with program staff. Analysing data on standardized measures collected longitudinally on youth in their programs.</p> <p>Research questions: (1) what are the major structural and procedural aspects of four distinct school-based mental health programs for youth special education?; (2) What changes occur in emotional, behavioural, and academic functioning over time?; and (3) what types and amounts of mental health services are delivered?</p>	To provide a rich description of procedures schools use to provide SBMH services to youths who have ED and who are educated in special education programs, and to examine changes over time in emotional and academic functioning.
Leonard (2011)	Implementation study (Historical case study)	High school with 850-2,000 students at times over past 60 years.	Boston, Massachusetts.	Mixed methods based on Bronfenbrenner's ecological systems theory, including the chronosystem. Sources included school and district records, artefacts such as yearbooks, student publications, interviews, and anecdotal accounts.	To examine 60 years of various community partnering strategies at one urban high school, using Bronfenbrenner's ecological systems theory to better understand the effect on student development as measured by variables such as graduation, attendance, and drop-out rates.
Malloy, Sundar, Hagner, Pierias, & Viet (2010)	Implementation study (targeted population; controlled)	20 youth at risk of dropping out of high school and enrolled in the RENEW programme, and a control group of 26. Two high schools, one in a mill town in central New Hampshire, one urban.	New Hampshire, USA	Iterative survey (3 periods of data collection) using the Child and Adolescent Functional Assessment Scale (CAFAS) supplemented by a case study of a 17-year-old participant to illustrate one student's experience.	To assess the efficacy of a secondary transition model, RENEW (Rehabilitation, Empowerment, Natural supports, Education and Work), on the social and emotional functioning of 20 youth at risk of dropping out of high school using the Child and Adolescent Functional Assessment Scale (CAFAS) supplemented by a case study to illustrate one student's experience.

Maximoff, Taylor, & Abernathy (2017)	Survey of practice (targeted population)	Participants ($n=12$) obtained through a snowballing technique who were involved in some capacity with transitioning youth with emotional and behavioural disorders from most-to-less-restrictive environments (e.g. hospital and residential treatment options to home/school), and whose job descriptions included case managers, probation officers, counsellors, psychologists, psychosocial rehabilitation workers, teachers, administrators and other similar roles.	Large suburban community in the Western United States	Individual interviews consisting of 12 guiding questions clustered into topics; transition service provider experiences, concerns, and practices used in. These questions were asked of all participants, and transcribed data was analysed.	To compare the transition practices from most-to-least restrictive environments for adolescents with emotional and behavioural disorders as currently utilised by service providers with practices recommended in the literature. Research questions: 1. What are the experiences and concerns of service providers engaged in transitioning adolescents from most-to-least possible restrictive environments? 2. What practices do transition service providers use to transition adolescents from most-to-least possible restrictive environments?
McKay-Brown, McGrath, Dalton, Graham, Smith, Ring, & Eyre (2019)	Implementation study (targeted population)	A first cohort of 7 youths referred to the In2School programme. Criteria were; 11-15 years old, diagnosed with severe and complex mental health problems, and presented with school refusal.	Victoria, Australia	Quantitative analysis of school attendance records during the intervention and for 6 months post. Benchmark set at 70% attendance. Other measures addressed pre- and post were mental health, social and educational functioning and quality of life.	To report on an action research study in which an intervention to counter school refusal (the In2School programme) was piloted.
McLean (2012)	Survey of practice (targeted population)	Participants were a total of 92 teachers, foster parents, child welfare workers, child mental health professionals and residential care workers, all of whom were experienced in supporting children in out-of-home care.	South Australia, Australia	Semi-structured interview concerning experiences of collaborative practice followed by thematic analysis.	To understand key stakeholder experiences and inherent tensions of collaborative practice, using the specific example of supporting children with extremely challenging behaviour.
Mellin (2009)	Literature review				1. To synthesize the literature regarding the meaning, goals, processes, contextual influences, and anticipated outcomes of interdisciplinary collaboration in an expanded school mental health programme.

					2. To develop a conceptual model to support understanding of the relationship between interdisciplinary collaboration and outcomes.
Mellin, Anderson-Butcher, & Bronstein (2011)	Survey of practice (targeted population)	Sample of 428 geographically diverse members of interprofessional teams in school mental health. Included school-employed student support professionals (n=179), community-employed mental health professionals (n=93), school nurses (n=91), community partners such as juvenile justice and child welfare (n=23), school administrators (n=23), teachers (n=12) and family members (n=9)	Maryland, USA	Two survey instruments delivered via an online data collection tool, one measuring individual perception of interagency team collaboration, and the other designed to collect information on influences on team interagency collaboration.	To inform strategies for strengthening interprofessional team collaboration. Research questions: How well are interprofessional teams functioning in schools? What influences the functioning of interprofessional teams in schools?
Muñoz, Owens, & Bartlett (2015)	Survey of practice (multiple case study)	Purposeful sampling of 19 participants from three schools acting as hubs for Family Resource and Youth Services Centers (FRYSC) included nine teachers, and the rest FRYSC co-ordinators and a director, and school counsellors and principals	Kentucky, USA	Participant-oriented evaluation approach to construct a comparative case study based on the grounded-theory paradigm. Data from multiple methods such as surveys and school documents, with the primary source being in-depth, semi-structured interviews regarding perceptions about the YSCs program.	To examine school-linked social services in a large urban district's middle schools. Primary research question that guided this study was: What are middle school teachers and administrators' perceptions of the YSC's design, role and function?
Nisbet, Graham, & Newell (2012)	Implementation study (targeted population)	Four families and four Juvenile Justice clients who were male and 14 years old	NSW, Australia	Initial assessment and a coordinated case plan formulated with service providers. Impact assessed by collecting a range of data related to involvement with crime – offence histories, subsequent offences and overall custody rated for clients of the local office of Juvenile Justice. Post project interviews with two clients, and a number of agency staff.	To report on the <i>Family Inclusion Project</i> , which trialled a 'wraparound' casework approach to working with young offenders in order to reduce youth re-offending and improve interagency collaboration.

Painter. (2012)	Implementation study (targeted population)	160 youth from 5-17 years (with an average age of 11) experiencing severe emotional disturbance (SED) and admitted to a wraparound programme as a result of a systems of care grant.	Texas USA	Repeated measures longitudinal design without a comparison group. Youths were evaluated at intake (baseline) and every 6 months up to 24 months on a range of measures including improvement in mental health symptoms, school functioning, and behaviour and emotional strengths.	The purpose of this study is to evaluate the outcomes for children experiencing serious emotional disorders who received wraparound services in school-based centres.
Peterson & Durrant (2013)	Survey of practice (targeted population)	School leaders in an elective sample of four individual schools and school leaders and two local authority extended services co-ordinators in a multi-school cluster comprising 48 schools within one local authority	Large local authority in England	The data was obtained from the semi-structured interviews. Interviews were recorded, transcribed, and analysed thematically into the following subsections: families and communities as shapers of services, breaking down barriers and building networks, and schools as facilitators of family and community-led services.	To explore school leaders' perceptions of the impact of extended services on families and communities (as direct funding for extended services being removed in the authority),
Puddy, Roberts, Vernberg, & Hambrick (2012)	Implementation study (targeted population)	51 elementary school students (mean age 9.37 years at intake) typically diagnosed with serious emotional disturbances in an intensive program of psychological, behavioural, and educational interventions. Students attended half day at a therapeutic classroom and half day at their neighbourhood school.	USA	A longitudinal retrospective chart analysis involving ANOVA's and pairwise comparisons of service coordination records of child participants was utilised. Average treatment length was 12 months. Primary variables considered were frequency of coordination activities, ratings of the quality of activities, and components of the activity (planning, linking, monitoring). Variables measured for their potential relation to service coordination included: (a) participant functioning as measured by retrospective CAFAS scores collected at multiple time points and (b) daily accumulation of points	The purpose of this study was to examine the relationship between service coordination activities and adaptive functioning in a school-based model of service delivery. The first aim was to determine if service coordination (frequency, quality, and components of integrated service provision) and children's functioning (adaptive functioning and disruptive behaviours) changed over the course of treatment in this programme. The second aim was to examine whether service coordination activities (i.e., the frequency and quality of the planning, linking, and monitoring of integrated service components) were related to indicators of children's adaptive functioning over time.

				on Daily Point Sheets based on target behaviours across the programme, neighbourhood school, and home.	
Sanders (2016)	Survey of practice (multiple case study)	3 purposefully selected full-service community schools	Urban district in eastern USA	Data collection was primarily through semi-structured interviews (53) with a variety of stakeholders, on-site observations, and school document review. Triangulation of data sources and methods was used to generate a fuller understanding of each school's practices.	To explore how the components of principal leadership, community partnerships, and organizational development independently and collectively influence the effectiveness of full-service community schools in improving students' academic and behavioural outcomes, family engagement, and family engagement.
Savina, Simon, & Lester (2014)	Literature review (systematic review)			Systematic review of empirical literature related to psychiatric hospitalization of children, post discharge adjustment, school reintegration following hospitalization, mental health stigma in children, and cross-agency collaboration.	This paper describes an ecological perspective on school reintegration of children after hospitalization for mental health reasons. This view point considers the multiple social systems in which children are embedded and focuses on both individual and environmental factors that may contribute to either wellbeing or to emotional and behavioural difficulties.
Senior, Carr, & Gold, (2016)	Implementation study (single case study)	Setting was one lower socio-economic urban primary (elementary) school. Participants were the family support worker, six high needs/ high risk families who were clients of the Family Support Worker (FSW) grant, school teachers, and the Principal,	Melbourne, Victoria, Australia	Mixed method was used. Both quantitative and qualitative data on process, outcomes and costs were collected pre and post intervention. Time-capture data measured time saved by staff. Behaviour of the students was measured by the Strengths and Difficulties Questionnaires (SDQ) instrument. Ten semi-structured interviews were also conducted with participants.	The aim of the study was to explore if having a family support worker based at a primary school for 3 days a week for 15 months saved the school staff time and money, and provided an enhanced quality service to the school community.
Shailer, Gammon, & De Terte (2013)	Survey of practice (opinion paper)		Wellington, New Zealand		The article discusses community-based interventions used in New Zealand, describes their limitations and introduces 'wraparound' as a potential

					model for youth with serious mental health disorders and their families.
Strnadová , Cumming, & O'Neill (2017)	Survey of practice (targeted population)	Settings were six NSW rural and urban juvenile justice facilities. Participants were 44 adults with an average age of 47 years, 19 employed by the Juvenile Justice Education and Training unit in various roles, 22 by the Juvenile Justice Centre. In addition, two receiving mainstream educators and one NGO participated.	NSW, Australia	A qualitative methodology involving semi-structured interviews was employed. These were coded and categorised and seven key themes were derived, one being interagency collaboration. This theme was analysed to identify seven categories and 41 sub-categories. The following research questions guided this part of the study: 1. What are the roles and understanding of staff in each sector with reference to the transition process? 2. How do the agencies involved with the transition planning for incarcerated youth collaborate?	This study investigated the collaborative transition process from the stance of both the education and juvenile justice systems for youth incarcerated for three or more months in New South Wales ('NSW') juvenile justice facilities.
Suter & Bruns (2009)	Literature survey (meta-analysis)			Criteria for the studies included: the process used was identified as wraparound or described as very similar; the target population was youth (3–21 years) with serious emotional and behavioural disorders and/or significant functional impairment, and; outcomes measuring changes in broad domains of at least one of living situation, mental health, youth functioning, assets and resiliency. Seven experimental and quasi-experimental controlled studies (1986-2008) were selected that provided direct comparisons between youth receiving wraparound to those in a control group.	The meta-analysis was conducted to increase understanding of the empirical support base for the process of wraparound.

Test, Fowler, White, Richter, & Walker (2009)	Literature review			Selected were 11 articles published 2002-2008 that described evidence-based transition practices that include (a) student focused-planning, (b) student development, (c) interagency collaboration, (d) family involvement, and (e) program structures.	This article reviews evidence-based transition practices that show promise for enhancing secondary school completion of students with high incidence disabilities.
Thielking, Skues, & Le (2018)	Survey of practice (targeted population)	Sample of convenience, 42 school psychologists and counsellors working across the government, Catholic and independent education sectors who were attending a school counselling conference in 2015.	Queensland, Australia	A non-experimental, cross-sectional mixed method research design was used. The School Counsellors and Collaboration Survey was designed specifically for this study and utilised both checklist and open-ended questions. Participants were recruited via email that contained a link to the anonymous online survey prior to conference attendance	The purpose of the study was; (1) to investigate the actual and preferred depth of collaboration within a sample of school psychologists, guidance officers and school counsellors; and (2) to seek qualitative feedback from participants about: (a) the main drivers and barriers to collaborative practice, (b) the perceived impact of collaborative practice on student outcomes, and (c) the key ingredients of collaborative practice in the context of school psychology and school counselling.
Ungar, Liebenberg, & Ikeda (2012)	Survey of practice (multiple case studies)	A subsample of 116 youth undertaking a specific program of integrated services were interviewed and files held by multiple service providers were reviewed	Atlantic, Canada	Two illustrative case summaries were compiled, each based on three file reviews from three different service providers (child welfare, mental health and corrections—education files were not available), that provided detailed information regarding young people's experiences of multiple service provision.	Through case studies drawn from research with multiple service-using youth with complex support needs, the article aims to explore how uncoordinated services increase young people's exposure to risk.
Valli, Stefanski, & Jacobson (2018)	Survey of practice (targeted population)	For this analysis, only sources that examined US school–community partnerships were considered.	USA	Previous electronic searches resulted in 38 conceptual articles, empirical studies, and research syntheses, which were the sources of the four partnership models categorised as <i>family and interagency collaboration</i> , <i>full-service schools</i> , <i>full-service community</i>	The overall goal of the article was to deepen understanding of leadership in the different partnership models necessary to strengthen the conditions for school–community partnership success. Research question: What type of school leadership is needed to help different types of school–community

				<i>schools, and the community development model.</i> A comparative analysis of the literature across these four partnership types was then conducted.	partnerships succeed in their reform efforts?
Walker, Kerns, Lyon, Bruns, & Cosgrove (2010)	Implementation study (controlled)	Participants were a cohort of ninth graders who began high school in September 2005 in one of 13 schools with either an onsite school based health centre ($n=10$) or access to one at a geographically proximal school. ($n=3$). The user group ($n= 444$) initiated contact with an SBHC in their first semester of ninth grade, and the nonuser group included all youth who did not use during the 5 semesters of the study period ($n = 1,861$).	Washington USA	Study was of a well-controlled, quasi-experimental longitudinal design using administrative data. Propensity score analysis was used to control for user differences and self-selection factors. Analyses used a latent variable growth curve modelling approach to examine longitudinal outcomes over five school semesters.	There were two goals for this study. The first goal was to examine school-based mental health centre (SBHC) service use as a predictor of academic outcomes, including attendance, discipline referrals, and grade point average (GPA). The second goal was to examine how the effects of SBHC use on academic outcomes vary across the different services, specifically medical and mental health.
Weist, Mellin, Chambers, Lever, Haber, & Blaber (2012)	Literature review		USA		This article reviews challenges to collaboration in school mental health (SMH) and presents practical strategies for overcoming them.

Appendix B

Evidence from articles regarding the efficacy of formal wraparound services employed with school-age students with complex support needs

<i>Wraparound effect on academic performance</i>	
Bruns et al. (2016)	Students who had failed at least one academic course and were offered intensive intervention that included wraparound less likely to experience subsequent course failures relative to students from comparable control schools.
Anderson et al. (2017)	Although there was no clear evidence of improved academic results after 4 years of a school-based wraparound programme, stakeholders believed that there were indications that this would eventually be shown to be the case.
Eber, Hyde, & Suter (2011)	Wraparound intervention showed a significant increase in academic performance. Team perception of a positive correlation between length of intervention, frequency of team meetings and student success.
Kutash, Duchnowski, & Green (2011)	A partnership model of schools and community provider agencies showed a moderate improvement in academic grades (Hedges $g = 0.31$).
McKay-Brown et al. (2019)	Studied were outcomes from a 14-week long, pull-out programme for school refusers. Educational functioning scores were mixed, some students showing improvement, others no change.
Anderson-Butcher et al. (2018)	Two years after implementation of a wraparound programme trends indicated academic improvement in 3 of 4 low socio-economic schools.
<i>Wraparound effect on school-related behaviours</i>	
Anderson (2011)	Following wraparound intervention school functioning improved (ES = .18 after 12 months, ES = .28 after 24 months. Results approached a large ES.
Anderson-Butcher et al. (2018)	Two years after wraparound in four schools, trends showed that absenteeism dropped by 37% and office discipline referrals by 22.5%.
Eber, Hyde, & Suter (2011)	Wraparound intervention resulted in a significant decrease in risk of school placement failure and office discipline referrals after six months.
Effland, Walton, & McIntyre (2011)	Participation in intensive community-based wraparound led to 60.7% experiencing reduced needs. Degree of fidelity correlated with improved outcomes.
Fallon & Mueller (2017)	Improved emotional and behavioural health following development of culturally responsive wraparound practices across ecological systems.
Fries et al. (2012)	Wraparound intervention for pregnant or parenting teens found that improvement in life functioning (e.g., making plans, reaching personal goals) and engagement with educational goals was found to directly correspond to the length of time in the programme.
Kutash, Duchnowski, & Green (2011)	A partnership model of schools and community provider agencies showed a large effect size gain for emotional functioning (Hedges $g = 0.61$) and for decrease in functional impairment (Hedges $g =$

	0.54). Also showed the highest percentage of days present in school (91.07%).
McKay-Brown et al. (2019)	Studied were outcomes from a 14-week long, pull-out programme for school refusers. From < 50% attendance, six months after returning to mainstream six of the seven participants averaged from 69-90% school attendance, and one had dropped out. Progress was observed in increased social interactions with peers, and positive experiences at school.
Painter (2012)	After admission to a wraparound programme, caregivers reported by six months improvement in youth behavioural and emotional strengths, mental health symptoms and caregiver stress that was sustained up to 24 months. Youth tended to report fewer problems than family, and changes did not significantly improve until 12 or 18 months.
Puddy et al. (2012)	Findings about a day pull-out programme. Overall increase in adaptive functioning was noted over time in their mainstream school and at home, and participants significantly reduced disruptive behaviours at 6, 12 months and at discharge.
Shailer, Gammon, & De Terte (2013)	Survey of practice paper that asserts several studies have found positive outcomes for wraparound that include: improved behavioural emotional and over-all functioning; reduction in juvenile justice involvement; reduced levels of impairment in daily life; and longer term decreases in clinical symptoms with increased levels of functioning.
Test, Fowler, White, Richter, & Walker (2009)	Results of the literature review suggested collaboration between school staff and community service reduced suspensions, as well as the frequency of community agency referrals for families.
<i>Wraparound stakeholder perceptions of efficacy</i>	
Anderson et al. (2017)	Over a four-year time period a diversity of stakeholders in seven community schools reported increased family engagement, improved school climate, more school-community partnerships.
Anderson-Butcher et al. (2018)	During the first three years of implementing a model that included wraparound teacher and staff perceptions of school climate and the learning support system were significantly more positive ($p = .001$).
Anderson, Houser, & Howland (2010)	Stakeholder perceptions of a model that integrated wraparound into PBIS. Effectiveness of the model was perceived to depend upon: the service coordination of the facilitator; the degree of adult buy-in, supported by initial and ongoing professional development; a school culture positively influenced by a child-centred and strength-based philosophy; and the presence and effectiveness of school-based mental health services and other supports as needed.
Bartlett (2018)	Stakeholders interviewed indicated that support for collaborative practice at senior administrative level, and at policy level from education systems and government was variable and often limited.
Bartlett & Freeze (2018)	Stakeholders assessed the fidelity of wraparound implementation in 3 community schools and found school practices essentially aligned with the principles, with some variability across schools. Most variable areas were how effective school-community facilitators were in forming links to informal supports; how available community partners were in remote settings; how

	efficient case management processes were; and how well outcome based measures were utilised.
Maximoff, Taylor, & Abernathy (2017)	Stakeholders (case managers, counsellors, psychologists, probation officers and teachers) reported that wraparound provided positive experiences for youth transitioning from juvenile justice or hospital when: transition plans were implemented with consistency and continuity between environments; change was gradual and smooth; communication between all parties enabled reliable support; wraparound included participation in real-world experiences in the community; and when the voice of the youth was considered essential in the planning. Wraparound was not efficacious when schools expressed reluctance to accept these students; when difficulties relating to the emotional and behavioural disorder of the transitioning youth caused issues; and stakeholders lacked time and resources.
Munoz, Owens, & Bartlett (2015)	Stakeholders perceptions of the design, role and function of school-linked social services in three full-service community schools found that, although varied, perceptions did match with the intended purposes of the full-service wraparound concept. In each school, the perception was that, through the work of the facilitator, students' lives were being significantly impacted.
Senior, Carr, & Gold (2016)	Families and students were very positive, appreciating the emotional support, and wraparound involvement of the entire family, the potential for early intervention because of the continued presence of a facilitating support worker, and the accessibility of the school-based service. School staff appreciated the freeing up of their time, and the availability and expertise of specialist trained as a support for students with high support needs.
Strnadová, Cumming, & O'Neill (2017)	The authors note studies that indicate effective wraparound support of youth transitioning back to the community from juvenile justice decreases the rate of recidivism (Huang, Ryan, & Herz, 2012; Unruh & Griller Clark, 2010). Stakeholder interviews regarding the role of interagency collaboration in wraparound during transition of youth depended upon a clear understanding of roles and effective collaboration between all agencies involved.
<i>Wraparound process /programme model efficacy</i>	
Anderson (2016)	Anderson noted the difficulty of finding suitable measures of the efficacy of wraparound services. From experience he observed that, for any initiative as complex as wraparound, relationships are key, politics play a ubiquitous role and that it can take up to five years for any outcomes to become apparent.
Anderson, Houser, & Howland (2010)	Effective implementation of the wraparound model was perceived through anecdotal evidence to depend upon: the service coordination of the facilitator; the degree of adult buy-in, supported by initial and ongoing professional development; a school culture positively influenced by a child-centred and strength-based philosophy; and the presence and effectiveness of school-based mental health services and other supports as needed.
Bartlett & Freeze (2018)	According to stakeholders the community school model did essentially align with the ten guiding principles of wraparound. Variables that existed across schools and could compromise

	efficacy were listed as including how effective school-community facilitators were in forming links; how available community partners were in remote settings; how efficient case management processes were; and how well out-come based measures were utilised.
Charlton et al. (2018)	Accepted benefits of an integrated (PBIS and RTI) multi-tiered system with a third tier that incorporates formal wraparound services include: more efficiently addressing academic and social problems as services are coordinated; encouraging the use of a common language that improves efficiency; and allowing integration of collaborative multi-disciplinary teams.
Fallon & Mueller (2017)	Extending culturally responsive practices across an ecological model of wraparound was shown to increase the possibility of effective collaborations between family, school and external agencies, and; improve emotional and behavioural health.
Fries et al. (2012)	The length of time available in the wraparound programme for pregnant and parenting teens with complex support needs was found to directly correspond with improvement in life functioning (e.g., making plans, reaching personal goals) and engagement with an educational goal.
Kazak et al. (2010)	A successful intervention for students with mental health problems, will be enhanced if assessments occur initially, at regular intervals, and post-treatment. Evidence-based assessments include the use of culturally responsive measures used to construct an understanding of a student's strengths and weaknesses, and of personal, family, and community resources available; as well as attention to environmental, cultural, and system factors.
Kern et al. (2017)	Evidence exists to show that school-based mental health centres significantly increase the accessibility of essential services to students in need of these services. 70-80% of students accessing mental health services do so through the school. The authors assert that mental health systems and education systems too often are delivered in parallel rather than in an integrated fashion through a wraparound process.
Kutash, Duchnowski, & Green (2011).	Of four different types of school-based mental health programmes assessed, a partnership model of schools and community provider agencies showed the greatest effect size gain for emotional functioning (Hedges $g = 0.61$) and for decrease in functional impairment (Hedges $g = 0.54$). Also showed a moderate improvement in academic grades (Hedges $g = 0.31$) and the highest percentage of days present in school (91.07%).
Puddy et al. (2012)	In this assessment of a half day pull-out programme?, findings indicated that service coordination activities, measured by frequency, quality, and presence of components, decreased overall as time in the programme progressed. It was also found that improved behavioural functioning and a decrease in disruptive behaviours could be consistently predicted (at 6, 12 months and at discharge) by the overall amount of service coordination a student received during the intervention.
Sanders (2016)	Different levels of effectiveness in terms of student attendance, achievement and family engagement were found in three full-service community schools, and variances were linked to differences in leadership style, development and maintenance of

	community partnerships, availability of core resources, and allocation and management of these resources.
Ungar, Liebenberg, & Ikada (2012)	Principles elicited from wraparound-related data relating to youth with complex support needs were that services should be: (i) offered at multiple levels, (ii) efficiently coordinated, (iii) continuous over time, (iv) explained to the user and open to negotiation, (v) provided along a continuum from least to most intrusive, and (vi) evidence-based.
<i>Wraparound leadership (principals and facilitators)</i>	
Bartlett (2018)	Summary findings indicated that interagency collaboration varied with the site (three community schools), but that leadership of the principal was essential in creating a culture of collaboration, necessary in building and maintaining partnerships.
Farmer et al. (2016)	With an emphasis on evidence-based practices, the authors argue for applying both an ecological theory and a dynamic systems perspective to supporting students with complex support needs. Wraparound is considered compatible with this approach. They assert that from this perspective there are compelling reasons for special educators to take on the role of facilitators when intervention becomes more intense. This would require rethinking the role, training and professional responsibilities of special educators.
Mellin, Anderson-Butcher, & Bronstein (2011)	The authors argue that because of the well-documented collaborative role routinely played by school mental health professionals (school counsellors, school psychologists, and school social workers), they are in a strong position to lead efforts to strengthen interprofessional teams in a wraparound initiative.
Peterson & Durrant (2013)	School leaders commented that schools were moving from being a provider of services to becoming an enabler of services as well and that school leaders needed to ensure schools were flexible and dynamic for this type of wraparound service to be successful.
Sanders (2016)	Findings indicated that leadership style, together with development and maintenance of community partnerships, provision and management of resources improved efficacy wraparound programmes as indicated by student attendance, achievement and family engagement.
Senior, Carr, & Gold (2016)	Introduction of a family support worker on a part-time basis as a wraparound facilitator resulted in: school staff time saving substantial time that favourably compared to the cost of employing the specialist; a very positive response from the families and students who appreciated the emotional support; the holistic working with the entire family; the increased access to early intervention rather than just crisis intervention; and the accessibility of the service based at the school. School staff appreciated the freeing up of their time, the expertise of the FSW as a support for high-needs students, and the availability of the FSW.
Valli, Stefanski, & Jacobson (2018)	The study concludes that successful partnership models that embrace interagency collaboration require leadership that creates a shared vision that school leaders work to enact.
<i>Wraparound efficacy and interagency collaboration</i>	

Bartlett (2018)	Researched benefits for interagency collaboration are given as providing wraparound services that: are child-centred; involve families; share information across agencies and with families; provide services expediently with less duplication; and redundancy. Summary findings indicated that interagency collaboration varied across three community school sites.
Coldiron, Bruns, & Quick (2017)	One study (Nordness, 2005) referenced in this? literature review compared fidelity for wraparound programmes where meetings were school-based as compared to community-based, and found that there were many similarities, but that the school-based program achieved better interagency collaboration.
McLean (2012)	Three major themes identified that created difficulties in interagency collaboration and thus effect wraparound efficacy: differences in knowledge and attitudes towards each agencies way of working and towards collaboration; negotiating systemic triangulation and power imbalances with regard to different stakeholders and to children in care, and; issues of resource allocation and consequent impact of this on programmes and ability to collaborate.
Mellin (2009)	In this review of the evidence-base interdisciplinary collaboration in expanded school mental health, Mellin reports evidence that at the school-community level: some pressure from problems experienced by overtaxed school systems may be relieved; that decreased service duplication may partly reduce financial burdens; that services may be less fragmented; and available resources may be made available. At the individual level there is evidence that interagency collaboration may be related to improved functioning and increased satisfaction with services. It is also asserted that school-family connections are facilitated.
Mellin, Anderson-Butcher, & Bronstein (2011)	Respondents indicated that teams were most functional when members demonstrated role interdependence and professional flexibility. Collaboration within teams was rated poorest in relation to reflection on process.
Strnadová, Cumming, & O'Neill (2017)	Sharing of both individual and systems information between the juvenile justice system and mainstream schools was found to be difficult, often lacking in quality and in timeliness. Communication was sometimes lacking within teams, blamed on confusion of role responsibilities. Attempts to combat these issues included weekly case planning meetings to which education personnel were invited, the efficacy of communication within the wraparound team was stated as being largely dependent on the efficiency of individuals in both systems.
<i>Wraparound in alternative education settings (e.g., juvenile justice, home schooling, special schools, pull-out programmes)</i>	
Goldenson (2011)	There is some evidence to support that wraparound services in alternative settings can lead to less restrictive and more stable living arrangements and improvement in behavioural, academic, social, and adjustment aspects of youth. A concern expressed about programmes in alternate situations that addressed social and emotional behaviour disruptive to learning is that students

	reportedly made progress while enrolled but regressed when they returned to mainstream schools. suggesting that short-term therapeutic programs have limited long-term impact on academic gains.
McKay et al. (2019)	Findings from a pull-out 14-week programme for school refusers were that educational functioning (motivation) scores were mixed, some students showing improvement, others not. Of the seven youths, six returned to mainstream schooling with much stronger attendance levels being maintained for 6 months after completing the intervention. During the programme, progress was observed in mental health recovery, increased social interactions with peers, and positive experiences at school.
Puddy et al. (2012)	Findings from a half day pull-out programme?. Programme found that the comprehensiveness, frequency of wraparound activities, and the quality ratings of services decreased over the life of the programme. It was also found that improved behavioural functioning and a decrease in disruptive behaviours could be consistently predicted (at 6, 12 months and at discharge) by the overall amount of service coordination a student received during the intervention.
<i>Wraparound role in transitions from most-to- least restrictive environment (e.g., incarceration or hospital to home/school)</i>	
Coldiron, Bruns, & Quick (2017)	In this literature review, one controlled study (Carney & Buttell, 2003) described in detail compared the long-term effects of young people in juvenile justice system who are provided with transition wraparound services as compared to conventional ('silo-ed') services. Analyses indicated that relative to youth in the conventional services group, wraparound services youth missed school less ($p < .01$), were suspended less ($p < .01$), and did not run away from home as frequently ($p < .01$). Wraparound services youth were also less assaultive ($p < .01$) and less likely to be picked up by the police ($p < .01$). Conversely, conventional services group youth were more likely to have a job than wraparound services youth ($p < .05$).
Maximoff, Taylor, & Abernathy (2017)	Stakeholders reported positive experiences for youth came from an experience of consistency in implementing transition plans and continuity between environments; a need for gradual, smooth change; communication between all parties and reliable support; participation in real-world experiences in the community, and; youth participation in the transition plan. Negative experiences included the unwillingness of schools to accept such adolescents; difficulties related to the population of students with emotional/behavioural disorders; and lack of time and resources. Each experience was reported as different.
Nisbet, Graham, & Newell (2012)	Varied levels of engagement were reported in transition wraparound from juvenile justice. 2 of 4 youths reoffended during programme. Encouraging is the finding that external agencies showed positive changes in attitude to juvenile justice, wanted increased collaboration with juvenile justice, and more involvement in case management.

Savina, Simon, & Lester (2014)	Research with special education teachers who had been involved with reintegrating children post-hospitalization found that fewer than half had communicated with hospital personnel either before the child's discharge (45 %) or after the child's return to school (37 %). This indicated a lack of effective collaborative services and often resulted in a student returning to school without advance notice, thus making it difficult for teachers, or wraparound facilitators, to plan adequate and timely academic and behavioural support at this crucial time. Other research cited on transitions from paediatric hospitals strongly suggests that discharge planning should begin immediately after admission and parents should be encouraged to be active participants in the planning team, a liaising between hospital and school.
Strnadová, Cumming, & O'Neill (2017)	In transitioning students from juvenile justice, participants from agencies that included schools, non-government organisations, and community organisations asserted that collaboration was both complex, and time and resource demanding. Communication was noted as a particular REproblem, with role confusion blamed for poor quality and untimely information sharing.



