

Improving Access to Preventive Services for Marginalized Families During Early Childhood: An Integrative Review of Inter-organizational Integration Interventions

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Abstract: Marginalized populations exhibit low rates of preventive service use, often avoiding use of non-urgent services. Poor access to preventive and health promoting care serves to maintain inequities in health experienced by many marginalized populations. Of particular concern are marginalized families with young children below the age of school entry, when physical, emotional and psychological foundations for life-long health are being established. Many community based organizations recognize the need to improve families' access and use of preventive services. However, they are faced with a gap in understanding what inter-organizational interventions could be implemented to improve integration of services particularly focused on addressing experiences of marginalized families. Therefore, we used the integrative review method to identify and describe inter-organizational (I-O) interventions in the literature that aim to improve access to preventive services by marginalized families. As per integrative review methods, the literature was searched for research studies using qualitative, quantitative or mixed method designs, and investigating I-O interventions aiming to improve access to preventive services through increased service integration. Three levels of screening and relevance review identified fourteen articles. A conceptual model informed by socio-ecological theory was used to classify interventions as relational or structural. Results show that reports of rigorously conducted studies of I-O interventions are relatively sparse, and emphasize structural factors such as shared leadership, shared review or development of policies/protocols, changes to referral mechanisms and geographical/caseload matching. Inter-organizational interventions that influence relational factors were rare but have included: joint training/education, facilitated communication, addition of an integration role, and strategic partnerships. We suggest that combining both structural- and relational-focused strategies in inter-organizational integration intervention design may have greater impact on improving access to preventive services for marginalized families, with increased use of early childhood preventive services contributing to reducing health disparities.

INTRODUCTION

There is strong evidence that early childhood is a crucial time when preventive services can optimize critical periods of brain development and contribute significantly to life-long health [1, 2]. Preventive services for families during the early childhood period are often provided by a range of agencies and include services such as: regular and sustained care by a primary care giver such as physician or nurse practitioner, prenatal education, post partum preventive care, breastfeeding support, immunization and well child development services, literacy education, and recreation and social interventions such as play groups. Timely access to, and participation in these services can improve key determinants of child health including breastfeeding initiation and duration rates, maternal attachment and health behaviors and coping skills among new parents [3-6]. This is important for the children of marginalized families, who are particularly susceptible to poorer health outcomes due to factors that influence their families' access to healthcare

services such as lower socio-economic status, language barriers, and disability.

Agencies with specialized service delivery mandates have had success in creating the environment and relationships that encourage higher rates of service access and use by marginalized families (e.g. specialized services for pregnant teens, new immigrants or Aboriginal families) [7]. Several studies have shown success providing a range of services to small proportions of eligible marginalized families within resource intensive integrated service delivery models [8-10]. However, marginalized families continue to be infrequent users of preventive services that are more widely available through a variety of community based organizations (e.g. public health units, community health centers), and are overrepresented among families whose children begin school with poor physical, emotional and language skills [11]. This infrequent service use among marginalized families occurs despite referrals between agencies providing preventive services through public health and various community-based organizations [12, 13]. Early evaluation reports of initiatives such as Sure Start in the United Kingdom [14], and Strengthening Families in New Zealand [15] have recognized the complexity of improving integration across agencies, and identified requirements such as the strong local management and shared governance

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structures, resource intensiveness of inter-agency collaboration, sophisticated IT systems, a common assessment framework, and shared and clarified language. Clearly, the need for evidence-based inter-organizational interventions that make existing preventive and health promoting services more widely accessible to marginalized families is urgent. Further, theory and knowledge of interventions to improve the logic underpinning inter-organizational integration efforts is important to reducing inequities in access to preventive services.

This paper reports the findings of an integrative review of the literature examining system interventions that aim to improve inter-organizational (I-O) integration for the purpose of improving access and use of non-urgent and health promoting preventive services (hereafter referred to as preventive services) by marginalized families, a topic that has not to our knowledge been previously examined in the literature. Though definitions vary widely, there is general agreement that integration is an ongoing process that involves multiple partners, combines resources and incorporates notions of comprehensiveness, co-operation and coordination [16, 17]. We define integration as the process "...whereby different services that are usually autonomous organizations, work together for specific community residents to improve health and social care" [18]. We describe the theoretical perspective and methods used to search, screen, appraise and critically review the literature. Results of the 14 included studies are described and implications for research, policy and system change are outlined. The findings from this review have relevance for decision makers concerned with improving access and participation of marginalized populations in preventive services that are delivered through multiple agencies, programs and provider disciplines.

THEORETICAL PERSPECTIVE

We developed a conceptual model informed by socio-ecological theory and concepts of service integration [18] to identify and classify I-O system integration interventions intended to improve access to services for marginalized families. Socio-ecological theory recognizes that peoples' development and well being are influenced by their interactions with multiple layers and dimensions of their environments [19]. A socio-ecological perspective facilitates analysis of how social, historical and cultural factors interact at multiple levels to explain marginalized populations' patterns of service access and use. This ties in closely with common definitions of integrated care as requiring strategies employed at multiple levels (e.g. policy, organizational, individual) in efforts to harmonize services [20]. Multiple intervention planning based on socio-ecological theory involves strategically selecting interventions targeted at multiple levels of the system to achieve more equitable, efficient and/or effective outcomes [21]. For example, integration interventions can aim to harmonize services between organizations, programs within one organization and collaboration between individual providers. Specific interventions may aim to provide continuity of care for clients by targeting administrative, informational and relational aspects of care [22].

Clients' experiences of service integration are significantly influenced by factors in two dimensions: structural and interpersonal [16, 18]. Structural factors are system or agency characteristics "...that smooth the progress of, or restrain collaborative efforts" [16]. Interpersonal factors are defined as "...the characteristics of relationships between individuals that enhance or inhibit collaborative efforts" [16], which for our purposes we termed 'relational'.

This review focuses on organizational interventions to improve access to care as experienced by marginalized families. In the literature, marginalized populations are often described as 'vulnerable' or 'hard to reach' and include for example, refugees [23], working poor families [24], disadvantaged mothers [25], adolescent mothers [26] and those living with mental illness or intellectual disabilities [27]. While to be "vulnerable" often means to be particularly susceptible and at risk for poor physical, psychological, or social health, the term marginalization expresses a critique of the societal structures that peripheralize individuals and groups from a dominant, central majority on the basis of their identities, associations, experiences, and environments [28, 29]. Use of the term marginalization emphasizes that it is the responsibility of the health and social system (and not only individual organizations) to improve access to preventive services for populations with diverse identities and experiences through improved system integration.

Agency efforts to improve families' access to preventive services most commonly address individual-level structural and practical barriers such as transportation and childcare. For example, bus tickets and on-site day care are commonly available for families using agency-specific services. Asthana and Halliday [10] identified the need for opportunities to encourage dissemination of information between agencies in order to facilitate and improve upon innovated service delivery techniques in their study of reducing disparities between rural and urban funding for health care services. However, the reality for families is that preventive services are often provided by multiple agencies including individual medical practices, public health, community-based social services, publicly funded community health centers, non-governmental organizations, recreation departments and educational institutions. Therefore, the nature of the early childhood preventive service system is often structurally fragmented and difficult to navigate for both providers and clients. While service integration efforts do exist, the emphasis has been predominantly on evaluating improvements on efficiency and effectiveness, rather than reach to families experiencing deeply embedded inequities in health [17]. Difficulties in design and implementation of the complex interventions [30, 31], lack of intensive intervention and research funding, and intervention science capacity among public health and community based agencies [32] has also contributed to this gap in the literature.

Further, clients' negative experiences or perceptions of services may deter their access and participation, ultimately adversely influencing health and developmental outcomes of children and perpetuating deeply embedded inequities in health among population groups. Research has yet to

examine how to better integrate services across sectors, organizations and programs to help identify how to reduce these less tangible barriers to care [33]. Studies that have attempted to integrate care by intervening at the inter-professional level have identified the need for synergistic organizational-level interventions [34, 35]. Therefore, identifying these less tangible I-O barriers to integrated preventive care has the potential to improve the health and social safety-net for those that have historically ‘fallen through the cracks’. The purpose of this integrative review is to synthesize the literature describing interventions to improve I-O integration. We pay particular attention to interventions aimed at improving I-O system integration for the purpose of improving equity of access to community-based preventive services for marginalized families.

METHODS

Health care providers, researchers, and policy makers need the large volume of existing information to be evaluated and integrated to support decision-making. Systematic reviews are used on well researched interventions, and help determine decisions for the particular populations, settings, and treatment variations [36]. In contrast, an integrative review is effective when there is a dearth of evidence in the literature. A wider lens is required to gather information, and may include examination of interventions across population types and settings. Integrative reviews present the state of the literature on a given phenomenon or problem and contribute to theory development [37, 38]. They focus on examining the depth and breadth of a topic, include experimental and non-experimental research and permit qualitative findings to also have a presence. We adapted the stages for conducting integrative reviews described by Whittemore & Knafl [38]: problem identification, literature search, relevance screening, quality appraisal, data analysis, evaluation and extraction.

Problem Identification

We conducted this integrative review of the literature to determine the state of knowledge about interventions a) targeted at the I-O level of the system and b) intended to improve equity of access to non-urgent community-based

health promoting and preventive services among marginalized families during the early childhood period.

Literature Search

Six databases were searched (MedLine, CINAHL, HealthStar, Embase, PsychInfo, Cochrane Library) using terms from the following categories: marginalized families, systems integration, intervention, health services, and access. The search strategy was adapted and tailored for each database based on their usage of MESH terms or differences in headings used (see Table 1 for an example). Given the dynamic context of health and social service systems, the search was limited to articles published between January 2000 and June 2007. While our population of interest is families in the early childhood stage of development, our initial search yielded very few articles.

Therefore, we expanded the term marginalized families, to include marginalized populations, based on the rationale that attending the person’s experience of accessing services, rather than a developmental stage would address relational as well as structural aspects of the issue. The reference lists of promising articles were also searched for additional articles not identified by the electronic database search. Selected websites such as *Best Start: Ontario’s Maternal Newborn and Early Child Development Resource Centre* were searched and findings were added to the final set of manuscripts for review. Fig. (1) shows the steps and outcomes of the search and screening strategy. A total of 1503 articles were identified once duplicates were removed.

Screening

- A set of inclusion and exclusion criteria were created to screen each article generated by the database search. Inclusion criteria were:
- Language: English only.
- Population: Marginalized populations.
- Setting: The study or experience described occurred in health and social care and socioeconomic contexts similar to Canada (e.g. Europe, Australia, Canada or the United States).

Table 1. Search Strategy for MEDLINE Database

Category of Terms	Examples of Search Terms
Marginalized Population	Special population.tw, high risk population.tw, at risk population.tw, vulnerable famil\$.tw, vulnerable population.mp
AND	
Systems Integration	Systems integration.mp, systems design.tw., systems analysis.mp, integrated health care system.mp
AND	
Intervention	Early childhood intervention.tw, childhood intervention\$.tw, early treatment.tw, inter-institutional relations.mp
AND	
Health Services	Health services administration.tw, primary care.tw, patient-centred care.mp, community health service.mp, child health services.tw
AND	
Access	Attitude to health.mp, health personnel attitude.mp, patient satisfaction.mp, access to health care.mp

TW = Text word.
MP = Mapped subject heading.

- Purpose: To report research findings from primary research studies that aimed to describe the experience of service integration for the purpose of improving access to services by marginalized populations. Quantitative, qualitative and mixed method designs were included. Quantitative studies and mixed method studies must have included I-O integration as a variable and qualitative studies must have investigated interagency integration and access to services among marginalized populations.
- Type of services: Health promoting or preventive services for marginalized populations.

Exclusion criteria were:

- Theses or dissertations.
- There was no abstract available.
- Articles describing integration other than services (e.g. integration of evidence) or without interventions implemented at the I-O level.
- Literature Reviews and commentaries.

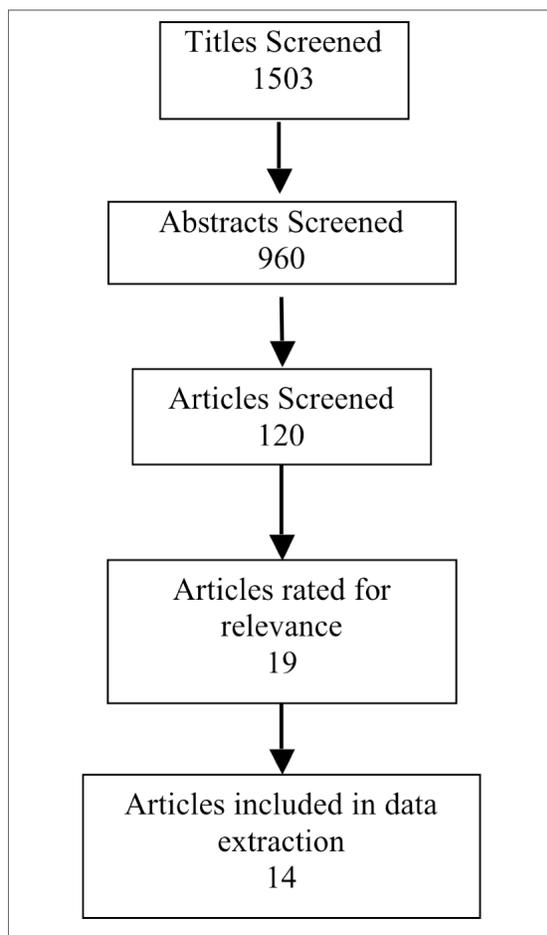


Fig. (1). Search, screening and appraisal results.

The screening process followed three stages [39]. First, titles were screened for relevance to the purpose of the review. Abstracts ($n = 960$) of titles deemed to be relevant by two independent reviewers (KD, MJ) were retrieved and screened for relevance based on inclusion/exclusion criteria.

Three reviewers applied the criteria to the first 100 abstracts and an inter-rater reliability rating of 0.83 was attained. Consensus was achieved after discussion. One hundred and twenty articles were retrieved and screened by two researchers (KD, MJ) using the inclusion/exclusion criteria and examined for the level of integration interventions. Nineteen studies were found that met all inclusion criteria.

The final stage of screening was for degree of relevance. Whitemore & Knafl [38] suggest prioritizing the contribution of each report to the final evaluation. This serves to identify work that is less relevant in order to minimize its final role in the results. Each of the 19 included articles were read and independently assessed by two people (WP, DS) using a three point scale (1 = high relevance; 2 = lower relevance; 3 = exclude). Five articles were excluded on this basis, resulting in 14 articles included in the review.

Quality Appraisal

Each of the included articles was independently reviewed for quality by two reviewers (KD, MJ), and classified as being excellent, having some limitations or having many limitations [39]. Existing quality assessment checklists specific to quantitative, qualitative and mixed method studies were used for this purpose [40]. Quantitative studies were assessed for concealment of allocation; follow up; blinded assessment of primary outcomes; comparability of groups; baseline measurements; reliable primary outcomes measures; protection against contamination using a checklist from the Cochrane Collaboration Effective Practice and Organization of Care Group (EPOC) [41]. Qualitative studies were assessed for clarity of the research question, context and sampling criteria; appropriate design; adequately described data collection; systematic data analysis; clear results and conclusions; clearly stated authors positions and worth to knowledge [42]. Mixed methods research reports were reviewed for intervention type; appropriate data points and statistical tests; valid and reliable outcome measures; protection against bias and completeness of data set [42]. Discrepancies between the quality ratings were discussed and consensus achieved. Given that none of the articles were rated as having many limitations, all 14 articles remained included at this stage.

Data Analysis and Extraction

Data from each article was extracted and title, author, date, population, health care setting, relevance and quality scores were recorded. Data pertaining to integration interventions as either structural or relational was extracted. *Structural interventions* are those aiming to influence the structure or practical organization of how agencies worked together, thereby making it easier to provide integrated care [16]. *Relational interventions* are I-O strategies aiming to improve relationships between individuals that enhance efforts to better integrate preventive services for marginalized populations [16]. This includes interventions that aim to improve the relations between agencies, organizations and/or communities (versus individual practitioners). Notes were kept regarding expected or unexpected findings regarding design of I-O integration interventions, particularly in relation to the effect of the structural and relational interventions.

RESULTS

Fourteen articles met our inclusion criteria and have been included in this review (see Table 2). Qualitative (n = 6) study methods were used most commonly, followed by quantitative (n = 5) and mixed methodologies (n = 3). The majority of articles reported on studies or experiences of integration that took place in urban settings in the United States (n = 9) and the United Kingdom (n = 2). The remaining articles referred to settings in Canada (n = 1), Australia (n = 1) and Sweden (n = 1). Though terminology and definitions varied, all included articles focused on the provision of integrated care for marginalized populations. As identified in Table 2, the included studies focused on community-based services such as primary care, health promotion and preventive health services for marginalized populations such as low income pregnant mothers and their children, persons living with mental illness, at-risk low-income residents and frail elders.

Quality Appraisal Ratings

The majority of articles were rated as having minor limitations. Areas of concern regarding the qualitative studies included lack of clarity of the research question, the rigor of data analysis and inadequate descriptions of the relevance or implications of the findings. Common limitations of quantitative studies included questions regarding reliability and validity of measures, completeness of the data set and insufficient follow-up to demonstrate impact of the interventions.

Description of Integration Interventions

We examined I-O integration interventions in relation to whether their purpose was to effect structural or relational change (see Table 3). All of the articles (n = 14) reported on structural interventions such as use of structured protocols and feedback [43] and geographical matching of services [44]. Fewer studies explicitly reported on relational

Table 2. Settings, Type of Services, Population and Intervention Type

Authors	Setting	Type of Services	Study Population	Intervention Type	
				Structural	Relational
Qualitative Research Reports					
Dea [52]	Northern California, U.S.A.	Primary health care	Primary health care team incorporating mental health (physicians, NPs, RNs, nurse manager)	X	X
Ervin [53]	New York, U.S.A.	Multiple health and social services	Families using ≥ 3 community-based services	X	
Falk & Allebeck [54]	Goteborg, Sweden	Mental health and social services	Persons living with schizophrenia	X	X
Gask [50]	U.S.A.	Primary and specialist mental health care	Primary and specialist mental health professionals	X	
Rees <i>et al.</i> [45]	Scotland, U.K.	Health and social care services	Adults with severe and/or enduring mental health problems	X	
Schulz <i>et al.</i> [48]	Detroit, U.S.A.	Community based organizations, public health, academic institution	Residents of Detroit's East Side	X	X
Quantitative Research Reports					
Counsell <i>et al.</i> [55]	Indiana, U.S.A.	Primary care, public health, social care and mental health	Low income seniors	X	
Harmon <i>et al.</i> [47]	New South Wales, Australia	Mental health services & physician general practices	Community mental health patients, nurses, GPs and psychiatrists	X	X
Lyons <i>et al.</i> [46]	Ohio, U.S.A.	Public health and Emergency departments	At risk populations needing public health services	X	
Margolis <i>et al.</i> [43]	North Carolina, U.S.A.	Primary care, public health, mental health	Low-income pregnant mothers & infants	X	X
Tandon <i>et al.</i> [56]	Baltimore, U.S.A.	Community care and services	Low income pregnant and parenting women	X	
Mixed Methods Research Reports					
Drennan <i>et al.</i> [51]	England, U.K.	Primary care, specialist health and social care	'At risk' elderly living in inner city	X	
Jandorf <i>et al.</i> [13]	East Harlem, U.S.A.	Medical center, public hospital and community health centers	At-risk residents of East Harlem	X	X
Korabek <i>et al.</i> [44]	Canada	Primary care and home health care	At-risk community-dwelling seniors	X	X

interventions (n = 7), though several emphasized an implicit relational effect in their results and discussion (n = 4).

Structural Interventions

We identified four categories of I-O interventions that fit with our definition of structural interventions: shared leadership, shared review or development of policies/protocols, changes to referral mechanisms and geographical/caseload matching. A description of each of these categories and examples of interventions are briefly described below.

Shared Leadership

Shared leadership refers to the presence of established planning bodies with representation from the agencies and/or communities involved. Shared leadership and planning was commonly described as essential to successful I-O

integration. Examples of structural entities that facilitated shared planning included steering groups and advisory boards. Key elements attributed to the effectiveness of these I-O bodies included a mission statement or a similar statement of shared objectives and membership that included "...managers with authority to act within their own agencies" [44].

Several authors noted that the implementation of integration activities from a perceived need 'on the ground' is essential to sustainability of shared leadership initiatives [43]. While governmental priorities likely contributed to the establishment of shared leadership, implementation of effective steering groups was the result of synergy between agency-identified need and government backing for improved service integration [43]. Therefore, the need for integration had to be identified and desired at the community level, but was more likely to succeed when also supported by

Table 3. Types of Inter-Organizational Integration Interventions by Article

Authors	Structural Factors				Relational Factors				Implicit Relational Effect
	Shared Leadership	Shared Policy Development of Policies/Protocols	Change Referral Mechanism Mechanisms	Geographical/Case-Load Matching	Joint Training/Education	Facilitated Communication	Added Integration Role	Strategic Partnerships	
Qualitative Research Reports									
Dea [52]		X	X						
Ervin [53]									
Falk & Allebeck [54]						X			
Gask [50]									X
Rees <i>et al.</i> [45]		X	X						
Schulz <i>et al.</i> [48]					X		X		X
Quantitative Research Reports									
Counsell <i>et al.</i> [55]		X	X						
Harmon <i>et al.</i> [47]		X	X	X		X	X	X	
Lyons <i>et al.</i> [46]				X					X
Margolis <i>et al.</i> [43]	X	X			X	X	X		
Tandon <i>et al.</i> [56]		X	X						
Mixed Methods Research Reports									
Drennan <i>et al.</i> [51]							X		X
Jandorf <i>et al.</i> [13]	X		X		X		X		
Korabek <i>et al.</i> [44]	X	X		X	X	X			

governmental priorities. For example, Margolis *et al.*'s [43] multi-level integration interventions targeting state, county and community-level organizations and departments were designed based on this premise.

Shared Review or Development of Policies/Protocols

Inter-organizational integration was commonly initiated by the recognition that there was a problem with current practice that led to shared review of existing protocols. However, Rees *et al.* [45] report that the implementation of a new protocol (integrated care pathways) by itself was insufficient to promote integration. Additional interventions, targeted at multiple levels of the system, were recommended to facilitate acceptance and usability of the intervention in practice [45].

Change to Referral Mechanisms

Structural changes made to improve interagency referral processes were noted to facilitate integration of services. Rees *et al.* [45] examined the use of integrated care pathways as a means to formalize interagency collaboration between primary care specialists in mental health. Despite reported satisfaction, it was found that the pathway was not being implemented correctly and that 'true integration' was not achieved. This led to the conclusion that managerial involvement is necessary for successful collaboration.

Geographical/Caseload Matching

Another category of structural interventions includes those designed to align the caseloads of individual providers/programs with those of other organizations. For example, Lyons *et al.* [46] described co-location of a public health program within an emergency department to screen at-risk clients. Korabek *et al.* [44] described a different strategy, where realignment of services for seniors enabled partnerships between specialized home care nurses and general practitioners. Caseload matching involved development of software for shared caseload management and management structures and processes to facilitate collaboration. However, authors point out that relational strategies (e.g. honoring the uniqueness of every collaborator, development of a communication blueprint and ongoing team-building exercises) were critical to success of the structural caseload matching intervention [44].

Relational Interventions

We included studies that either mentioned or directly explored the need for strategies to improve relational aspects of integrated care. Four types of relational interventions were described in the included articles: joint training/education, facilitated communication, addition of an integration role and strategic partnerships.

Joint Training/Education

Inter-organizational cooperation to provide joint staff training or continuing education was implemented for one of two purposes: to increase the content knowledge of staff from more than one agency and/or to increase staff's and community's knowledge of each other [47, 48]. Schulz *et al.* [48] described an eight-week training program where health providers met to discuss community problem-solving skills and resources. Regular meetings were also held between the

workers and the project coordinator [48]. Although authors may have described increasing staff knowledge as the sole purpose of joint training, this intervention appeared to have an unintentional or implicit effect on the relationships between staff from different organizations.

Facilitated Communication

A relational intervention that was implemented is that of 'facilitated communication' between staff from multiple organizations. Facilitated communication interventions aim to enhance ongoing communication between practitioners affiliated with different organizations. For example, Korabek *et al.* [44] described holding four partnership forums annually to promote discussion and learning among all partners. Similarly, as part of a community-wide set of interventions, Margolis *et al.* [43] implemented regular meetings between agencies and primary care physician practices.

Addition of an Integration Role

A commonly implemented relational intervention was the addition of a new role with the purpose of facilitating I-O integration. In some cases this role is played by an individual and in other situations an interdisciplinary team may take the responsibility of integrating existing services [13, 47]. For example, Harmon *et al.* [47] introduced a service model whereby community-based mental health nurses facilitated liaisons between general practitioners and mental health services.

Although the addition of a new role could be described as a structural intervention, the purpose is often to create relationships with the community and the goal is to improve access for marginalized sub-groups within the community. An example of a liaison role is described by Margolis *et al.* [43] who described the effectiveness of family home visitors as a means to identify and communicate with specific primary care nurses who shared their community based clientele.

Strategic Partnerships

Strategic partnerships refer to the action of identifying and partnering with organizations based on their established relationship with the community of interest. For example, in the study by Harmon *et al.* [47], mental health nurses with established connections to other services were selected as the liaison between general practitioners and mental health services. Other authors have described this notion of strategic partnering using less explicit methods, but nevertheless with similar goals and outcomes. For example, Barry & Britt [49] have described a strategic partnership using a three step process to identify community-based agencies that are "high contact/low or no coercion" as potential partners that would maximize their outreach to at-risk women.

Implicit Relational Effect

Several studies concluded that interventions had had an important influence on relationships, though this was not their objective. In our analysis, these interventions were labeled as having an implicit relational effect. For example, Gask [50] commented that the "nature and quality of inter-professional conversation" is possibly an "important

mediating factor in addressing covert barriers to integration". This mediating effect or implicit relationship benefit was also hypothesized to address other types of barriers to the development of effective working relationships, such as insufficient contact between workers and differing views among interdisciplinary staff. These implicit relational effects included facilitating "actual contact" between various groups of workers which then facilitated quality communication between workers [50], close collaboration between specialists [46] and improved teamwork [51].

DISCUSSION

Despite a large number of articles that focused on service integration, few studies have examined both structural and relational integration interventions to improve access and use of preventive services for marginalized populations. In addition, many of the studies included in this review were qualitative in nature, providing rich understanding of underlying issues, but not enabling examination and comparison of intervention outcomes. To address this gap, we focus our discussion on three issues that should be addressed in future studies of I-O system integration to improve access to preventive services for marginalized populations. The focus on relational as well as structural interventions addresses marginalized clients experiences accessing non-urgent preventive services. The intent is to better understand I-O interventions that may increase use of preventive services focused on improving early childhood development and outcomes. The limitations of this review are also described.

The Imbalance between Effectiveness, Efficiency and Equity

Our search of the literature revealed a relative imbalance between studies focused on interventions to improve effectiveness and efficiency of services versus attempts to improve equitable access to services. This echoes the findings of a review of integrated perinatal care by Rodriguez & Rivières-Pigeon [17]. The emphasis on effectiveness and efficiency at the oversight of equity means that existing population health inequities will persist, in spite of efforts to better integrate care across organizations. We propose that a population health orientation would add equity to the more common efficiency and/or effectiveness aims of integration. In addition, very few research articles explored the impact of I-O interventions from a client perspective. There is a need for greater systematic inquiry into client perspectives on how I-O integration interventions impact their experiences of care. Adding this population health perspective would facilitate examination of the difference in effectiveness across populations, and enable organizations to more closely address the experiences of marginalized families, thereby capitalizing on the life-long impacts of improving early childhood developmental outcomes.

Increase Visibility of Relational Integration

A second gap in the research literature relates to the 'invisibility' of the relational dimension of service integration. While an implicit relational effect was noted as key to the success of structural interventions, it was often not an explicit aim of the intervention. This represents a

conceptual as well as operational gap in knowledge related to I-O interventions to integrate care. Greater attention to the relational dimension of services could focus efforts on improving how marginalized families experience care and enable providers to share experiences and strategies for improving access and participation in preventive services. Categorizing integration interventions as relational or structural may aid in understanding the sequencing, combination and conditions required for integration interventions to improve access to care. It is a method for recognizing and strategically addressing relational and structural changes that are needed to move from historically separated organizations and programs to a more equitable system of integrated care. Greater clarity around the concept of relational interventions and the level of relationships involved (e.g. staff-community, provider-provider) is needed. More research is required regarding the design and testing of interventions at the I-O level to improve the relational aspects of service integration that may improve clients' experiences accessing non-urgent preventive services during the early childhood period, and ultimately reduce health disparities.

Need for Multiple Interventions

Our findings suggest that one-off structural interventions are not enough to impact I-O integration. To overcome system barriers to integration, it is essential to include relational interventions that support structural changes at the organizational and clinical care levels [45, 50]. More studies aiming to strategically combine and test multiple interventions that explicitly focus on improving relational as well as structural dimensions of integration are needed, with particular attention to the impact on reducing disparities in access to non-urgent preventive services.

Furthermore, several authors describe the need for multiple interventions strategically targeted at different levels of the service system. Specifically, the need for involvement at the managerial (or higher) level of organizations must accompany interventions to improve integration at the individual practitioner level [45]. Commitment to, and involvement in integration interventions at the higher administrative and governance levels of service provision is needed if interventions at other levels are to succeed [45, 46]. These findings suggest the need for the design of interventions targeted at changing funding structures and the culture of practice to overcome system barriers to service integration. To reduce inequities experienced by marginalized families, population health policy makers need accounts of theoretically based I-O integration interventions that include reporting on the intervention model, study design, integrity of intervention/process evaluation, particulars of the context, and the differential effects across populations [30, 31]. Commitment and action at these levels will be more likely to achieve and sustain changes required for equitable access to preventive services for marginalized families.

Limitations

The search was limited to articles from six databases published since 2000 and did not include articles in countries other than those we identified as having similar demographic and service contexts to Canada. Though this enhances

generalizability and fittingness to Canadian contexts, these methodological decisions may have excluded other informative studies. Lack of conceptual clarity in the literature regarding such terms as 'service integration' and 'marginalized populations' created challenges for developing an effective search strategy. As a result, we used an iterative cycle of screening decisions related to the variation in defining the concepts. These decisions were made explicit in our methods. Finally, the benefits of the inclusive nature of integrative review methods resulted in developing rich knowledge based on several qualitative studies in concert with quantitative and mixed methods studies. However, the integrative review method did not enable comparison or comment on outcomes, as is expected in the systematic review method.

CONCLUSION

Results of this integrative review add to the theory and logic that may inform design of inter-organizational interventions to better integrate services to improve access to preventive services for marginalized families. Specifically, we devised an approach to more explicitly examine structural and relational impacts found in research studies aiming to improving I-O integration and access to preventive services for marginalized families. Though there is a small amount of research on this topic, systematic inquiry into the effectiveness of system integration interventions in improving access to preventive services for marginalized families is required. Furthermore, the literature on service integration has been dominated by investigation into the structural dimensions of I-O integration. Although this work has outlined key structural factors that can be addressed in interventions to improve service delivery, relational dimensions of the process of service integration have been few in comparison. Relational factors likely play a key role in improving access to care for marginalized families across the broad spectrum of organizations involved in providing non-urgent health-promoting and preventive care. It appears that further investigation regarding the importance of the relational effect of integration interventions is particularly important when trying to improve access of marginalized families to non-urgent care, to understand their experience beyond that of any client group seeking any type of care (i.e. not necessarily preventive care). Future study regarding I-O integration should include the design of interventions that address both structural and relational barriers to integration, and explicate differential influence on marginalized families' access to non-urgent preventive services.

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