WILEY | Hindawi

Review Article

A Multilevel Framework for Complex Care: A Critical Interpretive Synthesis

Cara Evans [ID]**,**[1] **Julia Abelson** [ID]**,**[1] **Nick Kates,**[2] **Alice Cavanagh** [ID]**,**[1] **and John N. Lavis** [ID][1]

[1]*Department of Health Research Methods, Evidence, and Impact, McMaster University, 1280 Main St W, Hamilton, ON L8S 4L8, Canada*
[2]*Department of Psychiatry and Behavioural Neurosciences, McMaster University, 1280 Main St W, Hamilton, ON L8S 4L8, Canada*

Correspondence should be addressed to Cara Evans; evanscn@mcmaster.ca

Health systems are poorly equipped to respond to complex health and social needs, which span sectors and diagnoses. This study puts forward a framework for complex care policy. The framework was developed using critical interpretive synthesis, a method for developing theory on the basis of a transparent search and critical analysis of a heterogenous body of the literature. Seventy-three results were included from a systematic search. We suggested that complex needs can be understood as a pattern of unmet needs occurring at the intersection of fragmented health systems and services, multimorbidity, and social marginalization. We proposed a multilevel framework to inform complex care policy design that accounts for each of these issues and their intersections at the individual, service, and system level. We further identified five principles that have relevance at all levels of complex care. Our framework centres clients and their relationships with providers and suggests how services and systems can support client-level interactions. Conceptualizing complex care policy as a multilevel intervention offers a tool for understanding unexpected effects. Further work is needed to test and refine this framework and to contextualize it for particular populations and settings.

1. Introduction

A number of current trends in health systems converge around the issue of complex health and social needs. The descriptions of this phenomenon vary. Health economists point to a small percentage of individuals who use a large proportion of health resources, for instance, in the United States, 5% of the patients account for almost half of the health care expenditures [1], while in Ontario, Canada, 5% of the patients have been found to account for 65% of the expenditures [2]. Meanwhile clinicians and clinical researchers have noted a rise in multimorbidity, as more patients present with multiple discordant health diagnoses requiring coordinated care [3]. A loose consensus suggests that complex health and social needs span sectors, diagnoses, and traditional services; impose barriers to accessing and benefitting from care; and are a challenge to which health systems are poorly equipped to respond.

Scholars have developed theoretical frameworks to further explain and describe complex needs. Some of these frameworks primarily enumerate factors contributing to complexity [4]. More dynamic approaches consider how complexity is generated, framing it as a site of disjuncture or a gap. In one framework, this gap falls between the "workload" required to manage an individual's health and the individual's "capacity" to do so [5]. For example, workload may be increased by the intense self-management demands of multiple chronic illnesses, while the capacity may be decreased through reduced social support. However, another framework highlights the contribution of systems themselves to the problem of complex needs: Grembowski et al. consider the gap to fall between individual needs and system resources [6]. They note that this gap between needs and resources occurs within a broader social ecology including population-level inequities and health research and policy that tend to focus on single diseases.

If health systems contribute in generating complex needs, system redesign is required to redress these needs. The complex care literature often draws on literature in integrated care to inform system design. For instance, the international iCOACH project describes an integrated community-based primary care model for older adults with complex health and social needs [7], drawing on the rainbow model of integrated care [8] as well as the chronic care model [9]. Common elements among complex care programs that are considered successful have been found to include comprehensive assessment and care planning, care coordination, a single point of access, and a core group of providers with strong links to a broader network [10] as well as patient-centred approaches to clinical care, aligned payment models, data-driven learning, and a nontraditional workforce including people with lived experience [11].

However, the evaluations of complex care often reveal null or even adverse effects [12, 13]. These findings may be explained by ineffective models or implementation problems, but lack of conceptual clarity may also play an important role [13, 14]. Conceptual clarity is critical because shared objectives provide coherence across activities and over time in integrated care [15]. While decisions about health policy may be made in a "top-down" fashion, these decisions are ultimately implemented through interactions between individual service users and service providers, under the auspices of locally managed organizations [16]. However, different stakeholders have different visions on the meanings and objectives of care for people with complex health and social needs [14]. An American report succinctly summarizes this dilemma: "Many interviewees noted that complex care has been struggling to articulate a common understanding around what complex care is, what problems it is trying to solve, and the populations it serves" [17].

The issue of what complex care entails and what problem it seeks to solve are related: the tools used in complex care (and the outcomes that are measured) should be linked to the problem at hand. We focus on complex care from the perspective of the policy (at the level of government or an integrated delivery system, i.e., beyond change within an individual organization), while acknowledging that complex care policy will encompass changes to individual-level clinical care as well as to the broader health system in which this care occurs. We included papers addressing complex care policy, i.e., a program of interventions initiated at a governmental and/or system level, and analyze interventions at any level included in these papers.

As such, this study begins with the question, how do conceptualizations of complex health and social needs relate to policy responses? It applies critical interpretive synthesis, a structured and systematic approach to critical analysis [18], in order to put forward a framework to inform design of complex care policy.

2. Methods

This study uses critical interpretive synthesis to analyze the policy literature on complex care. Schick-Makeroff et al. describe critical interpretive synthesis (CIS) as one of a number of "emerging synthesis methods" that include both quantitative and qualitative studies and that have distinct purposes beyond aggregation or interpretation of primary data [19]. First described by Dixon-Woods et al. in 2004, CIS is a method for transparently searching and critically engaging with a large heterogenous body of the literature. It is particularly applicable to subjects for which clear widely accepted definitions do not exist [18, 20]. CIS is a theory-generating methodology, where concepts and theories are developed using the body of literature as the object of inquiry. It has been applied to diverse topics including the actual and potential intersections among services addressing domestic violence, parental substance use, and parental mental health [21]; the influence of context on therapeutic relationships in care for people with psychotic disorders [22]; and to develop a framework for integrating policy considerations into implementation efforts [23]. In the present study, CIS provides a rigorous approach to tackle the loosely bounded and methodologically diverse literature on complex health and social needs.

Conducting a CIS begins with the identification of a question that acts as a tentative guide, rather than a firmly stated objective; it can be iteratively revised through engagement with the literature. A CIS search is broad and encompasses multiple information sources. Once a sample of literature is selected, quality appraisal is typically not applied; given the focus on critical interpretation, rather than critical appraisal, the methodological rigour of included articles may not relate to their relevance. For this reason, Dixon-Woods et al. advised excluding only "fatally flawed" studies and foregoing quality appraisal.

The analytical portion of a CIS employs the constant comparative method, drawn from grounded theory and described by Corbin and Strauss, among others. Constant comparison is an iterative process whereby data points are analyzed in comparison to those previously analyzed, such that the set of identified concepts shifts as the study proceeds [24]. In CIS, concepts identified in the body of the literature under study may include constructs directly drawn from the literature as well as synthetic constructs based on the researcher's analysis of the literature. These constructs are then organized into a theoretical framework which specifies relationships among constructs, called a synthesizing argument. It is the use of constant comparison to generate theory that differentiates CIS from similar synthesis methods.

This study was conducted as part of the first author's doctoral dissertation [25].

2.1. Systematic Search. A search was conducted in six databases (CinAHL, MedLine, Proquest Politics Collection, PsycInfo, Web of Science, and Health Systems Evidence). These databases were selected in order to capture a broad range of health services and policy research. Search terms were developed with the support of a research librarian, with strategies optimized for each database. The search strategy was developed to prioritize specificity, given the varied uses of the term "complex" in regards to health care. Search terms can be found in Table 1. Searches were carried out in July 2020. Results were entered into an EndNote database and duplicates were removed.

TABLE 1: Search terms.

Concept	Terms
Complexity	Complex need* OR clinical complex* OR psychosocial complex* OR high cost user* OR superutilizer OR hot spotting OR complex health and social needs
Policy and system-level responses	Policy OR governance OR regulate* OR fund* OR organize* OR decision OR model

Inclusion and exclusion criteria were developed to guide article selection. Articles were included if they included a definition of complex needs or clear statement of what complex needs entail and pertained to policy at a governmental level or the level of an integrated delivery system. These inclusion criteria were developed to facilitate addressing the objective of linking conceptualization and policy. Articles were excluded if they focused on a specific diagnosis or set of comorbidities (e.g., services for people with comorbid diabetes and depression) rather than on multimorbidity as a more general problem; were not about health care (e.g., articles solely about social services such as justice or housing); or were focused on children or infants, pre- and postnatal care, or transition-aged youth (as complex needs in children and youth often involve distinct systems, including child welfare and education and distinct principles of care including family-centred approaches). Articles were not restricted by year of publication, by type (e.g., academic or grey literature), or by method (e.g., review, quantitative, or qualitative studies).

2.2. Article Selection

2.2.1. Screening of Systematic Search Results. Screening of articles proceeded in stages. CE conducted an initial screening based on title, excluding those unrelated to the subject of the review or evidently meeting exclusion criteria. The remaining articles were then independently screened by CE and AC on the basis of title, abstract, and, when needed, full text. Disagreements were discussed to reach consensus. All articles that deemed to meet the inclusion criteria were included in the critical interpretive synthesis.

2.2.2. Purposive Sampling. The sample of articles was subsequently expanded through purposive sampling that occurred concurrently with analysis to fill out the theoretical framework. Purposive sampling took the form of targeted hand searches of academic databases and grey literature to identify high-impact or highly relevant papers that addressed specific gaps in the emerging framework, in particular relating to the principles of care.

2.2.3. Extraction. Data extraction was carried out for the included articles. Extracted data included descriptive information (authors, title, year, location, and methods) and verbatim quotations pertaining to the definition of complex needs, the policy under study, the policy rationale, and the study findings. The data extraction table was then uploaded to NVivo for analysis.

2.3. Analysis. Analysis was carried out iteratively. The first stage involved coding-extracted data under the categories of definitions of complex needs, policy components, and policy rationale. Within these categories, codes were developed through line-by-line coding of the extracted data. Initial codes were grouped based on conceptual similarities to identify broader commonalities. Iterative revisions to the groupings of codes were conducted in consultation with JL, JA, and NK to refine a categorical description of the literature. Analysis of relationships among various categories was used to organize these categories into a framework. The framework-in-development was iteratively revised through processes of sorting, checking against the literature, discussing, and reorganizing.

3. Results

3,818 records were retrieved for review from the database search. Following the exclusion of duplicates, 2,957 records were screened and 73 were ultimately included in the critical interpretive synthesis. A summary of the systematic search results can be found in Figure 1, and information about the included studies can be found in Table 2. A full list of references included from the systematic search is in Appendix 1.

All included articles from the systematic search except one were published after the year 2000 (with the exception being a 1979 article on case mix). Forty-eight were published in 2015 or later, reflecting a relatively recent expansion in interest. Seventy-two papers were from high-income countries, with the largest proportion (26 papers) from the United States. The sole paper from a low- or middle-income country was an article from China. The most common methods were observational or quasiexperimental (24 papers), followed by qualitative studies (12) and descriptions of specific initiative (12). Studies included a heterogenous set of objectives and findings, with the most common being cost and utilization outcomes (20 studies), factors affecting implementation (12 studies), and strategies for targeting interventions, segmenting populations, or defining case mix (nine studies). Sixty-one documents were from academic journals and twelve documents were grey literature.

Following the database search, an additional eleven articles were identified through purposive searching. This includes three grey literature reports and eight academic articles, all published since 2000. The academic articles included four theoretical or conceptual articles, two empirical studies, and two systematic reviews.
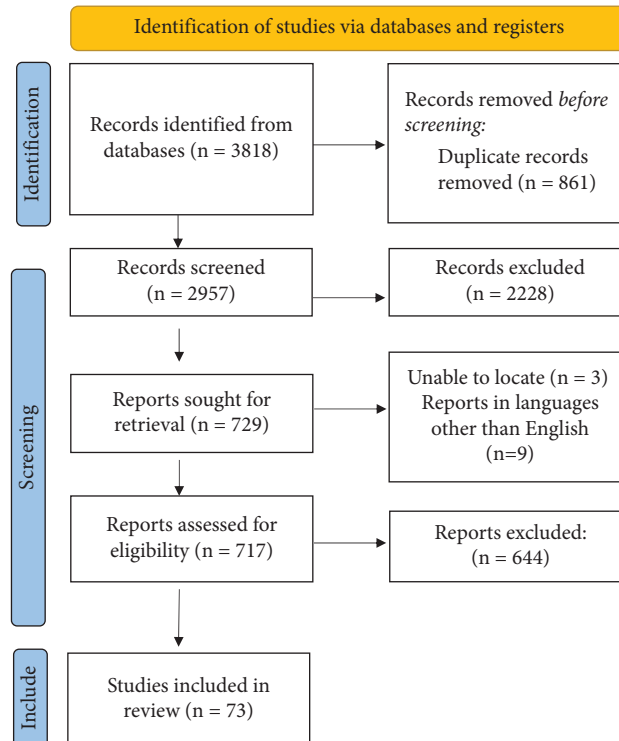
Figure 1: Findings. Modified from Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021; 372:n71. Doi: 10.1136/bmj.n71. For more information, visit https://www.prisma-statement.org/.

3.1. Framing the Problem of Complex Health and Social Needs

3.1.1. Problem Framing in the Literature. The included literature predominantly framed complex health and social needs as a set of individual characteristics and resulting care needs. Multimorbidity was the most frequently mentioned individual characteristic, occurring in a majority of included papers. Individuals were also described as having experiences of social marginalization such as social isolation [26], homelessness [27], or more general "social needs" [28]. Care needs were often linked to these characteristics: multimorbidity was described as resulting in a need for multiple care providers [29], while social adversities were suggested to imply a need for social services [30]. This proliferation of involved services was sometimes argued to create a need for coordinated care [31].

A smaller subset of papers considered how services and systems contribute to complexity. For instance, some noted that coordination is required not only because of the nature of multimorbidity, but also because of the fragmented and siloed character of many health systems [32, 33]. Other papers noted the nonindependence of health and social needs. For instance, Miller et al. ACT Complexity Quadrant Schema separated medically complex, socially complex, and medically and socially complex patients into separate strata and found that the latter had needs distinct from a simple cumulation of the first two categories [34]. The finding of an interactive rather than an additive effect is echoed in papers noting that marginalization can both produce ill health and decrease the capacity for self-management [35, 36].

3.1.2. Synthesizing a Dynamic Framing of Complex Health and Social Needs. Taken together, the abovementioned constellation of elements suggests that complex health and social needs can be understood as a pattern of unmet needs occurring at the intersection of three issues: fragmented health systems and services, multimorbidity, and social marginalization. As described above, this problem is not one of the simple co-occurrence. Instead, these factors influence each other within a dynamic system. Therefore understanding complex needs in terms of fragmented health care, marginalization, and multimorbidity suggests that effective policy responses will need not only to account for each of these factors, but also the interactions among them.

3.2. A Multilevel Framework for Complex Care. This description of complex health and social needs suggests that it is a problem that crosses multiple levels of analysis, from individual characteristics such as multimorbidity to service and system challenges of fragmentation, along with the pervasive and cross-cutting issue of marginalization. Meanwhile, existing policy responses range from individual treatment to health service reorganization and to health system interventions. However, these levels also exist within a dynamic context and need to be brought into a coherent whole.

This critical interpretive synthesis develops a multilevel intervention framework to inform design of complex care policy. Multilevel interventions, as the name suggests, are interventions that occur at multiple levels of analysis, which may include individual, team, organizational, community,

TABLE 2: Attributes of included studies.

Domain	Description	Number of documents
Date	2015–2020	48
	2000–2015	24
	Pre-2000	1
Geography	United States	26
	United Kingdom (or constituent countries)	12
	Canada	9
	Australia	5
	Sweden	3
	Norway	2
	International	11
	Other countries	5
Methods	Observational or quasiexperimental	24
	Qualitative	12
	Description of an initiative	12
	Nonsystematic review	10
	Systematic review	9
	Commentaries	2
	Experimental	2
	Economic evaluation	2
Source	Academic	61
	Grey	12
Type of findings	Cost and utilization outcomes	20
	Factors affecting implementation	12
	Targeting interventions, segmenting populations, or defining case mix	9
	Provider experience	7
	Patient experiences	6
	Health outcomes	5
	Processes of care	5
	Uptake of approaches	5
	Components of complex care interventions	5
	(*does not add to 73 as some papers reported multiple types of findings and some nonsystematic reviews, case descriptions, or commentaries did not include findings)	

and policy levels among others [37]. Multilevel interventions have been applied in fields including community psychology [38], public health [39], and cancer care [40]. The theoretical roots of multilevel interventions include socioecological approaches, with Bronfenbrenner's hugely influential work on the ecology of human development underpinning the concept of "levels" [38, 39]. Literature on multilevel interventions stresses the importance of interdependence across levels. Each level of a multilevel intervention has a distinct target for change, but effects at one level have implications for other levels [37, 38]. These effects may be synergistic, but can also be contradictory: for instance, community-level decreases in risk may increase individual-level risk taking [39]. Proponents argue that multilevel interventions are appropriate to address social and health challenges that may defy more linear approaches [37]. These characteristics of multilevel interventions make it an appropriate conceptual scaffolding for a framework for informing the design of complex care policy.

During analysis of included papers, interventions were observed to fall into three distinct levels: individual, service, and system interventions. Within these levels, interventions also had varying targets that could be mapped onto the three intersecting components of complex needs described above

(namely, multimorbidity, marginalization, and system fragmentation). Table 3 highlights the interventions addressing each of these facets; while some strategies have relevance to multiple issues, they are categorized according to the area of greatest relevance. Appendix 2 maps the facets of complexity and related interventions across the systematic search results; as it is evident in this table, despite the explicit focus on policy in the systematic search, the findings focused predominantly on individual- and service-level interventions with sparser attention to the system level.

As mentioned above, the facets of complexity are not discrete entities but exist in dynamic interrelationship. Moreover, a key insight of the literature on multilevel models is that the levels of an intervention are also dynamic and interact with each other. Figure 2 organizes these policy interventions into a framework that includes relationships across and within levels of intervention, along with cross-cutting principles, to account for this enmeshment.

The proposed framework is further described in detail below. For each level, interventions targeting each component of complexity are described (as represented in Table 3). Subsequently, the intersections among interventions within and across levels are addressed (as represented in Figure 2).

TABLE 3: Policy and practice interventions mapped onto levels and targets.

| Level	Target		
	(A) Fragmentation	(B) Multimorbidity	(C) Marginalization
(1) Individual	Care coordination	Individual care planning	Trusting relationships
(2) Services	Coordination across health services	Multidisciplinary care Tailored intensity	Coordinating with social services Flexible access
(3) System	Information sharing Shared funding Local tailoring	Segmentation and data-driven planning	Integrating social services
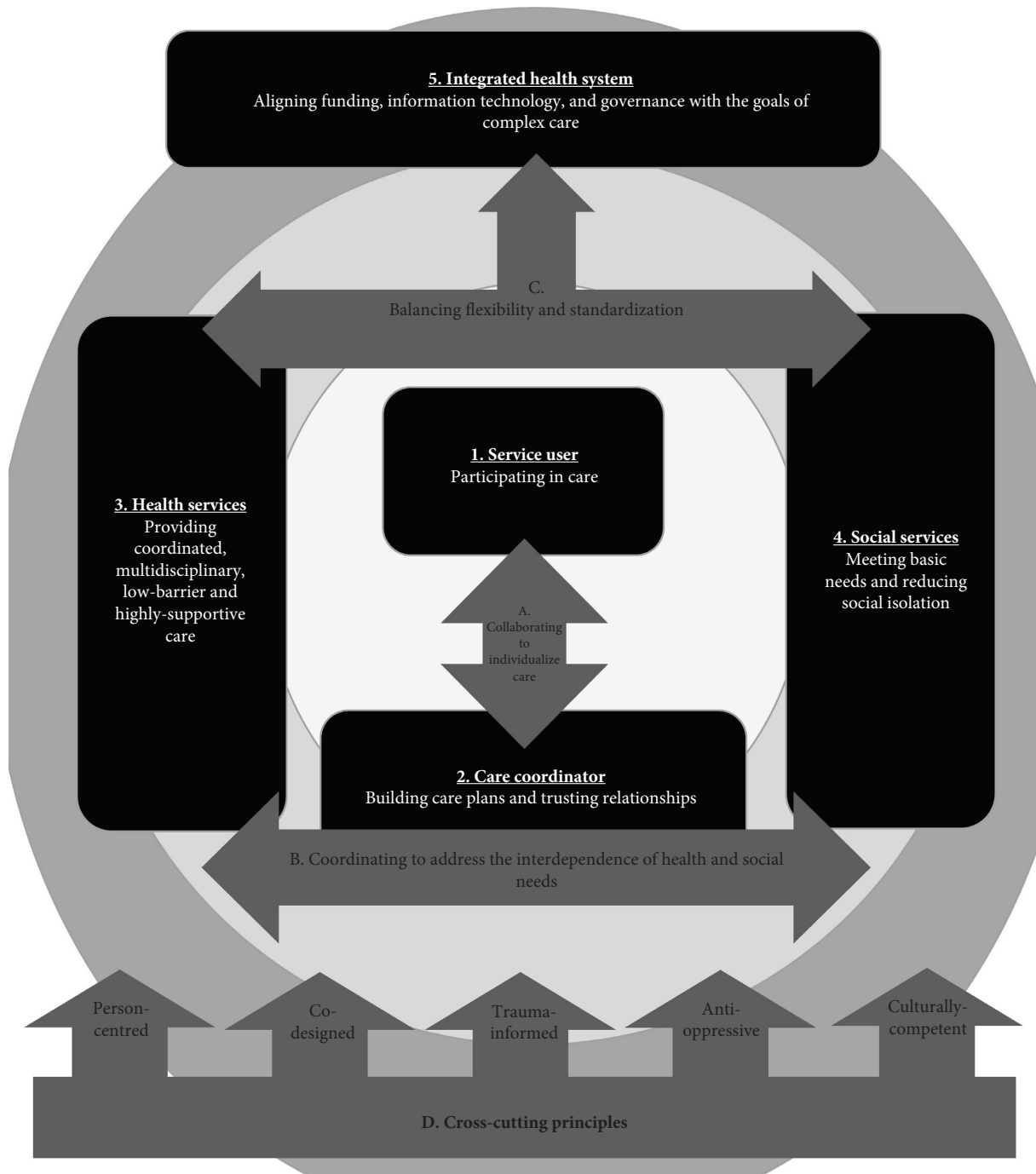
FIGURE 2: A multilevel framework for complex care.

3.2.1. Individual Level: Individualized Care Coordination. Care coordination was the single most common intervention in the literature reviewed. Care coordination was most often carried out by an individual provider with responsibility for facilitating the development and implementation of a care plan. This intervention mediates the individual-level relationship between the individual and the health system, and can enable individualization to address the interactions among elements of complex needs as described below.

(1) Reducing Fragmentation (Cell 1A in Table 3 and Box 2 in Figure 2). Care coordination aims to address health system fragmentation by integrating care around the individual patient. To achieve this aim, care coordinators facilitate communication and collaboration in the development and implementation of complex care plans that involve multiple providers, services, and sectors. The scope of care coordination initiatives varied: care coordination was used to address transitions in care [41, 42], to enhance primary care [28, 30], and to span the continuum of care across ongoing, integrated, or intersectoral treatment [43, 44].

(2) Managing Multimorbidity (Cell 1B in Table 3 and Box 1 and 2 in Figure 2). For individuals with multimorbidity, each condition has implications for care as a whole [45]. As such, care plans organized around personal needs and goals may be more appropriate than tightly standardized disorder-specific treatment. Creating such a plan requires holistic assessment [46, 47] and active participation of the service user [41, 48]. Given that some studies described complex needs in terms of difficulties engaging in health services [49], fostering this participation may require particular focus.

(3) Addressing Marginalization (Cell 1C in Table 3 and Box 2 in Figure 2). The relationship between a client and a care coordinator is an important enabler in complex care [50]. While relationships are broadly important in health care, this may be especially critical for marginalized service users. Vaillancourt et al.'s approach to developing "archetypes" of users with complex needs identified that experiences of rejection and discrimination in healthcare settings were common among this population [51]. For these service users, care coordinators can act as an advocate and trusted navigator. However, the foundations of strong relationships between providers and marginalized service users were often left unexplored in the included literature.

(4) Intersections (Arrow A in Figure 2). The care coordinator-client relationship therefore represents the "ground level" of complex care, where intersecting and overlapping needs are synthesized into a coherent goal-driven plan in the context of a consistent and supportive relationship. The client and their natural supports offer the expertise of lived experience: the client's goals, preferences, and contextual situatedness animate the care plan. Meanwhile, the care coordinator bridges individual care and service levels of analysis by translating patient goals, needs, and strengths into a care plan and facilitating access to the resources required to enact this plan.

3.2.2. Service Level: Resource Integration and Appropriateness. The client/care coordinator relationship is nested within a set of local services, which broadly includes social services as well as health care. The care coordinator is tasked with coordinating services to address the interdependence of health and social needs. However, care coordination is predicated on an assumption that appropriate care is available to coordinate.

(1) Reducing Fragmentation (Cell 2A in Table 3 and Box 3 in Figure 2). Coordination across the care continuum at an organizational level is a tool for reducing system fragmentation. In some instances in the literature, organizational partnerships were organized around specific patients with complex needs. This enabled representatives from multiple agencies to support care planning for individuals through case conferencing tables or other mechanisms [52, 53]. In others, coordination across health sectors was developed through colocation, organizational mergers, or other approaches [54, 55], reducing the need for service users and providers to navigate organizational boundaries.

(2) Managing Multimorbidity (Cell 2B in Table 3 and Box 3 in Figure 2). Multidisciplinary team-based care brings various healthcare professions, including social workers, nurses, pharmacists, and mental health care providers, together on a single team to address the plethora of medical and non-medical concerns that can accompany multimorbidity [56, 57]. Managing multiple chronic conditions may also require a higher intensity of support, including frequent in-person contact [58]. Biomedical approaches tend to dominate approaches to complex care, despite recognition of the social dimensions of complexity [54, 59]. However, the implications of biomedical dominance for multidisciplinary team work, including potential conflicts and challenges, receive limited attention in the included literature.

(3) Addressing Marginalization (Cell 2C in Table 3 and Box 3 and 4 in Figure 2). Complex care services must be accessible to clients who face barriers to care. Primary [60], acute [33], and postacute care [61] have all been provided in home to reduce these access barriers. Other interventions included flexible approaches such as mobile or outreach-based care [58] to reach clients in nontraditional settings.

Marginalized clients may also have unmet basic needs that interfere with effective management of health concerns [46] and achievement of an acceptable quality of life.[45]. Partnering with social services gives healthcare providers an avenue to address these concerns [52, 55, 62, 63]. Social needs may include basic survival needs such as housing and food [27]. Reducing social isolation was also identified as a goal in some papers [43, 59].

However, the literature tended to include less specificity regarding social services when compared with health services. For instance, Burton et al. describe "conduct of complex psychosocial or socioeconomic intervention" as a core part of the complex case management [64], without the explanation of what this may entail. Other papers note that providers may refer clients to social services, with

minimal information provided on the scope, structure, funding source, or attributes of these services [58]. In examples of papers taking a more detailed view, Johnson and Bascu's literature review, which focuses on home care, identifies that older adults with complex needs may benefit from social supports such as caregiver supports, financial assistance for housing adaptions, and supportive housing; however, they note that a biomedical conceptualization of complexity prevails across literature and practice [59].

(4) Intersections (Arrow B in Figure 2). Coordination among health and social services is therefore a key task at the service level. Multidisciplinary, highly supportive, and low-barrier health services, working in partnership with social services to meet basic needs, may help to address the full range of client needs and goals. Meanwhile, the concurrency of health and social needs influences the presentation and management of each of these concerns. For example, lack of stable housing affects physical and mental health, while health-related functional impairment influences support needs with respect to housing. Collaboration across organizations and sectors may therefore enable joint working to address interdependencies among health and social needs.

3.2.3. System Level: Creating the Context for Complex Care. Health services are embedded in a broader health system, including financial, governance, and delivery arrangements. While often operating under separate policy frameworks, social services may also have formal roles within integrated health systems. System-level policy interventions can be leveraged to create a conducive context for complex care by aligning incentives, resources, data and communications infrastructure, and legislative and regulatory requirements with the goals of complex care.

(1) Reducing Fragmentation (Cell 3A in Table 3 and Box 5 in Figure 2). A range of systems strategies can support joint working across organizations and sectors. When care plans cross organizational boundaries, providers need access to the information required to support care plan implementation. Shared communications infrastructure was mentioned both as a policy intervention and (when absent) as an implementation barrier [63, 65]. Integrated funding across organizations was also a strategy employed in the literature [28, 66]. This was sometimes justified as a form of "accountability" assumed to incentivize efficiency, although the actual pathway between integrated funding and more efficient decisions was not described.

A number of policies in included papers were developed at a jurisdictional level and implemented locally, with flexibility built in to enable use of local resources [50, 53], for instance, Goldhar et al. described how care coordinators already in place from a previous policy initiative which were redeployed to the specific forms of primary care [43]. However, while studies describe the use of local human and infrastructural resources, there was little specificity regarding how complex care programs have been adapted to local cultural, geographic, and social contexts.

(2) Managing Multimorbidity (Cell 3B in Table 3 and Box 5 in Figure 2). At a systems level, data-driven planning may be used to ensure that services are appropriately targeted and adequately resourced. For instance data on clinical characteristics including multimorbidity was used to stratify populations by risk and segment according to the need [67]. Case mix strategies were also used to ensure that funding reflected the clinical complexity of patients [68, 69]. In some instances, mechanisms for financial accountability were designed to enable whole-person rather than disease-specific approaches to care [57, 70]. However, while systems-level data may reflect multimorbidity; these data often do not capture patient-level factors contributing to complex needs, which were more often assessed by clinicians [64].

(3) Addressing Marginalization (Cell 3C in Table 3 and Box 5 in Figure 2). Marginalization was rarely addressed at a system level in the literature. Cross-sectoral collaboration may be a strategy for building health system capacity to address social determinants of health: this collaboration could take forms ranging from contractual arrangements to engagement of community members in governance [27]. However, in a critical discourse analysis, Fleming et al. argued that health systems attend to social adversity insofar as doing so is germane to cost control objectives [35]. Indeed, integrating funding for health and social services was put forward in some papers as a cost-saving strategy, with the expectation (but not always the effect) of cost shifting away from costly acute intervention and towards cheaper social prevention [66, 71].

(4) Intersections (Arrow C in Figure 2). Shared communication and funding and data-driven planning imply efforts towards standardization across the system. At the same time, the flexibility to use local resources and incorporate clinical input along with standard data points towards local approaches. This tension can be resolved within a multilevel model where the system provides an outer layer of context for complex care; an enabling context includes both standard elements to facilitate joint working and the removal of barriers to enable local tailoring. Feedback across levels is required for a full understanding of the population needs, including social needs. However, systems-level elements that respond to the needs of marginalized users were not well-described in the literature reviewed and merits further attention.

3.2.4. Gaps in the Literature: Principles for Complex Care (Arrow D in Figure 2). Complex care occurs at the intersection of multiple competing paradigms. For instance, providers in complex care may be expected to navigate the overlap and tension between biomedical and social determinants-based conceptualizations of health [59], discourses of cost concerns and justice [35], and the recovery model and the medical model of mental health care [54]. However, while these tensions are highlighted, the literature also offers little by way of a normative compass for the field of complex care.

For instance, the included literature has limited engagement with principles drawing on service user and community knowledge and strengths. In this literature, person-centred approaches are argued to have particular relevance to individuals with multimorbidity, for whom standard disease-specific care pathways and treatment approaches may not be appropriate [60]. A person-centred approach can also guide efforts to reduce system fragmentation by ensuring that care is designed to be seamless from the perspective of the service user [51, 63]. However, while the literature supports involving individuals with complex needs in their own care, there was less attention to how lived expertise can inform complex care policy. One study described a community capacity development project wherein community stakeholders mapped resources for individuals with complex needs [72] and another described "enhanced citizenship in public services" through co-production as a driver of health and social care integration [71]. Beyond these two instances, the literature does not address the potential of codesign approaches [73, 74] for engaging local and lived knowledge in the development of complex care. Culture is also a rich source of knowledge and values. However, only one article included in this review explicitly identified cultural considerations in the context of a New Zealand program working with Maori populations [28]. Complex care policies are often enacted and adapted locally [50, 53], suggesting that cultural competence, the capacity of a health service or system to work effectively across cultures [75, 76], may be an important concern.

The literature also has limited engagement with principles relevant to social marginalization. For instance, despite the constitutive role of marginalization in complexity, no included papers referred to antioppressive practice. Antioppressive practice is a framework that recognizes inequities in power and access to resources, and prompts active efforts to offset these inequities [77, 78]. Antioppressive practice can include empowering service users to define their own needs and strengths and enabling systems of mutual support among people affected by oppression, expanding the notion of local resources beyond formal services [77, 78]. Meanwhile a high prevalence of trauma among service users was also noted in some included papers [35], which is unsurprising given the association between adverse childhood experiences and multimorbidity [79]. Trauma-informed approaches involve recognizing the prevalence of psychological trauma and its profound impacts on behaviour and implementing strategies to prevent retraumatization of service users [80, 81]. However, while trauma-informed approaches have been cited in grey literature [17], they are largely absent in the included literature.

Principles of person and family-centred, codesigned, trauma-informed, culturally competent, and antioppressive care, therefore, offer resources for engaging the strengths of individuals and communities, including lived knowledge and culture, while also responding to personal and communal histories of oppression and trauma. Doing so may address additional gaps noted in the framework description above. For instance, trauma-informed and culturally competent care may support strong relationships between care providers and service users. Codesign can be used to tailor policy to the needs of marginalized communities. Meanwhile, systems may amplify inequities in the absence of intentional antioppressive practice, for instance, a 2019 American study found that a widely used algorithm was used to identify patients with complex needs which systemically underestimated the needs of Black patients due to lower access to, and use of, healthcare [82]. These principles are therefore included in Figure 2 as a preliminary response to these literature limitations.

4. Discussion

4.1. Key Findings. Our analysis puts forward a framework to inform design of complex care policy. We first identify three targets that comprise complex health and social needs from a policy perspective (Table 3), then brings these approaches together in a single multilevel intervention (Figure 2), describing interdependencies within and among levels and principles that cut across levels. Specifically, complex health and social needs are framed as a pattern of unmet needs arising through the interaction of three issues: fragmented health systems and services, multimorbidity, and social marginalization. At an individual level, interventions can target each of these three issues through individualizing and coordinating care. At a service level, interventions can ensure that appropriate health and social services are available and integrated to support individual-level coordination. At a system level, interventions create an enabling context through balancing standardization and flexibility. Five principles are suggested to guide work across and within the levels; complex care policy is suggested to be person- and family-centred, codesigned, trauma-informed, antioppressive, and culturally competent.

4.2. Findings in Relation to Other Studies. Dynamic models for the concept of complex needs exist in the literature. These models include the cumulative model of complexity, which frames complex needs as a gap between the "workload" an individual must manage to address their own health needs and their caacity to do so [5]. Another model describes complexity as a gap between patient needs and the needs that health services are able to effectively meet [6]. This latter model resonates with the present study's description of complex health and social needs. However, our study presents a streamlined conceptualization focusing on three specific targets generating this gap, namely, the intersection of fragmented health systems and services, multimorbidity, and social marginalization.

Existing reviews have also enumerated promising practices in complex care [11, 83, 84]. Some existing literature has also called for or described multilevel approaches to target complex health and social needs. For instance, the National Centre for Complex Health and Social Needs' Blueprint for Complex Care states that complex care "operates at the personal level by coordinating care for individuals. Complex care also works at the systemic level by creating complex care ecosystems, the local networks of organizations that collaborate to serve individuals with

complex health and social needs" (p. 6) [17]. However, the relationships among practices or levels in complex care are rarely described.

The framework represented in Figure 2 therefore adds to the current literature on policy responses to complex needs in three ways. First, it makes explicit embeddedness of complex care within a dynamic interactional multilevel system. Our framework centres clients and their relationships with providers and suggests how service and system contexts can be structured to support and enable effective client-level interactions. Drawing on conceptual work on multilevel interventions offers a tool for understanding unexpected effects (and null effects) observed in empirical studies and provides grounding for designing future evaluations.

Second, this framework seeks to add nuance to the role of social services in complex care. While the role of social services in complex care is sometimes described in terms of attending to or addressing social determinants of health [27, 58]; the actual interventions may be described more specifically in terms of meeting basic needs and reducing social isolation. Social determinants operate across the lifespan, with long-lasting and often delayed effects; childhood exposures in particular often have lifelong ramifications [79, 85]. Commenters have noted that it may be unrealistic to expect complex care, including social service referrals, to fully undue the effects of prolonged exposure to adversity, deprivation, and trauma [86]. Framing the role of social services in terms of basic needs may offer a more pragmatic guide to intervention and may also ground expectations around impact. At the same time, avenues to move beyond survival to enable flourishing in complex care clients are an important area for further research.

Third, this analysis highlights ways that services can respond to social marginalization beyond incorporation of social services, through incorporation of principle-based approaches. This is critical because the structures that shape access to health-promoting resources are also embedded in health systems. For instance, while racism can affect individuals' physical and mental health and their social circumstances, it also affects experiences in health care and the appropriateness of care received [87, 88]. The suggested principles described above are relevant to this problem. While distinct from each other, each of the sets of principles included each address of the necessity of respecting clients' voices and strengths and creating opportunities for empowerment. Antioppressive, trauma-informed, and culturally competent approaches also require an understanding of the contextual factors shaping clients' lives, enabling more appropriate responses.

4.3. Strengths.
Strengths of this study include a comprehensive and flexible search strategy and the use of theory-building analytic methods. The search strategy included an initial comprehensive search of multiple databases, enabling the capture of a broad range of academic and grey literature. Two authors reviewed inclusion of all the studies in the systematic search. This systematic search was supplemented by purposive searching to address gaps, an approach that is appropriate both to the theory-building aims of this study

and to the fuzzy nature of the concept of complex care. Using a constant comparative analytic approach brought elements of this literature into new conversations and configurations. Considering interrelationships across concepts allowed this study to move beyond description to theory building. Finally, the midrange theory put forward in this critical interpretive synthesis is scaffolded on existing, empirically tested theoretical insights about the working of the multilevel interventions. This buttresses the arguments of the present study and suggests pathways for evaluation.

4.4. Limitations.
This study has important limitations. First, the proposed framework is based on descriptions of current policies and practices, rather than evidence about whether these policies and practices achieve their intended effects. Existing approaches were categorized by target and by level; but the extent to which any of these approaches achieves change (alone or in concert with other approaches) was not addressed. Second, it is based on a generic conceptualization of complex health and social needs. The arguments above may not account for needs arising in specific contexts (e.g., rural and remote areas) or populations (e.g., individuals with polysubstance use and chronic illness). This study also almost solely identified literature from high-income countries and so does not address the nature of or responses to complex needs in low- and middle-income settings. Moreover, this study included only documents available in English and as such does not represent the knowledge contained in academic and grey literature in other languages. Nine studies were excluded on the basis of language, and non-English databases were not searched.

4.5. Implications for Policy and Practice.
Conceptualizing complex care as a multilevel intervention implies a need for collaboration across sectors and players in the health and social system. It also suggests that interventions may have unexpected and paradoxical effects due to unanticipated interactions across levels. Indeed, this has been observed empirically. For instance, a randomized controlled trial of a pioneering "hot spotting" program unexpectedly found that it did not reduce hospital readmissions relative to control conditions [12]; an observational study of Ontario's Health Links program, which involved care coordination and planning for high-cost users, found enrollees in fact had lower reductions in utilization than matched comparators [62]. A multilevel framework can offer conceptual grounding for unpacking these disappointing findings and for designing robust approaches to complex care policy.

4.6. Implications for Future Research.
As noted above, the framework presented in Figure 2 represents a synthesis of current practices. It can be understood as a hypothesis in need of testing. Importantly, multilevel interventions require complex evaluations [40]. While observational and experimental designs have been applied to understand the effects of complex care interventions; a multilevel intervention implies a need to evaluate the contextual configurations of nested interventions that best support clients with complex

needs. Multilevel interventions may also require longer time horizons to display effects [89], which is a challenge for researchers and funders. However, these complex and longer-term evaluations may be required to yield deeper insights into what works, and how, in complex care policy.

5. Conclusions

Complex health and social needs pose a persistent challenge for health systems in addition to representing unalleviated suffering at an individual level. This critical interpretive synthesis draws on a structured search and analysis of the existing literature, to set forward a policy-relevant conceptualization of complex health and social needs and to propose a multilevel framework for designing complex care policy. This framework highlights the dynamic interactions across individual, service, and system-level interventions, suggesting that policy must take these interactions into account. Further work is needed to test and refine this framework and to contextualize it for particular populations and settings.

Data Availability

Data extraction tables and a complete list of screened articles are available from the corresponding author on reasonable request.

Additional Points

What Is Known about This Topic? (i) People with complex health and social needs struggle to have their needs met within health systems. (ii) Programs and policies aiming to address complex health and social needs can have unexpected, and sometimes disappointing, outcomes. *What This Paper Adds?* (i) Policy interventions in complex care occur at individual, service, and system levels. (ii) Interventions at one level have implications across all levels. (iii) We developed a principle-driven multilevel framework to inform design of complex care policy.

Disclosure

An earlier version of this manuscript is included in the doctoral dissertation of the first author.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Acknowledgments

Supplementary Materials

Appendix 1 contains a full list of articles included from the systematic search. Appendix 2 maps the elements of the included framework across these articles. (*Supplementary Materials*)

References

[1] S. B. Cohen and W. Yu, *The Concentration and Persistence in the Level of Health Expenditures over Time: Estimates for the U.S. Population, 2008-2009*, Agency for Healthcare Research and Quality, Rockville, MD, USA, 2012.

[2] W. P. Wodchis, P. C. Austin, and D. A. Henry, "A 3-year study of high-cost users of health care," *Canadian Medical Association Journal*, vol. 188, no. 3, pp. 182–188, 2016.

[3] A. Calderón-Larrañaga and L. Fratiglioni, "Multimorbidity research at the crossroads: developing the scientific evidence for clinical practice and health policy," *Journal of Internal Medicine*, vol. 285, no. 3, pp. 251–254, 2019.

[4] M. M. Safford, J. J. Allison, and C. I. Kiefe, "Patient complexity: more than comorbidity. The vector model of complexity," *Journal of General Internal Medicine*, vol. 22, no. S3, pp. 382–390, 2007.

[5] N. D. Shippee, N. D. Shah, C. R. May, F. S. Mair, and V. M. Montori, "Cumulative complexity: a functional, patient-centered model of patient complexity can improve research and practice," *Journal of Clinical Epidemiology*, vol. 65, no. 10, pp. 1041–1051, 2012.

[6] D. Grembowski, J. Schaefer, K. E. Johnson et al., "A conceptual model of the role of complexity in the care of patients with multiple chronic conditions," *Medical Care*, vol. 52, pp. S7–S14, 2014.

[7] W. P. Wodchis, T. Ashton, G. R. Baker et al., "A research program on implementing integrated care for older adults with complex health needs (icoach): an international collaboration," *International Journal of Integrated Care*, vol. 18, no. 2, p. 11, 2018.

[8] P. P. Valentijn, S. M. Schepman, W. Opheij, and M. A. Bruijnzeels, "Understanding integrated care: a comprehensive conceptual framework based on the integrative functions of primary care," *International Journal of Integrated Care*, vol. 13, no. 1, 2013.

[9] E. H. Wagner, B. T. Austin, and M. V. Korff, "Organizing care for patients with chronic illness," *The Milbank Quarterly*, vol. 74, no. 4, pp. 511–544, 1996.

[10] W. P. Wodchis, A. Dixon, G. M. Anderson, and N. Goodwin, "Integrating care for older people with complex needs: key insights and lessons from a seven-country cross-case analysis," *International Journal of Integrated Care*, vol. 15, no. 6, p. e021, 2015.

[11] R. Davis and S. A. Somers, "A collective national approach to fostering innovation in complex care," *Healthcare*, vol. 6, no. 1, pp. 1–3, 2018.

[12] A. Finkelstein, A. Zhou, S. Taubman, and J. Doyle, "Health care hotspotting—a randomized, controlled trial," *New England Journal of Medicine*, vol. 382, no. 2, pp. 152–162, 2020.

[13] S. Kumpunen, N. Edwards, T. Georghiou, and G. Hughes, "Why do evaluations of integrated care not produce the results we expect?" *International Journal of Care Coordination*, vol. 23, no. 1, pp. 9–13, 2020.

[14] G. Hughes, S. E. Shaw, and T. Greenhalgh, "Rethinking integrated care: a systematic hermeneutic review of the literature on integrated care strategies and concepts," *The Milbank Quarterly*, vol. 98, no. 2, pp. 446–492, 2020.

[15] A. Kaehne, "Sharing a vision. Do participants in integrated care programmes have the same goals and objectives?" *Health Services Management Research*, vol. 33, no. 3, pp. 122–129, 2019.

[16] T. Evans, "Street-level bureaucracy, management and the corrupted world of service," *European Journal of Social Work*, vol. 19, no. 5, pp. 602–615, 2016.

[17] M. Humowiecki, T. Kuruna, R. Sax et al., *Blueprint for Complex Care: Advancing the Field of Care for Individuals with Complex Health and Social Needs*, National Center for Complex Health and Social Needs, the Center for Health Care Strategies, and the Institute for Healthcare Improvement, Boston, MA, USA, 2018.

[18] M. Dixon-Woods, D. Cavers, S. Agarwal et al., "Conducting a critical interpretive synthesis of the literature on access to healthcare by vulnerable groups," *BMC Medical Research Methodology*, vol. 6, no. 1, p. 35, 2006.

[19] K. Schick-Makaroff, M. MacDonald, M. Plummer, J. Burgess, and W. Neander, "What synthesis methodology should I use? A review and analysis of approaches to research synthesis," *AIMS Public Health*, vol. 3, no. 1, pp. 172–215, 2016.

[20] M. Dixon-Woods, R. L. Shaw, S. Agarwal, and J. A. Smith, "The problem of appraising qualitative research," *Quality and Safety in Health Care*, vol. 13, no. 3, pp. 223–225, 2004.

[21] J. Isobe, L. Healey, and C. Humphreys, "A critical interpretive synthesis of the intersection of domestic violence with parental issues of mental health and substance misuse," *Health and Social Care in the Community*, vol. 28, no. 5, pp. 1394–1407, 2020.

[22] S. Farrelly and H. Lester, "Therapeutic relationships between mental health service users with psychotic disorders and their clinicians: a critical interpretive synthesis," *Health and Social Care in the Community*, vol. 22, no. 5, pp. 449–460, 2014.

[23] H. L. Bullock, J. N. Lavis, M. G. Wilson, G. Mulvale, and A. Miatello, "Understanding the implementation of evidence-informed policies and practices from a policy perspective: a critical interpretive synthesis," *Implementation Science*, vol. 16, no. 1, p. 18, 2021.

[24] J. M. Corbin and A. Strauss, "Grounded theory research: procedures, canons, and evaluative criteria," *Zeitschrift für Soziologie*, vol. 19, no. 6, pp. 418–427, 1990.

[25] C. Evans, "What mental health care experiences and outcomes matter for people with complex health and social needs?" in *Department of Health Research Methods, Evidence, and Impact*, McMaster University, Hamilton, Canada, 2022.

[26] J. Carlton and V. Brissenden, "Intensive support services: the potential benefits for clients with complex needs," *Drug and Alcohol Review*, vol. 30, p. 18, 2011.

[27] M. E. Sorbero, A. M. Kranz, K. E. Bouskill, R. Ross, A. I. Palimaru, and A. Meyer, *Addressing Social Determinants of Health Needs of Dually Enrolled Beneficiaries in Medicare Advantage Plans: Findings from Interviews and Case Studies*, RAND Corporation, Santa Monica, CA, USA, 2019.

[28] M. Breton, C. S. Gray, N. Sheridan et al., "Implementing community based primary healthcare for older adults with complex needs in Quebec, Ontario and new-zealand: describing nine cases," *International Journal of Integrated Care*, vol. 17, no. 2, p. 12, 2017.

[29] T. Albreht, M. Dyakova, F. G. Schellevis, and S. Van den Broucke, "Many diseases, one model of care?" *Journal of Comorbidity*, vol. 6, no. 1, pp. 12–20, 2016.

[30] J. M. Ferrante, D. J. Cohen, and J. C. Crosson, "Translating the patient navigator approach to meet the needs of primary care," *The Journal of the American Board of Family Medicine*, vol. 23, no. 6, pp. 736–744, 2010.

[31] K. A. Peck, B. Usadi, A. Mainor, H. Newton, and E. Meara, *How Acos Are Caring for People with Complex Needs*, The Commonwealth Fund, New York, NY, USA, 2018.

[32] A. Hendry, A. Taylor, S. Mercer, and P. Knight, "Improving outcomes through transformational health and social care integration-the scottish experience," *Healthcare Quarterly*, vol. 19, no. 2, pp. 73–79, 2016.

[33] D. McCarthy, J. Ryan, and S. Klein, "Models of care for high-need, high-cost patients: an evidence synthesis," *Issue Brief (Public Policy Institute, American Association of Retired Persons)*, vol. 31, pp. 1–19, 2015.

[34] A. M. Miller, K. D. Swartwout, M. E. Schoeny, M. Vail, and R. McClenton, "Care coordination to target patient complexity and reduce disparities in primary care," *Public Health Nursing*, vol. 36, no. 4, pp. 451–460, 2019.

[35] M. D. Fleming, J. K. Shim, I. Yen et al., "Caring for Super-Utilizers: neoliberal social assistance in the safety-net," *Medical Anthropology Quarterly*, vol. 33, no. 2, pp. 173–190, 2019.

[36] R. J. Rosati, D. Russell, T. Peng et al., "The care span: Medicare home health payment reform may jeopardize access for clinically complex and socially vulnerable patients," *Health Affairs*, vol. 33, no. 6, pp. 946–956, 2014.

[37] M. Alegria, J. J. Lloyd, N. Ali, and K. DiMarzio, "Improving equity in healthcare through multilevel interventions," in *The Science of Health Disparities Research*, I. Dankwa-Mullan, Ed., John Wiley & Sons, Hoboken, NJ, USA, 2016.

[38] E. J. Trickett and S. Beehler, "The ecology of multilevel interventions to reduce social inequalities in health," *American Behavioral Scientist*, vol. 57, no. 8, pp. 1227–1246, 2013.

[39] V. L. N. Schölmerich and I. Kawachi, "Translating the socio-ecological perspective into multilevel interventions:gaps between theory and practice," *Health Education & Behavior*, vol. 43, no. 1, pp. 17–20, 2016.

[40] S. B. Clauser, S. H. Taplin, M. K. Foster, P. Fagan, and A. D. Kaluzny, "Multilevel intervention research: lessons learned and pathways forward," *JNCI Monographs*, vol. 2012, no. 44, pp. 127–133, 2012.

[41] I. H. J. Everink, J. C. M. van Haastregt, S. Evers, G. Kempen, and J. Schols, "An economic evaluation of an integrated care pathway in geriatric rehabilitation for older patients with complex health problems," *PLoS ONE [Electronic Resource]*, vol. 13, no. 2, 2018.

[42] I. Kjellberg and S. Szucs, "Pursuing collaborative advantage in Swedish care for older people: stakeholders' views on trust," *Journal of Integrated Care*, vol. 28, no. 3, pp. 231–241, 2020.

[43] J. Goldhar, S. Daub, I. Dhalla, P. Ellison, D. Purbhoo, and S. K. Sinha, "Integrated client care for frail older adults in the community: preliminary report on a system-wide approach," *Healthcare Quarterly*, vol. 17, no. 3, pp. 61–69, 2014.

[44] D. Seddon, A. Krayer, C. Robinson, B. Woods, and Y. Tommis, "Care coordination: translating policy into practice for older people," *Quality in Ageing and Older Adults*, vol. 14, no. 2, pp. 81–92, 2013.

[45] M. Marino, A. G. de Belvis, M. Tanzariello et al., "Effectiveness and cost-effectiveness of integrated care models for elderly, complex patients: a narrative review. Don't we need a value-based approach?" *International Journal of Care Coordination*, vol. 21, no. 4, pp. 120–139, 2018.

[46] C. A. DuBard and C. T. Jackson, "Active redesign of a Medicaid care management strategy for greater return on investment: predicting impactability," *Population Health Management*, vol. 21, no. 2, pp. 102–109, 2018.

[47] M. Nurjono, P. Shrestha, I. Y. H. Ang et al., "Implementation fidelity of a strategy to integrate service delivery: learnings from a transitional care program for individuals with complex

[48] J. Bjerkan, M. Richter, A. Grimsmo, R. Helleso, and J. Brender, "Integrated care in Norway: the state of affairs years after regulation by law," *International Journal of Integrated Care*, vol. 11, p. e001, 2011.

[49] H. Killaspy, L. Mas-Exposito, L. Marston, and M. King, "Ten year outcomes of participants in the react (randomised evaluation of assertive community treatment in North London) study," *BMC Psychiatry*, vol. 14, no. 1, p. 296, 2014.

[50] M. Banfield and O. Forbes, "Health and social care coordination for severe and persistent mental illness in Australia: a mixed methods evaluation of experiences with the Partners in recovery program," *International Journal of Mental Health Systems*, vol. 12, no. 1, p. 13, 2018.

[51] S. Vaillancourt, I. Shahin, P. Aggarwal et al., "Using archetypes to design services for high users of healthcare," *HealthcarePapers*, vol. 14, no. 2, pp. 37–41, 2014.

[52] M. Alam and A. J. Griffiths, "Management control systems in inter-agency collaboration: a case study," *Public Money & Management*, vol. 36, no. 4, pp. 289–296, 2016.

[53] H. Angus and A. Greenberg, "Can better care for complex patients transform the health system?" *HealthcarePapers*, vol. 14, no. 2, pp. 9–19, 2014.

[54] M. Au, C. Postman, and J. Verdier, *Integrating Behavioral and Physical Health for Medicare-Medicaid Enrollees: Lessons for States Working with Managed Care Delivery Systems*, Mathematica Policy Research, Princeton, NJ, USA, 2017.

[55] C. Hudon, M. C. Chouinard, M. Couture et al., "Partners for the optimal organisation of the healthcare continuum for high users of health and social services: protocol of a developmental evaluation case study design," *BMJ Open*, vol. 4, no. 12, 2014.

[56] R. Belling, M. Whittock, S. McLaren et al., "Achieving continuity of care: facilitators and barriers in community mental health teams," *Implementation Science*, vol. 6, no. 1, p. 23, 2011.

[57] G. Rust, H. Strothers, W. J. Miller, S. McLaren, B. Moore, and U. Sambamoorthi, "Economic impact of a Medicaid population health management program," *Population Health Management*, vol. 14, no. 5, pp. 215–222, 2011.

[58] P. Sevak, C. N. Stepanczuk, K. W. V. Bradley et al., "Effects of a community-based care management model for super-utilizers," *American Journal of Managed Care*, vol. 24, no. 11, pp. e365–e370, 2018.

[59] S. Johnson and J. Bacsu, "Understanding complex care for older adults within Canadian home care: a systematic literature review," *Home Health Care Services Quarterly*, vol. 37, no. 3, pp. 232–246, 2018.

[60] T. Edes, B. Kinosian, N. H. Vuckovic, L. Olivia Nichols, M. Mary Becker, and M. Hossain, "Better access, quality, and cost for clinically complex veterans with home-based primary care," *Journal of the American Geriatrics Society*, vol. 62, no. 10, pp. 1954–1961, 2014.

[61] G. A. Melnick, L. Green, and J. Rich, "House calls: California program for homebound patients reduces monthly spending, delivers meaningful care," *Health Affairs*, vol. 35, no. 1, pp. 28–35, 2016.

[62] L. Mondor, K. Walker, Y. Q. Bai, and W. P. Wodchis, "Use of hospital-related health care among health links enrollees in the central Ontario health region: a propensity-matched difference-in-differences study," *CMAJ open*, vol. 5, no. 4, pp. E753–E759, 2017.

[63] M. Sendall, L. McCosker, K. Crossley, and A. Bonner, "A structured review of chronic care model components supporting transition between healthcare service delivery types for older people with multiple chronic diseases," *Health Information Management Journal*, vol. 46, no. 2, pp. 58–68, 2017.

[64] E. G. Price-Haywood, H. Petersen, J. Burton et al., "Outpatient complex case management: health system-tailored risk stratification taxonomy to identify high-cost, high-need patients," *Journal of General Internal Medicine*, vol. 33, no. 11, pp. 1921–1927, 2018.

[65] J. Henderson, S. Javanparast, F. Baum et al., "Interagency collaboration in primary mental health care: lessons from the Partners in recovery program," *International Journal of Mental Health Systems*, vol. 13, no. 1, p. 37, 2019.

[66] A. Mason, M. Goddard, H. Weatherly, and M. Chalkley, "Integrating funds for health and social care: an evidence review," *Journal of Health Services Research & Policy*, vol. 20, no. 3, pp. 177–188, 2015.

[67] D. Jean-Baptiste, A. O'Malley, and T. Shah, *Population Segmentation and Targeting of Health Care Resources: Findings from a Literature Review*, Mathematica Policy Research, Princeton, NJ, USA, 2017.

[68] T. Jackson, V. Dimitropoulos, R. Madden, and S. Gillett, "Australian diagnosis related groups: drivers of complexity adjustment," *Health Policy*, vol. 119, no. 11, pp. 1433–1441, 2015.

[69] L. Turner-Stokes, S. Sutch, R. Dredge, and K. Eagar, "International casemix and funding models: lessons for rehabilitation," *Clinical Rehabilitation*, vol. 26, no. 3, pp. 195–208, 2012.

[70] J. Xing, C. Goehring, and D. Mancuso, "Care coordination program for Washington state Medicaid enrollees reduced inpatient hospital costs," *Health Affairs*, vol. 34, no. 4, pp. 653–661, 2015.

[71] O. Mrinska, *Integrating Health and Social Care Budgets: A Case for Debate*, Institute for Public Policy Research, London, UK, 2010.

[72] G. Wistow and G. Callaghan, "Connected care in Hartlepool: from origins towards reality?" *Journal of Integrated Care*, vol. 14, no. 6, pp. 11–18, 2006.

[73] P. Bate and G. Robert, "Experience-based design: from redesigning the system around the patient to Co-designing services with the patient," *Quality and Safety in Health Care*, vol. 15, no. 5, pp. 307–310, 2006.

[74] S. Donetto, P. Pierri, V. Tsianakas, and G. Robert, "Experience-based Co-design and healthcare improvement: realizing participatory design in the public sector," *The Design Journal*, vol. 18, no. 2, pp. 227–248, 2015.

[75] McCalman, J. C. Jongen, and R. Bainbridge, "Organisational systems' approaches to improving cultural competence in healthcare: a systematic scoping review of the literature," *International Journal for Equity in Health*, vol. 16, no. 1, p. 78, 2017.

[76] J. R. Betancourt, A. R. Green, J. E. Carrillo, and O. Ananeh-Firempong, "Defining cultural competence: a practical framework for addressing racial/ethnic disparities in health and health care," *Public Health Reports*, vol. 118, no. 4, pp. 293–302, 2003.

[77] S. Corneau and V. Stergiopoulos, "More than being against it: anti-racism and anti-oppression in mental health services," *Transcultural Psychiatry*, vol. 49, no. 2, pp. 261–282, 2012.

[78] S. Ramsundarsingh and M. L. Shier, "Anti-oppressive organisational dynamics in the social services: a literature

review," *British Journal of Social Work*, vol. 47, no. 8, pp. bcw174–2327, 2017.

[79] C. Sinnott, S. Mc Hugh, A. P. Fitzgerald, C. P. Bradley, and P. M. Kearney, "Psychosocial complexity in multimorbidity: the legacy of adverse childhood experiences," *Family Practice*, vol. 32, no. 3, pp. 269–275, 2015.

[80] Samhsa, *Samhsa's Concept of Trauma and Guidance for a Trauma-Informed Approach*, Substance Abuse and Mental Health Services Administration, Rockville, MD, USA, 2014.

[81] C. Menschner and A. Maul, *Key Ingredients for Successful Trauma-Informed Care Implementation*, Center for Health Care Strategies, Inc, Hampton, NJ, USA, 2016.

[82] Z. Obermeyer, B. Powers, C. Vogeli, and S. Mullainathan, "Dissecting racial bias in an algorithm used to manage the health of populations," *Science*, vol. 366, no. 6464, pp. 447–453, 2019.

[83] C. F. I. E. W. G. O. P. W. C. Needs, *Designing a High-Performing Health Care System for Patients with Complex Needs: Ten Recommendations for Policymakers*, Commonwealth Fund, New York, NY, USA, 2017.

[84] H. J. M. Vrijhoef and R. Thorlby, *Developing Care for a Changing Population: Supporting Patients with Costly, Complex Needs*, The Nuffield Trust, London, UK, 2016.

[85] O. Solar and A. Irwin, *A Conceptual Framework for Action on the Social Determinants of Health*, World Health Organization, Geneva, Switzerland, 2010.

[86] P. M. Lantz, ""Super-Utilizer" interventions: what they reveal about evaluation research, wishful thinking, and health equity," *The Milbank Quarterly*, vol. 98, no. 1, pp. 31–34, 2020.

[87] B. Castle, M. Wendel, J. Kerr, D. Brooms, and A. Rollins, "Public health's approach to systemic racism: a systematic literature review," *Journal of Racial and Ethnic Health Disparities*, vol. 6, no. 1, pp. 27–36, 2019.

[88] J. Stanley, R. Harris, D. Cormack, A. Waa, and R. Edwards, "The impact of racism on the future health of adults: protocol for a prospective cohort study," *BMC Public Health*, vol. 19, no. 1, p. 346, 2019.

[89] E. Paskett, B. Thompson, A. S. Ammerman, A. N. Ortega, J. Marsteller, and D. Richardson, "Multilevel interventions to address health disparities show promise in improving population health," *Health Affairs*, vol. 35, no. 8, pp. 1429–1434, 2016.