

Evidence synthesis

Structural determinants of stigma across health and social conditions: a rapid review and conceptual framework to guide future research and intervention

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Abstract

Introduction: Stigma has been identified as a key determinant of health and health inequities because of its effects on access to health-enabling resources and stress exposure. Though existing reports offer in-depth summaries of the mechanisms through which stigma influences health, a review of evidence on the upstream drivers of stigma across health and social conditions has been missing. The objective of this review is to summarize known structural determinants of stigma experienced across health and social conditions in developed country settings.

Methods: We conducted a rapid review of the literature. English- and French-language peer-reviewed and grey literature works published after 2008 were identified using MEDLINE, Embase, PsycINFO, Google and Google Scholar. Titles and abstracts were independently screened by two reviewers. Information from relevant publications was extracted, and a thematic analysis of identified determinants was conducted to identify broad domains of structural determinants. A narrative synthesis of study characteristics and identified determinants was conducted.

Results: Of 657 publications identified, 53 were included. Ten domains of structural determinants of stigma were identified: legal frameworks, welfare policies, economic policies, social and built environments, media and marketing, pedagogical factors, health care policies and practices, biomedical technology, diagnostic frameworks and public health interventions. Each domain is defined and summarized, and a conceptual framework for how the identified domains relate to the stigma process is proposed.

Conclusion: At least 10 domains of structural factors influence the occurrence of stigma across health and social conditions. These domains can be used to structure policy discussions centred on ways to reduce stigma at the population level.

Keywords: *stigma, discrimination, structural determinants, social conditions, health conditions*

Introduction

Stigma has been defined as a process enabled by social, economic and political power inequities, through which negative

labels, beliefs and perceived differences between groups can culminate in discrimination and status loss.¹ As Link and Phelan wrote, "...stigma exists when elements of labelling, stereotyping, separation,

Highlights

- A review of known structural determinants of stigma operating across health and social conditions has been missing from existing literature.
- This study reviewed and synthesized existing literature and identified 10 domains of structural determinants of stigma.
- The 10 domains identified were: legal frameworks, welfare policies, economic policies, social and built environments, media and marketing, pedagogical factors, health care policies and practices, biomedical technology, diagnostic frameworks and public health interventions.
- The proposed conceptual framework of the 10 domains of structural determinants of stigma can be used to structure future policy discussions on ways to address stigma at the population level.

status loss and discrimination occur together in a power situation that allows them."^{1,p.377} A key social determinant of health, stigma is a cause for concern in many substantive areas of public health practice.² Stigma-related discrimination and status loss influence health by restricting affected populations' access to health-enabling resources such as housing,

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employment, social ties and health care, and by increasing exposure to stress.²

In Canada, the Public Health Agency of Canada's Chief Public Health Officer (CPHO)'s 2019 report *Addressing Stigma: Towards a More Inclusive Health System*³ has proposed a conceptual summary of the myriad pathways through which stigma can affect health and health inequities. This and previous frameworks^{4,5} are helpful for understanding the theoretical underpinnings of the effects of stigma on health and for identifying potential areas for health and social policy intervention.

However, with their in-depth focus on the downstream effects of stigma on health, existing reports typically lack a thorough exploration of the upstream factors that drive stigma,⁶ particularly those operating at a structural level. Existing literature on structural determinants of stigma tends to focus on stigma pertaining to specific stigmatized experiences, identities, behaviours or health conditions.^{7,8} A general summary of determinants of stigma across affected populations is currently missing from the literature. This review seeks to fill these gaps in the extant literature by contributing a summary of known structural determinants of stigma across stigmatized populations.

Described as “contextual factors” in the World Health Organization's Social Determinants of Health Model,⁹ and structural “practices” in the CPHO's 2019 report's Stigma Pathways Model,³ structural determinants can be defined as factors that operate outside the locus of control of individuals,¹⁰ such as elements of physical, social, policy or legal environments.¹¹ For example, structural determinants can include various forms of legislation (or lack thereof) to protect individuals' rights,¹² or wealth redistribution policies.^{9,13} Structural factors are distinct from but tightly influence more proximal, individual-level determinants of health, such as individuals' access to income, housing, food or safe working conditions.⁹

The scope of this review is restricted to examining the structural determinants of stigma for several reasons. First, according to public health research and theory, structural factors are considered to be

those that create and perpetuate social and economic stratification within societies.⁹ They are often identified as “root causes” of negative health and social outcomes and health inequities, and therefore merit particular attention from the perspective of population health and health equity promotion.⁹

Second, in the context of public health practice, structural factors tend to exert influence across multiple social contexts and populations.¹⁴ Structural factors are therefore particularly relevant to consider when aiming to understand the determinants of stigma occurring across a multitude of health and social conditions—particularly when many forms of stigma intersect.³

Third, though it is difficult to achieve and often requires intersectoral collaboration,⁹ structural determinants can theoretically be modified through changes in health and social policy.¹⁵ When successful, structural-level interventions are often more impactful and far-reaching than more proximal (i.e. individual-level) interventions at reducing population-level health inequities.⁹

This review therefore was intended to provide a knowledge summary that, in the Canadian context, can complement the knowledge synthesis of the Canadian CPHO's report on stigma's effects on health³ and, more broadly, can be used to structure policy discussions on ways to orient public health interventions to reduce stigma in Canada and abroad. The specific objective of this rapid review was to identify and summarize known structural determinants of stigma in Canada and in similar settings, such as those in other member countries of the Organisation for Economic Co-operation and Development (OECD).

Methods

We used a rapid review design.¹⁶ Used most frequently within governmental policy contexts when time-related resources are limited,¹⁷ a rapid review consists of an evidence review strategy that follows the structure of a systematic review process with abridged components to allow research questions to be addressed in a shorter time frame than is typically needed for a systematic review.¹⁶ A defining feature of

the rapid review design is its restricted evidence search component,¹⁷ which involves a non-exhaustive search of available evidence pertaining to the research question. First, a search strategy to identify presynthesized evidence summaries (reviews, summary reports, conceptual frameworks) is applied. If identified synthesis documents are insufficient, because identified publications are not sufficiently recent or methodologically rigorous, a search for less synthesized evidence, including individual studies, is then conducted based on study relevance. Individual studies are collected until additional works fail to offer new information needed to address the research question or until other time or resource constraints prohibit future searches.¹⁶

For this review, a first search strategy was designed to prioritize the identification of presynthesized evidence such as conceptual summaries and literature reviews (Table 1, rows A and B).¹⁸ A secondary search strategy was then applied to identify relevant individual studies, using general title and abstract search terms pertaining to the theme of “structural determinants of stigma” (Table 1, row C).¹⁸ This secondary search was non-exhaustive. It was done to fill potential data gaps and identify domains missing from identified syntheses, and was ceased after the search strategy no longer yielded studies that reported new types of structural determinants or forms of stigma.

Eligibility criteria

Works included were those documenting conceptual frameworks, reviews and individual quantitative, qualitative or mixed-methods studies of structural determinants of stigma. We restricted our review to works in English or French (due to the authors' languages of expertise), published since January 2008, in peer-reviewed or grey-literature sources and set in Canada or other OECD nations. We excluded works without a research design (e.g. commentaries, letters to editors, fact sheets), as well as those that were not available through the Health Canada Health Library network.

Search strategy

MEDLINE, Embase, PsycINFO, Google and Google Scholar databases were searched

TABLE 1
Summary of components and search strings used to identify relevant references in the literature search on structural determinants of stigma

Components of search	Search string in titles or abstracts	French terms
A. Conceptual frameworks of determinants of stigma and mechanisms explaining stigma's effect on health	(stigma OR stigmatization OR stigmatisation OR "stigmatized status")	Stigmatisation, stigmatisé
	AND (determinants OR cause OR "social factors" OR theory OR process OR pathway OR mechanism)	déterminant, cause, « facteur social »
	AND ("conceptual framework" OR framework)	théorie, processus, mécanisme, « cadre conceptuel »
B. Systematic reviews of determinants of stigma	(Stigma OR stigmatization OR stigmatisation OR discrimination OR "stigmatized status")	« Revue systématique », revue, « recension des écrits »
	AND (determinants OR cause OR "social factors" OR theory OR process OR pathway OR mechanism)	stigmatisation, stigmatisé
	AND ("systematic review" OR review)	déterminant, cause, « facteur social »
C. Individual studies of structural, upstream, system-level, population-level social determinants of stigma	(Stigma OR stigmatization OR stigmatisation OR "stigmatized status")	Structurel, structure, amont, populationnel, système, systémique, infrastructure, légal, législation, « environnement social », « environnement bâti »
	AND (determinants OR cause OR factor)	
	AND (structural OR upstream OR "population-level" OR "system-level" OR structure OR structural OR infrastructural OR legal OR legislation OR policy OR "social environment" OR "built environment")	

Note: The first search strategy was designed to prioritize the identification of presynthesized evidence such as conceptual summaries and literature reviews (rows **A** and **B**). A secondary search strategy was then applied to identify relevant individual studies, using general title and abstract search terms pertaining to the theme of "structural determinants of stigma" (row **C**). This secondary search was non-exhaustive. It was done to fill potential data gaps and identify domains missing from identified syntheses, and was ceased after the search strategy no longer yielded studies that reported new types of structural determinants or forms of stigma.

to ensure appropriate coverage of international health research and social science literature.¹⁹ Table 1 presents a summary of the search string components. Search strings were also applied in French in Google and Google Scholar, of which the first three pages of results were reviewed. A snowball search approach²⁰ was also used to identify reviews or conceptual summaries that were mentioned in reviewed studies but were not captured through our search strategy.

Study identification, data extraction and quality appraisal

Two reviewers independently screened titles and abstracts of all identified works, and,

based on eligibility criteria, selected works for full-text review through consensus. Four reviewers conducted full-text screening and extracted data on publications' authors, year of publication, title, country setting, study population and identified structural-level determinants of stigma (Table 2). All data elements were recorded in the data extraction table to enable synthesis of study features and thematic analysis of structural determinants. Two reviewers evaluated the quality of included works using an adaptation of Dixon-Woods et al.'s framework for critical appraisal of works with varied design.²¹ Seven questions requiring yes-or-no answers were applied to evaluate the quality of each publication (Table 3).

Data analysis and synthesis

We performed a narrative synthesis of extracted data involving three analytic stages.²² In the first stage, two authors conducted a thematic analysis of documented structural determinants of stigma.^{23,24} Having become familiar with the data by generating initial summaries of structural determinants reported in included works during the data extraction process, these authors performed a thematic analysis, which involved identifying themes that linked structural determinants conceptually.^{23,24} Themes were identified semantically (i.e. by interpreting factors that were explicitly mentioned in the texts rather than identifying underlying meanings) and inductively (i.e. without a predefined coding frame), through consensus.²⁵ We considered themes for which related structural factors were mentioned in at least two works, and that were internally coherent and conceptually distinct and definable.²⁴ Hereafter, these themes are described as "domains" of structural determinants.

At the second stage, we proposed a narrative synthesis of study types and characteristics and the identified domains and their relationship to the stigma process, as well as a visual conceptual framework of the domains and their relationship to the stigma process. The structuring of the elements in the conceptual framework was based both on the findings of included works and the structure of existing conceptual frameworks of the determinants of stigma.

The third and final stage consisted of summarizing the methodological quality of the included works. In order to provide a quantitative synopsis of quality appraisal results for this review, we considered studies with less than four "Yes" responses (< 60%) as weak, those receiving six or more "Yes" responses (> 85%) as strong, and the remainder as moderate. As these thresholds have not been validated, full annotated scoring results were also provided to complement quantitative summaries.

Results

The results of the narrative synthesis are presented here, beginning with a descriptive summary of study characteristics,

TABLE 2
Summary of reviewed publications (N = 53)

Author, year	Setting	Design	Population	Identified structural determinants of stigma	Structural determinant domains	Critical appraisal score
Clair et al. 2016 ⁴⁶	United States	Mixed methods sequential design	People living with HIV, African Americans, and people labelled as obese	<p>Framework proposed: cultural resources and actors contributing to de-stigmatization</p> <ul style="list-style-type: none"> • Exclusionary laws and policies that do not protect individual rights. • Pedagogical initiatives that shift causal attributions (i.e. remove blame) and refute stereotypes. 	Legal frameworks Pedagogy	Moderate
Coreil et al. 2010 ⁴⁸	United States and Haiti	Mixed methods sequential design	Haitian immigrants (N = 95), TB patients (N = 126), health care providers (N = 126)	<ul style="list-style-type: none"> • Exclusionary immigration policies. • Conditions of poverty and malnutrition. • Media content discriminating against migrants, reinforcing negative stereotypes. • Lack of privacy in health care services. • Availability of effective treatment for TB influencing risk perception. • Infection and control policies mandating screening during immigration process. 	Legal frameworks Social & built environment Media & marketing Health care practices Biomedical technology	Strong
Henderson et al. 2017 ⁶⁸	United States (Alabama)	Mixed methods sequential design	College students aged 18–25 years, N = 38 to 212 based on study phase	<ul style="list-style-type: none"> • “War on Drugs”–related policies (policing, mass incarceration, severe sentencing). • Antidrug education curriculums (e.g. Drug Abuse Resistance Education [DARE]) that frame substance use as human weakness. 	Legal frameworks Pedagogy	Strong
MacLean 2018 ⁴⁷	Canada	Mixed methods sequential design	Individuals with STBBI experience (N = 20 individual interviews, N = 3 focus groups), provider survey (N = 410)	<p>Framework proposed: conceptual framework of STBBI stigma (structural stigma: stigma confronted at policy/legal, institutional, community levels)</p>	Legal frameworks	Weak
Arrey et al. 2017 ⁵⁵	Belgium	Qualitative	Adult HIV+ women who migrated from sub-Saharan Africa to Belgium (N = 44)	<ul style="list-style-type: none"> • Limitations in health insurance coverage for migrants. • Negative media messaging regarding migrants. • Lack of training among health care professionals. • Absence of policies to limit HIV status disclosure in health settings. 	Welfare policy Media & marketing Pedagogy Health care policy	Strong
France et al. 2015 ⁴¹	Ireland	Qualitative	Persons living with HIV (N = 17)	<p>Framework proposed: conceptual framework of HIV self-stigma (social factors, self-factors, contextual factors)</p> <ul style="list-style-type: none"> • Availability of social spaces fosters sense of belonging, which can help tackle HIV self-stigma. • Health professional interventions using inquiry-based stress reduction techniques may help address self-perceptions and beliefs relating to HIV. 	Social & built environment Health care practices	Strong
Hansen et al. 2014 ⁷³	United States (New York City)	Qualitative	Individuals who received psychiatric diagnoses and qualified for disability benefits (N = 4)	<ul style="list-style-type: none"> • Welfare reforms that make benefits contingent on the medicalization of disabilities. 	Welfare policy	Strong

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TABLE 2 (continued)
Summary of reviewed publications (N = 53)

Author, year	Setting	Design	Population	Identified structural determinants of stigma	Structural determinant domains	Critical appraisal score
Paterson et al. 2013 ⁶⁵	Canada (Nova Scotia)	Qualitative	Professionals in ERS (N = 25) or NGOs (N = 25) serving those who use illicit substances or living with hepatitis C	<p>Framework proposed: analytic framework of structural stigmatization (institutional policies, cultural, protocols)</p> <ul style="list-style-type: none"> Lack of privacy in health care services due to physical settings or communication practices. Limitations in services availability due to wait times, lack of trained staff. 	Health care practices	Strong
Woodgate et al. 2017 ⁴⁰	Canada (Winnipeg)	Qualitative	Indigenous people living with HIV since age 15–29 years (N = 21); service providers, elders (N = 14)	<p>Framework proposed: social ecology of stigma and discrimination for Indigenous people living with HIV in Manitoba, Canada</p> <ul style="list-style-type: none"> Child welfare systems as a source of discrimination in HIV status. Traditional educational initiatives and programming help to develop community support networks. Lack of safe health services on- and off-reserve; potential for breaks in patient confidentiality. Personal outreach initiatives (home visits) may help reduce stigma. 	Welfare policy Pedagogy Health care practices	Strong
Jorm et al. 2008 ⁷⁹	Australia	Quantitative (cross-sectional)	Adult (> 18 years), general population surveyed on mental health-related stigma (N = 3998)	<ul style="list-style-type: none"> Attribution of disease to genetic factors may lead to greater perceptions of dangerousness. Receipt of a medical diagnosis suggesting a “real medical illness” may be associated with lower social distancing from individuals living with mental health issues such as schizophrenia. 	Biomedical technology Diagnostic frameworks	Moderate
Min et al. 2017 ³⁹	South Korea	Quantitative (cross-sectional)	Persons living with mental illness who were users of community mental health centres (N = 532)	<ul style="list-style-type: none"> Perceived neighbourhood disorder (feelings about the prevalence of graffiti, noise, vandalism, abandoned buildings, dirty streets and poor maintenance of buildings) associated with mental health stigma (Devaluation and Discrimination Scale and Experiences of Rejection Scale) 	Social & built environment	Strong
Pachankis et al. 2017 ⁶⁹	Europe	Quantitative (cross-sectional)	Immigrants to Europe who identify as MSM surveyed on HIV risk (N = 23 371)	<ul style="list-style-type: none"> Anti-gay structural stigma measured using the International Lesbian, Gay, Bisexual, Trans, and Intersex Association’s Rainbow Map Scale for the measurement of criminalization, protection, and recognition of same-sex relationships, based on states’ laws and policies (death penalty for same-sex sexual acts, lifetime incarceration of sexual minorities for same-sex sexual acts; laws against the promotion of homosexuality; recognition of same-sex marriage)—associated with higher HIV risk. 	Legal frameworks	Strong
Stringer et al. 2016 ⁷⁸	United States (Southern states)	Quantitative (cross-sectional)	Health care workers surveyed on HIV-related stigma (N = 651)	<ul style="list-style-type: none"> Prevalence of policies to protect patient living with HIV against discrimination. Prevalence of policies that ensure consequences to providers that do not follow policies to protect patients living with HIV. Prevalence of availability of HIV PEP and PrEP across health facilities. 	Health care policy Biomedical technology	Strong
Stuber et al. 2008 ⁶⁴	United States (New York City)	Quantitative (cross-sectional)	Current and former smokers in New York City (N = 816)	<ul style="list-style-type: none"> Self-reported difficulties renting an apartment or finding housing; having been refused a job for which they were qualified; or having been refused or charged more for health insurance because of smoking—associated with smoker-related stigma measure (absence of rights protections) 	Welfare policy Economic policy Social & built environment	Strong

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TABLE 2 (continued)
Summary of reviewed publications (N = 53)

Author, year	Setting	Design	Population	Identified structural determinants of stigma	Structural determinant domains	Critical appraisal score
Angermeyer et al. 2014 ⁷⁵	Germany	Quantitative (longitudinal)	Adults (> 18 years) (Cycle 1, N = 5025; Cycle 2, N = 1232) surveyed on mental health stigma	<ul style="list-style-type: none"> Lack of funding for mental health care or research as a form of structural discrimination. Increases in prevalence of affective disorders believed to influence perceived risk and population support for mental health care funding. 	Economic policy Social & built environment	Strong
Hatzenbuehler et al. 2015 ⁷⁰	United States	Quantitative (longitudinal)	Youth (9–14 years) from the Growing Up Today Study cohort surveyed on illicit substance use (N = 12 723)	<ul style="list-style-type: none"> State-level structural stigma index based on (1) policies preventing sexual orientation discrimination (e.g. same-sex marriage, employment non-discrimination); (2) density of same-sex partner households; (3) prevalence of Gay–Straight Alliances among public high schools; and (4) public opinion towards sexual minorities associated with sexual orientation disparities in illicit substance use. 	Legal frameworks Social & built environment	Moderate
Arboleda-Florez et al. 2012 ²⁹	No restriction	Review (narrative)	Persons living with mental health issues	<p>Structural approaches are identified to curb attributions of blame, dangerousness, unpredictability and thereby reduce stigma:</p> <ul style="list-style-type: none"> Legislation to prohibit discrimination and offer accommodation in social domains such as housing, education and employment. Educational initiatives (e.g. Mental Health First Aid, contact-based education) can improve awareness of mental health symptoms. 	Legal frameworks Pedagogy	Moderate
Aste 2016 ⁵³	United States	Review (narrative)	Adults with chronic pain	<ul style="list-style-type: none"> Insufficient knowledge and training among providers about effective pain management (pain viewed as imagined or psychological) can lead to discriminatory beliefs and practices. 	Pedagogy	Strong
Bell et al. 2016 ⁶³	No restriction	Review (narrative)	Mothers of children born with fetal alcohol syndrome disorder (FASD)	<p>Framework proposed: stigma “loads” experienced by those affected by FASD</p> <ul style="list-style-type: none"> A child’s diagnosis of FASD can lead to mother’s experience of blame in clinical and social settings. Public health social marketing campaigns aiming to reduce maternal drinking can unintentionally increase blaming of mothers; threat of child protective services removing the child inhibits disclosure and treatment-seeking behaviour. 	Diagnostic frameworks Public health interventions	Moderate
Benoit et al. 2018 ⁶⁰	No restriction	Review (narrative)	Sex workers	<ul style="list-style-type: none"> Derogatory labels (prostitute, hooker, whore) used in legislation, research and media associated with human trafficking, exploitation and victimization. Criminalization of sex work based on moralistic/paternalistic principles vs. decriminalization (e.g. New Zealand removing prostitution from its criminal code and regulating the industry within a public health and safety framework). Lack of police protection for sex workers; failure to respond to reports of violence; responding to reports of violence with criminal prosecution of the victim. Over-policing of sex workers (verbal harassment, invasive searches, excessive force, unwarranted arrests) even when not working. Delegitimization of sex work as an economic activity contributes to marginalization. Media narratives are morally driven (rather than empirical), reducing diverse experiences and perspectives to stereotypical portrayals, sex workers identified as blameworthy for the harms they experience. Denial of care, breach of confidentiality, lower quality of care in clinical settings following disclosure of occupation (lack of protective policies). Community-led program to increase HIV screening among sex workers. 	Legal frameworks Economic policy Media & marketing Health care practices Public health interventions	Moderate

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TABLE 2 (continued)
Summary of reviewed publications (N = 53)

Author, year	Setting	Design	Population	Identified structural determinants of stigma	Structural determinant domains	Critical appraisal score
Bonsack et al. 2013 ³¹	No restriction	Review (narrative)	Individuals living with mental illness	<ul style="list-style-type: none"> Legislation promoting self-efficacy and independence (anti-discrimination laws, advance directives, laws mandating reasonable accommodation at work) as protective against discrimination, especially when individuals with lived experience are integrated in the legislative decision-making process. Insufficient training of law enforcement and health personnel about mental health can contribute to discriminatory clinical practices. Lack of patient confidentiality in health care settings can contribute to negative experiences and discrimination. 	Legal frameworks Pedagogy Health care practices	Weak
Brewis 2014 ⁶²	No restriction	Review (narrative)	Individuals labelled as obese	<ul style="list-style-type: none"> Unequal access to career and educational opportunities. Elements of the built environment, such as chairs that fit only smaller bodies, can represent sources of weight-based discrimination. 	Economic policies Social & built environment	Moderate
Carroll 2017 ⁶¹	United Kingdom	Review (narrative)	Single mothers	<ul style="list-style-type: none"> Various forms of legislation can contribute to the discrimination and status loss of single mothers, including policies regarding the legalization of divorce, and access to birth control and abortion. Evolving welfare policies can create perceptions of deserving or undeserving single mothers, and policies that promote return to work (e.g. the United Kingdom's "Welfare to work" policies) can cause tension between single mothers' breadwinner and caregiver roles. Social environments can contribute to the discrimination against and status loss of single mothers, including residence in more economically deprived areas due to lack of affordability of housing, and general community-level beliefs that mothers should provide care for their children instead of working. Negative portrayals of single mothers in media can perpetuate negative beliefs and stereotypes, which can lead to discrimination and status loss. 	Legal frameworks Welfare policy Social environment Media & marketing	Strong
Chaudoir et al. 2013 ⁶⁶	No restriction	Review (narrative)	Individuals with visible or concealable stigmatized attributes	<p>Framework proposed: the stigma mechanisms in health disparities framework</p> <ul style="list-style-type: none"> Legislation that restricts access to health and dental care, education, movement, marriage and employment, and leads to differential criminalization (e.g. "War on Drugs"-related policies) represents a source of discrimination and status loss. Inequalities in high-quality health care access (insurance, a regular provider, transport time to hospital) represent a source of discrimination. Differential exposure to hazardous environmental conditions (pollution, violence, infectious disease, unsafe work conditions) by sex, socioeconomic position and across racialized groups also represents a source of discrimination. 	Legal frameworks Welfare policy Social & built environment	Moderate

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TABLE 2 (continued)
Summary of reviewed publications (N = 53)

Author, year	Setting	Design	Population	Identified structural determinants of stigma	Structural determinant domains	Critical appraisal score
Collins et al. 2013 ³²	United States	Review (narrative)	Individuals living with mental illness	<p>Framework proposed: conceptual model for reducing stigma associated with mental illness (individual, social, and policy/practice change)</p> <ul style="list-style-type: none"> Media campaigns presenting information about illness causes, effective treatments, and experiences led by individuals with lived experience can help shift population beliefs and stereotypes; media content can represent a proxy for direct social contact with stigmatized group. Training promoting direct contact and providing factual information about mental illness (causes, symptoms, treatability, experiences), especially for key power groups (health professionals, employers, landlords, criminal justice, policy makers) may also help address negative beliefs and stereotypes. 	Media & marketing Pedagogy	Weak
Livingston, JD (Commission de la santé mentale du Canada), 2013 ³⁷	Canada	Review (narrative)	Individuals living with mental health issues	<ul style="list-style-type: none"> Welfare policies that de-incentivize work, given that disability benefits are adjusted according to income can lead to internalized stigma. Further, parents living with mental health issues can often face more intensive scrutiny by social and child protective services. Absence of policies that protect against discrimination in employment or housing access, participation in civil society (e.g. holding public office), family planning (e.g. adoption disqualification), health (e.g. forced sterilization), or immigration can represent structural determinants of stigma. Geographic segregation of individuals living with mental health issues can contribute to status loss and inequities in resource access. Media content can shape opinions and interpretations of mental illness. Supportive policies within educational systems (e.g. specialized support services, accommodation policies) can help reduce stigma experiences. Insufficient health care funding leading to gaps in care, policies disqualifying individuals for health insurance, and violations of patient privacy can represent structural determinants of discrimination. Deficiencies in health services contribute to the use of law enforcement. 	Welfare policy Economic policy Social & built environment Media & marketing Pedagogy Health care practices	Moderate
National Academies of Sciences, Engineering, Medicine (Committee on the Science of Changing Behavioral Health Social Norms) 2016 ³⁴	No restriction	Review (narrative)	Individuals with mental and substance use disorders	<ul style="list-style-type: none"> While forms of legislation may help reduce stigma, such as those accommodating students with disabilities or that ensure rights protections (e.g. <i>Americans with Disabilities Act</i>), other forms of legislation can be harmful, such as policies that treat substance use disorders as criminal issues rather than health concerns, or policies that restrict access to civil society and participation (e.g. to serve on juries). Segregated housing of individuals with mental illness, community rejection of mental health facilities represent structural determinants of stigma. Settings where there is inequality in access to high-quality health care services represent structural forms of discrimination and status loss. Negative media portrayals of mental health symptoms or treatment effectiveness can reinforce negative societal beliefs and stereotypes. Training for providers may help prevent misdiagnoses or improper treatment due to lack of knowledge about mental illness. 	Legal frameworks Social & built environment Media & marketing Pedagogy Health care practices	Moderate
De Ruddere & Craig 2016 ⁵²	No restriction	Review (narrative)	Individuals living with chronic nonmalignant pain	<ul style="list-style-type: none"> Insufficient knowledge among health care providers about the nature of chronic nonmalignant pain (pain viewed as exaggerated or imagined, complaints dismissed) can influence their treatment of patients. 	Pedagogy	Moderate

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TABLE 2 (continued)
Summary of reviewed publications (N = 53)

Author, year	Setting	Design	Population	Identified structural determinants of stigma	Structural determinant domains	Critical appraisal score
Désy et al. 2013 ⁷⁶	Canada	Review (narrative)	Stigma in the context of public health actions	<ul style="list-style-type: none"> Social support opportunities within communities can alleviate stigma. Mass media campaigns can influence stigma by shaping public perceptions. 	Social & built environment Media	Weak
Earnshaw et al. 2015 ⁴²	United States	Review (narrative)	Individuals living with HIV	<p>Framework proposed: Stigma and HIV Disparities Model</p> <ul style="list-style-type: none"> Residential segregation contributes to discrimination and status loss. Structural interventions to improve neighbourhood-level access to resources relating to health and health promotion can help address structural discrimination. 	Social & built environment Public health interventions	Moderate
Fernandes et al. 2011 ⁵¹	No restriction	Review (narrative)	Individuals living with epilepsy	<ul style="list-style-type: none"> Forms of legislation have been identified as potentially protective against discrimination (e.g. <i>Americans with Disabilities Act</i>); alternatively, laws can be prohibitive against certain activities (e.g. driving or certain forms of employment). Pedagogical interventions, designed in collaboration with, and which promote contact with, individuals with epilepsy have been identified as potential structures to reduce fear and ignorance, and thereby stigma. 	Legal frameworks Pedagogy	Moderate
Golub 2018 ²⁶	No restriction	Review (narrative)	Individuals who may be eligible for HIV pre-exposure prophylaxis (PrEP)	<ul style="list-style-type: none"> Clinical PrEP eligibility assessment interviews ask individuals about their partnership status and sexual behaviour, potentially stigmatizing condomless anal sex. Health care guidelines specifying that PrEP should be used by individuals at “very high risk of HIV infection” confers HIV-related stigma (and sexual stigma) on potential PrEP users—especially surrounding attributions of blame associated with perceived risky behaviours. Availability of PrEP impacts risk perception. 	Health care practices Biomedical technology	Moderate
Groulx 2011 ⁵⁹	Canada	Review (narrative)	Individuals experiencing economic and social exclusion	<ul style="list-style-type: none"> Accessing welfare noted as associated with high levels of surveillance of economic and social activities as well as discrimination, which can impact self-esteem. Structural factors such as low minimum wage and the absence of employment policies to support a balance between work and family life can lead workers such as single mothers to turn towards welfare support, which is associated with both felt and perceived (self) stigma. 	Welfare policy Economic policy	Strong
Hatzenbuehler 2016 ⁸	No restriction	Review (narrative)	Persons living with mental health issues and sexual minorities	<ul style="list-style-type: none"> Legislation protecting rights to employment and marriage (or absence of these laws) influence likelihood of discrimination and stress. 	Legal frameworks	Moderate
Hatzenbuehler 2014 ⁵⁷	No restriction	Review (narrative)	Lesbian, gay, bisexual (LGB) populations	<ul style="list-style-type: none"> Legislation protecting rights to employment and marriage (or absence of these laws) influence LGB discrimination. Community-level prejudice against LGB, measured in relation to social conservatism, can contribute to both perceived and felt stigma among LGB populations. 	Legal frameworks Social & built environment	Moderate
Holder et al. 2019 ³⁰	United States	Review (narrative)	Individuals living with mental health issues	<ul style="list-style-type: none"> Insufficient health care provider training about mental illness (symptom recognition, effective treatment strategies, challenging stigmatizing attitudes). 	Pedagogy	Moderate
Kerr et al. 2016 ⁴⁵	United States	Review (narrative)	Disparities in HIV risk across racialized communities in the context of drug policy	<p>Framework proposed: the Drug War HIV/AIDS Inequities Model</p> <ul style="list-style-type: none"> “War on Drugs”—related policies led to the discrimination and status loss of African Americans through over-policing, mass incarceration, sentencing (inequitable fees, confiscation of resources) and welfare cuts (offenders disqualified from various social protections such as public housing, Section 8 benefits, Electronic Benefit Transfer vouchers). 	Legal frameworks Welfare policies	Moderate

Continued on the following page

TABLE 2 (continued)
Summary of reviewed publications (N = 53)

Author, year	Setting	Design	Population	Identified structural determinants of stigma	Structural determinant domains	Critical appraisal score
Knapp et al. 2014 ⁶⁴	No restriction	Review (narrative)	Individuals living with cancer	<ul style="list-style-type: none"> Legislation protecting cancer patients' rights regarding employment and housing (e.g. <i>Americans with Disabilities Act</i>) helps to counter potential discrimination. Media shaping perceptions about cancer (perpetuation of beliefs that certain people are to blame for their cancer, depiction of cancer as a "battle" rather than a journey) may result in more stigmatizing attitudes. Medical advances resulting in better understanding of the causes, treatments and outcomes of cancer can shape disease-related beliefs. 	Legal frameworks Media & marketing Biomedical technology	Strong
Link & Hatzenbuehler 2016 ⁷²	United States	Review (narrative)	General population	<ul style="list-style-type: none"> Legislative factors including same-sex marriage bans, differential criminal sentencing, Jim Crow laws and immigration policies (mandatory verification of immigration documentation by police officers, restricted access to driver's licenses or welfare benefits) contribute to discrimination and status loss. Absence of protective policies is a form of policy. Neighbourhood residential segregation and housing policies that reinforce segregation contribute to social beliefs and discrimination. Potentially protective pedagogical policies include antibullying policies in schools, whereas reliance on standardized testing for admissions (SAT) can produce gaps in admission according for racialized and vulnerable populations. 	Legal frameworks Social & built environment Pedagogy	Moderate
Ministère de la Santé et des Services sociaux du Québec, 2016 ³⁸	Canada	Review (narrative)	Individuals with a history of mental illness accessing health care services	<ul style="list-style-type: none"> Insufficient training for providers can result in stigmatizing behaviour (e.g. overlooking physical concerns of those with mental health issues). Training opportunities for providers, especially those that promote contact with individuals with a history of mental illness, may help increase awareness and empathy, and shift clinical behaviours. 	Pedagogy	Weak
Mirabito et al. 2016 ⁶⁷	No restriction	Review (narrative)	Stigma occurring in the marketplace	<p>Framework proposed: The Stigma Turbine of individual, societal and marketplace-based determinants of stigma.</p> <ul style="list-style-type: none"> Legislation that protects against marriage, employment, or housing discrimination on the basis of social identity can help reduce stigma by legitimizing stigmatized identities and ensuring equal resource access (e.g. same-sex marriage protections, <i>Equal Pay Act</i>, <i>Fair Housing Act</i>). Social environments such as workspaces or residential areas with greater social diversity allow for greater social interaction and contact, which can mitigate negative stereotypes and beliefs. Media-based marketing tactics and consumer segmentation strategies (e.g. advertisers engaging in objectification and fat-shaming to increase sales) can potentially perpetuate stigma whereas others (e.g. ads featuring unretouched models, or diverse family experiences) can attenuate negative social beliefs and shift cultural norms. Public health social marketing campaigns (e.g. regarding breastfeeding, weight control, tobacco use, alcohol abstinence) can perpetuate victim blaming. Similarly, social programs that require group separation (i.e. separate cafeteria line for students accessing school lunch programs) can also perpetuate discrimination and self-stigma. 	Legal frameworks Social & built environment Media & marketing Public health interventions	Moderate

Continued on the following page

TABLE 2 (continued)
Summary of reviewed publications (N = 53)

Author, year	Setting	Design	Population	Identified structural determinants of stigma	Structural determinant domains	Critical appraisal score
Morey 2018 ⁵⁶	United States	Review (narrative)	Immigrants and racialized communities in the United States	<ul style="list-style-type: none"> • Policies limiting immigrants' eligibility for health and social services, whether undocumented (Social Security, federal education benefits, Medicaid, <i>Affordable Care Act</i>) or documented (5-year waiting period to qualify for public benefits) and discriminatory raids, deportation or detention represent structural forms of discrimination. • Xenophobic media-based rhetoric during election campaigns popularizing anti-immigrant attitudes, increasing bullying and violence against visible minorities. 	Legal frameworks Welfare policy Media & marketing	Moderate
Mukolo et al. 2010 ²⁸	No restriction	Review (narrative)	Children experiencing mental illness	<p>Framework proposed: framework of the relationships among child mental disorder stigma dimensions, contexts and targets</p> <ul style="list-style-type: none"> • Media portrayals of mental illness that reinforce negative stereotypes of dangerousness, criminality or unpredictability can promote discrimination. • Media coverage of celebrities with mental illness may normalize mental health issues as issues pertaining to health rather than weakness. • Lack of mental health professionals available to children, compared to professionals specializing in physical health, as indicative of the devaluing of mental health. 	Media & marketing Health care practices	Moderate
Nairn et al. 2011 ²⁷	No restriction	Review (narrative)	Individuals living with mental health issues	<ul style="list-style-type: none"> • Media portrayals (language, content) of mental health issues in relation to crime, violence and social incompetence, contribute to stigma by influencing society-level fear. 	Media & marketing	Moderate
Pescosolido et al. 2008 ³³	No restriction	Review (narrative)	Individuals living with mental illness	<p>Framework proposed: framework integrating normative influence on stigma</p> <ul style="list-style-type: none"> • Welfare eligibility shapes norms regarding entitlement to care, legitimizes conditions covered by health insurance policies. • Negative media portrayals of individuals with mental illness (as dangerous, unstable, unpredictable), affecting judgments made in everyday life about individuals with mental illness. • Innovations in treatment and advances in scientific knowledge (especially relating to biomedical or genetic causes, and availability of effective treatment) influence beliefs and practices. 	Welfare policy Media Biomedical technology	Moderate
Phelan et al. 2014 ⁷⁷	No restriction	Review (narrative)	General population	<ul style="list-style-type: none"> • Social segregation leads to infrequent interaction between stigmatized and nonstigmatized groups and social distance. • Media portrayal of stigmatized persons can shape societal attitudes; portrayals can represent a substitute for social interaction when direct contact with stigmatized persons is rare/unlikely. • Public health interventions that promote contact between stigmatized and other members of the public can potentially reduce negative beliefs and stereotypes. 	Social & built environment Media & marketing Public health interventions	Strong
Schabert et al. 2013 ⁵⁰	No restriction	Review (narrative)	Individuals living with diabetes	<p>Framework proposed: a framework for understanding diabetes-related stigma (structural mitigating strategies: social marketing, education, counselling, health promotion)</p> <ul style="list-style-type: none"> • Health promotion campaigns and media messaging based on modifying individual-level behaviours are identified as potential drivers of blame-induced stigma. • Education initiatives that promote contact with individuals living with stigmatized conditions may help build empathy. 	Media & marketing Pedagogy Public health interventions	Strong

Continued on the following page

TABLE 2 (continued)
Summary of reviewed publications (N = 53)

Author, year	Setting	Design	Population	Identified structural determinants of stigma	Structural determinant domains	Critical appraisal score
White Hughto et al. 2015 ⁵⁸	United States	Review (narrative)	Individuals identifying as transgender	<p>Framework proposed: modified social-ecological model of transgender stigma and stigma interventions (structural interventions: policies against discrimination, promoting access to care, or curricula on the health of trans people)</p> <ul style="list-style-type: none"> • Policies that fail to protect the rights of trans people in public accommodation. • Inequalities in access to health insurance coverage for gender-affirming procedures. • Insufficient training of health care professionals on trans persons' health. • Biomedicalization of gender nonconformity (DSM diagnosis). 	Legal frameworks Welfare policy Pedagogy Diagnostic frameworks	Moderate
Williams 2018 ³⁵	United Kingdom	Review (narrative)	Individuals living with mental health issues	<ul style="list-style-type: none"> • The United Kingdom's <i>Equality Act</i> (2010) was designed to protect against disability-based discrimination in the workplace; however, limitations remain. • Investment in workplace support programs for individuals with disabilities are posited as protective against stigma. • Media representations that depict individuals experiencing mental health issues as dangerous or that correlate mental health issues with criminality can contribute to negative stereotypes. • Use of a biopsychosocial model to understand mental health issues, rather than a purely biological model, can lead to more holistic approaches of mental health care. 	Legal frameworks Economic policy Media & marketing Diagnostic frameworks	Moderate
Clement et al. 2013 ³⁶	No restriction	Review (systematic)	Individuals living with mental health issues	<ul style="list-style-type: none"> • Mass media campaigns aiming to influence behaviour have the potential to decrease or reinforce mental health stigma (intentionally or not) 	Media & marketing	Strong
Craig et al. 2017 ⁴⁹	Low TB–incidence countries	Review (systematic)	People living with TB in low-incidence countries (Western Europe, USA, Canada, Australia, New Zealand)	<ul style="list-style-type: none"> • Negative media portrayals of migrants with TB can contribute to negative stereotypes and discrimination, especially if there is low knowledge among the general population regarding TB transmission and curability. • Health care policies such as zero-tolerance policies regarding substance use and facilities that are not available to migrants, can lead to discrimination in relation to access to care. • TB public health control policies (contact tracing, quarantine) can lead to discrimination and fears of potential deportation of migrants. 	Media & marketing Health care policy Public health interventions	Strong
Darlington et al. 2017 ⁴³	United States	Review (systematic)	Women living with HIV	<ul style="list-style-type: none"> • Absence of legal protections against job or housing loss due to HIV status also represents structural determinants of discrimination and status loss. • Insufficient training regarding HIV transmission and curability among health care providers can lead to discriminatory beliefs and practices. • Absence of policies to prevent denial or delay of health care due to HIV status can contribute to HIV-related stigma. 	Legal frameworks Pedagogy Health care policy	Strong
Katz et al. 2013 ⁴⁴	United States	Review (systematic)	Individuals living with HIV	<ul style="list-style-type: none"> • Health systems promoting social support and trust between patients and staff can alleviate negative beliefs and discriminatory practices. • HIV health care–related costs can contribute to poverty and status loss. 	Health care practices and policy	Strong

Abbreviations: AIDS, acquired immunodeficiency syndrome; DSM, Diagnostic and Statistical Manual of Mental Disorders; ERs, emergency rooms; FASD, fetal alcohol spectrum disorder; HIV, human immunodeficiency virus; LGB, lesbian, gay, bisexual; MSM, men who have sex with men; NGOs, nongovernmental organizations; PEP, post-exposure prophylaxis; PrEP, pre-exposure prophylaxis; SAT, scholastic assessment tests; STBBI, sexually transmitted and blood-borne infection; TB, tuberculosis.

TABLE 3
Summary of critical appraisal of identified works in the literature search on structural determinants of stigma

Author, year	Design	Are the aims and objectives of the research clearly stated?	Is the research design clearly specified?	Is the research design appropriate for the aims and objectives of the research?	Do the researchers provide a clear account of the process by which their findings were produced?	Do the researchers display enough data to support their interpretations and conclusions?	Is the method of analysis appropriate?	Is the method of analysis adequately explicated?	Total score (/7)
Clair et al. 2016 ⁴⁶	Mixed methods sequential design	Yes, to examine how cultural constructions of stigmatized groups shift over time	No, the authors do not specify the study design	Yes, a narrative review is appropriate for an overview of current understanding	No, the review describes key concepts without sufficient details to reproduce the content	Yes, each concept is sufficiently referenced	Yes, the authors used a “systematic process analysis approach,” which is appropriate for the objectives	No, the authors do not explain how they applied their “systematic process analysis approach”	4
Coreil et al. 2010 ⁴⁸	Mixed methods sequential design	Yes, to investigate the influence of structural forces on TB-related stigma among Haitians living in the US and Haiti	Yes, the authors specify that they used a mixed-methods design, and clearly describe the two phases	Yes, the design is aligned with the questions asked by the researchers	Yes, the methods are clear and reproducible	Yes, results of each phase are clearly provided	Yes, the methods of analysis are appropriate for each phase and objective	Yes, the analyses pertaining to both phases of the study are well explained	7
Henderson et al. 2017 ⁶⁸	Mixed methods sequential design	Yes, to examine how differences in understanding of the etiology of addiction influence stigma attribution	Yes, the authors use Z using a sequential design approach (with three phases, each building on the last), with each phase clearly described	Yes, the study builds on the results of each phase using a sequential approach	Yes, each of the data collection methods is well described	Yes, results of each phase are clearly described, and justification of qualitative coding was provided	Yes, analysis of the available data is appropriate	Yes, the authors provide sufficient detail on coding of qualitative themes and quantitative analyses	7
MacLean 2018 ⁴⁷	Mixed methods sequential design	No, to identify determinants of STBBI-related stigma and propose a conceptual framework	No, the authors describe various components of the project without specifying a design	Yes, the activities conducted were appropriate for the objectives	No, data on each of the phases is lacking (e.g. selection approach, analysis, etc.)	No, very little data is presented for each of the sections	No, due to the lack of detail provided, it is impossible to judge whether the method of analysis is appropriate	No, very few details on the method of analysis are presented	1
Arrey et al. 2017 ⁵⁵	Qualitative	Yes, to investigate stigma and discrimination among migrant sub-Saharan African women in health care settings in Belgium	Yes, the authors use a mixed-qualitative approach for data collection and analysis	Yes, the mixed-methods approach is appropriate for the objective	Yes, the sampling strategy and data collection methods are clearly described	Yes, the authors summarize the key themes identified, and provide direct quotes to support their observations	Yes, the method of analysis is appropriate for the available data and research question	Yes, the authors used an inductive thematic analysis approach	7
France et al. 2015 ⁴¹	Qualitative	Yes, to identify core beliefs underlying self-stigma in PLHIV in Ireland	Yes, the authors describe their data collection strategy and sample	Yes, qualitative research design is appropriate, especially to identify beliefs	Yes, they describe their method of data collection and coding	Yes, the authors summarize the key themes identified, and provide direct quotes to support their observations	Yes, the method of analysis is appropriate for the available data and research question	Yes, the coding strategy is well explained, as are approaches used to assess saturation	7

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TABLE 3 (continued)
Summary of critical appraisal of identified works in the literature search on structural determinants of stigma

Author, year	Design	Are the aims and objectives of the research clearly stated?	Is the research design clearly specified?	Is the research design appropriate for the aims and objectives of the research?	Do the researchers provide a clear account of the process by which their findings were produced?	Do the researchers display enough data to support their interpretations and conclusions?	Is the method of analysis appropriate?	Is the method of analysis adequately explicated?	Total score (/7)
Hansen et al. 2014 ⁷³	Qualitative	Yes, to describe the experience of structural stigma imposed by medicalization of public support for the poor	Yes, the authors use an ethnographic interview-based design	Yes, the qualitative approach is appropriate for the objective	Yes, data collection and analyses were clearly described	No, the authors provide only one case study to illustrate each identified theme	Yes, the method of analysis is appropriate for the available data and research question	Yes, the authors used iterative thematic coding techniques	6
Paterson et al. 2013 ⁶⁵	Qualitative	Yes, to identify structural determinants of stigma of patients in emergency departments who use illicit drugs and are HCV+	Yes, the authors use an inductive qualitative design approach	Yes, the qualitative approach is appropriate	Yes, they describe their method of data collection and coding	Yes, the authors summarize the key themes identified, and provide direct quotes to support their observations	Yes, the interpretive description design analytical approach is appropriate	Yes, the analytical approach is clearly described	7
Woodgate et al. 2017 ⁴⁰	Qualitative	Yes, to understand the experiences and needs of Indigenous PLHIV who were diagnosed young	Yes, the authors clearly describe their sampling, data collection and analysis approach	Yes, the qualitative approach is appropriate for the objective and population	Yes, the authors clearly describe their sampling, data collection and analysis approach	Yes, the authors summarize the themes identified, and provide quotes to support them	Yes, the method of analysis is appropriate for the available data and research question	Yes, the authors explain their deductive thematic analysis approach	7
Jorm et al. 2008 ⁷⁹	Quantitative (cross-sectional)	Yes, to assess whether social distance and belief in dangerousness are increased in those who believe in genetic causes of psychiatric illness; and whether social distance is reduced by belief in psychosocial causes	Yes, the authors clearly specify the design, including details on data collection and analysis	No, the design appears to be appropriate for the first objective, but not for the second objective, as it implies the effect of an intervention and the study was not designed to answer this question	Yes, the authors describe data available, the analyses conducted	No, it is unclear whether results are adjusted for known covariates, and the results of the linear models are difficult to interpret	Yes, analyses appear to be appropriate given available data and operationalization of study measures	Yes, the authors describe data available, the analyses conducted	5
Min et al. 2017 ³⁹	Quantitative (cross-sectional)	Yes, to examine community factors as correlates of perceived and experienced stigma in a community sample of persons with mental illness	Yes, the authors clearly specify the design, including details on data collection and analysis	Yes, the cross-sectional design is appropriate for the objective	Yes, the authors describe data available, the analyses conducted	Yes, descriptive and analytic results are presented	Yes, the modelling strategy is appropriate given the nested nature of the data within health centres	Yes, the authors describe data available, the analyses conducted	7
Pachankis et al. 2017 ⁶⁹	Quantitative (cross-sectional)	Yes, to investigate 6 structural determinants of stigma predicting lack of HIV-prevention in MSM migrants	Yes, cross-sectional study involving large-scale international survey	Yes, prospective data collection appropriate for the research question	Yes, operational definitions of all variables clearly provided, and resources provided for justification and validation	Yes, sufficiently large sample, sufficient variation in exposure to allow for analysis, and linkage to external measures	Yes, two-level cross-classified model reflecting hierarchical nature of the research question	Yes, statistical analysis plan and modelling strategy explained sufficiently to allow for reproduction	7

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TABLE 3 (continued)
Summary of critical appraisal of identified works in the literature search on structural determinants of stigma

Author, year	Design	Are the aims and objectives of the research clearly stated?	Is the research design clearly specified?	Is the research design appropriate for the aims and objectives of the research?	Do the researchers provide a clear account of the process by which their findings were produced?	Do the researchers display enough data to support their interpretations and conclusions?	Is the method of analysis appropriate?	Is the method of analysis adequately explicated?	Total score (/7)
Stringer et al. 2016 ⁶⁸	Quantitative (cross-sectional)	Yes, to examine the relationship between HIV stigma and individual/clinic-level characteristics and policies among health care workers in the Southern US	Yes, the authors clearly specify the design, including details on data collection and analysis	Yes, the cross-sectional design is appropriate for the objective	Yes, the authors describe data available, the analyses conducted	Yes, descriptive and analytic results are presented	No, the modelling strategy did not take into consideration the nested nature of the data within health centres	Yes, the authors describe data available, the analyses conducted	6
Stuber et al. 2008 ⁶⁴	Quantitative (cross-sectional)	Yes, to examine 5 domains of stigma contributing to stigma among smokers	Yes, cross-sectional study involving survey data	Yes, prospective data collection appropriate for the research question	Yes, participant selection and methodology clearly explained, question items listed verbatim	Yes, sample size sufficiently large, authors show data for each of their 5 proposed domains of stigma	Yes, the authors used a regression model, weighted to correct for sampling bias	Yes, the analytical methodology is explained sufficiently to allow for reproduction	7
Angermeyer et al. 2014 ⁷⁵	Quantitative (longitudinal)	Yes, to investigate whether the individual and structural stigma develop similarly	Yes, the authors clearly specify the design, data collection and analysis	Yes, the repeat cross-sectional design is appropriate for the objective	Yes, the authors describe data available, the analyses conducted	Yes, descriptive and analytic results are presented	Yes, the modelling strategies and estimation of probabilities is appropriate	Yes, the authors describe data available, the analyses conducted	7
Hatzenbuehler et al. 2015 ⁷⁰	Quantitative (longitudinal)	No, the authors do not explicitly state an objective, but studied sexual orientation-related disparities in past-year illicit drug use and the influence of structural stigma	Yes, the authors use an observational, cohort-based design based on survey data	No, the objective of the study is unclear, and it is not possible to assess appropriateness	Yes, the authors describe available data and analyses conducted	No, only two results tables are presented, and several results are missing	Yes, analyses appear to be appropriate given available data	Yes, the authors describe data available, the analyses conducted	4
Arboleda-Florez et al. 2012 ²⁹	Review (narrative)	Yes, to describe stigma associated with mental illness, stigmatization by health providers, and approaches for stigma reduction	Yes, the authors describe this as a narrative review of psychological and social literature	Yes, a narrative review is appropriate for the descriptive aims	No, the authors do not provide any details explaining how they arrived at their narrative synthesis	No, the authors cite few studies, and the lack of research in this field is a major limitation	Yes, a narrative summary of results is appropriate for the aims	No, there are no details on how analysis was conducted or what elements guided the synthesis	4
Aste 2016 ⁵³	Review (narrative)	Yes, to describe the literature on the sources of stigma for individuals with chronic pain	Yes, the author describes the review as an “exploratory literature review”	Yes, the scoping review approach is appropriate for the objectives	Yes, the search strategy is well described, including clear selection criteria	Yes, sufficient evidence has been identified to support each concept	Yes, each included study is described in detail	No, there are no details on how analysis was conducted or what elements guided the synthesis	6

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TABLE 3 (continued)
Summary of critical appraisal of identified works in the literature search on structural determinants of stigma

Author, year	Design	Are the aims and objectives of the research clearly stated?	Is the research design clearly specified?	Is the research design appropriate for the aims and objectives of the research?	Do the researchers provide a clear account of the process by which their findings were produced?	Do the researchers display enough data to support their interpretations and conclusions?	Is the method of analysis appropriate?	Is the method of analysis adequately explicated?	Total score (/7)
Bell et al. 2016 ⁶³	Review (narrative)	Yes, to propose a descriptive model of FASD stigma, identify knowledge gaps, and discuss ethical implications of stigma	No, the authors do not specify their research design	Yes, a narrative synthesis is appropriate for the study aims	No, the authors do not describe how they selected or appraised supporting works for this framework	Yes, the authors provide a thorough theoretical foundation for included concepts	Yes, the authors have synthesized relevant literature to support their framework	Yes, the authors detail the process by which they identified domains in their framework	5
Benoit et al. 2018 ⁶⁰	Review (narrative)	Yes, to review the state of research pertaining to the stigmatization of sex workers	No, the authors state that they are “reviewing evidence” but do not specify design	Yes, a narrative synthesis is appropriate for the descriptive aims	No, the authors do not describe how they selected or appraised supporting works for inclusion	Yes, the authors provide an in-depth synthesis of the state of research, and thoroughly cite all concepts	Yes, a synthesis of available evidence pertaining to the topic of interest is sufficient for the descriptive aims	No, there is no explanation of the analytical process or how synthesized information guided the summary	4
Bonsack et al. 2013 ³¹	Review (narrative)	Yes, to describe the concept of stigma and examine various interventions to reduce stigma	No, the authors do not specify their research design	Yes, a narrative summary is sufficient for the descriptive aims	No, there are no details of how relevant information was identified	No, very few works are cited as supporting evidence	Yes, a brief summary of the theory of mental health is sufficient for the aims	No, there are no details on how analysis was conducted or what elements guided the synthesis	3
Brewis 2014 ⁶²	Review (narrative)	Yes, to identify mechanisms by which stigma may contribute to the perpetuation of obesity	No, the author simply describes their work as a review/synthesis	Yes, a narrative review is appropriate for the descriptive aims	No, the author does not detail the process by which supporting works were identified and included	Yes, the author provides support for each proposed mechanism	Yes, a narrative summary of results is appropriate for the descriptive aims	No, there are no details on how analysis was conducted or what elements guided the synthesis	4
Carroll 2017 ⁶¹	Review (narrative)	Yes, to investigate experiences of stigma among single mothers in diverse socioeconomic circumstances	Yes, the author conducts a narrative review of stigma theory as it applies to lone motherhood	Yes, a narrative summary of concepts followed by qualitative study supporting the author’s conclusions is appropriate for the study aims	Yes, the author describes the literature review process, and details how identified works contributed to the design and content	Yes, the author has thoroughly cited the theoretical groundwork, and provided a robust qualitative study to support the conclusions	Yes, a narrative synthesis of relevant research and semi-structured interview is appropriate for the study aims	Yes, the author clearly describes the methods used to synthesize sources to guide the narrative review and the analytical process used to extract key themes	7
Chaudoir et al. 2013 ⁶⁶	Review (narrative)	Yes, to propose a framework that describes how stigma leads to psychological and physical health disparities	No, the authors do not specify their research design	Yes, a theoretical summary is appropriate for the proposal of a novel framework	No, the authors do not describe how they selected or appraised supporting works for this framework	Yes, the authors provide sufficient citations to support the proposed the causal pathways in their framework	Yes, a summary of supporting evidence for the framework is appropriate for the study aims	No, the authors do not detail how supporting works were synthesized in order to generate the framework	4

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TABLE 3 (continued)
Summary of critical appraisal of identified works in the literature search on structural determinants of stigma

Author, year	Design	Are the aims and objectives of the research clearly stated?	Is the research design clearly specified?	Is the research design appropriate for the aims and objectives of the research?	Do the researchers provide a clear account of the process by which their findings were produced?	Do the researchers display enough data to support their interpretations and conclusions?	Is the method of analysis appropriate?	Is the method of analysis adequately explicated?	Total score (/7)
Collins et al. 2013 ³²	Review (narrative)	Yes, to review evaluations of mental illness stigma reduction efforts in order to inform policy in California	No, the authors do not specify their research design	No, as the review is aimed at guiding policy, a more systematic review would have been more appropriate	No, the authors specify databases and keywords used, but not in sufficient detail to know how works were selected	Yes, each concept is referenced, offering an overview of included sources	Yes, a synthesis of key types of interventions is appropriate for the aim of the review	No, there are no details on how analysis was conducted or what elements guided the synthesis	3
Livingston, JD. (Commission de la santé mentale du Canada), 2013 ³⁷	Review (narrative)	No, the authors do not state a specific aim, they introduce structural stigma in the context of modern institutional and social systems and examine tools to address stigma	No, the authors describe this work simply as a “report”	Yes, a narrative review of the concepts and tools to address stigma is sufficient	No, the authors do not provide an explanation of how they identified works for inclusion	Yes, the authors provide a well-cited summary of the state of knowledge in the field and of the Canadian context in support of their conclusions	Yes, a narrative description of the state of knowledge is appropriate for the descriptive aims of this study	No, the authors do not provide details regarding how the supporting evidence was synthesized or contributed to recommendations	3
National Academies of Sciences, Engineering, and Medicine (Committee on the Science of Changing Behavioral Health Social Norms), 2016 ³⁴	Review (narrative)	Yes, to review the current understanding of stigma, its determinants, and targets for intervention	No, the authors do not specify their research design	Yes, the narrative review approach is appropriate for the aims	No, the review describes key concepts without sufficient details to reproduce the content	Yes, each concept is referenced, offering an overview of included sources	Yes, synthesis of key theoretical concepts is appropriate for the aim of the review	No, there are no details on how analysis was conducted or what elements guided the synthesis	4
De Ruddere & Craig 2016 ⁵²	Review (narrative)	Yes, to describe current understanding of stigma pertaining to chronic pain	Yes, the authors use the term “topical review” to describe the design	Yes, the narrative review approach is appropriate for the descriptive aim	No, the narrative review describes concepts without sufficient detail to reproduce results	Yes, each concept is referenced, offering an overview of included sources	Yes, synthesis of key theoretical concepts is appropriate for the study aim	No, there are no details on how analysis was conducted or what guided the synthesis	5
Désy et al. 2013 ³⁶	Review (narrative)	Yes, to describe stigma, explore the ethical dimensions of stigma and propose a reflection tool to assist public health stakeholders	No, the authors do not specify their research design	Yes, a narrative review of evidence is appropriate for the aims and target audience of this report	No, the authors describe their search (databases, search terms), without sufficient detail to reproduce the content	No, the authors cite a very limited number of studies	Yes, a summary of the field of stigma and ethics research is appropriate for the objectives of this report	No, there are no details on how analysis was conducted or what elements guided the synthesis	3

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TABLE 3 (continued)
Summary of critical appraisal of identified works in the literature search on structural determinants of stigma

Author, year	Design	Are the aims and objectives of the research clearly stated?	Is the research design clearly specified?	Is the research design appropriate for the aims and objectives of the research?	Do the researchers provide a clear account of the process by which their findings were produced?	Do the researchers display enough data to support their interpretations and conclusions?	Is the method of analysis appropriate?	Is the method of analysis adequately explicated?	Total score (/7)
Earnshaw et al. 2015 ⁴²	Review (narrative)	Yes, to propose a framework that describes how societal stigma can lead to physical and psychological health disparities	No, the authors do not specify their research design	Yes, a theoretical summary and review of supporting evidence is appropriate for the proposal of a novel framework	No, the authors do not describe how they selected or appraised supporting works for this framework	Yes, the authors conduct a thorough assessment of the supporting evidence, and each component of the framework is well referenced	Yes, a summary of supporting evidence for the framework is appropriate for the study aims	No, there is no explanation of how included works were synthesized in order to generate the framework	4
Fernandes et al. 2011 ⁵¹	Review (Narrative)	Yes, to describe epilepsy stigma, and consider the influence of legislation on power imbalances	No, the authors do not specify their research design	Yes, a narrative review is appropriate for the descriptive aims	No, the authors provide no explanation of how information for this review was obtained/selected	Yes, theories are supported with sufficient citations and consider the availability and quality of evidence	Yes, a synthesis of existing research is appropriate for the generation of a conceptual novel framework	No, there is no explanation of how included works were synthesized	4
Golub 2018 ²⁶	Review (narrative)	Yes, to review the role of PrEP-related stigma in access and adherence to PrEP, and examine its antecedents and consequences	No, the design is not clearly specified	Yes, a narrative review is appropriate for the descriptive aims	No, the authors do not specify how they selected works to include in their review	Yes, the authors have cited a wide range of literature, lending support to their conclusions	Yes, synthesis of key theoretical concepts is appropriate for the objectives	No, no detail is provided regarding how the included works were synthesized	4
Groulx 2011 ⁵⁹	Review (narrative)	Yes, to summarize the factors driving social exclusion, and describe their manifestations in Canadian society	Yes, the authors state that they will use a narrative review design	Yes, the narrative review approach is appropriate	Yes, the search strategy is well described, including a description of inclusion criteria	Yes, each concept is referenced, offering an overview of included sources	Yes, synthesis of key theoretical concepts is appropriate for the aim of the review	No, there are no details on how analysis was conducted or what elements guided the synthesis	6
Hatzenbuehler 2016 ⁸	Review (narrative)	Yes, to review structural stigma related to mental illness and sexual orientation	No, the author simply describes the work as a review	Yes, a narrative review is appropriate for the descriptive aims	No, the author does not describe how works were selected for inclusion	Yes, concepts are well supported by theoretical evidence and empirical research	Yes, a narrative summary of theoretical and empirical research is appropriate for the descriptive aim	No, there are no details on how analysis was conducted or what elements guided the synthesis	4
Hatzenbuehler 2014 ⁵⁷	Review (narrative)	Yes, to describe structural stigma as a risk indicator for psychiatric and physical-health morbidities among LGBT populations	No, the author describes the work as a review	Yes, a narrative review is appropriate for the descriptive aims	No, the author does not describe how works were selected for inclusion	Yes, the assertions are supported by citing a varied body of research, and comments on the methodological rigour of studies	Yes, a narrative summary of results is appropriate for the study aims	No, there is no explanation of the analytical process that contributed to the synthesis of included works	4

Continued on the following page

TABLE 3 (continued)
Summary of critical appraisal of identified works in the literature search on structural determinants of stigma

Author, year	Design	Are the aims and objectives of the research clearly stated?	Is the research design clearly specified?	Is the research design appropriate for the aims and objectives of the research?	Do the researchers provide a clear account of the process by which their findings were produced?	Do the researchers display enough data to support their interpretations and conclusions?	Is the method of analysis appropriate?	Is the method of analysis adequately explicated?	Total score (/7)
Holder et al. 2019 ³⁰	Review (narrative)	Yes, to describe how mental health stigma discourages treatment-seeking	No, the authors describe it only as a “theoretical paper based on literature”	Yes, a narrative review is appropriate given the descriptive aim	No, the authors do not describe how works were selected for inclusion	Yes, the authors cite a wealth of resources from academic and grey literature	Yes, a theoretical review of literature is appropriate for the aim and design	No, there is no explanation of the analytical process contributing to the overall synthesis	4
Kerr et al. 2016 ⁴⁵	Review (narrative)	Yes, to propose a novel conceptual framework and examine mechanisms leading to disparities in HIV risk for racialized communities	No, the authors do not specify their research design	Yes, a narrative review of evidence and proposed framework is appropriate for the proposal of a novel framework	No, the authors do not describe how they selected or appraised supporting works for this framework	Yes, the authors are proposing a complex model, and cite a large and diverse body of research to support their claims	Yes, a summary of supporting evidence for the framework is appropriate for the study aims	No, there is no explanation of how included works were synthesized in order to generate the framework	4
Knapp et al. 2014 ⁴⁴	Review (narrative)	Yes, to describe the identity-threat model of stigma and adapt it to cancer stigma	Yes, the authors describe this as a review and application of stigma theory	Yes, the narrative review design is appropriate for the descriptive aims	Yes, the authors are adapting an established theory, however they do not describe the identification of supporting works	Yes, all concepts in the article are thoroughly cited, and the authors' analysis is based on a well-known theory of stigma	Yes, the authors have synthesized and summarized the salient points in the literature to support their conclusions	No, the authors do not describe how their synthesis was guided by included works	6
Link & Hatzenbuehler 2016 ⁷²	Review (narrative)	Yes, to explore the impact of stigma on health via processes of social disadvantage	No, the authors do not specify their research design	Yes, a narrative review is appropriate for the descriptive aims	No, the authors describe concepts in the literature without detailing how they identified relevant works	Yes, all concepts are thoroughly cited, and the first author is an authority in this field of research	Yes, the authors have provided a theoretical conceptualization based on existing research	No, there are no details on how analysis was conducted or what elements guided the synthesis	4
Ministère de la Santé et des Services sociaux Québec, 2016 ³⁸	Review (narrative)	Yes, to summarize anti-stigma strategies for use in health care settings, in order to guide intervention	No, the authors do not specify their research design	No, a more systematic review with a quality assessment would have been more appropriate	No, the review describes key concepts without sufficient details to reproduce the content	No, the authors cite a very limited number of studies	No, synthesis of key theoretical concepts is not appropriate to guide intervention	No, there are no details on how analysis was conducted or what elements guided the synthesis	1
Mirabito et al. 2016 ⁶⁷	Review (narrative)	Yes, to propose a novel conceptual framework and analyze its contribution to the understanding of marketplace stigma	No, the authors do not specify their research design	Yes, a summary of supporting theories and explanation of the proposed framework is appropriate	No, the authors do not describe how they arrived at this formulation of their conceptual framework	Yes, the authors provide an adequate explanation of their framework, with citations supporting each of the components	Yes, the authors have conducted an analysis of the implications of their framework on the understanding of stigma	No, there are no details on how analysis was conducted or what elements guided the synthesis	4

Continued on the following page

TABLE 3 (continued)
Summary of critical appraisal of identified works in the literature search on structural determinants of stigma

Author, year	Design	Are the aims and objectives of the research clearly stated?	Is the research design clearly specified?	Is the research design appropriate for the aims and objectives of the research?	Do the researchers provide a clear account of the process by which their findings were produced?	Do the researchers display enough data to support their interpretations and conclusions?	Is the method of analysis appropriate?	Is the method of analysis adequately explicated?	Total score (/7)
Morey 2018 ⁵⁶	Review (narrative)	Yes, to describe the mechanisms by which anti-immigrant stigma exacerbates ethnic health disparities	No, the author does not specify a research design	Yes, a short description of the research on this topic is sufficient for the objectives	No, there is no description of how these findings were identified	Yes, the proposed mechanisms are well cited	Yes, a narrative summary of supporting evidence is appropriate	No, no explanation of how supporting information was analyzed or integrated is provided	4
Mukolo et al. 2010 ²⁸	Review (narrative)	Yes, to describe the literature on stigma associated with children's mental disorders and highlight gaps in empirical work	No, the authors simply call this paper a "review," and it is not clear if they mean to be systematic	Yes, a narrative review is appropriate for the descriptive aims	Yes, the authors detail their search strategy (databases, date ranges, search terms) and inclusion/exclusion criteria	No, the concepts introduced are thoroughly cited, but many of their sources are from literature on adults	Yes, a narrative summary of results is appropriate for the aims	Yes, the authors describe how they appraised the convergence of definitions of critical dimensions of stigma	5
Nairn et al. 2011 ²⁷	Review (narrative)	Yes, to provide a framework of the role of cultural mechanisms in media depictions of mental illness	No, the design is not clearly specified	Yes, the narrative review approach is appropriate for the objectives	No, the narrative review describes concepts without sufficient detail to reproduce the content	Yes, each concept is referenced, offering an overview of included sources	Yes, synthesis of key theoretical concepts is appropriate for the aim of the review	No, there are no details on how analysis was conducted or what elements guided the synthesis	4
Pescosolido et al. 2008 ³³	Review (narrative)	Yes, to propose a novel conceptual framework describing the determinants of stigma, focussing on mental health	No, the authors do not specify their research design	Yes, a narrative review of existing evidence and of the components of the proposed framework is sufficient	No, the authors do not describe how they selected or appraised supporting works for this framework	Yes, each concept that the authors included in their framework is well referenced	Yes, a narrative summary of supporting evidence is sufficient	No, there is no explanation of how included works were synthesized in order to generate the framework	4
Phelan et al. 2014 ⁷⁷	Review (narrative)	Yes, to propose a novel theory of stigma focussing on systemic aspects of stigma and their impact on health	Yes, the authors propose a narrative review of extant theories	Yes, a narrative summary is appropriate for the descriptive aims	No, the authors do not describe how the key works in stigma and status theory were identified	Yes, all concepts are thoroughly cited, and the first author is an authority in this field of research	Yes, a narrative summary of supporting evidence is sufficient for the descriptive aims	Yes, the authors describe their assessment process by identifying theoretical convergence	6
Schabert et al. 2013 ⁵⁰	Review (narrative)	Yes, to develop a framework of the experiences, causes and consequences of diabetes stigma	Yes, the authors state that this is a narrative review	Yes, the narrative review approach is appropriate for the objective	No, the authors describe the search strategy (databases, search terms) but do not specify inclusion criteria	Yes, each concept is referenced, offering an overview of included sources	Yes, synthesis of key theoretical concepts is appropriate for the aim of the review	Yes, the authors explain how the extant literature was categorized	6
White Hughto et al. 2015 ⁵⁸	Review (narrative)	Yes, to review the multiple levels of transgender stigma and how they influence health	No, the design is not clearly specified, it is defined simply as a "review"	Yes, the narrative review approach is appropriate for the objectives	No, the narrative review describes concepts without sufficient detail to reproduce the content	Yes, each concept is referenced, offering an overview of included sources	Yes, synthesis of key theoretical concepts is appropriate for the aim of the review	No, there are no details on how analysis was conducted or what elements guided the synthesis	5

Continued on the following page

TABLE 3 (continued)
Summary of critical appraisal of identified works in the literature search on structural determinants of stigma

Author, year	Design	Are the aims and objectives of the research clearly stated?	Is the research design clearly specified?	Is the research design appropriate for the aims and objectives of the research?	Do the researchers provide a clear account of the process by which their findings were produced?	Do the researchers display enough data to support their interpretations and conclusions?	Is the method of analysis appropriate?	Is the method of analysis adequately explicated?	Total score (/7)
Williams 2018 ³⁵	Review (narrative)	Yes, to assess how personal, cultural and structural oppression affect individuals with affective distress, and the experience of self-stigma	No, the design is not clearly specified	Yes, the narrative review approach is appropriate for the objectives	No, the author does not describe how works were identified or selected	Yes, each concept is referenced, offering an overview of included sources	Yes, synthesis of key theoretical concepts is appropriate for the objectives	No, there are no details on how analysis was conducted or what elements guided the synthesis	4
Clement et al. 2013 ³⁶	Review (systematic)	Yes, to assess the effects of mass media interventions on reducing mental health stigma	Yes, the authors conducted a systematic review of published literature	Yes, a systematic review is appropriate for the study aims	Yes, the authors list and justify selection criteria, list databases and provide a complete search strategy	Yes, the authors have identified and included a sufficient number of works to support their conclusions	Yes, a narrative synthesis and meta-analysis are appropriate for the study aims	Yes, the authors conducted a narrative synthesis of qualitative studies and meta-analysis of qualitative studies	7
Craig et al. 2017 ⁴⁹	Review (systematic)	Yes, to explore the inclusion and conceptualization of stigma in research about TB in low incidence settings	Yes, the authors conducted a systematic mapping review to map/categorize the existing body of TB research	Yes, the systematic mapping review is appropriate for the goals of this study	Yes, clear description of search strategy (databases, search terms, inclusion criteria)	Yes, the authors use a detailed search strategy, and sufficient studies were identified to support each category in the mapping process	Yes, systematic mapping review of literature on TB-related stigma appropriate for the authors' objectives	Yes, the authors list specific analytical questions and provide an overview of the articles that addressed each question	7
Darlington et al. 2017 ⁴³	Review (systematic)	Yes, to analyze the state of knowledge regarding HIV-related stigma among women in the Southern US	Yes, the authors conducted a systematic review of published literature	Yes, a systematic review is appropriate for the study aims	Yes, the authors list databases, provide rough details about search strategy and list clear selection criteria	Yes, the authors thoroughly cite each concept they introduce with qualitative and quantitative studies	Yes, the narrative synthesis of studies is appropriate for the study aims	No, the authors do not mention how the contents of the included studies were analyzed or appraised in order to inform the synthesis	6
Katz et al. 2013 ⁴⁴	Review (systematic)	Yes, to assess the relationship between the experience of HIV-related stigma and ART adherence	Yes, a systematic review and meta-analysis of published and unpublished literature	Yes, a systematic review is appropriate to describe a hypothesized causal mechanism	Yes, the authors provide a detailed description of their search (databases, search strategy, inclusion criteria, quality assessment)	Yes, the analysis was robust and well reported, and they identified sufficient works to conduct a meta-analysis	Yes, a meta-analysis and thematic meta-synthesis is appropriate for the objectives	Yes, the authors conducted a thematic meta-synthesis of qualitative studies, and meta-analysis of quantitative studies	7

Abbreviations: ART, antiretroviral therapy; FASD, fetal alcohol spectrum disorder; HCV+, hepatitis-C-virus positive; HIV, human immunodeficiency virus; LGBT, lesbian, gay, bisexual, transgender; MSM, men who have sex with men; PLHIV, people living with human immunodeficiency virus; PrEP, pre-exposure prophylaxis; STBBI, sexually transmitted and blood-borne infection; TB, tuberculosis.

followed by a summary of identified structural determinants.

Descriptive results

Study selection

Overall, 657 works were identified through the search strategy. Figure 1 provides a summary of works identified. Four works—all grey literature sources—were written in French. After applying inclusion and exclusion criteria, 53 works were retained (Table 2). Most rejected works were those that did not document determinants of stigma that operate at a structural level. The retained works consisted of literature

reviews ($n = 37$; 69%), and individual mixed-method (qualitative and quantitative; $n = 4$; 8%), qualitative ($n = 5$; 9%) and quantitative ($n = 7$; 13%) studies. Most reviews were not limited to a specific country setting, while individual studies were predominantly based in specific geographic regions including the United States ($n = 14$), Canada ($n = 8$) and Europe ($n = 5$) (Table 2).

Quality appraisal

Most publications were moderate or strong in quality. The weakest element of the publications was a lack of detail on the design processes by which findings and

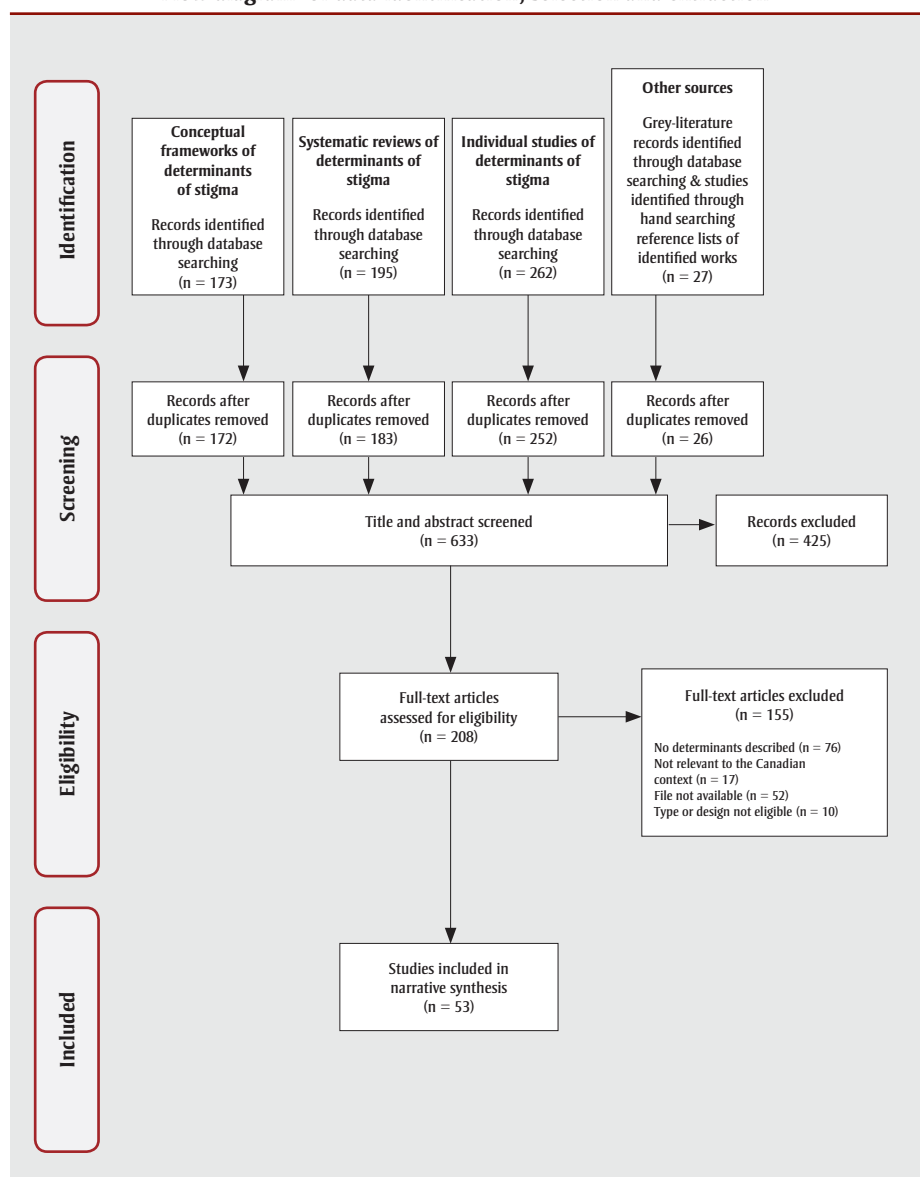
interpretations were produced (Table 3). This element tended to be absent from works from the social sciences, which made up a large proportion of the included literature. This is a limitation of extant reviews of structural determinants of stigma. Figure 2A provides a summary of the mean score on each of the quality appraisal questions by study type, and Figure 2B provides an overview of the quality of works supporting each identified structural domain, described later on.

Study characteristics

The identified works overwhelmingly cited Link and Phelan's¹ conceptualization of stigma as a process driven by social, economic and political power inequities, through which attitudes, negative stereotypes and a sense of separation between groups can lead to discrimination and status loss. The reviewed literature explored many stigmatized experiences, identities, behaviours and health conditions (Table 2). Comprehensively, these were: individuals with mental health and substance use disorders;²⁶⁻³⁹ individuals living with human immunodeficiency virus (HIV)^{26,40-46} or other sexually transmitted or blood-borne infections (STBBI),⁴⁷ tuberculosis (TB),^{48,49} diabetes,⁵⁰ epilepsy,⁵¹ chronic pain^{52,53} or cancer—particularly types whose etiology may be attributable to patients' behaviours;⁵⁴ vulnerable subpopulations such as migrants and racialized communities;^{55,56} lesbian, gay, bisexual, transgender, queer and other (LGBTQ+) populations;^{57,58} individuals experiencing poverty;⁵⁹ sex workers;⁶⁰ single mothers;⁶¹ individuals labelled as obese or fat;^{46,62} biological mothers of children diagnosed with fetal alcohol spectrum disorder;⁶³ and individuals who smoke.⁶⁴ Some authors highlighted that, although their research may have focussed on stigma pertaining to a specific condition or identity, individuals can experience multiple sources of stigma due to the intersection of multiple complex identities and life experiences.^{47,60} These authors acknowledged that restricted study scope could represent a potential limitation to their studies.

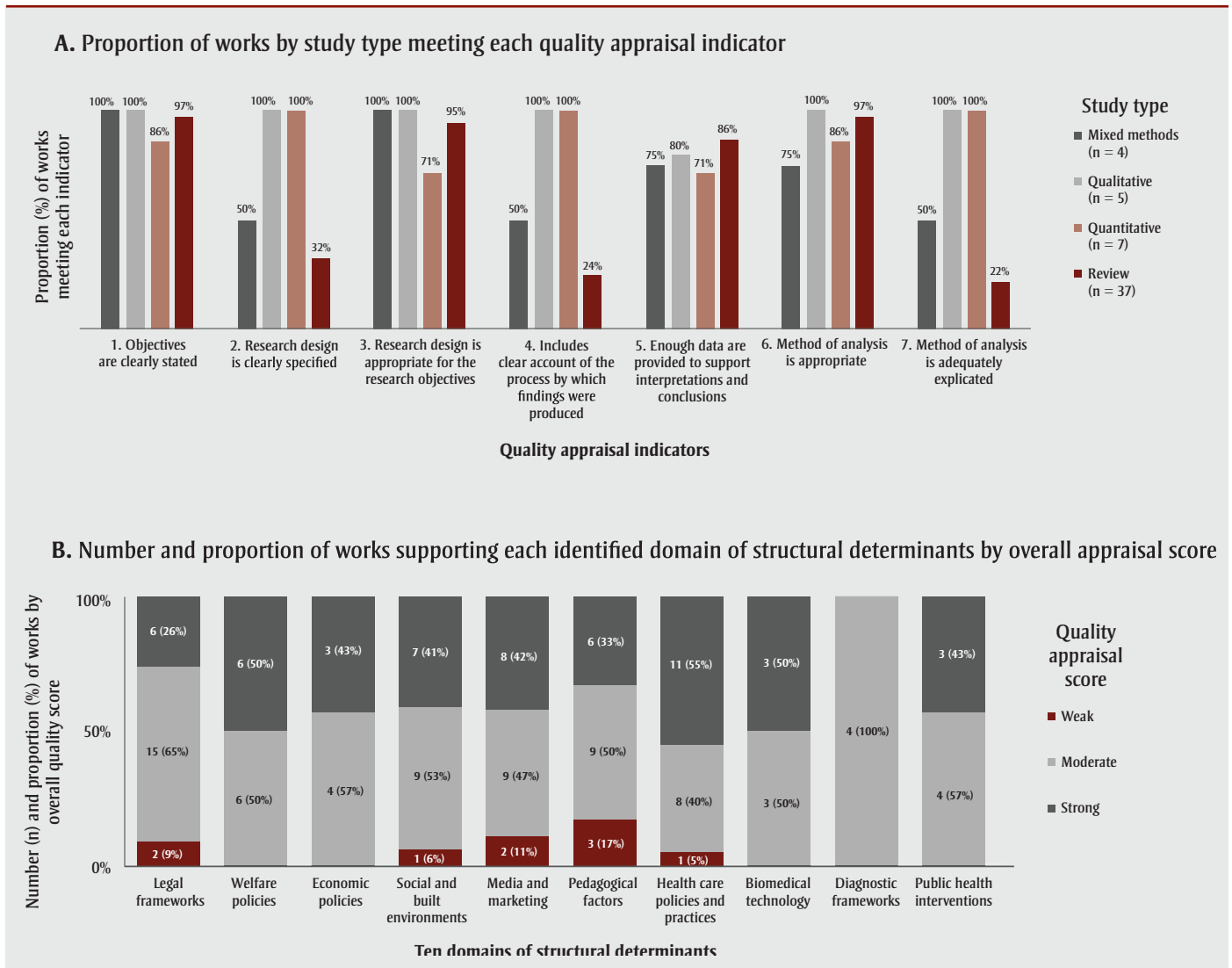
Lastly, among the works reviewed, 15 proposed conceptual frameworks that graphically represented at least one upstream determinant of stigma (Table 2).^{28,32,33,40-42,45-47,50,58,63,65-67} However, none were intended to provide a comprehensive summary of known structural determinants of stigma across populations. Identified frameworks were heterogeneous in form and content.

FIGURE 1
Flow diagram^a of data identification, selection and extraction



^a See Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ*. 2009;339:b2535. <https://doi.org/10.1136/bmj.b2535>. For more information, visit www.prisma-statement.org.

FIGURE 2
Summary of the quality appraisal assessment of identified works (N = 53), across study types and domains of structural determinants of stigma



However, most frameworks included an acknowledgement that stigma could be enacted at many levels, such as the individual (internalized), interpersonal, community, institutional and societal levels. Many frameworks also acknowledged that stigma is influenced by historical social inequities, such as those relating to systemic racism.⁴⁶

Structural determinants of stigma

Thematic analysis of the reviewed literature yielded 10 overall domains of structural determinants of stigma (Table 2): (1) legal frameworks; (2) welfare policies; (3) economic policies; (4) social and built environments; (5) media and marketing; (6) pedagogical factors; (7) health care practices and policies; (8) biomedical technology;

(9) diagnostic frameworks; and (10) public health interventions. A narrative synthesis of these domains and their relationship with stigma follows.

Legal frameworks

The domain of “legal frameworks” refers to factors pertaining to enacted or proposed legislation, including broad bills of rights, as well as downstream elements of criminal justice systems such as factors pertaining to policing, courts and corrections. Twenty-four works referenced terms that fell under this domain.^{29,31,32,34,35,43,45-48,51,54,56-58,60,61,66-72} Examples of terms describing structural determinants under this domain include (but are not limited to) “laws,”³² “legislative action,”⁴³ “legal protections,”⁴⁶ “Acts” (e.g. the United Kingdom’s *Mental Health Act* or *Equality Act*),³⁵ “policing” and “sentencing.”⁴⁵

Terms related to legal frameworks were mentioned in six existing frameworks.^{32,45-47,58,67}

Overall, legal frameworks were identified as potential levers to prevent the discrimination and status loss components of the stigma process. Legislation that enshrines individual rights in relation to employment,^{57,60} housing,⁴³ marriage,^{66,69} or immigration⁵⁶—to name some of the areas referenced in reviewed works—can prevent inequitable access to health and social resources.⁶⁷ On the other hand, factors relating to legal frameworks can also enable discrimination. This can occur when existing legislation fails to protect the rights of certain populations (people living with HIV are one prominent example⁴³), when legislation restricts rights for certain groups (e.g. barring individuals with

mental illnesses from serving on juries,³⁴ or prohibiting individuals with epilepsy from driving⁵¹), or when components of the criminal justice system such as policing or sentencing affect certain populations more than others.⁴⁶ The laws introduced during North America's "War on Drugs," referenced in several studies, are one of the most illustrative examples of the latter. These laws were described as influencing the stigma process by perpetuating negative stereotypes of individuals who committed drug-related crimes (e.g. using or selling illicit substances)³⁴ and enabling status loss of Indigenous, Black and racialized communities through disproportionate policing and incarceration.^{45,66}

Welfare policies

The domain of "welfare policies" refers to factors relating to the presence of, eligibility for and relative coverage or "generosity" of government-based structures, services and benefit programs that offer social, health or economic support for those in need. A non-exhaustive list of terms that led to the categorization of this domain included "welfare state," "insurance,"³³ "child welfare system,"⁴⁰ "benefits"⁷³ and "social security."⁵⁶ Twelve works used terms related to welfare policy,^{33,37,40,45,55,56,58,59,61,64,66,73} of which two also referred to these terms in proposed conceptual frameworks.^{33,40}

Overall, the provision and coverage of social supports (or lack thereof) was noted across the included works as contributing to the stigma process via two principle mechanisms: by shaping societal beliefs about service or benefit recipients, and by influencing vulnerable populations' access to protective and life-sustaining resources. Two examples of these welfare-related mechanisms include policies that disqualify individuals from welfare benefits or services based on certain statuses, such as those limiting immigrants' eligibility for social services based on documentation status or length of time since immigration,⁵⁶ and "War on Drugs" policies that disqualify offenders from social protections such as access to public housing.⁴⁵ Both types of policies were identified as reinforcing negative societal perceptions of those who do not "merit" societal support, therefore legitimizing exclusion and negative stereotypes.³³ Similar processes can occur if welfare coverage is restricted for certain conditions, such as when health insurance coverage is limited for mental health services³⁷ or gender-affirming procedures,⁵⁸ to name

two examples. Policies that disqualify certain populations from access to social supports contribute to the stigma process by creating systematic gaps in care and status loss for affected populations.

Economic policies

The domain of "economic policies" refers to factors pertaining to governmental influence on features of economic landscapes, including policies relating to labour market wage, income redistribution policies or budgetary funding allocation across sectors. Though minimum wage limits are set through legislation, they are grouped under this domain because of their effects on economic conditions such as hiring practices and labour market participation—factors connected to the economic landscape of political jurisdictions.⁷⁴ Eight works referred to terms pertaining to this domain,^{33,35,37,59,60,62,64,75} including one which integrated the concept of economic policies in its proposed conceptual framework.³⁵ Examples of terms relating to this domain included "funding,"⁷⁵ "tax,"³⁷ "investment,"³⁷ "economic development"³³ and "minimum wage."⁵⁹

Overall, governmental influence on economic environments was described as influencing the stigma process by determining how equitably (or inequitably) economic resources are distributed within a population—thereby both influencing socioeconomic positioning of groups and sending the implicit message to disenfranchised groups that their disadvantaged state is not worth addressing through public investment. One example of how economic policies can influence status loss was that limited budgetary resource allocation to health services and workplace support programs for those experiencing mental health issues can lead to gaps in care and social and economic exclusion for those affected.^{35,37,75}

Social and built environments

The domain of "social and built environments" refers to the characteristics of communities and places, at an aggregate level, in which individuals live, work or play—including population prevalence of certain health, social or economic conditions or elements of physical environments. Although they are likely influenced by elements that fall under preceding domains, such as economic or welfare policies, we consider socioecological environmental characteristics as a distinct domain. Seventeen works included terms pertaining to this

domain,^{34,37,39,41,42,48,53,57,61,62,64,66,67,70,72,75-77} including three conceptual frameworks.^{41,42,66} A non-exhaustive list of terms relating to this domain included "environmental hazards,"⁶⁶ "residential segregation,"⁴² "neighbourhood disorder,"³⁹ "prevalence" of a health or social condition (e.g. depression)⁷⁵ and availability of social meeting "spaces."⁴¹

Overall, studies describe how characteristics at the level of the local area and the community can influence the stigma process by contributing to both real and perceived social separation between groups and by generating social stratification in resource access. One example of these mechanisms is the way racialized and lower-income communities are segregated across residential neighbourhoods, which can reduce contact between stigmatized and nonstigmatized groups and reinforce perceptions of social differentiation.^{42,77} These exclusionary structures can contribute to economic deprivation,⁴⁸ differential exposure to hazardous environmental conditions such as unsafe work conditions, pollution or infectious disease,⁶⁶ and inequalities in access to health care facilities³⁴ or places of education and employment for excluded groups.³⁷ In contrast, social environments such as workplaces or residential areas with greater social diversity can foster more interactions between population subgroups, shift societal perceptions and beliefs and reduce inequities in resource access.^{67,75}

Media and marketing

The domain of "media and marketing" refers to factors pertaining to the content development and regulation of communications strategies of various forms, such as news media, broadcasting or advertising, designed for the purposes of entertainment and sales, or to promote changes in individuals' behaviours. Nineteen works used terms pertaining to this domain.^{27,28,32-37,48-50,54-56,60,61,67,76,77} Examples of terms relating to this domain included "media portrayals,"³² "media coverage,"³⁷ "media context,"³³ "commercial"⁶⁷ and "social marketing."⁵⁰ Five of the identified conceptual frameworks explicitly mentioned media- and marketing-related terms.^{32,33,46,50,67}

Media content and social marketing endeavours can influence the stigma process by shaping societal attitudes and beliefs, and by reinforcing or countering negative stereotypes, interpretations and attributions of blame. Media content can also serve as

a proxy for social interaction with stigmatized groups. If direct contact with stigmatized populations is rare, media may act as the primary or sole source of information that impacts judgments made in everyday life about these individuals.^{32,77} To illustrate, one example is media portrayals of people with mental illnesses that depict these individuals as dangerous, unpredictable and criminal, thereby inciting fear and perceptions of social differentiation (or “othering”).^{27,28,37} Another example is media portrayals that reinforce beliefs that certain groups are to blame for the harms they experience, and are therefore less deserving of social support and inclusion.^{48,54,60} These narratives can legitimize discrimination towards marginalized groups.^{27,32,35,77}

Media content can also reduce stigma by normalizing and promoting a greater understanding of certain behaviours or conditions.^{28,48} Media content presenting positive and inclusive messaging, and including factual information about the causes, treatments and experiences of individuals with mental illness, can shift population-level misconceptions and negative stereotypes.³²

Pedagogical factors

The domain of “pedagogical factors” pertains to the structure, design and implementation of educational content (e.g. curricula) and teaching initiatives, as well as educational institutions. A sample of terms relating to this domain included “trainings,”⁵⁸ “curricula”³⁷ and “educational programs.”⁶⁸ Eighteen works referenced terms that fell under this domain.^{29-32,34,37,38,40,43,46,50-53,55,58,68,72} Pedagogical factors were referenced in three conceptual frameworks.^{32,50,58}

These works described how both the form and the content of educational material can influence the stigma process. Overall, much like media content, pedagogical factors can influence the stigma process by shaping societal attitudes and beliefs. Across studies, it was noted that pedagogical material that promotes or enables direct contact between the public and stigmatized individuals,^{38,50,51} that tackles misinformation³² including negative stereotypes²⁹ and that normalizes stigmatized behaviours can reduce stigma by increasing awareness and empathy.

In contrast, the absence of training regarding certain health or social conditions can influence how care and services are delivered by professionals working in these fields, thereby contributing to discriminatory practices.³⁸ One salient example is the way insufficient training among health care providers on HIV transmission risk can lead to insensitive and discriminatory practices towards patients living with HIV.^{43,55}

Health care policies and practices

The domain of “health care policies and practices” refers to health system-level factors that pertain to the delivery of health care, including facility presence, accessibility and internal operational policies. Seventeen individual works referenced terms associated with this domain.^{26,28,31,33,34,37,40,41,44,45,48,49,55,60,64-66} Of these, five proposed conceptual frameworks that referenced terms relating to this domain.^{33,40,45,65,66} A non-exhaustive list of terms used included “health care system,”³³ “linkage to care,”⁴⁵ “healthcare quality”⁶⁶ and “institutional [health care] protocols.”⁶⁵

Overall, structural determinants relating to health care policies tended to fall under two categories: factors relating to the availability and relative accessibility of high-quality health care services, and factors pertaining to internal policies on health service organization and delivery. An example of the former is systemic differences in the availability of prompt,^{28,65} high-quality health care across communities, according to region of residence,^{40,66} financial capacity,⁴⁴ and linguistic or cultural background.³⁴ Examples of health care initiatives that may reduce stigma are programs that improve the accessibility of services, such as policies that help patients navigate health systems and adhere to treatment plans,⁴⁴ and outreach activities (e.g. home visits) for underserved populations.⁴⁰

Within clinical settings, institutional policies and structures can also contribute to discrimination against certain populations. Salient examples include physical structures, such as open-plan waiting rooms, and inter-staff communication policies that fail to protect patient’s confidentiality by allowing diagnoses to be overheard by others. These kinds of policies and structures can deter vulnerable populations from seeking care and can lead to the mistreatment of patients with stigmatized health conditions such as HIV⁵⁵ or TB.⁴⁸

Biomedical technology

The domain of “biomedical technology” refers to structural determinants that pertain to the development, existence, use and effects of technology or medical products that are provided to patients in clinical health settings to treat diagnosed health conditions. A sample of terms relating to this domain include “advent of effective treatment,”⁴⁸ “control of disease”³³ and “treatment side effects.”⁵⁴ Six works—including one conceptual framework³³—referenced determinants relating to this domain.^{26,33,48,54,78,79}

Overall, studies documented how the existence of biomedical technologies that can prevent, manage or treat health conditions such as HIV,²⁶ TB,⁴⁸ or cancer,⁵⁴ to name some examples, can influence the stigma process by changing the visibility of the condition, or by shifting societal beliefs around the dangerousness, severity and permanence of the disease as well as the risk of transmission. Studies also identified how the targeted promotion of biomedical treatments to certain populations because of their behaviours or risk profiles may lead to increased stigma. For example, guidelines that recommend that individuals engaging in riskier sexual activities use pre-exposure prophylaxis (PrEP) to prevent HIV infection may cause people to conflate the use of this technology with sexual promiscuity, resulting in potential and current users fearing and experiencing discrimination.²⁶

Diagnostic frameworks

The domain of “diagnostic frameworks” refers to structural determinants that pertain to developments in the understanding of disease etiology and classification. Seven works described determinants that relate to this domain,^{33,35,46,50,58,63,79} two of which^{33,46} proposed a conceptual framework that referenced terms relating to this domain. Examples of terms falling under this domain included “diagnostic practices,”⁶³ “DSM” (Diagnostic and Statistical Manual of Mental Disorders),⁷⁹ “genetic causal information”⁵⁰ and “medicalization.”⁵⁸

Overall, developments in societal understanding of how diseases emerge can contribute to the stigma process by influencing societal perceptions of where responsibility for disease emergence should be placed. One example of this has been research findings that certain conditions such as mental health disorders or diabetes can be linked to underlying genetic

factors. These developments in scientific knowledge can shift how societies attribute blame for incidence of these conditions.^{33,50}

Developments in societal understanding of how health and social conditions should be classified can contribute to the stigma process by influencing perceptions of what is considered abnormal. By labelling certain conditions as “disorders” or “diseases,” clinical diagnoses can imply the need for corrective treatment and facilitate the ostracizing of affected individuals. One illustrative example is how previous editions of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) pathologized homosexuality and gender nonconformity, contributing to negative stereotypes of and discrimination against LGBTQ+ communities.⁵⁸

Public health interventions

The domain of “public health interventions” refers to policies, programs and initiatives led or mandated and financially supported by public health stakeholders. Seven works, including one conceptual framework,⁵⁰ described determinants relating to this domain.^{42,49,50,60,63,67,77} Terms used in these studies included “health promotion initiatives,”⁵⁰ “public health initiatives”⁶³ and “community-based outreach interventions.”⁴²

Overall, studies described how public health interventions can influence the stigma process by shaping societal norms and beliefs both positively and negatively. For example, health promotion interventions that perpetuate messaging around the need to change certain individual behaviours (e.g. weight control, substance consumption) can have unintentional negative influences on societal beliefs by reinforcing narratives of blame and responsibility for individuals engaging in these behaviours or experiencing resulting health conditions.^{26,50} One illustration of this was public health messaging of zero-tolerance of alcohol consumption during pregnancy. This messaging can perpetuate negative societal beliefs of pregnant individuals who drink or of mothers of children with fetal alcohol spectrum disorder, and can lead to hesitancy among pregnant individuals who do drink to consult health and social services.⁶³

Community-based public health interventions can also influence the discrimination and status loss components of the stigma

process by intervening on resource distribution. One example of such interventions is community-based public health initiatives designed to improve access to health and harm reduction services for populations that may have less trust in medical establishments due to historical discrimination, such as individuals living with HIV or sex workers.^{42,60} These types of interventions are believed to be protective against stigma as they promote respect and inclusivity, and represent sources of empowerment for vulnerable populations.⁴²

Conceptual framework

The ten domains of structural determinants are summarized in Figure 3. This figure is a simplified conceptual framework that depicts the structural determinant domains identified in the reviewed literature, and how they were described in relation to the stigma process as defined by Link and Phelan.¹ Three large arrows flow from the structural determinants to the stigma process. These arrows indicate how structural factors can influence the stigma process overall, and more precisely by shaping the psychosocial “drivers” of the stigma process, which include societal beliefs and stereotypes based in fear, normative judgment or blame as well as lived experiences of discrimination and status loss.^{3,72}

In line with the reviewed conceptual frameworks and models, including the CPHO’s Stigma Pathways Model,³ Figure 3 also includes a graphical representation of the levels of population interaction at which stigma can be enacted, from the individual (internalized) to the systems level. Further, many studies and existing frameworks acknowledged that stigma processes are influenced by historical social inequities and discrimination,^{3,46,72} thus creating feedback loops between structural practices and stigma processes through time. To represent these dynamics, Figure 3 includes a large arrow that flows from the stigma process back to structural determinants.

Since this review did not involve an exhaustive literature search and further research is needed to confirm both the causal associations between factors and the effectiveness of various stigma-reduction interventions across populations and settings, Figure 3 should not be interpreted as providing a comprehensive summary of all possible structural determinant domains, nor as depicting firm

causal ties between each of the domains and elements of the stigma process. Instead, it was designed to provide a visual summary of the narrative synthesis presented in this review that can be used as a tool to structure policy discussions on ways to orient public health interventions to reduce stigma in Canada and abroad.

Discussion

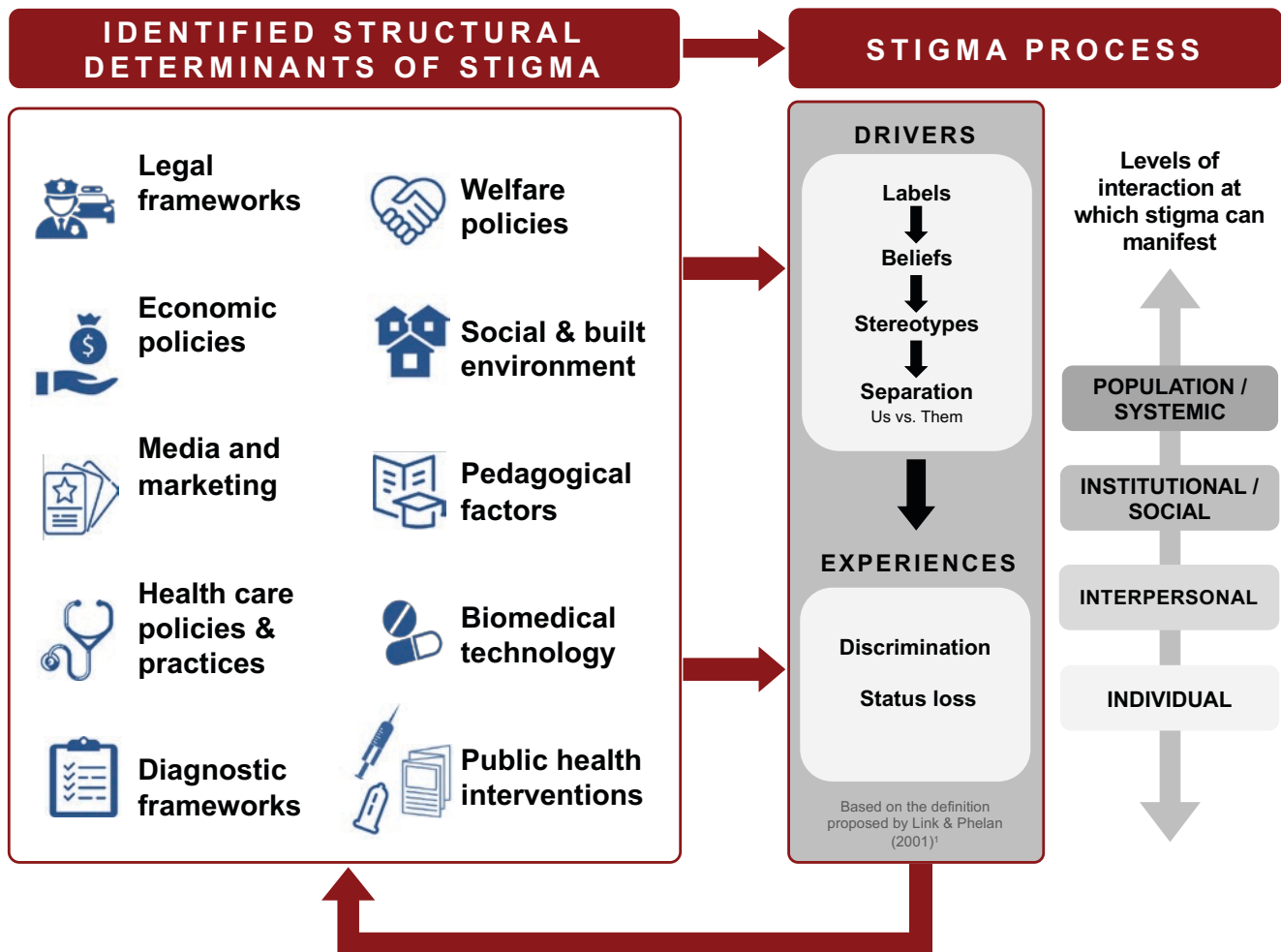
This rapid review was designed to identify and summarize structural determinants of stigma in Canada and other OECD settings, in order to guide future research and intervention. An analysis of findings from 53 works from peer-reviewed and grey-literature sources, 15 of which included proposed conceptual frameworks that mentioned at least one type of structural determinant of stigma, this review is the first known summary and conceptual framework of structural determinants of stigma across health and social conditions. Applying a thematic analysis of structural-level factors documented in the literature, we identified and defined 10 distinct domains of structural determinants of stigma. These domains were legal frameworks, welfare policies, economic policies, social and built environments, media and marketing, pedagogical factors, health care practices and policies, biomedical technology, diagnostic frameworks, and public health interventions.

This summary fills an important gap in the existing literature by bringing together findings from a wide range of fields of stigma research, and elucidating types of factors that operate at the contextual level to influence societal beliefs, negative stereotypes, discrimination or status loss across multiple social contexts and populations.¹⁴ This review and the proposed conceptual framework are tools that can be used to structure future policy conversations; the ten domains of factors and the governance sectors to which they relate can be systematically considered when seeking to address and prevent stigma. As structural-level factors can contribute to social stratification and health inequities,⁹ each identified domain merits attention.

Strengths and limitations

One strength of this rapid review is its focus on determinants of stigma across health outcomes and physical or social attributes. The resulting summary is therefore applicable to a wide range of substantive

FIGURE 3
Conceptual framework of identified domains of structural determinants and their relationship with the stigma process



Note: This figure provides a visual summary of the narrative synthesis presented in this review. It should not be interpreted as providing a comprehensive summary of all possible structural determinant domains, nor as depicting firm causal ties between each of the domains and elements of the stigma process.

domains of public health and social policy. Another strength is its focus on structures that could theoretically be modified through intersectoral public health intervention, with potential population-level impacts on the stigma process.^{9,15}

Nonetheless, this review has certain limitations. Due to the non-exhaustive search strategy of the rapid review design, relevant studies—particularly individual qualitative or quantitative studies—may have been missed by our search strategy, and thus, certain examples of structural determinants may have been missed as well. However, given that the majority of published works included in this review are evidence summaries and frameworks of structural determinants, we expect that

the contribution of missed studies is likely to be minimal.

Another limitation is that many of the works reviewed here did not include sufficient detail about the process by which their results were obtained and synthesized. The opacity of the data-generating process of these works calls into question the comprehensiveness of their findings. The resulting summary should therefore be used primarily as a conceptual guide rather than an exhaustive review. Including this element in future texts will be a necessary step for strengthening public health literature on stigma.

Finally, this review summarizes findings for the general context of OECD nations. We did not seek to explore structural

determinants within a specific jurisdiction. Since the impacts of structural determinants on the stigma process may be heterogeneous across local contexts, future research and policy conversations on ways to address stigma should consider how local eco-social or political environments may influence the structural determinants of stigma or the effects of potential interventions on stigma reduction.

Conclusion

This review complements previously published summaries of the influence of stigma as a determinant of health. Here, the structural determinants of stigma as a social outcome occurring across health and social conditions were explored. A rapid review of existing evidence suggests

that there are at least ten domains of structural determinants of stigma. The present review's conceptual framework of these domains can be used as a tool to structure future policy conversation across sectors on ways to reduce stigma at a population level.

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Conflicts of interest

The authors have no conflicts of interest to declare.

Authors' contributions and statement

All authors contributed to the methodological design of the literature review. AB and BHMF conducted the literature review search and identified relevant works. All authors extracted data, analyzed identified works and drafted the article. AB and CBF revised the article.

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