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Promoting Resilience Within Public Health Approaches for Indigenous Communities

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Introduction

Public health is "the science of protecting and improving the health of people and their communities" (Centers for Disease Control and Prevention, 2019, p. 1). Primary initiatives in public health are rooted in the research, prevention, and promotion of community wellness. These initiatives typically take place in four domains: social determinants of health, healthy behaviors, healthy communities, and population health assessment (Ministry of Health and Long-Term Care, 2018). These public health prevention and intervention initiatives can serve as a means to foster resilience at the individual, community, and systemic level. Within public health, resilience is recognized as the capacity for a community to "endure, adapt, and generate new ways of thinking and functioning in the context of change, uncertainty, or adversity" (Seaman, McNeice, Yates, & McLean, 2014, p. 23). Rather than theorizing resilience as an individual or collective trait, resilience in the public health sector is conceptualized as an interconnected process that involves many system inputs that contribute to success in the face of adversity. Many public health institutions around the world, such as the Public Health Agency of Canada (2014), have highlighted the need for research on resilience as a protective factor within a number of different areas including mental health outcomes, health security, and emergency preparedness and response. Resilience in public health goes beyond aiming to reduce negative outcomes when populations face predictable challenges, such as high levels of diabetes. A focus on resilience allows for the development of a system that, ideally,

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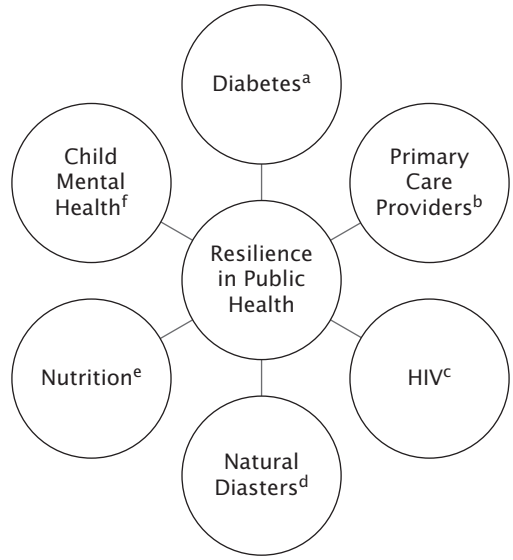

FIGURE 4.1 Examples of research areas addressed in public health resilience research.

can resist a multitude of stressors (Figure 4.1) including those that are unpredictable, such as natural disasters (Seaman et al., 2014).

This chapter will discuss the role of resilience in public health and how resilience can be identified and promoted through individual, community, and systemic assets. In particular, multisystemic approaches will be reviewed to describe how public health intervention in communities can use contemporary resilience models to promote primordial, primary, secondary, and tertiary prevention. Indigenous approaches to identifying and fostering resilience will be described, as such approaches may exemplify diverse contextual and cultural needs within a range of public health settings.

Public Health Promotes Community Resilience Across Levels of Care

Given that the goals of the public health sector are to promote broader health and well-being through primary, secondary, and tertiary care processes, efforts to enhance resilience can inform each level of care. Communities may utilize context-dependent methods to promote resilience; however, the broader presence of resilience may be identified in a similar manner across communities. Nine core adaptive capacities required for community resilience include: local knowledge, community networks and relationships, communication, health, governance and leadership, resources, economic investment, preparedness, and mental outlook (Patel, Rogers, Amlôt, & Rubin, 2017). Subcapacities exist within each of the core adaptive traits required for community resilience (See Table 4.1). Individually and collaboratively, these capacities create resilience within a community.

TABLE 4.1 Core Adaptive Capacities

Nine Core Adaptive Capacities Required for Community Resilience	Elements of the Capacity
Local knowledge	Knowing and understanding the community's vulnerabilities, training and public disaster education, collective efficacy and empowerment
Community networks and relationships	Connectedness, cohesiveness, trust, shared values, strong ties
Communication	Strong communication networks, diversity of mode and context of communication, risk communication, crisis communication
Health	Pre-existing health of a community, understanding and addressing health vulnerabilities, access to health services, quality care for physical and mental health issues
Governance and leadership	Infrastructure and services, public involvement and support, local participation in planning, response and recovery
Resources	Food, water, first-aid kits, shelter, transportation, essential machinery, financial and social resources
Economic Investment	Distribution of financial resources, economic programming, cost-effective interventions, economic development of postdisaster infrastructure
Preparedness	Risk assessment, drills, planning, mitigation measures
Mental Outlook	Attitudes toward uncertainty, hope, adaptability

Adapted from Patel et al. (2017).

Individual Assets

Individual factors contribute to resilience as they enable individuals to endure challenges with a higher likelihood of adaptability than those who do not possess those same traits (Hu, Zhang, & Wang, 2015). For example, higher levels of executive functioning, extraversion, spirituality, intellectual and cognitive abilities, and self-efficacy have been shown to act as protective qualities that increase resilience at an individual level (Campbell-Sills, Cohan, & Stein, 2006; Elliott et al., 2006; Kasen, Wickramaratne, Gameroff, & Weissman, 2012; Masten & Obradović, 2006; Windle, Markland, & Woods, 2008). While some of these qualities (i.e., cognitive ability and personality traits) can be genetically linked, there are other qualities that are developed due to experiences in early childhood, such as through secure relationships with a primary caregiver. Schore (2014), for example, demonstrated the necessity of early secure attachments in fostering self-regulation across the lifespan, which is a known precursor for resilience (Luthar & Eisenberg, 2017). While these traits are an important feature of resilience in individuals, having resources at the community level remains necessary for resilience to be fostered or demonstrated at the population level (Liebenberg, Joubert, & Foucault, 2017).

Community Assets

Ungar (2013) has suggested that resilience is better understood as "both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that

sustain their well-being, and their capacity individually and collectively to negotiate for these resources to be provided in culturally meaningful ways" (p. 14). According to the U.S. Department of Health and Human Services (2009), a resilient *community* is composed of healthy individuals who have knowledge about, as well as access to, necessary resources (i.e., food, water, hospitals, shelter) in both routine and emergency situations. Resilience definitions, however, can differ based on the population. For example, Indigenous communities in Canada (First Nations, Métis, and Inuit) have unique histories to be considered in relation to public health systems and resilience. Long-standing assimilation policies and practices (e.g., the reserve system, residential school system, "sixties scoop," etc.) have influenced, and continue to influence, the development, delivery, and utilization of services in many Indigenous communities (Health Canada, 2015). Even across Indigenous communities within Canada, individuals have varying experiences with regard to these assimilation policies and their impact on health systems (Health Canada, 2015). Knowledge of larger social and political influences suggests that communities may have different priorities when assessing or addressing community resilience within public health models. Protective factors within a community may mitigate the negative effects of adversity, and there are varying risks of adversity for different communities. Thus, so-called one-size-fits-all approaches have limitations in terms of their potential for effectiveness.

Many characteristics promote community resilience, including social cohesion, education, policy, and engagement with cultural practices (Cost, 2015; Kapucu & Sadiq, 2016; Raich, Lorenzoni, Stummer, & Nöhammer, 2017). Factors that foster community resilience are interconnected and often interdependent, with one factor alone not sufficiently preparing a community for any given disaster (Toombs, Kowatch, & Mushquash, 2016). Rather, a resilient community often demonstrates community cohesion, routine and structure, good social policies, and equity, as well as cultural and civic engagement opportunities prior to, or as a consequence of, exposure to adversity (Patel et al., 2017). For this level of resilience to be exemplified, there are efforts that must be put forth within the community. In Canada, public health initiatives and programs such as Healthy Babies Healthy Children are in place to foster resilience in newborns and their families (Ontario Ministry of Children, Community and Social Services, 2019). Programs such as this can improve early environmental conditions by encouraging attentive parenting or connecting parents with community resources when needed. Resilient babies grow up to be resilient children, and those children develop into resilient adults who eventually make up a resilient community. Strategies used in programs such as Healthy Babies Healthy Children aim to strengthen a child's traits associated with resilience (e.g., ability to verbally express needs, develop positive interpersonal connections, etc.), while also fostering characteristics of the child's environment that support the child's optimal psychosocial development (i.e., positive family relationships, supportive parenting behaviors, and prosocial educational settings; Ontario Ministry of Children, Community and Social Services, 2019). Similar programs, such as Aboriginal Head Start (2006), also a Canadian program, are tailored to building resilience in Indigenous children. These programs demonstrate how public health initiatives conceptualize resilience as a multifaceted process that requires a harmonious interaction between individuals, their communities, and their natural or built environments.

More broadly, many public health efforts facilitate resilience within a community. Community-based and governmental organizations measure base rates to recognize risk. This

can help inform the development of organizations' abilities not only to identify risk, but also to measure the influence of such risk within the broader organizational system. This can facilitate more effective decision-making processes and may create novel solutions to previous health concerns. For example, broad social initiatives such as employment assistance programs, safe injection sites, and emergency planning can be implemented to reduce initial risk to an individual, but also prevent further harm from re-occurring. Such services are in place to not only prevent, but to also adequately prepare for hardship (Frieden, 2014). The level of community resilience is indicated by the capability of a community to adapt and function adequately in the face of adversity (Patel et al., 2017). For example, adversity experienced within and/or between Indigenous communities can vary, affecting the way communities respond to ongoing stress. Elevated rates of historical residential school attendance of Indigenous children may influence the capacity of a community to respond to distress (Truth and Reconciliation Commission of Canada [TRCC], 2015). Attending a residential school has been noted to have negative intergenerational effects on health and well-being of both those attendees and their current offspring (Hackett, Feeny, & Tompa, 2016). Indigenous children were legally required to attend a residential school, and many were removed from their communities without consent from their families and were forbidden access to cultural or traditional activities. Ongoing and frequent physical, emotional, and sexual abuse at these institutions resulted in overall low well-being and disrupted overall psychosocial health long term in many of the children who attended (Hackett et al., 2016; Health Canada, 2015; McQuaid et al., 2017). The effect of these experiences on generations of Indigenous individuals, families, and communities may influence ongoing community response to current crises (Health Canada, 2015).

Differing historical contexts influence the level of resources that are required within a community to adequately address any health concerns. Indigenous communities that have reported self-government, greater involvement in land claims, and greater resources (including health, police, and cultural) have reported lower levels of suicide (Chandler & Lalonde, 1998). Cultural continuity, such as identifying strongly with a culture or engaging in cultural activities, has also been identified as promoting resilience (Toombs et al., 2016). For example, in communities where abuse was experienced by many members, a higher level of resources to address the resultant mental health concerns may be required, specifically as greater levels of adversity are experienced by future generations (Health Canada, 2015). Some suggestions on how mental health professionals can implement initiatives to support wellness with consideration of historical contexts of Indigenous communities, are provided by Boksa, Joober, and Kirmayer (2015). These include strategies such as recognizing long-term effects of historical trauma, understanding current challenges within a community, incorporating Indigenous concepts of wellness, and continuous support for sustainable program funding (Boksa et al., 2015). When a group of people have the ability to identify and direct resources to the areas with the greatest need within their communities, they experience greater levels of success (Health Canada, 2015; Maar et al., 2009).

Systemic Assets

There are particular assets that work collaboratively within a system to promote resilience. For example, Sherrieb, Norris, and Galea (2010), outlined four factors that most commonly

influence community resilience, identified as economic development, community competence, information and communication, and social capital. Within the system of a community, these factors were identified to promote the adaptive capacity to foster resilience. Of these factors, economic development and social capital were identified to influence community resilience the most (Sherrieb et al., 2010). Economic development encompassed the availability of community resources as well as the distribution and diversity of these resources. More diverse, equally distributed resources allow for more opportunity within the community, which can cultivate more resilience for that community. Economic development can open up opportunity for a community to gain social capital. Social capital, defined as the process by which individuals invest, access, and use resources embedded within social networks for the purpose of gaining returns, can be seen as a systemic asset for resilience in public health (Lin, Fu, & Hsung, 2001). Social capital fosters interpersonal relationships among community members and brings about trust, shared norms, shared values, cooperation, and reciprocity within a community (Aldrich & Meyer, 2014). These factors work congruently within a community system to promote how well that system can adapt to adversity.

Resilience-promoting policy in public health practice also cultivates systemic resilience. The resilience of a community can be affected through policy decisions, also known as primordial prevention, which incorporates procedures that influence social and economic health while also promoting physical resilience through building codes, engineering standards, land use planning, and assessing environmental threats (Morton & Lurie, 2013; National Academies of Sciences, Engineering, & Medicine, 2017). The development of policy and how policies are implemented within a community can also affect how adversity influences the broader community but also individual community members (Chandler & Lalonde, 1998).

Procedural aspects of community resilience can be found in the tools used to measure resilience within populations and display shared knowledge that are measured across populations systematically (Mitchell & Harris, 2012). Measuring the needs of a community in preparation for disaster can provide an important buffer against adverse events. However, the resources available vary between populations, and not every community enjoys adequate resources needed for disaster preparedness. Thus, efforts that leverage equality and maximize a shared research agenda across disciplines can be important for a community's overall resilience. Creating a shared research agenda, by incorporating various discipline perspectives, may generate more useful results across disciplines. Such partnerships can then be extended to a broader community and may incorporate international conceptualizations of resilience within a larger public health sector. Given the potential for high resources required to successfully engage in research within the public health sectors, future studies pertaining to resilience must be designed to best meet the needs of multiple fields. Interdisciplinary research can be particularly complex, given the tendency for many researchers to operate within specific research silos of their areas of expertise, and thus capacity-building within disciplines may be required (Allen-Scott, Buntain, Hatfield, Meisser, & Thomas, 2015). Further, "translating" results away from discipline-specific jargon when disseminating research may also improve the uptake of results between sectors, thus improving the accessibility of results.

Resilience as Multisystemic

Public health approaches suggest that there are multiple points for intervention that can be targeted for any presenting concern (see Figure 4.2). These areas of intervention can be broadly conceptualized as primordial prevention, primary prevention, secondary prevention, and tertiary prevention. These concepts will be elaborated within an Indigenous context, with relevant examples provided.

Primordial Prevention

Primordial prevention efforts refer to programs that target social and economic policies that influence communities' or individuals' health (Snair, Nicholson, & Giammaria, 2017). Integrative models of knowledge, such as the two-eyed seeing approach, have emphasized mutual respect and prioritization of various Indigenous and non-Indigenous health-based teachings (Bartlett, Marshall, & Marshall, 2012). The most effective public health

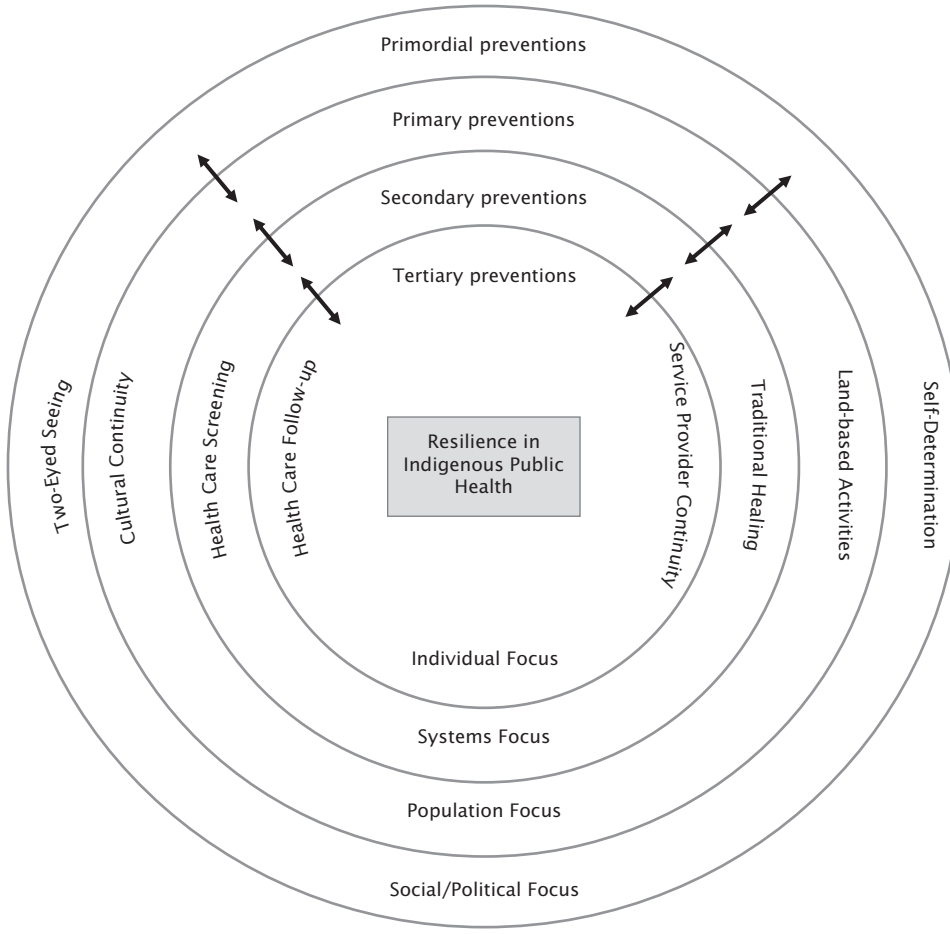

FIGURE 4.2 Broad public health factors for Indigenous people in Canada.

interventions are those that continue to bring together both knowledge systems in complimentary, respectful, and mutually beneficial ways. Integration and access to traditional practices and knowledge can influence the resilience of health systems for Indigenous people.

Community-level systems can demonstrate culturally appropriate care by integrating traditional knowledge keepers and spiritual advisors within a healthcare center. Such practices have been shown to increase resilience and overall beneficial outcomes for Indigenous healthcare users (Maar et al., 2009). Culturally appropriate care can emphasize holistic approaches that incorporate mental, physical, spiritual, and emotional health (Health Canada, 2015). Further, having these resources available and accessible in the same physical space emphasizes the complimentary nature of Indigenous knowledge and non-Indigenous medical practices (Maar et al., 2009). Although beneficial to healthcare users, implementation of these best practices can be challenging, as the resources required to develop and sustain such a health system is influenced by the capacity of community members to write grants or applications, obtain funding for services and employ a sufficient number of qualified staff to successfully implement these services.

Primary Prevention

The next level of interventions within a public health approach is primary prevention, which consists of population-based interventions intended to address the underlying causes of risk factors associated with poor outcomes. Within Indigenous populations, developing a sense of positive cultural identity and connection to culture acts as protective factors (Fanian, Young, Mantla, Daniels, & Chatwood, 2015; Hansen & Antsanen, 2016; Kral, Salusky, Inuksuk, Angutimarik, & Tulugardjuk, 2014). For example, Chandler, Lalonde, Sokol, and Hallett (2003), found that cultural continuity served as a protective factor among Indigenous children in British Columbia, Canada. Cultural continuity was deemed to be present when Indigenous communities retained control over government, education, police and fire protection services, and health services, as well as cultural facilities and land claims. Youth who resided in the communities with greatest numbers of these cultural continuity indicators were less likely to attempt suicide than youth in communities that had control over fewer services (Chandler et al., 2003). Although a replication of similar findings in other geographical areas is needed to suggest how these findings may apply to other Indigenous peoples, this study reinforces the long-held view that Indigenous-directed services within communities will benefit overall community well-being when services are implemented in ways that align best with cultural understandings.

Secondary and Tertiary Prevention

Secondary and tertiary prevention efforts both involve attempts to address adverse outcomes that have already occurred. Secondary prevention focuses on reducing the effect of an adverse outcome (e.g., detecting and treating a disease) or programs to return individuals to a previous level of functioning. Meanwhile, tertiary prevention refers to reducing the complications or harms of adverse outcomes (e.g., safe injection sites) as well as preventing reoccurrence (Baumann & Ylinen, 2017). For a public health system to be resilient, it needs to have the resources available at each level of intervention to address a population's needs

appropriately. If the system is focused solely on one area of intervention (e.g., secondary or tertiary prevention), then the resilience within the entire system remains limited. This was demonstrated in a study of three remote Indigenous communities in Northern Ontario (Minore, Boone, Katt, Kinch, & Birch, 2004). When patients presented to community health clinics with diabetes, they were referred to specialists (i.e., tertiary prevention) and subsequently received relatively consistent follow-up (i.e., secondary prevention). In contrast, patients who were identified as being suicidal were also referred to specialists (i.e., tertiary prevention) but often returned to their communities without consistent follow-up treatment (i.e., secondary prevention). Without such secondary prevention efforts, health services can become stuck in a crisis–response pattern, as exemplified by suicidality and mental health concerns within a community ultimately leading to ineffective use of all levels of care. It is acknowledged that the lack of capacity to develop a more resilient health system stems from funding systems that are short-term focused, as well as staffing deficits.

Barriers to Systemic Resilience

The ability of Indigenous communities to secure financial and human resources that can help to further the success of community members is influenced by diverse factors, including the written and oral literacy abilities of community members. Thus, the education available, and how it is delivered, within a community is a contributing factor to the resilience of public health systems for Indigenous people. When children and community members receive education that demonstrates a respect and consideration for multiple knowledge systems (i.e., non-Indigenous thought and Indigenous knowledge), children may be better able to identify where these systems can come together to be beneficial. This complimentary knowledge helps Indigenous children find success, which may influence later educational attainment (Sutherland, 2005). Demonstrating this complimentary knowledge may be penalized if the educational system does not value Indigenous knowledge at the same level as non-Indigenous knowledge. Nevertheless, retention of this complimentary knowledge can assist in developing community resources by allowing grant writers to speak the language of the granting agency, increasing the likelihood of being successful while presenting an argument for how different systems can benefit from one another.

Having an educational system that respects and values Indigenous culture may also potentially contribute to higher levels of engagement in schooling (Sutherland, 2005). Indigenous populations within Ontario, Canada, have a lower rate of educational obtainment as evidenced by fewer Indigenous people having completed high school or any other degree in comparison to non-Indigenous Ontarians (Kelly-Scott, 2016). In one Cree community, students reported that they were more likely to attend school if family members attend school (Sutherland, 2005). However, the ability of children to attend and succeed in school is influenced by the community's level of access to consumer goods, including food. When children have greater access to nutritious food, they are better able to concentrate on lessons and find greater academic success. In Northern communities where the delivery of food is dependent upon air transportation, the resulting costs of fresh fruit and vegetables can make nutritionally sound foods inaccessible (Skinner, Hanning, & Tsuji, 2006; Socha, Zahaf, Chambers, Abraham, & Fiddler, 2012).

It is possible that when communities have the ability to secure enough food for the year through traditional means such as hunting and fishing during the summer, a greater ability to engage in activities such as schooling and resource development may take place. Success within such land-based activities are often influenced by the level of traditional knowledge of animal patterns within the geographical area (Socha et al., 2012). Thus, if communities retain strong oral traditions about hunting practices and reside in an area that is similar to their traditional lands, it can be postulated that greater individual and community outcomes will be demonstrated. These can include increased social support, greater abstinence from problematic substance use, increased physical activity, and reduced stress (Liebenberg, Ikeda, & Wood, 2015; Rowan et al., 2014; Tang & Jardine, 2016). The practice of being on the land and obtaining necessary resources is also tied to spiritual health that affects an individual's overall well-being (Health Canada, 2015). The ability to obtain food through hunting is also influenced by the community's access to aides, such as firearms and transportation (i.e., boats and all-terrain equipment), as well as social and political influences that affect where, when, and what community members can hunt or fish (Socha et al., 2012).

Resilience is often a process that leads to growth and development of new knowledge and practices. An example of a community that is addressing the influence of food on the overall well-being of the community is Opaskwayak, a Cree Nation in Ontario, Canada, where a hydroponic garden provides residents with fresh produce throughout the year (Laychuck, 2018). Notably, the ability to sustain such as system relies on people who are knowledgeable about maintaining a hydroponic system, as well as access to clean and reliable water. This is an example of how community level resilience which is fostered through infrastructure and programming can be an attribute of an Indigenous community that also influences individual resilience. Having access to fresh fruits and vegetables can reduce the negative health effects of chronic diseases such as diabetes (Laychuck, 2018), which in turn can release funds to be used in other areas such as primary prevention programs.

The ability for communities to obtain and retain knowledgeable health specialists also contributes to their resilience. Indigenous communities in remote locations often have limited access to healthcare professionals such as nurses and physicians who provide services to for only short periods of time. These practitioners often experience isolation in their rural positions, making these less desirable positions to hold (Minore et al., 2004). The inclusion of Elders and knowledge keepers can help to lessen the emphasis on non-Indigenous models of health that are unapproachable for some while integrating a holistic model of wellness that is focused on balance between mental, physical, spiritual, and emotional health appropriate for Indigenous populations (Anonson, Desjarlais, Nixon, Whiteman, & Bird, 2008).

The conceptualization of resilience in public health as multisystemic is further complicated when urban Indigenous populations are considered. In the Canadian context, the majority of Indigenous people live within urban centers; however, they comprise less than 10% of the overall Canadian population (Kelly-Scott, 2016). Accessing and coordinating culturally appropriate services may be more difficult for these groups as urban Indigenous communities are wider spread and most services that are available tend to be embedded in non-Indigenous healthcare systems. Taken together, the examples presented within this section demonstrate how many systems influence the health outcomes for Indigenous people

within Canada. The political, education, ecological, and transportation systems have direct and indirect impacts on health systems.

Resilience Measurement

The preceding section discussed the various structural levels that define resilience from a public health perspective, providing insight into how interventions can be implemented in a multisystemic fashion. To further guide decision-making around what preventative actions and interventions are needed, accurate measurement of resilience is required. Public health institutions deploy public health surveillance, or the continuous systematized collection, analysis, and interpretation of health-related data, that is then used for planning, implementing, and evaluating public health practices (Thacker & Berkelman, 1988). The measurement tools used in public health surveillance can be used to discern how resilience is conceptualized and measured at a macrolevel. Further, an evaluation of existing measures can provide insight into what facets of resilience ought to be expanded on in public health surveillance and initiatives.

In the Canadian public health sector, for example, resilience is referenced as a method to support positive mental health outcomes (Orpana, Vachon, Dykxhoorn, Mcrae, & Jayaraman, 2016). There have been recent efforts to support the measurement of positive mental health outcomes and, as a result, the Mental Health Strategy for Canada developed the Positive Mental Health Surveillance Indicator Framework (PMSIF; Orpana et al., 2016). The PMSIF is a framework and affiliated list of indicators and measures of positive health associated with positive health outcomes. The PMISF can be utilized to inform public health programs and policies on the state of these outcomes. Within the framework, there are five broad positive mental health outcomes (self-rated mental health, happiness, life satisfaction, psychological well-being, and social well-being) and 25 related indicators at individual, family, community, and society levels. Individual level factors include resiliency, control, coping, and violence; family level factors encompass health status, income, and parenting style; community level factors describe aspects related to community involvement and social networks; and society level factors were inequality, political participation, and experiences of discrimination. At the individual level, a measure of resilience is incorporated conceptually, although this is currently indicated as "under development" with no information on how resilience will be defined or measured. While individual positive mental health outcomes used by public health institutions can serve as one way to measure the positive adaptation facet of resilience, this narrow view of the construct confines measurement of resilience.

Positive Outcomes in Comparison to Context-Specific Outcomes

By measuring resilience through positive mental health outcome data, there is the implication that positive outcomes are needed for resilience to be identified or accurately measured. This conceptualization can limit marginalized populations' measured levels of resilience. While individuals in marginalized communities may experience significant negative mental

health outcomes, they may be exceeding beyond what is expected given the level of adversities experienced (Kirmayer, Dandeneau, Mashall, Phillips, & Williamson, 2011). Rather than only relying on the presence of positive outcomes when measuring resilience, incorporation of additional indicators, including how a system or an individual adapts to adversity, can be included at the public health surveillance level. As an example, in the face of significant adversities that put individuals at risk for mental illnesses, the lack of significant emotional or behavioral problems may define successful adaptation, rather than high levels of positive functioning (Luthar & Cicchetti, 2000).

Indigenous peoples in Canada have endured chronic and pervasive effects of intergenerational trauma as a result of colonization (TRCC, 2015). These outcomes have put Indigenous peoples at risk for various negative health outcomes. The measures of positive mental health outcomes of the PMSIF may not capture the extent of resilience exerted for Indigenous individuals, as they can establish resilience through more diverse culturally-specific avenues. For example, culturally-specific programming and healthcare initiatives have been found to promote better psycho-social outcomes than interventions that were tailored for non-Indigenous people (Clifford, McCalman, Bainbridge, & Tsey, 2015). Within public health resilience promotion, further recognition of community perseverance, particularly for those regions facing widespread health difficulties, must also be considered when recognizing resilience.

Positive Mental Health in Comparison to Holistic Well-Being

Considering only positive mental health outcomes as a measure of successful adaptation limits our understanding of resilience to individual dimensions of mental health. As an example, individual resilience has been associated with overall improved self-reported health, nutrition, and sleep behaviors, as well as better outcomes associated with chronic illnesses and lower rates of healthcare utilization (Denisco, 2011; Ezeamama et al., 2016; Lavoie, Pereira, & Talwar, 2016). Success in such health outcomes, among many others, can be used to define levels of successful adaptation observed in individuals. Indigenous views of resilience often reflect not only resilience as a function of mental health outcomes but also spiritual, physical, and emotional outcomes (King, Smith, & Gracey, 2009). The intersecting nature of these aspects of well-being is recognized, and a balance between all four constructs is promoted for well-being to be realized (Assembly of First Nations & Health Canada, 2014). Using Indigenous measures to explore these facets can provide a more comprehensive view of resilience measurement, not only for Indigenous communities but also for non-Indigenous populations. The Native Wellness Assessment (NWA) serves as an example of a way to measure wellness as it considers wellness across the four directions in the Sacred Medicine Wheel, where a healthy person establishes balance of spirit, heart, mind, and body (Fiedeldey-Van Dijk et al., 2016). The NWA recognizes that engagement in distinct cultural activities may foster broader spiritual, social, and psychological well-being, thus expanding conceptualizations of health and prosocial activities. For example, individuals can self-report on dimensions related to hope, belonging, meaning, and purpose, through statements such as "I want to learn about the meaning of my life," "I pay attention to my physical well-being,"

and "My connection to Mother Earth makes the land I come from feel like home." These types of items can separate the NWA from other measures of well-being and may further understanding in facets that promote well-being within an individual, as well as what type of constructs foster resilience.

Case Study of Indigenous Assessment of Resilience Within a Public Health Service

Through an ongoing collaboration between a community-based mental health provider and researchers at Lakehead University, First Nations communities in Northwestern Ontario, Canada, requested information describing the current mental health status of local children and adolescents. Although many youth experience adversities, many are able to adapt and/or thrive across domains of functioning (Kowatch, 2017). Researchers aimed to understand current rates of mental health concerns and predictors of future mental health needs in these youth.

To meet these goals, Kowatch (2017) evaluated youth with the Child and Adolescent Needs and Strengths (CANS) assessment tool. In contrast to many commonly used instruments, the CANS is a broadband measure that assesses factors beyond specific deficits experienced by the individual. The CANS scale includes assessments of individual needs and strengths, caregiver needs and strengths, acculturation, language abilities, and wider domains, such as family, community, and education. The individual strengths domain, most notably, assesses established individual level indicators of resilience, such as talents or interests, participation in community events, and community involvement. Through an evaluation of the individual within other contexts (e.g., familial, community, education), there is an acknowledgement of the wider contributing factors to resilience and well-being. The CANS tool also allows the assessor to draw upon knowledge of specific community contexts (e.g., what services are available; the overall climate of the community; etc.) and incorporate these into an overall assessment of the individual. This specific measure thus incorporates some aspects of Indigenous conceptualizations of wellness, as it measures more holistic facets of an individual's well-being. Research outcomes supported the conclusion that individual resilience factors, level of functioning, and social determinants of health (including family and caregiver strengths and needs) are integral to assessments of youth and adolescents in an Indigenous community. Past research has also supported this multilevel view of wellness indicating that positive peer and family relationships, engagement in culture, and community support and connectedness were all aspects that promoted positive outcomes with Indigenous youth (Toombs et al., 2016).

This research holds Indigenous conceptualizations of wellness at the forefront, while applying research techniques to understand pockets of need within the community. It is an example of how resilience conceptualized within a multisystemic model attentive to cultural variation can be used to develop intervention plans that are sensitive to individual, familial, and community needs.

Process Measures in Comparison to Outcome Measures

Existing literature on resilience considers positive adaptation from a developmental perspective, highlighting that it should be viewed as an interactive process, rather than an outcome

(Egeland, Carlson, & Sroufe, 1993; Masten, 2001; Ungar, 2011). Measuring resilience through developmental processes, rather than specific outcomes, may be informative with regards to understanding how adversity may be acknowledged and managed within a system. When disruption of status quo or the generalized equilibrium within a broader health system occurs, public health initiatives can implement intervening methods or future preventative ones to foster resilience. The process by which resilience is generated needs to be explored and subsequently measured. This can exist systematically in a dose–response fashion, when one "amount" of a specific action can increase one "unit" of measured outcome variable. For example, preventative risk assessment of cause–effect relationships may be completed to reduce the initial likelihood of an adverse event occurring within a system. The "dose" of the intervention required to reduce the "response" of the adverse event can foster a more resilient system. If an incremental number of handwashing tutorials provided to staff systematically reduced rates of disease within a public health setting (such as one session reducing rates by 10%, two sessions by 20%, and so on), this could be a dynamic process measure of resilience using a dose–response relationship.

The First Nations Mental Wellness Continuum Framework

One model of how resilience for Indigenous communities has been visually portrayed as multisystemic capacity is through the First Nations Mental Wellness Continuum Framework (FNMWCF; Figure 4.3). The FNMWCF provides a model of holistic wellness conceptualized from a First Nations perspective (Assembly of First Nations and Health Canada, 2014). The FNMWCF reflects this view through a focus on resilience across a continuum of interacting levels of wellness, moving away from a strict dichotomy of sick or well. Presenting multiple levels of wellness allows for a nuanced approach and acknowledges the multitude of items both within and outside each system that contribute to Indigenous individuals' thriving. Bidirectional forms of influence are present between the levels of the model as is the acknowledgement of the interactions between levels of resilience. Some key components that are critical to resilience provided in the FNMWCF (including culture, social determinants of health, essential services, governmental organizations, community relationships, and individual factors) will be discussed to provide a greater understanding of the diversity of components that contribute to this multisystemic conceptualization of wellness.

Culture

Culture is the outermost layer of the model and supports all other areas of the FNMWCF in promoting wellness. Depending on the community, culture may expand to a connection with the land, a sense of connection with a broader Indigenous culture, or connection with the familial structure. The benefits of integrating culture and cultural practices into services and interventions has been noted across several studies (Leske et al., 2016; Minore et al., 2004; Rowan et al., 2014).

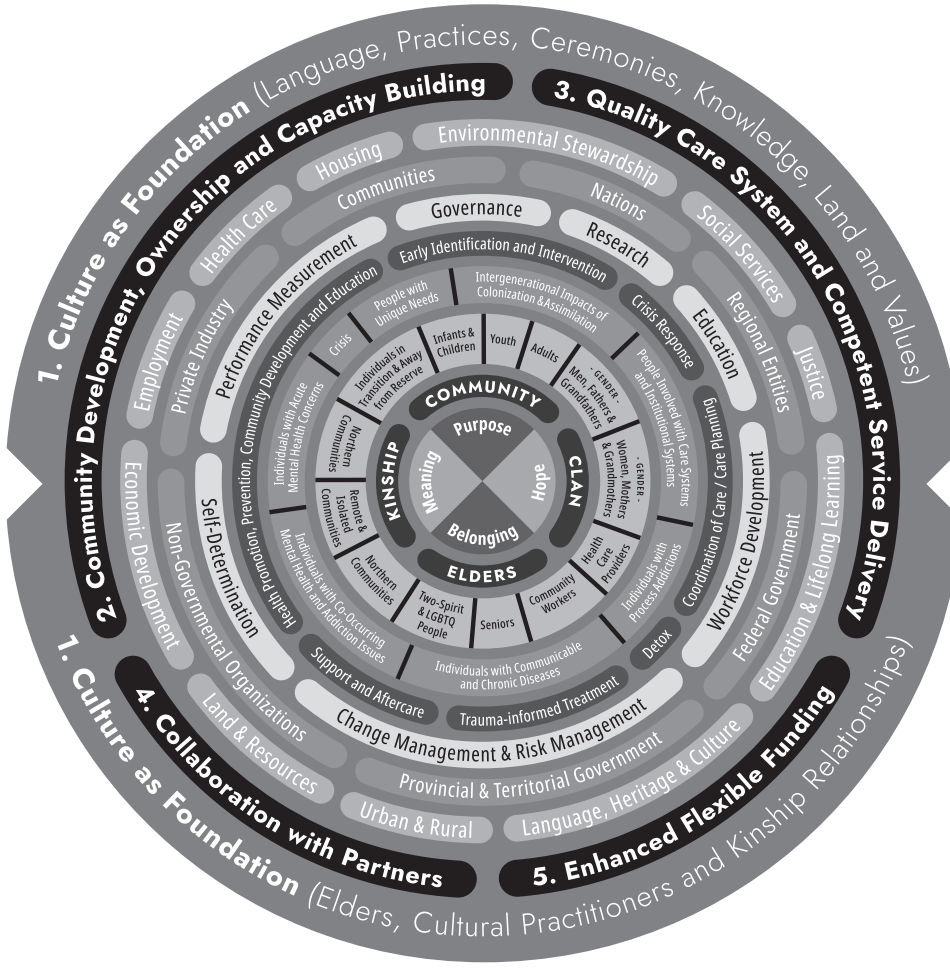

FIGURE 4.3 The First Nations Mental Wellness Continuum Framework. Reprinted from *First Nations mental wellness continuum framework* (Health Canada Publication No. 140358), by Health Canada, 2015. Copyright 2018 by Carol Hopkins, Executive Director of the Thunderbird Partnership Foundation. Reprinted with permission.

Indigenous Social Determinants of Health

Social determinants of health are environmental conditions, structures, systems, and institutions that influence health outcomes of individuals and communities (Reading & Wien, 2009). Social determinants, such as social services, justice, education, land and resources, employment, healthcare, and housing, are included in the FNMWCF. Each of these factors can be uniquely understood within the context of Indigenous communities. For example, 24% of First Nations people in Canada live in housing in need of major repairs, in comparison to 6% of non-Indigenous people (Statistics Canada, 2018). There is an overrepresentation of Indigenous victims within the Canadian justice system. For example, in 2015, Indigenous people accounted for 25% of all homicide victims in Canada, while representing approximately 5% of the Canadian population (Statistics Canada, 2018). Finally, within educational

settings there may be unique considerations for best supporting scholarly success among Indigenous youth, including encouraging self-reflection by students of current lessons, promoting learning through community engagement such as incorporating Elders, and teaching with open-mindedness and flexibility (Oskineegish, 2015). It is vital to consider these social determinants of health as important contextual features of wellness and resilience.

Government and Organizational Partners

To promote communitywide wellness, support from government and organizational partners is a necessity to create change and to support individual and community autonomy. Government and organizational partners can include private industry; nongovernmental organizations; communities; nations; regional entities, and federal, provincial, and territorial government systems. Policy change, research, and monetary support from these sources can increase access to resources which can promote resilience across multiple sectors. For example, in 2007, the Canadian federal government approved a motion entitled "Jordan's Principal," which was a child-first principle intended to prioritize access First Nations access to healthcare regardless of jurisdiction. This funding applies to all health services, including those that are considered to be beyond normative standards of care across federal, provincial, and territorial jurisdictions (Blackstock, 2012).

Essential Services

As in many other countries with histories of colonization, Indigenous communities in Canada are influenced by the repercussions of a history of the government's attempts to force assimilation (TRCC, 2015). Recognizing the impact of historical trauma (Wilk, Maltby, & Cooke, 2017) allows us to conceptualize the essential services individuals may need to foster wellness and resilience. For example, trauma-informed treatment, support and aftercare, early identification and interventions, and crisis response are all components of these necessary essential services. Active and appropriate essential services can combat fears of healthcare systems (Denison, Varcoe, & Browne, 2014) that some Indigenous people may develop as a result of past negative experiences with service providers (Goodman et al., 2017; Tang, Browne, Mussell, Smye, & Rodney, 2015). These supports should also promote individual help-seeking behaviors and increase the capacity for self-advocacy on an individual and community level.

Relationships and Roles in the Community

At a microlevel, the FNMWCF recognizes that each Indigenous person will have individual characteristics that will create specific strengths and challenges for moving toward holistic wellness. For example, Two-Spirit and LGBTQ people have a unique history, and some individuals may have close community involvement, in combination with commonly reported discriminatory experiences (Brotman, Ryan, Jalbert, & Rowe, 2002; Meyer-Cook & Labelle, 2004).

Individuals

At the core of the FNMWCF is a focus on the wellness of the individual, encompassed by concepts of purpose, hope, belonging, and meaning. These four components are shared

across many Indigenous cultures, although they may be described in different ways by different communities (Assembly of First Nations & Health Canada, 2014). At the individual level, these concepts represent the interconnection between physical, mental, spiritual, and emotional behavior (Assembly of First Nations & Health Canada, 2014). The wellness of any individual is complex, involving physical and mental health, safety, education, food security, connections with community and culture, and many other components.

The FNMWCF helps to visualize the interwoven components of individual wellness. Communities and organizations can derive the largest positive benefit through approaches at multiple systemic levels that improve individual resilience and wellness.

Conclusion

Public health approaches to resilience with sensitivity to Indigenous culture warrant further discussion and research, especially in the nonphysical domains of mental, emotional, interpersonal/community or spiritual health. To date, population level, public health approaches to resilience in the physical domain, such as vaccination programs, have been better understood. However, when it comes to public health approaches to resilience in nonphysical domains, it is not obvious how to intervene. What is clear is that for resilience to be fostered, individuals within populations require their capacity for adaptation in the face of adversity to be challenged within a developmentally appropriate range, but not be so overwhelmed as to result in maladaptive responses. This means that multisystemic approaches will be essential, particularly in the case of populations for which differential access to social determinants exist and for those who have experienced ongoing stressors that overwhelm the capability for individual adaptive responses in the context of limited resources for support in their communities. Conceptualizing individual-level resilience alone may absolve policy- and decision makers from making necessary investments in each of the domains that contribute to the overall resilience of individuals, families, communities, and nations. This need to think about resilience multisystemically is especially important for public health initiatives with Indigenous peoples.

Key Messages

1. Promoting resilience in public health prioritizes approaches that use multisystemic integration of primary, secondary, and tertiary interventions across public heath settings. These approaches may best reflect individual needs of various populations.
2. For Indigenous communities in Canada, resilience should be measured using both process and outcome-based indicators across public health sectors that reflect specific contextual needs.
3. Using community-based and culturally relevant conceptualizations of wellness and health, such as models used within the NWA and the FNMWCF can generate useful strategies to build resilience within Indigenous communities.

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