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# EQUITY IN ENVIRONMENTAL HEALTH PRACTICE: FINDINGS OF A PILOT STUDY



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The National Collaborating Centre for Environmental Health (NCCEH) and the National Collaborating Centre for Determinants of Health (NCCDH) are two of six National Collaborating Centres (NCCs) for Public Health in Canada. Established in 2005, the NCCs produce information to help public health professionals improve their response to public health threats, chronic disease and injury, infectious diseases, and health inequities.

NCCEH is hosted by the BC Centre for Disease Control, and focuses on health risks associated with the physical environment and identifying evidence-based interventions to mitigate those risks. Working with medical health officers, public health inspectors, and other environmental health professionals, this Centre identifies priority issues, produces summaries of research on health effects and interventions, and develops directories of information on current practice and policy.

NCCDH is hosted by St. Francis Xavier University and focuses on the social and economic factors that influence the health of Canadians. The Centre translates and shares information and evidence with public health organizations and practitioners to influence interrelated determinants and advance health equity through public health practice.

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## SUMMARY

- Patterns in the distribution of the social determinants of health (SDH) create inequities in the health of populations and communities. This has been identified as a priority area for all public health professionals, including those in environmental health protection.
- Certified public health inspectors (PHIs) are environmental health professionals who carry out inspections, enforce health protection regulations, and provide environmental health education and training.
- To understand the role of environmental public health practitioners in dealing with SDH and inequities, we conducted focus groups with PHIs in British Columbia and Nova Scotia.
- Discussions about challenges observed by PHIs revealed a variety of barriers related to SDH that affect business or facility operators' ability to comply with environmental health regulations. These included: socioeconomic status, differences in practices or knowledge associated with cultural differences, limited English language or literacy skills, psychosocial stressors, and geographic isolation.
- Organizational factors such as limited time or resources, inflexible policies, insufficient managerial support, and departmental silos added to PHIs' challenges in dealing with clients facing health challenges resulting from inequities.
- To help clients overcome barriers related to SDH, PHIs employed ad hoc strategies such as borrowing multi-lingual tools, using co-worker or family as translators, and referring clients to social services or external funding sources when possible.
- PHIs focused on relationship-building and open communication to work with clients who were facing barriers to compliance that relate to SDH that affect their ability to comply with public health protection regulations.
- Based on these results, we suggest that training on SDH, health equity and risk assessment/communication for PHIs, scaling up ad hoc strategies shown to be effective, improving cross-jurisdictional collaboration, and clarifying roles could help support the attention to health equity in environmental health practice.

## 1 INTRODUCTION

The **social determinants of health** (SDH) are the social, political, and economic conditions in which people live, learn, work, and play that impact health. These conditions change over time and across the life span, impacting the health of individuals, groups, and communities in different ways. **Health equity** means that all people (individuals, groups and communities) have a fair chance to reach their full health potential and are not disadvantaged by social, economic, and environmental conditions. **Health inequities** are differences in health associated with social disadvantages that are modifiable and considered unfair. **Disparities**, sometimes used interchangeably with health inequalities, are measureable differences in health between individuals, groups, or communities.<sup>1</sup> The pattern of distribution of the SDH results in differential exposure to health risks and vulnerability to conditions that compromise health and well-being, creating health inequities.

The role of environmental public health practitioners in addressing inequities may not be obvious, but inequities impact environmental health in many ways. Inequities can lead to differences in environmental exposures, as well as vulnerabilities to and outcomes from those exposures. These inequities also influence access to services that might address environmental risks and affect many of the compliance-related behaviours that practitioners oversee.<sup>2</sup> Public Health Inspectors (PHIs)\* may be able to improve compliance with health regulations as well as facilitate sustained behavior change by understanding and targeting specific inequities that may pose barriers to meeting health regulations. They are also in a position to advocate for regulations and adapt guidelines to better identify and address these inequities. In March 2013, representatives of the National Collaborating Centres for Public Health identified a need to support PHIs to effectively integrate equity into their work at the local or regional level.

\* Certificate in Public Health Inspection (Canada), CPHI(C), is the professional designation of public health inspectors in Canada. In British Columbia, they are known as Environmental Health Officers (EHOs); in NS, they may be referred to as Food Safety Specialists or Inspector Specialists. Public Health Inspector (PHI) is a general term that represents the professional designation and is used throughout this report.

Given the important role inequities play in health status, the **BC Centre for Disease Control**, the **National Collaborating Centre for Environmental Health**, and the **National Collaborating Centre for Determinants of Health** worked in partnership on this project to explore capacity and determine what kind of supports might assist PHIs to incorporate health equity considerations in regulatory practice.

### 1.1 HEALTH INEQUITIES AND ENVIRONMENTAL HEALTH PRACTICE

Provincial and national medical health officers have highlighted health inequities as a priority issue in Canada.<sup>3-5</sup> British Columbia's (BC) public health framework outlines a role for public health in affecting the SDH and reducing inequities, in part by addressing barriers to access for services.<sup>6</sup> Nova Scotia's (NS) provincial Health Equity Protocol points to a need to "build capacity among public health practitioners to understand the principles of health equity and social justice, develop critical analysis skills, and apply health equity approaches and tools."<sup>7</sup> Although health equity is increasingly referenced in such high level policy documents, it is not known how, or how deeply, these principles are incorporated into environmental health practice in either province.

PHIs are environmental public health professionals responsible for issues such as food safety, water quality, communicable disease and infection control, and sometimes housing, the built environment, or environmental health risk assessment. They inspect facilities, enforce public health regulations, and provide training and education. Food premises inspections occur in grocery stores, restaurants, and other food vendors. Some facilities, such as hospitals, day cares, and long term care facilities, may be inspected for foodservice as well as communicable

disease and infection control measures. PHIs also inspect drinking water systems, recreational water facilities such as public swimming pools and beaches, and personal services establishments such as tattoo parlours and esthetics salons. Some specialize in a particular area of practice such as food safety or drinking water, while others work on a range of issues in their local area. PHIs work with medical health officers, provincial ministries, and regulatory authorities, as well as business owners or operators of the facilities they inspect.<sup>8</sup> In most provinces, PHIs are part of the provincial public health system, working in local health units or regional health authorities. In others, notably Quebec and Nova Scotia, they work with municipal or provincial governments responsible for health, agriculture, environment, or infrastructure. How PHIs are positioned within the government and/or public health structure defines their scope as well as working relationships with other environmental and public health professionals.

Business owners or facilities operators may face disparities related to income, language, or education that create barriers to compliance with many of the regulations that PHIs oversee. How PHIs approach education and inspection activities could potentially mitigate or intensify the negative effect of these inequities, particularly if the PHI is unaware of how SDH and inequity create a barrier to compliance with environmental health regulations. It is therefore important that PHIs understand equity-related challenges that may contribute to non-compliance because it could affect the way they work with operators to achieve the environmental health protection goals. Increased understanding of how inequities affect regulatory compliance among specific populations may also be useful in developing more responsive (and effective) systems for responding to compliance issues or complaints.

## 1.2 KNOWLEDGE AND RESEARCH GAPS

There is little research that relates to health equity in the context of environmental public health practice, and the knowledge and capacity of PHIs to identify and address inequities is not known. A study of health promotion practiced by PHIs in BC suggested that inspectors often feel ill-equipped to address social issues in their work.<sup>9</sup>

A study in northern Ontario found that PHIs working with vulnerable populations through housing inspections felt that the definitions for what constitutes a health hazard in these situations were unclear, and they perceived the issues to be beyond the scope of their role as defined by legislative or health unit policy.<sup>10</sup> Ambiguity over roles and responsibilities could lead to dissatisfaction and frustration among PHIs.

## 2 OBJECTIVES

This pilot study explores how PHIs interpret compliance issues that may be related to inequities or SDH. It aims to identify ways to assist PHIs incorporate health equity considerations into regulatory practice by meeting the following objectives:

- 1) Increase understanding of how inequities and the SDH impact environmental health regulatory practice.
- 2) Identify needs and gaps among PHIs that affect their ability to promote health equity.

Longer term goals are for the study results to contribute to increased knowledge of how the SDH relate to the practice of PHIs, to identify resources that can support the incorporation of equity considerations into regulatory practice, and to inform future research related to environmental health practice in public health.

## 3 METHODS

The project took place in BC and NS. PHIs with a mix of experience (e.g., time in job, geographical location, area of specialization, etc.) were included. The study consisted of one focus group (1–2 hours) in each participating province to elicit information about:

- how equity relates to environmental health regulatory practice;
- which groups are vulnerable, i.e., face particular challenges to meeting health regulations in different settings;
- barriers to compliance for operators (e.g., culture, language, access to services, awareness of regulation, poverty, etc.);
- strategies employed to remove barriers to compliance (e.g., multilingual educational products);
- supports needed by practitioners to better address inequities; and
- ways practitioners can exhibit leadership around equity issues.

The following inclusion criteria were developed to recruit participants with a balanced mix of service areas, community size and income distribution, PHI experience levels, and gender:

- range of service areas (e.g., food, water, housing, environment)
- at least two males and two females
- mix of urban and rural/small service areas
- at least one person from low income, isolated, or underserved region
- at least one relatively new and one highly experienced inspector

Participants for each focus group were recruited with the assistance of a manager in their department or health region. The managers compiled a list of potential participants, oversampling by a factor of at least two, and invited interested parties to contact the researchers directly.

Focus groups were led by experienced focus group facilitators with knowledge of public health practice and policies. The facilitators used a semi-structured discussion guide that was developed by the investigators with the assistance of experienced environmental health managers. The discussion guide included broad questions about barriers to compliance, strategies used by PHIs, and institutional factors that related to PHIs' response to those barriers. Although the purpose of this research was to elicit information about how health inequities influence environmental health practice, specific terminology such as "equity" was avoided because the managers advised that it may not resonate with the direct experience of PHIs. Instead, the discussions were designed to focus on barriers and social, cultural, economic, or other challenges observed by PHIs.

The focus group discussions were audio recorded and transcribed. Thematic analysis of focus group transcripts was completed using QSR NVivo 10® qualitative analysis software. A priori codes based on the project objectives were used, and adjusted to fit emerging themes. Analysis of both focus group transcripts was completed by one investigator, with verification of coding accuracy done by the other investigator. Results that were most relevant to the topics of the SDH and health equity were further analyzed for inclusion in this report. Approval for this project (both focus groups) was obtained from the University of British Columbia Behavioural Research Ethics Board. The Fraser Health Research Ethics Board provided additional review and approval for the BC focus group, which was recruited from Fraser Health staff.

## 4 RESULTS

### 4.1 FOCUS GROUP PARTICIPANTS

Participants included 11 PHIs from two provinces. Six eligible participants responded to the call for volunteers in Nova Scotia. All were selected because of the low response rate, but one person withdrew due to a scheduling conflict. Eight eligible participants responded in British Columbia but one person was unavailable at the scheduled time. The remaining seven volunteers were selected but two did not attend due to illness or scheduling difficulties.

The Nova Scotia participants were recruited from across the province (population approximately 942,000). Because geographical distances are relatively small, it was feasible for PHIs from different communities to travel to Halifax for the focus group. PHIs in Nova Scotia are employed by provincial government departments and are less regionally focussed than in some other provinces. PHIs who work for the Department of Agriculture, Food Protection and Enforcement Division are called food safety specialists. They focus on food premises inspections in retail shops, food service outlets, hospitals, schools, and care facilities,

as well as providing food safety training. Inspector specialists are those PHIs who work for the Department of Environment and Labour and deal with a range of issues such as septic systems, water quality, occupational health and safety, waste diversion, or environmental protection. The six study participants included three male and three female PHIs, with a range of experience levels, representing both departments (three participants from each).

All participants in BC worked as environmental health officers for the Fraser Health Authority. Public health inspection in BC is organized by five regional health authorities and the First Nations Health Authority. The Fraser region is predominantly urban and suburban, with some small towns in outlying areas, and a population base of over 1.6 million people. The five participants included one male and four females, with 7 months to 25 years of experience as a PHI. Their current focus areas included drinking water systems, communicable disease, and general practice (e.g., housing, food premises, personal services, recreational water, etc.).

Participants were asked about their professional experiences as PHIs. Some had worked in more than one specialty, held a variety of professional roles, or worked in several geographic locations. They discussed events that may have occurred in different places and over long time frames, raising examples from provinces or organizational contexts other than where the focus groups were held.

### 4.2 FOCUS GROUP DISCUSSIONS

The focus group discussions were reflective and thoughtful, creating a space for both objectivity and emotion, and participants expressed passion for and dedication to public health protection. Facilitators avoided use of potentially unfamiliar terms such as “equity” and “social determinants of health,” instead raising questions about challenges or barriers to compliance. Overall, the discussions flowed naturally and participants shared numerous stories of non-compliance with public health regulations. Probing was sometimes needed to draw out the specific barriers perceived by the participants, as well as to elicit the strategies they used to work with people facing barriers. Participants readily shared their personal frustrations, both with their limited ability to address barriers in their role as PHI and with individuals who they felt were not adequately following regulations. They also expressed frustration about insufficient authority or lack of resources to address some issues, and empathy for individuals who they saw as carrying an unfair burden of challenges.

A number of issues raised by PHIs did not relate directly to SDH and health equity and therefore were not included in the analysis of results. However, these concerns clearly impacted job satisfaction and workload, thereby affecting participants’ ability to feel competent in addressing SDH and health equity related factors. They expressed concerns over the declining importance of the PHI role within the public health system, as well as competing interests between environmental health and other services. Some participants were critical of the structure of service delivery and difficulties collaborating between departments and professional roles. Others noted the extent to

which job-related stress can impact personal time, particularly when they are worried about unresolved public health issues. Some participants also reported difficulty communicating with various administrative levels.

### 4.3 BARRIERS TO COMPLIANCE THAT RELATE TO SDH AND HEALTH EQUITY

Participants discussed a broad range of issues that represent barriers to compliance with environmental health regulations. The barriers related to SDH and health equity included socioeconomic status, cultural differences, language and literacy challenges, psychosocial factors, and geographic isolation, all of which can contribute to health inequities.

#### 4.3.1 SOCIOECONOMIC STATUS

Participants highlighted financial restrictions as a barrier to compliance across a broad spectrum of settings (e.g., small water systems, food service, housing). Challenges related to seasonal cash flow and availability of funds at the time repairs were necessary, as well as overall inability to pay for required upkeep. This was a particularly salient issue for operators of small drinking water systems who operated on limited budgets and for small business operators with low profit margins.

*... when you go to a [small foodservice] place and you tell them that you need to fix your cooler... it's going to cost them \$2000 and the economy is really bad, and you can't even make that much in a day or maybe in two weeks... so to them it's a big cost.*

As inspectors, participants expressed personal dilemmas when tasked with enforcing legislation in situations where there were multiple or competing challenges. This was particularly salient when discussing challenges in small or remote communities.

*These people don't even have food, proper housing... and to say "oh yeah, put money to this instead of... because there is a risk you might have some issues with water"... you're malnourished, or this roof needs to be fixed. That's always been my dilemma.*

Socioeconomic status of employees was also noted. The cost of food handler courses can be prohibitive for some employees, particularly if they are not compensated for the cost of the course or missed shifts. Participants also reported seeing foodservice employees reporting for work when sick because they feared discipline or wage loss.

*You walk in [to a restaurant] and someone calls in sick, and they're like, "Get your [self] in here or you don't have a job." And this person is [at home] vomiting.*

Poor job security and lack of paid sick leave were considered to be health hazards that participants did not feel equipped to address through their role as PHI.

### 4.3.2 CULTURAL DIFFERENCES

Operators may have emigrated from countries where they did not have cooperative relationships with health inspectors. Participants felt that these individuals may be hesitant to admit their challenges regarding compliance because they are not accustomed to using the PHI as an educational resource or support person. While not all PHI-operator relationships in Canada are cooperative, participants specifically noted how it can take a particularly long time for some operators to trust that the PHI is there to help if they were used to a more adversarial relationship elsewhere.

*[The interpreter] came down and spoke to him, and sort of talked to him about the way the ... government works to assist the operator in getting to compliance, and not the other way around. And then they sort of start to understand that when I phone, I'm not trying to make trouble for them.*

Participants also noted that the food service industry is a common point of entry for new immigrants to Canada. Because food preparation is a familiar practice, operators may use the same food preparation or sanitation methods used in the home. They are often unprepared for the complexity of preparing food in a business capacity, creating stress and adding to their other challenges to regulatory compliance. Operators may also have different views regarding acceptable

levels of risk or they may be accustomed to different practices that are not in compliance with Canadian health regulations (e.g., different jurisdictions may have different requirements for sanitizers, or accept different traditional methods for preserving foods).

### 4.3.3 LANGUAGE AND LITERACY

Focus group participants reported that operators with limited English language skills faced particular challenges in understanding what was required in order to comply with health regulations. This was particularly the case when PHIs tried to explain the reasons why a particular requirement is important or how something should be done, rather than simple instructions about what needs to be done. One participant pointed out how much easier it is to give simple commands than it is to explain the details regarding how to do something when speaking to someone who does not speak the same language.

*It's one thing to tell them to fix the dishwasher, it's another thing to understand how the thing actually works.*

Low literacy, particularly low computer literacy, was also noted as a barrier. Some individuals may be able to read regulatory orders but not fully understand their meaning. Others have difficulty accessing online information that might help them, as well as trouble submitting information via email or internet forms.

### 4.3.4 STRESS-RELATED FACTORS

Stress was recognized as a potential obstacle to complying with health protection requirements. Focus group participants recognized that stresses related to running a business or operating a facility may distract the operator from attending to health regulations. It was also discussed that operators may experience personal individual or family issues, which participants referred to as "psychosocial factors," than can arise unexpectedly and lead to non-compliance with regulations that were previously met by that same operator. As well, stress may intensify any barriers related to other SDH they may be faced with.

### 4.3.5 GEOGRAPHIC LOCATION

Geographic isolation was described as an added challenge to compliance. There can be extensive delays in accessing equipment, parts, or expertise, and operators may be unable to follow the PHI's recommendations until parts arrive.

*It takes sometimes months to get that stuff into their establishment.*

PHIs who had worked in remote communities viewed food insecurity as an additional challenge, recognizing the need to balance access to foods with food safety.

*... if they were cooking with meat that they shouldn't be cooking with because they caught it. In a lot of those communities, that's what they lived on, and they couldn't get access to any other kind of protein.*

Participants described a tension between enforcing requirements for serving foods from approved sources and recognizing the value of certain foods for cultural practice or to contribute to food security.

### 4.4 ORGANIZATIONAL CHALLENGES TO ADDRESSING BARRIERS RELATED TO HEALTH EQUITY

Participants identified a number of challenges not specifically related to equity or the SDH that impact their ability to take SDH-related factors into account. General operational challenges such as high workloads, lack of resources, and staff turnover make it difficult for PHIs to give the extra time and attention required to assist individuals who face extra barriers.

Participants also described how prescriptive policies make it difficult for them to engage in context-specific risk assessment and management. PHIs are responsible for protecting the public against health hazards, and they reported feeling caught when addressing one hazard (e.g., food safety or lack of water testing) might lead to another (e.g., food insecurity). One participant described this tension in the context of a small water system operating on a very limited budget in an under-resourced community:

*A lot of policies we get, whether it's the act or regulations or guidelines, they make sense for big systems... but as you get smaller and smaller, it just doesn't work. And like I said, [a water budget of] \$1500 for the year, well that should be paid to, say, fix the pipes so they get water, not so they just bring someone in to assess [water system assets]. I just couldn't do this, especially because I see a lot of these places – trailer parks are a really good example – where it's like these people don't even have proper food, proper housing... and to say, like, "oh, yeah, put the money to this [regularly scheduled water assessment] ... because there's a minute risk you might have some issues with water" ... that's always been my dilemma, in ... enforcing or applying some of our regulations or policies... because it's just not ... feasible.*

Some expressed a desire for more explicit managerial support and guidance around the use of regulatory discretion when barriers are present.

*You can't just come in with these blanket things to all these very unique situations – you have to kind of look at it.*

Some participants working in the Nova Scotia system found that fragmentation of health inspection among different government departments created confusion around roles and responsibilities, and that authority over a specific situation was not always clear.

*It's like food safety specialist, environment, public health, Department of Health and Wellness... All of us have the same certification, but I could go to a market and see things... Am I supposed to call the manager or call an inspector?... Am I overstepping my bounds this way? I'm still a health inspector. This is still a health hazard. But the system is fragmented.*

Professional ambiguity can affect job performance in general, but will add to the complexity of also considering equity and social issues that are rarely clear cut or well defined.

### 4.5 STRATEGIES TO ADDRESS BARRIERS RELATED TO HEALTH EQUITY

Where barriers related to health equity were identified, participants were asked how they respond to individuals facing particular challenges. Common strategies used to help operators overcome barriers and engage in healthier behaviours included language translation tools, relationship-building strategies, referrals to other agencies, and risk prioritization.

#### 4.5.1 LANGUAGE STRATEGIES

As a way to get around language barriers, PHIs sometimes communicate through a staff member, friend, or family member of the operator. PHIs also cited the use of non-English resources from other jurisdictions as a way to communicate instructions. Non-verbal communication, such as visual aids and “acting out” specific tasks such as hand washing, was sometimes used to demonstrate what needs to be done and how to do it. The importance of using plain language to explain concepts, asking close-ended questions, making multiple visits, and repetition of consistent information were also discussed.

#### 4.5.2 SOCIAL STRATEGIES

Being heavy-handed was not seen as an effective means of overcoming barriers in order to reach compliance. Participants felt that building a level of comfort and trust between operator and PHI can allow operators to feel safe to go to a PHI for assistance to identify and remedy problems.

*You get to a point where they .... want to go the extra mile a bit... They're more likely to tell me stuff, especially if they know I'm not going to jump down their throats.*

PHIs reported listening to operators, letting them know up front what to expect, and then working with them to achieve it. Participants also tried to balance expectations for what an operator can realistically achieve with the immediate necessity of controlling health hazards.

*... you've given them a list and let them know this is what's wrong. I'm not going to throw you under the bus.... and I will work with you to get it done.*

Risk communication was used as a strategy to build relationships and set achievable goals. It was noted that when explaining the value of compliance, it can be helpful for a PHI to communicate to the operators the benefits to protecting their own health as well as that of the public.

#### 4.5.3 SUPPORT STRATEGIES

Participants stated that there are sometimes gaps in training or insufficient resources to help them enforce regulations, particularly when new legislation is introduced. The impacts of PHIs' resource constraints are magnified when business or service operators also lack the information or resources to meet existing or new regulatory requirements.

*... educating us more on what resources are around for some of these operators, in terms of ... whenever, you know, some new legislation comes around, where is the funding to deal with that? Not for us, but for those people who are gonna be affected.... if a restaurant operator, or maybe a swimming pool operator, has a major... work to be done, or correction to be made, these are some of things that you know, that some ... organizations somewhere... that can deal with it.*

As such, the creative use of funding was mentioned as a way to address more than one issue at a time (e.g., getting a grant to install a handicap washroom could also help with upgrades that improve sanitation). Participants also discussed the value of being able to make referrals, having contacts in other agencies, and knowing about various social service programs or funding that can be used to support operators to achieve compliance.

*It's difficult because we want a solution. We want these people to not have mold in their house. We want these people to get rid of bed bugs, yet [social services] only has so much funding to go around for so many people. ... But I will certainly like ask them [social services], well why can't you do this?*

These supports were frequently outside the health system, creating added challenge for collaboration between diverse institutional entities.

### 4.5.4 DISCRETION

"Progressive enforcement was mentioned when there are a number of issues to be addressed for an operator to be compliant. Noting public safety as priority and the need to deal with immediate health risks first, a progressive plan for improvement with timelines and a phased approach to meet compliance was applied as a strategy to avoid overwhelming operators who have many issues to address.

*Deal with immediate stuff first, letting them know there are other issues... not that we're negating them, but we're taking them into consideration that money's a problem, so let's deal with this first because it can make somebody sick. Then we go onto the other stuff.*

Consideration of community context influenced PHIs' assessment of risk. For example, game meat was the primary food source for some remote communities where participants had previously worked. They suggested teaching the community how to make this food source available in the safest way possible as a tool to balance culture and food security with food safety.

*Because they'll go out and catch their caribou or their moose or the rabbits, and none of that is really allowed to be in a food establishment. But if that's the only thing that they have, you want to educate them so that they do it in the best way to reduce their risk. I'm not going to say, no, you can't do that. But this is what you have to do to make sure it's safe, right?*

When multiple yet competing risks were present, participants reported weighting risks according to health hazard as a means of prioritizing corrective actions.

### 4.6 ORGANIZATIONAL OPPORTUNITIES TO ADDRESS HEALTH EQUITY

Most of the strategies discussed in the previous section were used on an ad hoc basis. Despite this, there was remarkable similarity in the strategies used by different PHIs, and by PHIs from different provinces, to deal with common barriers related to health equity. This suggests an opportunity for the development of resources and the implementation of consistent approaches at the provincial and regional or departmental level.

Oral translation services, as well as engaging other public health staff who speak different languages, were suggested as ways to address some language barriers. Borrowing or adapting existing resources was mentioned as a way to increase the number of multilingual print resources. PHIs expressed a need for additional resources that explain food safety, food handling (including tests for certification courses), hand-washing, equipment operation, and sanitization. Print materials with English alongside the translation were described as particularly helpful because the PHI and operator can work through the information together, increasing the likelihood that the details and reasons for them will be understood.

*So, we have some things translated into [language] that are laminated... with what it says underneath in English, and we just read this, "the reason you need to sanitize, is because," and then it's written down.*

Participants noted that implementation of their chosen strategies could be better supported by an organizational structure that supports interpersonal relationships, opportunities for debriefing and mutual support between PHIs, and connections with other public health staff across departments.

*The way that the organizational structure is, it doesn't lead to everything being ... meshed together nicely always.*

Managerial support for the use of discretion, as well as the reallocation of time and staffing to sufficiently address SDH-related factors, were suggested. Where PHIs had specialized roles, a mechanism to bridge the gap between one PHI's visit and another with different regulatory authority was also mentioned.

*... have some authority to say, here, I need you to do these sorts of things to just mitigate the risk until food safety can come and see it.*

Training for PHIs to specifically address SDH and health equity was described as a way to help PHIs recognize those issues. Participants felt they could better help barriers be overcome if they knew where to access funding assistance (e.g., to address bed bug problems or support water system upgrades). They also noted the value of additional training in risk communication skills, how and when to use discretion, and context-specific guidance (e.g., for rural, remote, or aboriginal communities).

## 5 SUMMARY AND DISCUSSION: HEALTH EQUITY IN ENVIRONMENTAL HEALTH PRACTICE

The results presented in section 4 above suggest that barriers related to income, culture, language and literacy, psychosocial factors, and location can impact compliance with environmental health regulations as well as with the ability of PHIs to facilitate change. Although participants described training- and system-related challenges that made it difficult to work effectively with operators facing these barriers, they also reported using a variety of ad hoc strategies to navigate these challenges.

Few regional differences in the types of barriers identified or in the strategies used to address them emerged from this data. Some differences occurred between the two focus groups, but given the small sample size, it was difficult to ascertain whether these were differences between the two regions or whether the discussions simply followed different trajectories. As such, the focus group data were reported together. A few differences were clearer. The BC-based PHIs reported frequent cultural barriers faced by new immigrants, particularly with respect to language, risk perception, and understanding of the role of the PHI. This is not surprising given the high concentration of new immigrants in the Fraser Health region. Jurisdictional challenges and system fragmentation came up repeatedly in the NS group. This is

likely due to the different structure in which PHIs are based in different government departments, whereas in BC they all work within the health authorities.

In the following sections, we summarize the barriers, frustrations, and strategies described by PHIs in this study and in the limited literature on this topic. We also pull out opportunities for environmental public health to more effectively address barriers related to equity and the SDH.

### 5.1 IDENTIFYING AND MINIMIZING BARRIERS

The barriers related to SDH and health equity that can affect compliance with health protection regulations (discussed in section 4.3) fall into two main categories.

One type of barrier was **communication challenges between operators and PHIs**. PHIs reported that communication and relationship-building—described as essential to achieving compliance—were particularly challenging in the context of some cultural differences and language barriers or when the PHI's role was not fully understood. Language and educational challenges have also been reported in Ontario as challenges to enforcement of food safety regulations.<sup>11,12</sup>

The second type of barrier related to operators' **personal circumstances that make it difficult to comply** with health regulations. Barriers such as lack of money, low education or literacy levels, reduced access to supplies, geographic isolation, and lack of appropriate experience or knowledge make it difficult to act on guidance from health protection staff. Personal stress also presents complex challenges to the achievement of standards in the name of public health protection. Similar barriers were identified in another study of health promotion activities among PHIs in BC.<sup>9</sup>

In addition to barriers faced by individuals, the focus group discussions indicated that the nature of the job can make it difficult for PHIs to address barriers related to the SDH. They reported feeling overstretched for time and resources. In some cases, there was confusion over jurisdictional authority, particularly in Nova Scotia where PHIs are housed in different government departments. They also found it difficult to prioritize where there were multiple health risks that were unlikely to be fully addressed in the short term. This may be particularly challenging when SDH (e.g., economic sustainability, food security, or culture, which are not regulated) need to be weighed against immediate health hazards that PHIs have a legislated mandate to address. This is consistent with findings from Ontario that identified the same challenges for PHIs in addressing housing-related health risks.<sup>7</sup> That study recommended defining the PHI's role in addressing barriers related to health equity that can affect compliance with health regulations. Lack of consistency in interpreting some regulations has also been recognized,<sup>10</sup> as well as the need for greater resource allocation and further development of partnerships as a tool to increase health promotion work by PHIs.<sup>6</sup>

### 5.2 PHI STRATEGIES TO ACT ON HEALTH EQUITY AND THE SDH

The strategies reported by participants to respond to barriers to compliance (section 4.5) also fell into two main categories.

One approach was to try to **find ways around barriers**, i.e., engaging in strategies to help operators comply with health regulations despite their SDH-related challenges. Strategies to

work around barriers focussed largely on communication and relationship building. PHIs reported that they considered the context of individual situations, engaged in open communication, and focused on listening and building trust with operators. They described this kind of approach as more successful in achieving compliance when compared to a more authoritarian approach. This is consistent with what was expressed by Ontario PHIs working in housing.<sup>10</sup>

The other main approach was to help individuals or communities **overcome barriers**. This largely involved ad hoc use of language tools and referrals to community services and funding sources. Although some participants had access to translation services, most of them used unofficial translators and borrowed print resources from other provinces. They also engaged their own administrative support personnel to help with literacy or internet access challenges. PHIs' use of these strategies suggests that there would be value in institutionalizing their approaches.

These results clearly suggest a need for increased access to specific tools to address barriers such as low English language skills. "On the spot" language translation services would relieve practitioners from having to rely on family members or neighbours without professional training in language interpretation. Where multi-lingual resources exist, they could be adapted for application in other areas without excessive costs. This need was echoed by PHIs in Ontario.<sup>10</sup>

The results also point to a need for more general organizational tools to help PHIs respond to equity- or SDH-related barriers. If formal communication networks and overviews of existing community services were available, PHIs who wish to make referrals would be more able to link individuals with services to help address their barriers. Collaborations between agencies such as social services, housing, emergency food programs, and community organizations are necessary for achieving optimal outcomes for vulnerable residents and populations because they can leverage the collective skills, mandates, and authority of a variety of agencies as they work towards improved health for residents.<sup>7</sup> Meetings with other agencies

at a variety of government levels,<sup>10</sup> as well as having an ongoing relationship with government and individuals, could enable PHIs to practice health promotion in their job.<sup>6</sup>

Some PHIs expressed frustration when prescriptive policies made it difficult to engage in context-specific risk assessment. Participants felt that progressive enforcement and adapting policies to fit the local context could support operators facing health inequities to reach compliance. This can limit social and economic impacts on operators and encourage them to take prospective, rather than corrective, action to control health risks.<sup>10</sup>

### 5.3 MOVING FORWARD: RECOMMENDATIONS TO SUPPORT INTEGRATION OF HEALTH EQUITY AND THE SDH IN ENVIRONMENTAL HEALTH PRACTICE

Tackling barriers related to the role of the PHI in addressing SDH would, theoretically, create conditions in which breaches of health protection are unlikely to occur, and therefore decrease the need for enforcement.<sup>6</sup> Training PHIs on how to address the SDH and health equity is a way to help them recognize the impact of these factors in the achievement of their work. PHIs who have been educated on these issues will be better able to recognize people who are facing equity-related barriers to compliance and therefore be able to respond more effectively. Participants in this study recognized some instances where inequities created barriers to compliance with health regulations. However, they described many scenarios in which they felt that operators were refusing to comply, such as engaging in evasive behaviours by hiding things or making excuses, who they perceived as refusing to comply with environmental health regulations. It may be that some operators who are perceived as refusing to comply are in fact facing barriers not recognized by the PHI.

Recognizing health equity related issues can help reduce barriers, and this needs to be supported with clear articulation of roles and responsibilities. This approach is being implemented in the UK, where environmental health

professionals began conducting risk-based assessments of housing conditions. They received training on SDH and have authority to require housing managers to improve living conditions. Although the outcomes of this approach continue to be evaluated, the combination of regulatory authority and training in areas relating to health equity shows promise for protecting health.<sup>13</sup> In Canada, such an approach might include providing clear guidance on risk-based inspection and the use of discretion across service areas (e.g., housing, food premises, water and sewage) guidance that could clarify PHIs' authority and responsibility when they work with operators to address risks in priority sequence.

Formalizing some promising practices currently implemented on an ad hoc basis will help PHIs work with individuals and communities facing barriers related to health equity. Adapting resources from other jurisdictions can minimize up-front costs and build on existing knowledge. Supporting PHIs to build interpersonal relationships with other environmental health protection staff and formalizing collaboration with other branches of public health will allow them to draw on colleagues for knowledge and support in addressing SDH-related issues. Cross-sectoral collaboration with social service agencies, community-based organizations, local government, and others can streamline the consultation process and make referrals more consistent. This carries potential for tapping into resources or other options that may be otherwise unknown to the individual PHI, such as alternate sources of funding to support operators in implementing actions to help meet compliance.

Overall, the participants in these focus groups expressed recognition of the challenges presented by the SDH and conveyed frustration with how those challenges impacted their ability to do their job. There was a clear disconnect between the needs observed by the PHIs in this study and the time and resources available to them. Many of them went above the call of duty, using personal time and connections. They also expressed concern for the public's health when barriers related to health equity prevented full compliance.

## 6 NEXT STEPS: INTEGRATING HEALTH EQUITY INTO ENVIRONMENTAL HEALTH PRACTICE

Addressing SDH and inequities in environmental health practice is a complex issue. Recognizing the impact of the SDH on the ability to comply with health protection regulations—and the PHI’s role in supporting action to address these—are important steps to reducing the health equity gap.

- An assessment of PHI knowledge of health equity and the SDH: Understanding how practitioners frame these issues and how practitioners understand the impact of inequities on compliance with health regulations would be the next step toward identifying resource and training needs.
- Integration of SDH and health equity into professional competencies for PHIs: Ensuring that professional competencies are up-to-date will reinforce the knowledge, skills, and functions that support the importance of the PHI role in addressing SDH and health equity.
- Further research to explore how barriers to compliance with environmental health regulations differ by province or region: This could highlight regional differences, both in the types of barriers faced and in strategies used to address them.
- Case studies or evaluations of strategies used in response to barriers related to health equity that can affect compliance with environmental health regulations: Effective strategies could then be scaled up for wider, more consistent application.

These would be valuable first steps in operationalizing the health equity goals outlined in many regional and provincial public health frameworks. The BC Centre for Disease Control is embarking on a program to examine ways to integrate health equity considerations in environmental health practice in BC. The National Collaborating Centres for Public Health will continue to respond to stakeholder needs for knowledge translation around health equity in Canadian public health practice and policy.

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