Healthy Canada by Design CLASP: Final Evaluation Report

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CONTEXT

Healthy Canada by Design (HCBD) was a joint initiative of the Heart and Stroke Foundation of Canada, the Urban Public Health Network, the Canadian Institute of Planners, the National Collaborating Centre for Healthy Public Policy, and six health regions in Quebec, Ontario and British Columbia. As one of the Coalitions Linking Action and Science for Prevention (CLASP) projects funded through the Canadian Partnerships Against Cancer, its goal was to "demonstrate the means of moving knowledge about the effects of the built environment on health into policy and practice, and to disseminate the results, thereby bolstering Canada's capacity to prevent chronic diseases".

The HCBD project was carried out under the overall coordination of the Heart and Stroke Foundation of Canada, between fall 2009 and March 2012. It involved cross-provincial activities and sets of projects taking place simultaneously in Peel Region, Toronto, Montreal and three health regions of southern BC: Vancouver Coastal Health Authority (VCH), Vancouver Island Health Authority (VIHA) and Fraser Health (FH). Each of these HCBD CLASP nodes involved a broad set of stakeholders across two main types of sectors: public health and the planning, land use and transportation sectors or municipal and/or regional governments. The community sector was also involved in some nodes.

On a parallel track, Healthy Canada by Design CLASP partners with national reach, such as the Heart and Stroke Foundation, the Urban Public Health Network, the Canadian Institute of Planners and the National Collaborating Centre for Healthy Public Policy took on an overarching Knowledge Translation and Exchange (KTE) role. Their activities involved dissemination of lessons learned and knowledge products through: webinars, conference presentations and workshops, meetings with key/strategic stakeholders, development of reports, production of websites and other dissemination tools and channels.

Both process and outcome evaluation were integrated into the overall HCBD project, linked to the overall CLASP program evaluation. This document presents the process and outcome evaluation findings of the HCBD evaluation.

INFORMATION SOURCES

The evaluation was based on frameworks for the overall HCBD project and each of the nodes, developed in 2010 and updated in 2011. Each of these frameworks contained a logic model, specifying the expected outputs and immediate, medium and long-term outcomes for each. By the end of the CLASP funding period, it was expected that some evidence of the following outcomes would start to be observed:

- Relationships built and sustained with local governments' departments outside of health and planners;
- Increased understanding and improved skills for influencing built environments to promote health;
- Increased awareness of and commitment to consideration of health in built environment decisions; and
- Inclusion of health concerns in built environment plans, policies, and decisions.

These outcomes were the main focus of this evaluation. In addition to project monitoring data collected by the project manager, the evaluation drew on several information sources:

- From respondents within public health:
    - Two annual self-assessment surveys, conducted in December 2010 and November 2011 (n's = 13 and 21, response rates 56% and 78% respectively)
    - End-of-project interviews with leads of five of six nodes (n = 12 individuals in 10 interviews),
    - E-mail exploration of policy impacts (six on-line interviews, led by the National Collaborating Centre on Healthy Public Policy).
- From respondents outside of public health:
    - Post-event questionnaires for participants in 16 meetings, workshops and activities conducted by HCBD for partners or KT throughout 2009-2011 (n =356);
    - Two surveys of project partners, in May 2011 and January 2102 (n's = 34 and 52 response rates 49% and 42%)
    - Focus group and observations in two node-specific data collections.

FINDINGS

Overall, the results of this process and outcome evaluation of the Healthy Canada by Design CLASP highlight both the potential and the challenges facing public health organizations in working with new partners and in new ways, to influence built environment factors that are determinants of chronic disease outcomes. The results showed that:

HCBD built and sustained relationships with local government departments outside of health

- All of the HCBD nodes were successful in engaging with partners outside the health sector. In addition to governments of 33 municipalities, cities, and towns, these included many provincial government departments: district, county or regional authorities; and national, provincial, regional or local non-governmental organizations.
- Relationships among HCBD partners shifted toward more networking, cooperation and collaboration.
- Although HCBD's partnerships were successful, expanding and diversifying over the CLASP funding period, other findings illustrated the high degree of complexity of the intra (among and within health sector organizations) and inter- (with planning sector)

organizational relationships that must be navigated for public health to be an effective actor in this policy area.

- Public health acted at several levels in its relationships with municipalities: interfaces were created or strengthened between health and planning professionals, and also between public health senior managers and elected officials or public bodies. Outside of CLASP funding, public health also played an advocacy role supporting citizen mobilization through support to influence municipalities.

HCBD increased understanding and improved skills for influencing built environments to promote health

- Over 80% of the partners surveyed agreed that as a result of their HCBD linkages, they had increased their understanding of the relationship between built environment and health, and about two-thirds agreed they increased their skills for working with public health to address health through the built environment. This was mirrored by participating public health staff's perception of a concomitant increase in their skills for working with the planning sector.
- HCBD nodes designed and carried out many workshops aiming to enhance understanding and increase skills among planning and other non-health sector audiences. Among 298 planning sector participants at 16 (all but three) of these events, over 90% said they were somewhat or very likely to change their practices as a result of what they had learned.
- Partners reported that they most often engaged with the public health staff in the node through sharing of knowledge, technical advice, expertise or recommendations. This type of interactive engagement was most likely to have helped the health and planning sectors in their region work more closely together, and more likely than the more traditional form of KT through dissemination of documents.
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HCBD increased awareness of and commitment to consideration of health in built environment decisions

- Using various types of relationships as they judged best in their contexts, each HCBD node engaged in multiple initiatives to influence the health of urban environments in their jurisdictions. These were grouped into three main strategies:
    - direct interjection of health issues into municipal and regional planning processes and policies
    - development of resources for or skills in planning units to enable them to include more health focus, as well as in public health units to include more built environment focus
    - conduct of applied research to develop tools whose eventual uptake is intended to stimulate policy actors to consider health focus.
- The evaluation identified evidence of increased consideration of health and influences on built environment policies or plans resulting from the first two of these strategies. This was not the case for the third, because the applied research products were only

completed at the end of the CLASP funding and have not yet been transferred to public health or planning practice.

HCBD is contributing to inclusion of health concerns in built environment plans, policies, and decisions

- Between one-quarter and one–third of HCBD participants were of the view that HCDB had already produced policy or program changes that could affect the built environment. This is considered an encouraging level, given the complexities described above and the time frame for policy changes.
- It is moreover to trace more consideration of health issues in planning to HCBD activities, often in official community plans but also in transportation and other types of planning.
- There was evidence of changes in planning policy, i.e., in the processes for developing plans, that are attributable to HCBD activities.
- Some tools produced by HCBD are proving to be useful supports to policy change. However, reflecting the early stages of this work, a minority of HCBD planning sector partners reported using tools, resources or other types of knowledge products developed by HCBD. Developing and disseminating tools and resources, the most traditional form of KT in public health, was the form least likely to be seen useful in bringing the health and planning sectors to a common understanding.

CONCLUSIONS

Overall, the activities undertaken by the six nodes show that public health can adopt many roles and operate at many levels in working with the planning sector in creating healthy built environments. Given the various dynamics internal to municipalities and the different historical and emerging relationships between RHAs and municipalities across the country, there are likely advantages and disadvantages to these roles in different circumstances.

HCBD engaged municipal governments and planning sectors in ways that would be expected in the long term to affect multiple population health outcomes, with a health equity lens. However, a learning made even clearer than it was at the outset through the HCBD initiative is that measurable success in producing healthier built environments and then improved population health outcomes is only attainable in the long term. As an interviewee pointed out: *"appreciable community-level change [in the actual built environment] can only happen over a 10-year planning spectrum"*: different layers of plans and sets of policy actors will come into play over time to fully enact healthy built environment policy. In this longer term perspective, HCBD likely contributed to catalyzing changes by building a foundation of skills and relationships for action on health and the built environment.

To continue to support this work, it would be beneficial to address a process issue raised by HCBD participants: there was consensus among nodes that they had not yet been able to learn enough about and fully benefit from the work carried out by the other nodes.

1. INTRODUCTION

1.1 Context

Healthy Canada by Design (HCBD) is a joint initiative of the Heart and Stroke Foundation of Canada (HFSC), the Urban Public Health Network (UPHN), the Canadian Institute of Planners (CIP), the National Collaborating Centre for Healthy Public Policy (NCCHPP), and six health regions in Quebec, Ontario and British Columbia. As one of the Coalitions Linking Action and Science for Prevention (CLASP) projects funded through the Canadian Partnerships Against Cancer (CPAC), its ultimate goal is to contribute to improving the health of individuals and populations, through integrated, cross-jurisdictional and inter-sectoral chronic disease prevention strategies. HCBD aimed to "demonstrate the means of moving knowledge about the effects of the built environment on health into policy and practice, and to disseminate the results, thereby bolstering Canada's capacity to prevent chronic diseases", by:

- improving understanding across sectors in Canada of the relationship between the built environment and health, including how policy, programs and public engagement can be used to develop healthier environments that will, ultimately, prevent cancers and other chronic diseases.
- making new, state of the art decision-making tools available to policy makers and practitioners across sectors.
- developing a new community of practice uniting NGOs, the public health community, and planning professionals in order to translate the literature linking the built environment and health into useable, practical tools.[1]

The HCBD project was carried out under the overall coordination of the HFSC, between fall 2009 and March 2012.

Both process and outcome evaluation were integrated into the overall HCBD project, linked to the overall CLASP program evaluation. This document presents the process and outcome evaluation findings of the HCBD evaluation.

1.2 Project profile

1.2.1 Activities

[1] Public Health and Built Environment Policies in Urban Canada. CLASP proposal, Heart and Stroke Foundation of Canada, Heart and Stroke Foundation of Canada, Urban Public Health Network, Canadian Institute of Planners, Smart Growth BC, National Collaborating Centre for Healthy Public Policy, July 2009.

Healthy Canada by Design involved cross-provincial activities and sets of projects taking place simultaneously in Peel Region, Toronto, Montreal and three health regions of southern BC: Vancouver Coastal Health Authority (VCH), Vancouver Island Health Authority (VIHA) and Fraser Health (FH). These components, described below, were termed nodes for the purposes of the evaluation. Each of the HCBD CLASP nodes involved a broad set of stakeholders across two main types of sectors: public health (usually embedded within a larger regional health care delivery system) and the planning, land use and transportation sectors or municipal and/or regional governments. The community sector was directly involved with two nodes. Each node was organized differently, depending on the structure of the public health organization in its jurisdiction. Within the broad HCBD framework, each component developed unique initiatives, aiming to develop relationships and capacity that were prioritized in their physical, social and political environments.

- **Toronto Public Health (TPH).** Toronto Public Health is a division of the City of Toronto, reporting to the Toronto Board of Health and serving a population of 2.5 million. Within TPH, responsibility for built environment and health policy work is concentrated in the Healthy Public Policy Directorate, but some related policy work, such as on injury prevention and obesity, is led through the Chronic Disease and Injury Prevention Directorate. For the HCBD project, TPH's Healthy Public Policy group managed two cross-provincial activities: a Residential Preferences Survey, and enhancement of a scenario-building software tool integrating GIS and health data. It developed a number of spin-off analyses and initiatives with various City of Toronto sectors using information from the cross-provincial activities as it became available, and conducted other studies and policy work, with a focus on health inequalities and urban built environment characteristics such as proximity to sources of air pollution, urban heat, green space, and transportation.

- **Peel Public Health.** Peel Public Health is part of the Peel regional government, reporting to the regional Council. It serves a population of 1.3 million, in which obesity and chronic disease have been prioritized since 2005. Peel Public Health's work in the CLASP focused on walkability and was led by its Chronic Disease and Injury Prevention Unit. It carried out two main projects under the HCBD CLASP: the development of a framework for Health Background Studies to be used in development applications, and the refinement of a Healthy Development Index. These tools are now in the process of being implemented in various planning contexts in the region, related to urban design, transportation, and sustainability. Peel Public Health worked closely with area municipal planning staff in identifying and prioritizing action steps for Peel Health accordingly.

- **Montreal Public Health.** The Montreal Public Health Department is a division of the Montreal regional authority (Agence de la santé et des services sociaux), serving the two million residents of the Island of Montreal. Within Montreal Public Health, the HCBD project was carried out by the Urban Environmental Health Unit, one of four reporting to the Director of Public Health, in close collaboration with a University of Montreal researcher and Applied Public Health Chair on Neighbourhoods, Lifestyle, and Healthy Body Weight. This node focused on understanding and developing tools for community-based initiatives to

promote green, walkable neighborhoods, concentrating its efforts in two socioeconomically disadvantaged pilot sectors close to downtown Montreal.

Across the three health authorities involved in southern British Columbia, HCBD involved design and implementation of strategies, tools and activities to strengthen health authorities' capacity to engage in land use planning processes and translate health knowledge into specific recommendations and actions that promote healthy built environments. Each of the nodes undertook specific initiatives in their regions, with some collaborative work between two contiguous regions of the lower mainland.

- **Vancouver Coastal Health (VCH)**: Vancouver Coastal Health is the regional health authority responsible for Vancouver and large parts of the Greater Vancouver area, with a population of over one million. It shares responsibility with Metro Vancouver with Fraser Health. The HCBD project was led by the VCH Population Health Team, through a Healthy Communities and Community Food Security function, now called Population Health Policy. The Population Health Team reports to the Chief Medical Health Officer for VCH. The focus for of HCBD VCH was on developing, testing and improving processes of working with the planning sector that could be used in future projects with other municipalities, aiming for inclusion of health considerations in community plans. It worked closely with two municipalities in its region, and began collaboration with a third near the end of the funding period.

- **Fraser Health:** Fraser Health serves 1.6 million people on BC's southwestern mainland, covering the eastern half of the greater Vancouver Regional District as well as the Fraser Valley Regional District. . It has adopted a Healthier Community Partnerships model to enact two core programs, Healthy Living and Healthy Communities, within which the HCBD initiative was under the responsibility of Medical Health Officers and Community Health Specialists who work in Healthy Living Teams. Environmental health Officers under the Health protection organizations were also linked in. With a focus on overall healthy communities, the HCBD project in FH aimed to develop its internal capacity for healthy built environment action, as well as capacity to work with municipalities. It developed resources for education and engagement based on its experienced that can support development of documents and policies with the many other communities in its region. It worked with one municipality on a pilot basis, and began extending that work to others by the end of the CLASP funding.

- **Vancouver Island Health Authority (VIHA):** This regional health authority serves Vancouver Island, the islands of the Georgia Strait, and the mainland communities north of Powell River and south of Rivers Inlet, with a total population of about 770,000. When the HCBD project began, it was part of a Population Health Observatory. Structural changes during the project lifetime resulted in it being part of the Planning and Community Engagement unit on the corporate services sides of the department, under the direction of the Chief Medical Health Officer. VIHA's focus included facility design, urban design, and air quality. It was involved in increasing the health promoting design of a major new health care facility in Victoria, and

worked incorporate air quality and health evidence into transportation planning and greenhouse gas management.

Cross-provincial activities

Residential Preferences Survey (led by Toronto Public Health). This project consists of development, conduct and analysis of a population survey to gauge public demand for various neighbourhood settings, including more walkable and more vehicle oriented neighbourhoods, and to compare stated preferences with revealed demand in both the Greater Toronto Area and the Greater Vancouver Regional District. The survey was conducted in 2011, draft results were being analyzed at the time of writing, and reports will be released in March 2012.

Enhancement and testing of an existing a scenario-building software tool (led by Toronto Public Health). A publicly accessible, existing software tool which decision makers can use to evaluate the health impacts of land development scenarios was enhanced using Toronto specific geo coded data. A pilot test of the tool was conducted in February 2012 in Toronto, ON, and Surrey, BC; it will be available for diffusion in April 2012.

Knowledge transfer and exchange activities. In addition to the node-level and cross-provincial activities, the HCBD CLASP developed and implemented a knowledge transfer strategy. Its activities included: 1) Sharing of knowledge, learning and tools amongst CLASP partners: through annual day-long colloquia and a series of two-hour webinars 2) Knowledge transfer amongst actors in: chronic disease prevention, planning , municipal governments, provincial governments, federal government agencies such as the Public Health Agency of Canada, and the general public: through targeted conference workshops and presentations ; 3) alignment of activities with the knowledge translation mandates of the National Collaborating Centre on Healthy Public Policy and other relevant partners, through partnering on KTE opportunities ; 4) HCBD web presence, including a library of tools and resources developed through and/or made available by the CLASP components and accessible through the UPHN website; the HSF public website and the Canadian Institute of Planners professional website. (These activities were not a main focus of this evaluation).

1.2.2 Resources

The resources available to the HCBD CLASP included $2.2M in funds provided by CPAC, PHAC and HSFC over 2.5 years, as well as in-kind resources allocated by each of the CLASP members and each of the node sites, amounting to $1,423,808.

Overall coordination was assured by a Project Manager working under the direction of the Heart and Stroke Foundation's Director of Health Policy, and linked to the Project's Executive Committee. The latter group consisted of: the Chair of the Urban Public Health Network's Built Environment Working Group, the Director of Health Policy at the Heart and Stroke Foundation of Canada; the CLASP Project Manager at the Heart and Stroke Foundation of Canada, and the

Manager of National Affairs at the Canadian Institute of Planners. The table below summarizes the participation of partners in the project Steering Committee.

Table 1: HCBD Steering Committee membership

	No. of representatives (ever) in HCBD Steering Committee
Heart and Stroke Foundation	6
Canadian Institute of Planners	6
National Collaborating Centre Healthy Public Policy	1
Urban Public Health Network	1
Peel Region	6
Montreal Public Health	6
City of Toronto	7
Vancouver Coastal Health	4
Fraser Health	4
Vancouver Island Health Authority	4

The CLASP funding was provided to the BC nodes up until December 2010. Funding for 2011/12 operations was obtained for them from two foundations: Bullitt Foundation and the Real Estate Foundation of BC. Moreover, in 2012, the Canadian Institutes for Health Information contributed an additional $20,000 in funding for KTE activities led by the Heart and Stroke Foundation under the CLASP initiative.

2. EVALUATION STRATEGY

2.1 Overall approach and focus

The evaluation was guided in a participatory process, by an Evaluation Working Group (EWG) made up of: representatives of the CLASP components, the CLASP Knowledge Translation and Exchange Working Group, and the project manager. The evaluation was based on frameworks for the overall HCBD project and each of the nodes, developed in 2010[2] and updated in 2011[3]. Each of these frameworks contained a logic model, specifying the expected outputs and immediate, medium and long-term outcomes for each. The overall HCBD logic model is shown in Figure 1. As the shading in the model indicates, the evaluation is focussing on the production of outputs and immediate outcomes. This recognized that most built environment changes that

[2] Montréal CLASP-HCBD Evaluation Framework, Peel Region CLASP-HCBD Evaluation Framework, Toronto Public Health CLASP-HCBD Evaluation Framework, Vancouver Coastal Health CLASP-HCBD Evaluation Framework, Vancouver Island health Authority CLASP-HCBD Evaluation Framework, Fraser Health CLASP-HCBD Evaluation Framework. All August 2010.

[3] Healthy Canada by Design CLASP: Overall Evaluation Framework, Update: September 2011

can impact chronic disease determinants, the ultimate objective of the CLASP, would not be observable in the funding period. Overall, the expected outputs of HCBD were:

- Development of sustainable and effective collaboration mechanisms and relationships between health and planning systems;
- Development of new content expertise about health impacts of the built environment among health, planning and community sectors;
- Development of new process expertise and collaboration mechanisms for integrating health and built environment among health, planning and community sectors
- Production of tools and resources that are relevant and useful to health, planning and community sectors and systems; and
- KTE activities and products: Identification and sharing of learning across sites through colloquia, conferences, publications, website, and synthesis report.

By the end of the initiative, it was expected that some evidence of the following outcomes would start to be observed:

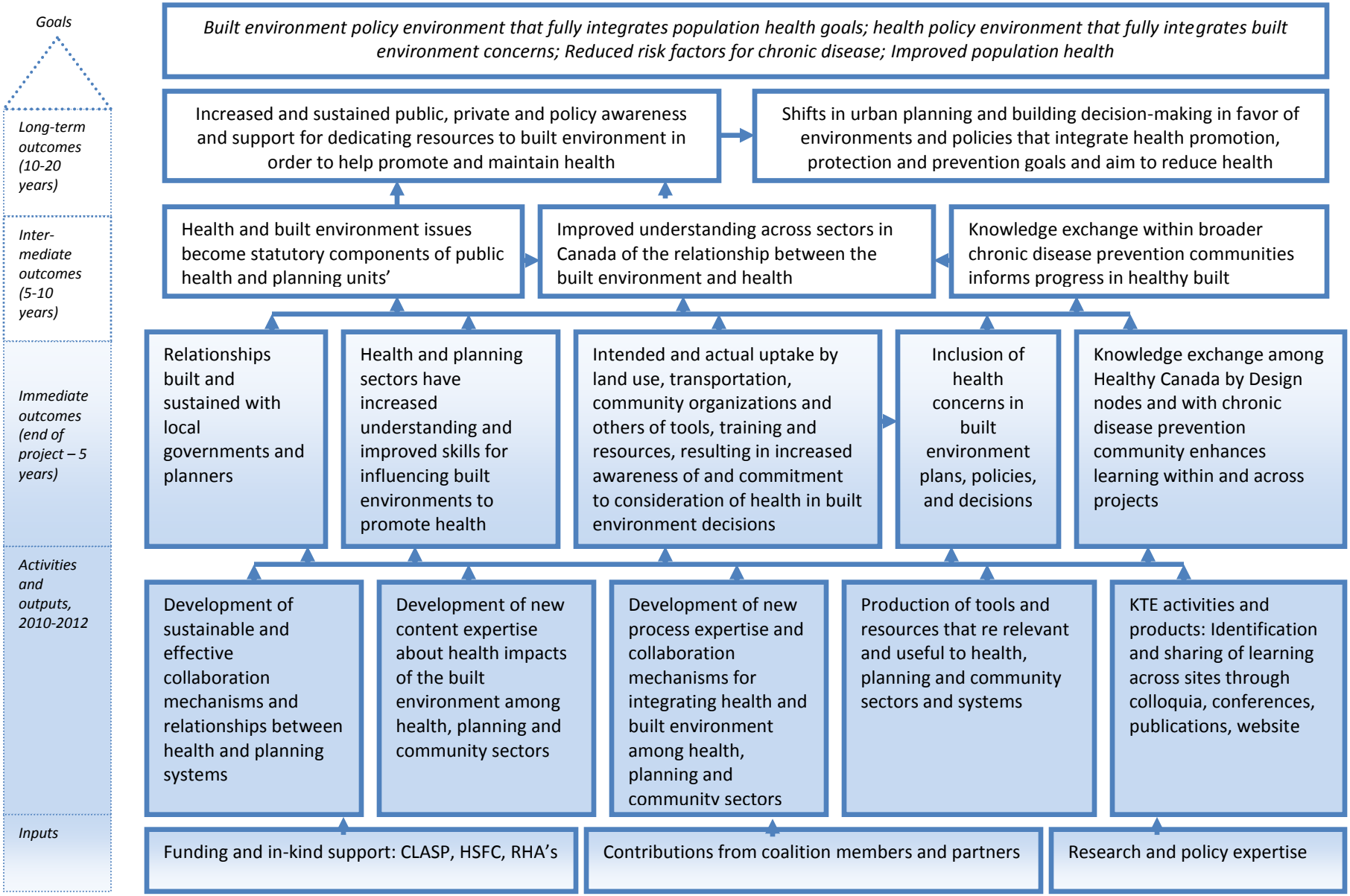
- Relationships built and sustained with local governments and planners;
- Increased understanding and improved skills for influencing built environments to promote health;
- Increased awareness of and commitment to consideration of health in built environment decisions; and
- Inclusion of health concerns in built environment plans, policies, and decisions.

This final evaluation report focuses on the achievement of the immediate outcomes identified above. Previous evaluation reports presented interim findings[4] and results of specific data collection activities[5].

[4] Healthy Canada by Design CLASP: Interim Evaluation Report, February 2011
[5] Healthy Canada by Design CLASP: Partners Survey Summary Report, August 2011; reports prepared on the evaluation results of specific NCHD activities.

Evaluation focus 2010-2012

Figure 1: Logic model – overall Healthy Canada by Design initiative



Appendix 1 contains the detailed matrix of evaluation questions, indicators and data sources for the evaluation.

2.2 Information sources

The evaluation strategy aimed to provide a comprehensive and balanced portrait of the outcomes achieved by the HCBD initiative. Because HCBD's overall aims were centred in developing capacity and influencing processes and products entirely under the control of external partners in various built environment sectors rather than delivering public health interventions or products, emphasis was placed on including the perspectives of individuals outside of the public health organizations directly engaged in the HCBD CLASP. In addition to project monitoring data collected by the project manager, the evaluation thus drew on several information sources:

- from respondents within public health: two annual self-assessment surveys (n's = 13 and 21); end-of-project interviews with node leads (n = 12), and an email exploration of policy impacts (n= 6).;
- from respondents outside of public health: post-event questionnaires for participants in 16 meetings, workshops and activities conducted by HCBD for partners or KT (n =356); and two surveys of project partners (n's = 34 and 52), as well as a focus group and observations in node-specific data collection.

The data collection methods and resulting samples are described below.

HCBD node annual self-assessment questionnaires: This questionnaire was completed in December 2010 and November 2011 by public health staff engaged in HCBD nodes. It included output measures: effectiveness of partnerships, capacity to engage with the planning community sector, and skills being developed, as well as items assessing early outcomes in terms of built environment changes or potential for change. It also integrated a number of items from the CLASP member survey from the Cross-CLASP evaluation, including some on assessing project processes (node functioning, organizational support, challenges and improvements needed). The questionnaire is found in Appendix 2, in English and French.

In 2010, the questionnaire was e-mailed to 23 potential respondents identified by the project lead in each node, for completion by email, paper or fax. The table below shows the number of returned questionnaires; 13 questionnaires were returned, for an overall response rate of about 56%. It should be noted that Peel participants completed an early version of the questionnaire, prior to integration of the cross-CLASP evaluation items, which means that data were not available for that node for some of the questions reported here.

In 2011, the questionnaire was administered by the CAPTURE Project, which was contracted by CPAC to carry out the overall, cross-CLASP evaluation. Invitations were e-mailed to 27 potential respondents identified by the project lead in each node, for completion by on-line. Twenty-one

surveys were completed, for a response rate of 78%. Among these, six respondents had participated in the 2010 survey.

Table 2: Number of respondents for annual self-assessment questionnaires, 2010 and 2011

HCBD component	2010	2011
Montreal Public Health	1	**21 (78% response)** (breakdown not available)
Toronto Public Health	2	
Peel Region Public Health	4	
Vancouver Coastal Health Authority	1	
Fraser Health Authority	3	
Vancouver Island Health Authority	2	
Total	**13 (56% response)**	

Interviews with project leads. Semi-structured group or individual interviews were conducted in person or by telephone with the two to three key HCBD staff in each of the nodes except Montreal, in January and February 2012. These interviews, of 30 to 60 minutes duration, focused on achievement of the project outcomes as identified in the logic model. A total of 12 individuals were interviewed in 10 interviews.

Post-event surveys and follow-ups. Each of the HCBD sub-projects has workshops or other types of meetings with various stakeholders groups, either as part of their KTE work or as part of developing and carrying out their interventions. Immediate feedback from 356 participants in 16 of these events held throughout 2010 and 2011 was captured through on-site evaluation forms, distributed and collected at the end of the event by the project staff. These were tailored to each event, but had a common set of items across all events assessing increased understanding of health and built environment issues. The table below shows the number of questionnaires collected at each event.

Table 3: Number of respondents, post-event evaluations

Event	No.
CPHA conference session, May 2010	23
VIHA Air quality Workshop, June 2010	20
Federation of Canadian Municipalities session, 2010	8
FH-VCH Joint Metro Vancouver Project, October 2010	68
Health Background Studies Framework project – Peel stakeholder consultations, November 2010	12
Health Background Studies Framework project – Toronto stakeholder consultations, December 2010	10
Health Background Studies Framework project Peel	7
Health Background Studies Framework project – Peel stakeholder consultations, April 2011	24
HOUSING + TRANSPORTATION + HEALTH: Connecting Ideas and Practice for Healthier Communities Workshop (BC) March 31 2011	71
Federation of Canadian Municipalities Meeting, Spring 2011	12
FH Healthy Living Workshop for FH Environmental Health, April 2011	19
Ontario Public Health Association, April 2011	9
Canadian Institute of Planners Conference session. July 2011	32
Eco-City Preconference workshop, Montreal July 2011	6
District of North Vancouver and City of North Vancouver Lynn Valley Dinner and Walkabout, October 2011	24
Montreal Expert Group workshops, February 2012	15
Total	**356**

Attendance was not always noted at these sessions, so it is not possible to calculate a response rate. Where attendance was noted, the proportion of attendees who completed evaluation forms ranged between 30% and 90%. Individual reports were prepared on each event and returned to the nodes.

Surveys of project partners – KTE. On-line surveys were completed in May 2011 and January 2012 by partners of HCBD outside the public health sector. The survey questionnaire was based on the expected outcomes of partnership as identified in the HCBD logic model. Items from the cross-CLASP Knowledge Uptake and Exchange were included with response formats adapted to ensure transferability to the Cross-CLASP evaluation team. Note that only the 2011 survey had been part of the HCBD evaluation plan; the 2012 survey was added to accommodate the Cross-CLASP evaluation's request for KTE data in early 2012.

In 2011, three nodes participated in this survey: Peel Region, VCH, and FH, along with partners from the project as a whole[6]. Seventy-two partners from the participating nodes were invited, including two who were identified as partners by two projects. In 2012, VIHA also participated, and 125 individuals were invited. In both administrations, the individuals and organizations to be invited in each participating node were identified with the help of liaison individuals in each site. The survey invitation was emailed to each potential respondent by the external evaluator,

[6] In 2010, the Montreal and VIHA sites judged that their partnership development was not advanced enough to warrant a survey at this time. The Toronto node invited two partners from within Toronto Public Health to participate but they indicated they would not be considered external partners and so were not included.

with a unique URL assigned to each respondent. It was administered by Circum Network in 2011, and the CAPTURE Project in 2012. Three reminders were sent in both administrations. Data were captured on a secure server and transferred to SPSS for analysis.

In 2011, two individuals replied that they were not familiar enough with the project to reply. Of the remainder, 34 completed surveys were received, for a response rate of 49%. In 2012, two replied that they were unfamiliar with the project. Fifty-two surveys were completed, for a response rate of 42%.

To complement these data, site-specific data collection were collected in two nodes:

- In October 2011, a focus group was conducted with VCH and its partners in the District of North Vancouver initiative with the aim of reflecting on their partnership. There were eight participants, five from VCH and three from DNV. The discussion followed a semi-structured interview guide based on the evaluation framework for VCH and was facilitated by the Cross-CLASP evaluator;
- In February and March 2012, the Montreal node held workshop sessions presenting the results of its work to representative of the two case study neighborhoods. These included the City of Montreal and the relevant boroughs' planning and transportation units, community tables representing a range of community of community sectors and not-for profit organizations and researchers. These individuals were considered equivalent to the partners surveyed in the other nodes. Both sessions had 11 participants. All were asked to complete a questionnaire at the end of the session, either immediately for later email or paper mail return. A total of 15 questionnaires were completed, for a response rate of 68%. The evaluator also acted as an observer at these sessions, noting information relevant to outcomes.

Table 4 summarizes the participation of HCBD partners in the evaluation.

Table 4: Number of respondents for partners-KTE data collection, 2010 and 2011

HCBD component	2010 (n = 34, response = 49%)	2011 (n = 52, response = 42%)
Node		
Overall HCBD CLASP	13	26
Peel Region	15	20
BC nodes	6	5
VCH focus group		3
Montreal		15
Type of organization		
Provincial Government	1	0
Regional Government/Health Authority	2	5
Local Government	13	19
NGO	5	9
Private company	4	0
Citizen	0	1
Not provided	9	18

KTE policy impacts on-line questionnaires. In order to document and share the lessons learned from the public health units' practices that were meant to influence public policies informing the built environment, the NCCHPP conducted e-mail interviews with key staff in each HCBD node. This latter data collection was led by the NCCHPP to support production of a policy guidance document to be released in 2012. Questions on evaluation outcomes were integrated into the interviews. Questions were sent via e-mail, one-by-one to allow pursuit of interesting leads that arose in the answers.

Planned data collection not carried out. Some data collection activities planned at the time of the development of the evaluation framework, winter 2010, were not carried out in the end. First, as part of the process evaluation, it was planned that each node keep records of ongoing reflection-in-action, through journaling and regular partner check-ins. This was generally too onerous for nodes to carry out regularly; the key informant interviews were substituted for this data collection element. It had also been planned to monitor usage of the UPHN website for consultation and downloads of HCBD tools; however, tools have not yet been made available on the website. Interviews were also planned with the Advisory Committees of the two Cross-provincial projects; as these committees were not convened (see section 3.2.1), the interviews were not conducted. Finally, it was planned to re-contact individuals who completed post-event evaluation forms at least 12 months after their participation in the event, to ascertain their usage of the tools as well as application of leanings from the events. Again due to limited availability of tools in the evaluation timeframe, this has not been carried out.

Limitations. Over and above the planned data collection not carried out, this evaluation has several limitations. First, the disparate nature and contexts the HCBD nodes' projects meant that much of the data was collected at an overall and hence rather superficial level. It is hoped that the policy guidance document will help to deepen understanding of the accomplishments and challenges of particular initiatives. Second, response rates to some of the data collection tools were lower than desirable, limiting confidence in the results obtained. However, over the course of the funding period, the evaluation captured data from several sources and at several time points, which when triangulated form a fairly coherent picture of the CLASP process and outcomes. This may mitigate concerns about low response on some measures. Third, the evaluation did not directly measure the quality of the tools and materials developed. Finally, although the evaluation adopted a logic model that aimed for a realistic representation of outcomes that were achievable in the timeframe of the funding, it could not capture more than the very earliest influences of the HCBD initiative on built environment intentions; changes in actual urban forms that could shape behavior to reduce risk facts for chronic disease are yet years away.

3. FINDINGS

3.1 Project processes

Data on the adequacy of project processes come from two main sources: the annual self-assessment questionnaires and key informant interviews with project leads.

Adequacy of resources. In the open-ended interviews, key project staff were asked whether in their view the project resources had been adequate. While resources available allowed the nodes to advance in their work and produce their desired outputs, most of the nodes interviewed identified some shortcomings in the project resources, although in different areas. First, the BC nodes expressed disappointment that their CLASP funding had only been for one year, although they were satisfied with the alternate sources of funding obtained through the efforts of HSFC. Within the BC nodes, staff resources were felt to be stretched, so the access provided through the CLASP and foundation funding to a highly effective planning consultant was highly appreciated. There were also differences among the three BC nodes. For VCH, engaging with municipal governments on built environment issues was not new, and the MOH for North Vancouver already had a longstanding, positive relationship with the District of North Vancouver. In Fraser Health, built environment issues in public health were newer, and so staff allocation to this area was more challenging. In VIHA, an existing Population Health Observatory was initially able to dedicate resources to the built environment area, but the RHA was re-organized in 2011, putting constraints on resource capacity and limiting access to expertise.

The Peel staff interviewed were of the view that their HCBD resources had been adequate, in large part because of the in-kind resources contributed by Peel Region Public Health. This included the creation of the position of a Health Planning Facilitator, whose role is to act as a liaison between Planning and Public Health.

In Toronto however, resources were seen as more strained, primarily because the management of the two large tool development contracts with the external research group proved unexpectedly complex and resource intensive. This node indicated that such contracts should have been managed directly by the HSFC, as the City of Toronto administrative systems were not suited to managing them, and the HCBD staff person's time was eaten up by contract management. However, Toronto Public Health staff also stated that participation in the CLASP initiative had catalyzed considerably more activity on the Built Environment and Health than would have been the case otherwise and enabled TPH to leverage more initiatives.

The table below shows data from the 2011 self-assessment survey on contributions made by node organizations to the CLASP. As stated in the interviews, almost all organizations provided in-kind support. Other important contributions were subject matter expertise, and access to decision-makers, populations of interest, and the perspectives of particular stakeholder groups. Nine of 20 respondents said their organization had provided additional funding.

Table 5: Contributions of node organizations to the HCBD CLASP

	No. yes (n = 20 respondents from 7 organizations)
In-kind support	19
Subject matter expertise	18
Access to decision-makers	15
Access to population of interest	12
Provide the perspective of a particular stakeholder group	11
Additional funding	9
Member of the CLASP staff or project management team	9
Communication support	6
Secretariat support	3
Other	1

Source: 2011 annual self-assessment survey.

In all three provinces involved in the HCBD CLASP, regional and provincial contexts over the CLASP funding period were important factors for the resources and supports available to the built environment work of the public health entities:

- In BC in 2011, the provincial government launched a Healthy Families BC Communities[7] initiative calling for closer linkages between municipal governments and regional health authorities. Built environment is one of five main themes. This was both a boon and a challenge to staff involved in the HCBD CLASP: while it provided additional legitimacy for their role, they were then operating in a context of increased expectations without necessarily commensurately greater resources.

- In Ontario, the Ontario Public Health Standards (OPHS) introduced in 2008 had caused Toronto Public Health to make changes to its activities to meet new standards to address threats to health associated with the built environment and health, air pollution, climate change, and chronic disease and injury prevention. In other words, there were increasing expectations for public health system engagement in built environment issues. This was cited as having provided a receptive context for the HCBD project and related work. For example, the Healthy Toronto by Design framework, adopted by the Board of Health in October 2011, outlined responsibilities for the municipal government to meet public health standards for built environment.[8] As well, because some of planning issues that were identified for healthy development criteria are regulated at the provincial level, it provided a legitimate space for the regional entities to influence provincial government decisions. For example, Peel Public Health and Toronto Public Health provided comments on provincial policy documents including the Ministry of Municipal Affairs and Housing's *Provincial Policy Statement,* a land-use planning framework that has implications for municipal planning, and the Ministry of Transportation's *Transit Supportive Guidelines.*

[7] http://www.healthyfamiliesbc.ca/healthy-communities-program.php
[8] http://www.toronto.ca/legdocs/mmis/2011/hl/bgrd/backgroundfile-41313.pdf

- In Québec, the 2006 Report of the Director of Public Health on the health of Montrealers had as its theme health and urban transportation[9]. Aligned with the provincial Public Health Plan's built environment objectives, this focus was then reflected in the 2011-2015 public health plan for the Montreal regional public health department, where healthy urban environment is one of six orientations[10].

Adequacy of CLASP processes. The cross-CLASP evaluation included an examination of the perceived effectiveness of the HCBD project's governance and functioning of the project, covering several dimensions: communication, relationship quality, shared vision and understanding. These ratings, shown in Table 6, are generally positive for both years. Highest ratings were for administrative support from the lead organization, i.e., from the Heart and Stroke Foundation. This reflects a great appreciation among those involved in the CLASP, noted in many open-ended comments, for the project manager. HCBD project leadership was also highly rated. Least positive ratings in 2010 were for dimensions related to roles and responsibilities and developing a shared vision and establishing clear expectations among project staff. In 2011, least positive ratings were for communications: with people and organizations outside the project, and among staff working on the project.

Table 6: Effectiveness of HCBD functioning

Please rate the functioning of your HCBD project(s):	**2010 n = 13**	**2011 n = 21**
Administrative support from lead organization	4.2	4.1
Progress made by HCBD project	3.6	3.9
HCBD project leadership	4.0	3.8
Communication from lead to staff working on the project	3.5	3.8
CLASP governance structure	3.8	3.7
Working relationships among staff working on the project	3.8	3.6
Overall HCBD project functioning	3.5	3.6
Managing conflict	3.1	3.6
Level of trust among staff working on the project	3.7	3.4
Problem solving processes	3.7	3.4
Progress monitoring of HCBD work	3.6	3.3
Decision-making processes	3.4	3.3
Shared vision among staff working on the project of the purpose of the HCBD project	3.3	3.3
Communication among staff working on the project	3.8	3.2
Extent to which roles, responsibilities and expectations are clearly defined and understood by all staff working on the project	3.0	3.2
Communication with people and organizations outside the project	3.6	3.1

Source: Self-assessment surveys, 2010 and 2011. Ratings are on 5-point scales, where 1 = poor and 5 = excellent. Differences were not tested for significance as the respondents vary across the two years.

In interviews, a process issue raised by nodes representatives was that the application process for the CLASP had been rushed. According to interviewees, there had been little time to

[9] http://www.dsp.santemontreal.qc.ca/index.php?id=523&tx_wfqbe_pi1[uid]=212
[10] http://www.dsp.santemontreal.qc.ca/index.php?id=523&tx_wfqbe_pi1[uid]=1326

develop an integrative approach across all the nodes who wished to be involved, and some sites saw themselves as "*not in a state of readiness*" (interviewee).

Another process issue that echoed throughout the CLASP funding period was that the nodes wished they had had more opportunities to became aware and make use of knowledge and experience being developed in the other nodes. For example:

- *We were hopeful that there would be more opportunities throughout the project for knowledge exchange with the other partners in the CLASP project. As the deliverables are finalized, we look forward to learning more about their findings and sharing ours. (VIHA policy interview)*

From a CLASP perspective, this was certainly a challenging aspect of this coalition. By definition, for the nodes to be successful, they had to be outwardly facing and devote their energies and resources to working with multiple, non-coalition members in their local and regional settings. The very nature of built environment decision-making precludes easy identification of a common platform across nodes, because the problems addressed are entirely embedded in unique local/regional/provincial contexts. This seems to have resulted in limited within-CLASP interaction and KTE. As HCBD node representatives put it:

- *Based on the nature of public health governance and structure in each province (Public Health Units in Ontario are decentralized whereas Public Health in other provinces is centralized), our CLASP needed to have distinct and customized projects at each node. While this allows for a greater smorgasbord of examples and best practices available to the public at the end of our CLASP period, it made it difficult to collaborate with other nodes during the CLASP grant. As a result, we weren't able to leverage the strengths of each of our HCBD partners as much as we would have liked to. (Peel policy interview)*
- *Less effective aspects to date would be the connection and knowledge translation between the HCBD CLASP nodes. We have not been able to make use of projects or learnings from other CLASP members. Our own projects, being very recently finished, have not yet had much chance to be put into application (VIHA policy interview).*

The only other process issue raised during interviews was that the project had sometimes required fairly short turnaround on requests for information.

3.2 Project outcomes

3.2.1 Relationships built and sustained with local governments and planners

Relationships with local governments

Table 7 lists the types of organizations that the HCBD nodes considered to be partners, in 2011 and 2012. From this, it is clear that through HCBD, interactions were fostered outside of public

health in municipal and regional governments, and in Ontario, where public health is a municipal function, with the planning sectors of the municipalities and regions. Moreover, these relationships expanded and diversified over the CLASP funding period.

Table 7: Number of HCBD external partners by sector

	2011 (four nodes)	2012 (six nodes)
Provincial governments	2	5 provinces, multiple departments
Governments of municipalities, cities, towns	6	33
District, county or regional authorities , including school boards and transportation authorities	3	24 (includes 4 regional entities within the Region of Peel)
Health units or authorities	0	9 (almost all in Ontario)
Non-governmental organizations (national, provincial, regional or local)	4	10 (mainly in Montréal)
University researchers/units	0	9
Private sector associations and firms (planning, design, engineering, construction)	13	13
Foundations	0	3

Source: Node nominations of partner organizations; Cross-CLASP Monitoring Form. Two nodes did not participate in 2011 because their partnerships were not yet advanced enough, but all are included in 2012.

Bringing health considerations into built environment decisions requires that public health units work with the entities that have decision-making power on the built environment inhabited by the population whose health they are concerned with. The table above also illustrates a major challenge faced by public health units in this work: the sheer number of decision-making entities. While each of the nodes developed close relationships with one or more municipalities, towns, district, regional authorities or counties in the territory, there are many more that they were not able to work with, given the resources available. The main municipal partnerships developed or enhanced through the HCBD CLASP are shown in Table 8.

Table 8: HCBD main municipal partners

Node	Main municipal partners
VIHA	Capital Regional District
	City of Saanich
VCH	District of North Vancouver
	City of Richmond
	City of North Vancouver
	Metro Vancouver Regional District (with FH)
FH	City of Surrey
	City of Chilliwack
	Fraser Valley Regional District
	Metro Vancouver Regional District (with VCH)
Peel	City of Brampton
	City of Mississauga
	Town of Caledon
Toronto	(public health is part of City of Toronto)

Montreal	Ville de Montréal
	Arrondissement Ville Marie (pilot site for walkability audit)
	Arrondissement Mercier-Hochelaga-Maisonneuve

Sources: Interviews, Node nominations of partner organizations; Cross-CLASP Monitoring Form

For example, VIHA's partner the Capital Regional District is the regional government for the 13 municipalities and three electoral areas on the southern part of Vancouver Island. The territory on Vancouver Island is composed of many more municipalities and First Nations governments. In another example, Montreal Public Health's population lives in 19 boroughs and 17 separate cities; moreover, its approach to this work has been at the level of historically and demographically distinct neighbourhoods, of which there are 111 on the island. VCH, which covers 12 municipalities, four regional districts and 14 Aboriginal communities, noted that it would not be able to sustain the level of resources it had committed to the DNV pilot project across all VCH communities. Accordingly, they are developing and pilot-testing less-intensive, alternative engagement models, based on successes and lessons learned in North Vancouver, and taking into account resource limitations at a regional scale.

Moreover, those entities march to their own rhythms, governed often by municipal election cycles. As one partner noted:

- *"We did manage to incorporate some material provided by (node) but there were lots of missed opportunities because of our crazy timelines. Also, our meeting scheduled changed a lot and it was hard to actually coordinate having (node) be part of our planning staff team."*

Decisions to invest in a relationship with a particular municipality might be faced with action being put on hold for quite some months during election periods.

In working responsively with municipalities, nodes sometimes adopted strategies they described as opportunistic, looking for windows of opportunity to engage with planners and influence policy. This led to some forms of involvement that had not necessarily been foreseen at the outset of HCBD. For example, in VIHA, an opportunity arose when a concern about air quality was identified by community planners:

- *The Capital Regional District mandate was changed such that their staff could no longer orchestrate the multi-agency Air Quality Working Group. CLASP funds provided us with some resources to reconvene this group, and establish a renewed terms of reference, membership, and work plan to set us in a common direction….[VIHA also conducted] an awareness-raising workshop about regional air quality that brought together and transferred knowledge to local policy makers and provided an opportunity to discuss practical implications (VIHA policy interview)*

The linkages established between public health and the built environment sector were not only bilateral, but often involved multiple layers. Findings from the staff interviews underscored the

many ways in which HCBD required development of intra and intra-organizational relationships, including:

- Within public health, between the roles of MOH and professional staff in dealing with municipalities (experienced in BC, especially FH), or more broadly, between layers of public health influence and connection to municipal decision-making (Toronto, VCH). In several nodes (VCH, FH, Toronto, Peel), public health was working at two levels : public health staff were developing interfaces with planning professionals, while public health senior managers were developing platforms for engaging or influencing elected officials or public bodies. That the planning staff were often already promoters of healthy built environment and also wanting to influence their management and councillors, added another dynamic. For example, planning staff in one site noted that:

    - *When building up to launch the OCP process, our city's planning group was mindful that …..when the health authority weighs in as an objective/neutral outsider – and speaking on behalf of the public's health – it really helps to support the municipal initiatives and OCP process .*

- Within regional health authorities, between public health and the health care system with its curative focus (VIHA).
    - One of VIHA's projects aimed to influence the Campus Mater Planning process for a major new health facility, to include more health promoting elements and mitigating negative community impacts. VIHA staff found this work to have been more successful at the community that health care system level: characterized by an interviewee as a "*tough sell internally…. Not seen as the business we're in',* with that business further described as an *"illness industry*".

- Within public health, between the traditional practice of environmental health and the newer focus on built environment as a sector within chronic disease prevention, formerly centred on promotion of leisure or school-based physical activity as a component of healthy lifestyle (BC, Toronto); and

- Between contiguous health regions who shared municipal or regional partners or interests (FH and VCH, Peel and Toronto). Some issues arose when the contiguous regions did not have the same approach or level of readiness to work on built environment and health. For example, Fraser Health and VCH jointly cover the area known as Metro Vancouver, and collaborated in a Metro Vancouver/UBC Built Environment Work Group and Learning Forum in 2010; however, interviewees reported that this collaboration was not always without challenges. In the Peel and Toronto, case, the Health Background Study Framework project carried out by Peel was initially intended to be a joint project with Toronto Public Health. However, attempts to engage planners in the City of Toronto were essentially rebuffed as they felt they already had a high degree of competence in health built environment and limited staffing resources to engage in this project further; a different reaction was experienced in Peel Region, which

was very interested in pursuing the partnership. The led the two HCBD nodes to decouple their work.

Data from municipal partners also suggested that one of the results of their involvement with the HCBD node was a form of demystifying the nature of the RHA organization and its roles in built environment. For example:

- *I think that there is a better understanding of how another partner can add to a municipal planning process not just as a 'stakeholder' but as a true partner in providing advice, assistance with materials for both display and distribution as well as technical expertise. I think my organization struggled with understanding how best to involve (node) and though not perfect, this project helped to shine a light on what worked and what didn't which I think is a positive thing when considering future partnerships (partner survey respondent)*

The number and complexity of these relationships is prompting some HCBD nodes to consider whether their efforts will be most cost-efficient working at higher levels of government, for example regionally or provincially. For example, Metro Vancouver's Planning Advisory Committee brings together planning directors of 22 municipalities, Translink, Vancouver Airport, and the Port Authority, and is seen as an important regional influence, and so is seen as a useful partner. Montreal Public Health is considering whether its efforts to increase the modal share of public and active transportation in Montreal might not be best addressed to the Québec Ministry of Transport or through a National Public Transit Strategy[11]. It the same, time it is recognized that it is important for public health to maintain a close link to individual realities of many unique communities.

Two of the nodes (VIHA, Montreal) had components aimed at engaging the community sector, to use citizen mobilization as a pathway to influencing municipalities. This created another form of relationship between the planning and public health sector, where the community sector was supported by public health in reaching out to planning:

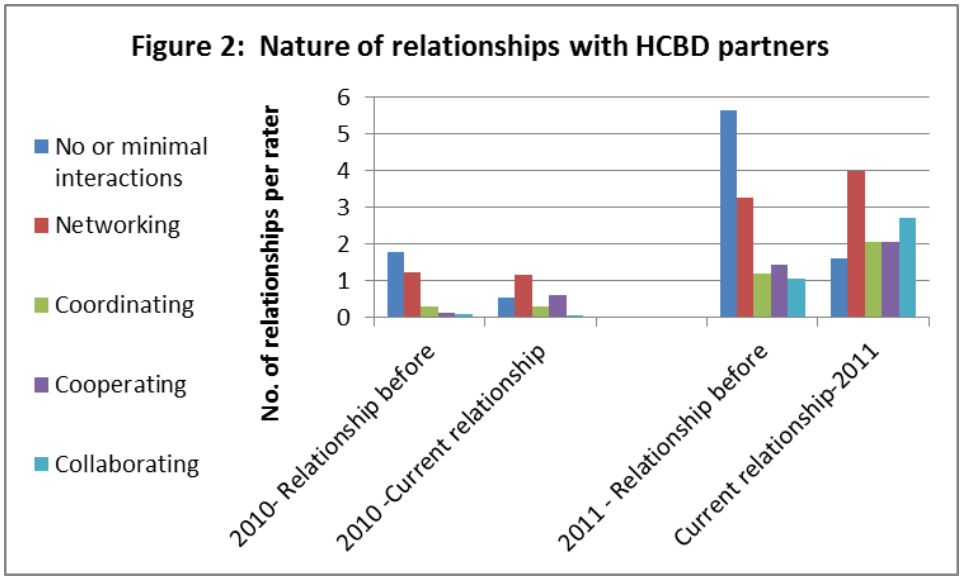
- The Montreal node focused on identifying, describing and promoting community-based initiatives to promote green, walkable neighborhoods. Its presentation of the findings of the results of walkability audits included intersectoral community committees and groups, community organizers and citizen advocates as stakeholders at the same table as the engineering and traffic departments of the City of Montreal and the Boroughs studied *(session observation);*
- VIHA worked to support neighbourhood associations in reducing negative health impacts of development. In the Healthy Health Facility project, it addressed community concerns with the new hospital facility in a report aiming to provide a community perspective and feedback on a past Campus Master Plan and Patient Care Centre design process. In its James Bay project, VIHA wrote a case study describing how, before CLASP, this health

[11] Standing Committee on Transport, Infrastructure and Communities, Bill C-305.

authority helped the community address increasing development of the cruise ship industry and its attendant air quality impacts. The case study aims at allowing other neighbourhood associations in VIHa's territory to see how the Health Authority can partner with community groups to address environmental health challenges.

Development of sustainable and effective collaboration mechanisms and relationships

The self-assessment survey included a cross-CLASP evaluation measure of the relative frequency of five levels of intensity of relationships with partners before HCBD and currently: no or minimal interactions, networking, coordination, cooperation, and collaboration. These data are summarized in Figure 2, for 2011 and 2012. Notable here are two overall relative shifts: first, relationships were most often characterized as involving "no or minimal interactions" prior to HCBD. Second, there is a shift from before HCBD toward networking, cooperation and collaboration. This supports other data that HCBD built a foundation of partnerships for action on health and the built environment. At the same time, the most common form of relationship at both time points involved networking.



Source: annual self-assessment surveys. In 2010, 13 people rated 12 possible relationships. In 2011, 20 people rated 14 possible relationships. The relationships rated were somewhat different in the two years.

Developing effective relationships with organizations and people outside of public health was critical for the HCBD CLASP to be able to work towards influencing built environment policies and plans. The self-assessment questionnaires asked project staff to indicate their views of HCBD's influences on their relationships with organizations outside of their public health domain. The ratings shown in Table 9 indicate that HCBD is credited at least to some extent with

increasing awareness and forming new partnerships with other organizations, and with organizations outside of public health. In the 2010 data, almost all respondents expected that these partnerships would last beyond the HCBD project. However, more respondents in 2010 (10 of 13) than in 2011 (8 of 20) thought that HCBD had contributed to improving the way they work with partner organizations in the same area.

Table 9: Influences of HCBD on partnerships

To what extent do you agree or disagree that, because of this initiative (partly or wholly):	**No. agree or totally agree**	
	2010 (n = 13)	**2011 (n = 20)**
We/I[1] have increased our/my awareness of other organizations working in this area.	56%	90%
We/I have formed new partnerships/relationships with other organizations.	70%	75%
We/I have strengthened relationships with partners outside my public health organization	83%	Not asked in 2011
We/I have improved the way we/I work with some organizations working in the same area.	83%	40%
Our partnerships are effective.	55%	Not asked in 2011
Our partnerships will last beyond the HCBD project.	91%	Not asked in 2011

Source: Self-assessment surveys, December 2010, November 2011.

[1]The Cross-CLASP evaluation measures were framed in terms of impacts on individuals rather than organizational impacts, in contrast to the organizational-level evaluation approach adopted by the HCBD CLASP. However, CPAC requested that the second survey administration adopt a single approach across all CLASPs, which resulted in wording changes to these items for the HCBD CLSAP. This means that data from the two years may not be strictly comparable, especially given that only six of 21 individuals in 2012 had completed the survey in 2011, although the organizations included remained the same.

It should be noted that in some cases, the relationships with municipal governments pre-dated the CLASP, and the CLASP funding provided an opportunity to intensify the relationship. For example, the MOH was part of the District of North Vancouver Community Planning working group prior to the OCP process; Toronto Public Health stated that it had "*a longstanding and productive relationship with municipal officials in Toronto involved in the built environment*" (TPH policy interview)" on issues such as site contamination, air quality and development proposals with a potential health risk. TPH staff were also actively involved in the development of the City's *Toronto Green Standards*.

The HCBD nodes developed several types of working relationship mechanisms with their planning sectors. For example, in working with the District of North Vancouver on its OCP, VCH decided to adopt a formal Memorandum of Understanding to lay out expectations for the partnership. The objectives of the MOU were:

- *Enhance planning policies of all facets of the OCP to ensure that the social determinants of health are considered, resulting in a more comprehensiveness and health promoting plan*

- *Raise the awareness with Council, staff and community of the important role OCP plays in influencing decisions about healthy built environments that are fundamental to community health and wellness*
- *Build on the VCH/DNV partnership that already exists and recognize joint roles in achieving and maintaining a healthy community.*[12]

Having used a different model in working with the City of Richmond to influence its OCP process, VCH staff now feel that the MOU model as an experiment in relationship-building was successful and intend to use it in work now beginning with the City of North Vancouver. FH also developed formalized partnerships with pilot communities for work on their Official Community Plans. In another example, Peel Public Health created a roundtable forum with Peel planners, whose ongoing intent is to provide a networking venue to share knowledge. In addition, Peel Public Health hired a Health Planning Facilitator, who acts as a bridge between Planning and Public Health. This interpenetrating role was seen as particularly useful in the region: "*our best success has been being able to get in on different committees; we've been able to ask to be part of them because we know what's going on in planning"* (interviewee). An example was given of a regional road characterization study, which Public Health was able to become part of through the facilitator's role. Other nodes used a more consultative or ad hoc mechanism, taking advantage of opportunities that became available or reaching out. For example, VIHA carried out with planners at the outset of our CLASP projects and expects to re-establish contact; FH reported that throughout the HCBD project it had been reaching out and building relationships with municipal planning staff in pilot communities and the regional districts.

3.2.2 Increased awareness of and commitment to consideration of health in built environment decisions

Public health staff's understanding and skills

As part of the development of capacities to work with partners to influence the built environment, it was expected that HCBD staff in public would develop new content and process expertise for integrative work on health and the built environment. Public health staff self-assessed their increase in learning and skills related to health and the built environment in the 2010 and 2011 self- assessment surveys. Shown in Table 10, these ratings indicate that a majority of HCBD participants assessed their understanding and skills to have improved.

[12] MOU between VCH and DNV for a pilot partnership during OCP, 2011.

Table 10: Public health staff's self-assessed increase in understanding and skills

To what extent do you agree or disagree that, because of this initiative (partly or wholly):	No. agree or totally agree	
	2010 (n = 13)	2011 (n = 21)
I have increased understanding of the relationship between built environment and health.	89%	70%
I have increased my skills for working with partners outside of public health to improve the built environment.	62%	80%

Source: Annual self-assessment surveys, December 2010 and November 2011.

Planning staff's understanding and skills

HCBD partners were asked in the 2011 and 2012 surveys to indicate ways in which capacities might have increased through their engagement with HCBD. Over half at both time points agreed or totally agreed that their organization had increased understanding of the relationship between the built environment and health and increased skills to address health through the built environment. Both these ratings increased over time. In the mirror perception, about two thirds of partners agreed or totally agreed that their HCBD nodes had increased their skills for working with their organization to address health through the built environment.

Table 11: Planning staff's self-assessed increase in understanding and skills

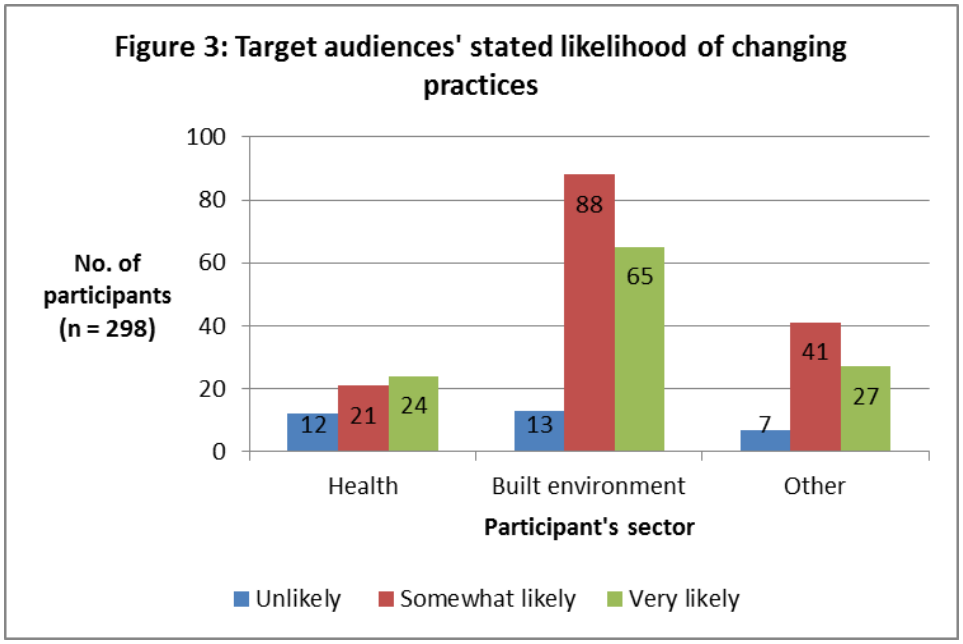
To what extent do you agree or disagree that, because of this initiative (partly or wholly):	No. agree or totally agree	
	2011 (n = 34)	2012 (n= 24)
I/my organization have increased understanding of the relationship between built environment and health.	56%	83%
I/my have increased my skills for working with public health to address health through the built environment.	56%	67%
(node) has increased their skills for working with my organization to address health through the built environment.	68%	65%

Source: Partners-KTE surveys, May 2011 and January 2012.

Influences on target audiences' practices

Participants in almost all of the workshops and consultations held by HCBD nodes were asked to rate how likely participants were to change their practice as a result of what they had learned at the event. Taking the results of all the events together and breaking down the respondents into broad categories of health sector, built environment sector (including regional and municipal government representatives in planning, transportation, and parks, elected officials, and private sector participants) and others (researchers and students, citizens and unspecified NGO's) gives the results shown in Figure 3. First it can be noted that these events reached far more participants in the built environment and other non-health sectors than the health sectors, confirming that HCBD activities had the potential for influence in the planning world. Second, participants from the non-health sectors were more likely to indicate they would change their

practice than were those from the health sector; indeed almost all built environment sector participants surveyed at these events, 153 out of 166, or 92%, said they were somewhat or very likely to change their practices.



Source: post-event questionnaires from 16 events in 2010, 2011 and 2012. Minor wording and scoring changes across forms were reconciled.

In response to questions about the impacts of attending meetings or events organized by HCBD or nodes, partners queried in the 2011 and 2012 partner surveys were most likely to agree that there had been some type of impact on knowledge or networking (Table 12). There was less impact reported on organizational practices or resources.

Table 12: Partners outside public health views' of results of meetings or events organized by HCBD or nodes

	No. agree or totally agree	
	2011 (n = 26)	**2012 (n = 34)**
My awareness or thinking about the issue was changed	69%	74%
My knowledge was increased	62%	94%
My attitude was changed	23%	50%
My skills were increased	46%	67%
I had opportunity to further a relationship or make a new connection	88%	73%

Source: Partners-KTE surveys, May 2011 and January 2012.

Some of the low ratings, especially for attitude change, may have been due to the node reaching those with already high endorsement of healthy built environment ideas, as this quote from a planning partner indicates:

- *We were already aware of relationship between urban form and health and while we support the efforts, based on the background we have and the need to look at each*

situation based on its own circumstances, there was little new that we could use (partner survey respondent)

Similarly, VIHA reported about its initial consultations with planners:

- *Although not an effect of our actions, we were surprised by the very clear message that came from the planners that day: They all understood the benefits of HBE and incorporating HBE principles into municipal policy, and didn't need more education on it. What they needed was support from health authorities in developing and implementing policy (VIHA policy interview).*

Types and results of partner engagement with public health on the built environment

Respondents to the partners' surveys in 2011 and 2012 were asked which types of engagement their organization had had with the HCBD initiative. The frequencies of types of engagement reported are shown in Table 13. Over time, there was an increase in the proportion of external partners who reported using tools, resources or other types of knowledge products developed by HCBD, from 26% to 33%, but this was still not a very high utilization level. General support and strategic alliance was lower at the second time point, as was sharing of knowledge, technical advice, expertise or recommendations. External factors that may have influenced these declines were the municipal elections in November 2011 in BC, which slowed activities of the BC nodes, as well as the reduced funding to those bodes in the last 18months of the CLASP.

Table 13: Types of partner engagement with HCBD

	% yes	
	2011 (n = 34)	**2012 (n = 46)**
Sharing knowledge, technical advice, expertise or recommendations	82%	59%
Attending meetings or events organized by HCBD or node	76%	78%
Having HCBD or node be part of their meetings or events	32%	30%
General support and strategic alliance	53%	33%
Using tools, resources or other types of knowledge products developed by HCBD	26%	33%
Other	42%	15%

Source: Partners-KTE surveys, May 2011 and January 2012.

Partners were also asked to what extent each type of engagement they had with the HCBD node had helped the health and planning sectors in their region work more closely together, and to what extent their organization has applied knowledge gained form that engagement. Shown in Table 12, these data show first that there were more positive reports in 2011 than 2012. In 2011, having HCBD or a node be part of the partner organizations meetings or events was rated as having had the most effect on working relationships, while in 2012, sharing knowledge, technical advice, expertise or recommendations was most highly rated. This type of relationship is illustrated by a policy interview comment from Peel Public health:

- *"Relationship building was, and continues to be, a key component of the work Peel Public Health is doing to advance the healthy built environment work. Educating ourselves and our partners is integral to integrating the elements of healthy communities into the planning and engineering processes (Peel policy interview).*

Interestingly, in both years, using tools, resources or other types of knowledge products developed by HCBD – the most traditional form of KT in public health -- was least likely to be seen as helping to forge closer relationships between health and planning sectors (although it may have increased the background knowledge necessary to start to form relationships). This may in part be due to the limited accessibility of HCBD tools through the planned dissemination channel of the HCBD portion of the UPHN website[13], as well as delays in production of the cross-provincial tools.

Table 14: Partners' engagement with HCBD helped health and planning sectors work more closely together, by type of engagement

… helped the health and planning sectors in my region work more closely together.	% agree or strongly agree	
	2011 (n = 34)[1]	2012 (n = 46)
Sharing knowledge, technical advice, expertise or recommendations	71%	61%
Having HCBD or node be part of their meetings or events	90%	45%
General support and strategic alliance	78%	48%
Using tools, resources or other types of knowledge products developed by HCBD	44%	44%

[1] Source: Partners-KTE surveys, May 2011 and January 2012. N's per question vary according to the types of relationships held.

In 2012, 64% of partners surveyed stated that they had applied knowledge, technical advice, expertise or recommendations gained from their link to HCBD, and 50% had used tools, resources or other types of knowledge products developed by HCBD. This suggests tha there is still much room for knowledge transfer and uptake among the intended audience of HCBD work with municipal governments and other planning sector partners.

In 2011, when asked how they would make use of the knowledge, support or tools gained from their relationship with HCBD, many indicated that it was premature to ask. For example, one partner stated:

- *We are in the process of using the information being generated and it is still being generated. This would be a better question to ask in a year from now. (partner survey respondent)*

[13] http://www.uphn.ca/CLASP/

In 2011, many partners' suggestions for improvement centered on moving to more concrete phases of implementation and organization. In the 2012 survey of partners, when asked how they had applied knowledge, 11 respondents provided examples of how they had used it in developing or reviewing specific plans, guidelines or assessments:

- *The Healthy Development Index was shared and the guidelines circulated to management and staff; city staff attended sessions organized by Peel Health*
- *We are developing a practice guide for professional planners across Canada which will be used by municipal planners, public health professionals and citizen stakeholders. We are also preparing fact sheets which will help translate the ongoing research into a form municipal officials can use to design and manage the built environment*
- *Health risk assessments have been completed for Cruise ship emission impacts on residents of James Bay. This information is used to help guide decisions on next steps with the cruise ship industry.*
- *In developing the new Official Community Plan, as well as secondary plans such as neighbourhood plans, greenways & walking plans etc the partnership has enhanced the consideration of the health consequences of alternative policies.*
- *Fraser Health provided feedback on our regional plan. They provided a "health lens", and provided policy advice on how to strengthen the plan from a health perspective.*
- *My organization has promoted the inclusion of policies for healthy community design in local Official Plans and Secondary Plans. We created a healthy design checklist for reviewing major development proposals.*
- *in the development of the City's Sustainable Design Guidelines*
- *Integrated the Health Communities index into planning policies (all of the above: (partner survey respondents).*

These examples suggest that by the end of the HCBD CLASP, partners were acknowledging that more concrete phases of implementation and organization were indeed being attained. These types of impacts are discussed more fully in the next section.

3.2.3 Inclusion of health concerns in built environment plans, policies, and decisions

Overall level and likelihood of changes

The final outcome area assessed in the evaluation was the extent to which HCBD was influential in having health concerns included in built environment plans, policies, and decisions. This is the earliest proxy for actual changes to the built environment which, depending on their nature, may take some time to be constructed. For example, once an OCP integrates a guideline on mixed used neighborhood for green fill (building in as-yet undeveloped space), the actual construction of housing and streets by a developer may not occur until several years later. A first set of indicators of this outcome was ratings of changes in programs, services, practices or

policies due to HCBD made by public health staff in their annual self-assessment surveys, and by partners in their two surveys. These data are shown in Tables 15 and 16. Taken together, these survey data suggest that somewhere between one-quarter and one –third of HCBD participants in either the public health or the planning sides, were of the view that HCDB had already produced policy or program changes that could affect the built environment. This relatively modest level of change is perhaps not surprising given the complexities of the partnership context and the resource constraints discussed above, as well as the degree of advancement within partner municipalities during that time period. It does affirm that it would be premature to expect major impacts at the policy level from all nodes in this short-term initiative.

Table 15: Public health staff's views of changes in programs, services, practices or policies due to HCBD

To what extent do you agree or disagree that, because of this initiative (partly or wholly):	**% agree or strongly agree**	
	2010 (n = 13)	**2011 (n = 18)**
My organization has or is in the process of developing or changing a program, service, practice or policy	63%	Not asked
Changes have already occurred in built environment plans, policies or decisions.	36%	39%
Changes are likely to occur in built environment plans, policies or decisions.	58%	72%

Source: annual self-assessment surveys, December 2010 and November 2011.

Table 16: Partners' assessment: results of interactions with HCBD or nodes

	No. agree or totally agree	
	2011 (n = 26)	**2012 (n = 34)**
As a result of **meetings or events organized by HCBD or nodes**		
Practices at my organization were changed	19%	28%
My organization changed an existing or implemented a new program	27%	
My organization changed an existing program		21%
My organization implemented a new program		24%
My organization changed en existing policy or developed a new policy	27%	
My organization changed an existing policy		24%
My organization developed a new policy		30%
My organization changed resource allocations	4%	15%
As a result of **tools, resources or other types of knowledge products received from HCBD**		
Practices at my organization were changed	44%	29%
My organization changed an existing or implemented a new program	11%	
My organization changed an existing program		26%
My organization implemented a new program		16%
My organization changed en existing policy or developed a new policy	22%	
My organization changed an existing policy		23%
My organization developed a new policy		25%
My organization changed resource allocations	22%	16%
My organization used the tool to develop new resources	33%	32%

Source: Partners-KTE surveys, May 2011 and January 2012.

Although the level of influence achieved on in having health concerns included in built environment plans, policies, and decisions may have been relatively modest, those involved in the HCBD CLASP were generally satisfied that they had achieved as much as they had been able to do, and sometimes more, in the CLASP context. As interviewees stated:

- *I'm surprised we did as much as we did- we pulled it off! I honestly didn't think we would have some outputs by now (node interviewee)*
- *In terms of building our internal organizational capacity, we have come a long way in two years and CLASP has been part of motivating our progress (FH policy interview).*

HCBD nodes reaffirmed their intentions to continue working toward built environment change, as this become more and more part of their regular public health mandate. For example, in Peel Region:

- *As a result of CLASP, the healthy built environment agenda has been concretely identified as one of Peel Public Health's strategic priorities for the next 10 years, as well as a priority for this term of Regional Council. (Peel policy interview)*

Influence strategies and types of influence

Across the six nodes, the influence strategies for having health concerns included in built environment plans, policies, and decisions can be categorized into three main types. The choice of strategy was related to how each node defined its part of the HCBD project, and strongly determined the amount of actual influence it was able to have on inclusion of health concerns in the short-term CLASP funding period. The three types and their characteristic nodes are shown in Table 17, and the application of each of these strategies and their implications for influence achieved are described below.

Table 17: Influence strategies adopted by HCBD nodes

Influence strategies	HCBD nodes using
1. Direct interjection of health issues into municipal and regional planning processes	VIHA, VCH, FH, Toronto, Peel
2. Development of resources for or skills in public health or planning units to enable them to include more health focus	Peel, FH
3. Conduct of applied research to develop tools whose eventual uptake could stimulate policy actors to consider health focus	Montreal, Toronto

Source: evaluator assessment.

Direct interjection of health issues into municipal and regional planning processes (VIHA, VCH, FH, Toronto, Peel). A particular focus for the BC and Ontario nodes was working with

municipalities to incorporate health concerns into Official Community Plans (OCPs) where opportunities to do so were present, i.e., when these plans were undergoing formal review and revision. Legislated by local government acts, OCPs frame local government bylaws that provide objectives and policies to guide decisions on planning and land use management within the area covered by the plan. OCPs are significant because, after their adoption, all bylaws and works undertaken by a Council or Board must be consistent with the plan. [14] OCPs are a natural level for health authorities to act to influence the policy direction of municipalities in healthy built environment, as higher-level discussions must take place with regional authorities and the provincial government; the OCP is also one consistent activity across all municipalities. There are thus many opportunities for influence on health and ultimately chronic disease prevention through these plans, for example in influencing walkability, public transport, and access to healthy food.

For example, in the VCH node, staff worked with the District of North Vancouver to incorporate health elements in the OCP. Staff stated:

- *We can trace some policy changes to our input, e.g. inclusion of policies related to food availability and access. We have been told by municipal staff that there are many 'built environment' policies that VCH was instrumental in supporting; if VCH has not been a strong policy supporter of progressive policies for connected neighbourhood centres and active transportation, it is quite possible that these policies would have been diluted in the plan. Also, the ongoing involvement and support from VCH in social and community services with the District (in the OCP process, and at many other planning tables in the community) was recognized as a contributor to the OCP social development policies (VCH policy interview).*

In FH, staff aimed to work with the city of Surrey to incorporate health elements into its OCP, especially at the level of neighbourhoods. However, the timing of the CLASP was not necessarily ideal for FH, and not helped by the municipal election. FH commented:

- *Due to municipal election cycle (there were elections in November 2011), the OCP projects have moved ahead more slowly than the local government staff had planned. Consequently, the OCP projects are still at preliminary stages and we have not been able to take full advantage of the CLASP planning assistance to fully participate and provide input (FH policy interview).*

To ensure that the work could move forward across the health authority's region, FH has been developing an OCP Workbook, a repository for information and tools that can be taken up by other staff in FH and applied across many communities in its territory.

[14] http://www.toolkit.bc.ca/tool/official-community-plan;
http://www.cscd.gov.bc.ca/lgd/planning/official_community_plans.htm

Both Fraser Health Authority and Vancouver Coastal Health were invited by Metro Vancouver to provide input into the development of the Metro Vancouver Regional Growth Strategy. The two health authorities coordinated their input. This resulted in a more unified and effective message from the health sector. The Regional Growth Strategy was adopted by regional Council in summer 2011, and includes several provisions that align with health objectives. Health related policies include a commitment from Metro Vancouver regional government to collaborate with health authorities to advance measures to promote healthy living through land use policies. The Strategy outlines specific performance measures to assess progress regionally towards the "[Development] of healthy and complete communities with access to a range of services and amenities." These include monitoring the number of residents living within walking distance of a dedicated park or trail, the number and percent of residents living within walking distance of a recreation facility or community centre, and the number and percent of residents living within walking distance of a grocery store.

Although Toronto Public Health's main investment in the HCBD CLASP was through two applied research projects (residential preference survey and land use software), it also adopted a direct influence strategy within the City when it was able to make use of intermediary outputs of the research projects. Opportunities for direct influence are available in Toronto through its Board of Health, composed of six Toronto City Councillors, six citizen representatives and an elected school board representative, and of which the MOH for the City of Toronto is the Executive Officer. Reports, reviews and opinions prepared by Toronto Public Health units may be submitted through the MOH to the Board, which has powers to recommend funding decisions to City Council. For example, using GIS mapping products from the CLASP project software, TPH created a walkability surface map of the City of Toronto, with a version that overlays a LICO index. This mapping work will be incorporated in reports going to the Board of Health on the Toronto specific findings of the CLASP Residential Preferences Survey as well as a report on Active Transportation. In other avenues of influence using CLASP-generated information, TPH also:

- Created a map of parks density used in feedback on the Toronto Parks Plan to help prioritize neighbourhoods to be considered for future park developments, to increase walkability and green space in disadvantaged areas. This lead to the following decisions on Nov. 21 2011 by the Board of Health:
    - *Requested the General Manager, Parks, Forestry and Recreation, in collaboration with the Medical Officer of Health, to include the following strategies to improve health and reduce health inequities in the development and implementation of the Parks Plan:*
        - *a. alongside the "three lenses" approach set out in the 2001 Parks Acquisition Strategic Directions Report, pursue opportunities to acquire park space within reasonable walking distance of neighbourhoods with higher concentrations of low income and higher health risk;*
        - *b. plan development and upgrades in existing parks to ensure amenities are available to communities where there is greatest need based on rates of*

low income and other relevant health indicators such as high rates of diabetes.[15]

- Contributed to a transit and health report focused on equity issues around access and affordability of transit throughout the city;
- Examination of site specific zoning in apartment residential tower clusters (characterized by "vertical poverty" in high density high rises, with no grocery or other services in walking distance), and how to address barriers to greater mixed use, including facilitating increased food and other retail, day care, personal services and community agencies and other commercial retail in the vicinity. With United Way of Greater Toronto, TPH prepared a report on zoning barriers to creating complete communities to help address zoning issues, submitted to the Office of Tower Renewal[16].

Within this strategy of directly influencing planning processes, the HCBD nodes were engaged in different ways with the planning counterparts. In most cases, nodes created and/or took advantage of opportunities to review draft planning documents, in order to provide the "health lens" on development choices: examples include Toronto Public Health's review of the Toronto OCP during the OCP review, and VIHA's review of the Capital Regional District's Regional Sustainability Strategy. In VCH, the MOU process allowed VCH to work even more directly with planners, as a proactive member of the planning team, rather than reacting to drafts.

Development of capacities in public health and planning units to enable them to include more health focus (Peel, FH). Some of the HCBD nodes focused on developing tools and resources that planning and public health sector partners could use to integrate health concerns (or specific health issues such as physical activity) into planning and programming. This was characteristic of the Peel node, which stated:

- *Since Public Health does not approve, design or plan infrastructure projects or community design, Peel Public Health's role is to provide guidance and influence community design in a way which will ensure health is a primary consideration. Developing tools and policies which integrate health into the planning and engineering process is a key component of Peel's work on healthy built environments. This and the partnership based approach taken for the project has resulted in much of the work being reactive or opportunistic in nature. (Peel policy interview)*

Peel Public Health's Healthy Development Index is a key example of how public health and planning built their capacity to work effectively together with the planning sector. The Index is an evidence based set of standards proposing principles of healthy community design and tangible targets and ranges to aim for in urban planning. The initial version of the index was based on a literature review on health and the built environment and then presented to planners – the standard evidence-based approach of public health. Initial validation presentations to planners in the region of Peel showed that applicability of some aspects of it

[15] http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2011.HL9.4
[16] http://www.toronto.ca/tower_renewal/pdf/infill_apartmentsites.pdf.

were limited, as they did not fit with existing development standards (e.g., municipal by-laws). A gap analysis and further validation led to the *Healthy Development Index Refinement Study,* the main component of the HCBD CLASP in Peel:

- *The refinement study tested the Healthy Development Index through the evaluation of both traditional and new (new urbanism) developments/subdivisions to determine the barriers in implementing the Healthy Development Index and provide recommendation for future steps…. Steps were undertaken to map the various levels of policy changes that would be required to ensure feasibility of the healthy development tool's standards, and to determine the adjustments needed in order for the tool to be applicable to various types of development sites throughout Peel. The tool was refined and a series of workshops undertaken to facilitate its uptake. This included consulting extensively with area municipal planning staff and prioritizing action steps for Peel Health accordingly (Peel policy interview)*

Building on the evidence from the Index, Peel Public Health also developed a framework for Health Background Studies to be completed by developers as part of development applications to regional and municipal planning departments. This framework was suggested by a municipal planner: it provides a basis for evaluating health outcomes of a particular development using a type of tool, the background study, with which planners are already familiar. The framework was completed in 2011, and an uptake strategy implemented to encourage its use throughout the region. With these and other tools as resources, Peel Public Health's direct involvement in various planning initiatives was facilitated, leading to outcomes similar to those described for the first strategy. These included:

- creating and increasing references to health within the Regional and Municipal Official Plan policies;
  - development of sustainable design guidelines for the City of Brampton;
  - participating in the Community Improvement Plan Study for Caledon East in the Town of Caledon
  - having the framework referenced in several Traffic Assessment Studies in the region.[17]

Echoing the observation that HCBD nodes had to work with individual municipalities in their jurisdictions on local solutions, Peel Public Health is now working with each to "*to customize an implementation plan for their individual and unique needs. " (Peel policy interview).*

Another form of capacity development was undertaken by FH, who conducted an internal workshop in April 2011 for environmental health officers in the region. This workshop aimed to engage the environmental health sector of public health, traditionally more concerned with surveillance and exposures, to another framework for considering environmental influences on health. Analysis of the evaluation forms completed after this workshop found that although there was variation among participants in how familiar they were with the HBE field and FH's context and priorities, roles for environmental health that were not fully clarified for many

[17] The Cross-CLASP Monitoring Form identifies many other policy influences of HCBD in Peel Region.

participants through this workshop. As some participants indicated in response to the question *"what did you learn about your role in built environment and health?"*

- *on a personal level - yes, but from health protection program perspective - still trying to figure out roles.*
- *still not quite sure how health protection can implement HBE initiatives*
- *that there is potential for a role; still a bit unclear exactly how (all of the above: post-event evaluation questionnaire respondents)*

This illustrates the multi-level relational challenges faced by public health organizations in addressing HBE issues.

Conduct of applied research to develop tools whose eventual uptake could stimulate policy actors to consider health focus. A final strategy used by HCBD nodes and the HCBD CLASP overall was the conduct of applied research to develop tools whose eventual uptake could stimulate policy actors to consider health focus. Initiatives considered here are set of studies undertaken by Montreal Public Health, as well as the cross-provincial tools whose development was led by Toronto Public Health.

The Montreal HCBD node essentially understood itself to be an applied research project. This project involved:

1) Creating an inventory and maps of community-based green neighbourhood projects supported by a diverse set of funds provided through public health, municipalities and the province (the inventory includes socio-demographic, health, and physical environment layers);

2) Production of case studies in neighbourhoods to examine the articulation of diverse projects (those of NGO's and other built environment actors, and

3) Development and pilot testing of pedestrian audit methodology and support tools for community organizations. The testing occurred in two case studies engaged in green neighbourhood projects, whose data were available through inventory and mapping initiative. The pilot walkability audit was carried out in 2011, with results presented at stakeholder fora in early 2012. These included community sector representatives, researchers, and the engineering and traffic departments of the City of Montreal and the relevant boroughs. The products of this work, incorporating feedback obtained from the fora and broader public presentations, will be transformed into toolkits for use by community groups in developing initiatives to improve neighbourhood greening and walkability. These toolkits will be released later in 2012.

The Residential Preferences Survey project consisted of development, conduct and analysis of a population survey to gauge public demand for various neighbourhood settings, including more walkable and more vehicle oriented neighbourhoods, and to compare stated preferences with revealed demand in both the Greater Toronto Area and the Greater Vancouver Regional District.

The survey was conducted on-line. It sampled within Greater Vancouver, Peel and four regions in the GTA, but the resulting sample sizes outside Toronto were small. The survey results, available to in draft form at time of writing, will aim to further understanding of demand for certain types of neighborhood environments and how demand varies across socioeconomic cohorts in Greater Toronto and Greater Vancouver. A Toronto-specific report is being prepared; while it is expected that this will form background information to be used by public health to help influence residential neighbourhood planning decisions, interviewees had divergent views as to how much new insight it provides, versus serving mainly to reinforce existing strategies towards more walkable neighbourhoods.

Toronto Public Health also oversaw the enhancement of publicly accessible scenario-building software tool called CommunityViz[18] , by furthering developing a "health outcomes" function. This tool is intended to guide decision makers in evaluating which approaches to land development and transportation investments are the most health promoting. Development of the software tool required acquisition and merging of various databases with GIS information, in order to allow comparison of contrasting computer-modelled scenarios for neighbourhood design in terms of their predicted impacts on daily energy expenditure, odds of being obese, blood pressure, and physical activity levels. The tool was to have been pilot tested and refined in Toronto and Greater Vancouver within the terms of CLASP funding and then shared with other HCBD nodes. At the time of data collection, arrangements had been made for a test in the high-profile Toronto Waterfront Re-development[19], in the context of the construction of the Athletes' Village for the 2015 Pan-Am Games. The uptake strategy for the software tool will follow, but interviewees expected it will be used in two main ways: in helping to generate GIS-based maps for various planning purposes, and use by departments involved in developing secondary plans, such as transportation.

Applied research initiatives carry a certain level of risk, as they are by definition exploring new territory. The HCBD CLASP experienced some consequences of the risks. The challenges reported by TPH in managing these contracts were mentioned above. In addition, it was intended that oversight on these project be carried out by multi-stakeholder Advisory Committees, whose role was to provide oversight and guidance for the projects. However, these committees were only convened and engaged once or twice, limiting Advisory Committee's input and engagement. According to interviewees, this was related to timeline slippage on these projects, which turned out to be much more complex than originally understood and required to downsize stakeholder engagement significantly in order to allow completion of the tools and research products by March 31, 2012. Because of the late delivery, the results of these projects were not available to the other CLASP nodes, who in interviews appeared to know little about this component of the HCBD CLASP. In another example of risks of applied research, TPH prepared a report on health inequalities and the built environment, exploring the relationships between socio economic status, health outcomes and the urban built environment characteristics such as proximity to sources of air pollution, urban heat, green

[18] http://www.activelivingresearch.org/files/ToolsEstimateHealthImpacts_Workshop_Frank.pdf
[19] http://www.waterfrontoronto.ca/

space, urban design, and urban transportation. The report complemented a national initiative already being undertaken by CIHI.[20] The report's findings were inconclusive, perhaps due to methodological challenges, and it was not released.

4. DISCUSSION AND CONCLUSIONS

Overall, the results of this process and outcome evaluation of the Healthy Canada by Design CLASP highlight both the potential and the challenges the facing public health organizations for working with new partners and in new ways, to influence built environment factors that are determinants of chronic disease outcomes.

At a process level, the evaluation found that resources for the process were generally considered to be adequate, although constraints were evident in different sites for different contextual reasons. The projects were seen to have functioned well, as was the overall HCBD CLASP, with one exception: there was consensus among nodes that they had not yet been able to learn enough about and fully benefit from the work carried out by the other nodes.

The above finding highlights a key feature of this CLASP that was structured by the nature of healthy built environment work. In order to successfully develop their capacities and engage with built environment partners in the planning sector, the nodes exerted their energies mostly outside the formal CLASP coalition of health authorities, HSFC, UPHN and the CIP. The evaluation showed that all of the HCBD nodes were successful in engaging with partners outside the health sector. In addition to governments of 33 municipalities, cities, and towns, these included many provincial government departments: district, county or regional authorities such as transportation authorities; and national, provincial, regional or local non-governmental organizations. In terms of the quality of relationships among HCBD partners, there was shift from before HCBD toward networking, cooperation and collaboration. Moreover, the partnerships achieved the expected outcome that "the health and planning sectors have increased understanding and improved skills for influencing built environments to promote health." Over 80% of the partners surveyed agreed that as a result of these linkages, they had increased their understanding of the relationship between built environment and health, and about two-thirds agreed they increased their skills for working with public health to address health through the built environment. This was mirrored by participating public health staff's perception of a concomitant increase in their skills for working with the planning sector.

Although HCBD's partnerships were successful, expanding and diversifying over the CLASP funding period, other findings illustrated the high degree of complexity of the inter and inter-organizational relationships that must be navigated for public health to be an effective actor in this policy area. Within the health sector alone, the evaluation documented navigation of new roles and relationships: between the roles of MOH and professional staff in dealing with

[20] CIHI's report, Urban Physical Environments and Health Inequalities was released in March 2011. http://www.cihi.ca/CIHI-ext-portal/pdf/internet/CPHI_UPE_SUMMARY_REP_EN

municipalities; between public health functions and the health care system with its curative focus; between the traditional practice of environmental health and the newer focus on built environment as a sector within chronic disease prevention; and between contiguous health regions who share municipal or regional partners or interests. Moreover, public health acted at several levels in its relationships with municipalities: interfaces were created or strengthened between health and planning professionals, and also between public health senior managers and elected officials or public bodies. Public health staff working with planning professionals were sometime seen as allies by planners working to advance progressive planning agendas in their organizations. And, in some nodes, public health also supported citizen mobilization to influence municipalities.

Using these various types of relationships as they judged best in their contexts, each HCBD node engaged in multiple initiatives to influence the health of urban environments in their jurisdictions. These can be grouped into three main strategies: direct interjection of health issues into municipal and regional planning processes; development of resources for or skills in public health or planning units to enable them to include more health focus; and conduct of applied research to develop tools whose eventual uptake could stimulate policy actors to consider health focus. The evaluation identified evidence of increased consideration of health and influences on built environment policies or plans resulting from the first two of these strategies. This was not the case for the third, because the applied research products were only completed at the end of the CLASP funding and have not yet been transferred to public health or planning practice.

With respect to the interjection of health issues into municipal and regional planning processes, somewhere between one-quarter and one–third of HCBD participants in either the public health or the planning sides were of the view that HCDB had already produced policy or program changes that could affect the built environment. This is probably an encouraging level, given the complexities described above, the time frame required for policy changes, and the pace of municipalities' planning activities.. It is moreover possible to trace more consideration of health issues in planning, often in official community plans but also in transportation and other types of planning. There was also some early evidence of changes in planning policy that are attributable to HCBD activities. This is consistent with partners' reports that they most often engaged with the public health staff in the node through sharing of knowledge, technical advice, expertise or recommendations, along with reports that this type of engagement was most likely to have helped the health and planning sectors in their region work more closely together.

Some nodes worked to develop resources or tools to enable planners to include more health focus in their products, as well as on developing skills through workshops or events. Tools such as Peel's Healthy Development Index are proving to be useful supports to policy change, paying off considerable investment in readjusting and refinement based on input from the planning community. Reflecting the early stages of this work, a minority of HCBD planning sector partners reported using tools, resources or other types of knowledge products developed by HCBD. Interestingly, using such tools and resources – which is the most traditional form of KT used in public health -- was not very helpful in bringing the health and planning sectors to

actually work more closely together. HCBD nodes also designed and carried out many workshops aiming to enhance understanding and increase skills among planning and other non-health sector audiences. Among 298 planning sector participants at 16 of these events, over 90% said they were somewhat or very likely to change their practices as a result of what they had learned.

Overall, the activities undertaken by the six nodes show that public health can adopt many roles and operate at many levels in working with the planning sector in healthy built environment. Given the various dynamics internal to municipalities and the different historical and emerging relationships between RHAs and municipalities across the country, there are likely advantages and disadvantages to these roles in different circumstances. For example, being in on the ground floor of planning decisions as an integral member of a planning team obviously provides opportunities for a public health unit to provide key technical expertise to influence strategic orientations early in the evolution of ideas. However, public health then bears some responsibility for the inevitable compromises that are involved in built environment decisions, authorizations, and allocations. This may be less comfortable role for those in public health for whom evidence-based decisions are paramount. A more distant relationship from planning decisions, such as that of a reviewer of official plans or a submitter of briefs, is consistent with the legislated surveillance mandate for public health, which allows the MOH to function as a watchdog for population health. Future evolution of these early-stage relationships being developed by the HCBD nodes will be of interest as public health mandates increasingly embrace action on built environments.

Overall conclusion: Potential health outcomes

While the HCBD nodes had many commonalities, it is also true that their work engaged municipal governments and planning sectors in ways that would be expected in the long term to affect multiple population health outcomes. A main focus across the nodes was on promoting physical activity through walkability and active transport. Some nodes included actions that will also affect respiratory health by improving air quality and GHG control, while others expected healthy nutrition outcomes though better food security. In addition, there was some attention to environmental health concerns related to climate change (heat illness related urban heat islands) that intersect with the health effects of air pollution; both are closely tied to transportation policy that can also affect walkability and active transportation. A health equity lens was also highly present throughout all the CLASP nodes. However, a learning made even clearer than it was at the outset through the HCBD initiative is that measurable success in producing healthier built environments and then improved population health outcomes is only attainable in the long term. As an interviewee pointed out: *"appreciable community-level change can only happen over a 10-year planning spectrum"*: different layers of plans and sets of policy actors will come into play over time to fully enact healthy built environment policy. In this longer tem perspective, HCBD likely contributed to catalyzing changes by building a foundation of skills and relationships for action on health and the built environment.

Appendix 1: Evaluation questions, indicators and data sources
Appendix 2: Evaluation tools