

Public Health and the Role of the MOH

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Objectives

- List the core functions of Public Health
- Describe the role of a Medical Officer of Health
 - Understand how MOH work focuses on prevention at the population level, in contrast with treatment at the individual level
- Review some examples of MOH work at the WRHA (case-based and situational)
- Understand our role in supporting Healthy Built Environments as an example



But first... where are we?

- Where are the wards and patients?
- Why do we have a community health services site for the WRHA?
- Who is located here and what happens at this location?
- Is it healthy (or even tolerable) to sit at a screen or in meetings all day?



Core Functions of Public Health

(traditional)

- **Health Surveillance**
 - Health surveys, communicable disease control
- **Health Promotion**
 - Advocate for healthy public policy, community programs, social/physical environment, health equity
- **Health Protection**
 - Water treatment, air quality, restaurant inspections, communicable disease
- **Disease and Injury Prevention**
 - Immunizations, outbreak control, falls, suicide, violence, emergency/disaster management, chronic disease prevention
- **Population Health Assessments**
 - Health needs of community, report card of system and health



Public Health Conceptual Framework (*new*)

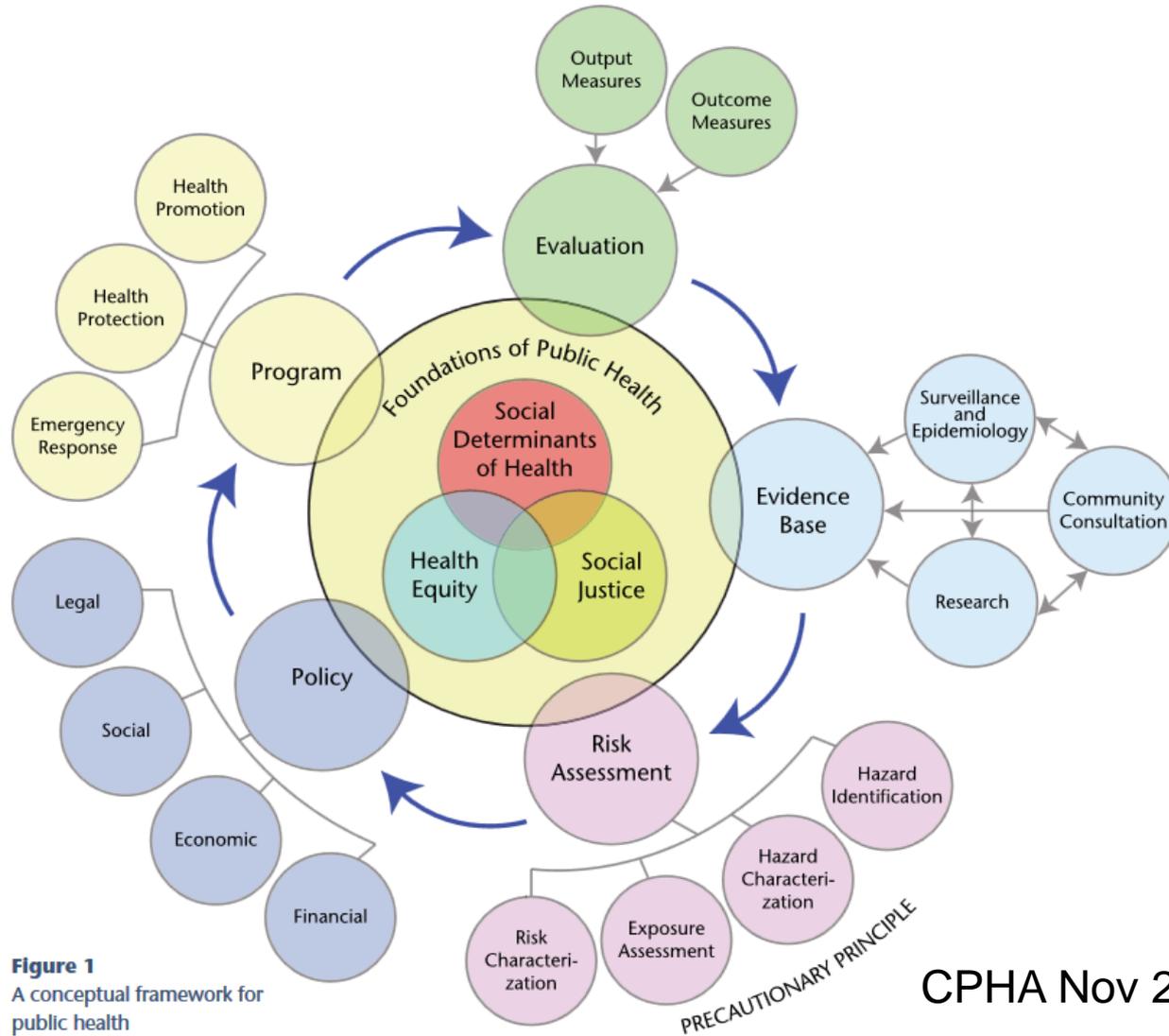


Figure 1
A conceptual framework for public health

CPHA Nov 2016

Determinants of Health

Classically

Health Services

Gender

Culture

Income and Social Status

Social support Networks

Education and Literacy

Employment/Working Conditions

Social Environments

Physical Environments

Personal Health Practices and Coping Skills

Healthy Child Development

Biology and Genetic Endowment

Other (NCCAH)

colonialism, racism, social exclusion, repression of self-determination, cultural continuity, environmental stewardship



Moving Upstream



Source: NCCDH Let's Talk Moving Upstream

MOH ROLE

(Where do you put your stethoscope and what do you prescribe when your patient is a **population**?)

- **Professional**
 - Public health consultant
 - Policy, Planning and Program Development
- **Communicator**
 - Often media spokesperson (e.g. drinking water crisis, outbreak, public health threat)
- **Health Advocate**
 - Key role in supporting healthy public policy
- **Collaborator**
 - Building bridges with other sectors that influence the DOH
- **Leader**
 - Leadership within organization & MB Health (Public Health Branch)
- **Scholar**
 - Applied Public Health Research
 - Educator



Life of a MOH - WRHA

- 9 MOH's working 5.6 FTE – City of Winnipeg, East and West St. Paul, Churchill
- Expertise in specific public health content areas
- SOME- legislated duties to investigate and mitigate health hazards
 - Public Health (includes reportable CDs), Drinking Water and Environment Acts
 - Risk identification and assessment (environmental health)
 - Consultation & outbreak mgmt (communicable diseases)
- MORE- leadership- healthy public policy, strategy and program development



ROLE STATEMENT: Population and Public Health works with you, your family, community and partners. We work with all to promote population health, prevent disease and injury, as well as to create healthy places and relationships. Our goal is to educate, advocate and work with people and communities to reduce health differences and to improve everyone's health.

Content/Service Areas
Communicable Disease Prevention & Management
Environmental Health
Healthy Built Environments
Healthy Parenting & Early Childhood Development
Healthy Sexuality & Harm Reduction
Immunization
Indigenous Health Promotion
Injury Prevention
Mental Health Promotion
Nutrition Promotion
Physical Activity Promotion
Tobacco Reduction
Travel Health
Tuberculosis Prevention & Management
Surveillance & Epidemiology
Under Development
Healthy Children & Youth
Substance Use & Harm Reduction



Strategic Priorities (2012-2017)
Closing the Gaps in Indigenous Health
Applied Public Health Research
Health Equity Promotion
Health Communication
Healthy Built Environments
Healthy Public Policy



Scenarios



Case Scenario 1

A member of a neighbourhood is worried that a number of young kids have developed cancer and is worried that there is something in the community causing this. What should be done next?



Case Scenario 1 (con'd)

- Use CDC cluster investigation framework:
 1. Determine if cluster exists
 - Epidemiology of cancer in community versus other communities?
 2. Assemble team
 3. Develop a case definition
 4. Expand case finding
 5. Characterize all cases
 6. Test theory(s)
 7. Do results correspond to known facts?
 8. Communicate findings
 9. Implement control measures
 10. Write a report



Case Scenario 2

46 year old male was attacked by a dog while walking down the sidewalk in Elmwood after midnight. He sustained a puncture wound to his left calf. The dog is unknown to him and he does not have any information on owner of the dog. What do you do next? What information do you need to gather? Does this person require rabies post-exposure prophylaxis?



Case Scenario 2 (con'd)

Considerations:

- Provoked or unprovoked attack?
- Urban or rural?
- Dog available for monitoring/testing?
- Vaccination history of dog?
- Type of wound?
- Time of treatment after bite?

Recommendation:

- Low risk bite, PEP not recommended
- Search for dog for up to 10 days then monitor health
- If not found, can offer PEP if uncomfortable with risk

Case Scenario 3

A large junkyard in Transcona is on fire. What should you do next? What questions need to be asked? What should be advised to nearby residents?



Case Scenario 3 (con'd)

- Complete a risk assessment
 - Health hazards (i.e. contents of junkyard)?
 - Size of fire?
 - Proximity of public to yard?
 - Underlying environmental factors?
- AQHI (Air quality health index)?
- Risk management & risk communication



AQHI

Each risk category is associated with specific health advice for those at risk (children, seniors, people with heart or lung conditions and diabetics) and the general population.

Health Risk	Air Quality Health Index	Health Messages	
		At Risk Population	General Population
Low	1 - 3	Enjoy your usual outdoor activities.	Ideal air quality for outdoor activities.
Moderate	4 - 6	Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.	No need to modify your usual outdoor activities unless you experience symptoms such as coughing and throat irritation.
High	7 - 10	Reduce or reschedule strenuous activities outdoors. Children and the elderly should also take it easy.	Consider reducing or rescheduling strenuous activities outdoors if you experience symptoms such as coughing and throat irritation.
Very High	Above 10	Avoid strenuous activities outdoors. Children and the elderly should also avoid outdoor physical exertion.	Reduce or reschedule strenuous activities outdoors, especially if you experience symptoms such as coughing and throat irritation.



Scenarios- Issue Based

- Huge health gaps exist between disadvantaged and advantaged areas of the health region. How can gaps be narrowed?
- TRC report has several calls to action related to health- what is public health's role?
- There is a significant relationship between income and health outcomes- what is the health care sectors role related to sufficient income for health?
- The City of Winnipeg is reviewing it's planning document OurWinnipeg. How can this be an opportunity to improve conditions for health for Winnipeg residents?



News Topic?

- Recent news related to public health or a public health topic?
- What have you seen in the news?



Public Health?

- **Who** – Medical Officer of Health (MOH), PHN, PHI, Epidemiologists, Kinesiologists, Social workers, Policy analysts, Psychologists, Dieticians, Urban Planners, etc....
- **What** – Nearly everything! MOHs can get involved in all aspects of prevention/promotion (broad)
- **Where** – Anywhere! In offices, meetings, community sites, partners locations, public spaces
- **When** – All the time, an MOH is always on call
- **Why** – Health is more than just healthcare



An Example of MOH Work

- Supporting Healthy Built Environments
 - One way of being involved upstream
 - Allows for potential health benefits to the population at a level not directly related to health care
 - Role of the MOH
 - Collaborator- bring stakeholders together
 - Educator- for stakeholders and the public
 - Advocate- for supportive environments for the public



Assigned Reading

HEALTHY BUILT ENVIRONMENT LINKAGES -
A TOOLKIT FOR DESIGN • PLANNING •
HEALTH

- http://www.phsa.ca/Documents/linkages_toolkitrevisedoct16_2014_full.pdf



Public Health & Built Environment

19TH CENTURY EPIDEMIC

- Infectious Diseases (e.g., cholera, typhoid, typhus, tuberculosis)

POLICY RESPONSE:

- Clean drinking water
- Sewage systems
- Ventilation of living spaces
- Streets open to sunlight and air circulation
- Demolition of poorly ventilated, crowded tenements
- Public parks

**USE OF
COMMUNITY
DESIGN TO
ADDRESS MAJOR
PUBLIC HEALTH
ISSUES,
THEN AND NOW**

20TH CENTURY EPIDEMIC

- Chronic Diseases (e.g., diabetes, cardiovascular diseases)

POLICY RESPONSE:

- Healthy, compact, complete communities supporting increased walking, cycling and public transit use

Definition – Built Environment



The built environment is part of the **overall ecosystem** of our earth.

It includes the **land-use planning and policies** that impact our communities in urban, rural, and suburban areas.

It encompasses **all buildings, spaces, and products** that are **created or modified by people.**

- Health Canada 1997



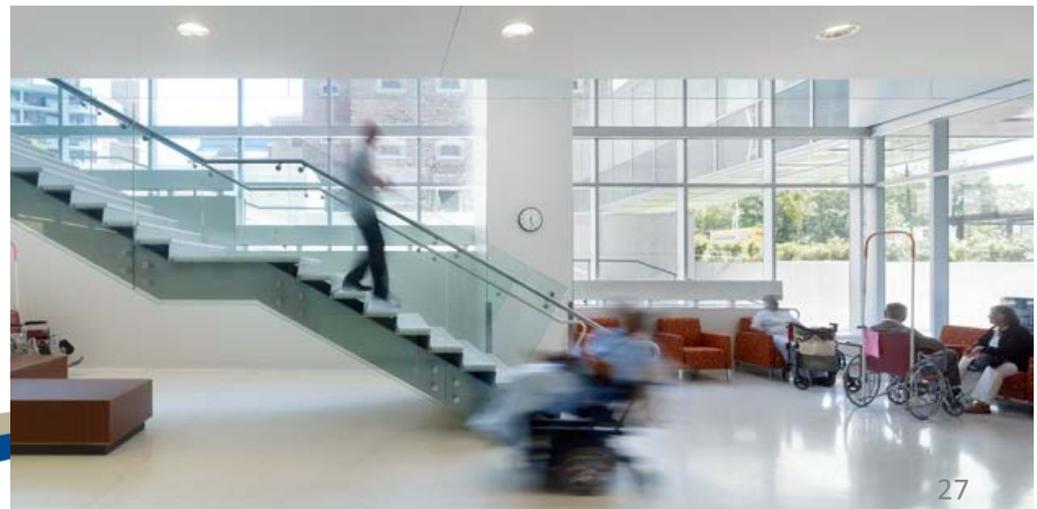
Definition – Built Environment



It extends overhead in the form of electric transmission lines, underground in the form of waste disposal sites and subway trains, and across the country in the form of highways.

It includes **our homes, schools, workplaces, parks/recreation areas, business areas and roads.**

- Health Canada 1997



Healthy Built Environment Terminology

Some related terms and concepts:

- Mixed land use
- Distance to amenities
- Density (residential and employment)
- Street connectivity
- Walkable neighbourhoods
- Transportation networks



Healthy Built Environment & Population Health Impacts

Promotes:

- Physical activity
- Access to affordable nutritious food
- Mental health
- Access to affordable, quality housing
- Social well-being

Reduces:

- Air and noise pollution
- Traffic-related injuries

Increases health equity.



Physical Features of a Healthy Built Environment



PROMOTING EQUITY • ACCESS • DESIGN FOR ALL AGES



Healthy Neighborhood Design



Neighborhoods where people can easily connect with each other and with a variety of day-to-day services.

- ✓ Enhance neighbourhood walkability
- ✓ Create mixed land use
- ✓ Build complete and compact neighbourhoods
- ✓ Enhance connectivity with efficient and safe networks
- ✓ Prioritize new developments within or beside existing communities



Healthy Transportation Networks



Safe and accessible transportation systems that incorporate a diversity of transportation modes and place priority on active transportation over the use of private vehicles.

- ✓ Enable mobility for all ages and abilities
- ✓ Make active transportation easy and safe
- ✓ Prioritize safety
- ✓ Encourage use of public transit
- ✓ Enable attractive road, rail and waterway networks



Healthy Natural Environments



A built environment where natural environments are protected and natural elements are incorporated, and experienced by and accessible to all.

- ✓ Preserve and connect open space and environmentally sensitive areas
- ✓ Maximize opportunities to access and engage with the natural environment
- ✓ Reduce urban air pollution
- ✓ Mitigate urban heat island effect
- ✓ Expand natural elements across the landscape



Healthy Food Systems



A built environment that can support access to and availability of healthy foods for all.

- ✓ Enhanced agricultural capacity
- ✓ Increase access to healthy foods in all neighbourhoods
- ✓ Improve community-scale food infrastructure and services



Healthy Housing



Affordable, accessible, and good quality housing for all that is free of hazards and enables people to engage in activities of daily living while optimizing their health.

- ✓ Increase access to affordable, safe housing
- ✓ Ensure quality housing for all
- ✓ Prioritize housing for old, disabled, impoverished



Promoting a healthy built environment also promotes **health equity**

Neighbourhood amenities for all
(e.g. childcare and schools, recreation,
grocery stores, retail stores, spiritual settings)

A range of
sustainable
transportation
options

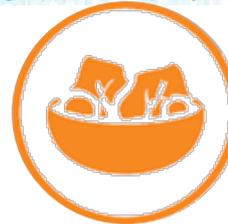


Diverse housing
forms that include
affordable housing

health for all

Building Winnipeg's Health Equity Action Plan

Natural environments
to be experienced
and accessed by all



Space for
community gardens



Scenario

- Bishop Grandin Crossing is a new infill development being proposed for 131 acres of land within the Chevrier industrial neighborhood which is bounded by McGillivray Blvd to the north, Manitoba hydro transmission line corridor to the East, Bishop Grandin Blvd to the South and Waverly Street to the West. The proposed development will include residential multi family, single dwelling homes (32 acres), commercial/office development (64 acres) with parks (7 acres). Within the context of neighborhood development public health has been contacted to provide their opinion on the development and the health consequences of the design of the development. Please provide your expert opinion in relation to this. A site map is below.



Aerial view of location of proposed development



Schematic of Bishop Grandin Crossing Proposed Site Development



Notes

- No nearby park or school exists
- Close proximity to:
 - Proposed rapid transit site on East side
 - Commercial services and major through fare on east side of Pembina
- Surrounding lands accommodate mostly industrial or commercial development



Who are the Stakeholders?

- Architects
- City planners
- Other City staff (Parks, Transit, Water Services)
- Bike Winnipeg
- Local neighbourhood citizens
- Local businesses



Task

- Divide into 5 groups to address each of:
 1. Healthy Neighbourhood Design
 2. Healthy Transportation Networks
 3. Healthy Natural Environments
 4. Healthy Food Systems
 5. Healthy Housing
- Report Back!



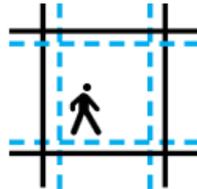


Healthy Neighborhood Design

Walkable neighbourhoods

Impacts:

↑ PA
Walking
Cycling



Outcomes:

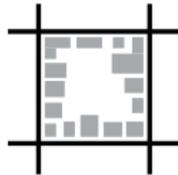
↑ **employment productivity**

Compact neighbourhoods

(high residential & employment density)

Impacts:

↑ Air quality
Transit use
PA
Walking
Cycling



Outcomes:

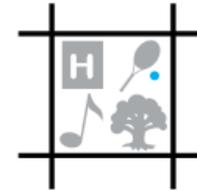
↓ **unintentional injury**
↓ **premature mortality**

Mixed land use

(access to schools, libraries, retail, employment)

Impacts:

↑ PA
Walking
Cycling



Outcomes:

↓ **obesity**
↑ **mental health**
↑ **social cohesion**
↑ **quality of life**
↓ **premature mortality**

Proximity to parks and other recreation facilities is consistently associated with higher levels of **physical activity**.





Healthy Transportation Networks

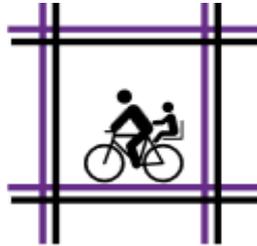
A range of - sustainable
- safe
- enjoyable
- accessible transportation

options

Impacts:

↑ Transit use
 PA
 Walking
 Cycling
 Air quality
 Safety

↓ Noise



Outcomes:

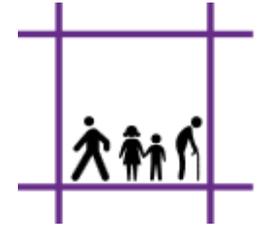
↓ **unintentional injury**
 ↑ **social connectivity**
 ↓ **premature mortality**

Red light cameras, left turn lanes and separated bike lanes have been shown to greatly **decrease traffic collisions and injuries** among all road users.

Mobility for all ages & abilities

Impacts:

↑ Physical activity
 Walking
 Perception of safety
 Transit use



Outcomes:

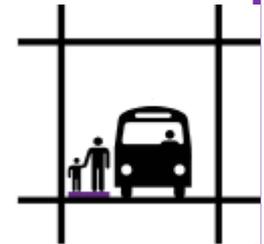
↓ **unintentional injury**

Public transit use

Impacts:

↑ PA
 Walking
 Cycling
 Safety
 Air quality

↓ Noise



Outcomes:

↓ **obesity**
 ↓ **unintentional injury**
 ↑ **quality of life**





Healthy Natural Environments

Access & engagement with natural environments

Impacts:

↑ PA
↑ Stress
↑ Social interaction
↑ Spiritual inspiration
↑ Biodiversity



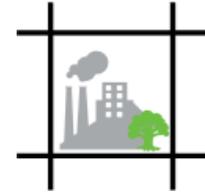
Outcomes:

↑ **physiological health**
↑ **cognitive health**
↑ **psychological health**
↑ **social well-being**
↑ **spiritual well-being**
↑ **vitamin D mediated health outcomes**

Addressing urban air pollution

Impacts:

↓ Particulates
↓ Ozone
↓ Harmful emissions



Outcomes:

↓ **hospitalization for respiratory illness**
↓ **cardiovascular mortality**

Addressing urban heat island effect

Impacts:

↓ Air temperature

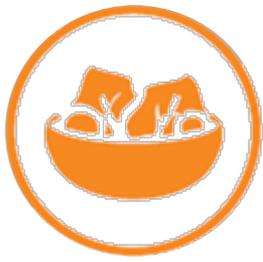


Outcomes:

↓ **heat related morbidity and mortality**

Natural spaces provide an opportunity to **explore, learn and take risks** that structured environments do not encourage.





Healthy Food Systems

Access to healthy food retail & services

Impacts:

- ↑ Grocery stores
- ↑ Farmers markets

Outcomes:

- ↑ diet quality
- ↑ diet related illness
- ↑ food skills
- ↓ obesity



Community food infrastructure & services

Impacts:

- ↑ School gardens
- ↑ Community kitchens

Outcomes:

- ↑ diet quality
- ↑ food skills
- ↑ social skills
- ↑ social supports
- ↑ community empowerment
- ↑ coping skills
- ↑ healthy behaviours





Healthy Housing

Access to affordable housing



Outcomes from increased access: Outcomes from lack of access:

- ↑ general health
- ↓ domestic abuse
- ↓ violence
- ↑ mental health
- ↑ food security
- ↓ obesity
- ↑ QOL

- ↓ social interaction
- ↑ psychiatric distress
- ↑ unintentional injury
- ↑ conflict
- ↑ depression

Adequate housing quality

(structure, heating, insulation & ventilation)

Outcomes:

- ↑ respiratory health
- ↓ winter mortality
- ↑ psychological health
- ↓ unintentional injury
- ↑ neurodevelopment
- ↑ general health
- ↓ mortality
- ↑ QOL



Prioritize housing for vulnerable populations for these additional benefits:

Outcomes:

- ↑ mental health
- ↓ injuries
- ↓ risk behaviour
- ↓ hospitalization



Review of Objectives

- Discuss the role of MOH's in WRHA
- List core Public Health Activities
- Review some examples of MOH activities within the WRHA
- Review a day in the life of an MOH in the WRHA
- Understand the Healthy Built Environment



Healthy Built Environment Framework

- Define the geographic area of concern (e.g. demographics, community health assessment data, history of land use, political tensions, etc)
- Engage stakeholders, both within (e.g. city planners, provincial) and outside of government (e.g. NGOs, developers, architects) to determine present strategies, future planning, and learned lessons.
- Determine what scope and capacity is feasible for public health to commit to (resources, time frame, political considerations).
- Look at:
 - Healthy neighborhood design
 - Where people can easily connect with each other in a variety of day to day services
 - Enhance walkability
 - Mixed land use
 - Complete and compact neighborhoods
 - Connectivity with efficient and safe networks
 - New developments within or next to old ones
 - Healthy transportation Networks
 - Safe and accessible transportation systems that incorporate a diversity of transportation modes and place a priority on active transport
 - Ensure mobility for all ages and abilities
 - Active transport is convenient and safe
 - Prioritize safety
 - Ensure networks are attractive
 - Encourage public transit



HBE – Framework continued

- **Healthy natural environments**
 - **Where natural environments are protected and incorporated and experienced and accessible to all**
 - **Preserve and connect open spaces**
 - **Maximize opportunity to access and engage natural environment**
 - **Reduce air pollution**
 - **Mitigate urban heat island**
- **Healthy housing**
 - **Affordable, accessible, quality housing for all the is free of hazards and enables people to engage in activities of daily living while optimizing health**
 - **Increase access to affordable, safe housing**
 - **Ensure quality housing for all**
 - **Prioritize housing for old, disabled, impoverished**
- **Healthy food systems**
 - **Can supports access to and availability of healthy foods to all**
 - **Enhance agricultural capacity**
 - **Increase access to healthy foods**
 - **Improve community food infrastructure and services**

• **Work with stakeholders to evaluate present day situation and determine potential future direction working with the information obtained in 4 and ensure a health equity approach is used in all facets of evaluation and design.**



Scenario

- Bishop Grandin Crossing is a new infill development being proposed for 131 acres of land within the Chevrier industrial neighborhood which is bounded by McGillivray Blvd to the north, Manitoba Hydro transmission line corridor to the East, Bishop Grandin Blvd to the South and Waverly Street to the West. The proposed development will include residential multi family, single dwelling homes (32 acres), commercial/office development (64 acres) with parks (7 acres). Within the context of neighborhood development public health has been contacted to provide their opinion on the development and the health consequences of the design of the development. Please provide your expert opinion in relation to this.
- Location is noted – noted, area is an infill development area, no local park or school, close proximity to commercial and major through-fare on East side Pembina), Surrounding lands accommodate mostly industrial or commercial development
- **Stakeholders** include architects, city planners, local neighborhood representation (community, NGO, local business), bike Winnipeg,
- Infill development – private monies, public health to look at and provide input in conjunction with other stakeholders on master plan, assign one MOH and one manager to review plan and provide feedback a longitudinal manner



- **Healthy neighborhood design**-Where people can easily connect with each other in a variety of day to day services
 - **Enhance walkability** – ensure bus stops close by; ensure adequate access to future direction of rapid transit (proposed rapid transit site to be on the East Side of development adjacent to the residential component) and other forms of transit (bike paths), look at interconnection to existing paths, ensure area accessible to different modes of transport (bus, bike, pedestrian, rapid transit) dedicated walking paths are incorporated
 - **Mixed land use** – plan has mixed land use – ability to be close to rapid transit and active transport links, the plan also allows people to live and work within a 10 minute walk within the development, the entire site is a mix of commercial, industrial, and high residential land use which is interconnected, and provides park space which is required as the nearest park spaces in the surrounding areas are not easily accessible

ONE ISSUE RECOGNIZED IS A LACK OF A LOCAL WALKABLE SCHOOL or COMMUNITY CENTER

- **Complete and compact neighborhoods** – high density, common areas for social interaction, mitigate air pollutants if possible, within plan to create high density residential with access to commercial space and park land,



- **Connectivity with efficient and safe networks** – ensure proper lighting for parking, bus, walkers, cyclists, ensure facilities available for different modes of transport – parking garage, bicycle storage
- **New developments within or next to old ones** – this entity is a redevelopment in an older area, will access surrounding developments, nearby areas have some heavy industry and need to mitigate pollution effects
- **Healthy housing** - Affordable, accessible, quality housing for all that is free of hazards and enables people to engage in activities of daily living while optimizing health
 - the area is proposed to have new high density residential units being created on the East side of development

NOT SPECIFICALLY DISCUSSED BY DEVELOPER BUT IN GENERAL HIGH DENSITY RESIDENTIAL SHOULD PROVIDE SOME ACCESS TO AFFORDABLE HOUSING – should be addressed though formally

- Increase access to affordable housing - through provision of diverse housing types and tenure
- Ensure quality housing for all (water, sewer, HVAC, natural light, sound mitigation)
- Prioritize housing for old, disabled, impoverished – not addressed in development plan



- **Healthy transportation Networks** - Safe and accessible transportation systems - that incorporate a diversity of transportation modes and place a priority on active transport
 - **Enable mobility for all ages and abilities** – design of area should include ability for all to access and utilize (seniors, disability), all areas wheelchair accessible, benches on walking paths
 - **Active transport is convenient and safe** – close proximity to bus stops, cycling paths, well-marked roads and paths
 - **Prioritize Safety** – focus on pedestrian and active transport users for safety, design emphasis should be on pedestrian and active transport links and paths – dedicated links, can reduce vehicle movement with road design, traffic calming feature (narrow lanes, trees, speed zones)
 - **Ensure networks are attractive** – lighting, cleanliness, architectural design, all paths are well lit at night, trash and recycle containers at bus stops and recreation areas
 - **Encourage public transit** – promote public transport use by limiting car accessibility, design of area to allow for bus use and be in proximity to future rapid transit on east side (residential side)



- **Healthy natural environments - Where natural environments are protected and incorporated and experienced and accessible to all**
 - **Preserve and connect open spaces** – connect if possible to adjacent parkland or create new site on development – development plan calls for park development of 5 acres (4% of entire site), no nearby parks to connect to directly but indirectly will have access to other areas through transport links, by creating park space within the area it provides access to green space within the area – **typically want 10% of area to be park**
 - **Maximize opportunity to access and engage natural environment** – building and site design to encourage ample natural lighting, access, expansion of natural elements across landscape increases opportunity for humans to interact with green space (ponds, park) – is incorporated but is not a large open space more linear related to walking paths along trails, missed opportunity to have a large open green space to help promote physical activity and social interaction in all age groups
 - **Reduce air pollution** – geothermal, green-scaping (trees, shrubs, grasslands incorporated into design of development – location not only in parks but also along pathways, streets)
 - **Mitigate urban heat island** – green-scaping, architectural design



- **Healthy food systems - Can support access to and availability of healthy foods to all**
 - **Enhance agricultural capacity** – space to grow own food, community gardens – **not in proposal**
 - **Increase access to healthy foods** – look at commercial space for grocer, healthy foods restaurant (s)
 - **Improve community food infrastructure and services** – community kitchen, garden – **not in proposal**

When using the HBE Framework and when involved in the process ensure that you work with stakeholders to evaluate present day situation and determine potential future direction working with the information obtained and ensure a health equity approach is used in all facets of evaluation and design.