Built Environment: a multisectoral health issue

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Place and Health 2012, Fredericton, NB
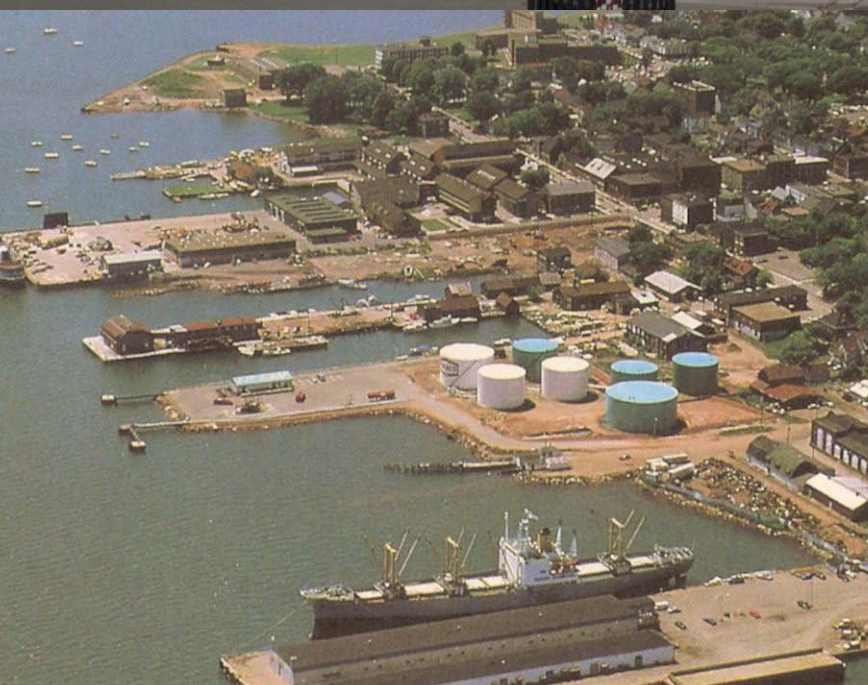

National Collaborating Centre for Environmental Health

Centre de collaboration nationale en santé environnementale

CDC

BC Centre for Disease Control
An Agency of the Provincial Health Services Authority

Outline

1. NB Wellness Strategy 2009-2013; PEI

2. What is *the built environment* and why should public health professionals care about it?

3. Health effects of *the built environment*

4. Look beyond change in individual behaviour

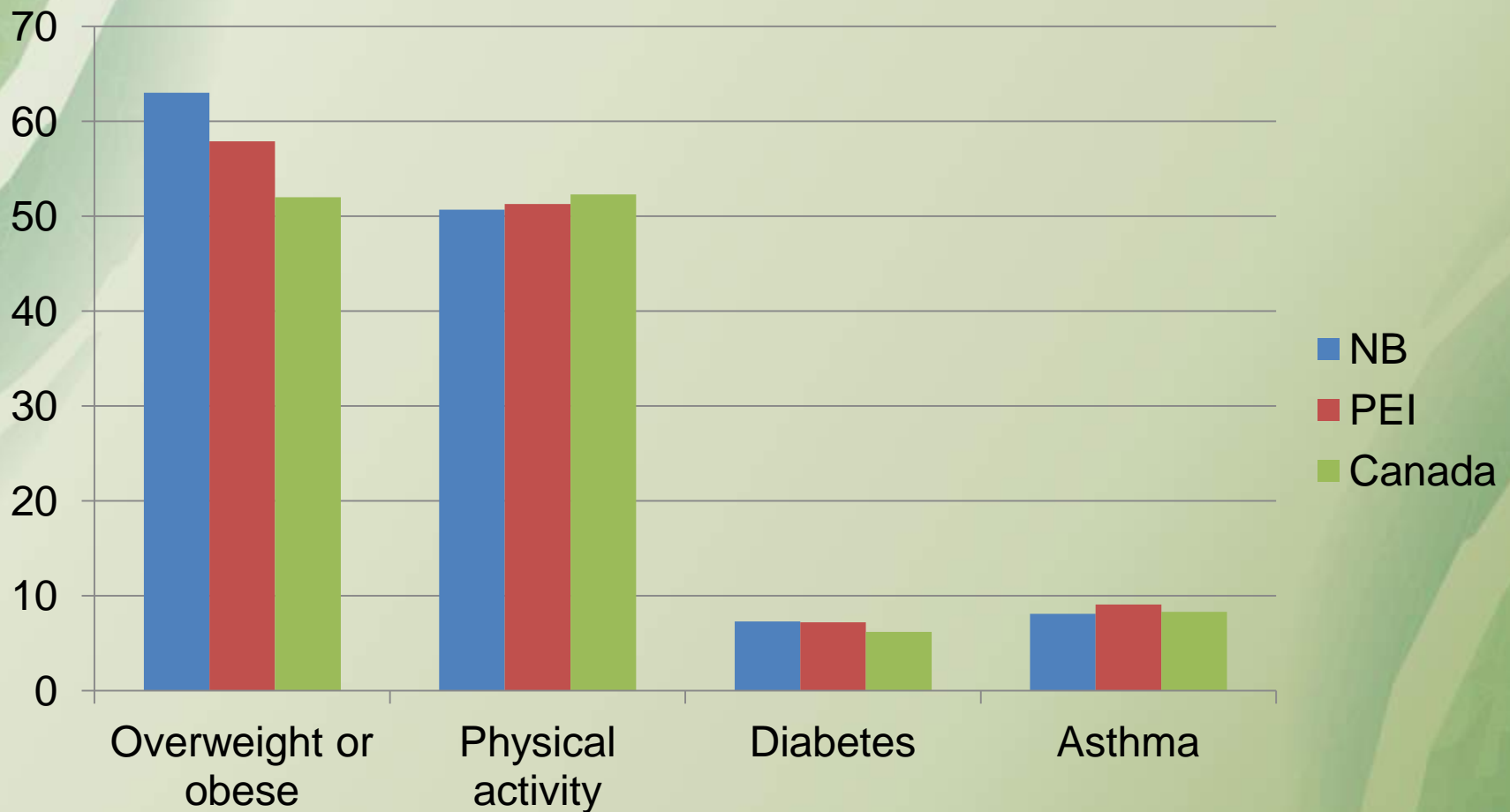5. Why public health professionals should collaborate with planners and others

New Brunswick's Wellness Strategy – Live Well Be Well 2009-2013

- Emotional
- Mental/Intellectual
- Physical
- Social
- Spiritual
- Occupational
- Environmental

Rates of overweight/obese, diabetes, asthma, physical activity, June 2012 Statistics Canada

Other NB statistics
(Ref: NB Wellness Strategy, 2012)

- 34% of 2-17 year olds are overweight or obese vs. 26% in Canada

- Only 21% of Atlantic children (4-18 years) eat recommended servings of fruits and vegetables vs. 38% nationally

- Most in NB not active enough to reap health benefits

- Obesity costs the New Brunswick economy an estimated $200M a year or 1.4% of GDP (2001)

Other PEI statistics
## (PEI CPHO report, 2012)

- By 2020, 1 in 5 people will be >65 years

- Cancer, heart disease, stroke leading causes of death

- Islanders less likely to consume 5 servings of fruits and vegetables than Canadians

- 1 in 5 diagnosed with hypertension
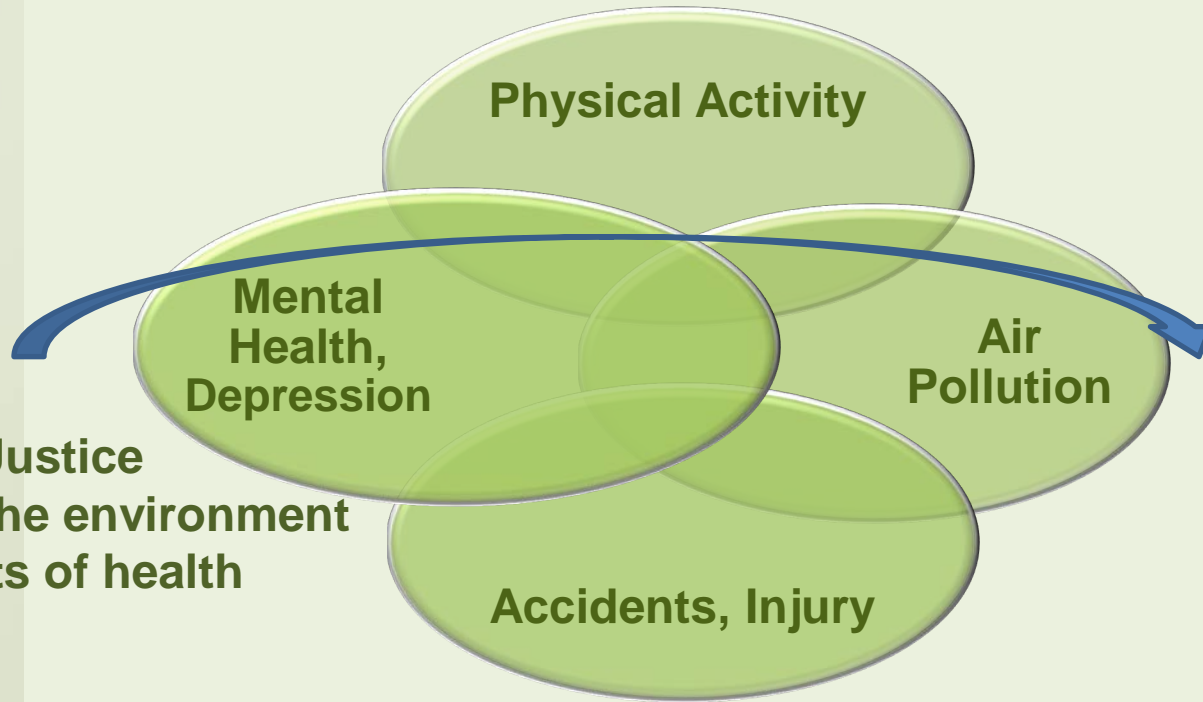
- 1 in 10 diagnosed with asthma

Defining *the Built Environment*

- constructed places, features, and elements that together make our cities, villages, and towns

- varies from large-scale urban areas to rural development and personal space

- includes indoor and outdoor places
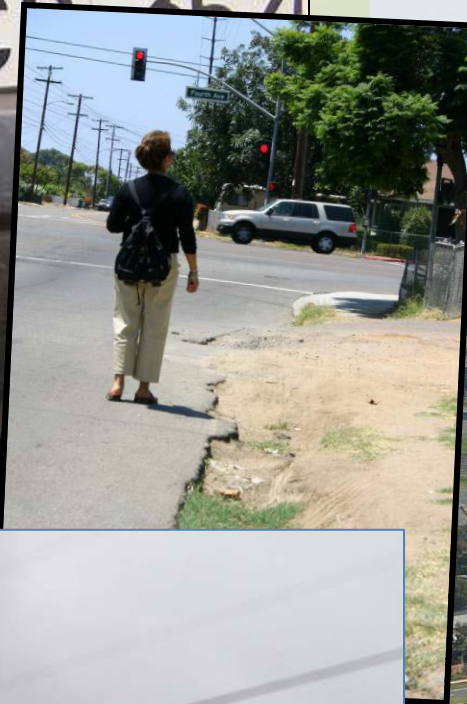
Health and the built environment
themes

Tucs and Dempster, 2007. Linking health and the built environment.

Why do built structures matter to public health professionals?

- Chronic illness and injury are a risk to both public health and our universal health care system.

- Promoting healthy lifestyles is not enough. Effects of *the built environment* must also be addressed.

- Environmental health, planning, and design professionals share the responsibility to promote environments that enhance public health.
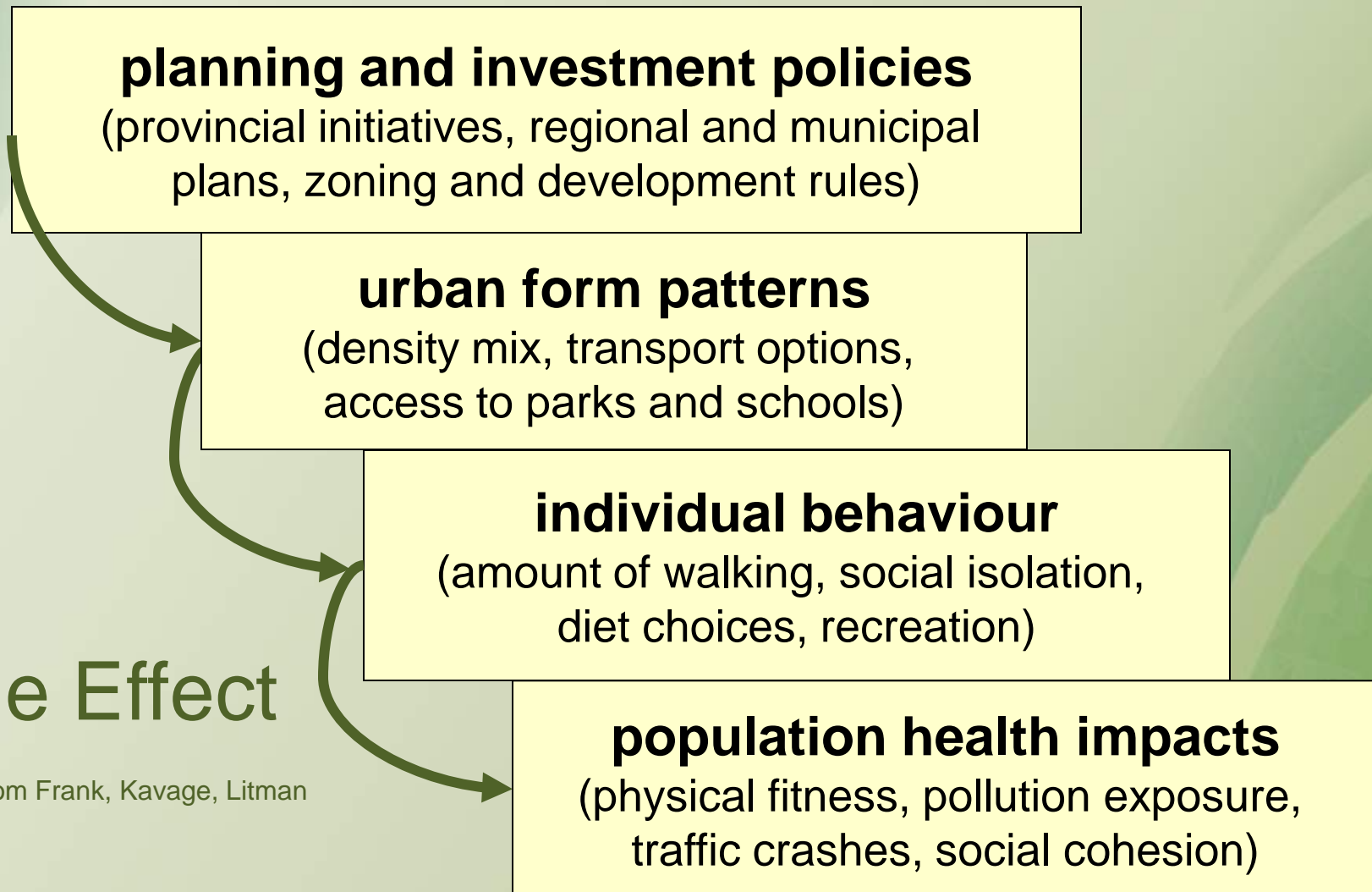
urban sprawl

asphalt nation

schools on the fringe

environmental hazards

How Planning and Design Affect Health

planning and investment policies
(provincial initiatives, regional and municipal plans, zoning and development rules)

urban form patterns
(density mix, transport options, access to parks and schools)

individual behaviour
(amount of walking, social isolation, diet choices, recreation)

Ripple Effect

population health impacts
(physical fitness, pollution exposure, traffic crashes, social cohesion)

Adapted from Frank, Kavage, Litman

Many Aspects of Planning and Design Affect Short and Long-term Health

- accessibility of buildings, programs, and services
- injuries from poorly maintained or poorly designed built elements
- mental health and social inclusion
- physical activity, transportation, and recreation
- indoor and outdoor air quality
- water quality
- food security
- noise

Ensure Access and Inclusion to Improve Health

- loneliness and isolation are toxic

- social relationships can promote health

- people with strong social networks:

  – live longer

  – have less heart disease

  – are less depressed; use alcohol and drugs less

  – have fewer teen births

  – are healthier overall

Prevent Injury Through Design and Maintenance of Built Elements

- activity may be a risky behaviour if *the built environment* is not supportive

- seniors and school children are most vulnerable

- road design - wide arterials in suburban areas are most dangerous

- traffic calming - reducing vehicle speed reduces risk of pedestrian injury

Promote Activity and Healthy Nutrition in Children and Youth

- rate of overweight Canadian children has nearly tripled since 1981

- obesity is highly predictive – a *conveyor belt* to being overweight or obese as adults

- 1 in 3 will be diabetic

Physical Activity

- Walkability
- Active transportation
- Accessibility of stairwells
- Etc.

Su et al, 2010. Designing a route planner to facilitate and promote cycling in Metro Vancouver, Canada.

Walkability

- Walkability – good street lighting, continuous sidewalks, a variety of shops, services, parks, schools, and workplaces within walking distance of homes

- People living in more walkable neighbourhoods are more likely to walk more than 10 minutes a day

- Research indicates that risk of obesity can decline by as much as 10% by walking 24 minutes a day

Bike TRIPS	City of Vancouver, 2012		
	April 2010 – March 2011	April 2011 – March 2012	Year-over-Year Growth
Burrard Bridge	997,000	1,045,000	+5%
Dunsmuir Viaduct	346,000	411,000	+19%
Combined	1,343,000	1,456,000	+8%

Air Pollution Impacts

- Asthma
- Respiratory Illness
- LBW babies
- Coronary heart disease
- Premature mortality

Health Canada, 2010. Diseases and health conditions. Summary tables. Body mass index, overweight or obese, youth

Health Canada, 2010. Physical activity levels of Canadians by province.

Public Health Agency of Canada, 2010. Chronic disease infobase maps. Asthma prevalence.

Improve Air Quality

- asthma is the most common chronic childhood disease
- 7% more asthma among youth living in neighborhoods with high traffic pollution
- anti-smoking and anti-idling by-laws and congestion charges are examples of local policies that can improve public health

Improve Water Quality and Quantity

- contamination from runoff creates disease risks and closes public beaches
- water shortages limit recreational options

New Brunswick's Wellness Strategy Targets for 2013

- Mental – eg.,9 out of 10 children identify as being pro-social, feel connected to school

- Healthy eating – eg.,9 out of 10 children eat fruits and vegetables 5x/day

- Physical activity – eg., 7 out of 10 children and youth take 16,500 steps/day

PEI – Chief PHO Report 2012

- 58% of islanders planned to improve health in next year, and most often cited by exercising (66%)

- Moving forward, one of CPHO's priorities includes health promotion to address burden of chronic disease, like heart disease, cancer, diabetes.

Recognize that Promoting Behavioural Changes Alone will not be Enough

- http://www.youtube.com/watch?v=2lXh2n0aPyw

Why are some people healthy while others are not?

- people with lower income and less education consistently have worse health status than those with higher income and more education

- these inequalities in health are called the socio-economic determinants of health (including occupation, income, education, housing, and access to transportation)

- **good planning and design can help people avoid or change unhealthy physical environments**

Individual action can reduce the impact of health hazards but socio-economic factors make the job harder

Individually oriented preventive action

Health hazards

Environmental health hazards

Lack of education

Inadequate food and nutrition

Unemployment

Poor Housing

Poverty
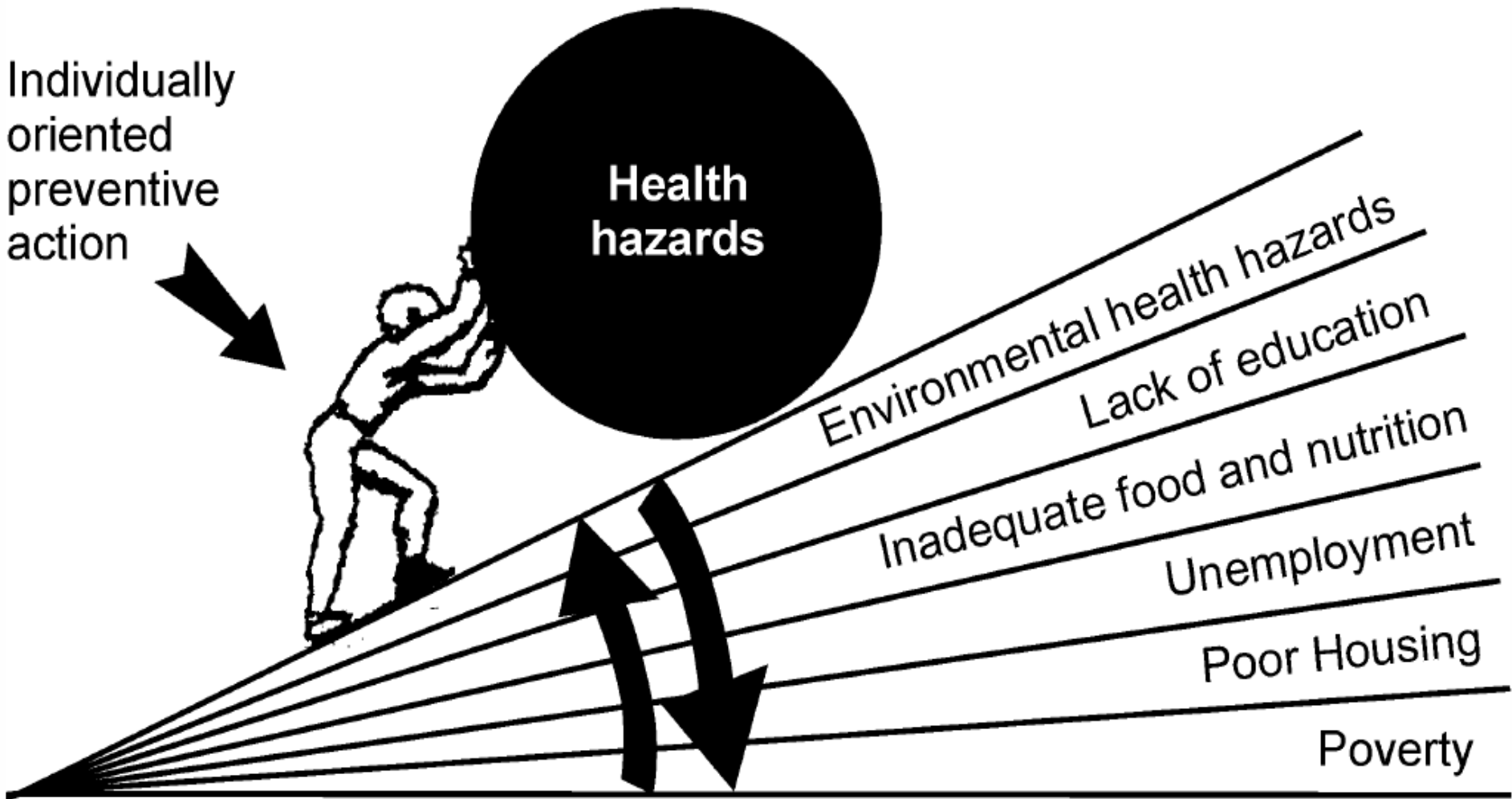
Public Health Professionals play a key role in reducing causes of chronic illness and injury

- policy changes at the local level can be most effective

- neighborhood environment is one of the strongest predictors of whether a person will be physically active

- people want to live in places where they can

  be active

Urban Planning and Public Health Share Historical Roots

- 19th century - public health was part of municipal planning; tackled infectious diseases (e.g., water, sanitation, rodent, mosquito control)

- 20th century - injury and disease prevention

  (e.g., building permits and zoning for ventilation, exposure to toxic substances, development, separating residences from industrial areas)

- 21st century - need to consider chronic health problems

Collaboration between Planners and PH Professionals is Crucial to Create *Healthy Built Environments*

complex problems require leadership by:

- community groups
- planners
- the development industry
- engineers
- design professionals
- elected officials
- Environmental/public health professionals

Tobacco Control – an example of cross-sector collaboration

health

media policy

municipal and regional licensing

tax policy

school programs

1st Surgeon General's Report

Broadcast Ad Ban

End of WW II

Fairness Doctrine Messages on TV and Radio

1st Smoking-Cancer Concern

Nonsmokers Rights Movement Begins

Federal Cigarette Tax Doubles

Great Depression

1920 1930 1940 1950 1960 1970 1980 1990
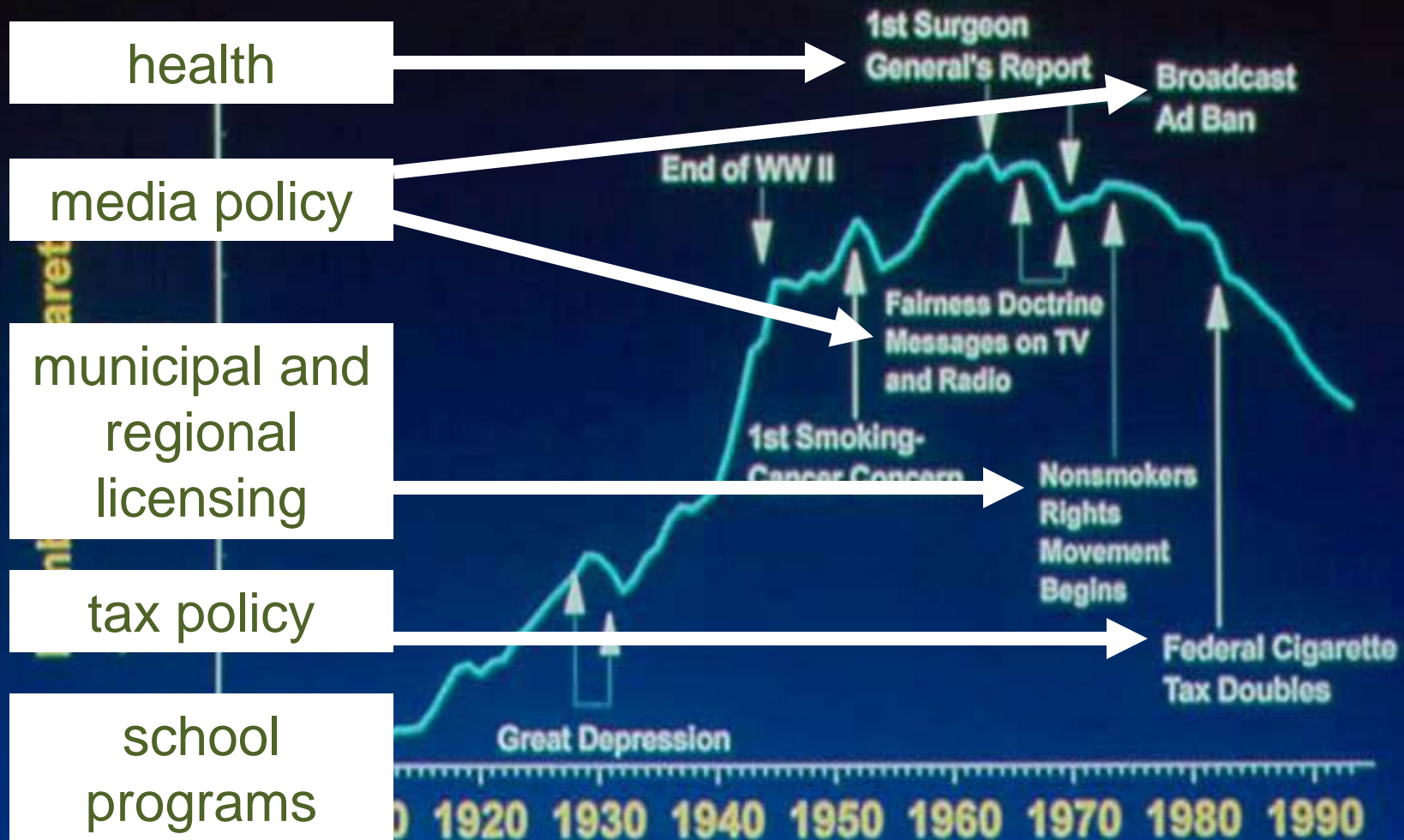
Source: USDA; 1989 Surgeon General's Report

CDC

A Multi-focus Approach to Child Obesity

- marketing to children
- childcare
- school environment
- food systems
- enforcement
- built environment

Public Health Professionals
are natural leaders for collaborative efforts with planning and design professionals

- inherently multidisciplinary

- research based on populations, including behavioral, environmental, biologic factors

- equipped with policy tools

- involved in communities at different levels

- track record of accomplishments in public health

NCCEH Activities in HBE

- Tools and resources that can be used by public health practitioners
  - To familiarize themselves with the HBE
  - To introduce HBE to their bosses or agencies
  - To assess their group's readiness to initiate some built environment projects
  - To access knowledge gained by others working in built environment
  - To review the evidence on health effects and effectiveness of interventions

NCCEH Tools

Introductory materials

- Fact Sheets
- Case Studies
- Readiness Assessment Tool
- Workshop Agenda
- HBE Powerpoint Presentation
- Video (DVD)

Built Environment Inventory

Look in:

NCCEH's additional resources repository

Guidelines for each of Canada's 10 provinces and for rural areas have been developed as tools for achieving transportation and land-use arrangements that meet the needs of children and youth. They are intended for municipal transportation and land use planners.
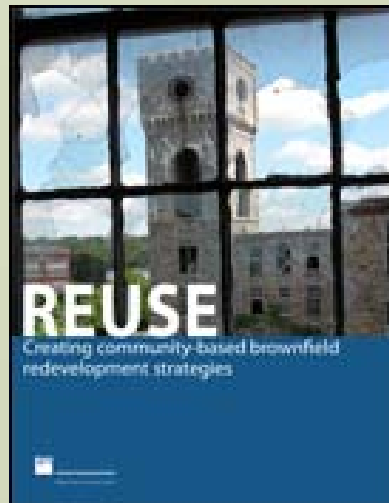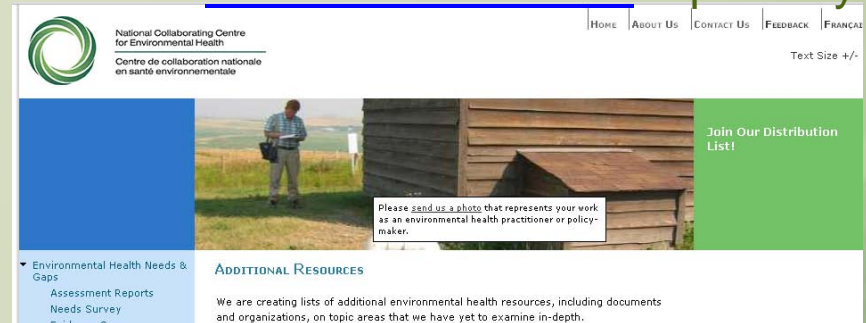
The document is designed to help community-based organizations recognize that brownfields are opportunities for neighbourhood revitalization and to help them participate more effectively in the complicated process of brownfield cleanup and redevelopment. The process is illustrated with case studies.

Methodology

Themes
Planning & design
Active living
Greening strategies
Social determinants
Nutrition & food
Indoor environment
Mental health & perception
Air quality

Types
Background documents
Policy
Case studies
Evaluation
Guidelines & tools
Networks
Education
Scientific review

Population
General
Children
Seniors
Aboriginal
Vulnerable populations

Criteria
- Purpose
- Funding source
- Practical/actionable
- Relevant: improves built environment
- Open access

National Collaborating Centre
for Environmental Health

Centre de collaboration nationale
en santé environnementale

Text Size +/-

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    NCCEH Evidence Reviews
    Evidence Review Process
    Innovative Practices
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NCCEH Major Projects
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    Heat Advice
    Outdoor Air
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    Degree Programs
    Practicum Placements
    Continuing Education
    NCCEH Workshops
    Practice Questions
    Ethical Dilemmas
    Career Opportunities

How Environmental Health is Organized in Canada
    Programs & Services
    Legislation

ADDITIONAL RESOURCES

We are creating lists of additional environmental health resources, including documents and organizations, on topic areas that we have yet to examine in-depth.

The documents in the lists are relevant to environmental health practice or policy. Scientific articles are from peer-reviewed journals and grey literature (reports, etc.) has been evaluated using our Evidence Review Process. Some documents, websites, and other media do no meet all evaluation criteria. The organizations listed are chosen based on their relevance, their credibility and authority in the field, and the quality of material they produce.

To access the listings, click on the links below. If you have suggested resources, please send them to us.

Search results for: **Environmental Planning**, **Built Environment**

Aboelata, M Emerging issues in improving food and physical activity environments: Strategies for addressing land use, transportation and safety in 3 California-wide initiatives. Oakland, CA: American Journal of Public Health, 2010 November
Theme(s): Physical Activity/Active Transportation, Active Living

> This article reviewed three California-wide initiatives and identified land use, transportation and safety are important in improving eating and activity environments. Engaging advocates, linking safety to health and collaborating with government were essential for the implementation of community improvement efforts.

Active Living Research Resources for policy makers and advocates San Diego, CA: Robert Wood Johnson Foundation; 2010.
Theme(s): Active Living

> Active Living research is a U.S. program that contributes to the prevention of childhood obesity in low-income and high-risk communities. The website contains tools and literature databases about the relationship of environment and policy with physical activity and obesity.

Search this Section

By Theme

[All ▼]

By Population

[All ▼]

By Type

[All ▼]

By Keyword

[ ]

☐ Resources with summaries

☐ Latest resource updates

[Search]

Limitations

- Not comprehensive
- No outcome evaluation

- Limited quality assessment
- Dependent on what's posted

- Open access
- Budget: 40-word summaries
- Does not address all public health issues

Evidence Reviews

- Community Planning with a Health Equity Lens: Promising Directions and Strategies
- Minimizing Children's Non-residential Exposure to Traffic-related Pollution
- Active Transportation in Urban Areas: Exploring Health Benefits and Risks
- Are Naturally Ventilated LEED Buildings Healthier?
- Intersection Between Built and Social Environments and Older Adult's Mobility

NCC Healthy Public Policy – Built Environment

Conclusion

- Built environment plays a key role in meeting health and wellness objectives

- Public health professionals are well-suited to collaborate with planners and others on built environment issues

- NCCEH and NCCHPP have some tools and resources that may assist you

Thank You

Questions?
Comments?

www.ncceh.ca | www.ccnse.ca

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