Improving Health Through the Built Environment
April 2008
Charles Gardner
Medical Officer of Health

Presentation Content

A brief introduction to Public Health

The evidence on the influence that the built environment has on health

Opportunities for health-promoting built environments in Simcoe Muskoka
Public Health Is…

- A 150 year old movement
- Strategies focused on populations
- To prevent disease, and protect and promote health.

Taking Action on the Things That Make Us Healthy

- **Environment**
  - physical, social, political, economic

- **Behaviour**
  - smoking, diet, physical activity, injuries, sexual health

- **Human Biology**
  - age, gender, family history

- **Health Care**
  - prevention, treatment, rehabilitation
Simcoe Muskoka

Servicing 506,075 people

8,731 square kilometers

Rapid population growth

Four upper tier / single tier municipalities (26 municipal councils)
Our Board of Health

Board of Health Chair
Dennis Roughley

Vice Chair, Barry Ward,
City of Barrie

Gord Adams, District of Muskoka
John Brassard, City of Barrie
Anita Dubeau, County of Simcoe
Michael Fogarty, City of Orillia
Fred Hamelink, Provincial Appointee
Gail Mullen, Provincial Appointee
Margaretta Papp-Belayneh, Provincial Appointee
Cal Patterson, County of Simcoe
Terry Pilger, District of Muskoka
Ben Rattelade, Provincial Appointee
Doug Skeaff, Provincial Appointee

Health Unit Strategic Priorities

2007 - 2010

Programs

People

Partnerships
Strategic Priority #1 – Program Outcomes

Emerging Public Health Directions:

1.1 Explored options, identified resources and determined a clear role, which is well-communicated in the following emerging areas of public health:

- The Built Environment and Health
- Social and Economic Determinants of Health
- Environmental Health Hazards
- Mental Health Promotion

Emerging Public Health Directions:

1.2 Program activities and resources are identified and coordinated across programs and service areas in order to create comprehensive, integrated, setting-specific initiatives in the following areas:

- Comprehensive School Health
- Childhood Obesity
The Built Environment Impacts on the Following Issues:

- Increasing obesity
- Air quality
- Motor vehicle collisions
- Green space depletion
- Increasing commuting / loss of leisure time
- Climate change

Some Features of the Built Environment

Buildings

- Housing, work places, recreational / public facilities, commercial locations

- Height, density, mix of types, aesthetics / design, proximity
Some Features of the Built Environment

Transportation
- Streets, highways
  - focused on cars
- Public transportation
  - street or rail based (or air)
- Active transportation
  - walking, cycling, other – skating, boating

Green space
- gardens, recreation areas, playgrounds

Public spaces
- Recreation centres, concert halls, theatres, schools and colleges
**Why Here? Why Now?**

- Simcoe Muskoka has a high incidence of preventable disease
- Simcoe Muskoka is rapidly growing and developing
- How this growth and development happens will dramatically impact on the health of some 500,000 (and more to come) people
- There are opportunities to influence how this growth happens

---

**Some Health Impacts Related to the Built Environment**

**Precursors:**
- Ability to be physically active
- Air quality
- Access to good nutrition

**Biomedical outcomes:**
- Obesity
- Blood pressure
- Injuries
- Mental health
- Mortality
Some Related Broader Determinants of Health

- Social determinants
  - civic society, social capital, poverty
- Security
- Carbon emissions

Air Quality

- Live near heavy traffic = 2.5 years loss of life (Finkelstein et al, Am J Epi, 2004)
- Atlanta Olympics 1996 – increased public transportation = 22% reduction in traffic, 28% reduction in ozone, 41.6% reduction in ER visits for asthma (Friedman et al, 2001)
- Sequence of associations – community design impacts on mode of transportation; more vehicles used, more trips taken, more miles traveled impacts on amount of emissions; impacts on air quality; impacts on health (Frumkin et al, 2004)
Physical Activity and Community Design - **Connectivity**

A “Safe Routes to School Program” in California, that included both safety improvements and encouragement, increased the number of children walking to school by 64% in 2 years and increased bicycling by 114%.[1]

More children walk to school where there are sidewalks.[2]


Obesity – Proximity and Mixed Use

- People who live in neighbourhoods with a mix of shops and businesses within easy walking distance have a 35% lower risk of obesity.[1]


Obesity – Driving and Walking

- Each additional hour spent in a car per day is associated with a 6% increase in the likelihood of obesity. Conversely, each additional kilometre walked per day was associated with a 4.8% reduction in the likelihood of obesity.[1]

Access to Good Nutrition

- Lower income neighbourhoods have poorer access to healthy nutritional options – increased convenience stores
- Neighbourhood correlation with fast food outlets and obesity

Injuries – Density and Road Design

- MVA number one cause of death under 40 years
- 2,923 deaths in Canada in 2005
- Five-fold difference in MVA mortality rate between low and high density communities in USA – two-fold for pedestrians
- 1% increase in density reduces death by 1.5%
- Collision rates increase exponentially with increases in road width
Social Capital – The Cost of Commuting

“For each additional 10 minutes spent in daily commuting time cuts involvement in community affairs by 10 per cent.”[1]


Recommendations to Address the Health Impacts

The Impact of the Built Environment on the Health of the Population: A Review of the Review Literature
November 2007

Authors:
Megan Williams, Health Promotion Specialist, Corporate Service,
Myrna Wright, Health Promotion Specialist, Healthy Living Service,
Simcoe Muskoka District Health Unit

http://www.simcoemuskokahealth.org/index.asp
Recommendations to Address the Health Impacts

- Density – enables the other factors
  - Set and meet density targets for population and employment

- Design –
  - Consider health impacts of community design
    - Health impacts can include poor health outcomes related to asthma, respiratory problems, obesity, heart disease, injuries, stress and social isolation
  - Design “Complete Communities”
    - Ensure mixed use development to provide for daily needs (work, schools, recreation, shopping, services, parks close to housing) so people can stay in their own communities
    - No ghettos – services for all also benefit the poor
    - Increase density to eliminate sprawl
    - Encourages diversity

- Centres – vibrant downtown area and sub-centres
  - Encourages local business development and increases pedestrian traffic and usage

Recommendations to Address the Health Impacts – continued

- Design – continued
  - Focus on walkability and active transportation with pedestrian amenities
    - (trails, sidewalks, bike lanes, trees, benches)
    - Increases physical activity
    - Improves air quality
    - Reduces automobile dependency

- Reduce Automobile Dependency
  - Provide mixed use development (housing, services, retail)
  - Locate employment close to residential areas
  - Ensure accessible, affordable public transit that connect to areas of employment, services and retail

- Grid – short distances with many linkages vs loops & lollipops
  - Increase walkability and physical activity
  - Increase opportunities for social interaction
Recommendations to Address the Health Impacts

- Design – continued
  - Design with safety in mind (vehicle, pedestrian and cycling)
    - Well maintained trails, sidewalks and bike lanes
    - Wider boulevards
    - Play areas away from high traffic areas to reduce exposure to pollution

  - Design spaces for social interaction and wellbeing
    - Design for all stages of the life cycle
    - Include open spaces, parks, trails, greenways, gardens and heritage space
    - Include playgrounds, recreational facilities, health service, intergenerational common areas, facilities for older adults, support services across the life cycle
    - Aesthetics – interesting structures and designs - facilitates a sense of wellbeing

- Adequate Food Supply
  - Preservation of farm lands
  - Sustainable local agriculture
  - Provide space for and promote farmers markets and community gardens
  - Locate grocery stores close to residential areas

- Traffic
  - Traffic calming design features such as traffic circles and speed bumps
  - Set and enforce lower speed limits in residential and school areas
  - Provide overpasses, underpasses or tunnels to bypass dangerous roads and intersections
Recommendations to Address the Health Impacts

◆ Design – continued
  ◆ Ensure Water Quality
    ● Innovative storm water management systems
    ● Porous surfaces to reduce run off
    ● Natural environment preservation
    ● Appropriate waste water treatment
  
  ◆ Ensure Air Quality
    ● Limit drive-through services
    ● Design communities to encourage active transportation
    ● Place schools, workplaces, residential areas and hospitals away from high traffic areas
    ● Incorporate tree planting and preservation into design
    ● Biophilia: ensure green space / open space protection and access

Evidence that we can Make a Difference

◆ Examples from around the world:
  ● Paris, Bogota, Stapleton Co, Copenhagen, West Bloor Street Village
    Toronto, Ottawa
  
  ● Good things happening in Simcoe and Muskoka communities – Healthy Communities Network (Wasaga Beach), Huronia Trails and Greenways, Muskoka trails
Making a Difference: Active Transportation

Copenhagen is well known as a cycling city. Every day, cyclists travel more than 1 million kilometers in the city, using a wide network and a safe set of cycle tracks and lanes throughout the city.


Making a Difference: Walkable Spaces

Sparks Street, Ottawa
We Have Opportunities to Make a Difference in Simcoe Muskoka

- Community readiness – high priority issue, in the media, out of our strategic planning consultations
- Intergovernmental Action Plan on growth management (IGAP) in Simcoe (with Barrie and Orillia)
- Building Healthy Communities now in the strategic plan of the Simcoe Muskoka District Health Unit (Growth Process in Simcoe – exploring options in Muskoka), and in the NSM LHIN draft op plan

Final Thoughts

- The built environment impacts on population health in many ways.
- The Simcoe Muskoka District Health Unit is committed to working with its partners to improve health through the built environment.