



Child Health and the Environment: a Public Health Context

Dr. David McKeown
Medical Officer of Health

 **TORONTO** Public Health

Toward a healthy city...



Air Quality & Child Health in Toronto



Child Vulnerability to Air Pollution

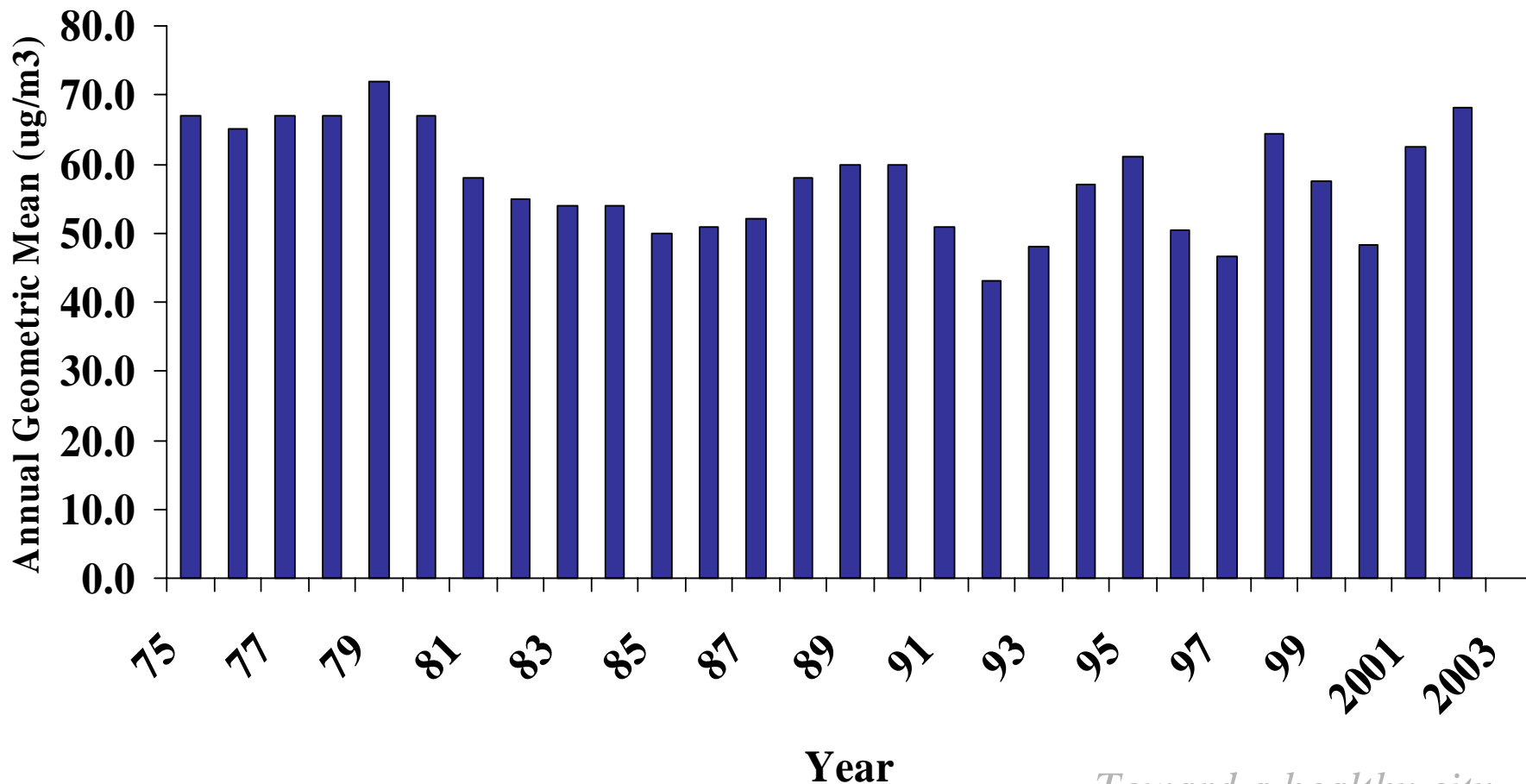
- Immature respiratory system
- Higher breathing rate
- Closer to the ground
- More active outdoors
- Exposure during critical developmental windows



Photo credit: Mark Surman

Toronto Air Quality Trends

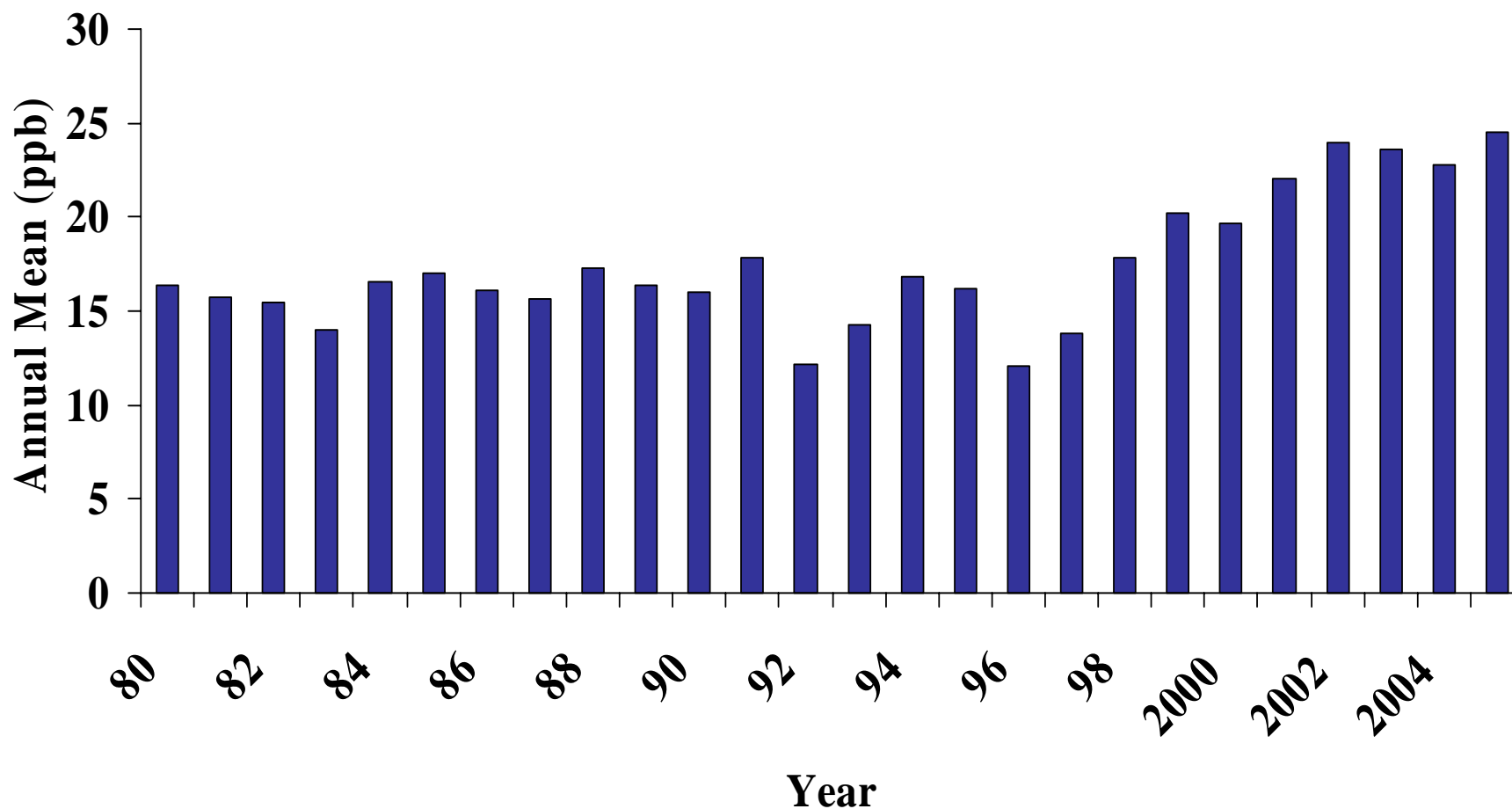
Mean Annual Total Suspended Particulate – Toronto 1975-2002



Toward a healthy city...

Toronto Air Quality Trends

Mean Annual Ozone – Toronto 1980-2005



Toward a healthy city...

Health Impacts of Air Pollution



**Air Pollution
Burden of Illness
in Toronto:
2004 Summary**

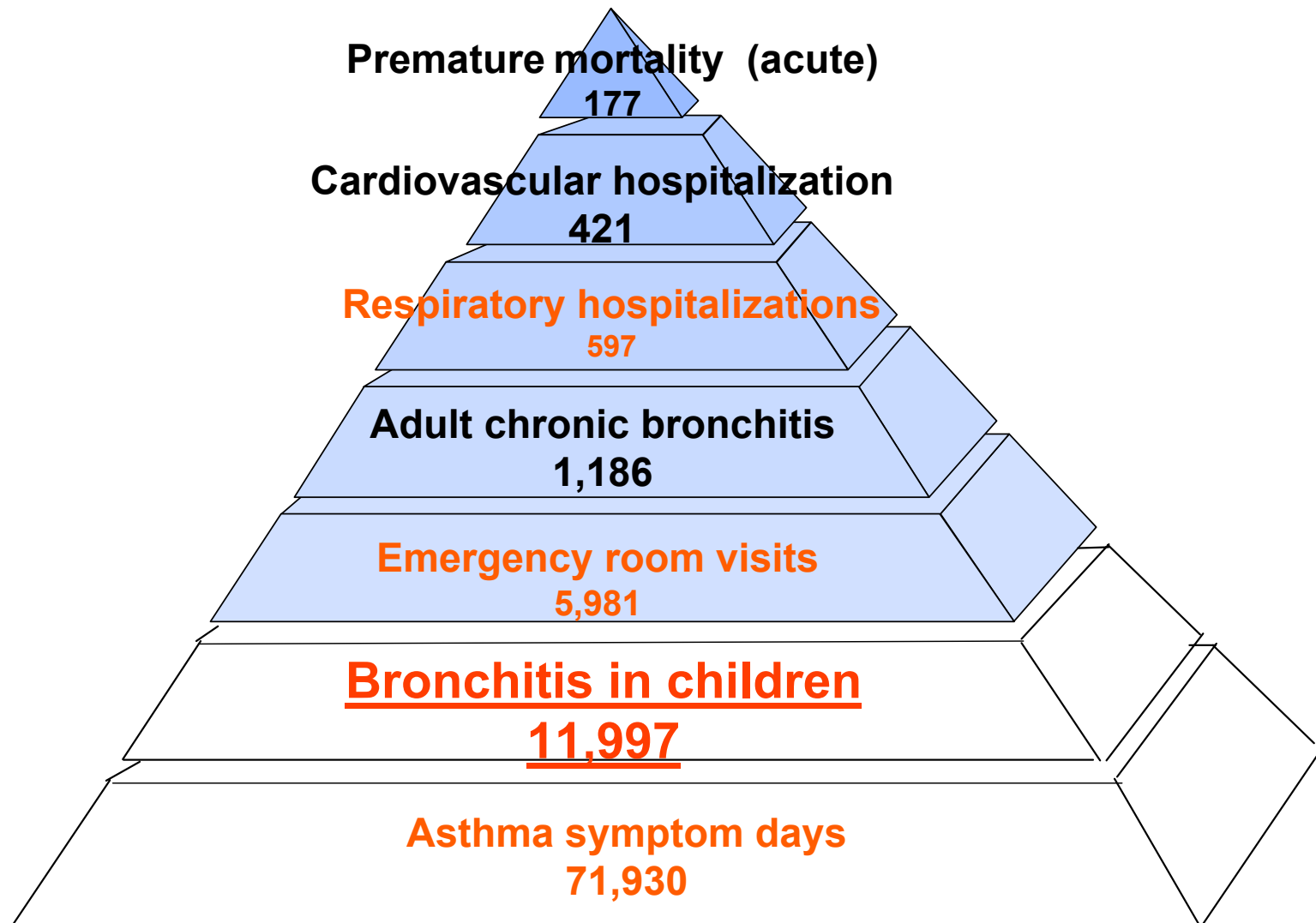
Dr. Barbara Yaffe
Acting Medical Officer of Health

July 2004

- 1,700 premature deaths/year
- 6,000 hospitalizations/year
- A Preventable Burden

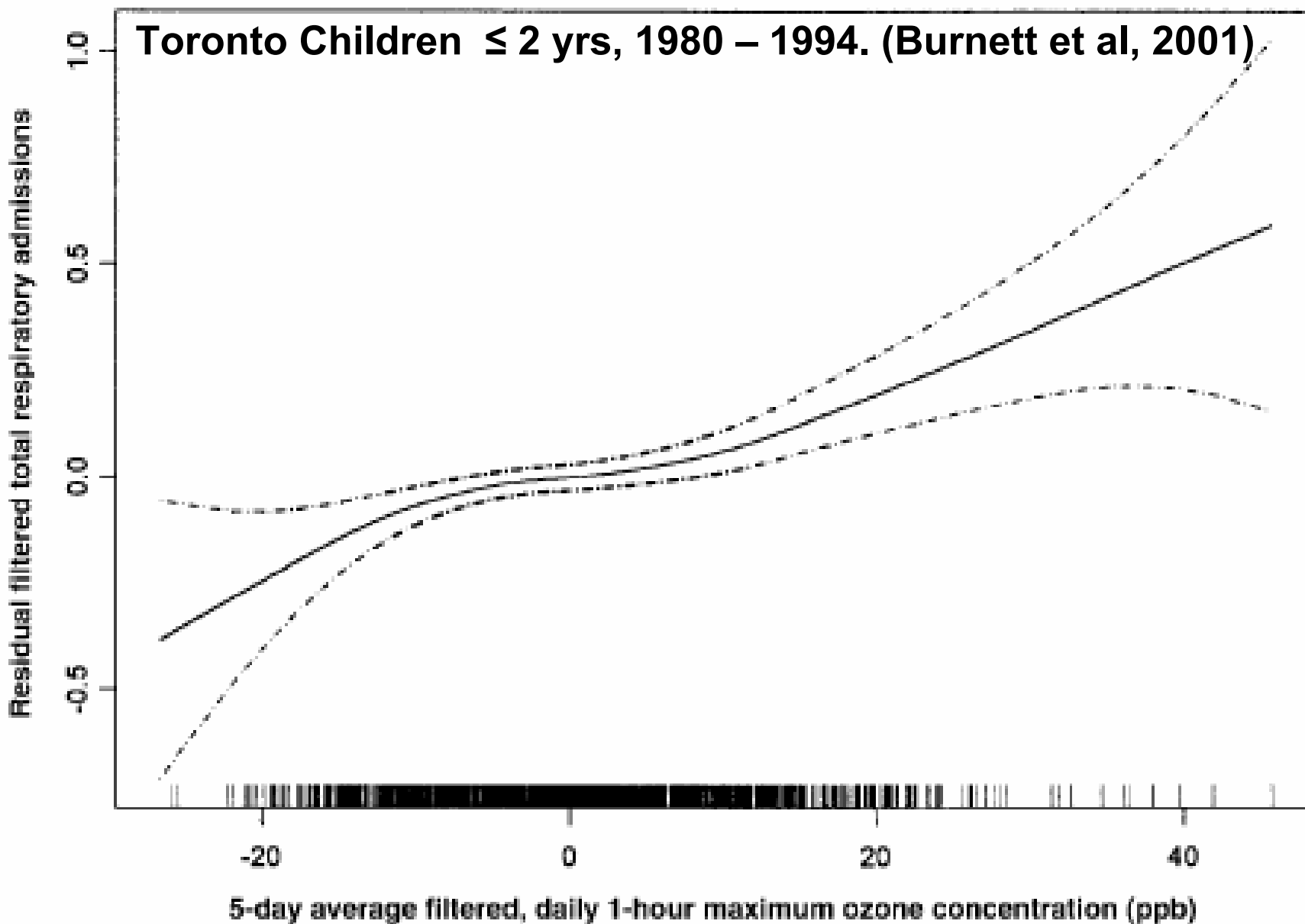
Pyramid of Health Effects

Toronto Annual Estimates for Inhalable Particulates (PM₁₀)



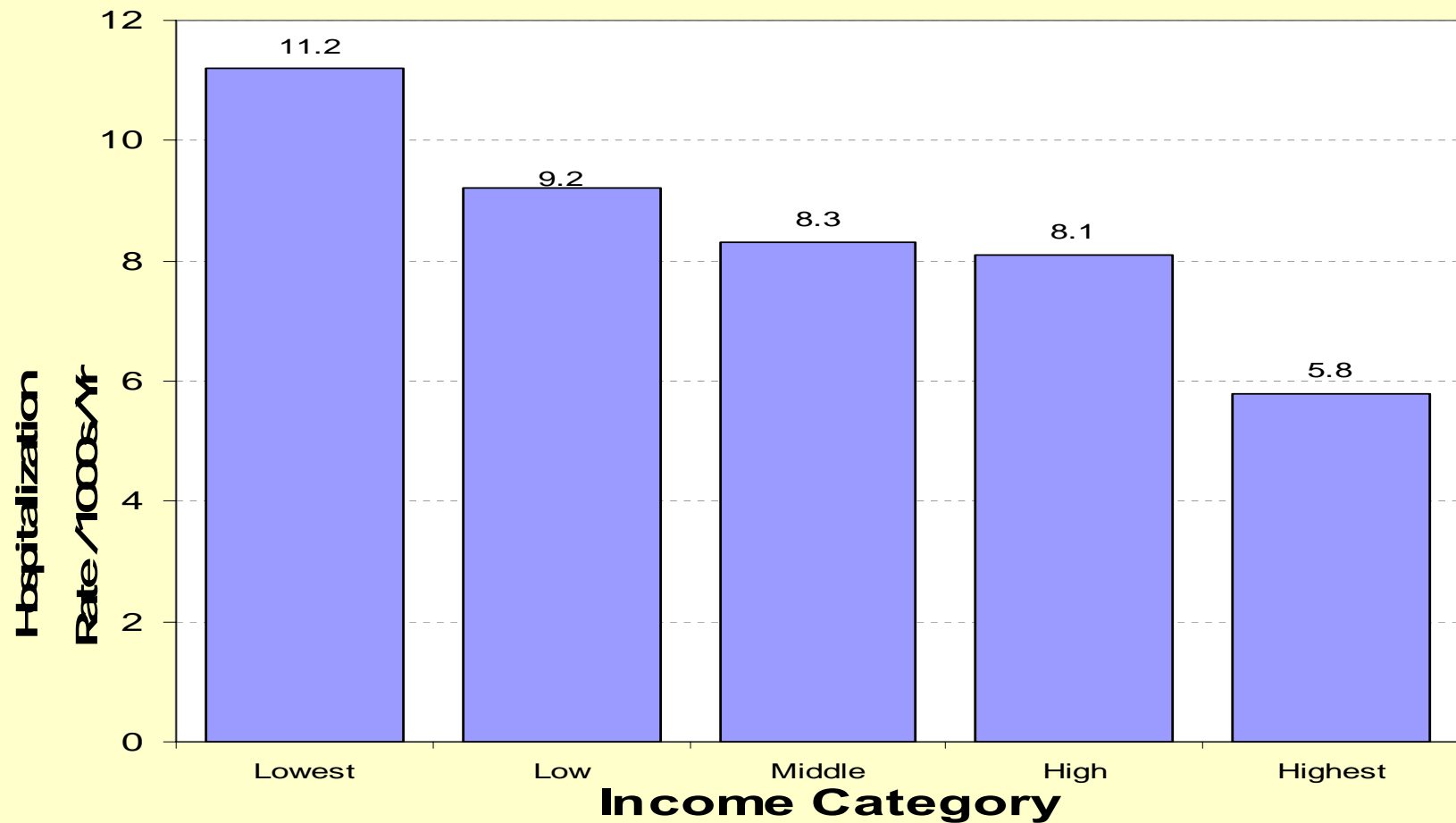


Ozone & Child Hospital Admissions



Income & Respiratory Hospitalization

Respiratory Hospitalization, Children 0 to 14 years, by Neighbourhood Income Level, Toronto, 1996-1999



Data Sources: Provincial Health Planning Database, Hospital Inpatient Data, Ontario MOHLTC; Statistics Canada Census, 1996

Traffic and Child Health

- Transportation sector – largest source of air pollution in Toronto
- Traffic emits pollutants at breathing zone of children
- Proximity to traffic linked with asthma exacerbations and possibly onset
- Reducing traffic improves air quality, reduces child health impacts – 1996 Atlanta Olympics



Photo: Wallace and Cooper, 1986.

Strategies for Change

- Research
- Public Information
- Partnerships (eg CPCHE)
- Local Initiatives
- Healthy Public Policy

Research Influencing Policy



- 90% of premature deaths, hospitalizations occurred when AQI indicated air quality was “good”
- TPH triggered federal improvement of AQI formula to reflect cumulative health impacts from multiple pollutants

New Air Quality Health Index (AQHI)

Print interface | Very High Health Risk | fits 4" x 6" page.

Air Quality Health Index

Moncton, New Brunswick



Currently
Feb. 7, 2006
8:00 AM EST

Above 10 Very High Health Risk

■ **At Risk Population:**
Children, the elderly and people with heart or lung disease (including asthma) should avoid physical exertion outdoors.

■ **General Population:**
Reduce your exposure to air pollution by rescheduling strenuous outdoor activities.

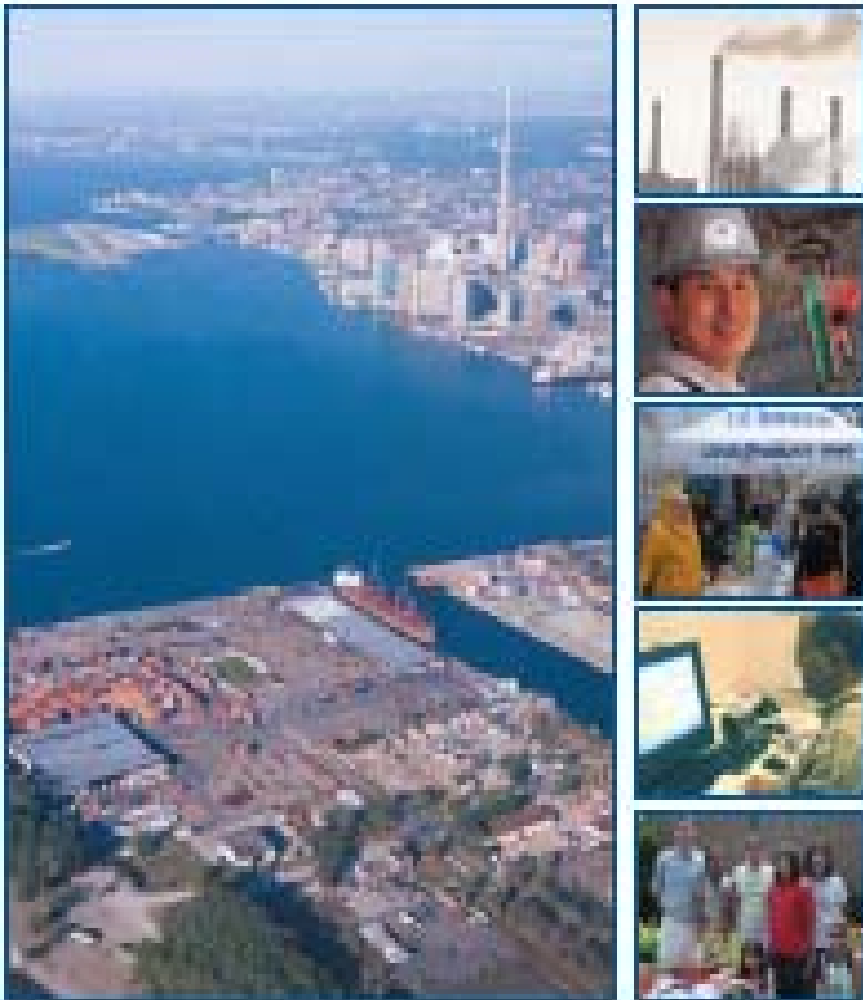
Forecast	Today	Tomorrow
	Very High Health Risk	Moderate Health Risk

<p>Who is at risk?</p> <p>People with heart or lung conditions are the most affected by air pollution. For further information on the impacts of air quality on your health, visit www.xxx.ca, or contact your local Public Health Office or your doctor.</p>	<p>Did you know...</p> <p>You cannot always see or smell air pollution that is harmful to your health.</p>
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- Developed by Health Canada & Environment Canada
- Identifies and forecasts smog-related health risk
- At risk public can take steps to protect health
- Public awareness supports policy action

Public Access to Information

Access to Environmental Information: Preventing Pollution, Avoiding Risks



- “Community Right to Know” requires users and emitters to disclose
- Transparency leads to increased pollution prevention and abatement
- Toronto investigating options



Effective Partnerships

Environmental Threats to Children

Understanding the Risks, Enabling Prevention



CHILD HEALTH AND THE ENVIRONMENT—A PRIMER



canadian partnership for

 children's
 health & environment

PLAYING IT SAFE:

Childproofing for Environmental Health

www.healthyenvironmentforkids.ca



Summary Report

Dr. David McKeown
 Medical Officer of Health

Local Air Quality Initiatives



REVISED 2006

Need to cut back?

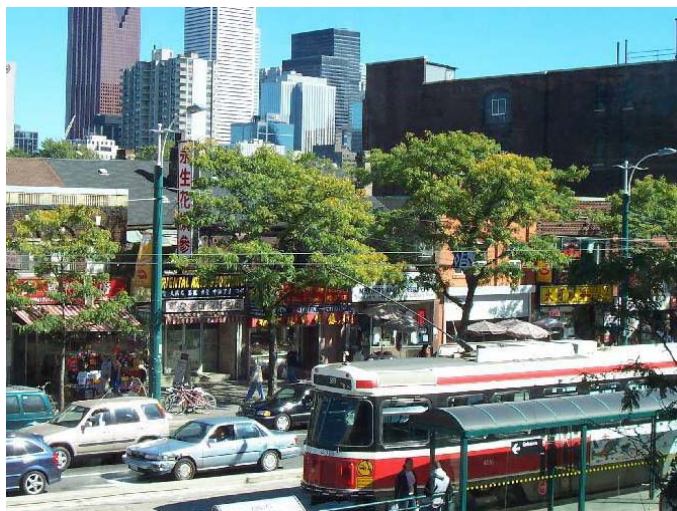


THE 20/20 PLANNER:
A guide for students and their families to reduce home energy use and vehicle use by 20%



ecoschools
ecoschools.tdsb.on.ca

Local Air Quality Initiatives

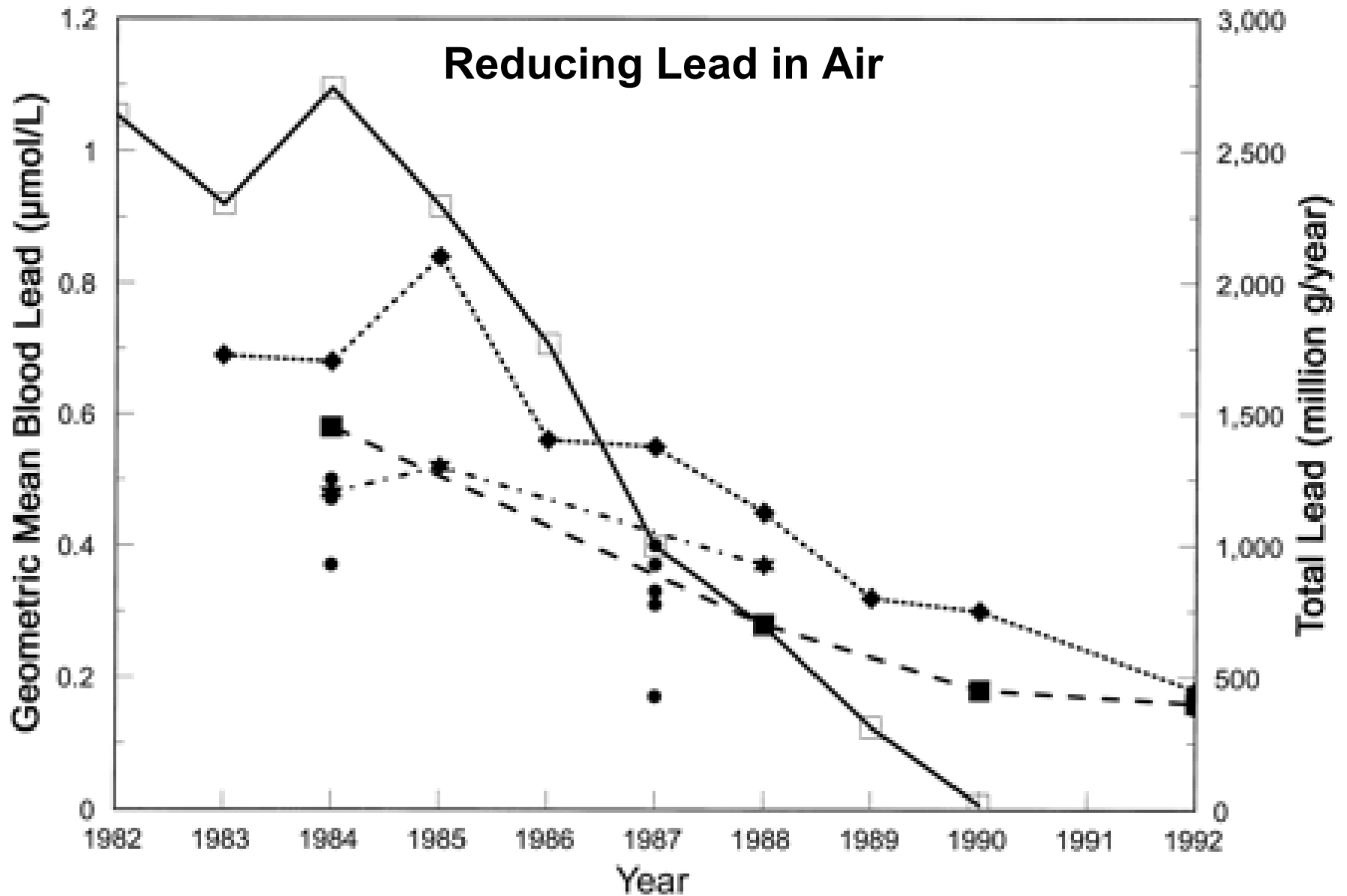


- Toronto's Official Plan – compact mixed land use
- Transit priority initiatives
- Idling control by-law
- Active & Safe Routes to School





Healthy Public Policy



Wang et al, 1997

Healthy Public Policy

- Closure of Lakeview coal-fired power plant
- Major air emission source in dense urban area
- Delayed Provincial coal phase out policy for remaining sites





Healthy Public Policy Needs

- Federal and provincial support and coordination of research and surveillance
- Stronger, more precautionary health-based provincial and Canada-wide air standards
- Air standards that account for: cumulative and aggregate exposure, developmental vulnerability
- Lower NPRI reporting thresholds to support local disclosure and action
- Strong federal diplomacy for reduced transboundary pollution from U.S. coal-fired power plants



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