The “Healthy Retrofits” Project:
Avoiding children’s health risks during energy retrofits and home renovations in Ontario, Canada.

Presentation to:
CAPTURING THE MULTIPLE BENEFITS OF ENERGY EFFICIENCY - IEA-EEA Roundtable on Health and Well-Being Impacts
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About CELA

- Legal aid clinic; poverty law mandate
- Among our priorities:
  - Human health effects of toxic substances, esp. among vulnerable populations
  - Addressing energy poverty
Context: Low income children at highest risk

- Poverty – health risk unto itself
- Substandard housing, potential ↑:
  - Lead, Mould, (Radon), Pesticides
- Older/reused products, potential ↑:
  - PBDEs, PFOs, phthalates, BPA, etc.
- Higher baseline of exposure - Renovation activity can greatly increase some of these exposures
Healthy Retrofits

- Age of housing - linear correlation. Canada-wide, as SES drops, age of housing rises
- Potential exposures across all stages of renovations/retrofits
- Lack of awareness and training among energy auditors and in building trades but strong interest in better integration
- Despite possible health risks, with greater awareness, are easy and low-cost measures can prevent exposure (with some exceptions)
- Very positive outcomes: The “win-win” of renovations/retrofits that make homes more energy and cost efficient and healthier for children and their families
- “Green” building and renovation is not necessarily always “healthy” but it can and should be
Indoor environmental hazards potentially associated with renovations/retrofits

- **Legacy hazards**: lead, asbestos, PCBs
- **Inadequate ventilation**: Mould, carbon monoxide, (radon)
- **Building materials**: solvents in adhesives, caulking, paints and other VOCs in insulation, etc.
- **After retrofits**: exposures from consumer products (and radon) where ventilation reduced
Energy auditors’ experience of home/building owners and residents inquiring about IEH issues

If yes, what are the most frequently raised concerns or questions asked?

- Asbestos from insulation: 66.7% (36)
- Ventilation: 72.2% (39)
- Mould: 81.5% (44)
- Dust: 13.0% (7)
- Radon: 7.4% (4)
- Carbon monoxide: 9.3% (5)
- Polystyrene insulation: 1.9% (1)
- Volatile organic compounds (VOCs) from...: 5.6% (3)
- Lead from paint: 1.9% (1)


Lead in paint: Still a pervasive hazard

- In Canada, any pre-1990 buildings can contain lead
- Pre-1978 can have very dangerous levels
- Policy vacuum in Canada
- Low income circumstances increase risk
- Overlap between legacy hazards and ventilation issues – e.g., where moisture unaddressed, can increase lead exposure
- As important for adults as children (lifelong cardiovascular disease risk)
- Workshop attendee – in “green” building industry for 25 years and unaware that lead in old paint was a problem
Outreach: Combining renovation and retrofit messages

Most commonly spoken languages according to Canadian Census

Arabic, English, French, simple Chinese, Punjabi, Spanish, Tagalog

www.renovate-right.ca
Supportive on-line content and collaboration with service providers

On-line: More detailed resources

For tenants:

- E.g., How to participate in energy upgrade programs for low income residents

Collaboration:

- Municipal building departments
- Utilities updating their health and safety policy for retrofit program implementation
- Retailers, do-it-yourself crowd, and TV renovation shows – much tougher to influence

www.healthyenvironmentforkids.ca
CPCHE’s Top 5 tips for families

Brochure is expansion of “renovate right” pillar within parallel educational project

Creating Healthy Environments for Kids

Brochure, video, more details on-line
Sixth Tip - Reduce radon

- Naturally-occurring radioactive gas; infiltrates foundations; site-specific
- 2nd leading cause of lung cancer in Canada
- Easy three-month test; should not exceed 200 Bq/m³

Seeking co-benefits of integrating radon remediation with energy retrofits

- Feasibility study completed; radon remediation in low income communities
- Consulting with radon remediation specialists
- Planning a pilot: job creation; on-bill financing

www.reduceradon.ca
Recommendations: program design; training, education/outreach; and policy

Programs

• “Building as a system”; funding for, and integration of, health and safety issues
• E.g., Include indoor env’l health issues in province-wide programs for low income weatherization

Training, Education/Outreach

• Expand beyond asbestos, mould, ventilation and air focus
• Seek means of reaching diverse audiences; agency coordination for programs and protocols (info, guidance, regulations)

Policy

• Expand product labelling requirements (substances assoc’d with chronic toxicity) to allow informed choice; integrate with trustworthy outreach information at point-of-sale
• Re-new/expand grant programs for energy retrofits; facilitate utility-sponsored on-bill financing programs
Selected References and Websites


B.U.I.L.D.: www.warmupwinnipeg.ca

Low Income Energy Network: www.lowincomeenergy.ca


Union Gas (Ontario) Free Energy Efficiency Upgrade Program http://www.uniongas.com/helpinghomes/

Weatherization Plus Health (US): www.wxplushealth.org
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