



OPHA Resolution: Provincial Expansion and Promotion of the Air Quality Health Index (AQHI)

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A Resolution adopted by the
Ontario Public Health Association
Code: 2010-04 (**RES**)
Status Active

Resolution: Expansion and Promotion of the Air Quality Health Index

WHEREAS poor air quality is associated with thousands of premature deaths and hospitalizations in Ontario each year; **and**

WHEREAS air pollution worsens heart problems, aggravates lung conditions, such as asthma and bronchitis, and can also impact healthy individuals by reducing lung function and irritating the eyes, nose and throat; **and**

WHEREAS the Ministry of Health and Long Term Care's (MOHLTC) Ontario Public Health Standards require boards of health to increase public awareness of health risk factors associated with outdoor air quality; including adapting and/or supplementing national and provincial health communication strategies; **and**

WHEREAS the Air Quality Health Index (AQHI) is a health based air pollution risk communication tool developed by and promoted through federal/provincial/local governments and community organizations to help individuals understand their sensitivity to different pollution levels and to plan outdoor physical activities at times when health risks associated with exposure to air pollutants are low; **and**

WHEREAS the AQHI is currently available in limited parts of a small number of Ontario communities (Durham, Halton, Peel, Ottawa, Toronto and York); **and**

WHEREAS the Ontario health units of Durham, Halton, Peel, Ottawa, Toronto and York inform their communities about health risks related to air pollution through promotion of the AQHI and dissemination of an AQHI Toolkit that could be easily adapted for use by health units across the province; **and**

WHEREAS the Air Quality Index (AQI) issued by the Ontario Ministry of Environment is based on a protocol that was developed to protect the environment, not human health, **and**

WHEREAS the promotion of two air quality indices (AQI and AQHI) in Ontario creates public confusion, and sometimes, mixed messages; **and**

WHEREAS the Association of Local Public Health Agencies passed a resolution in June 2010 for province-wide adoption and promotion of the AQHI;

THEREFORE BE IT RESOLVED THAT the OPHA continues to advocate to the Ministry of Health and Long Term Care to expand the AQHI for use across Ontario;

AND FURTHER BE IT RESOLVED THAT the OPHA continues to advocate to the Ministry of Health and Long Term Care to take a lead role in the province-wide promotion of the AQHI as a public health tool;

AND FURTHER BE IT RESOLVED THAT the OPHA advocates to the Ministry of Environment to replace the AQI with the AQHI to eliminate public confusion about these public awareness tools.

Implementation Plan

In August 2010, a multi-agency letter was sent to the Chief Medical Officer of Health of Ontario from the Ontario Public Health Association, the Canadian Institute of Public Health Inspectors, Ontario Branch, and the Association of Supervisors of Public Health Inspectors of Ontario requesting that the Ministry of Health and Long Term Care:

- 1) Support an expansion of the Air Quality Health Index (AQHI) across the Province,
- 2) Support replacement of the Air Quality Index with the AQHI to eliminate public confusion about these public awareness tools, and
- 3) Take a lead role in province-wide promotion of the AQHI as a public health tool.

In addition to the advocacy letter mentioned above, the Environmental Health Working Group will send this resolution to these Provincial agency representatives for follow up and action:

- Ontario Minister of Health and Long-Term Care
- Assistant Deputy Minister, Public Health Division
- Chief Medical Officer of Health, MOHLTC
- Ontario Agency for Health Protection and Promotion
- Ontario Minister of the Environment
- Federal Minister of Health
- Federal Minister of Environment

Copies will also be sent to:

- Canadian Institute of Public Health Inspectors (Ontario Branch)
- Association of Supervisors of Public Health Inspectors of Ontario
- Association of Local Public Health Agencies
- Clean Air Partnership
- Canadian Lung Association
- Canadian Public Health Association
- Canadian Partnership for Childrens Health and Environment

Background

Health Impacts of Air Pollution

The quality of our air has long been recognized as an important public health issue. Research undertaken by Health Canada, the Ontario Medical Association and Toronto Public Health has shown that current levels of air pollution in the GTA and southern Ontario have significant health impacts. Data derived from the Ontario Medical Association's Illness Cost of Air Pollution (ICAP) model predicts there were 9,500 premature deaths in Ontario linked to air pollution in 2008 (Ontario Medical Association, 2008).

While part of the health impact is the result of long term exposure to pollution, evidence also links short-term exposure to air pollutants with a variety of adverse health effects, ranging from subtle (sub-clinical) effects such as reduced lung function to premature death. Pre-existing cardiovascular and respiratory disease increases susceptibility to air pollution, and for some people air pollution affects their health even during periods of air pollution that are not high enough to register concern using existing air pollution reporting systems. As the population ages, the number of people with increased susceptibility to air pollution will rise. Climate change impacts are also likely to exacerbate local and regional air pollution and increase public health impacts.

The Air Quality Health Index – A Health Protection Tool

In order to protect public health from the impacts of air pollution, several government and non-government agencies at all levels have been working on tools and strategies to inform the public on how to monitor, assess and reduce their public health risks due to air pollution. Since 2001, Environment Canada and Health Canada have been developing a national, health risk-based index – known as the Air Quality Health Index (AQHI) – through a multi-stakeholder process involving the provinces, municipalities and members from the health and environmental non-government organization community.

The Air Quality Health Index will help Canadians better understand how to protect their health from local air pollution on a daily, or even hourly, basis. This is similar to the UV Index that helps Canadians protect themselves from sun exposure. The AQHI assesses the cumulative health impact of ground-level ozone (O₃), particulate matter (PM_{2.5}) and nitrogen dioxide (NO₂) to calculate an index number from 1 to 10+.

The AQHI number is used to communicate the level of immediate health risk associated with local air quality. The higher the number, the greater the health risk and the greater need to take precautions. Each level is accompanied by specific health advice for the general population and for those at increased risk (children, the elderly, individuals with lung or heart disease, and people involved in strenuous activity outdoors). The health advice consists of enjoying, reducing, rescheduling or avoiding strenuous activities outdoors.

Rationale to Support Expansion of the Air Quality Health Index across Ontario

Currently the Air Quality Health Index (AQHI) is available in only a small number of communities in Ontario. A recent report of the South West GTA Air Quality Task Force Report recommended that: “The Province should adopt the national AQHI and report on cumulative health impacts associated with smog pollutants monitored at suitable locations.”

Currently, the Ontario Ministry of Environment, in collaboration with Environment Canada, provides AQHI readings for limited parts of Durham, Halton, Peel, Ottawa, Toronto and York. In 2007, the AQHI Pilot Project (Phase I) was initiated by Toronto Public Health (TPH). In 2008, the pilot was expanded (Phase II) to the Greater Toronto Area (GTA) and promoted by GTA health units (Peel, York, Durham, Toronto and Halton Regions). Toronto, the GTA Health Units and the Clean Air Partnership meet throughout the year to work together and share health promotion strategies on the AQHI.

In 2010, TPH, as well as Durham, Halton, Peel and York health units and the Clean Air Partnership, produced an all-in-one, electronic toolkit that has been reviewed and approved by the MOE and can be found at <http://www.toronto.ca/health/airquality/aqhi/toolkit.htm>. The toolkit describes what the AQHI means, how air quality can affect our activities and why we should use the AQHI to plan outdoor activities. Resources include; film clips, brochures, posters, PowerPoint presentations, newsletter articles, as well as radio, web, and print advertisements. In addition to English, some of these resources are also available in Chinese, Farsi, French, Italian, Korean, Portuguese, Punjabi, Russian, Spanish, Tagalog, Tamil, Urdu and Vietnamese. In 2008, Ottawa Public Health also began to promote the AQHI.

Rationale for Replacement of the Provincial AQI with the Air Quality Health Index

Currently, Ontarians primarily use the Air Quality Index (AQI) to stay informed on regional air pollution conditions. The current AQI is based on a protocol that was developed in the 1970s to protect Canada’s environment, not human health. The number reported as the AQI value is the single-pollutant that is highest relative to its environmental standard (a pre-determined value that is deemed acceptable). It is reported on a common scale of 0-100 using air quality standards as break points. The AQI does not reflect the fact that health effects occur at low levels of exposure to air pollution nor does it account for the additive and synergistic effects of multiple pollutants on health. Burden of illness data for Toronto suggests that 92% of the premature deaths and hospitalizations attributable to air pollution in Toronto occur when air quality has been classified as “good” or “very good” by AQI (Toronto Public Health, 2001).

The AQHI was designed to address the limitations of the AQI. Its numeric formulation is based on the observed relationship of NO₂, O₃, and PM_{2.5} with mortality from single-pollutant models in analysis of several Canadian cities. Statistical analysis indicates that these pollutants are the strongest predictors of the impact of the cumulative mix of air pollutants on mortality. Furthermore, the scale reflects the fact that there is no safe level of exposure to air pollutants. Evaluation of this formulation revealed that the AQHI is a valid tool that determines the relative probability of experiencing adverse health effects on a daily basis. This multi-pollutant, no threshold, population specific AQHI is the first of its kind in the world. (Stieb et al 2005; Stieb et al. 2008)

Resolution: Expansion and Promotion of the Air Quality Health Index

Stakeholders have made it clear that the provincial AQI is the biggest barrier in successfully initiating the AQHI program into Toronto and the GTA. They believe it is confusing to the public and the media. These findings are consistent with those in the evaluation of the Toronto AQHI pilot, as well as an audit evaluation conducted for Health Canada's National AQHI program.

The Ontario Medical Association (OMA) also feels that the 2 indices are confusing. In a 2008 press release the OMA stated that Ontario physicians are concerned that two "smog information systems" may provide conflicting information to patients. Physicians highlight that while both indices offer useful guidance, they are not coordinated and the possibility for confusion arises when one index warns that air quality is poor and the other that health risk is just moderate, or vice versa.

Rationale for the MOHLTC to Take the Lead Role in Province-wide Promotion of the AQHI as a Public Health Tool

Since the AQHI is intended to be used as a health protection tool, it is important that it is available to health units across the Province. The recommendation of the South West GTA Air Quality Task Force Report, mentioned above, stated that: "The successful adoption of the AQHI requires the leadership of the Ministry of Health and Long-Term Care, support from the Ministry of the Environment and input from the local health departments which are the source of local information, awareness programming and citizen contact."

The Ministry of Health and Long Term Care's (MOHLTC) Ontario Public Health Standards (OPHS 2008) requires boards of health to increase public awareness of health risk factors associated with outdoor air quality. One mechanism identified to achieve this is by adapting and/or supplementing national and provincial health communications strategies. By taking a lead role in province-wide promotion of the AQHI as a public health tool to protect both at-risk individuals, and the general population from the effects of air pollution, the MOHLTC would be able to assist boards of health in meeting the OPHS in a consistent and effective manner.

The availability of AQHI readings in their jurisdictions have enabled the health units of Durham, Halton, Peel, Ottawa, Toronto and York to better inform their communities about health risks related to air pollution. These health units have created AQHI education resources, including an AQHI Toolkit that could be easily adapted for use by health units across the province.

Resolution Adopted at the Association of Local Public Health Agencies 2010 Meeting

At the June 21, 2010 meeting of the Association of Local Public Health Agencies, the membership adopted Resolution A10-6: Provincial Adoption and Promotion of the Air Quality Health Index. This resolution was sponsored by Toronto Public Health and resolved to: call for the Province to make the AQHI available to all health units; call for the Province to replace the AQI with the AQHI; and partner with health units and other interested stakeholders to build on the existing AQHI health promotion activities and promote the AQHI across the province.

References

Ontario Medical Association (2008) Local Premature Smog Deaths in Ontario. Retrieved on July 23, 2010 from [<https://www.oma.org/Resources/Documents/2008LocalPrematureSmogDeaths.pdf>]

Stieb DM, Doiron MS, Blagden P, Burnett RT. (2005) Estimating the public health burden attributable to air pollution: an illustration using the development of an alternative air quality index. *J Toxicol Environ Health A*. 68(13-14):1275-88.

Stieb D, Burnett R, Smith-Doiron M, Brion O, Shin HH, Economou V (2008) A new multipollutant, no-threshold air quality health index based on short-term associations observed in daily time-series analyses. *J Air Waste Manag Assoc*. 58(3):435-50

Toronto Public Health (2001) Condition Critical: Fixing Our Smog Warning System

Association of Local Public Health Agencies – Resolution A10-6: Provincial Adoption and Promotion of the Air Quality Health Index.

Basillie, D, (2010) 2010 Action Plan Report of the Air Quality Task Force to the Hon. John Gerretsen, <http://www.ene.gov.on.ca/publications/7651e.pdf>



August 10, 2010

Dr. Arlene King
Chief Medical Officer of Health
Public Health Division
Ministry of Health and Long Term Care

Dear Dr. King

The Ontario Public Health Association (OPHA), the Canadian Institute of Public Health Inspectors, Ontario Branch (CIPHI), and the Association of Supervisors of Public Health Inspectors of Ontario (ASPHIO) are writing this letter to request that the Ministry of Health and Long Term Care:

- 4) Support an expansion of the Air Quality Health Index (AQHI) across the Province,
- 5) Support replacement of the Air Quality Index (AQI) with the AQHI to eliminate public confusion about these public awareness tools, and
- 6) Take a lead role in province-wide promotion of the AQHI as a public health tool.

OPHA, CIPHI and ASPHIO members include public health professionals working on environmental health and health promotion programs in health units across Ontario. Their mandate under the Ontario Public Health Standards is to increase awareness and assist in development of healthy policy relating to reducing exposure to health hazards such as air quality.

Resolution: Expansion and Promotion of the Air Quality Health Index

Poor air quality is associated with thousands of premature deaths and hospitalizations in Canada each year. Air pollution worsens heart problems, aggravates lung conditions, such as asthma and bronchitis, and affects healthy people by reducing lung function and irritating the eyes, nose and throat. Where it is available, the AQHI helps individuals, both the at-risk and general populations, plan outdoor physical activities at times when risks to their health are low.

Our agencies support the recently adopted Association of Local Public Health Agencies (alPHA) resolution calling for Provincial adoption and promotion of the Air Quality Health Index (AQHI). The Association of Local Public Health Agencies calls for the Province of Ontario to make the AQHI available to all health units across the province and to replace the Air Quality Index with the Air Quality Health Index to eliminate public confusion about these two public awareness tools. ALPHA also resolved to partner with health units and other interested stakeholders to build on existing AQHI health promotion activities and promote the AQHI across the province.

1) Expansion of the Air Quality Health Index across Ontario

Currently the Air Quality Health Index (AQHI) is available in only a small number of communities in Ontario. The Ontario Ministry of Environment, in collaboration with Environment Canada, provides AQHI readings for the areas of Durham, Halton, Peel, Ottawa, Toronto and York.

We understand that the Minister of Environment is currently reviewing the recommendations of the South West GTA Air Quality Task Force Report. OPHA would like to draw your attention to one particular recommendation of the Task Force:

“The Province should adopt the national AQHI and report on cumulative health impacts associated with smog pollutants monitored at suitable locations. The successful adoption of the AQHI requires the leadership of the Ministry of Health and Long-Term Care, support from the Ministry of the Environment and input from the local health departments which are the source of local information, awareness programming and citizen contact.”

2) Replacement of the Provincial AQI with the Air Quality Health Index

Stakeholders have made it clear that the Provincial Air Quality Index is the biggest barrier in successfully rolling-out the AQHI program into Toronto and the GTA. They believe it is confusing to the public and the media. These findings are consistent with those in the evaluation of the Toronto AQHI pilot, as well as an audit evaluation conducted for Health Canada’s National AQHI program. Evaluations have consistently identified one common theme – the need to move to one index, the AQHI.

The Ontario Medical Association (OMA) also feels that the 2 indices are confusing. In a 2008 press release the OMA stated that Ontario’s doctors are concerned that two “smog information systems” may provide conflicting information to patients. Doctors highlight that while both indices offer useful guidance, they are not coordinated and the possibility for confusion arises when one index warns that air quality is poor and the other that health risk is just moderate, or vice versa.

Resolution: Expansion and Promotion of the Air Quality Health Index

Rural versus urban monitoring stations should not be the reason for delaying transition to the AQHI. The monitoring issue is the same for the current reporting of the province's Air Quality Index. Communities without monitoring equipment have limited air quality information – not just AQHI data.

Of the 40 air quality monitoring locations in Ontario (reported by the MOE on the air quality Ontario web site), there are only 5 that are missing monitors for NO₂. All of the stations have PM and ozone monitors. It appears that it could be relatively easy to transition to the AQHI for most of the monitoring locations in Ontario.

3) Province-wide Promotion of the AQHI as a Public Health Tool

Our agencies strongly believe that the Ministry of Health and Long Term Care should take a lead role in province-wide promotion of the AQHI as a public health tool to protect both at-risk individuals, and the general population from the effects of air pollution.

The availability of AQHI readings in their jurisdictions have enabled the health units of Durham, Halton, Peel, Ottawa, Toronto and York to better inform their communities about health risks related to air pollution. These health units have created AQHI education resources, including an AQHI Toolkit that could be easily adapted for use by health units across the province. These resources have been reviewed and approved by the MOE and can be found at <http://www.toronto.ca/health/airquality/aqhi/toolkit.htm>.

In closing, we are confident that the Province will be able to address the outstanding issues to enable province-wide implementation of the AQHI. We encourage the MOHLTC to support province-wide implementation, and replacement of the AQI with the AQHI. Since the AQHI is intended to be used as a health protection tool, we also encourage the MOHLTC to lead province-wide promotion of the AQHI public health tool in order to protect the health of Ontarians.

Sincerely,



Liz Haugh, President,
Ontario Public Health Association



Ken Diplock, President
Canadian Institute of Public Health Inspectors (Ontario Branch)

Original signed by Chris Munn

Resolution: Expansion and Promotion of the Air Quality Health Index

Chris Munn, President
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Regarding Resolutions, Position Papers, and Motions:

Status: Policy statements (resolutions, position papers, and motions) are categorized as:

Active, if:

1. The activities outlined in the policy statement's implementation plan have not yet been completed,
2. The policy statement addresses an issue that is currently relevant to public health in Ontario.

Archived, if:

1. The activities outlined in the policy statement's implementation plan have been completed, or
2. The policy statement addresses an issue that is not currently relevant to public health in Ontario or is not based upon the most current evidence. The statement remains the position of the OPHA until a new statement is adopted that effectively reverses or essentially negates all or major elements of an earlier statement. In this instance, the former supercedes the latter.

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