TORONTO STAFF REPORT

February 13, 2006

To: Board of Health

From: Dr. David McKeown, Medical Officer of Health

Subject: Hot Weather Response Plan - Update

Purpose:

This report provides an update on the City of Toronto's Hot Weather Response Plan and the experience of the summer of 2005.

Financial Implications and Impact Statement:

The Toronto Public Health 2005 Operating Budget includes funds to cover expenses related to the Hot Weather Response Plan. The expenses include routine monitoring, Heat Alerts and Extreme Heat Alerts.

In 2005, there were 26 Heat Alert days resulting in a total expenditure of $108,826 for related services.

Toronto Public Health has requested $171.8 thousand gross, $60.1 thousand net, in the 2006 Operating Budget to hire Public Health Inspection students to provide outreach and education to landlords and vulnerable residents of rooming houses and boarding homes, and to cover services for additional Heat Alert/Heat Emergency days. This request is included in the Public Health revised request for New/Enhanced services.

The Deputy City Manager and Chief Financial Officer has reviewed this report and concurs with the financial impact statement.

Recommendations:

It is recommended that:

(1) Shelter, Support and Housing Administration identify air-conditioned drop-in centres that could be used during Heat Alert and Extreme Heat Alerts and extend their hours as feasible and appropriate to ensure better access to cool places;

(2) Social housing providers, including Toronto Community Housing Corporation, ensure that common amenity spaces are air conditioned and accessible to residents on a 24 hour basis during Heat and Extreme Heat Alerts;

(3) Homes for the Aged work with Toronto Public Health to identify possible ways to provide short stay beds for frail isolated seniors during an Extreme Heat Alert;

(4) Toronto Public Health increase outreach to landlords and tenants prior to the hot weather season and in response to an anticipated Extreme Heat Alert, by sending Public Health Inspection students to identified sites to provide education and information and encourage all rooming/boarding home operations to develop extreme heat contingency plans;

(5) Toronto Public Health continue to develop and provide education sessions on hot weather health risks and strategies to present them to landlords of rooming houses and boarding houses, group homes, hostels and property managers of Toronto Community Housing Corporation;

(6) Toronto Public Health continue to work with other community agencies to maintain agency-specific registries of at-risk clients they are currently serving and to provide outreach to those clients when Heat Alerts and Extreme Heat Alerts are called;

(7) Shelter, Support and Housing Administration operate four cooling centres including one 24 hour downtown location during Extreme Heat Alerts in 2006 with water, snacks, cots and transportation available to bring people to and from the centre when necessary;

(8) Toronto Public Health work with Toronto Hydro and other stakeholders to determine the feasibility of establishing a subsidy program for low-income vulnerable people to own and operate air-conditioners and report to the Board prior to the summer of 2007;

(9) the Medical Officer of Health set as a guideline a Maximum Indoor Temperature Threshold of 32^{o}C that would act as a bench mark for a range of protective measures at times of extreme heat alerts;

(10) that the Medical Officer of Health and the Municipal Licensing and Standards Division report to the Board of Health on the feasibility of incorporating a maximum indoor temperature standard in new licensing requirements for multi-occupancy residential buildings in Toronto;

(11) the Energy Efficiency Office explore the feasibility of expanding the Better Buildings Partnership to rooming houses and boarding homes which serve residents vulnerable to extreme heat;

(12) the Medical Officer of Health be authorized to award, amend, and execute purchase of service contracts with Community Information Toronto and the Canadian Red Cross Society to provide services and coordination during Heat Alerts and Extreme Heat Alerts;

(13) the Board of Health send this report to the Community Services Committee and the Toronto Community Housing Corporation; and

(14) the appropriate City Officials be authorized and directed to take the necessary action to give effect thereto.

Background:

At its July 11th 2005 meeting, the Board of Health requested that the Medical Officer of Health evaluate the adequacy of Toronto's Hot Weather Response Plan, in particular with respect to the availability of TTC tokens, cots, food in cooling centres, and the number and location of cooling centres. The Board of Health also requested that the Medical Officer of Health, in consultation with other municipal staff, community partners, health care professionals, tenants and others, develop and implement a community response protocol for extreme heat and smog.

In addition, the Board of Health directed the Medical Officer of Health to report back on establishing maximum temperature standards to deal with excessive heat in residences including appropriate bylaws and the staff from relevant Divisions and budgets required to give these standards effect.

Comments:

Hot Weather Response Plan:

Since 1999, Toronto Public Health has co-ordinated a Hot Weather Response Plan. Over the past six years, the Hot Weather Response Plan has been revised annually as new information and research becomes available and as the City of Toronto and all community partners involved gain experience in its implementation.

The Hot Weather Response Plan has evolved significantly from its original design. In 1999, the protocol called for activation of a Heat Warning using a threshold of a one-day forecast of Humidex over 40 degrees Celsius. It became evident that it is very difficult to accurately predict Humidex levels, since they change rapidly. Subsequently, in 2000 and 2001, Toronto Public Health partnered with the Toronto Atmospheric Fund and the University of Delaware to develop a heat health alert system specifically for Toronto. This system is based on a number of factors including humidity, and has been found to be effective in accurately identifying when heat alerts or extreme heat alerts should be called. A heat alert is called when there is a 65 percent likelihood of excess mortality (i.e., more deaths than would be expected on a normal day) and an extreme heat alert when the forecast likelihood of excess mortality is at least 90 percent.

Primary Objectives of the Hot Weather Response Plan:

The hot weather response plan is intended to alert those most at risk of heat-related illness that hot weather conditions are either imminent or currently exist and to take appropriate precautions. Research studies show that socially isolated seniors are at highest risk of heat-related morbidity and mortality. Other at-risk groups include people with chronic and pre-existing illnesses including mental illness, children and people who have low incomes or are homeless. Heat and human health research studies are based on mortality data, largely because adequate morbidity data are difficult to obtain.

Heat and Related Human Response:

Extreme heat impacts different people in different ways, depending on their age, underlying medical conditions and how well they are acclimatized to hot conditions. Exposure to extreme heat over prolonged periods of time without access to cooling intervals (such as typically occur at night) makes it hard for the human body to maintain a consistent internal temperature. This stress can result in a rise of internal temperature, and/or increased stress on respiratory and circulatory systems. Either circumstance can result in related health problems or death. Even a short break from the extreme heat helps to reduce this stress. As the summer progresses the human body responds differently to the same climatic conditions. In early summer, people are just beginning to become acclimatized to high temperatures and humidity, and thus are more sensitive to hot weather conditions. The same set of conditions at the end of the summer has less impact on health, as the body is more accustomed to the heat. People who live in cities like Toronto that are located in the middle latitudes and experience irregular but intense heat waves, are most affected by oppressive hot weather.

Climate Change, Air Pollution and Heat-Related Mortality:

There is strong consensus in the scientific community that climate change is occurring and that average global temperatures will rise substantially during this century. Global warming is anticipated to increase the number of air pollution and heat-related deaths worldwide. In June 2005, Toronto Public Health and Environment Canada released a major study on the combined effects of extreme heat and air pollution on mortality in four Canadian cities, including Toronto. Based on historical analysis of data over 46 years (1954 – 2000), Toronto experienced an average of 120 heat-related deaths per year. On those days with extreme heat, the average daily mortality was about twice as high as for comfortable days, taking into account air pollution levels. Heat-related mortality was significantly higher for the elderly and those with cardiovascular illness. Further analysis is currently underway to assess historical temperature and air pollution trends, seasonal differences, and the effect of prolonged heat waves on mortality.

Other Research Initiatives:

In 2004/2005, the United States Environmental Protection Agency, the Centres for Disease Control and Prevention and the U.S. National Weather Service partnered to develop a Guidebook on extreme heat events. The Guidebook will assist individuals and organizations in determining the need for a notification system and response plan to address extreme hot weather conditions in

their area, and contains information about key components of an effective response plan. Toronto was identified as having a proactive approach and one of the "benchmark extreme heat event notification and response programs in the United States and abroad". Toronto Public Health is a member of the Technical Work Group that is supporting the development of this Guidebook, which will be published in the spring of 2006.

The Experience of Summer 2005:

In the summer of 2005, there were an unprecedented number of Heat Alert and Extreme Heat Alert days. Toronto Public Health called a Heat Alert or Extreme Heat Alert on a total of 26 days, in seven clusters. Eight (8) Heat Alert days were issued and eighteen (18) Extreme Heat Alert days. The first Heat Alert day was issued on June 6th. In four of the seven clusters, the Heat Alerts were followed by Extreme Heat Alert days ranging from two to eight days in length. The three clusters of Heat Alert days varied from one to two days in length (see Appendix 1). The summers of 2003 and 2004 were quite moderate, in comparison. In 2003, there were three Heat Alert days and three Extreme Heat Alert days. In 2004, there were just two Heat Alert days.

Public Education and Community Outreach:

The best defence against heat-related illness is prevention: staying cool, drinking fluids, moderating physical activities and wearing loose, light-coloured clothing. Toronto Public Health annually reviews and revises a number of educational materials that outline general precautions to take during hot weather. These materials are widely distributed to the public. Toronto Public Health has also developed guidelines for precautions while exercising during hot weather conditions and smog. These have been disseminated to a number of organizations including sports associations, school boards and other community agencies that offer physical activity programs for children and adults. In addition, in 2005, Toronto Public Health developed and distributed fact sheets on heat and heat-related illness for landlords and residents in apartment buildings and rooming houses.

In 2005, prior to the hot summer weather Toronto Public Health provided public education on summer safety in a variety of settings. In addition, during the summer Toronto Public Health organized and presented educational sessions on heat and heat-related illness to owners, operators and residents of rooming houses and boarding homes. The Toronto EMS Heat Alert Response Team also provided outreach education on summer safety to at-risk populations including seniors and day care groups. Toronto Public Health held three news conferences, issued 30 News Releases and responded to 112 media calls on hot weather and health. Toronto's four major daily newspapers carried 91 stories on hot weather risks and measures to prevent heat-related illness. Television news carried a minimum of 217 stories and there were an additional 171 stories on radio.

During the extended hot weather in July 2005, Toronto Public Health Inspectors conducted inspections in more than 500 premises over a three-day period. During each site visit, the indoor temperature was recorded, an assessment of risk to occupants was undertaken and information sheets on heat and health were distributed. Although fans and air conditioners can be used to keep rooms cool, several factors prevented their use. Third floor fans could not be used

effectively because third floor windows or higher can only be opened four (4) inches, in adherence to a municipal by-law. Air conditioning units were refused by owners, operators and landlords of rooming houses and boarding homes because of the cost of electricity. Currently there is a subsidy program for eligible low-income tenants to pay for heating through Toronto Hydro. Therefore, it is recommended that Toronto Public Health explore the feasibility of establishing such a program for low-income vulnerable residents to own and operate air conditioners, in collaboration with key stakeholders such as Toronto Hydro. The City's Energy Efficiency Office administers the Better Buildings Partnership, which includes various programs that encourage the private and non-profit sector to reduce energy consumption, peak utility loads and related costs, carbon dioxide and other emissions that lead to climate change, and poor outdoor air quality as well as to improve indoor air quality and building occupant comfort. Potential benefits for building owners include decreased operating costs, reduced maintenance costs and an increase in property value. It is recommended that the Energy Efficiency Office explore the feasibility of expanding the Better Buildings Partnership to rooming houses, and boarding homes that serve residents vulnerable to extreme heat.

During Heat Alert and Extreme Heat Alert, The Canadian Red Cross Society operates a Heat Information Hotline and Toronto Emergency Medical Services (EMS) Community Medicine Teams provide home visits. In 2005, The Canadian Red Cross Society Information Line received approximately 450 calls from the public. Many calls were about the maximum outdoor temperature for outside workers and the maximum indoor temperature for homes without air conditioning. Other calls included requests for water and transportation to cool places. Fifteen (15) of those calls were referred to 911 and twenty-three requests for home visits were referred to the Toronto EMS Community Medicine Team.

There is continued need for information on heat-related illness, assessment and prompt response to health conditions brought about by extreme hot weather. Frail seniors are a population who require additional outreach during extreme hot weather. During Heat Alerts, Toronto Public Health, Community Care Access Centres, The Canadian Red Cross Society, Meals on Wheels and other community agencies provide targeted outreach to vulnerable adults and seniors who they are already serving. Toronto Public Health asked major institutions including the Centre for Addiction and Mental Health, to review their guidelines for outreach to vulnerable patients during hot weather. Toronto Public Health and its partners will continue to consider alternatives for practical and effective ways to reach isolated seniors to advise them of what to do in hot weather conditions. Toronto Public Health will work with the College of Family Physicians to explore the role that family physicians could play in alerting their vulnerable patients. Toronto Public Health will also work with City of Toronto Homes for the Aged to identify ways to provide short stay beds for frail isolated seniors during an Extreme Heat Alert.

Funds have been included in the 2006 Toronto Public Health budget request to hire public health inspection students to provide education and outreach to rooming and boarding houses. In addition, funds have been requested for contracted services to be provided during additional heat alert days.

Heat-Related Deaths:

The Toronto Coroner's Office makes a diagnosis of heat-related death by exclusion. If there is another cause, then it will be cited. Many deaths due to cardiovascular disease or respiratory disease may be contributed to by dehydration and heat. In Toronto in 2005, there were six deaths among people who lived in rooming houses and boarding homes that the Coroner identified as heat-related. The Medical Officer of Health and community advocates met with the Coroner in fall 2005 to request an inquest into the heat-related deaths that occurred in 2005. It is expected that the Coroner's Office will release a report on heat-related deaths early in 2006 and will determine at that time whether or not there will be an inquest.

Heat Notification Registry:

Toronto Public Health surveyed other jurisdictions to determine if they had developed a heat notification registry and related protocol for heat alerts. Only two of the jurisdictions surveyed have a registry program in place. Baltimore developed and implemented a patient registry in 2005, but only for seniors who receive Medicare or other Senior's Aid program. Staff from the Baltimore Commission on Aging and Retirement Education were re-assigned from other duties during heat waves to contact seniors by telephone and to refer to cooling centres if needed. In 2004, the city of Chicago initiated an auto-dial program that reaches 40,000 out of an estimated 113,000 seniors living alone. Information on effectiveness of this initiative is still forthcoming. The Toronto Police Service has an auto-dialing Neighbourhood Crime Watch program, but in just two of its divisions. A city-wide program is being considered, but cost and maintenance of the service need to be further explored. If a city-wide program is developed, there may be potential for co-ordination with the hot weather response plan. However, an auto-dialing program would provide one-way only messaging, and only to those persons who are enrolled in the program. The goal of targeted outreach to persons most at risk would not be met through this vehicle.

In view of the uncertainties regarding the effectiveness and cost of client registries, the most effective approach at present is to support the current practice of public education through the media and outreach by agencies already serving at-risk clients. Toronto Public Health will continue to work with community agencies to develop and maintain agency-specific registries of at-risk clients they are currently serving and to provide outreach to those clients when Heat Alerts and Extreme Heat Alerts are called. Toronto Public Health will also continue to monitor other strategies to alert at-risk individuals.

Cool Places and Cooling Centres:

Several air-conditioned drop-in centres were able to open for extended hours during the prolonged extreme heat days in mid-July. Many library branches are routinely open until 8:30 pm, and have water fountains or provide paper cups for people to draw water from bathroom taps. Of the 99 libraries in Toronto, 57 are identified as serving people with high needs.

In addition to local libraries and a number of air conditioned community centres that are accessible to the public, four cooling centres were opened in Toronto during Extreme Heat Alert

days. The locations were at Metro Hall, East York Civic Centre, North York Civic Centre and Etobicoke Civic Centre. The Metro Hall Cooling Centre was well used by people who came specifically to cool down. The other three locations were less well used and in general were accessed by people who happened to be passing by. Water, cots and juice were provided. Toronto Public Health distributed approximately 1750 TTC tokens to the Canadian Red Cross Society, Toronto EMS, Shelter Support and Housing Administration, and five outreach organizations for re-distribution to those in need of transportation to a Cooling Centre during an Extreme Heat alert. Of the patients that EMS saw during Heat and Extreme Heat Alert days, approximately 1000 had a heat related concern. EMS staff reported that many people did not want to leave their homes to go to a cooling centre or cool place. One of the main reasons given was their concern that they would not have transport back home.

Toronto Public Health is proposing that the City enhance services at the four cooling centres on Extreme Heat Alert days. These cooling centres would provide water, juice, and nutritious pre-packaged food as well as make cots available. Centre users would be provided with TTC tickets to return home. The downtown location should operate on a 24 hour basis.

Maximum Heat Guideline for Residences in Toronto:

(1) Indoor Heat Standards

Following a request from the Board of Health to report on the feasibility of a maximum heat standard in residences, a review of existing indoor heat standards was undertaken. This review revealed that most standards were developed for application in the work place and fall into two basic categories. The first category is based on a thermal comfort level and is generally applied to office and commercial settings where the intention is to ensure comfort and improve productivity. The second, which has application in industrial environments, is based on physiological strain from heat stress. The intent of this type of standard is to protect industrial workers from heat-related health effects. Both of these are inappropriate for residential settings.

In 1989, Ontario established indoor temperature threshold levels for long-term care facilities after a heat wave in the summer of 1988 that resulted in a number of deaths among long-term care residents. Two temperature threshold levels were instituted and are described in Table 1.

Table 1:

Indoor Temperature Threshold Levels for Long-Term Care Facilities in Ontario (1989)

Threshold Levels	Temperature	Basis	Intervention Measures
Intervention alert	*WBGT 23 °C or Humid air 26°C; dry air 28 °C	Upper limit of thermal comfort zone for lightly dressed, sedentary individuals	Ensure hydration, adjust diet to little or no heat-producing food, monitor fluid balance and for symptoms of hot weather-related illness
Emergency alert	WBGT > 29 °C or Humid air 32 °C; dry air 34 °C	Highest level of heat stress that can be tolerated for long periods of time without ill health effects for a lightly clothed, sedentary resident	Limit exposure time: immediate removal to cooler areas for residents most susceptible to heat-related illnesses, remove the remaining residents within 4 hours and take steps to lower residents' level of heat stress while waiting

*WBGT – Wet Bulb Globe Thermometer

Among the available standards/guidelines designed for protection from heat-related health effects, the indoor temperature threshold levels for Ontario long-term care facilities are the most protective and most relevant to the residential indoor environments. This standard is meant to protect the elderly, individuals suffering from chronic illnesses and people who are on medications that could reduce their tolerance for heat stress.

(2) Maximum Heat Bylaw

Toronto Public Health has held consultations with representatives from the City of Toronto Buildings Division and Municipal Licensing and Standards Division with a view to establishing a maximum heat standard. Through this process a number of key facts were highlighted:

(a) The Ontario Building Code is silent on the issue of thermal standards;

(b) Currently Municipal Licensing and Standards Division is in the process of developing some form of licensing to be applied to multi-occupancy residential buildings in Toronto and they are prepared to consider a maximum heat standard as part of that licensing requirement. Toronto Public Health has been advised that this process will take a minimum of two years to develop and it is unlikely that any legislative standard can be put in place before 2008;

(c) A maximum heat standard can more easily be applied to new residential buildings. However, problems will be encountered in attempting to apply the standard to the hundreds of older rooming houses / lodging homes / group homes where retrofitting costs

would have to be incurred by property owners, with no guarantee that prescribed temperature levels can be attained; and

(d) Enforcement of a standard could force some property owners to divest themselves of rooming house / boarding home / group home properties resulting in fewer affordable housing units for the most vulnerable.

(3) Maximum Indoor Temperature Threshold

Given the challenges involved in implementing an enforceable maximum heat standard, Toronto Public Health is proposing the adoption of Maximum Indoor Temperature Threshold as an interim step. In this regard, it is proposed that a maximum indoor temperature threshold of 32^{o}C be adopted and promoted, based on the Ontario Long Term Care Standard. This temperature threshold would be a benchmark for specific protective actions during periods of extreme heat.

These protective actions would include:

(a) A general public announcement from the Medical Officer of Health to those who can take care of themselves during a heat wave, to initiate measures to protect themselves from heat related illnesses when the threshold is reached;

(b) The use of the threshold to aid assessments by outreach workers/volunteers who visit vulnerable individuals; and

(c) The initiation of extreme heat contingency plans by owners or operators of rooming houses / boarding homes / lodging houses. Contingency plans implemented when the threshold is reached could include increased monitoring of residents for heat related illness, providing cool-off rooms within the facility or even evacuation to cooling centres.

A maximum indoor temperature threshold would be implemented by building on current partnerships and programs. The general public would be informed about the threshold throughout the summer, given advice on how to keep indoor environments cool and what personal precautions to take during hot summer days. These messages would be strengthened during prolonged periods of extreme heat.

A trigger system is critical in the establishment of a maximum indoor temperature threshold. Since every indoor environment is different, the trigger for checking indoor temperature has to be linked to the outdoor environmental conditions (e.g. temperature/humidity). It is preferable for the existing heat health system to act as the mechanism to initiate a response as any other trigger would add confusion. When an extreme heat alert is called, this will act as the trigger for the maximum indoor temperature threshold to be used.

For the existing heat alert system to be able to act as the trigger for checking indoor temperature, heat alert days must capture days when most indoor temperature could rise above the threshold. Limited data collected during the 2005 summer blitz when health inspectors visited rooming houses indicated that indoor temperatures over 32°C are mostly captured by heat alerts. There

were however some occasions when the temperature rose above 32°C in some indoor environments on days when no heat alert had been called. These occasions occurred 2-3 days following an extended extreme heat alert. It is therefore, important that monitoring of individual building temperatures by owner/operators of residences be undertaken during and immediately after a heat alert.

In addition to initiating a maximum indoor temperature threshold, Toronto Public Health will continue to work with the Municipal Standards and Licensing Division to incorporate a maximum indoor temperature standard in new licensing requirements for multi-occupancy residential buildings in Toronto.

Protocol for Hot Weather Response:

Toronto Public Health continues to chair a Heat Committee that includes representatives from: Toronto Public Library, Toronto Community Housing Corporation, Parks Forestry and Recreation, Shelter Support and Housing Administration, Toronto Emergency Medical Services, Toronto Police Service, Toronto's Office of Emergency Management, The Canadian Red Cross Society, Community Information Toronto, Regent Park Community Health Centre, Toronto Community Care Access Centre, Toronto West Seniors Network, and Woodgreen Community Centre.

The Committee has reviewed the hot weather response protocol for 2005 and has made revisions for 2006 as follows:

Proposed Roles and Responsibilities During Heat/Extreme Heat Alerts in 2006:

The following Hot Weather Response plan outlines the proposed roles and responsibility of key stakeholders for 2006. It builds on previous plans and incorporates changes based on the experience of 2005.

(a) Toronto Public Health will monitor oppressive air mass conditions, call the Heat Alert or Extreme Heat Alert, contract with Community Information Toronto and The Canadian Red Cross Society to provide services as outlined below, print and distribute heat and health-related education materials and supply TTC tokens as appropriate. During an extreme heat alert, a maximum indoor temperature threshold will be used as a guideline to assess risk.

(b) With City Council budget approval, Public Health Inspection students will visit all known rooming houses / lodging homes / group homes and any other residential premises of concern prior to the hot weather season. During these visits these students will work with property owners / operators in developing site specific extreme heat contingency plans which will be activated at times of extreme heat alerts. In addition they will provide information on personal protective actions that should be taken to avoid heat related illnesses. These students will also visit these sites during extreme heat alerts to confirm the activation of extreme heat contingency plans and to evaluate their effectiveness. Public Health nursing staff will contact known clients who may be at high

risk of severe health impacts due to the hot weather. Toronto Public Health will develop and provide education to landlords of rooming houses and boarding homes and will support property managers of Toronto Community Housing Corporation. Toronto Animal Services will develop and disseminate hot weather safety messages for pet owners.

(c) Community Information Toronto will phone or fax area hostels, seniors' agencies (such as Community Care Access Centres) and other community groups working with vulnerable populations to advise them of the Heat Alert, and provide information to residents including what services are available.

(d) Libraries will display key health messages about hot weather and heat related illness throughout the warm weather months. During a Heat Alert, libraries will post notices about the Heat Alert/Extreme Heat Alert and will be available as places for people to cool off during regular library hours. During visits to schools to talk to children and teachers about summer library programs, library staff will include summer safety and hot weather messages in their information sessions.

(e) Shelter, Housing and Support Administration will request that all hostels make adjustments to permit clients to occupy air-conditioned space in common areas. They will provide street outreach to people who are homeless through the Streets to Homes Team. They will ensure ongoing coordination of street outreach services to people who are homeless, provided by community agencies through Shelter Support and Housing Administration's various funding streams. In addition, Shelter, Support and Housing Administration may extend hours at selected drop-in centres, subject to funding approvals, and will manage the four City cooling centres.

(f) Toronto Community Housing Corporation will circulate education materials and communicate with tenants to ensure that they are well informed about precautions to take for hot weather, including access to air-conditioned common rooms where they exist.

(g) Parks, Forestry and Recreation will encourage people to go to city pools to cool off or stay in the shade in parks, and will allow people to remain in public parks during a Heat Alert. A $150,000 project to refurbish water fountains in parks will be completed in 2006. Two "Parks Ambassadors" will visit Toronto parks to provide information on telephone numbers and locations of services where people who are homeless can go to cool down. Nine pool locations will extend their hours during Extreme Heat alerts. Recreation centres will be used as cool locations. Facilities that lack air conditioning will be refurbished to have air conditioners under an on-going capital improvement project.

(h) Community Care Access Centres will identify vulnerable clients and develop response plans for them on Heat Alert and Extreme Heat Alert days.

(i) Toronto Emergency Medical Services (EMS) Community Medicine Program will work with Toronto Public Health to use various forms of media to provide high profile quality education to the general public and vulnerable citizens in particular, regarding the potential health risk of hot weather conditions. Toronto EMS Paramedics will staff a

vehicle equipped with emergency medical and other equipment to provide home medical and environmental assessments to persons at risk of developing heat related illness. Transportation to a cool place will be provided when required. Staff will be informed to let patients know that transport home from the City cooling center, will be available. Toronto EMS may increase general staffing levels when necessary and when operationally feasible to meet increased demands for service associated with extreme hot weather conditions.

(j) The Toronto Police Service, when notified of a Heat Alert or Extreme Heat Alert, will ensure that its members pay special attention to areas where vulnerable citizens at risk of heat-related illness are found and encourage them to go to a safe place.

(k) The Canadian Red Cross Society will provide training on recognition of heat-related illness and first aid for staff and volunteers of community agencies who serve vulnerable clients; will co-ordinate the delivery of bottled water to public facilities such as libraries and community centres where vulnerable people are likely to gather; will conduct street and park outreach to homeless people and provide them with transportation to a cool place if needed; will operate a "Heat Information Hotline" to answer questions regarding heat related issues and refer concerned citizens' calls as appropriate; and will respond to requests to check on seniors who are at risk for heat related illnesses.

(l) Members of the Ontario Community Support Association, an organization of home support agencies serving frail and isolated seniors, will receive a package that includes information on heat related illness, and education materials for distribution to their clients; will receive an invitation to participate in training on recognizing the symptoms and providing first aid for heat related illness; and will contact vulnerable clients on Heat Alert days.

Conclusions:

The Hot Weather Response Plan provides a proactive response to extreme hot weather within existing resources. Experience has shown that the most effective way to reach vulnerable populations is to use a number of strategies simultaneously. These include public education through the media, targeted education and training sessions for landlords and tenants, and outreach by volunteers and staff in community agencies to vulnerable populations.

Cooling centres can provide a cool place for vulnerable people who do not have alternatives. People tend to make good use of existing air conditioned public spaces such as libraries, shopping centres and community centres. However, in an Extreme Heat Alert situation, it is important that there be an accessible space available 24 hours a day especially for those people who live in marginal housing.

Based on the experience of summer 2005, additional measures are required for 2006 in order to have a more robust City of Toronto response to extreme heat conditions. These include increased education and outreach, and the initiation of a maximum indoor temperature threshold.

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List of Attachments:

Appendix 1: Summary of Heat Alert, Extreme Heat Alert and Smog Alert Days – June - August 2005

Appendix 1

Summary of Heat Alert, Extreme Heat Alert, and Smog Alert Days - Summer 2005

June 2005

Sun	Mon	Tue	Wed	Thurs	Fri	Sat
			1	2 Smog	3 Smog	4 Smog
5 Smog	6 HA Smog	7 HA	8 Smog	9 HA Smog	10 EHA Smog	11 EHA Smog
12 EHA Smog	13 EHA Smog	14 EHA Smog	15	16	17	18
19	20	21	22	23	24 Smog	25 HA Smog
26 Smog	27 HA Smog	28 EHA Smog	29 EHA Smog	30 EHA Smog		

July 2005

Sun	Mon	Tue	Wed	Thurs	Fri	Sat
					1	2
3	4 Smog	5 Smog	6	7	8	9
10 HA	11 EHA Smog	12 EHA Smog	13 EHA Smog	14 EHA Smog	15 EHA Smog	16 EHA
17 EHA	18 EHA	19	20	21 Smog	22	23
24	25	26	27	28	29	30
31						

August 2005

Sun	Mon	Tue	Wed	Thurs	Fri	Sat
	1	2 HA	3 Smog	4 EHA Smog	5 EHA	6
7	8 HA Smog	9 Smog	10 Smog	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Legend:

HA = Heat Alert

EHA = Extreme Heat Alert

Smog = Smog Alert day

Based on forecast data from the system at end of season.