

Community Response to Extreme Summer Heat

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Background:

1998:

- The Seniors Task Force and the Advisory Committee on Homeless and Socially Isolated Persons requested that TPH develop a comprehensive hot weather emergency response plan.

1999 :

- City Council approved the proposal for an interim Hot Weather Response Plan coordinated by TPH.

Summer 1999 - *"the system..."*



- Search for reliable threshold to call a heat alert
 - humidex = temperature + humidity
 - humidex linked to comfort level
 - no scientific link to human health response
 - further research needed
- Interim system used:
 - **heat alert** forecasted humidex $\geq 40^{\circ}\text{C}$ for next day
 - **heat emergency** forecasted humidex $\geq 45^{\circ}\text{C}$ for next day



Summer 1999 - *"the response plan..."*

- Approached and garnered cooperation from:

- Internal** {
 - Parks and Recreation
 - Libraries
 - Shelter, Housing and Support
 - Toronto Housing Company
- External** {
 - Red Cross
 - Community Information Toronto
 - Out of the Cold
 - Community Health Centres
 - CCACs
 - members of Ontario Community Support Associations

Summer 1999 - *"the response plan..."*



Toronto Public Health:

- monitored humidex levels,
 - called Heat Alerts
 - co-ordinated response
 - media releases



Summer 1999 - *“the response plan...”*

- Collected and disseminated information on:
 - health effects of hot weather
 - strategies to decrease risk of heat related illness
 - interaction between some medications and hot weather

**Summer
Safety:
How to Beat
the Heat**

**Medications
and
Heat-
Related
Illness**

**Summer
Safety: Heat
Drugs and
Alcohol**

**Summer
Safety: Fan
Facts**



Summer 1999 - *"the response plan..."*

Parks & Recreation Department and City Libraries:

- use of local community centres and libraries as places for people to cool off
- increased access to public pools



Summer 1999 - *"the response plan..."*

Out of the Cold, Community Health Centres, CCAC's, Ontario Community Support Associations:

- additional outreach and support for vulnerable populations including seniors and the homeless and under-housed
 - Anishnawbe Health Toronto's Street Patrol
 - distribution of TTC tokens

Red Cross:

- Training on Heat Related Illness and First Aid to staff and volunteers of community agencies



Summer 1999 - "what happened..."

- Saturday August 1st, 1999 - the day of the Carabana Parade attracting thousands people along a 3 hour parade route
- humidex forecasted to be greater than 40°C

- first *Heat Alert* called

- Saturday dawned

grey

raining



cool



Looking for a better way ...

- **“Public Health Impacts of Extreme Heat Workshop”** December 3, 1999
- Purpose was to learn about
 - impacts of extreme heat on human health
 - heat alert systems
 - experience of other Cities
 - weather forecasting in Ontario



Looking for a better way ...

- Toronto Atmospheric Fund (TAF) and Toronto Public Health (TPH) form a partnership
- successful submission to the Climate Change Action Fund - Impacts and Adaptation Component
- 3 components:
 - development of a heat-health watch/warning system
 - researching cool surfaces and shade vegetation
 - developing plans to hold a North American Conference on Urban adaptation



Summer 2000 - *"the system..."*

- Dr. Kalkstein and Dr. Scott Sheridan started development of a Toronto Heat-Health Alert System
- Interim system used:
 - **heat alert** forecasted humidex $\geq 40^{\circ}\text{C}$ for 2 days
 - **heat emergency** forecasted humidex $\geq 45^{\circ}\text{C}$ for 2 days

Summer 2000 - *“the response plan...”*



- TPH continued to coordinate response
- partners from 1999 still committed to provide appropriate response

Additions to the “Plan”:

- Red Cross set up a telephone Heat Information Line during **heat alert** and **heat emergency** days
- Red Cross co-ordinated a more systematic distribution of bottled water

Summer 2000 - *“what happened...”*



- a lovely summer with no hot weather events



Summer 2001- *"the system..."*

- June 19, 2002 launched the new Toronto Heat-Health Alert System (THAS)
- **heat alert** THAS indicates 65 - 89% chance of increased mortality
- **heat emergency** THAS indicates $> 90\%$ chance of increased mortality
 - a **heat emergency** always preceded by a 1 day **heat alert** to prepare for response plan rollout
- THAS runs May 1 through September 30 annually



Summer 2001 - *"the response plan..."*

- TPH continues to coordinate response
- increased number of partners involved
 - Community Medicine Program of EMS
 - Toronto Police Service



Summer 2001 - *"the response plan..."*

Heat **Emergency** :

- Community and Neighbourhood Services opened and coordinated the four cooling centres
 - one opened 24 hours
 - bottled water, cots, air conditioned space available

Summer 2001 - "the process..."



Afternoon ...



Afternoon
System Check



Alert

Forecasted for
Tomorrow

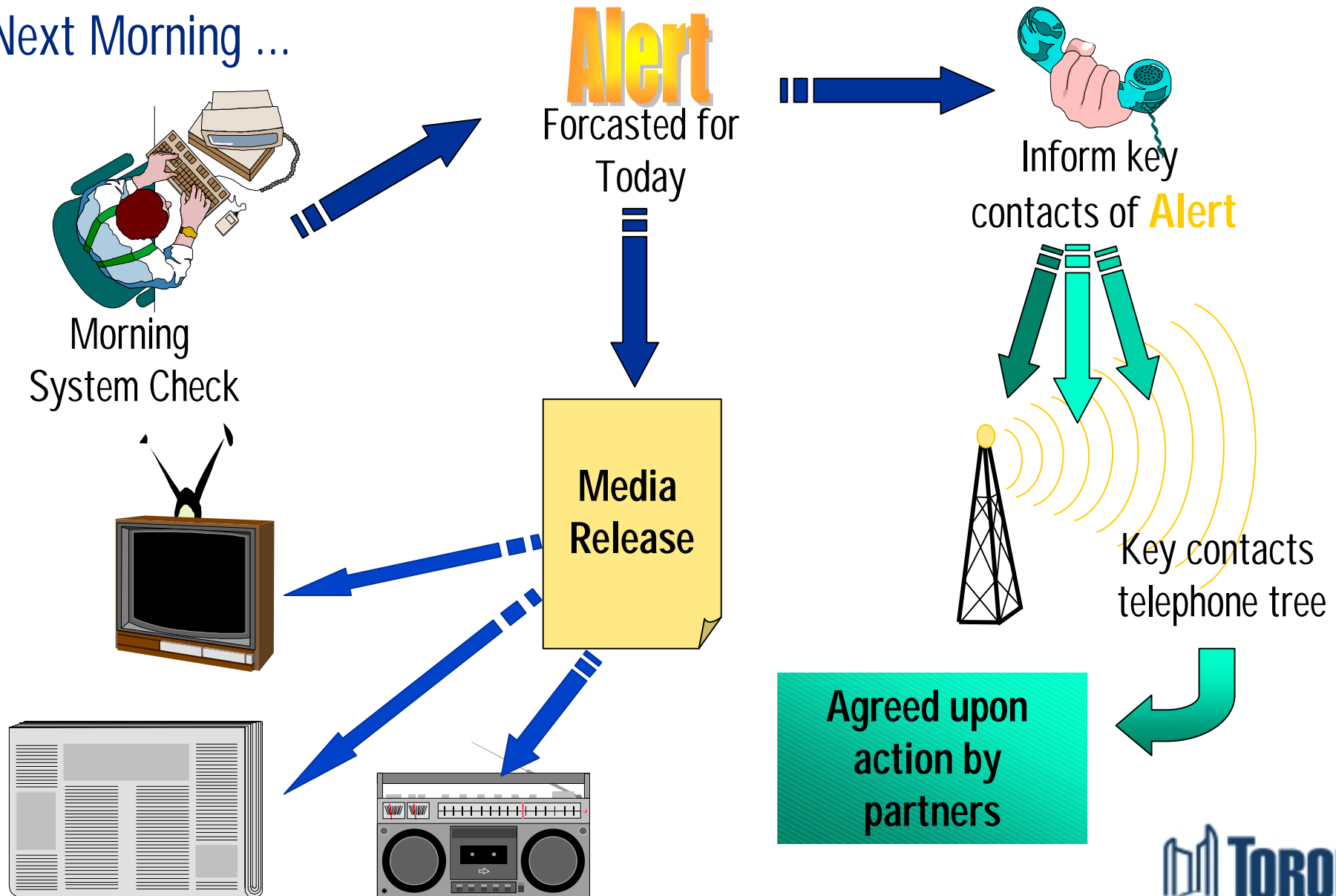


Inform key contacts
of potential **Alert**

Summer 2001 - "the process..."



Next Morning ...





Summer 2001 - *"what happened..."*

- 9 Heat Alert and Emergency days called
 - 6 **heat alert** days and 3 **heat emergency** days
- June 15, 2001 → **heat alert**
- June 29-30, 2001 → **heat alert**
- July 23-24, 2001 → **heat alert**
- Aug. 6, 2001 → **heat alert**
- Aug. 7-9, 2001 → **heat emergency**



Summer 2001 - *“what happened...”*

During 3 the **heat emergency** days ...

- 401 calls to Heat Information Line
 - 28 directed to 911
 - 23 receive home visit from Community Medicine Team
- } 21 transported to hospital emergency rooms
- 4 **cooling** centres open
 - ≈1700 people
 - overnight stays 20 -36 people per night

Summer 2001 - *"the emerging issues..."*



- Emerging issues:
 - Occupational Health and Safety
 - Protocol for Daycare and Child Care Centres
 - Outside sports

“linking heat & smog...”



- Messages regarding **heat alert** and/or **heat emergency** days synchronized with messages regarding **smog alert** days
- distribution of



Summer 2002 - *"the system..."*



- Toronto Heat-Health Alert System (THAS) continues as in 2001
- Bordeline conditions also flagged

Summer 2002 - *"the response plan..."*



- TPH continues to coordinate response
- Partners from 2001 still committed to provide appropriate response
- The plan is similar to 2001 with a few additions...
- Issues identified in 2001 incorporated into plan
 - e.g. linking heat & smog



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