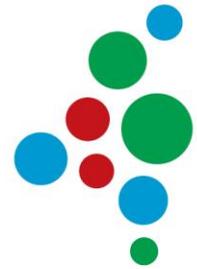


# Kennis voor Klimaat Knowledge for Climate



## Governance of Adaptation

## Public and private responsibilities for the protection of vulnerable citizens against extreme heat

### Description of the research

Protection against extreme heat is an emerging issue in urban areas in light of climate change, ongoing urbanisation and an ageing population. In particular the elderly, disabled and socially-deprived are vulnerable to heat stress from hot days and heat waves. But who takes on the responsibility for the protection of those vulnerable citizens, who have difficulty in bearing this responsibility themselves?

This research aimed to explore public and private responsibilities for the protection of vulnerable citizens against extreme heat at the local urban level. Both the stakeholders' perceptions regarding responsibilities and the actual responsibilities of several cities were analysed and compared. It entailed two research projects, conducted from April-November 2013:

- 1) Re stakeholders' perceptions: two multi-stakeholder workshops in two Dutch cities (Arnhem & Rotterdam), and one focus group of elderly people (Rotterdam). In total 63 stakeholders of public and private organisations, and 14 elderly participated.
- 2) Re actual responsibilities: desk research of 10 foreign cities with a heat stress policy (Chicago, Kassel, London, New York, Paris, Philadelphia, Rome, Stuttgart, Tatabanya and Toronto). The analysis was conducted based on policy documents, literature, reports and websites.



### Background information

- In Europe heat waves are the most deadly of natural disasters: in 2003 they are claimed to have caused up to 70,000 excess deaths, and another 55,000 deaths in 2010. A well-known example is the 15,000 deaths registered in Paris during a two-week heatwave in 2003.
- According to the World Health Organisation heat stress is preventable through early warning systems and response plans.

Nowadays many countries in Europe and North America have such early warning systems and response plans in place. In many cities, however, such plans are still missing.

- The types of measures cities can take, can be divided into two categories:
  - a) Health care measures that reduce the negative health effects of extreme heat. It is about stimulation of adaptive behaviour to better cope with the heat, such as drinking more water, seeking cooler places, ventilating rooms, etc.



- b) Built-environment measures that prevent the trapping of heat in- and outdoors, such as green and white roofs, insulation, the planting of street trees, ventilation corridors, more green space, etc.

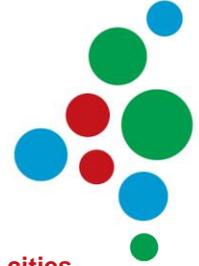


### Research questions

- 1) What are public and private responsibilities and their underlying considerations for the protection of vulnerable citizens from extreme heat, as perceived by Dutch stakeholders?
- 2) What can be learned from cities where a heat stress policy has been implemented, with regard to the shaping of responsibilities?

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### Conclusions regarding public responsibilities

- The results show that the local authorities are responsible for the roles of i) vulnerability assessments of citizen groups, ii) the development of a response plan, and iii) risk communication to the public, both in terms of stakeholders' perceptions and in the actual practice of the foreign cities. The key considerations for assuming those responsibilities with the local authorities are: 1) they have a duty of care for the health of their citizens, and 2) they are considered to be best able to safeguard the protection of the weakest in society.
- The local authorities are also responsible for the realisation of measures in the built environment on district level and on city-wide level. This is because they have a duty of care for a healthy living environment.

### Conclusions regarding private responsibilities

- In the first place the vulnerable person him/herself is (viewed and held) responsible for the realisation of health care measures. This is because everyone has the right to determine his/her own health; and because interventions by others are easily regarded as paternalism and impingement on one's privacy.
- The vulnerable person is also responsible for adaptive measures to his/her own home. This is because it is considered fair that the person benefiting from a measure also pays for that measure.

### Conclusions regarding shared public-private responsibilities

- In those cases where the vulnerable person is simply not able to bear an individual responsibility, shared public-private responsibilities, as in partnerships or policy networks, are foreseen. The key consideration for this shared responsibility is that the collective resources in society can be used in an effort to reach out to the various different vulnerable citizen groups. In several cities such partnerships have been formed between the local health services and private organisations such as community workers, elderly interest groups, and health practitioners. The advantage of such partnerships is that they allow the creation of different partnerships for differentiated strategies tailored towards different vulnerable citizen groups.

### Good practices from the 10 foreign cities

- Most cities have made geographic maps of specific 'hotspots' to identify vulnerable citizen groups. Several cities use more advanced or tailor-made strategies. Toronto, Canada uses a very advanced modelling based on all kinds of target-specific indicators of vulnerability. Paris, France, and Kassel, Germany use databases of vulnerable people based on voluntary subscription. Rome, Italy, uses a database that is based on hospital admissions and information from health practitioners.
- Most cities run passive heat lines that people can dial to get advice and assistance. In some cities active heat lines are operated: in Paris the social service calls the registered vulnerable citizens every other day; in Kassel, Philadelphia and Rome those calls are operated by a public-private network of organisations.
- Most cities have a policy to stimulate the adoption of cool or green roofs through for instance tax credits, subsidies or even mandatory requirements.
- Some cities use natural air flows (e.g. from the mountains) to establish ventilation corridors.
- Several cities turn public buildings into temporary cooling centres during heatwaves.



### More information

More information can be obtained from: Heleen Mees, Utrecht University, [h.l.p.mees@uu.nl](mailto:h.l.p.mees@uu.nl)  
See also publication: Mees, H.L.P., Driessen, P.P.J. & Runhaar, H.A.C. (in press). 'Cool' governance of a 'hot' climate issue: public and private responsibilities for the protection of vulnerable citizens against extreme heat. <http://link.springer.com/article/10.1007/s10113-014-0681-1>