

Measuring progress on adaptation

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Statutory roles:

- To provide independent, expert advice on climate threats and opportunities
- To report to Parliament on progress towards adaptation



Prof Lord John
Krebs (chair)

Prof Sam
Fankhauser



Prof Jim Hall



Prof Dame
Anne Johnson



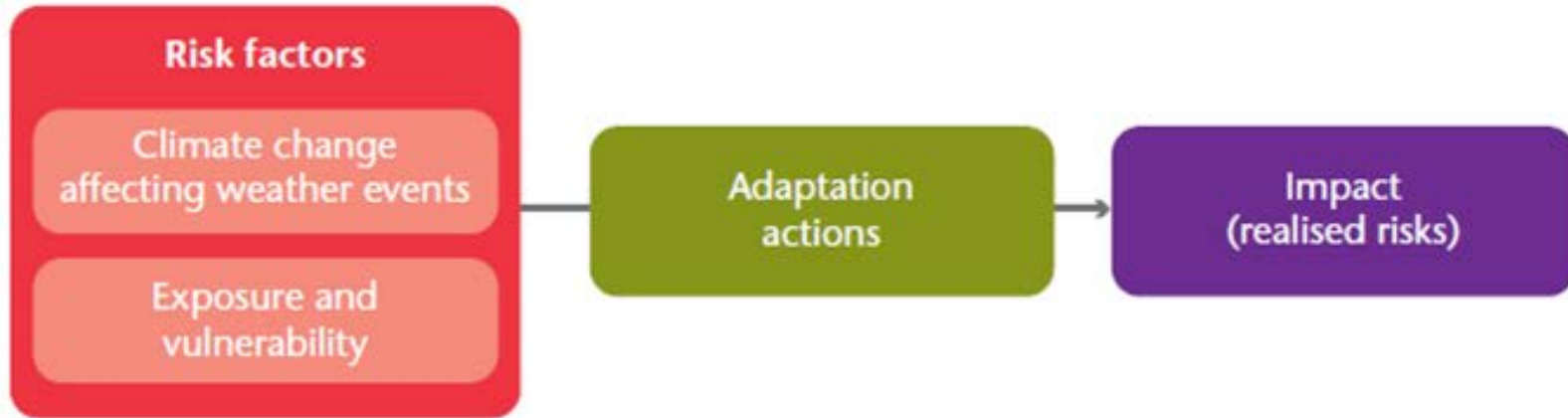
Prof Martin
Parry



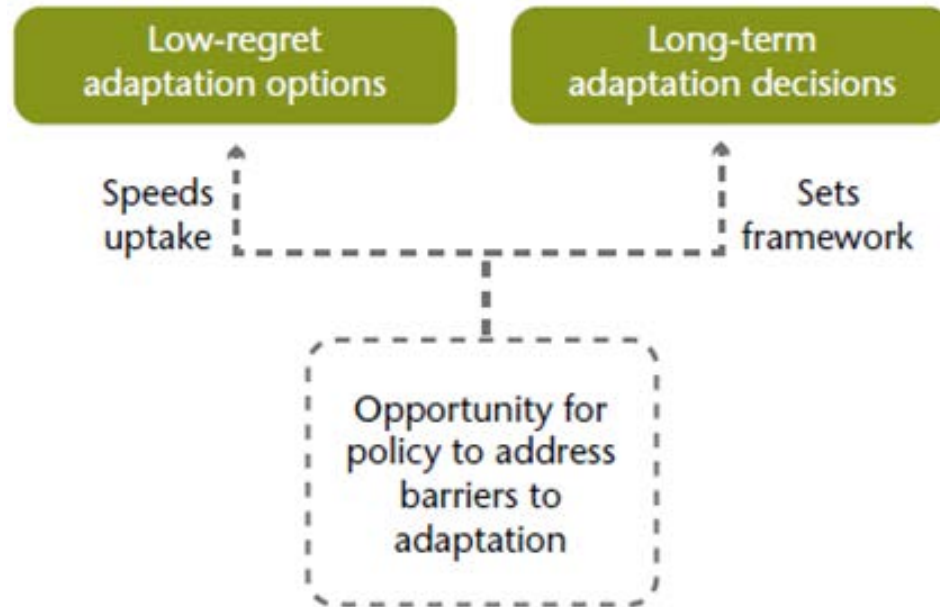
Sir Graham
Wynne



Indicator
framework



Decision-making
analysis



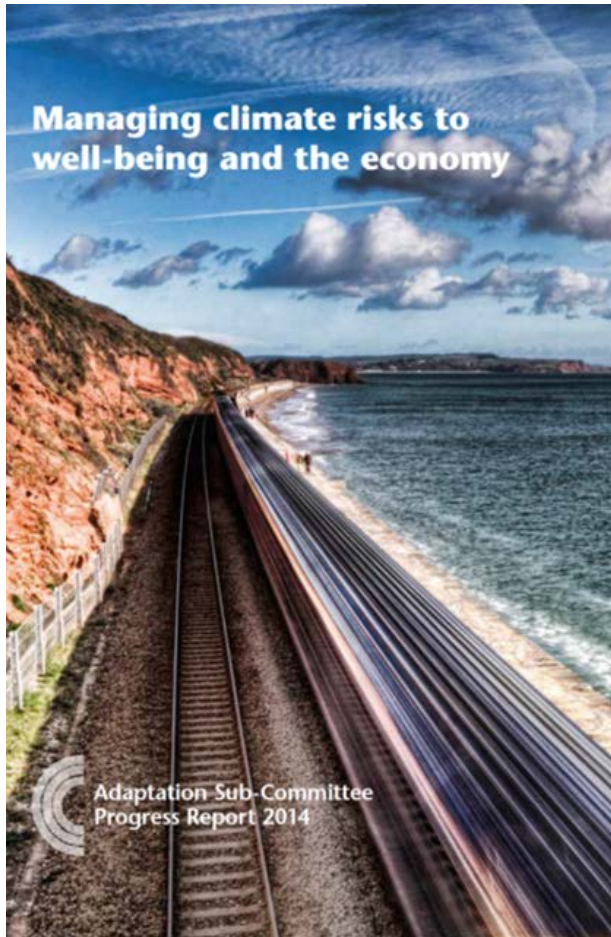
Initial assessment for health in 2014 looked at how vulnerability is changing. We will assess the contribution of the NAP to reducing risk in 2015



The 2014 report looked at how vulnerability is changing and what the national policy landscape is for risks to health from:

- **Overheating**
- Cold weather
- Air pollution (ground level ozone)
- UV radiation
- New/emerging pathogens
- **Flooding including risks to health/social care assets**
- **Plus the current resilience of the emergency planning system**

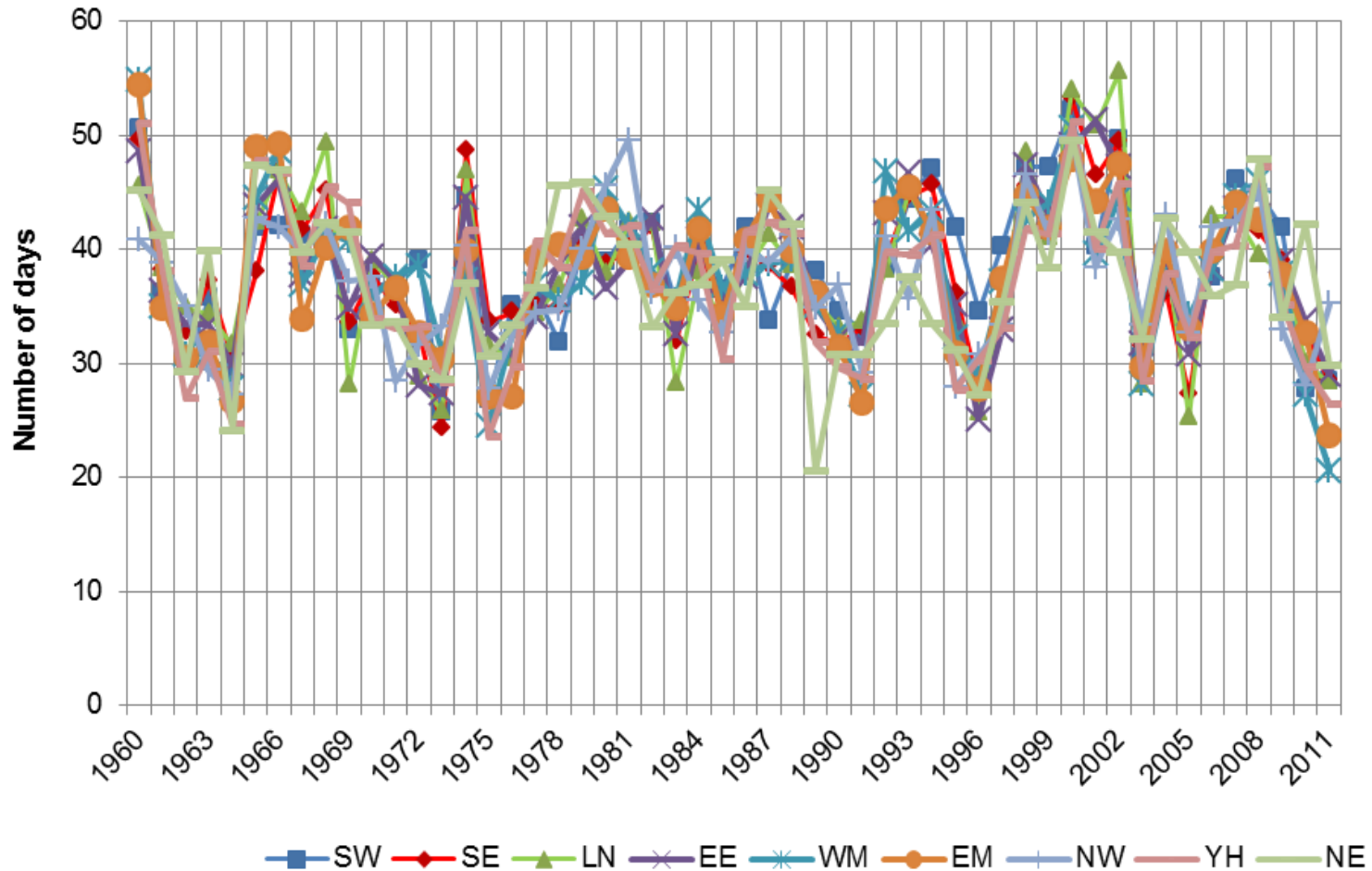
Report plus supporting research is available here:
<http://www.theccc.org.uk/publication/managing-climate-risks-to-well-being-and-the-economy-asc-progress-report-2014/>



- Defra PREPARES survey :
 - 83% of respondents felt that flooding had become more frequent
 - 76% of respondents felt that heavy rainfall had increased
 - 17% of respondents felt that hot weather/heatwaves had increased

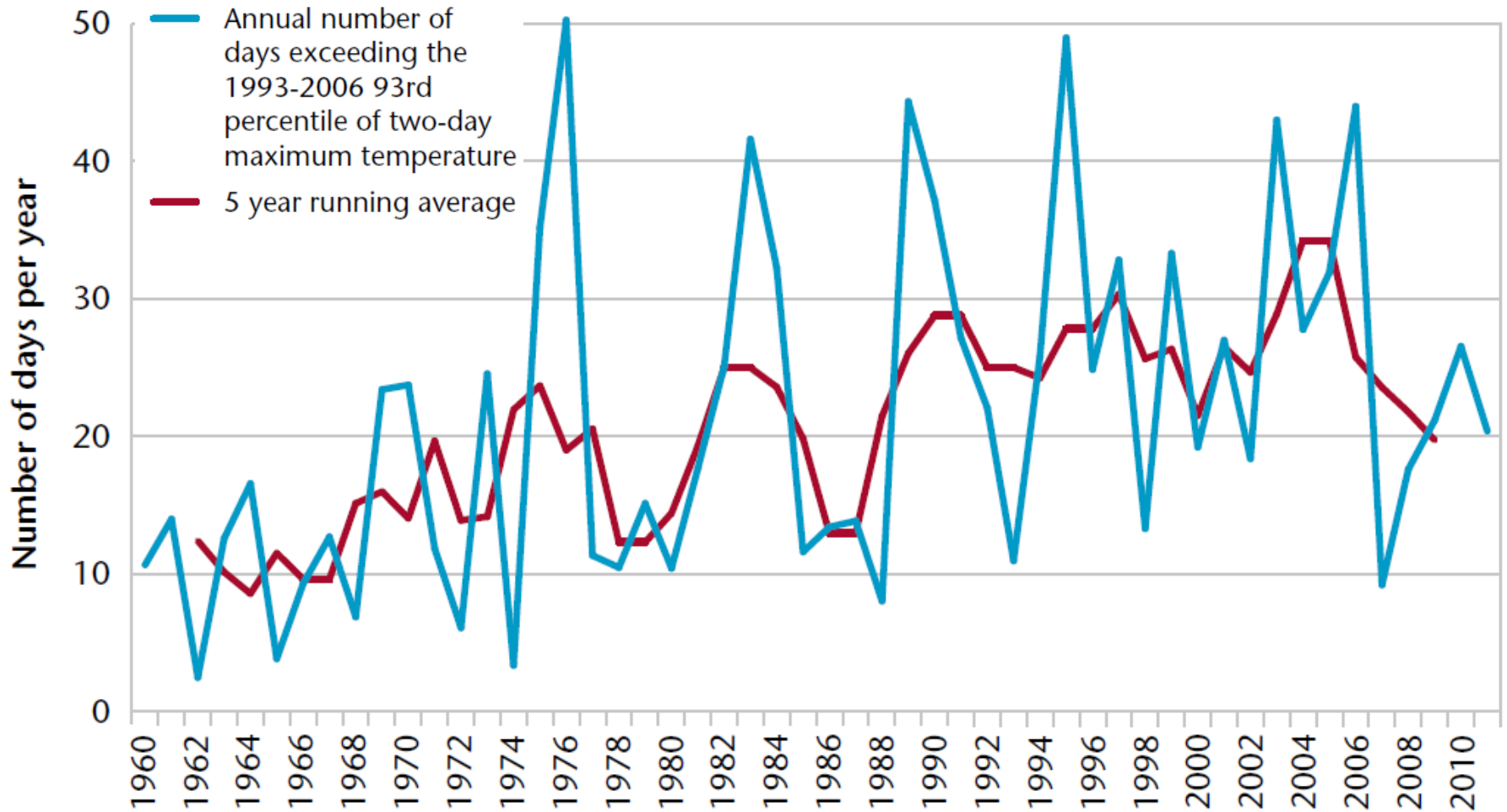
- “Heat waves and hot summers are generally not considered a realistic threat. They are thought to be no more common than they used to be, nor any more severe, and are unlikely to become more common by 2050. For this reason, preparing for these events was a lower priority among participants in both the survey and workshops”.

The number of days per year with heavy rainfall hasn't increased in England (yet)



Number of single-day rainfall events that exceed the 1961-1990 90th percentile (annual) for English regions

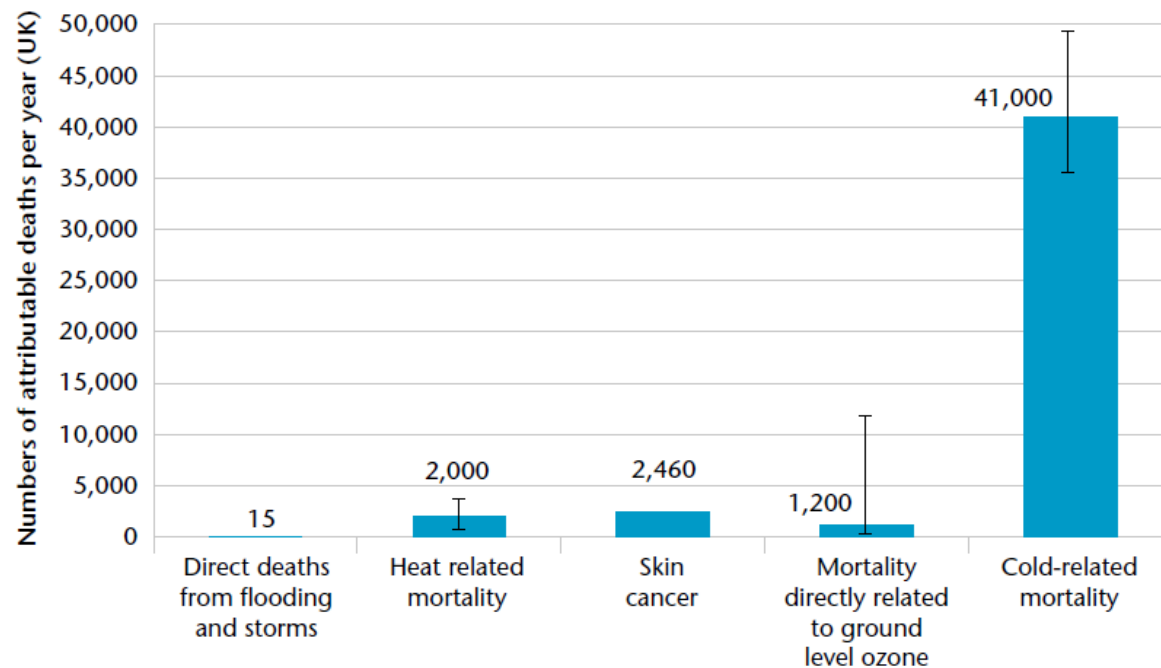
The number of very hot days per year is increasing over time



Source: HR Wallingford (2014) for ASC

...and heat contributes to far more deaths than flooding at present

Figure 5.1: Deaths brought forward for selected conditions where climate change could alter the mortality burden in the future



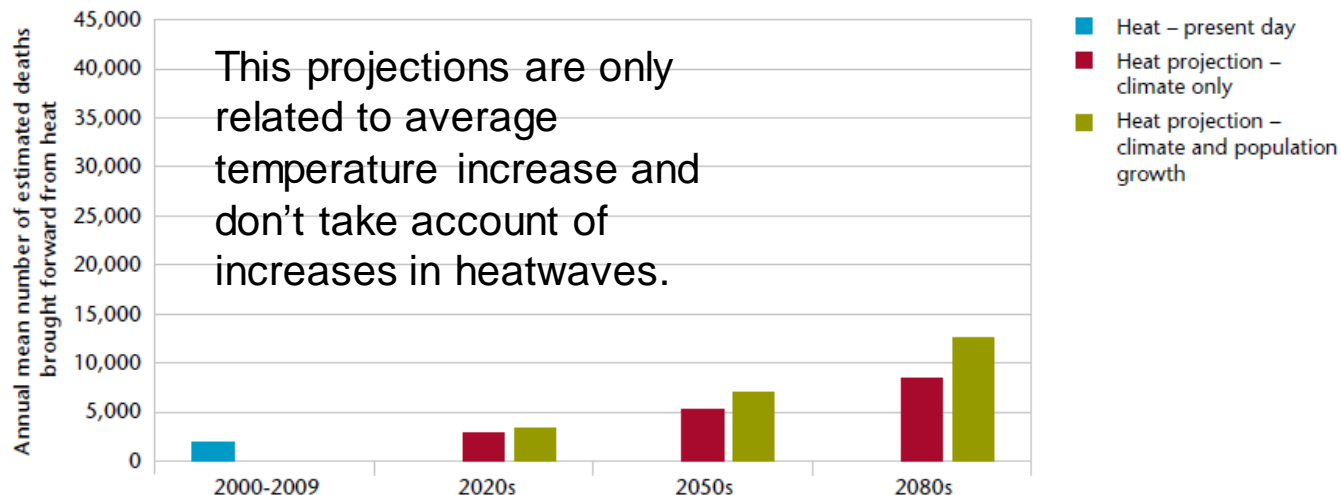
Source: Heat and cold-related mortality: Hajat et al. (2014). Annual estimates are based on annual data for years between 2000-2009. Direct deaths from floods and storms: Hames and Vardoulakis (2012). Annual estimates are based on data since the 1990s. Deaths from skin cancer: ONS (2012). Value given is for 2012. Not all of these deaths will have been caused by outdoor UV exposure, some may be attributable to the use of sun beds for example. Mortality directly related to ground level ozone: Health Protection Agency (2012). Estimates are based on data for 2003.

Notes: Figures show the number of deaths for the UK where a weather-related factor has been a contributing variable. Skin cancer may be caused by exposure to outdoor UV radiation, but can also be caused by other factors such as the use of sunbeds. Skin cancer and respiratory deaths from ground level ozone are classified as risks from long-term exposure, whereas heat, cold and flooding/storms are risks from short-term exposure only.

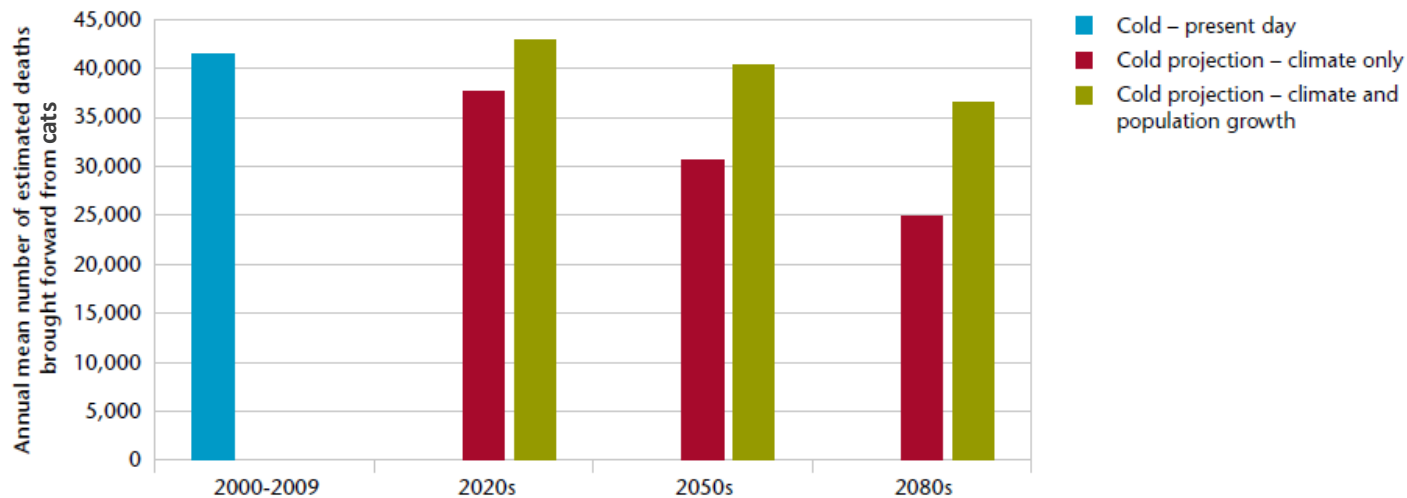
Figure 5.2: Future projections of annual UK heat- and cold-related mortality with climate change

Change in heat-related mortality projected to be larger than change in cold-related mortality in the medium-term.

Projections of heat-related mortality with climate change (UK)



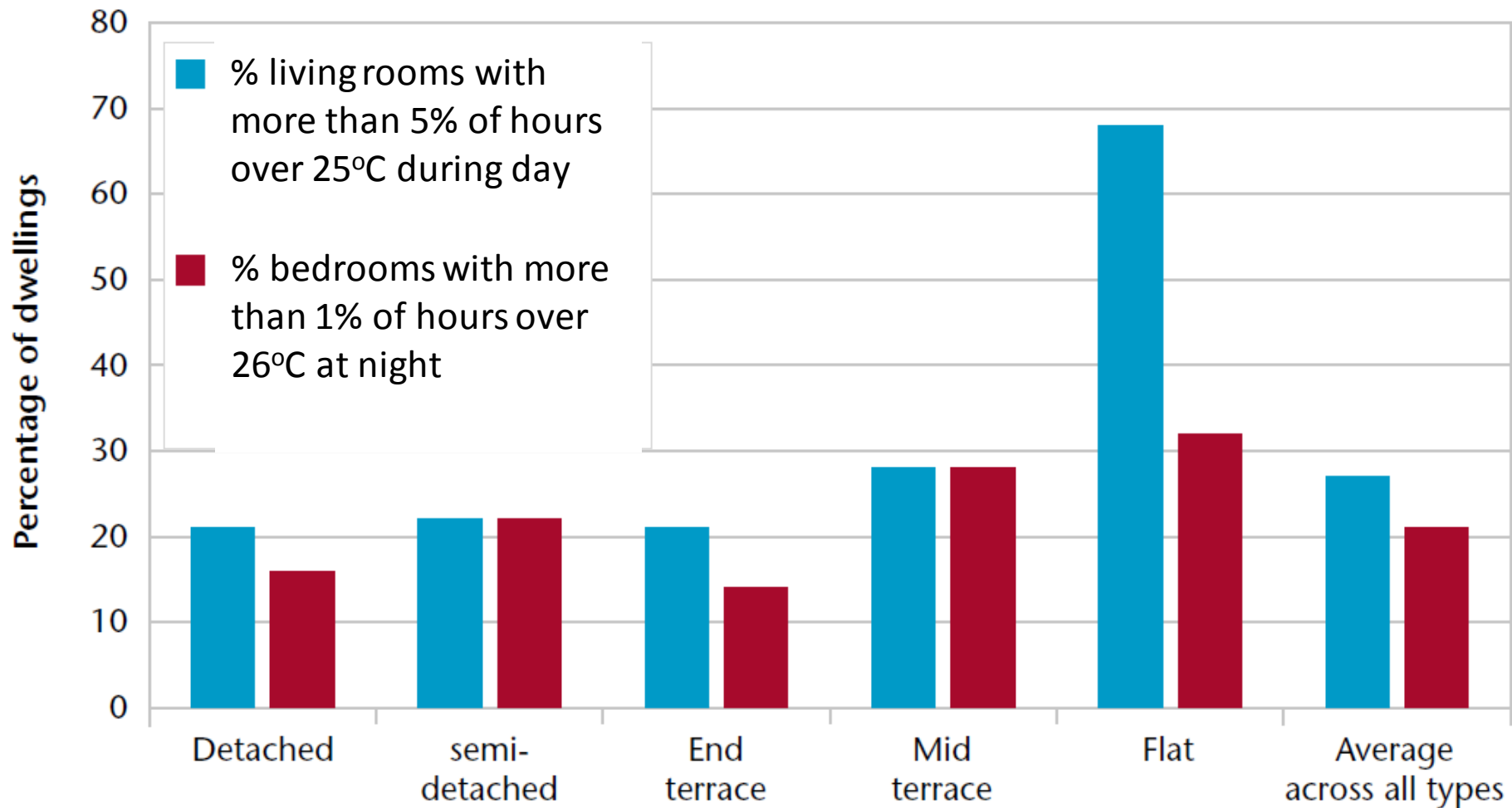
Projections of cold-related mortality with climate change (UK)



Source: Hajat et al. (2014)

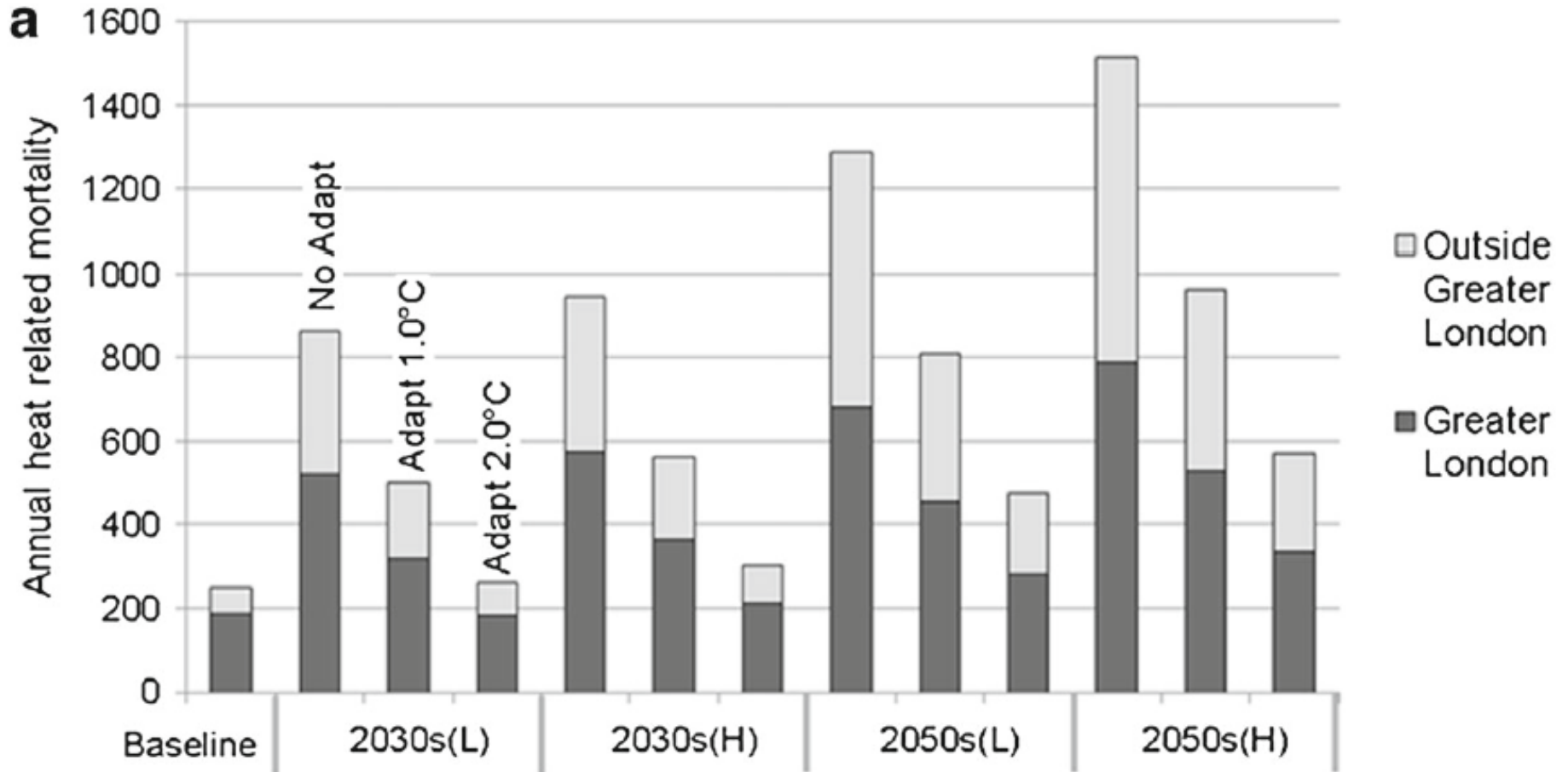
Source: Hajat et al. (2014)
 Notes: Mortality estimates for the baseline are estimated for a single year, but based on mortality data from 2000 – 2009. These estimates assume no physiological adaptation.

Around 20% of homes could already experience overheating even in a cool summer (2007)



Source: Beizaee, Lomas and Firth (2013)

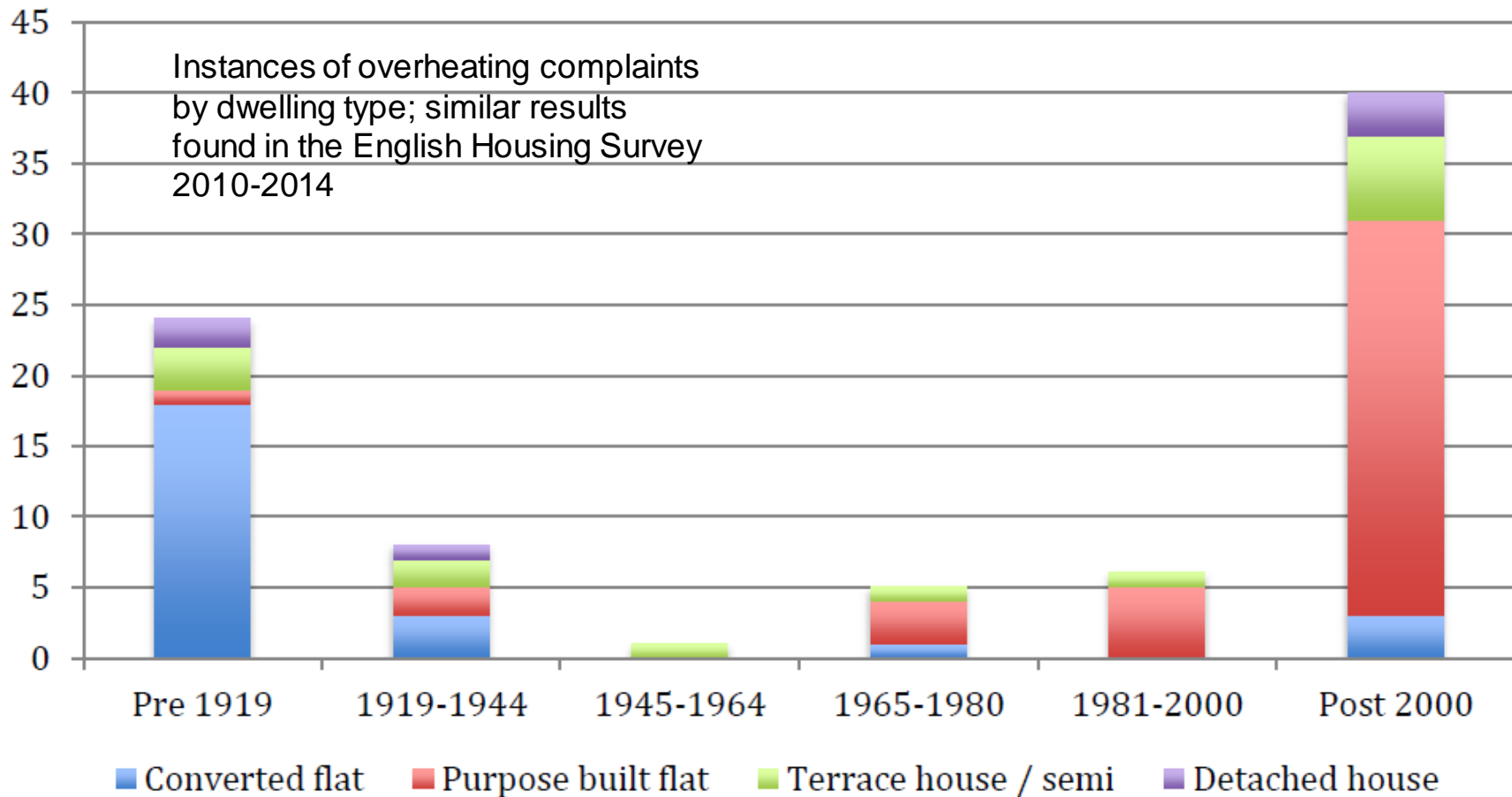
Reducing internal temperatures by 2°C could reduce heat-related mortality by two-thirds according to one study



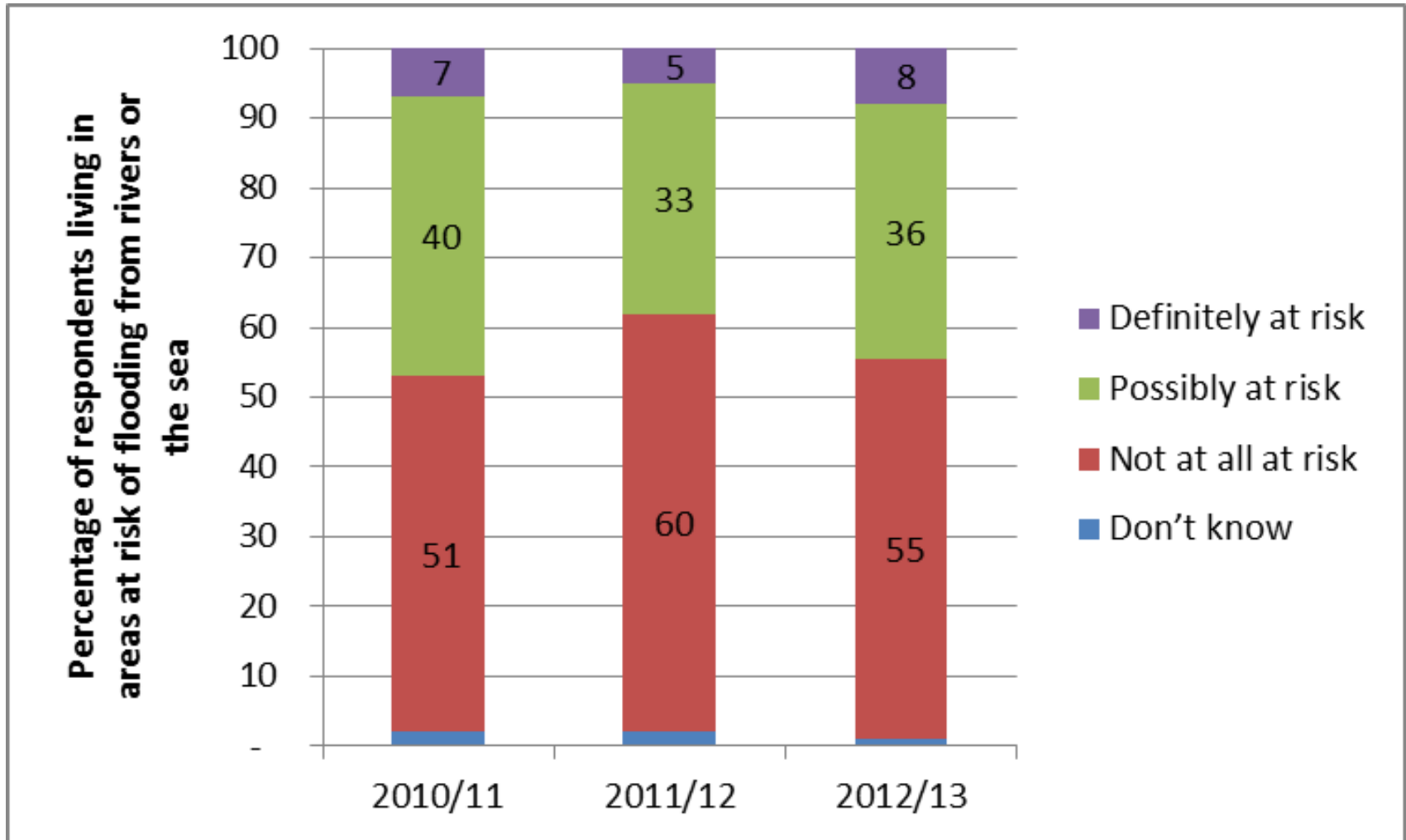
From Jenkins et al. 2014 – estimated heat-related mortality with and without adaptation, assuming present day land use and anthropogenic heat emissions.

But....policies to meet carbon emissions are making homes warmer in summer, especially flats

Dwelling types



Decision making - awareness of flood risk remains low



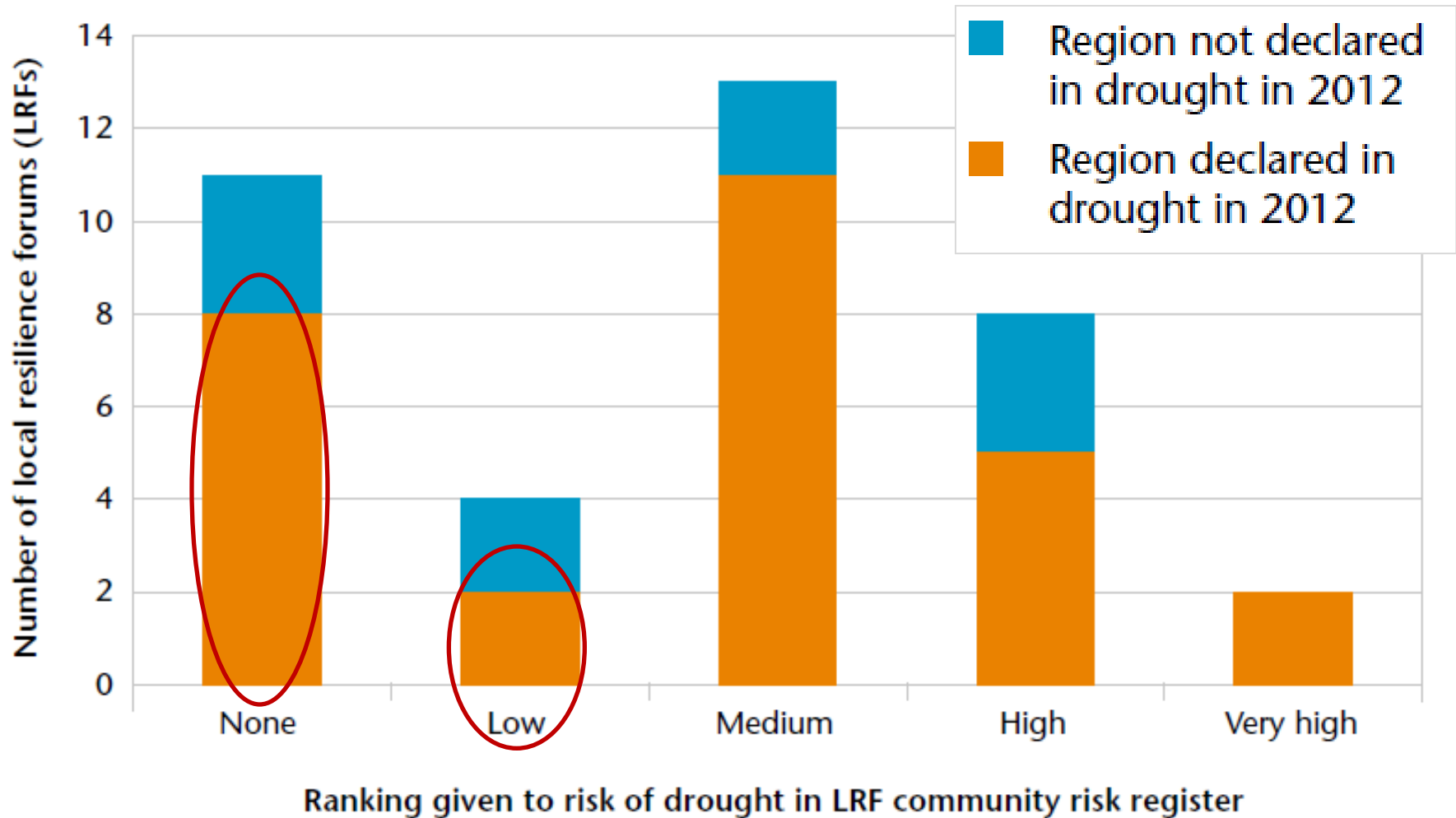
Some key successes in emergency response to extreme weather – impact from December 2013 tidal surge was much lower than in 1953



| | January 1953 surge | December 2013 surge |
|-----------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Early warning system? | No (no forecasting of event, rudimentary media, no centralised planning) | Yes (3-day warning from Met Office/ Environment Agency flood forecasting centre, 160,000 flood warnings issued) |
| Number of people evacuated | 0 | 18,000 |
| Return period for surge | 1-in-200 years at Lowestoft | Varied by location, between 1-in-200 and 1-in-400 years |
| Fatalities | 307 | 0 |

Source: Met Office, Environment Agency, Baxter (2005), National Tide and Sea Level Facility tidal gauges

And gaps in other areas: some local areas that experienced drought in 2012 still do not include it in risk registers



Ranking given to risk of drought in LRF community risk register

Source: Community risk registers (2014), Environment Agency (2012)

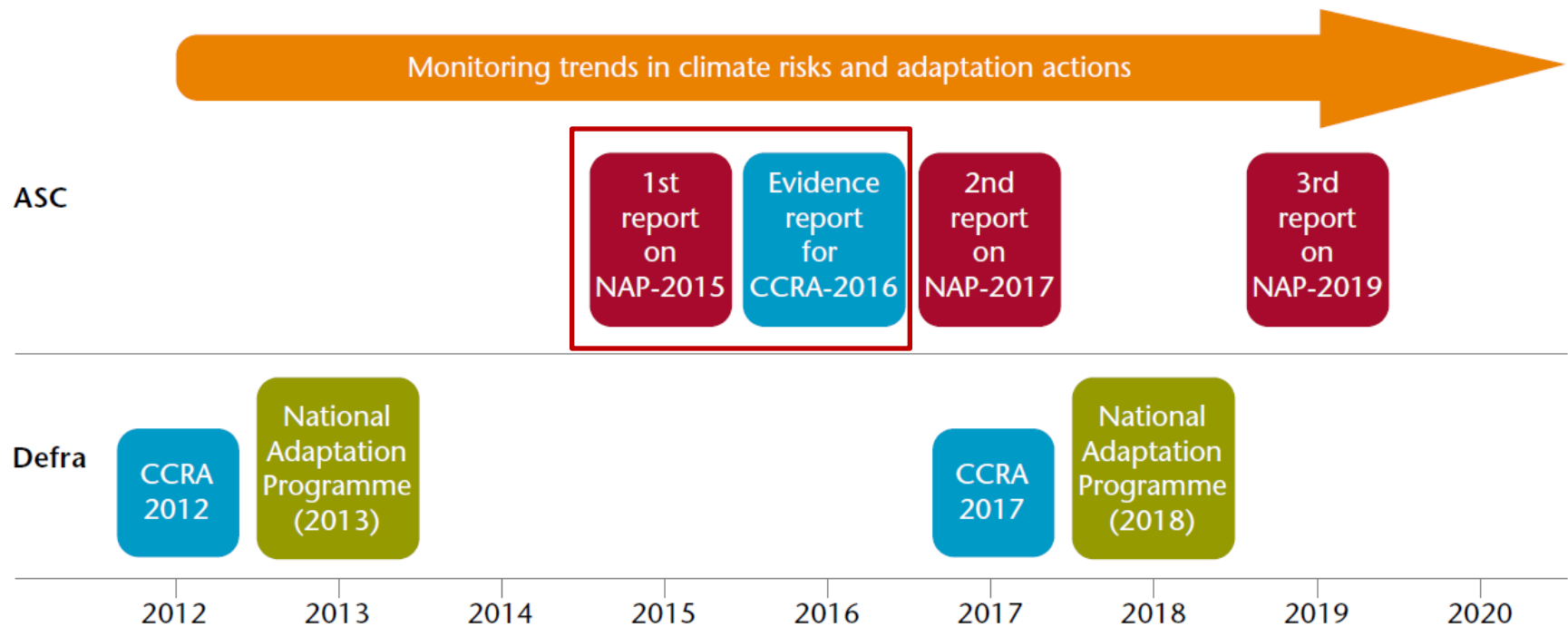
Recommendations for health and well-being



- Health and well-being boards should report on actions being undertaken as a result of the heatwave plan.
- Care Quality Commission should consider setting max temperature thresholds in hospitals and investigate how many wards have means of controlling temperatures. Action being taken could be reported through Sustainable Development Management Plans.
- Government should incentivise uptake of passive cooling in homes, and evaluate options for a standard/regulation on overheating in new homes.
- Data collection is key: asset managers, Directors of Public Health should collect and publish info on the resilience of health/social care assets.
- Continuing monitoring and research needed on new/emerging pathogens and air pollution.
- Emergency planning system needs strengthening: better understanding/data on extent of local action; clarity on capabilities and roles and impact of declining resources.

Upcoming Reports from the ASC- assessment of the NAP in 2015, CCRA in 2016

ASC will report to Parliament every two years on progress by the National Adaptation Programme, starting next summer, plus produce the next CCRA in 2016



Adaptation Sub-Committee

<http://www.theccc.org.uk>



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