COVID-19 and heatwave: managing concurrent risks

Meeting report

18 June 2020, 14:00-15:30
Online meeting

Background

This meeting was organized by the London Climate Change Partnership (LCCP), in collaboration with the Greater London Authority Fire and Resilience team and Public Health England (PHE). It follows the publication of a new set of PHE [resources and advice](#) about managing heatwave in the context of the COVID-19 pandemic.

The purpose was to provide an opportunity for local health and resilience practitioners to learn more about PHE's thinking and its plans in relation to COVID-19, heat, and concurrent risks. PHE also sought feedback on its advice from those working on heatwave and COVID-19 response and was keen to understand the challenges and barriers local responders face—as well as any ways in which COVID-19 response may be enabling heatwave resilience.

Given the large number of participants and the short timing of the event, a survey aimed at gathering views about issues, challenges, and capacity to respond was sent to all registered attendees. Feedback from this will be collated separately.

Key messages

The discussion highlighted a number of common issues and themes in relation to managing heat and COVID-19:

- There are conflicts between responses to heat and COVID-19, but there are also areas of overlap and opportunity.
- Medium- and longer-term interventions can and should seek to address wider issues of inequality—in terms of health outcomes, access to green space, and vulnerability.
- "Vulnerable" people are not a single entity. Responses and risk assessments need to consider particular characteristics and needs of different communities.
- Mapping of vulnerable populations may be an effective way to understand impacts and target interventions.
- The viability of implementing recommended measures needs to be considered, especially for those with limited financial resources. Also consider whether COVID-19 response could enable or facilitate interventions to reduce heat risk.
- Heatwave is not the only potential concurrent risk that may arise during COVID-19. Planning needs to take account of this.
- There is a need for, and interest in, knowledge sharing on this topic and related issues.

Welcome and Introduction

LCCP Chair Louise Pryor welcomed attendees. The LCCP brings together organizations to tackle the risks (like more frequent heatwaves) that climate change will present for London. It also has a wide

network of colleagues working on adaptation and resilience nationally and internationally. Part of its purpose is to gather local expertise and understand local challenges to help inform policy and guidance to enable resilience.

This summer's expected weather

Mark Rogers, Met Office Advisor Civil Contingencies:
Mark provided an overview of expected weather during this summer:

- Next week is expected to see high 20s and possibly 30, and there is a very strong signal for higher than average temperatures in coming months.
- With warming we see higher than average temperatures more often, compared to the baseline 1981-2010 average.
- Note that the Heatwave Plan trigger for heatwave is 2 consecutive days at 32 degrees, while the Met Office definition is 3 consecutive days of 28 or above.

Heatwave planning and COVID-19: The national perspective

Emer O'Connell, Head of Extreme Events, Public Health England:
Emer presented about what PHE has been doing this summer in relation to heat, and the implications of the coronavirus pandemic on heatwave management (slides).

- PHE has published guidance on how to manage heatwave and prevent harm in the context of COVID-19. Normally they would wait to consult widely before publishing but this has not been possible due to the urgency of the situation. seeking feedback.
- Plan – actions to prevent harm. Summers are getting warmer. High temperatures have health consequences, and not just at extremes; mortality and morbidity occur at temperatures lower than heatwave.
- It is a myth that deaths from heat are short-term harvesting. In fact, many of these deaths are preventable.
- Heat stroke becomes a medical emergency for those who are unable to slow down and cool down. But heat stroke represents a small minority of deaths. Most heat-related deaths are due to respiratory and cardiovascular problems. This is why it's considered a silent killer and we use the term excess mortality. People present in hospital as something other than heat stroke, and it's tricky to assess.
- The body tries hard to maintain a stable core temperature, which puts pressure on the heart and lungs. While we don't know as much as we need to about COVID-19, we know about the vulnerable groups and what appears to be intersection with the risks from heat. We won't be able to quantify this until the end of the summer.
- Complicating factors:
  - Adverse effects on older people and people with comorbidities
  - Exposure to indoor overheating if people asked to stay home
  - Increased social isolation due to anxiety about exposure
  - Access to cool spaces would be recommended normally, not straightforward this summer.
  - System level risks – pressure on social care services, difficulty with community and individual interventions

- o Physiological – both COVID-19 and heat strain heart, lungs, kidneys.
- o Homeless – in accommodation but once back into community, day centres not open, so no access to water, sanitation, handwashing facilities
- o Overnight cooling important for respite, dangers if temperatures remain high.
- o Availability of cool space a concern – ONS maps show 1 in 8 people in England with no access to a garden; this is 1 in 5 in London. And big racial disparities here. Inequitable access.
- What PHE is doing about it
  - o Review of heatwave plan
  - o Created slide deck about mitigating factors, produced cards about what can be done
  - o Updated public facing information – Beat The Heat posters, coping with heat and COVID-19 posters. These provide key messages about what the issues are, why they're important, and what to do to mitigate.
- Issue of care homes and healthcare estates. Many types are prone to overheating, and research has found that a "culture of warm" in care homes contributed to a lack of effective heat management.
- Qualitative research from last summer showed limited capital investment in cooling measures, ad hoc procurement of air conditioners are often the front line of defense. If these are poorly maintained they can cause infection risk. Other measures like fans, ice lollies, relaxation of uniform rules are a mixed bag in terms of effectiveness.
- Rapid evidence review of cooling interventions, created a briefing with the Health and Safety Executive around heat and PPE; lots of PPE causes a high level of strain.
- Updated checklist aligned with other guidance for COVID-19 and care homes.
- Briefings for Directors of Public Health on urban green space. This is out for consultation and to be published soon.
- Advice for those who have to stay home – working with Communities Prepared to disseminate.
- Hypervigilance with the heat health alerts system – sharing information with the Met Office
- Promote signing up to Heat Health Watch service on Met Office website.

Key messages:
- COVID-19 amplifies risks from heat.
- Fear of COVID-19 should not keep people from acting.
- Some amendments in the PHE guidance.

Q&A:

How can housing providers support their tenants during a heat wave while responding to COVID-19? Is there any communication planned with households, especially for individuals shielding or isolating about what to do/ not to do in a heat wave as a result of COVID-19?

It's difficult to disseminate to individual households but there is a section in guidance about how to keep house cool. Shielding advice covers aspects of this also. The focus is on keeping the home cool. Information about fans is mixed; it's ok to use them. Natural ventilation is most important for both heat and COVID-19.

There are some simple ways to keep the house cooler. Closing curtains on the sunny side of the house, recognizing that it's sometimes warmer outside than inside, turn off machines in the house which are adding to heat. Resources are available on the Heatwave Plan website.

Question of how to disseminate for people shielding. Suggestions welcome.

Any advice for staff related to PPE?

Advice is to make sure people stay hydrated, set up a buddy system and monitor each other for heat stress. Breaks/periods of respite are important for physiological recovery.

Sources of advice:

- COVID-19 and Cooling Centers (Centers for Disease Control and Prevention)
- Public Health Advice on Preventing Health Effects Of Heat (WHO): updated information for different audiences.
- Heat and COVID-19 Information Series (Global Heat Health Information Network): scroll down for information for health workers (incl. advice re PPE) and heat action planners and city authorities.

Advice about air conditioning?
They can be helpful but some issues with availability and cost. Also sometimes systems/devices are poorly maintained so it's important to get that sorted out beforehand to make sure it's working reliably and won't cause air quality problems.

Advice on when masks get wet?
There is no advice on this at the moment.

Local heatwave response: Lessons, challenges, needs
Fiona Mair, London Resilience Manager, London Resilience:
Fiona talked about the normal London response to heatwave, and what might change in light of COVID-19 (slides).
- London has a range of plans to support strategic response to weather-related and other emergencies, including heatwave, storms, gales, and floods.
- Heatwave sits under the Severe Weather and Natural Hazards response framework.
- It is assumed that all partners in the Strategic Coordination Group have their own emergency plans with triggers, and appropriate actions will be taken by front line services.
- Different warning levels determine levels of response, what actions partners will take.
- Monitoring: During a heatwave response, PHE will monitor health impacts in real time, SCG partners will report on impacts on response operations, and it is the scale of these impacts that will further inform the scale of the Partnership response.
- Primary impacts on health, but also potential for knock-on impacts and concurrencies:
  - Poor air quality can occur with high temperatures, and associated weather conditions can prevent dispersion of air pollutants. Sunshine can increase ozone.
  - Social disorder has been cited as an impact, unclear whether this is true.
  - Transport: melting roads, 24^oC triggers hot weather response for London Underground – rails monitored and speed restrictions.

- - Power: demand increases, but also reduction in carrying capacity of network and potential cooling problems for power stations.
    - Wildfire if conditions are dry.
- PHE is the capability lead for heatwave, supported by the Met Office and Environment Agency. The framework was reviewed in 2017 and was scheduled for review in February this year, but COVID-19 response took over. Delayed with approach to be agreed in October. This delay should not impact ability to respond; capabilities are live documents that can be updated between reviews.
- If a heatwave incident occurs during COVID-19, management of the response would depend on the incident and phase of COVID-19 response. If at the height of COVID-19 response, it's likely that another significant incident would be subsumed within the COVID-19 response structure. With COVID-19 response scaling back, another incident could be run in parallel. However, given the links with public health, a heat incident might make sense to keep within the COVID-19 response structure.
- The COVID-19 response has a number of sub-groups in place supporting the SCG (see presentation for list). As many of these groups are also relevant to a heatwave response, the existing structures could support the response to a heatwave Also, it might not be possible to separate COVID-19 response from heatwave response because of the overlapping impacts. For example, social distancing may have implications for opening of cool spaces, and rules around meeting people outdoors may conflict with advice to remain indoors. Local plans need to be considered against specific COVID-19 risk assessments.
- Using the existing COVID-19 response structures can have benefits, for example, the links to vulnerable groups, or the mortality management contingency arrangements that can offer increased capacity if required.
- COVID-19 may also change the impacts of disruption during a heatwave incident – for example, transport disruption would impact fewer people if people are not travelling.
- In summary, a heatwave incident during the COVID-19 response would present many challenges, but COVID-19-related processes and structures can help heatwave response. And what the response to heatwave would look likely is dependent not only on the heatwave incident itself but also what is happening within the wider COVID-19 response.

Annette Figueiredo, policy lead on heat, Greater London Authority
Annette talked about the lessons, challenges, and needs to be considered from a policy perspective in managing heat in the context of COVID-19.
- With the policy framework (London Plan and London Environment Strategy) set, we need the evidence to inform the delivery of programmes and projects. Anything we do in terms of delivery will be enhanced by evidence from PHE and others.
- Need to learn from other cities.
- Need to consider the balance between exposure reduction and population health.
- Need to integrate across policies and areas of delivery – don't just focus on mechanical cooling, but for example consider access to green space, and the equity or inequity in access for different groups, especially BAME groups which are disproportionately affected by COVID-19. Social and health inequalities have been exposed by COVID-19 and are affecting those at-risk people.

- It is important to work closely across partners and with boroughs to collaborate with "end users," or the vulnerable communities themselves. Challenge of how to work with communities and understand needs.
- Combined challenges of climate change, projections for heat in next few weeks, Urban Heat Island effect, population, ageing, single households, and other issues like domestic violence.
- Behaviour change
- Issue of buildings – existing homes need retrofit, and retrofit for energy mitigation efforts must consider heat and other issues in order to avoid unintended consequences. Need to work with developers on new development also.
- Funding an issue, particularly in recession. Need to leverage in money, and looking across different areas, priorities, interests for co-benefits can help here.

Marie Noelle Vieu, Public Health Consultant, Alice Kociejowski, LB Lambeth
Marie Noelle and Alice talked about experiences managing COVID-19 and heat in Lambeth, and their review of the new PHE guidance with a local learning disabled providers' forum.
- Residents are working and living in a changed environment. Social distancing and self-isolation have widened inequalities.
- Some short-term effects of COVID-19 have been positive – air quality improving, might help with UHI locally. Rough sleepers are in accommodation so perhaps not as exposed.
- But COVID-19 has potential to disrupt existing coping mechanisms.
- In Lambeth, adapted the heatwave plan, identified additional and amplified risks. Happy to see advice for resident care homes. Trying to develop additional advice for different settings.
- The guidance was presented at a learning disabled providers forum to spark discussion – looked at key preparedness measures from the guidance. What to do about fans, thinking about PPE and staff wellbeing. Considered different scenarios and challenges raised:
  - If member of household gets COVID-19, it's a lot more challenging with learning disabilities but more exacerbated with hot weather and indoor temperatures.
  - Reduced access to activities outside the home. It's challenging enough to take people outside, and even more so in hot weather. Where are appropriate places, and how to manage?
  - Challenges of infection control – regular hand washing, face covering, social distancing difficult in hot weather. Heat also exacerbates behavioural issues, which creates more difficulty with infection control.
  - If carers get sick, unfamiliar agency staff looking after people, causing complications.
  - What to do if resident doesn't want to stay in confined space, wear mask? Also what is the best way to keep cool in shared accommodation – fans not advised if people in house are infected. What are the alternatives?
  - Also how to anticipate PPE needs and how to manage wellbeing and welfare of staff.
- Need to consider the feasibility of recommendations – how can they be implemented by vulnerable people, those without economic resources? Problem in short term. Important to try to integrate heat recommendations at high level into COVID-19 plan because we will have to deal with a second wave and will need resources to address that. If in the guidance from the top, will help a lot with local decision-making. Can we use resources to help provide air conditioning for people who need to self-isolate, for example?

Other concurrent risks

Gianluca Pescaroli, Lecturer, UCL Institute for Risk and Disaster reduction

Gianluca gave a brief overview of how to look at concurrent risks in the context of COVID-19 (slides)

- To look at concurrency, there are direct impacts but also risks that can come from dependencies on other infrastructure – for example stable internet connection. Need to consider the possibility that there could be another incident that causes loss of technical capacity. For example, last summer saw transport failure.
- Proposing an approach that looks at common vulnerability between different threats. COVID-19 is already acting on critical points of failure – these things identified in risk registers. Hacking, space weather, cyber attacks, etc. still there. Can have effects with small stressors that disrupt and slow down capacity.
- Need to consider not just this wave of COVID-19, but September, October, November, when flooding and storms are more likely.
- When there is already strain on resilience, smaller or indirect impacts can make a big difference.
- Need to identify common points of failure, escalation points, and stress test – try to create redundancies where you can.

Alan Burrows, Deputy Director, Readiness and Response, Environment Agency

Alan talked about the potential for flood risk during the pandemic, and how the EA is responding to flood risk in the context of COVID-19 (notes).

- Accountable for incident risk management outlook for EA – floods, dry weather, COVID-19, EU Exit, and other incidents; EA's flood risk assessment, and air quality monitoring following a major incident.
- Strategic outcomes set framework for COVID-19 response:
  - Protect lives and livelihoods
  - Prevent serious environmental harm
  - Support partnership working
  - Protect health, safety, and wellbeing of staff
- What we prioritise:
  - Maintain our critical business activities e.g. assessment of flood risk impacts, flood risk forecasting, flood warning, operating flood schemes.
  - Ensure duty rosters our resilient during COVID-19 by stopping and / or slowing non critical business activities.
  - Enable all our critical business activities to be undertaken from home for the majority of incidents, co-locating only if / when the benefits outweigh remote working i.e. during a major flooding incident.
  - To operate flood defences directly using our own staff (or via community groups who have their own community flood plan).
- Critical business activities for London:
  - Operate Thames Barrier 24/7/365
  - Operate and maintain EA flood risk schemes in London to maintain standard of protection
  - Provide flood warning service
  - Work in partnership with SCG during major incidents based on flood risk outlook.

An international perspective

Anne-Marie Hitipeuw, Chief Resilience Officer, The Hague

Anne Marie presented about her work in The Hague and as part of the Global Resilient Cities Network, and the Global Heat Health Information Network ([slides](#)).

- Focus on two major topics:
    - Actions on heat and health to reduce illness
    - Vulnerable groups being hit by heat as well as COVID-19.
- In terms of resilience, shocks and stresses are getting worse across the board. Cyber attacks happening more, extreme weather increasingly causing difficulties.
- Measured effects and vulnerability. Segregation is a big issue; there is a huge divide between people. Mapped heat against "liveability index" to identify vulnerable populations, distance to green space, viability of social distancing, which is more difficult in some dense areas. And target policy interventions like green roofs subsidy.
- City response short, medium, and long term:
    - Short term: a local heat communications plan that stems from national heat plan. Regional organizations take action to communicate with others to prepare. To reach vulnerable people use communications channels in place for COVID-19. Use local newspapers, food distribution channels, etc.
    - Medium: develop awareness with areas in the city where heat will have an impact. Did risk awareness training to explain impacts and find out how people behave
    - Long: adapting physical spaces. "Operation Stone Break" to get hard surfaces out and green in. Challenge because 60 percent of surfacing owned privately. Also urban water collection to treat and use during hot summer days. Working with other cities to share knowledge. Still learning about how to promote heat safety in context of pandemic.

Q&A/Discussion

Use of natural solutions to manage flood risk, capture water and carbon.

London looking at nature-based solutions as part of Green New Deal – using nature for sustainable drainage, making green spaces work harder and deliver multiple benefits – cooling, water, biodiversity.

Effects on mental health also – need green spaces for mental health, spaces with social function.

London is also mapping areas of high social vulnerability in light of particular climate-related risks and potential interventions like drainage.

Heatwave and COVID-19: Concurrent Risks, 18 June 2020, online meeting attendees

Name	Title, organization
Ailbhe Bhreathnach	Public Health Specialist, LB Enfield
Alan Burrows	Deputy Director, Readiness and Response, Environment Agency
Alice Kociejowski	LB Lambeth
Amy Davison	Heat of Climate Change, City of Cape Town
Andrew Bell	Head of Estates, Great Ormonde Street Hospital
Andrew Snazell	EP Manager, LB Southwark
Anita Brako	Public Health Principal, LB Croydon
Anna Sexton	EP Manager, Public Health England
Anne-Marie Hitipeuw	Chief Resilience Officer, The Hague
Annette Figueiredo	Principal Programme and Policy Officer, GLA
Aslam Baig	Public Health Strategist, LB Lewisham
Briony Turner	Climate Services Development Manager, Space4Climate
Camilla Ghiassee	PHE
Camilla McBrearty	EP Officer, Great Ormonde Street Hospital
Carla Hobart	Public Health Registrar, Lambeth Council
Chris Beales	Specialist, EA, Reading Climate Change Partnership
Clementine Djamika	Public Health Practitioner, LB Brent
Dan Bicknell	Climate change adaptation team leader, GLA
David Amankwaah	Environmental and Public Health Scientist, PHE
Diane Lee	Risk & Resilience Manager, Marsden
Dino Motti	Public Health Registrar, GLA
Donna Lyndsay	4 Earth Intelligence
Elana Bader	Green Infrastructure Project and Funding Officer, Scottish Natural Heritage
Eleanor Pratt	Climate Resilience Coordinator, SNIFFER
Elizabeth Dunsford	Public Health Business Partner, LB Westminster
Ellie Murtagh	Climate Resilience Coordinator, SNIFFER
Emer O'Connell	Consultant in Public Health and Head of Extreme Events team, PHE
Fiona Macleod	Senior Policy Officer, City of Edinburgh Council
Fiona Mair	London Resilience Manager, London Resilience
Fleur Holley-Moore	Rough Sleeping Manager, Tower Hamlets
Gianluca Pescaroli	Lecturer, Business Continuity and Organisational Resilience, UCL IRDR
Graham Esson	Team Leader, Sustainability, Perth & Kinross
Halima Khatun	Day Centre Manager, Tower Hamlets
Hannagh Calpin	EPRR Officer, NHS
Helen Macintyre	Senior Environmental and Public Health Scientist, Public Health England
Hazel McIntosh	NHS Healthcare Improvement Scotland
Heloise Thibault	Communications and European Projects Officer, London Councils
Holly Gordon	Contingency Planning Officer, LB Hounslow
Ishani KarPurkayastha	PHE
Isobel Bartholomew	JSNA Manager, SNIFFER
Jacqui Adam	Estates and Facilities Officer, NHS 24
John Callaghan	Business Management Systems Officer, Kent CC
Jose Reis	Senior Policy Officer, Urban Resilience, GLA
June Graham	Engagement Officer, SSN/ECCI

Kate Ezeoke-Griffiths	Senior Public Health Specialist, LB Havering
Kay White	Policy Advisor, Scottish Government
Kristen Guida	Manager, LCCP
Kwaku Addo	Quality Manager, EPRR Lead, Royal National Orthopaedic Hospital
Lauren Eagle	Emergency Planning Officer, East Sussex County Council
Laurie Grasty	Emergency Planning and Business Continuity Manager, LB Lewisham
Lee Smith	Emergency Planner, Whittington NHS Trust
Lois Robinson	Emergency Management Officer, LB Ealing
Louise Prior	Chair, LCCP
Louise Rennick	Public Health Intelligence Advisor, Public Health Scotland
Lynn Burchell	Head of Governance Estates and Facilities Management, Bart's Health NHS Trust
Maria Drake	Emergency Planning Project Officer, Bart's Health NHS Trust
Marie Noelle Vieu	Public Health Consultant, LB Lambeth
Mark Rogers	Met Office Advisor, Civil Contingencies
Marta Arias	Corporate Support Manager, NCL CCG
Mattea Clarke	Chair, Health Protection, Education, and Training Special Interest Group
Meagen Swain	Climate Change Policy Intern, City of Cape Town
Michael Perry	Department of Physics and Astronomy, Leicester University
Michael Tornow	Senior Health Improvement Officer, Public Health Scotland
Miles Hawes	Emergency Planning Officer, East Sussex County Council
Nayla Hamour	GP Registrar, LB Redbridge
Neil Stillman	Public Health Policy Officer, LB Southwark
Nicky Mclean	Emergency Preparedness Manager, NELFT
Nicola Branch	Energy Advisor, SHINE, LB Islington
Nina Bell	EPRR Manager, Imperial College Healthcare NHS Trust
Nnenna Ohuonu	Health and Safety Coordinator, Poplar Harca
Omduth Coceal	Research Fellow, University of Reading
Owen Landeg	Principal Environmental Public Health Scientist, PHE
Paul Bufford	Business Management Systems Officer, Kent CC
Paul Cleary	EPRR Manager, CNWL NHS Foundation Trust
Paul Hogg	Engineering Operations Manager, NHS Scotland National Waiting Times Centre
Rebecca Nunn	Consultant in Public Health, LB Barking & Dagenham
Richard Harwin	Emergency Planning Manager, East London NHS Foundation Trust
Robbie Currie	SRH Programme Lead, LB Bexley
Robert Davies	Emergency Planning Manager, BHRUT NHS Trust
Russell Jones	Public Health Programme Manager, Glasgow Centre for Population Health
Sally Whitaker	AD, Health, Safety, and Fire, Poplar Harca
Shabbir Pisavadi	Emergency Planning Lead, Royal Free London NHS Foundation Trust
Sharon Barker	Special Project, Kent Community Health NHS Trust
Sonia Milne	Project Officer, Glasgow City Council
Stephen Arundell	EP Advisor, Royal Free NHS Trust
Vian Dixon	Emergency Officer, LB Ealing
Vincent Luo	Associate Professor, University of Reading
Xianfu Lu	Adaptation Specialist

COVID-19 and Heatwave: Agenda

14:00   **Welcome and introduction**

14:05   **This summer's expected weather**

Mark Rogers, Met Office Advisor for Civil Contingencies

14:10   **Heatwave planning and COVID-19: The national perspective**

Emer O'Connell, Head of Extreme Events team, Public Health England

14:20   **Q&A**

14:30   **Local heatwave response: Lessons, challenges, needs**

- Fiona Mair, London Resilience Manager, London Resilience
- Annette Figueiredo, Policy lead on heat, Greater London Authority
- Marie-Noelle Vieu, Public Health Consultant, LB Lambeth

14:50   **Other concurrent risks**

- Gianluca Pescaroli, UCL IRDR (Institute for Risk and Disaster Reduction)
- Alan Burrows, Deputy Director, Readiness and Response, Environment Agency

15:00   **An international perspective**

- Anne-Marie Hitipeuw, Chief Resilience Officer, The Hague

15:10   **Q&A/Discussion**

15:30   **Close**