



Care Home Overheating Audit Pilot Project

Overheating Checklist

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DISCLAIMER The contents of this report and its recommendations are principally based on the findings of the independent audit as of the date it was undertaken and may not account for subsequent changes in local policy, conditions and/or circumstances in and/or around the care home

Referencing this report

Eleni Oikonomou, Rokia Raslan, Rajat Gupta, Alastair Howard and Anna Mavrogianni (2020). Care Home Overheating Audit Pilot Project - Overheating Checklist. Mayor of London, GLA, London, UK

Best Practice Overheating Checklist

This Best Practice Overheating Checklist is a 16-point action plan that distils the most impactful and cost-effective recommendations into simple actions aimed at the care home management, using direct and simple language. It primarily focuses on interventions of the physical environment, which is only one part of the activities that should be undertaken. Care home managers will also need to ensure other adaptation activities are undertaken for individual patients, including hydration and medicine review. This checklist is designed so that all care homes can act and although addressed primarily to care home managers, it can also be useful to all stakeholders in the care home sector. The list comprises several recommendations from literature and the lessons learnt from the analysis of data collected as part of one pilot care home. Tables A, B, C and D below present the 16-point action plan grouped according to the impact areas of the adaptation measures, such as limiting sun exposure, minimising heat gains and cooling through ventilation and air movement and level of heatwave preparedness. The measures are ranked based on their all-round effectiveness, taking into consideration the Greater London Authority's (GLA) cooling hierarchy ¹. Additional measures that are effective but harder to implement, for example, due to their costly and/or disruptive nature, are presented in Table E. These could be viewed as longer term solutions as part of a major refurbishment.

¹ GLA. The London Plan - The spatial development strategy of London consolidated with alterations since 2011. (2016).

Table A. Prevention measures to limit the building's sun exposure

	Adaptation strategy	Effectiveness	Affordability	Feasibility
a1	Keep curtains closed when window exposed to the sun	Medium	High	High
a2	Use heat-reflective, light coloured paint for walls and roofs	Med/High	Medium	Med/High
a3	Fit solar control films to windows	Medium	Med/High	Med/High
a4	Utilise external solar shading (e.g. in the form of shutters, louvres, side-fins and deciduous trees)	High	Medium	Medium

Table B. Overheating prevention measures to keep the heat out and limit internal heat sources

	Adaptation strategy	Effectiveness	Affordability	Feasibility
b1	Turn off any unnecessary heat sources (e.g. not-in-use lights and electrical equipment and the heating system, including both radiators and the heat circulation network)	Medium	High	High
b2	Replace any halogen or incandescent light bulbs with energy efficient light bulbs	Medium	High	High
b3	Ensure roofs and walls are well insulated	Med/High	Medium	Medium
b4	Keep windows closed when it's hotter outside than inside	Medium	High	High

Table C. Overheating prevention measures to let cool air in and increase its cooling potential

	Adaptation strategy	Effectiveness	Affordability	Feasibility
c1	Allow nighttime ventilation by letting cooler night-time air to enter the building	High	High	High
c2	Enable cross-ventilation by keeping internal doors open	Med/High	High	High
c3	Allow for increased window opening area, where there are no security concerns	Med/High	High	High
c4	Use ceiling or standing fans, without remaining directly in the draught, that can reduce perceived temperature by creating a wind chill effect	Medium	Med/High	Med/High

Table D. Overheating prevention measures in the form of an emergency response

	Adaptation strategy	Effectiveness	Affordability	Feasibility
d1	Have an overheating response plan, taking into consideration high-risk residents	High	High	High
d2	Educate staff and residents to recognise heat related stress symptoms and respond appropriately	High	High	High
d3	Identify cool rooms and ensure their temperature is lower than 26 °C at all times	High	High	High
d4	Monitor internal temperatures and move residents to cooler rooms if temperatures exceed 26 °C	High	High	High

Table E. Longer term overheating prevention solutions

	Adaptation strategy	Effectiveness	Affordability	Feasibility
e1	Enable cross- ventilation through ducts	Med/High	Medium	Med/Low
e2	Expose existing thermal mass, where possible, and/or use phase-change plasterboard	Med/High	Medium	Med/Low
e3	Provide slightly cooled air through a centralised mechanical ventilation system, either with a cooling coil or a ground-coupled heat exchanger/earth tubes	High	Low	Low
e4	Use of water features, green roofs and walls	Medium	Medium	Medium

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