



HEALTHY BUILDINGS NEED HEALTHY LIGHT

***PREVENTING HARM, SUPPORTING RECOVERY AND
MAINTAINING INDEPENDENCE***

Making UK Homes and Buildings Healthy: What Are We Missing?
7 September 2026 | Boothroyd Room, Portcullis House

EVIDENCE AND POLICY BRIEFING

EXECUTIVE SUMMARY

Healthy buildings discussions rightly focus on damp, mould, fuel poverty, ventilation, overheating and housing quality. These issues remain central to public health and housing policy.

Light, including daylight, is currently under-represented within the healthy homes and buildings conversation. Giving them greater consideration could support many of the same policy goals: preventing harm, improving health outcomes, supporting healthy ageing and reducing pressure on public services.

This handout draws together policy context, research evidence, practical examples and potential next steps for recognising light as another important environmental influence within the healthy homes and buildings agenda.

CORE PROPOSITION

Healthy buildings need healthy light. Light is not only about seeing. It is essential for biological timing and can influence sleep, safety, recovery, alertness, independence, learning, cognition.

WHY POLICYMAKERS SHOULD CARE

HEALTHY-BUILDING OUTCOME	WIDER POLICY RELEVANCE
Better sleep and stronger daily rhythms	Population health and prevention of illness
Safer movement and fewer falls	Healthy ageing, reduced hospital admissions and social care demand
Supportive recovery environments	Patient outcomes, hospital flow and healthcare capacity
Better learning environments	Attention, participation and educational experience and outcomes
Greater confidence and independence	Dignity, healthy ageing and reduced reliance on care
Appropriate workplace environments	Health, participation and productivity

These are health, education, social care and public-service outcomes. As healthy life expectancy declines, these outcomes become increasingly relevant to prevention, public health and social care policy.

THE WIDER VALUE QUESTION

Poor health, falls, sleep disruption, delayed recovery and loss of independence all have economic consequences. Where healthy-light interventions can contribute to prevention, recovery or independence, benefits may extend to healthcare capacity, social care demand, education and workforce participation. Further UK evidence is needed to understand scale, cost-effectiveness and where intervention could deliver the greatest value.

WHY THIS MATTERS NOW

The UK faces growing pressures linked to population health, healthy ageing, NHS recovery, dementia prevalence, social care demand and health inequalities. These challenges make prevention, recovery and independence increasingly important policy objectives.

The Health Foundation reported in April 2026 that healthy life expectancy in the UK fell by about two years over the decade 2012–14 to 2022–24, to 60.7 years for males and 60.9 years for females. It also reported that healthy life expectancy has fallen below the state pension age of 66 in more than 90% of local areas, with deep inequalities between affluent and deprived areas.

WHY THIS MATTERS FOR BUILDINGS

If people are spending more years in poorer health, the environments where people live, learn, work and recover become increasingly important as part of prevention, public health and social care strategies. Light will not solve these issues on its own, but it is one of the overlooked environmental influences affecting health, recovery, independence, healthy ageing and quality of life.

A SIMPLE PUBLIC HEALTH MESSAGE

Most people understand that diet affects health. Most people understand that exercise affects health. Far fewer people understand that light affects health.

BRIGHT DAYS. DARK NIGHTS.

People need enough well-timed daytime light, ideally daylight wherever possible, and less unnecessary light exposure in the evening and at night.

UNDERSTANDING THE EVIDENCE

This handout draws on three complementary types of source:

PROFESSIONAL GUIDANCE

Evidence-based guidance and position statements developed by recognised professional bodies.

PEER-REVIEWED RESEARCH

Published scientific studies that have undergone independent academic review.

PRACTICAL CASE STUDIES

Real-world examples of lighting approaches being applied in specific settings.

PROFESSIONAL GUIDANCE

SOCIETY OF LIGHT AND LIGHTING POSITION STATEMENT ON INTEGRATIVE LIGHTING

The Society of Light and Lighting (SLL), Chartered Institute of Building Services Engineers' (CIBSE) lighting arm, recently published its Position Statement on Integrative Lighting. Integrative lighting considers both the visual and non-visual effects of light, recognising that lighting can influence not only our ability to see, but also sleep, alertness, recovery and biological rhythms. The statement reinforces the principle of bright days and dark nights, with daylight as the preferred source of daytime light wherever possible.

The SLL Code for Lighting is also referred to in Building Regulations guidance, demonstrating that professional lighting guidance already has recognised relevance within the built environment. As understanding of light's wider effects develops, there are further opportunities to address health, wellbeing and environmental objectives alongside energy performance.

HEALTHY LIGHT UNDERPINS HEALTHY LIVING



This diagram helps explain why light matters alongside food, activity and sleep. The important point is not only what we do, but when we do it within healthy light and dark cycles.

PEER-REVIEWED RESEARCH

STUDY 1: DAYLIGHT AND HOSPITAL RECOVERY

Source: Joarder & Price (2013), Lighting Research & Technology. The study examined 263 coronary artery bypass graft patients in Bangladesh and measured daylight levels inside inpatient rooms alongside clinical and environmental variables.

HEADLINE FINDING

Higher daylight levels within patient rooms were associated with shorter hospital stays.

In the study's statistical model, each additional 100 lux of daylight was associated with an estimated reduction of approximately seven hours in length of stay.

Why it matters: This is not only a daylight design issue. The findings demonstrate how the built environment may influence recovery and raise important questions for healthcare

design, including within the NHS. Further research in UK healthcare settings would be valuable.

STUDY 2: LIGHTING AND FALLS PREVENTION IN CARE HOMES

Source: Grant et al. (2022), Journal of the American Medical Directors Association. This observational study involved four care-home sites, 758 residents and approximately 126,479 resident-days of observation.

The intervention introduced upgraded ambient lighting at experimental sites, providing stronger daytime light and lower evening and night-time exposure, while control sites retained standard lighting.

HEADLINE FINDING

Upgraded lighting was associated with a 43% lower falls rate than at control sites following the intervention.

Why it matters: Falls can lead to loss of independence, hospital admission and increased care needs. The finding supports further investigation of lighting as part of falls-prevention and healthy-ageing strategies.

STUDY 3: UK BIOBANK LIGHT EXPOSURE AND MORTALITY RISK

Source: Windred et al. (2024), Proceedings of the National Academy of Sciences. Researchers analysed personal light exposure data from 88,905 UK Biobank participants who wore light sensors for one week and examined mortality outcomes over follow-up.

HEADLINE FINDING

Brighter daytime light was associated with lower all-cause mortality risk, while brighter night-time light was associated with higher all-cause mortality risk.

Why it matters: This supports the principle of bright days and dark nights and reinforces the need to consider light exposure across the full 24-hour cycle, rather than only whether a room appears visually bright.

PRACTICAL CASE STUDIES

DIFFERENT SETTINGS. DIFFERENT OUTCOMES.

Alongside peer-reviewed research, practical experience can show how healthy-light principles are being applied in real settings. These case studies illustrate approaches being explored in care and education environments and the outcomes being reported.

CARE SETTINGS

WCS Care has reported improvements in resident wellbeing and social interaction through a retrofit lighting approach designed to support daily rhythms and the needs of people living with dementia. Reported outcomes include reduced daytime sleeping, increased social interaction and improved mood.

SCHOOLS

The City of Malmö trialled adaptive classroom lighting intended to support learning environments. Feedback from pupils was positive and the case study generated interest in wider adoption.

WHY ONE SIZE DOES NOT FIT ALL

A home is not a school. A school is not a hospital. A hospital is not a care setting. A workplace is not a home.

Different environments serve different purposes and different risks matter in each. This is especially important for people who often have the least control over the environments around them: children, older people, people living with dementia, hospital patients and neurodivergent individuals.

For these groups, light is not simply about whether a space looks bright enough. It may influence whether someone sleeps, moves safely, remains orientated, recovers, learns or participates.

POLICY OPPORTUNITY

Develop practical, sector-specific guidance for homes, schools, care settings, healthcare environments and workplaces, supported by evidence that connects lighting-related outcomes to social, economic and policy priorities.

LIGHT, SLEEP AND DEMENTIA

Many people living with dementia experience disrupted sleep-wake cycles and difficulties maintaining stable daily rhythms, with implications for orientation, everyday functioning and quality of life.

Light is a primary regulator of the body's circadian system and can help support the timing of sleep and wakefulness. Sleep is also an active period of brain maintenance, during which the glymphatic system helps clear metabolic waste, including amyloid-beta and tau, proteins associated with Alzheimer's disease. Emerging human research supports this sleep-dependent clearance process.

This does not establish that better lighting can prevent dementia. It does strengthen the case for investigating how appropriately timed light, healthy sleep and stable daily rhythms might support cognitive health and improve dementia care. Further research is needed to determine which approaches are effective, for whom and in which settings.

IN PRACTICE

Alongside the developing research base, the WCS Care case study provides a practical example of how lighting designed to support daily rhythms has been introduced within an existing dementia care environment.

BEYOND VISIBLE LIGHT: FUTURE RESEARCH QUESTIONS

Light's biological effects may extend beyond the visible spectrum. UVB's role in vitamin D production is well established, while research is also exploring other pathways through which sunlight may affect health, including nitric oxide release and vascular function. Emerging research into red and near infrared wavelengths is examining possible effects on cellular function and metabolism. A recent New Scientist feature has helped bring wider attention to this developing field. These areas are at different stages of evidence maturity and require careful interdisciplinary research to understand their significance, associated risks and any future implications for buildings, public health or lighting practice.

FUTURE EVIDENCE QUESTION

How might the full spectrum, timing and pattern of light exposure interact with human health, and what, if any, implications could this have for future buildings and lighting practice?

POTENTIAL NEXT STEPS

Improving healthy life expectancy will require action across many areas. The design and operation of the environments where people live, learn, work and recover should form part of that conversation.

1. BUILD AWARENESS Include simple messages about healthy patterns of light and dark within relevant healthy homes, public health and professional communications.	2. STRENGTHEN THE EVIDENCE BASE Support research that connects light exposure and lighting interventions to outcomes relevant to health, social care, education, independence and productivity.
3. DEVELOP SECTOR-SPECIFIC GUIDANCE Encourage practical guidance for homes, schools, workplaces, care settings and healthcare environments, reflecting the different people, risks and outcomes in each.	4. INCLUDE THE RIGHT EXPERTISE Ensure lighting and daylight expertise is represented within future healthy buildings research, policy discussions and guidance development.

Healthy buildings need healthy light.
Bright days. Dark nights.
Better evidence. Sector-specific guidance.
Lighting expertise at the table.
Because healthy buildings should be judged not only by the harms they prevent, but by the lives they help people live.

REFERENCES AND FURTHER READING

The Health Foundation (2026): Healthy life expectancy trends in the UK: a watershed moment	SLL / CIBSE (2026): Position Statement on Integrative Lighting
SLL Code for Lighting (2022): CIBSE knowledge portal	Approved Document L (2026): GOV.UK publication page
Windred et al. (2024): Brighter nights and darker days predict higher mortality risk	Joarder & Price (2013): Daylight and hospital length of stay summary
Grant et al. (2022): Impact of upgraded lighting on falls in care home residents	WCS Care case study: Retrofit circadian lighting for older care homes
Malmö school case study: Human Centric Lighting trial	Zare et al. (2026): Sleep-Dependent Clearance of Brain Metabolites via the Glymphatic System
Weller, R.B. (2024): Sunlight: Time for a Rethink?	New Scientist (Issue 3608, August 2026): Why this bulb is wrecking our health

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