Politiche innovative per migliorare la salute e il benessere dei cittadini agendo sull'illuminazione pubblica e degli interni

SC1-BHC-29-2020

Innovative actions for improving urban health and wellbeing - addressing environment, climate and socioeconomic factors

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

ENLIGHTENme has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 945238

Dati principali

- Data di inizio 1 marzo
- Durata: 48 mesi (fino al 28 febbraio 2025)
- Finanziamento: € 4.999.909,75
- 22 partner
- 9 Paesi UE (Italia, Germania, Estonia, Paesi Bassi, Regno Unito, Francia, Spagna, Danimarca, Svezia) + USA

Perchè parlare di illuminazione?

Aumento esponenziale dell'esposizione umana alla luce elettrica:

- illuminazione pubblica esterna
- bagliore artificiale del cielo creato da aree altamente urbanizzate
- esposizione alla luce a livello individuale (illuminazione domestica, schermi che emettono luce tra cui computer, smartphone, ecc.).

L'esposizione ad una luce inappropriata influisce profondamente sul ritmo circadiano, sulla salute e sul benessere delle persone, predisponendo a malattie tra cui il cancro, la neurodegenerazione e la morbilità psichiatrica, colpendo in particolare sottogruppi fragili come gli anziani.

- Gruppo target: anziani (>65)
- un quinto (19,7 %) della popolazione totale dell'UE-28
- Si prevede che il numero raggiungerà il 28,5 % nel 2050

Salute e benessere

Ravi Allada, M.D., and Joseph Bass, M.D.Ph.D. , 2021,
Circadian Mechanisms in Medicine. In: The new England journal of medicine

Place des Fetes, Paris. www.configuringlight.org

City of BOLOGNA
44°29'37" N
11°20'19" E

City of AMSTERDAM
52°22'26" N
4°53'22" E

Tartu City of TARTU
58°22'50" N
26°43'30" E

Obiettivo

- migliorare la salute e il benessere della popolazione over 65 affrontando le politiche pubbliche relative all'illuminazione interna ed esterna

SDG3 SDG4 SDG5 SDG7 SDG9 SDG10 SDG11 SDG12 SDG13 SDG14

SO.2 Promuovere lo scambio di conoscenze sulle politiche di illuminazione urbana e il comportamento sano dei cittadini

SO.3 Co-progettare politiche di illuminazione all'interno degli Urban Lighting Labs

SO.5 Fornire strumenti a supporto del processo decisionale

SO.6 Ampliare e adattare le politiche urbane innovative

SO.7 Migliorare l'adozione da parte del mercato (light designers, produttori) dell'approccio innovativo proposto

Designers
Producers
Board of Lighting Companies
Managers
ENLIGHTEN me
Scientific Advisory Board
TECHNOLOGIES AND MARKET
URBAN POLICIES
CAPACITY BUILDING
CO-CREATION
AWARENESS RAISING
HEALTH RESEARCH
Indoor & outdoor lighting
Urban fabric
Safety and security
Regulating circadian rythm
Social interaction
Reducing mental illness
People
Combating neurodegenerative diseases and cancer
Policy makers
City Mayors
Healthy Urban Lighting Advisory Board
City Urban Planners

Fase di costruzione della conoscenza

Light pollution

Synonyms and alternative terms: obtrusive light, light trespass, nuisance light, spillage, sky glow, glare

Light pollution is a generic term for the adverse effects of electric light on the night-time environment. Obtrusive light is a side effect of outdoor lighting, which is caused by a disregard for the needs of users and a lack of information on presence and movement of the users. Additionally, scattering in the atmosphere contributes to the increase in sky glow especially when this is assisted by certain weather conditions. Rapid urbanisation results in increased quantity and concentration of electric light at night and is leading to more and more obtrusive light which is uncontrolled in the environment. Obtrusive light hinders astronomic observations and has significant impact on the natural environment even at distant locations.

Common sense:
[1] Light that is intrusive, misdirected, excessive or wasted. Sometimes refers to the overall excess of lighting that results in the absence of truly or naturally dark environments. Use of the term 'pollution' aims to draw parallels with other kinds of environmental contamination (e.g., from noise, chemicals or waste) which produce damaging consequences and require regulation.
[2] Distributing outdoor light in directions where it is not useful or not desired, to the annoyance of human neighbours and/or the detriment of wildlife.

Georeferenced environment

Virtual representation of reality characterised by including elements within a geographic reference frame, either through their coordinates, names or references.

Good practice

A practice that seems to work successfully somewhere else or has proven to produce good results. Good practices can also be advantageous methods which help in achieving the objectives of an activity, innovative initiatives and approaches. Good practices are associated with successful projects. [12]

Definition of a common operational language

About

Vision

ENLIGHTENme strives to improve the health and wellbeing of urban citizens in European cities through adequate and enhanced public indoor and outdoor lighting.

Mission

The ENLIGHTENme project aims to advance the understanding of how indoor and outdoor lighting affects health and wellbeing, particularly in elderly populations. It will develop innovative, evidence-based guidelines and policies for measures, technologies and interventions that can be implemented with a dedic... improve public health and wellbeing.

A multidisciplinary concept that also links policy and everyday language. It generally connotes a multidimensional and holistic sense of having ones needs and aspirations met to a reasonable extent and includes both the feeling and the reality of being well and having a good 'quality of life'. Because of this multidimensionality different people, policies and disciplines will include different elements under well-being. Amongst the most common dimensions of wellbeing are usually found: the meeting of basic needs (as defined by a particular culture); good health/absence of debilitating disease; positive physical and social conditions that support social inclusion and the capacity to pursue individual and collective projects.

With a growing world population and rising urbanisation ... **electric light**. This includes public **outdoor lighting** and ... exposure at the individual level from **interior lighting** in ... exposure at night, or too little light exposure during the day, profoundly affects people's biological clock, health and **wellbeing**. **Older adults** over 65 years of age are particularly prone to these impacts. Knowledge about the role lighting has on people's health and new responsive guidance for **urban lighting** strategies have the potential to substantially mitigate any possible impacts.

Fase di costruzione della conoscenza

Atlas

Practices and interventions mapping

City level Urban Lighting and Health Maps

City level Urban Lighting and Health Maps

Socioeconomic indicators

Light indicators

Urban indicators

Urban maps

Health indicators

Light maps

Light maps

Light vulnerability index

Health vulnerability index

Urban vulnerability index

Socioeconomic vulnerability index

Combined vulnerability index

Fase di costruzione delle evidenze

Co-creare interventi di illuminazione urbana nelle tre città ENLIGHTENme

- Co-progettare, implementare e valutare politiche e interventi innovativi di illuminazione in un distretto target in ciascuna delle tre città ENLIGHTENme

13 Maggio 2021
APERTURA DELL'URBAN LIGHTING LAB

Piazza Grigoris Lambrakis

ARCADES
SQUARE
GREEN AREA
BOOK CLUB
ARCADES

Square lighting concept

Arcades and access area lighting concept

Book club area lighting concept

NERI 803		NERI PICTOR		NERI NEBULA	
Optic	Type V	*Optic*	Type IV	*Optic*	Type V
Power	44 W	*Power*	15 W	*Power*	39 W
Flux	4500 lm	*Flux*	1000 lm	*Flux*	2464 lm
TCC	TW (2200K - 4000K)	*TCC*	TW (2200K - 4000K)	*TCC*	TW (2200K - 4000K)
CRI	90	*CRI*	90	*CRI*	90

Private area
Via Dallolio
Private area
Arcades
Piazza Lambrakis
Via Tacconi
Private area
NEW LIGHTING TO ARCADES
PROJECTORS MOUNTED ON PILLARS
RETROFIT OF EXISTENT HISTORIC
POLE MOUNTED LANTERNS

Via Dallolio
Green area
Arcades
Via Tacconi
MULTIHEAD POLES IN GREEN AREAS
AND GATHERING POINTS.
NEW LIGHTING TO ARCADES
PROJECTORS MOUNTED ON PILLARS

Fase di costruzione delle evidenze

Studio dell'illuminazione basato sulla popolazione anziana

Valutare l'impatto delle innovazioni nell'illuminazione esterna e interna sui ritmi circadiani, sul sonno e sull'esposizione alla luce personale, sulla salute mentale e fisica e sull'efficacia in termini di costi degli interventi eseguiti

- Reclutamento di 500 partecipanti per ogni città
- studio di base e di follow-up

- Cause delle differenze individuali nella salute e nel benessere nel campione
- Effetti del cambiamento sperimentale di illuminazione di 1 anno
- Analisi di costo-efficacia degli interventi eseguiti.

Recruitment plan: started on Monday February 27th

	Start date	End date
Group 1 (50+50) in each city	February 27th	June 18th
Group 2(50+50) in each city	May 28th	September 16th
Group 3(50+50) in each city	August 26th	December 15th
Group 4(50+50) in each city	November 24th	March 14th
Group 5(50+50) in each city	February 22nd	June 12th

Definizione delle politiche e delle linee guida per l'illuminazione

Linee guida sulle buone pratiche per l'illuminazione urbana sana rivolte ai comuni (masterplan di illuminazione, programmi di città intelligenti, ecc.);

ENLIGHTENme Decision Support System (DSS), per supportare i comuni nel prendere decisioni in materia di interventi di illuminazione;

Policy brief sull'illuminazione urbana sana, per integrare le implicazioni per la salute e il benessere nelle direttive sull'illuminazione e negli orientamenti a livello dell'UE.

Corso Urban Health Manager con focus sull’illuminazione

Urban Health Cluster

eMOTIONAL Cities

ENLIGHTENme

HEART
Healthier Cities through Blue-Green Regenerative Technologies

RECETAS
TESTING ACTIONS FOR SOCIAL PRESCRIBING IN NATURAL SPACES

URBANOME
Urban health, wellbeing, liveability

WELLBASED

Cluster conference
Bologna 8 giugno ore 14,30

The projects that form the European Health Cluster have received funding from the European Union's Horizon 2020 research and innovation programme, under grant agreement, No. 945307 (eMOTIONAL cities), No. 945238 (*ENLIGHTENme*), No. 945105 (HEART), No. 945095 (RECETAS), No. *945391* (URBANOME), No. 945097 (WELLBASED).

Urban Health Cluster objectives

Increase visibility and policy translation of urban health research and innovation actions

Strengthen the evidence base to inform local, regional, national and translational policies such as the EU Urban Agenda

Facilitate international cooperation with other relevant multisectoral and interdisciplinary initiatives on urban issues and health

Urban Health Cluster working groups

WG1 - Science translation for policy and practice

WG2 Health determinants and Urban Interventions

Working Group 3: Data Analysis and Protection

WG4 - Urban Issues and Epidemics

WG5 - Dissemination, Communication and Exploitation