HORIZON 2020

Citizen Science for Urban Environment and Health

Rapports

Informations projet

CitieS-Health

N° de convention de subvention: 824484

Site Web du projet

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Projet clôturé

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20 Novembre 2018

Date de début
1 Janvier 2019

Date de fin
30 Juin 2022

Financé au titre de
Integrate society in science and innovation issues, policies and activities in order to integrate citizens' interests and values and to increase the quality, relevance, social acceptability and sustainability of research and innovation outcomes in various fields of activity from social innovation to areas such as biotechnology and nanotechnology

Coût total
€ 2 000 500,00

Contribution de l'UE
€ 2 000 500,00

Coordonné par
FUNDACION PRIVADA INSTITUTO DE SALUD GLOBAL BARCELONA
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Ce projet apparaît dans...

1 Avril 2022

Periodic Reporting for period 2 - CitieS-Health (Citizen Science for Urban Environment and Health)

Période du rapport: 2020-04-01 au 2022-06-30

Résumé du contexte et des objectifs généraux du projet

CitieS-Health investigated urban environmental exposures and their relationship with health in five European cities or regions. The approach we adopted was a participatory citizen science strategy in which citizens were involved during all phases of the research, including the definition of the research questions. This way, we put citizens’ concerns at the centre of the environmental epidemiology research agenda and developed citizen science projects that gave answers to citizens’ questions and provided them with personalised information. The main objectives were producing new scientific evidence by building on the capacities of citizens and their insights on socially relevant questions; developing methods, tools and insights that enable to easily scale-up and replicate similar citizen science projects; addressing ethical challenges that often constrain citizen science projects in health; evaluate the model of citizen science and its impacts; and raising public awareness on the effects of urban pollution in health.

Travail effectué depuis le début du projet jusqu’à la fin de la période considérée dans le rapport et principaux résultats atteints

jusqu’à présent

The main actions performed include the implementation of five co-created projects. In Barcelona (Spain), the research question was: how air pollution together with noise and green/blue spaces affect mental health? To answer that, we conducted an observational panel study in which 288 citizens provided daily information during two weeks. Results of the study indicate that short-term NO2 exposure was associated with lower attention functions, higher perceived stress and lower sleep quality in adults. Furthermore, the presence of natural spaces (e.g. parks, seas, gardens) around the residence may alleviate the negative impact of air pollution and attention.

In Ljubljana (Slovenia), the overarching topic was noise and health. Community level results revealed that well-being of individuals is affected by their activity and specifics of the micro-environment. On the other hand, an evaluation of activities carried out in the context of the school curriculum showed that active involvement of pupils in research work directly increases their scientific literacy.

In the Serchio Valley (Lucca province, Tuscany), we studied the relationship between pollution and chronic kidney disease, with the active participation of citizens and local authorities. Based on a citizen science initiative, citizens collected environmental data with their network of low-cost DIY sensors to monitor the concentration of respirable and fine particles. Moreover, a reconstruction of the pollution history of the territory was held on the basis of participatory historical research. Around 400 residents provided data to the study, which confirmed an increased chronic kidney disease risk for the population living in the Serchio Valley. We also observed reductions in the mean glomerular filtration rates for those who lived close to non-ferrous metallurgical industries and for those who had worked in such industries (5% and 2.5% reduction, respectively).

In Kaunas (Lithuania), the project dealt with urban design, physical activity and health. More than 1000 citizens provided data on what were the major environmental problems in the community, and what can be done to improve citizens’ health and well-being. This citizen science study provided evidence that the social environment, the quality of the built environment, and physical activity had a joint effect on the prevalence of chronic disease. Also, the study provided scientific evidence that improving the neighbourhood environment would promote physical activity. Measures such as providing access to green spaces at walking distance might benefit society.

In Amsterdam (the Netherlands), the study focused on the relationship between woodburning and health. Both health- and exposure-related questions were identified, designed and investigated by Dutch citizens and key stakeholders in collaboration with researchers. The questions addressed in this project were as follows: What are the short-term effects of woodsmoke on respiratory health on people with and without COPD/asthma? What are the woodsmoke concentrations on a neighbourhood walking route? What is the indoor woodsmoke exposure present in homes of people who burn wood? What is the indoor woodsmoke exposure present in homes of people who experience nuisance from woodsmoke? Together with citizens, a panel study was designed to evaluate short-term effects of wood smoke. The study documented that wood burning emissions at the neighbourhood scale affected respiratory health of citizens negatively.

Results were presented in local and international workshops, national and international scientific conferences and meetings and publications in scientific journals. Citizens and stakeholders were involved in the dissemination of results.

Another overall key project result was the creation of a citizen science toolkit, which is useful for participatory / co-created research in general, but especially those focusing on the environment and health. The toolkit is freely available at https://citizensciencetoolkit.eu/.

Progrès au-delà de l’état des connaissances et impact potentiel prévu (y compris l’impact socio-économique et les conséquences sociétales plus larges du projet jusqu’à présent)

Overall, the five projects were able to generate new scientific knowledge using a co-creation approach to answer citizens’ concerns. The scientific findings of the project can have an impact on future environmental regulations and policies to improve public health. The data generated by the project empowered citizens in their actions for a cleaner environment and facilitated the dialogue between citizens and policy makers. The project made efforts in providing materials and tools and in documenting the co-creation activities, something that is rarely done and can be useful for future citizen science projects. The project also provided new academic insights, for example on ethical challenges of citizen science in environmental epidemiology, on the opportunities and obstacles of citizen science in this field, and discussed some of the lessons learned during the project. Besides, the activities linked to the school curriculum present examples of good practices in the integration of research-based approaches into the school system, based on hands-on experience, and thus improving the scientific literacy of young children in an effective and fun way.

CitieS Health

Logo

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