

Output factsheet: Pilot actions

Version 1

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Lead partner	National Public Health Center
Output number and title	Output O.T3.2 Pilot actions #2 - intervention plan tested
Responsible partner (PP name and number)	National Public Health Center / NPHC- LP Municipality of Várpalota / Várpalota- PP2 Nofer Institute of Occupational Medicine /NIOM- PP3 Marshal Office of Łodz Region/ MOL - PP4 National Institute of Public Health / NIPH -PP7
Project website	http://www.interreg-central.eu/Content.Node/InAirQ/InAirQ.html
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Summary description of the pilot action explaining its experimental nature and demonstration character

The main goal of investigating indoor air quality (IAQ) in school buildings is to identify the existing problems, which provides the basis for developing action plans to improve the quality of the indoor air. The improvement of IAQ was highlighted by several international organizations (e.g., WHO) and several recommendations have already been formulated by previous international projects (e.g., SINPHONIE) in the past decade. However, many classrooms are still characterized by poor IAQ which indicates that the development and test of action plans to improve IAQ are still needed.

Accordingly, three intervention plans were developed based on the problems identified during the InAirQ monitoring campaign carried out in sixty-four primary school buildings in five countries and three attempts for indoor air quality improvement were tested in the Czech Republic, Hungary and Poland.

Good cleaning and ventilation practices were applied in several classrooms in a school building which is located next to a busy road in the Czech Republic. The intervention study revealed that the concentration of the main air pollutants can be decreased by the implemented actions.

The efficiency of an air cleaner in IAQ improvement in a selected primary school building was tested in Hungary. The comprehensive investigation of the IAQ was carried out in a case-control study. The results revealed that the air cleaners can effectively improve several IAQ parameters (e.g. particulate matter concentration) and, accordingly, the use of these devices has beneficial effects on children's health.

Selected classrooms were equipped with air quality monitors in Poland to provide real-time information to the teacher on the current IAQ. Thermo-modernization of the buildings and low awareness of IAQ among the school staff often lead to high carbon dioxide concentrations in the classrooms. The study demonstrated that low cost sensors are useful tools to maintain carbon dioxide level in an acceptable range.

NUTS region(s) concerned by the pilot action (relevant NUTS level)

The pilot actions were carried out in the participating cities:

Czech Republic:

NUTS 1 level: CZ0

NUTS 2 level: CZ01

Hungary:

NUTS 1 level: HU1, HU2

NUTS 2 level: HU11, HU21

Poland:

NUTS 1 level: PL1

NUTS 2 level: PL11

Expected impact and benefits of the pilot action for the concerned territory and target groups

Successful attempts for indoor air quality improvement in primary school buildings were carried out in all three countries by applying different intervention study designs. Any improvement in indoor air and environment quality has beneficial effects on children's health, productivity and well-being. Based on the existing problems in a school building, the appropriate action plan(s) can be selected, and the intervention studies carried out in the frame of the InAirQ project act as examples on how to implement the changes and on the expected results.

Some actions require only attention from the teacher (e.g. good ventilation practice), while others require additional financial sources too (e.g. installation of air humidity and CO₂ sensors in the classroom). Accordingly, the collaboration of different stakeholders such as teachers, school managers, maintainers, policy makers are needed to implement the changes which could lead to better IAQ in the classrooms.

Sustainability of the pilot action results and transferability to other territories and stakeholders

Similar indoor air quality related problems were identified in the primary school buildings in the five Central European countries based on the baselining and the results of the INAIRO monitoring campaign. Thus, the intervention plans developed in the InAirQ project can be used in other regions and countries. The test results provide information on the efficiency of the intervention, thus the expected improvement of indoor air and environment quality can be estimated. Some of the actions do not require financial resources and they can be implemented easily.

Lessons learned from the implementation of the pilot action and added value of transnational cooperation

The development of the design of the intervention studies was based on the results of the indoor air quality monitoring campaign, the national indoor air quality plans and the lessons learnt from the benchmark visits. The inputs of all project partners were considered. Knowledge providing partners elaborated the theoretical part, while partners from the school side assisted in the practical part.

The most important lesson learnt from the implementation of the pilot action is that both the cost of the intervention and the extent of the expected indoor air and environment improvement have to be considered. Furthermore, awareness raising of indoor air quality issues and training on indoor air quality improvement are needed during intervention as the school staff plays a key role in the success.

References to relevant deliverables and web-links If applicable, pictures or images to be provided as annex

The detailed reports on the intervention studies are available on the official website of the InAirQ project (<https://www.interreg-central.eu/Content.Node/InAirQ/InAirQ.html>). The reports contain detailed information on the study design and the results. Some pictures are also supplied in the documents.

Several communication activities (e.g. press conference, TV and radio interviews) were linked to the intervention studies in each country. Some of them were shared on the national Facebook profiles to raise awareness of indoor air pollution.