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| **Citizen sensors network as a tool to promote air quality** |
| **Background/Objectives**  Rennes is committed for many years to promote healthy and sustainable environments. Ambassad’Air is a pilot project which aims to improve air quality by changing the behaviors of inhabitants. Implemented in three deprived areas, it relies on community participation for measuring particulate matters with a geolocated Open Source sensor and for awereness-raising on air pollution issues for residents of the selected areas. The project evolves with suggestions of citizen volunteers and the inputs of researchers accompanying the project. Two surveys have been carried out at the end of the first and second year in order to analyze how the volunteers have fulfilled their dual role.  **Methods**  Based on documents, discourse and actions, the rationale of the intervention has been rebuilt and the issues of the project managers clarified in order to identify research questions. A literature review has been conducted in order to define concepts, identify similar experiences and provide knowledge on behavior change. Qualitative surveys investigated: motivations for taking part to the project, use of sensor and website, perceptions of the project and its consequences, representations of their role in transferring and sharing information.  **Results**  41 out of 44 volunteers were responded. Their profile is similar from year to year: high social status, environmental activists, involved in non-governmental associations, personal concerns. They have a higher interest for PM measures, especially in mobile mode and collectively, and for indoor air quality. They were less involved in raising awareness, except within their social circle. Their role is perceived as vague and they felt poorly equipped to carry out such mission. They have no feeling of belonging to a same community, the latter not being clearly constituted yet.  **Discussion**  Findings are consistent with other studies on volunteers s’ profile and motivations as well as key factors identified as being critical to the success of such strategy (sharing information’s, positive interactions, social networking). Design and implementation of the project are questioned in terms of recruitment of volunteers, training, support, communication, data use. Performed in an effective manner, this will create favorable conditions for playing the role of “peer-educator” conducive to practice s’ change.  **Keywords**  Air quality, citizen sensors, citizen participation, peer educator |