Press information

Deploying Cellphone Data to Fight COVID-19

Inserm has joined forces with telecommunications company Orange to study the impact of confinement on population mobility and explore how using aggregated cellphone data could improve COVID-19 pandemic predictions.

Aggregated data from our cellphones could prove to be an effective tool in fighting the spread of coronavirus. A collaboration between Inserm and Orange will enable this data to be used for specific research purposes in a pandemic context, in order to improve our understanding of the impact of confinement and the spread of the virus.

Leading the project is Inserm researcher Vittoria Colizza, who has already been working with Orange for several years in order to study the links between population mobility and the spread of various diseases, particularly in Africa. This new study will be based on the use of aggregated and anonymized mobility data provided by the operator. Under no circumstances is the intention to study individual personal data or track individual movements. *"We will not be looking at the movements of any particular individuals, at how they move or where. Our focus will be on analyzing anonymized quantitative data that describe mobility between geographical areas thanks to the localization of relay masts that manage communication signals (calls, text messages). These indicate the number of movements made from one area to another in France"*, explains Inserm researcher Eugenio Valdano, who is working on the project with Colizza.

The team will nevertheless be able to have access to these data compiled according to age group, which will give them a more precise idea of the demographic profile of those moving between geographical areas.

Mobility and pandemic spread

The data provided by Orange will be used in two ways in this study. First, Colizza and her colleagues will analyze mobility before and after confinement, looking at the spontaneous changes in mobility which appeared even before confinement began. The objective is to have a better idea of how people themselves change their behaviors in response to an epidemic. In addition, studying the mobility data recorded since confinement began will enable a better understanding of its impact on the course of the epidemic and to evaluate how it is respected by the population.

Secondly, the data will be integrated into models of epidemic spread developed by the team, in order to better predict how the virus will spread by taking into account mobility but also to

identify the regions at risk of becoming clusters and to model the impact on the healthcare system. *"The availability of such data is very important in order to better advise public decision-makers on how to allocate healthcare resources and to inform them of the most vulnerable regions"*, emphasizes Valdano.

While such research can usually take several months, the initial results of this study are expected in the weeks to come, given the urgency related to the rapid progression of the pandemic.

Press contact:
presse@inserm.fr