

DEBATS - Longitudinal study of the effects of aircraft noise exposure on the health of people living in the vicinity of French airports

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Last update : 11/10/2017 | Version : 2 | ID : 73118

General

Identification

Detailed name Longitudinal study of the effects of aircraft noise exposure on the health of people living in the vicinity of French airports

Sign or acronym DEBATS

CNIL registration number, number and date of CPP agreement, AFSSAPS (French Health Products Safety Agency) authorisation DR-2012-242, DR-2012-361, DR-2013-141, DR-2014-147

General Aspects

Medical area Biology
Cardiology
General practice
Psychology and psychiatry

Pathology (details) Hypertension, cardiovascular disease, depression, anxiety, psychological distress, sleep disorders, annoyance

Health determinants Geography
Pollution
Others (specify)

Others (details) environment

Keywords noise, environment, health, aircraft, epidemiology

Scientific investigator(s) (Contact)

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Unit Epidemiological Research and Surveillance Unit in Transport, Occupation and Environment (UMRESTTE)

Organization French Institute of Science and Technology for Transport, Development and Networks (IFSTTAR)

Collaborations

Participation in projects, networks and consortia Yes

Details Partner: Bruitparif

Others CépiDc-Inserm, Hospices Civils de Lyon, Sleeptech

Funding

Funding status Public

Details the French Ministry of Health, the French Ministry of Environment, the French Civil Aviation Authority, ANSES

Governance of the database

Sponsor(s) or organisation(s) responsible French Institute of Science and Technology for Transport, Development and Networks (IFSTTAR)

Organisation status Public

Presence of scientific or steering committees Yes

Additional contact

Main features

Type of database

Type of database Study databases

Study databases (details) Longitudinal study (except cohorts)

Database recruitment is carried out by an intermediary	A population file
Database recruitment is made on the basis of:	Another treatment or procedure
Database recruitment is carried out as part of an interventional study	No
Additional information regarding sample selection.	A random selection was made in a national telephone database in the municipalities near the Paris-Charles-de-Gaulle, Toulouse-Blagnac and Lyon-Saint-Exupéry airports.

Database objective

Main objective

The purpose of DEBATS is to better understand and better quantify the effects of aircraft noise exposure on the health of people living near French airports. A global approach is adopted to characterise the relationships between exposure to aircraft noise and the health conditions of those living near the airport on both a physical and mental level, but also in terms of annoyance.

DEBATS includes two studies corresponding to two types of methodological approaches (an ecological study and a longitudinal individual study), as well as a complementary individual study. The subjects included in the two individual studies will be selected from within the zones where the aggregated macroscopic data are available for the ecological study. The comparison of the results from these two types of methodological approaches and the confirmation of their consistency allows for the confirm the reality of the associations that will be shown.

DEBATS consists of a national research program among those residing near three French airports, Paris-Charles de Gaulle, Lyon-Saint Exupéry and Toulouse-Blagnac.

It includes:

? An ecological study consisting of a collection of health indicators aggregated at the municipality scale (consumption of care prescribed and reimbursed by health insurance, unreimbursed sale of medications by pharmacies, all-cause mortality and mortality from specific causes) with the weighted average level of exposure to aircraft noise of the municipalities involved.

? An individual longitudinal study including 1,244 subjects. During their inclusion in the study, and then two and four years afterward, the information

concerning their health condition is obtained at the participants' homes, firstly by administering a questionnaire (effects on sleep and the cardiovascular system, anxiety and depressive disorders and annoyance), and secondly by measuring their blood pressure, heart rate and concentration of salivary cortisol (marker of stress states).

? A complementary individual study called the "sleep study", including 90 individuals living near the Paris-Charles de Gaulle airport and 20 individuals living near the Toulouse-Blagnac airport who have agreed to participate in the previous study. The objective is to characterise, in a detailed and specific manner, the acute effects of aircraft noise on the quality of sleep, while refining the measurement of exposure to noise.

Inclusion criteria	The individuals recruited are 18 years of age or older, who live in one of the municipalities located in the study area and who live in their current housing located in this municipality for at least six months out of the year. In order to be eligible, the subjects must be available throughout the study and must understand and speak French adequately, regardless of nationality, to answer a questionnaire and to undergo various physiological, acoustic and sleep quality measurements.
Population type	
Age	Adulthood (19 to 24 years) Adulthood (25 to 44 years) Adulthood (45 to 64 years) Elderly (65 to 79 years) Great age (80 years and more)
Population covered	General population
Pathology	
Gender	Male Woman
Geography area	National
Detail of the geography area	Municipalities near the Paris-Charles-de-Gaulle, Toulouse-Blagnac and Lyon-Saint-Exupéry airports
Data collection	
Dates	

Date of first collection (YYYY or MM/YYYY) 2013

Date of last collection (YYYY or MM/YYYY) 2017

Size of the database

Size of the database (number of individuals) [1000-10 000[individuals

Details of the number of individuals 1244

Data

Database activity Current data collection

Type of data collected
Declarative data
Biological data
Administrative data

Declarative data (detail) Face to face interview

Details of collected declarative data
Demographic and socioeconomic characteristics of the participants, characteristics of their housing, description of their family, data regarding the perception of the environment and, in particular, annoyance due to noise (specifically from aircraft), habits (sleep, sport activities, activities exposing them to sound, consumption of tobacco and alcohol), health data (hospitalisations, consultations, missed days of work, hypertension, cardiovascular diseases, anxiety and depressive disorders, psychological distress, sleep disorders, consumption of medications).

Biological data (detail)
Measurements of the heart rate and blood pressure, saliva samples to determine the concentration of salivary cortisol, actimetric and heart rhythm measurements to determine awakenings during sleep.

Administrative data (detail)
At the scale of municipalities in the study area: mortality data from the Cépi-DC, data from the SNIIRAM (Number of consultations, number of medications that have been prescribed by a physician and reimbursed by Health Insurance, by large families of medications, number of days of work missed due to a medical reason, number of hospitalisations for certain causes, except for PSY), data from the PMSI (number of hospitalisations for PSY causes).

Presence of a biobank	No
Health parameters studied	Health event/morbidity Health event/mortality Health care consumption and services Quality of life/health perception
Care consumption (detail)	Hospitalization Medical/paramedical consultation Medicines consumption
Quality of life/perceived health (detail)	Self-reported health

Procedures

Participant monitoring	Yes
Monitoring procedures	Monitoring by contact with the participant (mail, e-mail, telephone etc.)
Details on monitoring of participants	The same questionnaire is administered to the same participants in 2013, 2015 and 2017.
Links to administrative sources	No

Promotion and access

Promotion

Link to the document	http://www.icben.org/2011/pdf/ICBEN2011.pdf#page=807
Other information	An article on the ecological study is soon to be published. All papers presented at various conferences may not be disseminated.

Access

Presence of document that lists variables and coding procedures	Yes
Terms of data access (charter for data provision, format of data, availability delay)	Methods of accessing the database are in the process of being defined.
Access to aggregated data	Access on specific project only
Access to individual data	Access on specific project only