

Programme

Epidemiology and Public Health



Epidemiology and Public Health



12

Research groups



123

Professionals



36

Research projects



273

Publications



Programme Directors

Jordi Alonso Caballero

Jaume Marrugat de la Iglesia

RESEARCH GROUPS

Barcelona Research Infertility Group

Miguel Ángel Checa

Cardiovascular Epidemiology and Genetics

Roberto Elosua

Cardiovascular Risk and Nutrition

Montserrat Fitó

Clinical and Molecular Epidemiology of Cancer

Miquel Porta

Epidemiology and Evaluation

Maria Sala

Girona Heart Registry

Jaume Marrugat

Health Services

Jordi Alonso

Research Group in Nursing Care

Silvia Esteban

Social Epidemiology and Occupational Health

Consol Serra

ASSOCIATED GROUPS

Healthy Cities and Environmental Justice

Isabelle Anguelovski

Occupational and Environmental Epidemiology

Manolis Kogevinas

Respiratory Health, Air Pollution, Childhood Development

Jordi Sunyer

The Epidemiology and Public Health Programme (EPISAP) includes 12 research groups with a total of 123 professionals from the Hospital del Mar Medical Research Institute (IMIM), the Barcelona Institute for Global Health (ISGlobal), and the Pompeu Fabra University (UPF). All EPISAP research groups are recognized by the Catalan Agency for Research (AGAUR) and are members of major Spanish collaborative research networks (CIBERs and RETICs).

EPISAP researchers apply advanced epidemiologic methods and approaches for a better understanding of: a) the frequency and burden of disease; b) major risk factors and underpinning mechanisms; and c) the role of health services and interventions, and their impact on the health outcomes of individuals and populations. Our research focuses on cancer, mental disorders, cardiovascular disease, and on environmental and occupational exposures.

We translate our research into clinical practice and contribute significantly to innovation and development several preventive and health care assessment fields. EPISAP researchers participate in community activities, as expert members of committees and advisory boards of health system institutions and research organizations. Researchers of the programme have a longstanding research career with international recognition and have established solid relationships with many regional, national and international research institutions and research networks.

Education and training in epidemiology, public health and other disciplines for graduate, postgraduate and medical specialty students is a key activity of EPISAP. Many of our researchers are faculty members of the Pompeu Fabra University (UPF), the Autonomous University of Barcelona (UAB) and the University of Vic and lead a variety of formal courses and programmes.

Research lines 2018

Cancer

- Quality, effectiveness and costs of breast and colon cancer screening programs.
- Personalization of breast cancer screening program. To develop new predictive models of individual risk of breast cancer in women participating in mammographic breast cancer screening based on individual risk factors to estimate the impact of the polygenic risk score as a risk factor for breast cancer
- To estimate health care needs and resources for long term breast cancer survivors surveillance
- Clinical and molecular epidemiology of exocrine pancreatic cancer.
- Causes and consequences of diagnostic and therapeutic delays in cancer.
- Comparative effectiveness and cost-utility of localized prostate cancer therapies.

- Methodological issues in longitudinal studies on body burden of environmental pollutants and pancreatic cancer risk.
- Toenail concentrations of trace elements and occupational history in pancreatic cancer.

Cardiovascular

- Determination of incidence, mortality and case-fatality trends in myocardial infarction (MI) and distribution of cardiovascular (CV) risk factors.
- Development of new systems to establish myocardial infarction and acute coronary syndrome population incidence with administrative data (CMBD and mortality data) in Girona and Catalonia.
- Improvement of predictive capacity of cardiovascular risk functions for primary prevention of cardiovascular diseases.
- Physical activity measurement and its relationship with cardiovascular health and mechanisms.
- Analysis of common and rare genetic and epigenetic variants (focused on microRNA and gene methylation) associated with cardiovascular traits; Gene by Environment interaction in CV diseases.
- New biomarkers of prognosis and prediction of cardiovascular diseases, with particular emphasis in epigenetics (DNA methylation and microRNAs) and in the analysis of their causal or mediating role.
- Apply the benchmarking function developed in the EURHOBOP and EUROTRACS EC projects led by EPISAP groups, to Catalan hospitals in agreement with AQUAS.
- Development and evaluation of new methods to prevent cardiovascular diseases by using information technologies
- Effectiveness of drugs and intervention in the prevention and treatment of cardiovascular diseases.

Environment

- Health effects of Exposome.
- Birth cohorts in Europe.
- Environmental, occupational and genetic factors related to cancer, immune, respiratory disease and child health.
- Exposure assessment using new biomedical technologies and implementing complex statistics and bioinformatics methods.
- Environmental exposures in early life and neurodevelopment, obesity and metabolic syndrome, and allergy and asthma.

- NCDs and Environment to low and middle income countries.
- Assessing the population distribution and impact on human health of Persistent Organic Pollutants (POPs) and other environmental chemical agents.
- Global urban environments. Built environment and health.
- Body concentrations of persistent pollutants and unhealthy metabolic phenotypes in normal-weight, overweight and obese individuals.

Equity

- Patterns and causes of health inequities embedded in urbanization processes.
- Urban Planning and the Right to the Healthy Cities.
- In-depth spatial and quantitative analysis of the scope and magnitude of green gentrification trends in 40 cities in the US, Canada, and Europe.
- Health and wellbeing effects of green rooftops for people with disabilities: effects and potential mechanisms.
- Advanced theoretical and measurement methods of objective and perceived gentrification for public health research.
- Health effects of gentrification and displacement, pathways, and mechanisms.

Health care

- Advanced measurement methods for patient-reported outcomes (PROMs).
- Information systems for assessment of costs per patient and risk adjustment.
- New strategies for improving quality and patient safety.
- Tools and methods for improving health services research, including discrete event simulation models.
- Comparative effectiveness and cost-utility of therapies for most burdensome conditions (asthma, cancer, depression, low-back pain, and MI, among others).
- Comorbidity and health services use among breast cancer survivors.
- Access to care and changes in urban healthcare delivery systems (healthcare gentrification) (cross with equity).

Infertility

- Effects of air pollution on fertility and sperm quality.
- Effects of air pollution and ovarian reserve.
- Effects of assisted reproduction technologies on perinatal outcomes.

Mental health

- Frequency and risk factors of common mental disorders and suicide in general population and among university students.
- Distribution and correlates of perceived health and psychological well-being in the general population.
- Association of mental disorders and physical chronic conditions.
- Prevalence trends of drug use and associated factors.
- Psychiatric comorbidity, interpersonal violence and mortality associated to drug use.
- Incidence of suicide attempt and reattempt and evaluation of interventions in high risk of suicide individuals.
- Impacts of gentrification and displacement on mental health and wellbeing (Cross with equity).

Nutrition

- Obesity and diabetes: epidemiology and prevention across the life span.
- High density lipoproteins (HDL) functionality and atherogenic lipoproteins linked to nutrition. Predictive value of HDL functions for chronic degenerative diseases, such as cardiovascular, cancer, and neurodegenerative ones.
- Nutrigenomics: changes in gene expression attributable to nutrients and foods.
- Interaction between diet and intestinal flora.
- Halo effect of a life-style intervention on the familiar nucleus.
- Nutrition intervention studies.
- Nutritional epidemiology and childhood obesity.

Nursing care

- Nurse empowerment: impact of BPSO program on nurse's work environment and nurse evidence based practice.
- PROMs -Patient-Reported Outcomes and PREMs -Patient-reported experiences (PREMs).
- Impact nursing care on patient and caregivers and health systems: impact of specific nursing care programs on: QOL in dialysis patients; patients with epilepsy.
- Development of a decision algorithm of the PICC
- Analysis of the PSMAR Electronic Nursing records

Occupation & Employment

- Labor market trajectories and permanent disability and mortality.
- Occupational diseases recognition.
- Working condition surveys in Latin America and Caribbean.
- Cluster-randomized controlled trial of a multicomponent workplace intervention to improve musculoskeletal health in hospital workers (INTEVAL_plus).

Achieved objectives 2018

Scientific objectives

During 2018, researchers of the programme have published 273 papers in scientific journals ranging from New England Journal of Medicine, Lancet, Nature Genetics, BMJ-British Medical Journal, Lancet Respiratory Medicine, Circulation, Diabetes Care, Journal of Allergy and Clinical Immunology, Nature Communications to journals internationally recognized in the fields of molecular, clinical, and environmental epidemiology. Such a broad integration of basic, clinical and epidemiologic knowledge is one of our signs of identity worldwide.

Investigators of the Cardiovascular Epidemiology and Genetics group have:

- Analyzed the relationship between chronic immune-mediated inflammatory diseases and cardiovascular risk.
- Developed and validated a method for self-screening of cardiovascular risk.
- Evaluated the effectiveness of cardiovascular primary prevention strategies (such as the use of statins), and therapeutic interventions (such as revascularization) in patients with an acute coronary syndrome and peripheral artery disease.
- Contributed to the knowledge of the genetic and epigenetic architecture of several cardiovascular traits such as myocardial infarction, stroke, lipid profile, diabetes, hypertension and obesity.
- Initiated the follow-up of the 11,000 participants of the REGICOR cohort.

Investigators of the Cardiovascular Risk and Nutrition group have:

- Reported that an intervention with virgin olive oils enriched in phenolic compounds improves HDL antioxidant content in hypercholesterolemic subjects.
- Observed that pre-operative *Helicobacter pylori* eradication improves the body weight and triglycerides at a short-term period after the bariatric surgery.

- Reported that the incidence of the type II diabetes in the working population is within the range established in the general population.
- Observed that the laparoscopic Roux-en-Y gastric bypass is associated with greater reduction in total cholesterol and low-density lipoprotein cholesterol in comparison to sleeve gastrectomy, after a 5 year-follow up.
- Established the effectiveness of an implementation of a daily physical activity intervention program, in which the goal-setting for aerobic activity was mainly based on briskly walking, in elderly subjects after one year of follow-up.
- Leisure time physical activity is inversely associated with body mass index, waist circumference and incidence of general and abdominal obesity, in elderly individuals.
- Established that higher levels of leisure time physical activity and adherence to the Mediterranean diet are associated separately and jointly with lower all-cause mortality. The finding that light of leisure time physical activity is inversely associated with mortality is relevant, given that it is a feasible option for older adults.
- Reported that the screen time, physical activity, meal frequency, and external eating predict adherence to the Mediterranean diet independently of baseline diet quality, in Spanish children.
- Reported a community-based childhood obesity intervention program on anthropometric measures and lifestyle, in Spanish children aged 8 to 10 years.
- Reviewed the association between the microbiota diversity and the obesity and changes in weight.
- Reviewed the mid-term results of laparoscopic Roux-en-Y gastric bypass and laparoscopic sleeve gastrectomy

Investigators of the Girona Heart Registry-REGICOR group have:

- Analyzed the burden of coronary heart disease and cardiovascular risk factors and their trends at the population level across all ages.
- Analyzed the validity of cardiovascular risk functions and analyzed the predictive added value of new biomarkers (glomerular filtration rate, albumin, vitamin D, Apo A and Apo B, inflammatory biomarkers).
- Evaluated the effectiveness of cardiovascular primary prevention strategies (such as the use of statins), and therapeutic interventions (such as invasive vs conservative strategy) in patients with an acute coronary syndrome.
- Identified several predictors of in-hospital mortality and analyzed the interhospital variability in patients with acute coronary syndrome.
- Contributed to the knowledge of the genetic hypertension.
- Initiated the follow-up of the 11,000 participants of the REGICOR cohort.

- Analyzed the role of miRNAs in the development of atherosclerosis and their role as predictors of future coronary heart disease events.
- Assessed the trends, projections and consequences of overweight and diabetes in Spanish population.

Investigators of the Clinical and Molecular Epidemiology of Cancer group have:

- Explained the relative influence of trace element concentrations on the mutational status of the oncogene KRAS in pancreatic cancer patients.
- Described occupational factors that influence trace element concentrations in pancreatic cancer cases.
- Shown that higher blood concentrations of Persistent Toxic Pollutants are associated with unhealthy metabolic phenotypes, not only in obese and overweight individuals, but also in normal-weight individuals.

Investigators of the Epidemiology and Evaluation group have:

- Described treatment and long term complications of Ductal Carcinoma in Situ in breast cancer screening participants.
- Described long term complications and readmissions of breast cancer patients (invasive and DCIS) according to treatment and mode of diagnosis
- Systematically reviewed and critically appraised the use of health care services among long-term breast cancer survivors.
- Systematically reviewed and critically appraised the individualized breast cancer risk prediction models and personalized breast cancer screening strategies.
- Deepen the knowledge of the relationship between clinical and histologic characteristics of breast cancers in women with previous pathologic diagnosis of benign breast disease in Spain and the determined the long-term risk of screen-detected and interval breast cancer after false-positive results at mammography screening in a Joint analysis of an international cohort.
- Described the relationship between values of FIT (faecal immunochemical test) under the threshold of positivity and the diagnosis of interval cancers and future risk of advanced colorectal neoplasia in a colorectal cancer screening programme and describe the factors influencing a colorectal cancer diagnosis in the emergency department.
- Initiated an international collaboration to take part of a large European Randomized Controlled Trial (MyPEBS) to assess personalized breast cancer screening strategies based on women's individual risk.

Investigators of the Health Services Research group have:

- Described the treatment gap of anxiety disorders, uncovering a very low level of use of health services and that less than a 10% of cases receiving adequate treatment worldwide.
- Described the prevalence and risk factors of mental conditions among university students, including suicidal thoughts and behaviours, common mental disorders and the associated disability in 8 countries.
- Systematically reviewed the risk factors of suicidal thoughts and behaviors in adolescents and young adults, and quantitatively estimated the risk associated to early exposure to interpersonal violence (abuse, maltreatment, neglect, bullying and community violence), and sexual orientation (LGBT).
- Launched a collaborative research project to study the risk of serious suicidal attempts and re-attempts in Catalonia, based on the innovative prevention programme Suicide Risk Code.
- Collaborated with the most recent publication of results of the Global Burden of Disease with 2017 estimates worldwide, as well as produced detailed analyses for Spain.
- Systematically reviewed longitudinal studies to assess the impact of primary treatments for localized prostate cancer, measured with Patient-Reported Outcomes (PROs), and to examine differences among modalities within treatments.
- Described, for the first time, the impact of asthma on patients' Health-Related Quality of Life by comparing it with general population reference norms, stratifying by gender.

Investigators of the Healthy Cities and Environmental Justice group have:

- Initiated comparative studies and analyses (completed/published for New York City) on the relationship between green space exposure and health, with gentrification as mediating factor.
- Initiated a study about perceived health and wellbeing of families (including parents and children) of urban greening interventions in Barcelona.
- Initiated studies of the relationship between gentrification and health impacts.
- Initiated a study on the restructuring of the American healthcare delivery system and access to care and quality jobs (healthcare gentrification) in Dallas, Seattle, Philadelphia and Atlanta
- Assessed the impacts of urban rooftop gardening on health for participants with mental disabilities and mental health problems.

Investigators of the Barcelona Research Infertility Group have:

- Evaluated the relationship between air pollution and Assisted Reproduction.
- Contributed to the knowledge of the effects of assisted reproduction technology on the perinatal outcomes (pre-term delivery and birth weight).

Investigators of the Nursing Care Research group have:

- Continued the quasi-experimental study to determine the effectiveness of a nurse intervention on epileptic patients and their perception of risk.
- Started a multicentric quasi-experimental study to determine the impact of “Centros comprometidos con la excelencia en cuidados” program on the nurses work environment and their Evidence based practice attitudes.
- Initiated the validation of the ICU nursing workload scale (NAS) based on electronic records.

Investigators of the Social Epidemiology & Occupational Health group have:

- Completed a Basic Working and Employment Questionnaire, providing nationally representative, comparable data on work and health status of workers in eight Latin America and Caribbean countries.
- Established an association between unstable labour market trajectories and early retirement due to permanent disability and mortality, based on analyses of the Spanish Continuous Working Life Sample.
- Initiated a cluster randomized trial to reduce musculoskeletal morbidity and disability among health care workers.
- Identified cases series of patients admitted in the PSMar with suspected occupational disease.

Investigators of the Occupational and Environment Epidemiology group have:

- Been leaders of OMEGA-NET, a network to integrate and optimize occupational cohorts in Europe and to help foster healthy work environments.
- Shown that early supper is associated with lower risk of breast and prostate cancer. People who have their evening meal before 9 pm or wait two hours before going to sleep have lower risk of breast and prostate.
- Contributed to a new study that analyzed 2,000 women—half of whom had breast cancer—from several parts of Spain and conclude that exposure to common THM levels in drinking water not associated with breast cancer.
- Discovered that night exposure to blue light is linked with breast and prostate cancer. The study is based on images taken by astronauts to evaluate outdoor lighting in Madrid and Barcelona.

Investigators of the Respiratory Health, Air Pollution and Childhood Development group have:

- Contributed to make possible that 1,200 pregnant women in Barcelona will participate in one of the largest studies on air pollution and pregnancy. The BISC project will assess the role of the placenta regarding air pollutants and brain development in children, before and after birth. The cohort is funded through and ERC Advanced Grant and a grant from the US Health Effects Institute.
- Discovered that Mediterranean diet during pregnancy is associated with lower risk of accelerated growth for the child.
- Discovered that risk gene for Alzheimer's Disease may aggravate the health effects of air pollution on neurodevelopment in children. Children carrying the $\epsilon 4$ variant of the APOE gene may be particularly vulnerable to the detrimental effects of air pollutants on brain.
- Contributed to the POLAR project, funded by the European Institute of Innovation and Technology project, that uses innovative tools (mobile application) for monitoring allergic rhinitis and its relationship with health and environmental factors.

Technological & translational objectives

The EPISAP Groups have contributed to the following translational and innovation achievements:

- Consolidating and expanding technological platforms and services:
 - BiblioPRO, the online library of reference for Patient Reported Outcomes (PRO) in Spanish (www.bibliopro.org).
 - CASSANDRA model, an open access web application that is used to assess the impact of preventive interventions at the population level (www.redheracles.net/cassandra/es/).
 - EURHOBOP benchmarking tool, that was developed by EPISAP researchers to monitor hospitals coronary artery disease outcomes.
 - GRANMO online software for sample size estimation in Biomedical Research (<https://www.imim.es/ofertadeserveis/software-public/granmo/index.html>).
 - REGICOR cardiovascular risk function for primary prevention, that is setup on the electronic medical records of Madrid, Catalonia, Basc Country, Valencia, Balearic Islands, Extremadura, and is in use among most primary care practitioners (<https://www.imim.es/ofertadeserveis/software-public/regicor/>).
 - WORKss for data from 1,5 million of the Spanish Social Security affiliated with information on mortality and permanent disability since 2004 and data linkage capabilities with health records.
 - Data sharing platform (DataShield) for EU birth cohorts.

- Teleform data collection platforms for cancer data abstraction software workflow solutions, and several projects in Hospital del Mar.
- National data sharing platform (SURBCAN project) from Real World Data for the study of effectiveness and efficiency of chronic care of breast cancer patients in the SNS, using the actual pathways of care endured by those patients.
- To assess the impact on workflow and user acceptance of The NAVIFY Tumor Board solution (NTBS) to prepare for multidisciplinary Tumor Boards, an oncology informatics platform (Roche Diagnostics Information Solutions; Belmont, CA). It facilitates extraction of key data from clinical source data systems and presents holistic, relevant and intuitive information to clinicians during case preparation.
- To participate in the Barcelona City Scientific Council as core invited/founding member (Isabelle Anguelovski).
- To develop a database based on survey data on health impacts of gentrification in Barcelona.
- To develop a database based on survey data on green space perceptions and wellbeing in Barcelona.
- To participate in the Mental Health Plan of the city of Barcelona (Jordi Alonso).

Patents under exploitation:

- Title: Risk markers for cardiovascular diseases (I). Authors: Jaume Marrugat; Roberto Elosua; Eduardo Salas; Sergio Castillo; Joan Salgado; José M. Ordovás. Country: National. Under Exploitation: Yes, by Gendiag Exe, S.L. Application # / Patent No: WO 2010/142713. Year 2010.
- Title: Risk markers for cardiovascular diseases (II). Authors: Jaume Marrugat; Roberto Elosua; Eduardo Salas; Sergio Castillo; Joan Salgado; José M. Ordovás. Country: International. Under exploitation: Yes, by Gendiag Exe, S.L. Application No / Patent #: EP/09.06.09/EPA 09162329. Year 2010.
- Title: Risk markers for cardiovascular diseases (III). Authors: Jaume Marrugat; Roberto Elosua; Eduardo Salas; Sergio Castillo; Joan Salgado; José M. Ordovás. Country: International; Under exploitation: Yes, by Gendiag Exe, S.L. Application No / Patent #: 10725412.0 – 122 PCT/ep2010058064. Year 2012.
- Title: Method and kit for detecting the risk of developing hypertension. Authors: José Manuel Fernández, Marta Tomás, Esther Vázquez, Mariano Sentí, Jaume Marrugat, Miguel Ángel Valverde. Country: International; Under exploitation: Yes, by Universidad Pompeu Fabra. Number: WO/2005/093096 -P200400883; Year: 24 March 2004.

Educational objectives

In 2018 investigators of EPISAP have:

- Mentored 10 doctoral theses which were successfully defended.
- Led a number of formal educational education activities:
 - Continue and expand our active collaboration in graduate education (Medicine, Biology, Other Health Sciences) Pompeu Fabra University (UPF)-Autonomous University of Barcelona (UAB), and University of Vic -Central of Catalonia (UVic-UCC).
 - Consolidate leadership in postgraduate education in Public health: Master's in Public Health program (120 ECTS UPF-UAB), Master's Degree in Occupational Health and Safety (UPC-UB-UPF), and Postgraduate Diploma in Public Health (30 ECTS).
 - Continue and expand participation in the Medical Specialties Residency Programs, as part of the educational units for the medical specialties of Preventive Medicine & Public Health, and Occupational Medicine. Collaboration with other programs include: European Educational Program in Epidemiology (EEPE), Master in Nursing Sciences, Master in Cardiology Nursing, Bachelor's degree in Biology, Biotechnology and Biochemistry, among many others.



Barcelona Research Infertility Group

Epidemiology and Public Health

RESEARCH GROUP



Group Leader

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Members

Mireia González Comadran (Researcher)

Maria Prat Om (Researcher)

Anna Beatriz Robles Corchado (Researcher)

Biomedical care in fertility disorders has gained recognition as has the diagnosis and treatment of a disease, infertility, where an essential biological function to achieve a life plan is impaired. Taking this into consideration, since 1995, the diagnosis and treatment of infertility has been included as a basic benefit within the Catalog of Services of the National Health System (Royal Degree 63/1995, 20 January, health benefits under the social security program).

The overall objective is to carry out research in a multidisciplinary group, and to combine collective expertise to extend knowledge of the loss of fertility observed in our society, as well as to offer preventive, diagnostic and therapeutic solutions that will either minimize the impact of this disorder or successfully overcome it.

Epidemiological research aims to analyze various air pollutants and environmental factors and assess their impact on reproductive outcomes, including sperm quality, which may lead to guidelines for the prevention or reduction of human exposure to environmental pollutants.

Clinical research in human model will allow us to assess strategies that may potentially improve reproductive functions and thereby increase live birth rate when ART are required.

Evidence Based Medicine research: We collaborate with the Cochrane Gynecology and Fertility group evaluating the evidence in reproductive medicine in international studies. We aim to develop translational recommendations for best clinic practice.

Main Publications

- Pareja R, Echeverri L, Rendon G, Munsell M, González-Comadran M, Sanabria D, Isla D, Frumovitz M, Ramírez PT. Radical parametrectomy after 'cut-through' hysterectomy in low-risk early-stage cervical cancer: Time to consider this procedure obsolete. *Gynecol Oncol* 2018; 149(3): 520-524. IF 4.54. D1.
- Checa MA, Bellver J, Bosch E, Espinós JJ, Fabregues F, Fontes J, García-Velasco J, Requena A, Spanish Infertility SWOT Group (SISG). Hysteroscopic septum resection and reproductive medicine: A SWOT analysis. *Reprod Biomed Online* 2018; 37(6): 709-715. IF 2.967. Q1.
- Ferrer-Molina P, Calatayud-Lliso C, Carreras-Collado R, Muñoz-García M, Díaz-Bachiller M, Blanes-Espí J, Checa M. Oral versus transdermal oestrogen delivery for endometrial preparation before embryo transfer: a prospective, comparative, randomized clinical trial. *Reprod Biomed Online*. 2018; 37(6):693-702. IF 2.967. Q1.

Ongoing Research Projects

- Impacto de la exposición aguda a contaminantes atmosféricos sobre los resultados de la Fecundación In Vitro
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI13/00454)
 - Period: from 2014 to 2018
 - Principal investigator: Checa Vizcaíno, Miguel Ángel

Group's Recognitions

- Officially recognised as a precompetitive research group by the Generalitat de Catalunya: Grup de Recerca de Medicina Reproductiva i Fetal (2017-2020)
 - Agència de Gestió d'Ajuts Universitaris i de Recerca (SGR 420)
 - Principal investigator: Checa Vizcaíno, Miguel Ángel

Clinical Trials Signed in 2018

- Spirit Extension: An International Phase 3 Open-Label, Single-Arm, Safety and Efficacy Extension Study to Evaluate Relugolix Co-Administered with Low-Dose Estradiol and Norethindrone Acetate in Women with Endometriosis-Associated Pain
 - Register: Myovant Sciences GmbH
 - Principal investigator: González Comadran, Mireia

Theses

- González Comadran, M. Impacte de l'exposició aguda i subaguda a contaminants atmosfèrics en el resultat de la FIV. Universitat Autònoma de Barcelona
 - Directors: Checa Vizcaíno, Miguel Ángel; Carreras Collado, Ramón
 - Date of defense: 20/10/2018

Cardiovascular Epidemiology and Genetics

Epidemiology and Public Health

RESEARCH GROUP



Group Leader

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Members

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Maria del Mar Vila Muñoz (PhD Student)
Esther Cáceres Malagelada (Technician)
Marta Cabañero Marimón (Technician)
Leny Franco Rojas (Technician)
Lidia Pérez Cuevas (Technician)
Isabel Pérez Sánchez (Technician)
Maria Lluïsa Piña Cànaves (Technician)
Isaac Subirana Cachinero (Technician)
Esmeralda Gómez Pires (Research Assistant)

The group focuses on the study of the epidemiology and genetic basis of cardiovascular disorders and their risk factors. The group participates in international consortia using genome-wide and exome sequencing approaches to identify common and rare variants associated with cardiovascular traits. We are also interested in the study of epigenetic signatures, mainly DNA methylation, related to these diseases. The research team comprises a multidisciplinary group of epidemiologists, biologists, biochemists, clinicians and biostatisticians who work together to tackle these topics. We use this knowledge to identify new mechanisms and new predictive biomarkers, and to define instrumental variables to assess the causal relationship between a biomarker and a cardiovascular phenotype.

The members of the group also participate in the REGICOR (REgistre Gironí del COR) study to determine the burden of cardiovascular disease and its risk factors at the population level, and to develop and improve cardiovascular risk functions. We are also actively exploring the dose-response relationship between physical activity and cardiovascular disease, and the mechanisms by which physical activity reduces cardiovascular risk. Finally, we are also exploring, developing and evaluating new approaches to improve cardiovascular prevention by using new information-technology tools.

Main Publications

- Evangelou E, Warren HR, Mosen-Ansorena D, Mifsud B, Pazoki R, Gao H, Ntritsos G, Dimou N, Cabrera CP, Karaman I, et al. Genetic analysis of over 1 million people identifies 535 new loci associated with blood pressure traits. *Nat Genet* 2018; 50(10): 1412-1425. IF 27.125. D1.
- Ramos R, Comas-Cufí M, Martí-Lluch R, Balló E, Ponjoan A, Alves-Cabratosa L, Blanch J, Marrugat J, Elosua R, Grau M, Elosua-Bayés M, García-Ortiz L, Garcia-Gil M. Statins for primary prevention of cardiovascular events and mortality in old and very old adults with and without type 2 diabetes: retrospective cohort study. *BMJ* 2018; 362: k3359. IF 23.259. D1.
- Emdin CA, Khera AV, Klarin D, Natarajan P, Zekavat SM, Nomura A, Haas ME, Aragam K, Ardisino D, Wilson JG, Schunkert H, McPherson R, Watkins H, Elosua R, Bown MJ, Samani NJ, Baber U, Erdmann J, Gormley P, Palotie A, Stitzel N, Gupta N, Danesh JN, Saleheen D, Gabriel SB, Kathiresan S. Phenotypic Consequences of a Genetic Predisposition to Enhanced Nitric Oxide Signaling. *Circulation* 2018; 137(3): 222-232. IF 18.88. D1.
- Comín J, Manito N, Segovia-Cubero J, Delgado J, García Pinilla JM, Almenar L, Crespo-Leiro MG, Sionis A, Blasco T, Pascual-Figal D, González-Vílchez F, Lambert-Rodríguez JL, Grau M, Bruguera J, on behalf of the LION-HEART Study Investigators. Efficacy and safety of intermittent intravenous outpatient administration of levosimendan in patients with advanced heart failure: the LION-HEART multicentre randomised trial. *Eur J Heart Failure* 2018; 20(7): 1128-1136. IF 10.683. D1.
- Garcia-Gil M, Comas-Cufí M, Blanch J, Martí R, Ponjoan A, Alves-Cabratosa L, Petersen I, Marrugat J, Elosua R, Grau M, Ramos R. Effectiveness of statins as primary prevention in people with different cardiovascular risk: A population-based cohort study. *Clin Pharmacol Ther* 2018; 104(4): 719-732. IF 6.544. D1.
- Fernández-Sanlés A, Sayols-Baixeras S, Curcio S, Subirana I, Marrugat J, Elosua R. DNA Methylation and Age-Independent Cardiovascular Risk, an Epigenome-Wide Approach: The REGICOR (REgistre Gironí del COR) Study. *Arterioscler Thromb Vasc Biol* 2018; 38(3): 645-652. IF 6.086. D1.

- Baena-Díez JM, Garcia-Gil M, Comas-Cufí M, Ramos R, Prieto-Alhambra D, Salvador-González B, Elosua R, Degano IR, Peñafiel J, Grau M. Association between chronic immune-mediated inflammatory diseases and cardiovascular risk. *Heart* 2018; 104(2): 119-126. IF 5.42. Q1.
- Vázquez-Oliva G, Zamora A, Ramos R, Martí R, Subirana I, Grau M, Degano IR, Marrugat J, Elosua R. Tasas de incidencia y mortalidad, y letalidad poblacional a 28 días del infarto agudo de miocardio en adultos mayores. Estudio REGICOR. *Rev Esp Cardiol* 2018; 71(9): 718-725. IF 5.166. Q1.
- Iribarren C, Lu M, Jorgenson E, Martínez M, Lluís-Ganella C, Subirana I, Salas E, Elosua R. Weighted Multi-marker Genetic Risk Scores for Incident Coronary Heart Disease among Individuals of African, Latino and East-Asian Ancestry. *Sci Rep* 2018; 8(1): 6853. IF 4.122. Q1.
- Subirana I, Fitó M, Díaz O, Vila JS, Francés A, Delpon E, Sanchis J, Elosua R, Muñoz D, Degano IR, Marrugat J. Prediction of coronary disease incidence by biomarkers of inflammation, oxidation, and metabolism. *Sci Rep* 2018; 8(1): 3191. IF 4.122. Q1.
- Barroso M, Vila M, Zomeño MD, Martí-Lluch R, Cordon F, Ramos R, Elosua R, Degano IR, Fitó M, Cabezas C, Salvador G, Castell C, Grau M. Validity of a method for the self-screening of cardiovascular risk. *Clin Epidemiol* 2018; 10: 549-560. IF 3.799. Q1.

Ongoing Research Projects

- Eficacia de una aplicación móvil para la prevención de las enfermedades cardiovasculares a través del empoderamiento individual y comunitario
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI17/00250)
 - Period: from 2018 to 2020
 - Principal investigator: Grau Magaña, Maria
- Seguiment de la cohort poblacional de l'estudi REGICOR: tendències en la incidència de malaltia cardiovascular, en la prevalença de factors de risc, identificació de nous mecanismes i biomarcadors predictius, i avaluació d'estratègies de prevenció
 - Financing institution: Departament de Salut, Generalitat de Catalunya (SLT002/16/00088)
 - Period: from 2017 to 2019
 - Principal investigator: Elosua Llanos, Roberto
- La metilación del ADN y el infarto agudo de miocardio: ¿biomarcador de riesgo y mediador de los efectos de estilos de vida?
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI15/00051)
 - Period: from 2016 to 2018
 - Principal investigator: Elosua Llanos, Roberto

- Validez y efectividad de un método de auto-cribado del riesgo cardiovascular
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI14/00449)
 - Period: from 2015 to 2018
 - Principal investigator: Grau Magaña, Maria

Participation in Research Networks

- CIBER Enfermedades Cardiovasculares
 - Fondo de Investigación Sanitaria. ISCIII (CB16/11/00229)
 - Principal investigator: Elosua Llanos, Roberto

Group's Recognitions

- Our research group is part of the Grup de Recerca REGICOR (REgistre Gironí del Cor), officially recognised as a consolidated research group by the Generalitat de Catalunya (2017-2020)
 - Agència de Gestió d'Ajuts Universitaris i de Recerca (SGR 222)
 - Principal investigator: Marrugat de la Iglesia, Jaume

Theses

- Ribas, N. Influència pronòstica del Codi Infart en els pacients amb infart agut de miocardi amb elevació del segment ST. Anàlisi del control dels factors de risc cardiovascular. Universitat Autònoma de Barcelona
 - Directors: Elosua Llanos, Roberto; Garcia, C.
 - Date of defense: 13/11/2018

Other

- Roberto Elosua Llanos. Prize for the best articles presented in the Spanish Journal of Cardiology. Sociedad Española de Cardiología (SEC). 20/08/2018.



Cardiovascular Risk and Nutrition

Epidemiology and Public Health

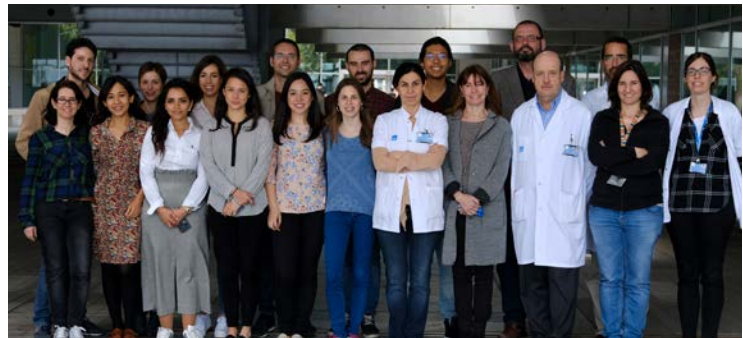
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Members

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Anna Maria Blasco Lapuente (Research Assistant)

The Mediterranean diet, its foods and the interaction of its nutrients, have healthy effects on morbidity and mortality related to chronic degenerative diseases, such as cardiovascular disease. In this context, the main objective of our research is to determine the benefit of a healthy diet pattern and some characteristic foods (including olive oil and wine) on different cardiovascular risk factors. We also focus on lifestyle habits including diet and physical activity on obesity (both in children and adults), diabetes, and cardiovascular disease. The health effects of bariatric surgery are also among our aims.

Based on the knowledge of underlying mechanisms beyond the diet benefits, progress is being made in research of the classical and emerging risk factors for cardiovascular and neurodegenerative diseases. One of our main research lines is focused on HDL-

and ApoB-containing particles. Firstly, it is becoming increasingly more accepted that the biological functions of HDL are more indicative of the cardioprotective role of these particles than the quantity of HDL cholesterol. Reduced values of the most relevant HDL function (its ability to pick up cholesterol from peripheral cells, the cholesterol efflux) have been shown to be linked to a high risk of sub-clinical atherosclerosis and high incidence of coronary events. Our group was the first to report the protective effect of a healthy dietary pattern (a Mediterranean Diet enriched in virgin olive oil) and real-life doses of virgin olive oil on HDL functions (Hernández A et al., *Circulation* 2017). Secondly, we are also interested in the residual risk factor linked to the atherogenicity of ApopB-containing particles such as LDL and triglyceride-rich lipoproteins.

Main Publications

- Estruch R, Ros E, Salas-Salvadó J, Covas MI, Corella D, Arós F, Gómez-Gracia E, Ruiz-Gutiérrez V, Fiol M, Lapetra J, Lamuela-Raventós RM, Serra-Majem L, Pintó X, Basora J, Muñoz MA, Sorlí JV, Martínez JA, Fitó M, Gea A, Hernán MA, Martínez-González MA, PREDIMED Study Investigators. Primary Prevention of Cardiovascular Disease with a Mediterranean Diet Supplemented with Extra-Virgin Olive Oil or Nuts. *New Engl J Med* 2018; 378(25): e34. IF 79.258. D1.
- Schröder H, Cárdenas-Fuentes G, Martínez-González MA, Corella D, Vioque J, Romaguera D, Alfredo Martínez J, Tinahones FJ, López-Miranda J, Estruch R, et al. Effectiveness of the physical activity intervention program in the PREDIMED-Plus study: a randomized controlled trial. *Int J Behav Nutr Phys Act* 2018; 15(1): 110. IF 5.548. D1.
- Pedro-Botet J, Benaiges D. Neurotensin and Nonalcoholic Fatty Liver Disease: Beyond Obesity. *Obesity (Silver Spring)* 2018; 26(2): 251. IF 4.042. Q1.
- Climent E, Benaiges D, Flores JA, Ramón-Moros JM, Pedro-Botet J, Goday A. Changes in the lipid profile 5 years after bariatric surgery: laparoscopic Roux-en-Y gastric bypass versus laparoscopic sleeve gastrectomy. *Surg Obes Relat Dis* 2018; 14(8): 1099-1105. IF 3.9. D1.
- Goday A, Castañer O, Benaiges D, Busquets-Pou A, Ramón-Moros JM, Iglesias M, Barranco L, Flores JA. Can Helicobacter pylori Eradication Treatment Modify the Metabolic Response to Bariatric Surgery?. *Obes Surg* 2018; 28(8): 2386-2395. IF 3.895. D1.
- Cárdenas-Fuentes G, Bawaked RA, Martínez-González MÁ, Corella D, Subirana I, Salas-Salvadó J, Estruch R, Serra-Majem L, Ros E, Lapetra J, Fiol M, Rekondo J, Gómez-Gracia E, Tur JA, Pintó X, Babio N, Ortega C, Martínez JA, Schröder H. Association of physical activity with body mass index, waist circumference and incidence of obesity in older adults. *Eur J Public Health* 2018; 28(5): 944-950. IF 2.782. Q1.

Ongoing Research Projects

- Integridad neurovascular y desarrollo de demencia: Efecto neuroprotector de las lipoproteínas de alta densidad y marcadores asociados
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI17/00214)
 - Period: from 2018 to 2020
 - Principal investigator: Castañer Niño, Olga
- Caracterización y desarrollo de procesos de elaboración de productos panificables con impacto positivo en la salud humana: Estudio en modelos humanos de inflamación y disbiosis intestinal. Retos colaboración 2017
 - Financing institution: Ministerio de Economía y Competitividad (RTC-2017-6467-2)
 - Period: from 2018 to 2020
 - Principal investigator: Fitó Colomer, Montserrat
- Efecte HALO de l'estudi PREDIMED PLUS
 - Financing institution: Departament de Salut, Generalitat de Catalunya (SLT002/16/00132)
 - Period: from 2017 to 2019
 - Principal investigator: Goday Arno, Albert
- Efecto de una pérdida de peso con dieta mediterránea hipocalórica y promoción de la actividad física en la prevención primaria cardiovascular: Estudio PREDIMED-PLUS
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI16/00533)
 - Period: from 2017 to 2019
 - Principal investigator: Goday Arno, Albert
- Novel predictors of coronary heart disease: endothelial microparticles, HDL functionality, and fatty acid composition of cell membranes
 - Financing institution: Fundació La Marató de TV3 (20151231)
 - Period: from 2016 to 2019
 - Principal investigator: Fitó Colomer, Montserrat
- Funcionalidad de la HDL en la predicción de eventos cardiovasculares en una cohorte a 5 años en población general. Estilo de vida como factor modulador
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI15/00047)
 - Period: from 2016 to 2019
 - Principal investigator: Fitó Colomer, Montserrat

Participation in Research Networks

- CIBEROBN: Fisiopatología de la obesidad y nutrición
 - Fondo de Investigación Sanitaria. ISCIII (CB06/03/0028)
 - Principal investigator: Fitó Colomer, Montserrat
- CIBERESP: Epidemiología y salud pública
 - Fondo de Investigación Sanitaria. ISCIII (CB06/02/0029)
 - Principal investigator: Schröder, Helmut

Clinical Trials Signed in 2018

- Estudio prospectivo, observacional de una alimentación por sonda con alto contenido calórico y proteico, con carbohidratos de liberación lenta y ácidos grasos monoinsaturados (AGMI), en una población malnutrida con diabetes
 - Register: DA14
 - Principal investigator: Villatoro Moreno, Montserrat

Theses

- Bawaked, RA. Childhood Obesity: Interrelation among Diet Quality, Lifestyle Factors, and Obesity. Universitat Pompeu Fabra.
 - Director: Schröder, Helmut
 - Date of defense: 08/10/2018
- Climent, E. Efectes de la cirurgia bariàtrica sobre el perfil lipídic. Universitat Autònoma de Barcelona.
 - Directors: Benaiges Boix, David; Goday Arno, Albert; Pedro-Botet, J.
 - Date of defense: 23/11/2018
- Prados, M. Alteración del metabolismo de la glucosa y del perfil lipídico en el seguimiento postparto de mujeres con antecedentes de diabetes gestacional en un entorno multiétnico. Universitat Autònoma de Barcelona.
 - Directors: Pedro-Botet, J.; Flores Le Roux, Juana Antonia
 - Date of defense: 20/07/2018



Clinical and Molecular Epidemiology of Cancer

Epidemiology and Public Health

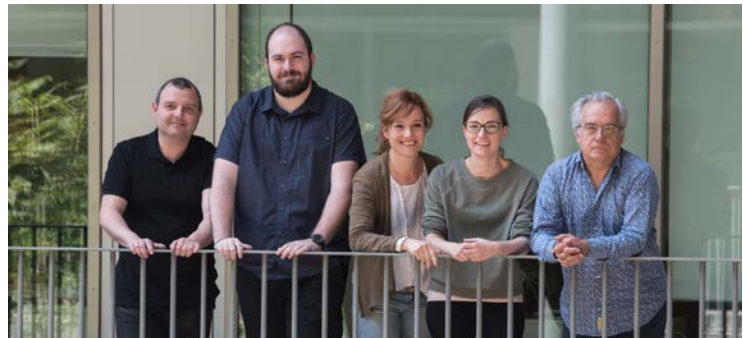
RESEARCH GROUP



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We conduct integrative scientific research on human pancreatic cancer at all causal and mechanistic levels, from genomics to clinical medicine to the social and physical environment. Our aim is to achieve an optimal integration of professional cultures, scientific knowledge, methodologies and techniques from epidemiology and public health, clinical medicine and the biological sciences. We are a team that has worked across disciplines for more than three decades, one of the pioneer groups in Europe on clinical and molecular epidemiology. Cancer is a complex set of processes that result from the accumulation of genetic, epigenetic and other alterations during the lifecourse. Thus, integrative studies on the causes of cancer are a natural meeting point between molecular biology and epidemiology. We are also a world-recognized research group on the biomonitoring of internal body concentrations of environmental chemical agents ('internal contamination') in representative samples of the general population.

Main Publications

- Klein AP, Wolpin BM, Risch HA, Stolzenberg-Solomon RZ, Mocci E, Zhang MF (...), Porta M, Real FX, Rothman N (...), Kraft P, Li D, Chanock S, Obazee O, Petersen GM, Amundadottir LT. Genome-wide meta-analysis identifies five new susceptibility loci for pancreatic cancer. *Nature Communications* 2018; 9: 556. IF 12.353. D1.
- NCD Risk Factor Collaboration (NCD-RisC). Zhou B, Bentham J, Di Cesare M, Bixby H, Danaei G, Hajifathalian K, (...) Gasull M, (...) Porta M, (...) Neuhauser HK, Sorić M, Starc G, Sundström J, Woodward M, Ezzati M. Contributions of mean and shape of blood pressure distribution to worldwide trends and variations in raised blood pressure: a pooled analysis of 1018 population-based measurement studies with 88.6 million participants. *International Journal of Epidemiology* 2018; 47: 872-883i. IF 8.36. Q1.
- Lee DH, Porta M, Lind L, Lind PM, Jacobs DR Jr. Neurotoxic chemicals in adipose tissue: A role in puzzling findings on obesity and dementia. *Neurology* 2018; 90: 176-182. IF 7.609. D1.
- Matejčić M, Lesueur F, Biessy C, Renault AL, Mebirouk N, Yammine S (...), Duell EJ, Porta M, Sánchez MJ, (...), Bueno-de-Mesquita HB, Riboli E, Vineis P, Romieu I, Gunter M, Chajès V. Circulating plasma phospholipid fatty acids and risk of pancreatic cancer in a large European cohort. *International Journal of Cancer* 2018; 143: 2437-2448. IF 7.36. Q1.
- Gasull M, Pumarega JA, Kiviranta H, Rantakokko P, Raaschou-Nielsen O, Bergdahl IA, Sandanger TM, Goñi F, Cirera L, Donat-Vargas C, Alguacil J (...), González CA, Weiderpass E, Bueno-de-Mesquita B, Duell EJ, Vineis P, Porta M. Methodological issues in a prospective study on plasma concentrations of persistent organic pollutants and pancreatic cancer risk within the EPIC cohort. *Environ Res* 2018; 169: 417-433. IF 4.732. D1.
- Hernández-Quevedo C, López-Valcárcel BG, Porta M. Short-Term Adverse Effects of Austerity Policies on Mortality Rates: What Could Their Real Magnitude Be? (Editorial). *Am J Public Health* 2018; 108(8): 983-985. IF 4.38. D1.
- Gasull M, Castell C, Pallarès N, Miret C, Pumarega J, Téllez-Plaza M, López T, Salas-Salvadó J, Lee DH, Goday A, Porta M. Blood concentrations of persistent organic pollutants and unhealthy metabolic phenotypes in normal-weight, overweight and obese individuals. *Am J Epidemiol* 2018; 187: 494-506. IF 4.322. D1.

Ongoing Research Projects

- Influencia de las concentraciones de compuestos tóxicos persistentes sobre la mortalidad, la incidencia de trastornos crónicos y la expresión de miARN en población general
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI17/00088)
 - Period: from 2018 to 2020
 - Principal investigator: Porta Serra, Miquel
- Concentraciones sanguíneas de compuestos organoclorados, estilo de vida y riesgo de cáncer de páncreas en la cohorte EPIC
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI13/00020)
 - Period: from 2014 to 2018
 - Principal investigator: Porta Serra, Miquel

Participation in Research Networks

- CIBERESP: Epidemiología y salud pública
 - Fondo de Investigación Sanitaria. ISCIII (CB06/02/0034)
 - Principal investigator: Porta Serra, Miquel

Group's Recognitions

- Officially recognised as a consolidated research group by the Generalitat de Catalunya: Epidemiologia Clínica i Molecular del Càncer. 2017-2020.
 - Agència de Gestió d'Ajuts Universitaris i de Recerca (SGR 439)
 - Principal investigator: Porta Serra, Miquel

Other

- Members of the Group have acted as Advisors and External Reviewers to the World Health Organization (Avoiding Early Environmental Exposures); CaixaBank (Postgraduate Fellowships); Environment and Health Fund, Israel; Cancer TMOI of the French National Alliance for Life and Health Sciences (AVIESAN) & French National Cancer Institute (INCa); National Science Centre (Narodowe Centrum Nauki - NCN), Poland; Kuwait University; Escola de Salut Pública de Menorca; DEMCat (TermCat and Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears). They have also been invited to give keynote lectures and seminars at Columbia University, Mailman School of Public Health, New York; Columbia University, Center for Environmental Health in Northern Manhattan, New York; City University of New York

(CUNY), Center for the Biology of Natural Systems (CBNS), Queens College, New York; CUNY School of Public Health; Johns Hopkins University, Bloomberg School of Public Health, Baltimore; Kuwait University, Faculty of Medicine; University of Ottawa, School of Epidemiology, Public Health and Preventive Medicine, Ottawa; University of Bergen, Department of Global Health and Primary Care, National Research School in Population Based Epidemiology; Universidad Miguel Hernández, Programa de Doctorado en Salud Pública; Pompeu Fabra University and Autonomous University of Barcelona, Máster Universitario en Salud Pública.



Epidemiology and Evaluation

Epidemiology and Public Health

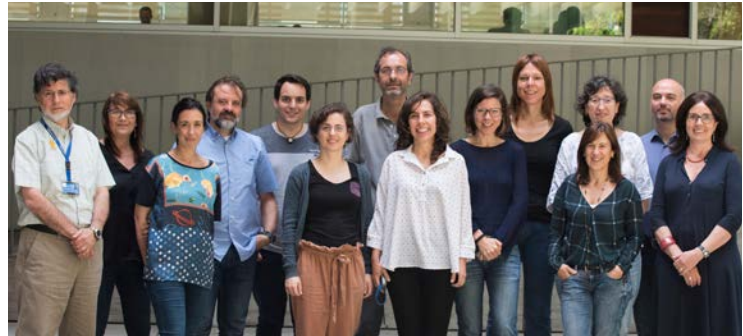
RESEARCH GROUP



Group Leader

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Members

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Mercè Comas Serrano (Researcher)
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Margarita Posso Rivera (Researcher)
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Marta Román Expósito (Researcher)
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Diego Juárez Rodríguez (Technician)
Pietro Chiarello (Research Assistant)
Irene Fernández Garcia (Research Assistant)
Priscilla Giraldo Matamoros (Researcher Assistant)
Esther Martínez Amor (Research Assistant)

This is a group with multidisciplinary training (epidemiology, health economy, statistics and nursing), which has carried out research activity in the field of health services research (HSR), specifically in the evaluation of the effectiveness and costs of health services and interventions; the evaluation of the needs and use of health services; and the development of instruments for HSR. Current research areas focus mainly on the evaluation of the health care process in cancer patients, focusing on breast and colon cancer screening, and the impact of the process on survival, specifically in the study of cancer screening personalization and on health care of long-term survivors.

Main Publications

- Rojas-Camayo J, Mejía CR, Callacondo D, Dawson JA, Posso M, Galván CA, Dávila-Arango N, Bravo EA, Loescher VY, Padilla-Deza MM, Rojas-Valero N, Velásquez-Chávez G, Clemente J, Alva-Lozada G, Quispe-Mauricio A, Bardalez S, Subhi R. Reference values for oxygen saturation from sea level to the highest human habitation in the Andes in acclimatised persons. *Thorax* 2018; 73(8): 776-778. IF 9.655. D1.
- Hofvind S, Sagstad S, Sebuødegård S, Chen Y, Román M, Lee CI. Interval Breast Cancer Rates and Histopathologic Tumor Characteristics after False-Positive Findings at Mammography in a Population-based Screening Program. *Radiology* 2018; 287(1): 58-67. IF 7.469. D1.
- Heijnsdijk EAM, Bangma CH, Borràs JM, de Carvalho TM, Castells X, Eklund M, Espinàs JA, Graefen M, Grönberg H, Lansdorp-Vogelaar I, van Leeuwen PJ, Nelen V, Recker F, Roobol MJ, Vandenbulcke P, de Koning HJ. Summary statement on screening for prostate cancer in Europe. *Int J Cancer* 2018; 142(4): 741-746. IF 7.36. Q1.
- Sala M, Domingo L, Louro J, Torá-Rocamora I, Baré M, Ferrer J, Carmona-Garcia MC, Barata T, Román M, Macià F, Castells X. Survival and disease-free survival by breast density and phenotype in interval breast cancers. *Cancer Epidemiol Biomark & Prev* 2018; 27(8): 908-916. IF 4.554.D1.
- Boldo E, Castelló A, Aragonés N, Amiano P, Pérez-Gómez B, Castaño-Vinyals G, Martín V, Guevara M, Urtiaga C, Dierssen-Sotos T, Fernández-Tardón G, Moreno V, Solans M, Peiró R, Capelo R, Gómez-Acebo I, Castilla J, Molina AJ, Castells X, Altzibar JM, Lope V, Kogevinas M, Romieu I, Pollán M, MCC-Spain researchers. Meat intake, methods and degrees of cooking and breast cancer risk in the MCC-Spain study. *Maturitas* 2018; 110: 62-70. IF 3.315. Q1.
- Puigpinós-Riera R, Graells-Sans A, Serral G, Contente X, Bargalló X, Domènech M, Espinosa-Bravo M, Grau J, Macià F, Manzanera R, Pla M, Quintana MJ, Sala M, Vidal E. Anxiety and depression in women with breast cancer: Social and clinical determinants and influence of the social network and social support (DAMA cohort). *Cancer Epidemiol* 2018; 55: 123-129. IF 2.888. Q1.
- Esteva M, Ruiz-Díaz M, Sánchez MA, Pértega-Díaz S, Pita-Fernández S, Macià F, Posso M, González-Luján L, Boscá-Wats MM, Leiva A, Ripoll J, DECCIRE GROUP. Emergency presentation of colorectal patients in Spain. *PLoS ONE* 2018; 13(10): e0203556. IF 2.766. Q1.

Ongoing Research Projects

- Estimación del riesgo individual de cáncer de mama según factores de riesgo conocidos de la mujer para la personalización del cribado mamográfico poblacional
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI17/00047)
 - Period: from 2018 to 2020
 - Principal investigator: Román Expósito, Marta
- La reconciliación después del error médico: la mediación como herramienta de ayuda a las víctimas
 - Financing institution: Fundació Víctor Grífols i Lucas (BEC-2018-004)
 - Period: from 2018 to 2019
 - Principal investigador: Giraldo Matamoros, Priscila
- Uso de servicios de salud y comorbilidades en mujeres supervivientes de larga duración de cáncer
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI16/00244)
 - Period: from 2017 to 2019
 - Principal investigator: Sala Serra, Maria
- Evaluación del patrón secuencial del nivel de sangre oculta en heces y su relación con el riesgo de neoplasia colorrectal: hacia la optimización del cribado poblacional de cáncer colorrectal
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI16/00239)
 - Period: from 2017 to 2019
 - Principal investigador: Buron Pust, Andrea
- Lesiones benignas de mama, densidad mamaria y asociación con el riesgo de cáncer en una cohorte de mujeres cribadas
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI15/00098)
 - Period: from 2016 to 2019
 - Principal investigator: Castells Oliveres, Xavier

Participation in Research Networks

- Research network on health services in chronic diseases – REDISSEC (Red de Investigación en Servicios de Salud en Enfermedades Crónicas)
 - Fondo de Investigación Sanitaria. ISCIII. Subprograma RETICS (RD16/0001/0013)
 - Principal investigator: Sala Serra, Maria

Group's Recognitions

- Officially recognised as a consolidated research group by the Generalitat de Catalunya: Servei d'avaluació i epidemiologia clínica. 2017-2020. Agència de Gestió d'Ajuts Universitaris i de Recerca (SGR 213)
 - Principal investigator: Castells Oliveres, Xavier

Theses

- Blanch, J. Avaluació de la taxa de detecció de càncer i del càncer d'interval en programes de detecció precoç del càncer de mama utilitzant mètodes longitudinals. Universitat Autònoma de Barcelona.
 - Directors: Sala Serra, Maria; Rué, M.
 - Date of defense: 14/03/2018

Other

- Margarita Posso Rivera. Cribado poblacional del cáncer de mama: aspectos relacionados con la efectividad y coste-efectividad. Prize for the Best Doctoral Thesis on Health Management and Health Economics. UAM-ASISA Foundation, Universidad Autónoma de Madrid. Date: 14/11/2018.
- Prize award Emilio Perea for the Best oral communication of a senior researcher at the XXXVI Scientific Meeting of the Spanish Society of Epidemiology. Lisbon (Portugal), September 11-14, 2018 to the communication: Evidencia sobre la eficacia de la personalización del cribado de cáncer de mama: una revisión sistemática, presented by Marta Román
- Julieta Politi. Prize 2018 from Sociedad Española de Epidemiología for the Best Master Thesis on Epidemiology and Public Health "The role of detection mode and treatment in predicting breast cancer recurrence & complications for Ductal Carcinoma In Situ (DCIS) Breast Cancer", directed by Maria Sala.

REGICOR

Girona Heart Registry

Epidemiology and Public Health

RESEARCH GROUP



Group Leader

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Members

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Yolanda Ferrer Campo (Research Assistant)

Sònia Gaixas Vasallo (Research Assistant)

The mission of the Girona Heart Registry Research Group is to increase our knowledge of the magnitude of the populational problem of cardiovascular diseases, their molecular, cellular and environmental mechanisms, and design the best strategies for preventing them.

The ultimate goal of this knowledge is to significantly reduce the burden of this disease on society, creating tools –such as cardiovascular risk functions– that allow us to transfer the knowledge we acquire to clinical practice.

The REGICOR Group also has the mission of training new researchers in this area of knowledge.

Main Publications

- Evangelou E, Warren HR, Mosen-Ansorena D, Mifsud B, Pazoki R, Gao H, Ntritsos G, Dimou N, Cabrera CP, (... Marrugat J ...), et al. Genetic analysis of over 1 million people identifies 535 new loci associated with blood pressure traits. *Nat Genet* 2018; 50(10): 1412-1425. IF 27.125. D1.
- Ramos R, Comas-Cufí M, Martí-Lluch R, Balló E, Ponjoan A, Alves-Cabratosa L, Blanch J, Marrugat J, Elosua R, Grau M, Elosua-Bayés M, García-Ortiz L, Garcia-Gil M. Statins for primary prevention of cardiovascular events and mortality in old and very old adults with and without type 2 diabetes: retrospective cohort study. *BMJ* 2018; 362: k3359. IF 23.259. D1.
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- Vázquez-Oliva G, Zamora A, Ramos R, Subirana I, Grau M, Degano IR, Muñoz D, Fitó M, Elosua R, Marrugat J. Valor predictivo de la albúmina plasmática, la vitamina D y las apolipoproteínas A y B como biomarcadores de riesgo coronario en el estudio REGICOR. *Rev Esp Cardiol* 2018; 71(11): 910-916. IF 5.166. Q1.
- Subirana I, Fitó M, Díaz O, Vila JS, Francés A, Delpon E, Sanchis J, Elosua R, Muñoz D, Degano IR, Marrugat J. Prediction of coronary disease incidence by biomarkers of inflammation, oxidation, and metabolism. *Sci Rep* 2018; 8(1): 3191. IF 4.122. Q1.
- Barroso M, Goday A, Ramos R, Marín-Ibañez A, Guembe MJ, Rigo F, Tormo-Díaz MJ, Moreno-Iribas C, Cabré JJ, Segura A (...), Grau M, Marrugat J, FRESCO Investigators. Interaction between cardiovascular risk factors and body mass index and 10-year incidence of cardiovascular disease, cancer death, and overall mortality. *Prev Med* 2018; 107: 81-89. IF 3.483. Q1.

Ongoing Research Projects

- Trastorns afectius i risc cardiovascular en població general: efecte diferencial dels mecanismes fisiopatològics
 - Financing institution: Departament de Salut, Generalitat de Catalunya (SLT006/17/00234)
 - Period: from 2018 to 2020
 - Principal investigator: Marrugat de la Iglesia, Jaume
- Epidemiologia de la hipercolesterolèmia familiar; predicció de risc, efectivitat i seguretat del tractament hipolipemiant
 - Financing institution: Departament de Salut, Generalitat de Catalunya (SLT002/16/00145)
 - Period: from 2017 to 2019
 - Principal investigator: Marrugat de la Iglesia, Jaume
- Role of micro RNAs expressed by human endothelial and vascular smooth muscle cells in myocardial infarction. (MIRMIDmicro RNAs in Myocardial Infarction Disease)
 - Financing institution: Fundación BBVA (PR-16_BIO_CAR_0041)
 - Period: from 2016 to 2019
 - Principal investigator: Marrugat de la Iglesia, Jaume
- Papel del microRNA no codificante producido por las células endoteliales y musculares lisas arteriales humanas en el infarto de miocardio
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI15/00064)
 - Period: from 2016 to 2019
 - Principal investigator: Marrugat de la Iglesia, Jaume
- Validation of a coronary heart disease risk calculator adapted to Human Immunodeficiency Virusinfected patients. The COMVIH-COR project
 - Financing institution: Gilead Sciences S.L.U. (GLD17-00224)
 - Period: from 2018 to 2020
 - Principal investigator: Marrugat de la Iglesia, Jaume

Participation in Research Networks

- CIBER Enfermedades Cardiovaculares
 - Fondo de Investigación Sanitaria. ISCIII (CB16/11/00229)
 - Principal investigator: Marrugat de la Iglesia, Jaume

Group's Recognitions

- Officially recognised as a consolidated research group by the Generalitat de Catalunya: Grup de recerca consolidat REGICOR (REgistre Gironi del COR) 2017-2020
 - Agència de Gestió d'Ajuts Universitaris i de Recerca (SGR 222)
 - Principal investigator: Marrugat de la Iglesia, Jaume

Other

- Jaume Marrugat... and Degano I. Prize for the best communication presented at the XXX Congress of the Catalan Society of Cardiology 2018. "Paper de l'extensió de la malaltia cardiovascular i del nivell de colesterol en les recurrències dels pacients amb malaltia cardiovascular establerta".
- Angela Veá, ...Jaume Marrugat,... and Vicenta Llorente. "Análisis del LRP1 soluble como biomarcador de riesgo coronario: asociación con acontecimientos clínicos y capacidad de predicción". Primary Care-Epidemiology Award 2018 to the communication presented at the XXXI Spanish Society of Arteriosclerosis National Congress, Girona 2018.
- Albert Massó-Van Roessel, Jaume Marrugat... and Roberto Elosua. "Asociación entre las características de la onda P y la fibrilación auricular en el estudio REGICOR" Catalan Institute of Cardiovascular Sciences, Hospital del Mar Medical Research Institute, CIBER of Cardiovascular Diseases. Prize of the clinical cardiology section of the Spanish Society of Cardiology to the best articles published in the Spanish Journal of Cardiology October 2018.
- Daniel Fernández-Bergés... and Jaume Marrugat. Prizes of the Spanish Society of Cardiology to articles published in the Spanish Journal of Cardiology with the greatest international repercussion. Second prize for the most cited article in the long term, to the publication: "Síndrome metabólico en España: prevalencia y riesgo coronario asociado a la definición armonizada y a la propuesta por la OMS. Estudio DARIOS". 2018.



Health Services



Group Leader

Jordi Alonso Caballero



Members

- Alfonso Antón López (Researcher)
- María Jesús Blasco Cubedo (Researcher)
- Montserrat Ferrer Forés (Researcher)
- Olatz Garin Boronat (Researcher)
- Yolanda Pardo Cladellas (Researcher)
- Gemma Vilagut Saiz (Researcher)
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- Ana de Inés Trujillo (PhD Student)
- Karina Mayoral Ortiz (PhD Student)
- Itxaso Alayo Bueno (Technician)
- Javier Gómez Sánchez (Technician)
- Philippe Mortier (Technician)
- Àngels Pont Acuña (Technician)
- Beatriz Puértolas Gracia (Technician)
- Víctor Zamora Ruiz (Technician)
- Purificación Barbas López (Research Assistant)
- Carme Gasull Planes (Research Assistant)
- Luisa Aurea Martín Morris (Research Assistant)

Our research focuses on methods for measuring perceived health, patient-reported outcomes (PROs), and the burden of disease. Our main areas of research apply these methods to assessing the burden of common mental disorders and to evaluating the comparative effectiveness of interventions for chronic diseases, in particular cancer and asthma. Our research is carried out in collaboration with several international research networks, including the WHO World Mental Health Surveys initiative, and the Movember Foundation initiative TrueNTH Global Registry – Prostate Cancer Outcomes.

Knowledge transfer is also an important focus for the group, which plays a leading role in BiblioPRO, the online library of PROs in Spanish, containing more than 2000 instruments. We have developed a standard guide to evaluate the quality of these instruments (EMPRO) and a “Procedure and system to evaluate the quality of life related to the health of an individual” (patent n P200600211, May 1999). We also collaborate on a number of international research projects (IQOD, MHADIE, KIDSCREEN, EuroQol, PROMIS and ICHOM).

We are engaged in a number of educational and mentoring activities, including the Master’s programme in Public Health, the degree in Medicine, and other official education programmes from both Pompeu Fabra University (UPF) and the Autonomous University of Barcelona (UAB), as well as the PSMAR Teaching Unit of Specialists in Preventive Medicine and Public Health.

Our team comprises some 15 professionals with different backgrounds, such as life sciences, psychology, statistics, and others; it is part of the CIBER in Epidemiology and Public Health (Carlos III Health Institute), and is recognized as a Consolidated Research Group by AGAUR (DIUE, Generalitat de Catalunya).

Main Publications

- GBD 2017 SDG Collaborators (...Alonso J...). Measuring progress from 1990 to 2017 and projecting attainment to 2030 of the health-related Sustainable Development Goals for 195 countries and territories: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet* 2018; 392(10159): 2091-2138. IF 53.254. D1.
- Kessler RC, Aguilar-Gaxiola S, Alonso J, Bromet EJ, Gureje O, Karam EG, Koenen KC, Lee S, Liu H, Pennell BE, et al. The associations of earlier trauma exposures and history of mental disorders with PTSD after subsequent traumas. *Mol Psychiatr* 2018; 23(9): 1-8. IF 11.64. D1.
- Ávila M, Patel L, Cortés-Sanabria L, Garin O, Pont A, Ferrer F, Boladeras A, Fosså S, Storås AH, Sanda M, Serra-Sutton V, Ferrer M. Patient-reported outcomes after treatment for clinically localized prostate cancer: A systematic review and meta-analysis. *Cancer Treat Rev* 2018; 66: 23-44. IF 8.122. D1.
- Mortier P, Auerbach RP, Alonso J, Bantjes J, Benjet C, Cuijpers P, Ebert DD, Green JG, Hasking P, Nock MK, O’Neill S, Pinder-Amaker S, Sampson NA, Vilagut G, Zaslavsky AM, Bruffaerts R, Kessler RC, WHO WMH-ICS Collaborators (...Castellví P...). Suicidal Thoughts and Behaviors Among First-Year College Students: Results From the WMH-ICS Project. *J Am Acad Child Psy* 2018; 57(4): 263-273. IF 6.25. D1.
- Alonso J, Liu Z, Evans-Lacko S, Sadikova E, Sampson N, Chatterji S, Abdulmalik J, Aguilar-Gaxiola S, Al-Hamzawi A, Andrade LH, et al. Treatment gap for anxiety disorders is global: Results of the World Mental Health Surveys in 21 countries. *Depress Anxiety* 2018; 35(3): 195-208. IF 5.043. D1.

- Alonso J, Mortier P, Auerbach RP, Bruffaerts R, Vilagut G, Cuijpers P, Demyttenaere K, Ebert DD, Ennis E, Gutiérrez-García RA, Green JG, Hasking P, Lochner C, Nock MK, Pinder-Amaker S, Sampson NA, Zaslavsky AM, Kessler RC, WHO WMH-ICS Collaborators. Severe role impairment associated with mental disorders: Results of the WHO World Mental Health Surveys International College Student Project. *Depress Anxiety* 2018; 35(9): 802-814. IF 5.043. D1.
- Alonso J, Saha S, Lim CCW, Aguilar-Gaxiola S, Al-Hamzawi A, Benjet C, Bromet EJ, Degenhardt L, de Girolamo G, Esan O, et al. The association between psychotic experiences and health-related quality of life: a cross-national analysis based on World Mental Health Surveys. *Schizophr Res* 2018; 201: 46-53. IF 3.958. Q1.
- Arias J, Vilagut G, Martín V, Molina AJ, Alonso J. Prevalence of major depressive disorder and association with personal and socio-economic factors. Results for Spain of the European Health Interview Survey 2014-2015. *J Affect Disorders* 2018; 239: 203-207. IF 3.786. Q1.
- Hernández G, Dima AL, Pont A, Garin O, Martí M, Alonso J, Van Ganse E, Laforest L, de Bruin M, Mayoral K, Ferrer M, ASTRO-LAB group. Impact of asthma on women and men: Comparison with the general population using the EQ-5D-5L questionnaire. *PLoS ONE* 2018; 13(8): e0202624. IF 2.766. Q1.
- Martí M, Pérez G, German D, Pont A, Garin O, Alonso J, Gotsens M, Ferrer M. Health-related quality of life inequalities by sexual orientation: Results from the Barcelona Health Interview Survey. *PLoS ONE* 2018; 13(1): e0191334. IF 2.766. Q1.

Ongoing Research Projects

- Incidencia poblacional de la tentativa y de la repetición de tentativa de suicidio: evaluación del Código riesgo suicidio de Cataluña
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI17/00521)
 - Period: from 2018 to 2020
 - Principal investigator: Alonso Caballero, Jordi
- TrueNTH Global Registry – Prostate Cancer Outcomes
 - Financing institution: Movember Europe
 - Period: from 2017 to 2019
 - Principal investigator: Ferrer Forés, Montserrat
- Aplicación de los instrumentos PRO en España: revisión sistemática y recomendaciones basadas en la evidencia
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI16/00130)
 - Period: from 2017 to 2019
 - Principal investigator: Garin Boronat, Olatz

- Evaluación del tratamiento con broncodilatadores de acción larga en los niños con asma: estudio observacional prospectivo
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI15/00449)
 - Period: from 2016 to 2020
 - Principal investigator: Ferrer Forés, Montserrat
- Evaluación de la precisión diagnóstica, el coste y la utilidad del rastreo de glaucoma basado en detección guiada por imágenes, análisis automático de imágenes y telemedicina
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI15/00412)
 - Period: from 2016 to 2019
 - Principal investigator: Antón López, Alfonso
- Trastorno por uso de alcohol y otras sustancias en estudiantes universitarios: factores de riesgo, incidencia, e impacto en la cohorte “UniverSal-Universidad y Salud Mental”
 - Financing institution: Ministerio de Sanidad, Servicios Sociales e Igualdad (2015I015)
 - Period: from 2016 to 2019
 - Principal investigator: Alonso Caballero, Jordi
- Efectividad a largo plazo: Seguimiento hasta los 10 años de la cohorte del “Estudio multicéntrico español de cáncer de prostata localizado”
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI13/00412)
 - Period: from 2014 to 2018
 - Principal investigator: Garin Boronat, Olatz
- PROMIS.es Salud Mental: calibración y validación de un instrumento informatizado de evaluación de resultados percibidos por los pacientes para diagnóstico y monitorización en Salud Mental
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI13/00506)
 - Period: from 2014 to 2018
 - Principal investigator: Vilagut Sanz, Gemma
- UNIVERSAL: UNIVERSIDAD Y SALUD MENTAL. Modelos Predictivos de Ideación y Conducta Suicida en Estudiantes Universitarios Españoles
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI13/00343)
 - Period: from 2014 to 2018
 - Principal investigator: Alonso Caballero, Jordi

Participation in Research Networks

- CIBERESP: Epidemiología y salud pública
 - Fondo de Investigación Sanitaria. ISCIII (CB06/02/0046)
 - Principal investigator: Alonso Caballero, Jordi

Group's Recognitions

- Officially recognised as a consolidated research group by the Generalitat de Catalunya: Grup de Recerca en Serveis Sanitaris. 2017-2020
 - Agència de Gestió d'Ajuts Universitaris i de Recerca (SGR 452)
 - Principal investigator: Alonso Caballero, Jordi

Theses

- Hernández, G. Treatment Safety, Adherence and Health-related Quality of Life in patients with asthma. Universitat Autònoma de Barcelona.
 - Directors: Ferrer Forés, Montserrat; Garin Boronat, Olatz
 - Date of defense: 12/12/2018

Other

- Dr. Jordi Alonso has been included for three consecutive years (2016, 2017 and 2018) among the most highly cited researchers around the World, in recognition of the exceptional research performance demonstrated by production of multiple highly cited papers, placing him in the top 1% rank by citations per field and year in Psychiatry/Psychology.
- Extraordinary Doctorate Award 2016-2017 to the student Mónica Ávila Pacheco for her thesis with International Doctorate Mention 'Comparative Effectiveness Research on Localized Prostate Cancer Treatments'. This award by the Directive Committee of the Doctoral School of Pompeu Fabra University was approved unanimously on July 27th, 2018.



Research Group in Nursing Care

Epidemiology and Public Health

RESEARCH GROUP



Group Leader

Silvia Esteban Sepúlveda

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Members

David Iglesias Villanueva (Researcher)

Laia Lacueva Pérez (Researcher)

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Antonio Rafael Moreno Poyato (Researcher)

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María Isabel Flores Muxi (Technician)

Núria Orfila Tena (Technician)

Rosa Villanueva Boloix (Technician)

The Research Group in Nursing Care arises from the need to formally integrate the Parc de Salut Mar nursing into the research field, encompassing all the parts of which it is comprised (Hospital del Mar, Hospital de l'Esperança, Centre Peracamps, Centre Fòrum, Centre Emili Mira and Escola Superior d'Infermeria del Mar).

The Group's objective is to generate scientific nursing knowledge and to apply it to evidence-based assistance, with the ultimate aim of improving health, both in terms of care given to the patient and to the community.

It is worth noting that several members of the Group have participated or are actively involved in various national and international research projects.

The main lines of research will focus on training patients to manage their own health and the training of nurses who care for patients.

Main Publications

- Cano-Plans S, Lacueva-Pérez L, Cabrera E, Zabalegui A. Knowledge expectations of orthopaedic patients. Int J Nurs Pract 2018; 24(3): e12639. IF 1.142. Q3.

Ongoing Research Projects

- Mejorando la Relación Terapéutica en los Cuidados Enfermeros a Través de la Evidencia. Estudio multicéntrico en unidades de agudos de psiquiatría de Cataluña
 - Financing institution: Col·legi Oficial d'Infermeria de Barcelona (PR-218/17)
 - Period: from 2018-2020
 - Principal investigator: Moreno Poyato, Antonio Rafael

Other

- David Iglesias Villanueva. Tenim Talent Award, Category Young Talent Manager. Societat Catalanoblear d'Infermeria.



Social Epidemiology and Occupational Health

Epidemiology and Public Health

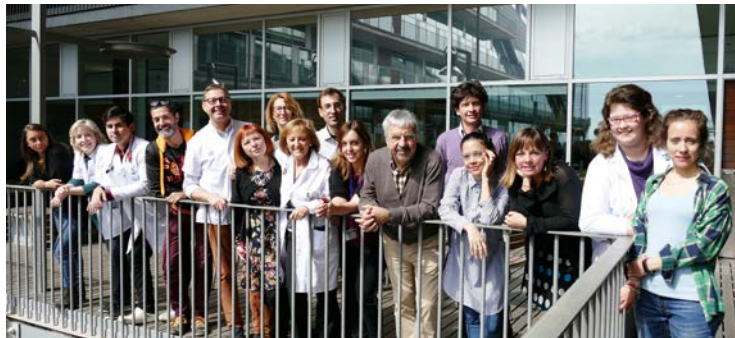
RESEARCH GROUP



Group Leader

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Members

Jordi Delclòs Clanchet (Researcher)
Fernando García Benavides (Researcher)
David Gimeno Ruiz de Porras (Researcher)
Julià del Prado Vinuesa (Researcher)
María López Ruiz (Researcher)
José María Ramada Rodilla (Researcher)
Laura Serra Saurina (Researcher)
Mònica Ubalde López (Researcher)
Rocío Villar Vinuesa (Researcher)
Julio César Hernando Rodríguez (PhD Student)
Mercè Soler Font (PhD Student)
Montserrat Fernàndez Busquets (Research Assistant)

The Research Group in Social Epidemiology and Occupational Health (CISAL) is an IMIM research group led by Dr. Consol Serra Pujadas. CISAL is also part of the Department of Experimental and Health Sciences at Pompeu Fabra University and is recognized by the CIBER of Epidemiology and Public Health (since 2008) as a consolidated group by the Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR), (since 2002).

The European strategy on Safety and Health at Work draws attention to the need to keep people in the labor market, through healthy work environments, effective return programs for those who leave the labor market, whether temporarily or permanently, for health reasons, and with a focus on the employment of vulnerable groups, such as migrants, ethnic minorities, women and workers in precarious employment.

CISAL investigates occupational health issues with major implications for workers, companies and governments that are particularly sensitive for social welfare systems, with the objective of contributing to the improvement of workers' health, evaluating the impact of preventive programs in the workplace and informing the priorities of health policies.

CISAL research and transfer focuses on a variety of current work-related health problems that include (but are not limited to) musculoskeletal disorders, work injuries, workplace prevention programs and the determinants of absence due to illness and temporary/permanent disability. Its research also emphasizes groups of vulnerable workers, with a focus on the aging population, women, migrants and precarious employment.

CISAL is involved in the development of new measurement tools for the Spanish working population and surveys of working conditions and health. It is also involved in ongoing research collaboration with universities and institutions in Europe, North America and Latin America.

Main Publications

- Martínez-Solanas È, López-Ruiz M, Wellenius GA, Gasparrini A, Sunyer J, Benavides FG, Basagaña X. Evaluation of the Impact of Ambient Temperatures on Occupational Injuries in Spain. *Environ Health Perspect* 2018; 126(6): 067002. IF 8.309. D1.
- Rava M, Czachorowski MJ, Silverman D, Márquez M, Kishore S, Tardón A, Serra C, García-Closas M, Garcia-Closas R, Carrato A, Rothman N, Real FX, Kogevinas M, Malats N. Asthma status is associated with decreased risk of aggressive urothelial bladder cancer. *Int J Cancer* 2018; 142(3): 470-476. IF 7.36. Q1.
- Demou E, Smith S, Bhaskar A, Mackay DF, Brown J, Hunt K, Vargas-Prada S, Macdonald EB. Evaluating sickness absence duration by musculoskeletal and mental health issues: a retrospective cohort study of Scottish healthcare workers. *BMJ Open* 2018; 8(1): e018085. IF 2.413. Q2.

Ongoing Research Projects

- INTEVAL-Plus Project: Cluster-randomized controlled trial of a multicomponent workplace intervention to improve musculoskeletal health in hospital workers
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI17/00779)
 - Period: from 2018 to 2020
 - Principal investigator: Ramada Rodilla, José María
- CEPS Project: Burden of Occupational Diseases treated at the Spanish National Health System
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI16/00061)
 - Period: from 2017 to 2019
 - Principal investigator: Serra Pujadas, Consol

- EBISA Project: Social welfare state and health: professional life, inability to work and mortality in a cohort of workers affiliated to the Social Security System, 2004-2013
 - Financing institution: Fondo de Investigación Sanitaria. ISCIII (PI14/00057)
 - Period: from 2015 to 2019
 - Principal investigator: García Benavides, Fernando

Participation in Research Networks

- CIBERESP (Ciber de Epidemiología y Salud Pública)
- Cochrane Occupational Safety and Health Review Group (COSHRG)
- MODERNET- Monitoring Trends in Occupational Diseases and Emerging Risks in a Network
- Red Experta en Encuestas de Condiciones de Trabajo, Empleo y Salud (Red ECoTES)
- COST Action (CA16216) Network on the Coordination and Harmonisation of European Occupational Cohorts
- COST Action (TD1206) StanDerm: Common European standards on occupational skin disease prevention and patient management
- Red Experta en Encuestas de Condiciones de Trabajo, Empleo y Salud (Red ECoTES)

Group's Recognitions

- Officially recognised as a consolidated research group by the Generalitat de Catalunya: Grup d'Epidemiologia Social i Salut Laboral (CISAL) (2017-2020)
 - Agència de Gestió d'Ajuts Universitaris i de Recerca (SGR 1436) (associated to UPF)
 - Principal investigator: García Benavides, Fernando

Theses

- González-Viana, A. Evaluación de la implementación a escala del Plan de Actividad Física, Deporte y Salud. Universitat Pompeu Fabra.
 - Directors: Plasencia, A.; Cabezas, C.; García Benavides, F.
 - Date of defense: 13/12/2018



Healthy Cities and Environmental Justice

Epidemiology and Public Health

ASSOCIATED GROUP



Group Leader

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Members

- Francesc Baró Porras (Researcher)
- Helen Cole (Researcher)
- James Connolly (Researcher)
- Melissa García Williams (Researcher)
- Santiago Gorostiza Langa (Researcher)
- Panagiota Kotsila (Researcher)
- Johannes Langemeyer (Researcher)
- Margarita Triguero Mas (Researcher)
- Filka Tsvetkova Sekulova (Researcher)
- Carmen Pérez de Pulgar Frowein (PhD Student)
- Galia Shokry (PhD Student)
- Laura Jiménez Fernández (Research Assistant)

The group's research line focuses on the social determinants of healthy and just cities and on the health and social impacts of planning and creating greener, more sustainable, and resilient cities. Many of our studies examine environmental and health inequities resulting from urban planning decisions and interventions, as well as the community actions, policies, and planning decisions able to address such inequities. We also analyze how cities integrate health risks, impacts, and emergencies into urban planning and policy, the constraints they face to bring health, health equity, and health services at the center of policy agenda, planning decisions, and implementation, and the opportunities that exist to bring health at the center of urban planning and development. Last, the group examines the role played by risks or experiences of urban gentrification and displacement on mental and physical health outcomes. Particular attention is paid here to the role played by gentrification as a mediating factor between exposure to new green and sustainable urban environments and health outcomes.

Main Publications with IMIM

- Langemeyer J, Camps-Calvet M, Calvet-Mir L, Barthel S, Gómez-Baggethun E. Stewardship of urban ecosystem services: understanding the value(s) of urban gardens in Barcelona. *Landscape Urban Plan* 2018; 170: 79-89. IF 4.994. D1.
- Turkelboom F, Leone M, Jacobs S, Kelemen E, García-Llorente M, Baró F, Termansen M, Barton DN, Berry P, Stange E, Thoonen M, Kaloczai A, Vadineanu A, Castro AJ, Czúcz B, Röckmann C, Wurbs D, Odee D, Preda E, Gómez-Baggethun E, Rusch GM, Martínez-Pastur G, Palomo I, Dick J, Casaer J, van Dijk J, Priess JA, Langemeyer J, Mustajoki J, Kopperoinen L, Baptist MJ, Peri PL, Mukhopadhyay R, Aszalós R, Roy SB, Luque S, Rusch V. When we cannot have it all: Ecosystem services trade-offs in the context of spatial planning. *Ecosyst Serv* 2018; 29 (Part C): 566-578. IF 4.395. Q1.
- Anguelovski I, Connolly JJT, Masip L, Pearsall H. Assessing green gentrification in historically disenfranchised neighborhoods: a longitudinal and spatial analysis of Barcelona. *Urban Geogr* 2018; 39(3): 458-491. IF 2.307. Q1.
- Anguelovski I, Cole H, Connolly JJT, Triguero-Mas M. Do green neighbourhoods promote urban health justice?. *Lancet Public Health* 2018; 3(6): e270. SJR 1.824. Q1.
- Anguelovski I, Connolly JJT, Brand AL. From landscapes of utopia to the margins of the green urban life: For whom is the new green city? *City* 2018; 22(3): 417-436. SJR 1.333. Q1.
- Comelli T, Anguelovski I, Chu E. Socio-spatial legibility, discipline, and gentrification through favela upgrading in Rio de Janeiro. *City* 2018; 22(5-6): 633-656. SJR 1.333. Q1.

MORE INFO



Occupational and Environmental Epidemiology

Epidemiology and Public Health

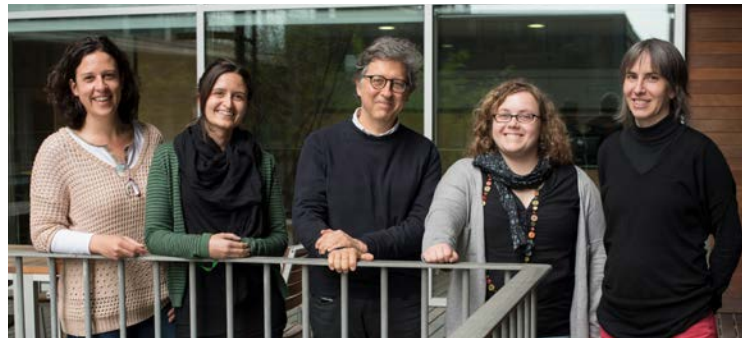
ASSOCIATED GROUP



Group Leader

Manolis Kogevinas

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Members

Cristina Villanueva Belmonte (Researcher)

Ana Espinosa Morano (Technician)

Silvia Fochs Casas (Technician)

The main research of the group is focused on environmental, occupational and genetic factors related to cancer, respiratory disease and child health. Among the main exposures, the group is focused on water pollutants (disinfection by-products in drinking water and swimming pools), air pollution, transport and green spaces in urban areas, hormonal disruption, life style (diet, passive smoking), radiations (smartphones, UV, ionizing), as well as occupational studies in cleaning workers and shift-work and circadian cycle disruption. In the last years we have applied new technologies to assess the exposure (e.g. smartphones), extensively used new biomedical technologies (Exposome, biomarkers, genomics, epigenetics, metabolomics) and implemented complex statistics and bioinformatics methods. The group has an important international reputation and devotes considerable efforts in education, dissemination and knowledge transfer.

Main Publications with IMIM

- Schumacher FR, Al Olama AA, Berndt SI, Benlloch S, Ahmed M, Saunders EJ, Dadaev T, Leongamornlert D, Anokian E, Cieza-Borrella C, (... Kogevinas M ...), et al. Association analyses of more than 140,000 men identify 63 new prostate cancer susceptibility loci. *Nat Genet* 2018; 50(7): 928-936. IF 27.125. D1.
- Lytras T, Kogevinas M, Kromhout H, Carsin AE, Antó JM, Bentouhami H, Weyler J, Heinrich J, Nowak D, Urrutia I, et al. Occupational exposures and 20-year incidence of COPD: the European Community Respiratory Health Survey. *Thorax* 2018; 73(11): 1008-1015. IF 9.655. D1.
- García-Sáenz A, Sánchez de Miguel A, Espinosa A, Valentín A, Aragonés N, Llorca J, Amiano P, Martín-Sánchez V, Guevara M, Capelo R (... Castaño-Vinyals G, Kogevinas M ...), et al. Evaluating the Association between Artificial Light-at-Night Exposure and Breast and Prostate Cancer Risk in Spain (MCC-Spain Study). *Environ Health Perspect* 2018; 126(4): 047011. IF 8.309. D1.
- Kogevinas M, Espinosa A, Castelló A, Gómez-Acebo I, Guevara M, Martín V, Amiano P, Alguacil J, Peiro R, Moreno V, Costas L, Fernández-Tardón G, Jiménez JJ, Marcos-Gragera R, Pérez-Gómez B, Llorca J, Moreno-Iribas C, Fernández-Villa T, Oribe M, Aragonés N, Papantoniou K, Pollán M, Castaño-Vinyals G, Romaguera D. Effect of mistimed eating patterns on breast and prostate cancer risk (MCC-Spain Study). *Int J Cancer* 2018; 143(10): 2380-2389. IF 7.36. Q1.
- Font-Ribera L, Gràcia-Lavedan E, Aragonés N, Pérez-Gómez B, Pollán M, Amiano P, Jiménez-Zabala A, Castaño-Vinyals G, Roca-Barceló A, Ardanaz E, Burgui R, Molina AJ, Fernández-Villa T, Gómez-Acebo I, Dierssen-Sotos T, Moreno V, Fernández-Tardón G, Peiró R, Kogevinas M, Villanueva CM. Long-term exposure to trihalomethanes in drinking water and breast cancer in the Spanish multicase-control study on cancer (MCC-SPAIN). *Environ Int* 2018; 112: 227-234. IF 7.297. D1.
- Villanueva CM, Gràcia-Lavedan E, Júlvez J, Santa-Marina L, Lertxundi N, Ibarluzea J, Llop S, Ballester F, Fernández-Somoano A, Tardón A, Vrijheid M, Guxens M, Sunyer J. Drinking water disinfection by-products during pregnancy and child neuropsychological development in the INMA Spanish cohort study. *Environ Int* 2018; 110: 113-122. IF 7.297. D1.
- O'Callaghan-Gordo C, Kogevinas M, Cirach M, Castaño-Vinyals G, Aragonés N, Delfrade J, Fernández-Villa T, Amiano P, Dierssen-Sotos T, Tardón A, Capelo R, Peiró-Pérez R, Moreno V, Roca-Barceló A, Pérez-Gómez B, Vidan J, Molina AJ, Oribe M, Gràcia-Lavedan E, Espinosa A, Valentín A, Pollán M, Nieuwenhuijsen MJ. Residential proximity to green spaces and breast cancer risk: The multicase-control study in Spain (MCC-Spain). *Int J Hyg Envir Heal* 2018; 221(8): 1097-1106. IF 4.848. D1.
- O'Callaghan-Gordo C, Flores JA, Lizárraga P, Okamoto T, Papoulias DM, Barclay F, Orta-Martínez M, Kogevinas M, Astete J. Oil extraction in the Amazon basin and exposure to metals in indigenous populations. *Environ Res* 2018; 162: 226-230. IF 4.732. D1.

- De Batlle J, Gràcia-Lavedan E, Romaguera D, Méndez M, Castaño-Vinyals G, Martín V, Aragonés N, Gómez-Acebo I, Olmedo-Requena R, Jiménez-Moleón JJ, et al. Meat intake, cooking methods and doneness and risk of colorectal tumours in the Spanish multicase-control study (MCC-Spain). *Eur J Nutr* 2018; 57(2): 643-653. IF 4.423. Q1.

Theses

- Lytras T. The role of occupational exposures in Chronic Obstructive Pulmonary Disease. Universitat Pompeu Fabra.
 - Director: Kogevinas, Manolis; Zock, Jean Paul
 - Date of defense: 22/05/2018
- Ruiz-Domínguez JM. Factores de riesgo ocupacionales en el desarrollo de cáncer de próstata en el estudio MultiCaso-Control-Spain (MCC-Spain). Universitat Autònoma de Barcelona.
 - Director: Castaño-Vinyals G; Gelabert-Mas A; Ibarz L
 - Fecha lectura: 04/07/2018

MORE INFO



Respiratory Health, Air Pollution, Childhood Development

Epidemiology and Public Health

ASSOCIATED GROUP



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Members

Josep M. Antó Boqué (Researcher)

Anne-Elie Carsin (Technician)

Mònica López Vicente (PhD Student)

Gemma Punyet Ribes (Research Assistant)

The prenatal and postnatal periods are critical in the origins of chronic diseases such as obesity, metabolic syndrome, cognitive development, and the origins of asthma and allergy. The major scientific objective of the group is to perform epidemiological studies on the early-life origins of the effects of environmental contaminants, nutrition and lifestyles during prenatal and postnatal life on the development and health of children, including maturation of the neurobehavioral system, obesity, metabolism, respiratory health and mental health.

Main Publications with IMIM

- Ramon MA, Ter Riet G, Carsin AE, Gimeno-Santos E, Agustí A, Antó JM, Donaire-González D, Ferrer J, Rodríguez E, Rodríguez-Roisin R, Puhan MA, Garcia-Aymerich J, PAC-COPD Study Group. The dyspnoea-inactivity vicious circle in COPD: Development and external validation of a conceptual model. *Eur Respir J* 2018; 52(3): 1800079. IF 12.242. D1.
- Alemany S, Vilor-Tejedor N, García-Esteban R, Bustamante M, Dadvand P, Esnaola M, Mortamais M, Forns J, van Drooge BL, Álvarez-Pedrerol M, Grimalt JO, Rivas I, Querol X, Pujol J, Sunyer J. Traffic-Related Air Pollution, APOE Status, and Neurodevelopmental Outcomes among School Children Enrolled in the BREATHE Project (Catalonia, Spain). *Environ Health Perspect* 2018; 126(8): 087001. IF 8.309. D1.
- Dadvand P, Pujol J, Macià D, Martínez-Vilavella G, Blanco-Hinojo L, Mortamais M, Álvarez-Pedrerol M, Fenoll R, Esnaola M, Dalmau-Bueno A, López-Vicente M, Basagaña X, Jerrett M, Nieuwenhuijsen M, Sunyer J. The Association between Lifelong Greenspace Exposure and 3-Dimensional Brain Magnetic Resonance Imaging in Barcelona Schoolchildren. *Environ Health Perspect* 2018; 126(2): 027012. IF 8.309. D1.
- Villanueva CM, Gràcia-Lavedan E, Júlvez J, Santa-Marina L, Lertxundi N, Ibarluzea J, Llop S, Ballester F, Fernández-Somoano A, Tardón A, Vrijheid M, Guxens M, Sunyer J. Drinking water disinfection by-products during pregnancy and child neuropsychological development in the INMA Spanish cohort study. *Environ Int* 2018; 110: 113-122. IF 7.297. D1.
- Forns J, Sunyer J, García-Esteban R, Porta D, Ghassabian A, Giorgis-Allemand L, Gong T, Gehring U, Sørensen M, Standl M, et al. Air pollution exposure during pregnancy and symptoms of attention deficit and hyperactivity disorder in children in Europe. *Epidemiology* 2018; 29(5): 618-626. IF 4.991. D1.

Theses

- Natàlia I. Vilor-Tejedor. Analytical strategies in Imaging Genetics: Assessment of potential risk factors for neurodevelopmental domains. Universitat Pompeu Fabra.
 - Directors: Sunyer Deu, Jordi; González Ruiz, Juan Ramón
 - Date of defense: 16/03/2018
- Elisabet Suades González. Socio-environmental exposures and neurodevelopmental disorders. Universitat Pompeu Fabra.
 - Director: Sunyer Deu, Jordi
 - Date of defense: 15/05/2018

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