

ANNUAL REPORT

2015

*ciberesp*

Centro de Investigación Biomédica en Red  
Epidemiología y Salud Pública

*ciber*

Centro de Investigación Biomédica en Red

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# Scientific Director's Presentation

The pages in this report give details of the main actions carried out and results achieved during the 2015 period at CIBERESP and its research groups. Some of these are set forth below:

In the strategic sub-programme entitled Multi-Case-Control of Cancer, with 7500 cases and 3500 controls, a genetic analysis has been completed with the Exome array (Illumina). It takes part in the following international consortiums: PRACTICAL/ prostate; BCAC/breast; STOP/ stomach; Interlymph and ICGC/CLL; Exposomics/ colorectal; breast cancer shift work case-control studies. Some of the significant results are the influence of night-shift work on breast and prostate cancer, the association between diabetes and its treatment with breast cancer and the effect of perinatal and childhood factors in breast cancer.

A cooperative project is being carried out on the "Effectiveness of the whooping cough vaccination in women in the third trimester of pregnancy to prevent whooping cough" and it has taken part in the meetings with the Health Ministry and the regional ministries to modify the vaccine calendar and include a dose in the third trimester of pregnancy.

The Platform of Longitudinal Studies on Immigrant Families has been consolidated, starting the cohorts, and with participation in the Work Package on "Access of the migrant population to HIV diagnosis and care"; EURO-EDAT Project: The European HIV Early Diagnosis and Access to Treatment (DG SANCO).

In the sub-programme on the "effect of the crisis and social-economic inequalities on mortality" an analysis has been made of the evolution of inequalities in suicide and of inequalities in the main causes of mortality in several Spanish administrative regions. This has repercussions in the healthcare system: increase of the consumption of psychotropic drugs and of suicide rates with the crisis.

The INMA sub-programme has had numerous results and many are in cooperation with other European cohorts and included in projects such as CHICOS and the EGG and EAGLE genetic studies. The main discoveries of the INMA Project refer to the role of environmental agents (DDE, BPA, phthalates, etc.) in obesity and asthma and the epigenetic markers of xenoestrogens in childhood.

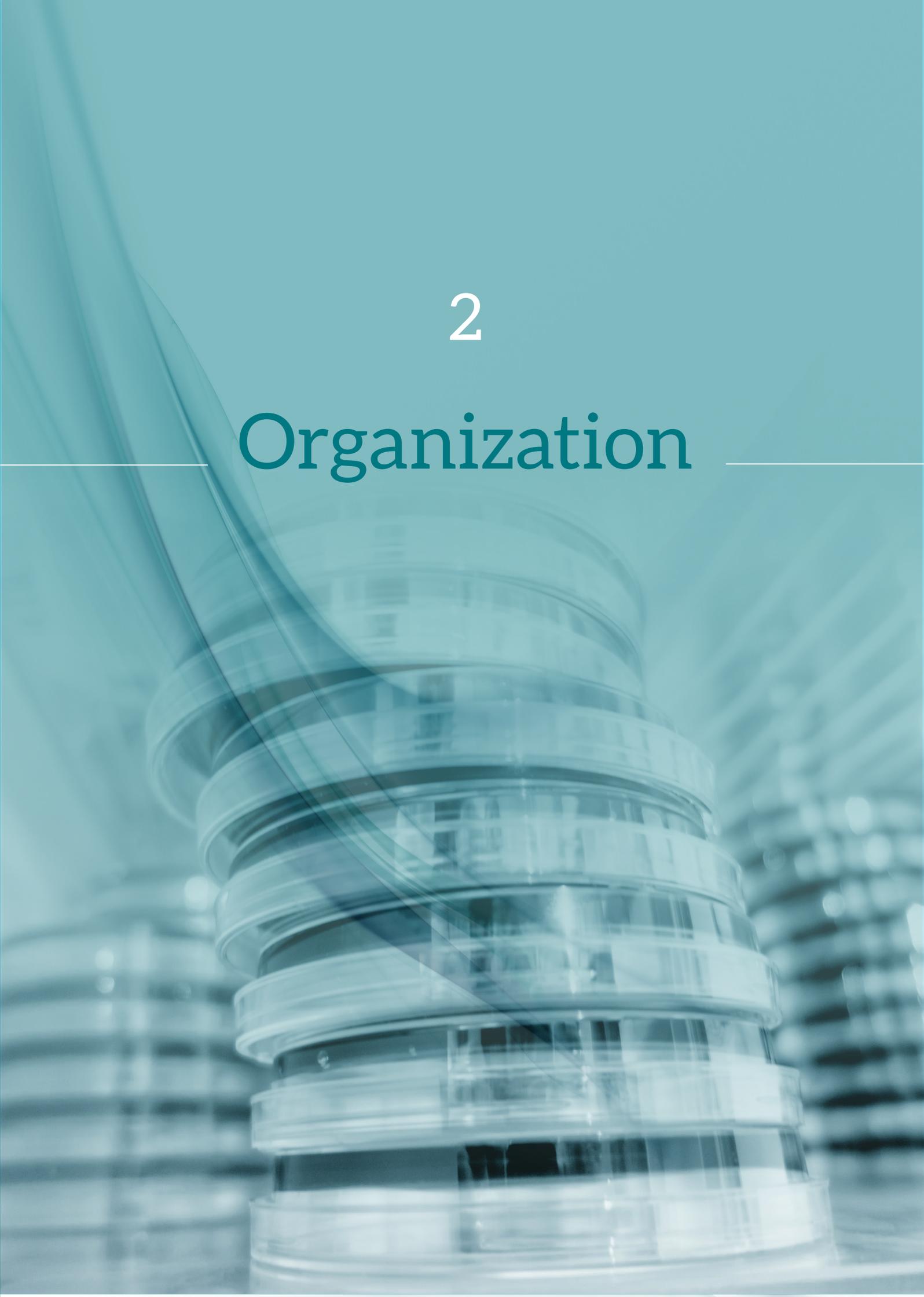
In the "Carga de enfermedad" (Burden of Disease) sub-programme the cohort of Social Security members from 2004/2013 has been reconstructed, consisting of 1022779 persons, with 0.49% permanent incapacity, and 0.24% mortality. In the Essencial project, to avoid low-value clinical practices, 45 recommendations have been published along with several scientific societies (<http://essencialsalut.gencat.cat/ca/>): 22 are implemented in a pilot study with 75 primary care teams. In BiblioPRO 2897 new users have been registered and this already has 1354 instruments.

In the study of the healthcare clinical process (MAPAC) results have been achieved changing healthcare practice, as well as continuing with the Diana-salud digital platform ([www.dianasalud.com](http://www.dianasalud.com)). A systematic review on the effect of epilepsy and its treatment on reproductive results was published in the Lancet (2015; 386:1845-52).

Four short stays abroad were financed in the Training Programme. The Excellence Encounter was held at the Public Health Summer School of Minorca. 10 awards for the best papers presented at the SEE Scientific Meeting were financed.

Miguel Delgado Rodríguez  
Scientific Director





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# Organization

## Organisational Structure

The CIBERESP is one of the eight thematic areas forming the Centro de Investigación Biomédica en Red (CIBER), a Spanish research consortium in the field of biomedical research with great scientific potential, under the Instituto de Salud Carlos III (ISCIII) – Ministry of the Economy and Competitiveness.

The Epidemiology and Public Health area is made up of 48 research groups, keeping its independence as regards scientific management. Its organisational structure is based on the research groups belonging to this and its activity revolves around the Research Programmes and Transversal Programmes, with a coordinator for each Programme belonging to the Steering Committee. Scientific decisions are made by the Scientific Director, advised by said Steering Committee and the External Scientific Committee.

The Steering Committee is presided over by the Scientific Director and made up of the coordinators of the programmes and Managing Director of the CIBER.

The External Scientific Committee is a body for scientific support and advice, made up of relevant personalities in the field of health sciences standing out for their professional or scientific careers in line with the objectives of the thematic area.

The senior administrative bodies of the CIBERESP are the Governing Body and the Permanent Commission, common for all the CIBER research areas.

The Governing Body is made up of three representatives of the ISCIII and by an institutional representative of each of the centres in the consortium. It is presided over by the Director of the ISCIII and meets every six months.

The Permanent Commission is an executive committee made up of the ISCIII and 8 members of the Governing Body, who can be renewed on an annual basis.

Both the operation and the purposes of the governing, support and advisory bodies are established in the statutes of the CIBER.

### Members of the Steering Advisory Committee of CIBERESP

NAME	POST HELD
Miguel Delgado	Scientific Director
Ángela Domínguez	Scientific Assistant Director
Fernando Rodríguez	P1. Epidemiology and Control of Chronic Diseases
Joan Cayla	P2. Communicable Disease Prevention, Surveillance and Control (PREVICET)
Jordi Casabona	P3. Biological and Behavioural Determinants in the Contraction and Spread of Communicable Diseases in Vulnerable Populations (DAPET Programme)
Antonio Daponte	P4. Social Determinants of Health
Adonina Tardón	P5. Epidemiology and Prevention in connection with Environmental and Occupational Health
Jordi Alonso	P6. Health Service Evaluation
José Ignacio Pijoán	P7. Clinical Epidemiology
Beatriz Pérez	Training programme
Manuel Sánchez	Manager

Scientific Director Assistant: Isabel Hervás Fernández

## CIBERESP External Advisory Scientific Committee

CIBERESP has an External Advisory Scientific Committee as an assessment body.

This committee is made up of scientists of particular international significance in the field of health

sciences who have stood out for their professional or scientific careers in line with the Centre's objectives.

Prof. Henrique Barros	President. University of Oporto (Portugal). President International Society of Epidemiology
Dr. José Becerra	Member. CDC of Atlanta (USA)
Prof. Javier Nieto	University of Wisconsin (USA)
Prof. Stanley Presser	University of Maryland (USA)
Prof. Eric Van Ganse	Member. University of Lyon (France)

## Technical Unit

List of personnel: <http://www.ciberisciii.es/en/about-us/head-office>



## Directory of groups and institutions

Group leader	Institution	Centre	Province
Abilleira Castells, Sonia	Agència de Qualitat i Avaluació Sanitàries de Catalunya (AQuAS)	Agencia de Información, Avaluació i Qualitat en Salut	Barcelona
Alonso Caballero, Jordi	Consorci Mar Parc Salut de Barcelona	Consorci Mar Parc de Salut de Barcelona	Barcelona
Del Amo Valero, Julia	Instituto de Salud Carlos III	Centro Nacional de Epidemiología	Madrid
Ballester Díez, Ferrán	Fund. para la Investigación Sanitaria y Biomédica de la Com. Valenciana (FISABIO)	Fund. para la Investigación Sanitaria y Biomédica de la Com. Valenciana (FISABIO)	Valencia
Baquero Mochales, Fernando	Servicio Madrileño de Salud	Hospital Ramón y Cajal	Madrid
Bolumar Montrull, Francisco	Universidad de Alcalá	Facultad de Medicina	Madrid
Bonfill Cosp, Xavier	Instituto de Investigación del Hospital de la Santa Creu i Sant Pau	Instituto de Investigación del Hospital de la Santa Creu i Sant Pau	Barcelona
Borrell Thió, Carme	Agència de Salut Pública de Barcelona	Agència de Salut Pública de Barcelona	Barcelona
Bueno Cavanillas, Aurora	Universidad de Granada	Universidad de Granada	Granada
Calderón Sandubete, Enrique José	Fund. Pública Andaluza para la Gestión de la Investigación en Salud de Sevilla	Hospital Virgen del Rocío	Sevilla
Casabona Barbara, Jordi	Fund. Institut d'Investigació Germans Trias i Pujol	Centro de estudios epidemiológicos sobre las infecciones de transmisión sexual y sida de Cataluña	Barcelona
Castilla Catalán, Jesús	Instituto de Salud Pública de Navarra	Instituto de Salud Pública de Navarra	Navarra
Cayla Buqueras, Joan Artur	Agència de Salut Pública de Barcelona	Agència de Salut Pública de Barcelona	Barcelona
Daponte Codina, Antonio	Escuela Andaluza de Salud Pública	Escuela andaluza de Salud Pública	Granada
Delgado Rodríguez, Miguel	Universidad de Jaén	Facultad de Ciencias de la Salud	Jaén
Domínguez García, Ángela	Universitat de Barcelona	Facultad de Medicina	Barcelona
Dorronsoro Iraeta, Miren	Asociación Instituto Biodonostia	Hospital Donostia	Guipuzcoa
Echevarría Mayo, Juan Emilio	Instituto de Salud Carlos III	Centro Nacional de Microbiología	Madrid
Emparanza Knörr, José Ignacio	Asociación Instituto Biodonostia	Hospital Donostia	Guipúzcoa
Estivill Palleja, Xavier	Fundació Centre de Regulació Genòmica	Centre de Regulació Genòmica	Barcelona
Ferreira González, Ignacio	Fundación Hospital Universitario Vall d'Hebron - Institut de Recerca (VHIR)	Hospital Vall d'Hebron	Barcelona
De la Fuente Hoz, Luis	Instituto de Salud Carlos III	Centro Nacional de Epidemiología	Madrid
García Benavides, Fernando	Universitat Pompeu Fabra	Universitat Pompeu Fabra	Barcelona

Group leader	Institution	Centre	Province
Gestal Otero, Juan Jesús	Universidad de Santiago de Compostela	Facultad de Medicina	Coruña, A
Gómez de la Cámara, Agustín	Servicio Madrileño de Salud	Hospital Universitario 12 de Octubre	Madrid
Hernández Aguado, Ildelfonso	Universidad Miguel Hernández	Universidad Miguel Hernández	Alicante
Kogevinas, Emmanouil	C. de Recerca en Epidemiología Ambiental (CREAL)	C. de Recerca en Epidemiología Ambiental (CREAL)	Barcelona
López Medina, María José	Agència de Salut Pública de Barcelona	Agència de Salut Pública de Barcelona	Barcelona
López-Abente Ortega, Gonzalo	Instituto de Salud Carlos III	Centro Nacional de Microbiología	Madrid
Marcos Dauder, Ricardo	Universitat Autònoma de Barcelona	Universitat Autònoma de Barcelona	Barcelona
Mateo Ontañón, Salvador de	Instituto de Salud Carlos III	Centro Nacional de Epidemiología	Madrid
Menéndez Santos, Clara	Hospital Clínic de Barcelona	Hospital Clínic de Barcelona	Barcelona
Morales Suárez-Varela, María Manuela	Universitat de València	Facultad de Medicina de Valencia	Valencia
Moreno Aguado, Víctor	Institut Català d'Oncologia	Institut Català d'Oncologia	Barcelona
Moya Simarro, Andrés	Universitat de València	Facultad de Medicina de Valencia	Valencia
Navarro Sánchez, Carmen	Fundación para la Formación e Investigación Sanitarias de la Región de Murcia (FFIS)	Dirección general de Salud Pública de Murcia	Murcia
Olea Serrano, Nicolás	Fundación para la Investigación Biosanitaria en Andalucía Oriental (FIBAO)	Hospital Clínico San Cecilio	Granada
Porta Serra, Miquel	Consorci Mar Parc Salut de Barcelona	Consorci Mar Parc de Salut de Barcelona	Barcelona
Rodríguez Artalejo, Fernando	Universidad Autónoma de Madrid	Universidad Autónoma de Madrid	Madrid
Rodríguez Farre, Eduard	Ag. Estatal Consejo Superior de Investigaciones Científicas	Instituto de Investigaciones Biomédicas	Barcelona
Ruiz Pérez, Isabel	Escuela Andaluza de Salud Pública	Escuela Andaluza de Salud Pública	Granada
Sáez Zafra, Marc	Universitat de Girona	Universitat de Girona	Girona
Sánchez Pérez, María José	Escuela Andaluza de Salud Pública	Escuela Andaluza de Salud Pública	Granada
Sanjosé Llongueras, Silvia De	Institut Català d'Oncologia	Institut Català d'Oncologia	Barcelona
Schröder, Helmut	Consorci Mar Parc Salut de Barcelona	Consorci Mar Parc de Salut de Barcelona	Barcelona
Sunyer Deu, Jordi	Centre de Recerca en Epidemiología Ambiental (CREAL)	Centre de Recerca en Epidemiología Ambiental (CREAL)	Barcelona
Tardón García, Adonina	Universidad de Oviedo	Facultad de Medicina	Asturias
Zamora Romero, Javier	Servicio Madrileño de Salud	Hospital Ramón y Cajal	Madrid

## Budget

<b>INCOME</b>	<b>4.984.944,28</b>
NOMINAL ISCIII GRANT	2.736.660,00
INCOME FROM NEW GROUPS	120.000,00
AGREEMENTS AND CONTRACTS	154.695,66
SURPLUS	1.973.588,62

<b>EXPENDITURE</b>	<b>3.124.579,61</b>
GROUP	2.277.702,65
PROGRAMMES	371.668,75
TRAINING	20.521,44
TECHNICAL OFFICE	144.956,00
MANAGEMENT COMMITTEE	2.210,02
CANON CONVENIO MARCO	40.224,25
SCIENTIFIC SECRETARIAT, COMMUNICATION	31.986,62
SCIENTIFIC SESSION	28.151,51
COMPETITIVE PROJECTS	207.158,37

## Personnel

Personnel contracted during the year as of 31st December, separating by categories:

<b>Category</b>	<b>Permanent</b>	<b>Works and service</b>	<b>Post-doctoral</b>	<b>Main Total</b>
Diploma holder	9	3		12
Doctor	9	8	5	22
Graduate	24	19		43
Technical	2	2		4
<b>Total</b>	<b>44</b>	<b>32</b>	<b>5</b>	<b>81</b>

## Significant Activities

### Projects

The projects active in 2015 were as follows:

#### NATIONAL PROJECTS

##### Financing Agency: Instituto de Salud Carlos III

- Sara Borrell Contract.
- Diet patterns, antioxidants and biomarkers of oxidant-antioxidant status in the EPIC-Granada and EPIC-Gipuzkoa cohort (European Prospective Investigation into Cancer and Nutrition).
- Differential effect of socioeconomic position and the geographical area on the impact of road safety policies in mortality by road accidents in Spain.
- Evaluation of preventive and therapeutic interventions against infection by the hepatitis C virus.

The CIBERESP's participation in one of the three CIBER interdisciplinary excellence programmes financed by the AES should be mentioned. The aim of the programme is to identify the mechanisms of inflammatory processes which are detected on one hand in the obese or type 2 diabetics and also in patients with Crohn's disease. This project is led by the CIBERDEM and as well as CIBERESP researchers, groups from the CIBER de Obesidad y Nutrición (CIBEROBN) and Enfermedades Hepáticas y Digestivas (CIBEREHD) also take part in this.

#### INTERNATIONAL (EUROPEAN) PROJECTS

- *Operational knowledge to improve HIV early diagnosis and treatment among vulnerable groups in Europe.*
- *Joint Action on HIV and Co-infection Prevention and Harm Reduction (HA-REACT) "Operational knowledge to improve HIV early diagnosis and treatment among vulnerable groups in Europe".*

### Technology Transfer

One of the CIBER's main aims is the transfer of research results into clinical practice, and one of the best tools existing for this purpose is technology transfer. The Unit managing this at the CIBER sets out to act as a bridge between our researchers and other agents in the Science and Technology System (companies, business associations, other research organisations, etc.) to make cooperation with these

bodies more effective. This means that research results will be efficiently developed and can succeed in being applied. Work is done in several lines to this end:

- **Training in innovation management and continuous contact with our researchers to monitor their results.**

In this respect, last year the first general session of the CIBER in training on technology transfer and innovation was held, on 26th February 2015 and where national experts took part sharing their knowledge in matters such as industrial property, business creation or publication in open access, etc.

- **Protection of their research results and management of cooperation with other agents, as vouched for by applications for patents and signing licensing contracts, amongst other agreements.**

Hence, over 23 new patent applications were made and seven licensing agreements were signed at the CIBER in 2015.

- **The presentation of research results and technological capacities of our groups.**

Among many other measures and only as an example, in 2015, several projects were presented at the II Foro de Innovación en Diagnóstico in Vitro – FENIN in Barcelona (December 2015).

- **Support for technology-based business creation stemming from CIBER groups.**

The CIBER has since 2014 taken part in Epidisease (<http://www.epidisease.com/es/>) which it continued to support in 2015.

- **Other activities connected with innovation, public-private cooperation and industrial and intellectual property.**

For example, the registration of the "community trademark" of the CIBER has been processed, or steps have been taken for registering intellectual property rights for audio-visual projects, amongst many others.

- **In this period CIBERES applied for one priority patent.**

## Dissemination activities

In 2015 CIBER's Communication Department carried out different measures for dissemination and disclosure in order to improve the Centre's visibility, as well as publicising the research work done by the groups in its eight thematic areas. We now give details of the 2015 milestones in CIBERESP Communication:

## THE CIBERESP IN THE MEDIA:

During the 2015 period 50 CIBER press releases were issued, six of these from the CIBERESP and four in cooperation between several CIBER areas.

Date	Thematic Areas	Title
January	SEVERAL CIBER	El CIBER pone en marcha tres proyectos de excelencia interdisciplinares financiados con casi 2 millones de euros por la AES
February	SEVERAL CIBER	Investigadores del CIBER identifican diversos factores de riesgo de sufrir cáncer
November	SEVERAL CIBER	El CIBER acerca su investigación al público de la mano de la improvisación teatral en #ImproCiencia
December	SEVERAL CIBER	El CIBER incorpora 11 nuevos grupos en diversas áreas de investigación
May	CIBERESP	TELEFÓNICA Y CIBERESP monitorizan a 200 personas con riesgo de desarrollar enfermedades infecciosas
May	CIBERESP	El desempleo y la desigualdad salarial aumentan la vulnerabilidad de las mujeres a la violencia de pareja
October	CIBERESP	Estudio de FISABIO, la UV y el CIBERESP revela una alta frecuencia de genes de resistencia a antibióticos en bebés
October	CIBERESP	Los jugadores de baloncesto podrían tener más riesgo de padecer tromboembolismo pulmonar
November	CIBERESP	Describen nuevos mecanismos causales de la diabetes tipo 2 relacionados con asociaciones genéticas
December	CIBERESP	La prescripción diferida de antibióticos puede ayudar a su uso más racional

705 appearances in the media were registered over this period:

CIBERESP	NEWS	AUDIENCE
Internet	614	72.938.900
Press	91	7.479.000
<b>Total</b>	<b>705</b>	<b>80.417.900</b>

### NEW WEB PAGE OF THE CIBERESP.

In November 2015 the new web page of the CIBERESP was launched in order to have a common structure, image and contents manager for all the CIBER areas. <http://www.ciberesp.es/en>

### CIBER NEWSLETTER

Over this period five CIBER newsletters were issued, including relevant contents on both the CIBERESP and the other thematic areas. The digital newsletters were sent to around 4000 subscribers.

<http://www.ciberisciii.es/en/press/newsletter>

### SOCIAL NETWORKS

Main indicators of CIBERESP's presence on Twitter:

UPDATES		FOLLOWERS		FOLLOWING		KLOUT (influence, values between 1 and 100)	
JANUARY	DECEMBER	JANUARY	DECEMBER	JANUARY	DECEMBER	JANUARY	DECEMBER
158	234	264	585	233	262	42	45

### CIBERESP ANNUAL REPORT

The Communication area of the CIBER in cooperation with the CIBERESP coordinated the content of the CIBERESP report 2014 in Spanish/English, drawing up and disseminating 2 reports in interactive format (Flipbook) and PDF. These were distributed over the web page and Twitter account: <http://www.ciberisciii.es/en/press/annual-report>

### CIBER #IMPROCIENCIA SCIENCE WEEK

The #ImproCiencia dissemination event, arranged by the CIBER in the framework of the Madrid Science Week 2015, took place on 3rd November at the Nave 73 rooms in Madrid. The event combined science and theatre improvisation to give a light-hearted explanation of the biomedical research done by the CIBER in its eight thematic areas. Games and improvisations were alternated with live connections with CIBER researchers during the event.



## Scientific Production

The evolution of CIBERESP publications can be seen from the following graphs, in which the data from 2010 to 2015 is analysed.

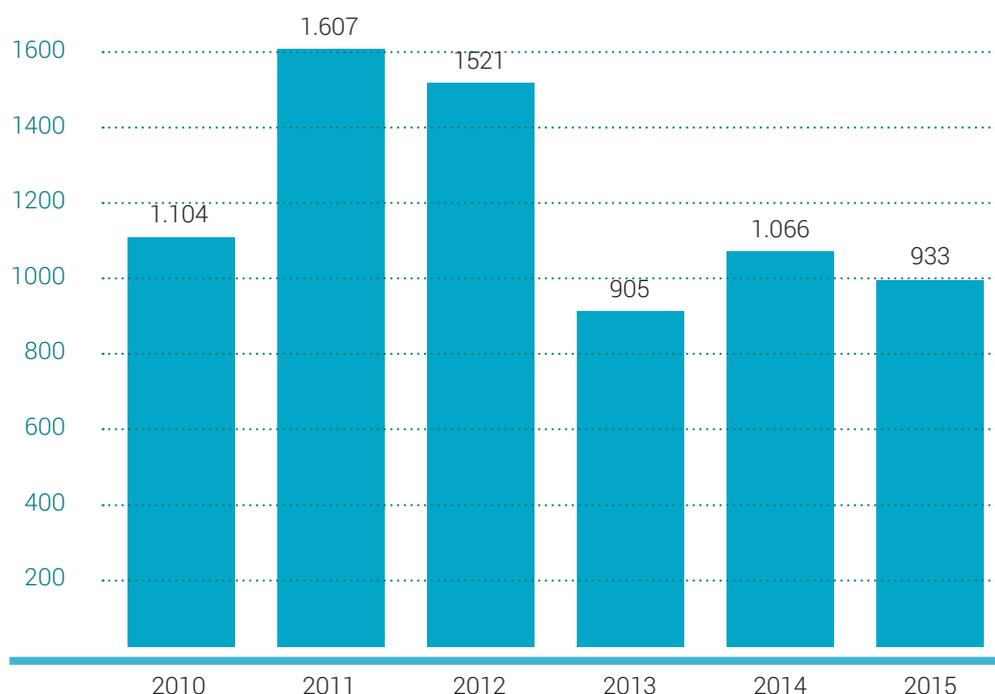
The publications per group for this year are also analysed, as well as the interCIBER and intraCIBER cooperation work.

### Publications:

#### N° of affiliated publications 2015

<b>Total publications</b>	<b>933</b>
First quartile	538
First decile	251

#### EVOLUTION OF CIBERESP PUBLICATIONS 2010-2015



#### MOST RELEVANT CIBERESP PUBLICATIONS IN 2015 BY IMPACT FACTOR

Publication	Impact Factor
MAYOR A., BARDAJI A., MACETE E., NHAMPOSSA T., FONSECA A.M., GONZALEZ R. ET AL. Changing trends in <i>P. Falciparum</i> burden, immunity, and disease in pregnancy. <i>New England Journal of Medicine</i> . 2015;373(17):1607-1617.	55,8730
VIALE L., ALLOTEY J., CHEONG-SEE F., ARROYO-MANZANO D., MCCORRY D., BAGARY M ET AL. Epilepsy in pregnancy and reproductive outcomes: a systematic review and meta-analysis. <i>Lancet (London, England)</i> . 2015;386(10006).	45,2170
DURST R., SAULS K., PEAL D.S., DEVLAMING A., TOOMER K., LEYNE M. ET AL. Mutations in <i>DCHS1</i> cause mitral valve prolapse. <i>Nature</i> . 2015;525(7567):109-113.	41,4560

Publication	Impact Factor
MICHAILIDOU K., BEESLEY J., LINDSTROM S., CANISIUS S., DENNIS J., LUSH M.J. ET AL. Genome-wide association analysis of more than 120,000 individuals identifies 15 new susceptibility loci for breast cancer. <i>Nature Genetics</i> . 2015;47(4):373-380.	29,3520
PATERNOSTER L., STANDL M., WAAGE J., BAURECHT H., HOTZE M., STRACHAN D.P. ET AL. Multi-ancestry genome-wide association study of 21,000 cases and 95,000 controls identifies new risk loci for atopic dermatitis. <i>Nature Genetics</i> . 2015;47(12):1449-1456.	29,3520
KREIMER AR, BRENNAN P, LANG KUHS KA, WATERBOER T, CLIFFORD G, FRANCESCHI S ET AL. Human Papillomavirus Antibodies and Future Risk of Anogenital Cancer: A Nested Case-Control Study in the European Prospective Investigation Into Cancer and Nutrition Study. <i>Journal of clinical oncology</i> : official journal of the American Society of Clinical Oncology. 2015.	18,4430
BALSELLS M., GARCIA-PATTERSON A., SOLA I., ROQUE M., GICH I., CORCOY R. Glibenclamide, metformin, and insulin for the treatment of gestational diabetes: A systematic review and meta-analysis. <i>BMJ (Online)</i> . 2015;350.	17,4450
KHOSHNOOD B., LOANE M., DE WALLE H., ARRIOLA L., ADDOR M.-C., BARISIC I. ET AL. Long term trends in prevalence of neural tube defects in Europe: Population based study. <i>BMJ (Online)</i> . 2015;351.	17,4450
SEGUI N., MINA L.B., LAZARO C., SANZ-PAMPLONA R., PONS T., NAVARRO M. ET AL. Germline Mutations in FAN1 Cause Hereditary Colorectal Cancer by Impairing DNA Repair. <i>Gastroenterology</i> . 2015;149(3):563-566.	16,7160
DING M., SATIJA A., BHUPATHIRAJU S.N., HU Y., SUN Q., HAN J. ET AL. Association of coffee consumption with total and cause-specific mortality in 3 large prospective cohorts. <i>Circulation</i> . 2015;132(24):2305-2315.	15,0730

#### CIBERESP PUBLICATIONS PER GROUP 2015

Group	PI	Total pub.	Q1	D1
1	Domínguez García, Ángela	24	7	2
2	Moya Simarro, Andrés	34	20	5
3	Borrell Thió, Carme	62	24	7
4	Calderón Sandubete, Enrique José	8	3	1
5	Rodríguez Farre, Eduard	3	3	3
6	Bolumar Montrull, Francisco	24	16	7
7	López-Abente Ortega, Gonzalo	36	22	7
8	Ferreira González, Ignacio	10	6	4
9	Alonso Caballero, Jordi	28	19	7
11	Castilla Catalán, Jesús	86	66	17
12	Cayla Buqueras, Joan Artur	37	10	1
13	Echevarría Mayo, Juan Emilio	7	0	0
14	Gestal Otero, Juan Jesús	18	8	4
15	Abilleira Castells, Sonia	8	2	1
16	Delgado Rodríguez, Miguel	38	14	4
17	Morales Suárez-Varela, María Manuela	20	4	0

**CIBERESP PUBLICATIONS PER GROUP 2015**

Group	PI	Total pub.	Q1	D1
18	López Medina, María José	18	7	3
19	Olea Serrano, Nicolás	19	16	13
20	Marcos Dauder, Ricardo	19	12	10
21	Fuente de Hoz, Luis de la	43	24	8
22	Estivill Palleja, Xavier	9	7	3
23	Gómez de la Cámara, Agustín	13	5	3
24	Navarro Sánchez, Carmen	74	64	18
25	Rodríguez Artalejo, Fernando	35	26	14
26	Hernández Aguado, Ildfonso	7	3	2
27	Casabona Bárbara, Jordi	25	10	3
28	Dorronsoro Iraeta, Miren	96	76	33
29	Menéndez Santos, Clara	4	3	2
30	Schröder, Helmut	21	13	3
32	De Mateo Ontañón, Salvador	28	13	8
33	Baquero Mochales, Fernando	31	20	4
34	Sánchez Pérez, María José	77	65	17
35	Porta Serra, Miquel	18	13	10
36	Sanjosé Llongueras, Silvia de	38	23	10
38	Kogevinas, Emmanouil	105	79	51
39	Emparanza Knörr, José Ignacio	6	1	1
40	Sunyer Deu, Jordi	97	77	57
41	Ballester Díez, Ferrán	36	19	13
42	Zamora Romero, Javier	24	12	3
43	Bonfill Cosp, Xavier	43	25	21
44	Bueno Cavanillas, Aurora	20	9	1
46	Daponte Codina, Antonio	10	3	3
47	García Benavides, Fernando	24	13	7
50	Ruiz Pérez, Isabel	14	6	4
51	Sáez Zafra, Marc	8	4	3
53	Tardón García, Adonina	29	17	10
55	Moreno Aguado, Víctor	20	15	8

**COOPERATION:**

 No. of intraCIBER publications 2015: **275**

 No. of interCIBER publications 2015: **125**

3

# Scientific Programmes

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## P1. Epidemiology and Control of Chronic Diseases

Over this year the programme has kept up its cooperation work, in which all its groups have been involved. A large number of cooperation schemes have also been set up with other CIBERESP programmes, with other CIBERs and with thematic collaborative research networks, as well as with consortiums financed with European projects.

In 2015 the foundations were laid for preparing a new strategic programme, intended for the genetic screening of chronic disease, which will be submitted for assessment by the CIBERESP Management Committee in 2016.

Work has also gone on with the measures in the MultiCase-Control (MCC) strategic sub-programme for Cancer in Spain. The study includes around 7500 cases of colorectal, breast, prostate, stomach cancers and chronic lymphatic leukaemias (CLL) as well as 3500 population controls. A massive genetic analysis using the Illumina Exome Array has been completed, to which specific variants of genes of interest have been added. The MCC is also taking part in the following international consortiums: PRACTICAL/ prostate; BCAC/breast; STOP/ stomach; Interlymph and ICGC/CLL; Exposomics/ colorectal; breast cancer shift work case-control

studies. In 2015 twelve scientific articles were published. Some of the significant results obtained were the influence of night-shift work on breast and prostate cancer (Papantoniou et al. *Eur J Epidemiol* and Papantoniou et al. *Int J Cancer*), the association between diabetes and type of anti-diabetes treatment with breast cancer (García-Esquinas et al. *Acta Diabetol*), the effect of perinatal and childhood factors on breast cancer (Lope et al. *Cancer Epidemiol*), seroreactivity against different types of virus and its association with CLL (Casabonne et al. *Infect Agent Cancer* and Robles et al. *J Gen Virol*) and the levels of persistent organic contaminants in healthy population (Fernández-Rodríguez et al. *Sci Total Environ*). Many researchers from the project have presented results at national and international congresses.

In 2015 two meetings held in Barcelona were arranged, as well as the annual meeting. A specific meeting on genetic analysis was held, developing guidelines for analysing this data at MCC. Finally, three new projects have been obtained in the FIS 2015 call for carrying out follow-up of patients initially recruited.



## P2. Communicable Disease Prevention, Surveillance and Control (PREVICET)

### Relevant PREVICET Results 2015

**INFLUENZA:** group 32 leads a FIS project PI13/02123, in which researchers from PREVICET group I and CIBERESP groups 11 and 28 take part, as well as other groups from all Spain's administrative regions. Group 01 leads project FIS PI12/0279 on the effectiveness of anti-flu and anti-pneumococcal vaccines in persons of 65 years and over in which researchers from group 12 and other CIBERESP groups are involved. In 2015 a total number of eleven articles have been published on this disease.

**IMMUNOPREVENTABLE VIRAL INFECTIONS:** One article has been published on the subject by researchers from groups 01 and 12. Group 32 is working on the project entitled "Integrating molecular characterisation of viruses in monitoring measles" in order to succeed in its elimination, along with a further two PREVICET groups. Four articles have been published and nine papers at congresses have been given by group 13, some in cooperation with other PREVICET groups. A special on-site mission of the WHO for assessing the system for monitoring measles and rubella in Spain has been participated in. A cooperative research project has been obtained by groups 13 and 32 in the ISCIII Strategic Health Action 2015, entitled: Epidemiological Analysis of viral agents included in triple virus vaccination: new challenges.

**OTHER VIRAL INFECTIONS.** Group 13 published 8 articles on arbovirosis, rabies and infections by herpesviruses and polyomaviruses in the immunodepressed.

**WHOOPING COUGH:** A cooperative project assigned on the "Effectiveness of the whooping cough vaccination in women in the third trimester of pregnancy to prevent whooping cough: case study and controls in Catalonia and Navarre (PI15/02188)" is being carried out. Researchers from groups 01, 11 and 12, are taking part in this, as well as a Research Group from San Juan de Dios Hospital in Esplugues. Four articles on this disease were published in 2015.

**PNEUMOCOCCAL DISEASE:** researchers from groups 01 and 12 have published two articles on pneumococcal disease.

**TUBERCULOSIS:** The project entitled: "Screening of Communicable Diseases in the immigrant population in a district with low social-economic level: comparison of two strategies" (PI12/02573) was assigned. In 2015 three articles were published on this disease. Group 32 is working on contributing to the knowledge of the epidemiological situation of tuberculosis and of the indicators for control of the disease.

**SEXUALLY TRANSMITTED DISEASES:** The project led by researchers from group 32 is under way, on "Estimations of prevalence of HIV and of the undiagnosed fraction in Spain: comparison using different methods" (FIS: Ex. PI13/02300). In 2015 two articles on these infections were published.

### OTHER SUBJECTS:

Group 32 is working on coordinating the implementation of the National System for Monitoring Infections connected with Healthcare and participation in the National Strategic Plan for Control of Resistance to Antimicrobials.

On the international level, cooperation is under way in the following fields:

**Group 01:** Events decisions making and communication (DG Sanco), Syndromic Surveillance System, Emerging Diseases y Enfermedad de Chagas (OMS).

**Group 12:** different clinical assays of CDC- U.S.A. in cooperation with RIS.

**Group 13:** National Reference Laboratory of the WHO on measles and rubella and ECDC focal point for measles, rubella and parotiditis; member of the European group of measles and rubella laboratories of the WHO.

**Group 32:** ECDC Focal point in networks and European projects: "Optimising testing and linkage to care for HIV across Europe (OptTEST by HiE), in cooperation with group 54A (European Commission-Second Programme of Community action in the field of Health (2008-2013); Exp: Ares no. 685484)". European Project: I-Move+ Integrated Monitoring of Vaccine.

Effectiveness in Europe: a platform to measure and compare effectiveness and impact of influenza and pneumococcal vaccines and vaccination strategies in the elderly. Horizon 2020. EU project 634446. Call for tender "Monitoring vaccine effectiveness during seasonal and pandemic influenza in EU/EEA" ECDC tender (OJ/16/07/2014-Proc/2014/024). EuroMO-MO European Network: European monitoring of excess mortality for public health action.

#### CIBERESP. SCIENTIFIC EVENTS

- 5th Workshop on Emergent Diseases, Barcelona 15th October 2015.
- Outbreaks of gastroenteritis through noroviruses: An emerging health problem. Barcelona, 23rd November 2015.
- 19th International Workshop on Tuberculosis, Barcelona, 24-25th November 2015.

## P3. Biological and Behavioural Determinants in the Contraction and Spread of Communicable Diseases in Vulnerable Populations (DAPET)

In 2015, the DAPET Programme had its Sub-programme for Immigration and Health (SIS) active.

Some of the most relevant results of the Sub-programme were:

#### CONSOLIDATION OF THE PELFI STUDY (PLATFORM FOR LONGITUDINAL STUDIES IN IMMIGRANT FAMILIES):

- Start of the implementation of the three cohorts (designing the instrument, establishing the data collection circuits and field work for collecting baseline data).
- Presentation of the first results at the 2nd Latin-American Congress on Epidemiology and Public Health, held in Santiago de Compostela (2 spontaneous round tables, 11 papers at different round tables).
- 4 theses started with PELFI data.
- Drafting of the Report on the diagnostic phase of the Badalona sub-cohort "Experiences and meanings connected with health and access to and use of the health system of the immigrant population of Badalona and Santa Coloma de Gramenet."
- Continuation of the coordinated FIS project "Changes in health and care for immigrants and vulnerable populations in a crisis context. Analysis of multiple sources of evidence. MEISI".

**SCIENTIFIC PRODUCTS:** 23 papers, 8 publications.

**TRANSFER PRODUCTS:** drafting an exhaustive document or policy report and starting to draw up the short version of the document (policy brief).

#### OTHERS:

- At the meeting of the Sociedad Española de Epidemiología the annual meeting of the sub-programme was held, where there was an update of its situation and different synergies were established which will gradually be materialised over 2016.
- In 2015 we participated in the Work Package on "Access of the migrant population to HIV diagnosis and care" (coordinator: Daniela Rojas) as part of the EURO-EDAT Project: The European HIV Early Diagnosis and Access to Treatment (DG SANCO 2014-2017) (PI: Jordi Casabona).

## P4. Social Determinants of Health

As part of the “social determinants of health” programme, the sub-programme on crisis and health aims to study the impact of the crisis on health in Spain, through a FIS project already started in 2014. This sub-programme has gone on with its work, one of this year’s highlights being the organisation of a spontaneous round table for papers on the “Effects of the crisis on the population’s health and its determinants in Spain”, at the 2nd Latin-American Congress on Epidemiology and Public Health, held in Santiago de Compostela in September.

Work has also continued on identifying, compiling and analysing contextual indicators available in Spain to assess the social determinants of health and the economic crisis, creating a Directory with extensive information on the indicators and a Database. This work was presented at the last Scientific Event of the CIBERESP in Santiago de Compostela, and a manuscript has also been drawn up for its publication. Work has also been done on the techniques for analysis of the indicators, and on the form of displaying their evolution from the start of the crisis, as well as the variations between Spain’s different administrative regions.

As regards specific objectives of the sub-programme, on the “effect of the crisis on mortality and on the socio-economic inequalities in mortality in Spain”, the databases connected with the project have been collected and debugged. There are already three manuscripts being drafted, one which

explains the protocol of the study, one connected with the evolution of inequalities in suicide in Barcelona and the Basque Country and another on inequalities in the main causes of mortality in Barcelona, the Basque Country, Andalusia and Madrid. Two articles have been published on the “effect of economic recessions on the use of healthcare services”, one on the increase in consumption of psychotropic drugs since the start of the crisis and another on the increase of suicide rates associated with the crisis. Four articles have also been published in the framework of the project on the “effect of the economic crisis on the consumption of alcohol and other drugs and on the cover of social-healthcare requirements for vulnerable groups in Spain”. Lastly, as regards the effect of the economic crisis on morbidity and on inequalities in the main risk factors of prevalent chronic diseases, the databases have been prepared and analyses are being carried out.

Three groups in the programme presented a coordinated project at the last FIS call, which has been accepted for financing. This project, on energy poverty and health, has the main aim of analysing energy poverty (EP) in Spain’s Autonomous Community administrative regions and its relationship with health, social and climatic determinants and the economic crisis.



## P5. Epidemiology and Prevention in connection with Environmental and Occupational Health

In the field of lung cancer, as part of the CAPUA study, and in cooperation with the SYNERGY Project of the IARC, we have created a job-exposure matrix (SYN-JEM) for developing variables of occupational exposure to evaluate the exposure-work relationships in lung cancer and to estimate the interactions between occupational carcinogens. (Scand J Work Environ Health, 2015). The CAPUA study at ILCCO also forms part of the international "Database of Genotypes and Phenotypes (dbGaP)", which includes genome-wide association, sequencing, molecular diagnosis, genotype and treatment. ([http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/study.cgi?study\\_id=phs000336.v1.p1](http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/study.cgi?study_id=phs000336.v1.p1)).

The CIBERESP's INMA sub-programme has published 108 original articles (78% in the first quartile), which include 28 in the respiratory field, 28 in neuropsychology, 13 in prenatal growth and 6 in obesity. Based on exposure, 19 deal with air contamination, 13 are on emerging pollutants, 7 on persistent pollutants and 7 on metals. Many of the original articles are written in cooperation with other cohorts and included in projects such as CHICOS and the EGG and EAGLE genetic studies. In the scientific field, the main discoveries of the INMA Project refer to the role of environmental agents (that is DDE, BPA, phthalates) in obesity (EHP 2015) and asthma (JACI 2015); and the epigenetic markers of xenoestrogens in the early years of life.

The INMA-Granada cohort is carrying out the study of exposure to persistent and non-persistent environmental compounds-endocrine disruptors, and their influence on urogenital malformations at birth, the thyroid function and neurodevelopment during the first years of life. An exposure biomarker has been developed combined with compounds with antiandrogenic action (TEXB-AA), used in the study of male reproduction, studying molecular, genetic and epigenetic studies, potential mediators between exposure and effect. The 12th National Conference on Endocrine Disruptors was organised in Cartagena, with 350 professionals. We contributed to the EU report on exposure to bisphenol-A in the hospital medium.

Our research activity has contributed to the accreditation by the ISCIII of the Instituto de Investigación Biosanitaria (ibs.GRANADA).

In 2015 the 10-11 year visit of the INMA project started in Valencia. This visit consists of three different parts structured in three multi-centre projects coordinated for the evaluation of: exposure to ultra-fine particles and their relationship with respiratory health; cognitive capacities, the valuation of the environment and anthropometric measurement and pubertal development and exposure to electromagnetic fields of the participating boys and girls.

In the INMA Asturias cohort, the 7-year follow-up has been completed with a follow-up rate of 93.55%, the highest in the INMA Project. An agreement was signed with Asturias Regional Health Ministry to take part in the Air Quality Plan in Gijón. We participated in drafting the clinical guidelines entitled "Recommendations on nutrition with iodine in the pre-conception stage, pregnancy and breast-feeding. A technical report". We made it known for the first time that exposure to PBDEs may affect foetal growth in the second trimester of pregnancy and reduce the child's size at birth (Environ Sci Technol. 2015).

## P6. Health Service Evaluation

As part of the **“Burden of Disease” sub-programme**, researchers from the EBiSa (PI14/00057) completed over the year the **reconstruction of the cohort of affiliates from 2004 to 2013**, based on administrative data from the Social Security. It consisted of 1,022,779 (59.4% male) persons who had in this period contributed 6.7 million person-years, among whom the rate of permanent disability (33,011 cases) was 4.9 (5.6 for men) per 1000 and that of mortality (16,203 deaths) was 2.4 (3.3 for men) per 1000. **BMJOpen Journal** has accepted an article for publication in which Cohort MCVL (Continuous Working Life Sample) is described.

**BiblioPRO** registered **2897 new users**, and an average of **3500 visits a month**. **495 new PRO** (Patient-Reported Outcome) **questionnaires** were added, coming to an accumulated total of **1354 instruments**. The **2nd BiblioPRO Scientific Symposium** was held with guest lectures by international experts and a total number of 157 attending in person plus 150 in streaming. The course on **“Development and Use of EMPRO: a tool for standardised assessment of PRO measures”** was held, accredited by the CCFCPS (12.7 credits) and with teaching staff made up of researchers from the scientific committee.

Group 09 (URSS-IMIM) has completed the recruitment of the **Universal (University and Mental Health)** study with over 2500 first-year university students who will be monitored yearly during their grade training to appraise their mental health condition and suicide risk. The ten-year follow-up monitoring of the **‘Spanish Multi-centre Study of Localised Prostate Cancer’** cohort was also completed. This was the only Spanish research group chosen by the **Movember** Foundation [https://es.movember.com/programs/prostate-cancer] (**“Global Prostate Cancer Outcomes”** project).

Researchers from group 47 (CiSAL-UPF), along with researchers from the Medicine Faculty of Universidade de Minas Gerais (Brazil) organised an Encounter on 9th and 10th July 2015 on **Work and Health Condition Surveys (ECTS)**, in which researchers from Chile, Argentina, Peru, Colombia, Costa Rica, Honduras, Puerto Rico, United States and Ireland took part, with the aim of improving ECTS procedures and instruments for increasing the quality of data collected in Latin America and the Caribbean.

In the framework of the **Essencial** project, an initiative which draws up recommendations to prevent low-value clinical practices, led by Grupo 15 (AQuAS), **45 recommendations** were published in cooperation with the Scientific Associations of the Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears (<http://essencialsalut.gencat.cat/ca/>). At present 22 of these recommendations are being implemented in a pilot study with 75 primary care teams. The professionals taking part consider that clinical practices of little value are common in primary care. The doctors consider that the best ways of reducing these are to increase visiting time with patients, ensure the organisation’s support in respect of patients’ complaints and integrate a system of clinical information.

## P7. Clinical Epidemiology

### STUDY OF THE CLINICAL HEALTHCARE PROCESS AND OF THE RESULTS OBSERVED (MAPAC)

In 2015 the content, the search engine and user interface of the digital platform Dianasalud ([www.dianasalud.com](http://www.dianasalud.com)) were consolidated and strengthened. A campaign for disseminating its content was launched, to be started by publishing an article in a high-impact Open Access journal. The platform repertoire has exceeded 3000 accessible registers on inappropriate or low-value use of clinical interventions in a wide range of specialities and clinical problems, produced by 22 initiatives from different continents. These include recommendations based on MAPAC projects in the Programme. This initiative represents a conceptual, methodological and documentary support of great value for clinical decision-makers, managers and patients.

Furthermore, a contract from the European Commission was obtained through the Cochrane-Sant Pau group by open tender (file CCR.IHCP.C443094) to draw up the *Guía de Práctica Clínica sobre el cribado de cáncer de mama en la Comunidad Europea*.

### STUDY OF THE DETERMINING FACTORS OF EFFICIENCY AND SAFETY OF HEALTHCARE INTERVENTIONS

Publication in a high-impact journal of an economic assessment study on the transfemoral endovascular fitting of aortic valves vs. surgery (International Journal of Cardiology 182 (2015) 321–328) and getting the project under way.

“Safety, effectiveness. cost-effectiveness in the medium and long term of anti-thrombosis therapy in patients with an acute myocardial infarction with ST elevation in clinical practice”, as a paradigm of the use of major databases by the Programme for assessment of safety, effectiveness and cost-effectiveness of specific treatments.

### STUDY OF THE VALIDITY AND USEFULNESS OF DIAGNOSTIC TESTS

The follow-up of a cohort of 16078 patients who were given a chest imaging test (simple x-ray and/or CAT) 893 of whom were detected as having a solitary pulmonary nodule, was completed. This follow-up meant it was possible to estimate the risk of lung cancer 18 months away, nodule and patient factors associated with the risk and specific mortality rate in the clinical population. Until now these estimations were obtained from population screening studies, meaning that the risks and predictive values stemming from these results will guide the clinical management of patients with these lesions more specifically (Eur Radiol. 2015;25: 3518-27).

The results of a Systematic Review covering over 2.8 million pregnant women on the effect of epilepsy and its treatment on reproductive outcomes was published (corresponding authorship; Lancet. 2015 Nov 7;386(10006):1845-52). A significant impact of its results on the clinical management of pregnant women is expected.

### METHODOLOGY, CLINICAL REGISTERS AND SCIENTIFIC DISSEMINATION

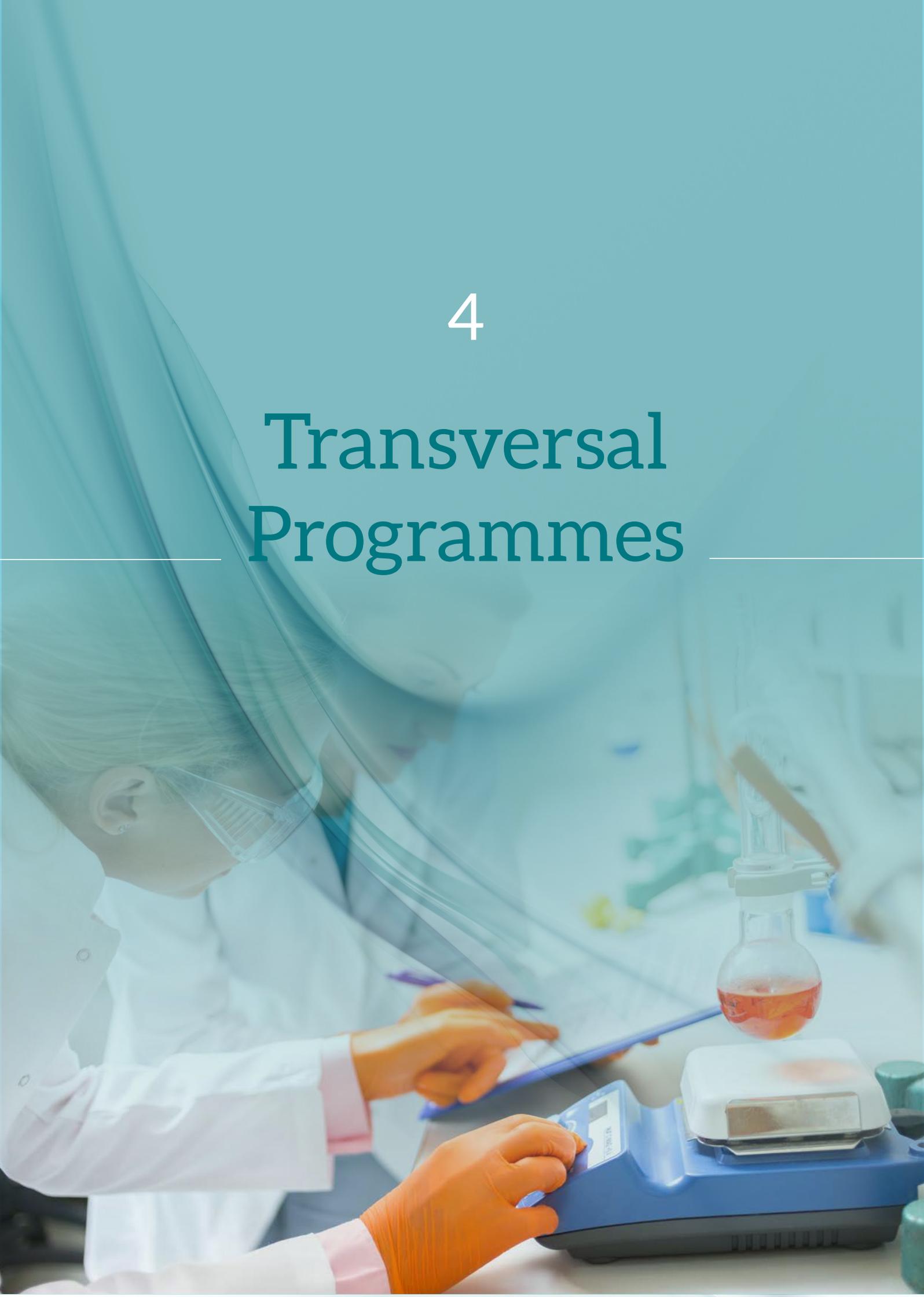
The DRECE V study, financed by the ISCIII was completed, continuing the DRECE line of research on monitoring cardiovascular mortality in Spain and its relationship with the diet.

Creation of a platform for supporting the design and management of epidemiological and clinical studies (Di gestEpiclin).

4

# Transversal Programmes

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## Training Programme

The activities of the CIBERESP training programme in 2015 focussed particularly on supporting researchers' mobility and on promoting and furthering quality work of postgraduate students in Public Health.

As regards mobility, this year four short stays abroad at international research centres of acknowledged prestige were financed to help CIBERESP doctorands to obtain their doctorate with an international mention and to promote international cooperation of CIBERESP. As a novelty, in 2015 the introduction of a new call for intramural mobility was approved, intended to promote cooperation between groups already working in the CIBERESP, which will be opened in the first quarter of 2016.

Another of the activities in the programme is the excellence Encounter in Public Health in the framework of the Minorca Public Health Summer School.

In the 2015 (ninth) edition, 10 young scientists in Public Health training with grants from the CIBERESP presented and discussed their projects for Doctoral Theses in an informal setting with senior scientists, who were George Delclos and Carlos Álvarez-Dardet at this edition, as well as the coordinator of the Training Programme, Beatriz Pérez-Gómez. The feedback received after the encounter vouched for its excellent evaluation by those attending, as well as proposals for improvement, which will be brought into the edition for 2016.

CIBERESP has also again financed the ten awards for the best papers presented by young research staff at the SEE Scientific Meeting or the SESPAS/SEE Latin-American Congress on Epidemiology and Public Health. In its present format, this award includes a diploma and the cost of enrolment for the following year's meeting.



5

# Platforms



## BIBLIOPRO

BiblioPRO should stress the following achievements in 2015:

**USERS:** 2897 new users were registered, with an average of 3500 visits a month.

**SUBLICENSES:** 520 applications for sublicenses were received, 70% requested by academics (students and universities), 23% by public administrations and 7% by private companies.

**NEW INSTRUMENTS:** 495 new PROs were added from the 2011-2012 review and around a further 180 instruments on mental health from the systematic 2008-2010 review, meaning that the web now has information on 1354 instruments.

**NEW CONTENTS:** The web links to original articles and adaptations into Spanish have been included and corrected in the technical datasheets for around 500 instruments.

**SYSTEMATIC REVIEW 2013-2014** in which 2418 titles, 1515 abstracts and 911 full articles were reviewed.

**2ND SCIENTIFIC SYMPOSIUM:** (19th February 2015), accredited by the CCFCPS with 0.6 credits. With guest lectures by international experts such as professor Paul Kind from the University of Leeds, expert in PRO copyright Carolyn Anfray from Mapi Group and Patricia Riera, president of CEDRO. The Scientific Committee selected 51 papers for different formats: standard poster (20), projected poster (8) and oral communication in parallel sessions (23). There were 152 persons attending (plus a further 150 persons via streaming) from the research world (47%); clinical practice (24%); 17% from healthcare administration and 11% from pharmaceutical companies or CROs. Representatives of patients' associations were present. It had the institutional support of IMIM and CIBERESP, and the patronage of Pfizer, MSD, CHIESI, Novartis and RecerCaixa.

**RESEARCH:** Coordination of the "Coordinated study on the new version of the EuroQol (EQ-5D) for its use in Spain" (ISCIIP12/00772FEDER).

**TRAINING:** New edition of the blended course (December 2014-2015) on "Development and Use of EM-PRO: a tool for the standardised assessment of PRO" measures, accredited by the CCFCPS (12. credits, 75h). The teaching staff was made up of researchers from the scientific committee of BiblioPRO. 20 researchers from different countries took part.

### PUBLICATIONS:

- GONÇALVES BRADLEY DC, GIBBONS C, RICCI-CABELLO I, BOBROVITZ NJH, GIBBONS EJ, KOTZEVA A, ALONSO J, FITZPATRICK R, BOWER P, VAN DER WEES PJ, RAJMIL L, ROBERTS NW, TAYLOR RS, GREENHALGH J, PORTER I, VALDERAS JM. Routine provision of information on patient-reported outcome measures to healthcare providers and patients in clinical practice (Protocol). **Cochrane Database of Systematic Reviews** 2015.

### PRESENTATIONS AT CONGRESSES:

- PARDO Y, CASTELLVÍ P, FERRER M, GARIN O, ALONSO J, COMITÉ CIENTÍFICO BIBLIOPRO. Nuevos instrumentos en español de resultados percibidos por los pacientes: revisión sistemática BiblioPRO 2011-2012. II Congreso Iberoamericano de Epidemiología y Salud Pública, XXXIII Reunión Científica de la SEE, XVI Congresos SESPAS, X Congreso APE. 2-4 septiembre de 2015, Santiago de Compostela. **Gac Sanit** 2015; 29 Supl: 393. (C. ORAL).
- ZAROR C, PARDO Y, MARTÍNEZ-ZAPATA MJ, ESPINOZA G, MUÑOZ-MILLÁN P, FERRER M. Quality Assessment of Oral Health-Related Quality of Life Questionnaires in Children and Adolescent. **23rd Cochrane Colloquium, 3-7 October 2015**. Vienna, Austria. Book of Abstracts Cochrane Colloquium 2015; pp: 205. (PÓSTER).

## Health Inequalities (ODS)

### INDICATORS AND RESULTS

Over 2015 we went on with the work of managing, disseminating and disclosing contents of the web portal for the Health Inequalities Observatory (ODS in Spanish) from the observatory itself, through social networks and by attending conferences and events.

In December 2014 the assessment of the ODS was completed, with the aim of valuing certain aspects such as the use, scope and quality of its web site, users' satisfaction and the type and conduct of the latter on the social networks. In the first quarter of 2015 the analysis of the data was carried out and in the second quarter the report with results of the assessment was written. In 2016 the drafting of the manuscript to be sent to an international journal is planned.

In the third quarter of 2015 the web platform migrated to a higher version of its contents manager, in order to improve its handling, update components and prevent I.T. attacks.

### WEB RESOURCES

The ODS has 3130 scientific resources on inequalities in health available (reports, articles, statistics, manuals, programs, web pages, etc.). In 2015 130 new resources were published, with a monthly average of 18 resources per month.

### WEB ANALYSIS

In 2015 26 new subscribers were registered, now reaching 301 subscribers, including scientific-academic personnel, students and diverse institutions. 19,212 visits were recorded, with an average of 1636 visits a month, and 34,641 pages were viewed, according to the data from Google Analytics. Almost 65% of the visits took place through search engines such as Google (organic traffic), 13% writing in the full domain (direct traffic) and around 5% of the visits came from social networks.

By geographical origin, the ODS continues to receive visits, first of all from Spain (25.03%), with Barcelona, Madrid and Seville among the most active cities. The other visits were spread among several Latin American countries such as: Mexico (12.75%), Colombia (5.55%), Peru (5.13%), Argentina (3.61%) or Chile (3.19%). In 2015 the visits from EUA increased by 9 points, representing 11.49% of the total visits. As regards the most visited sections of the ODS we should stress the section of Inequalities (general) (30%) and the sections on inequality of Spatial Area (19%), Gender (16%), Social class (15%) and Immigration (8.6%).

### SOCIAL WEB

The ODS continues to be highly active on the social networks. On Twitter it has 720 followers, meaning an increase of 67 persons as compared with 2014. On Facebook, the increase in the number of fans of the ODS page was more marked, going from 467 fans in 2014 to 747 in 2015.

### PRESENCE OF THE ODS AT CONGRESSES AND SCIENTIFIC COMMUNICATION EVENTS.

In 2015 the ODS presented papers at the following events:

- February 2015: Presentation at the assessment of the Health Inequalities Observatory in the framework of the "Viernes Lesseps" sessions of the Agència de Salut Pública de Barcelona (ASPB).
- September 2015: Presentation of the State of the ODS for the CIBERESP Scientific Symposium, in the framework of the XXXIII Reunión Científica de la Sociedad Española de Epidemiología (SEE).



6

# Research Groups

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## Group 15

Programme: Assessment of Health Services

Lead Researcher: Abilleira Castells, Sonia



## Group Members



**STAFF MEMBERS:** Marinelli, Marcella.

**ASSOCIATED MEMBERS:** Adam Bernad, Paula | Almazán Sáez, Caridad | Estrada Sabadell, María Dolores | Gallofré López, Miquel | Kotzeva, Anna | Moharra Frances, Montserrat | Parada Martínez, Antonio | Pons Rafols, Joan Maria Vianney | Rajmil Rajmil, Luis Alberto | Salvat Plana, Mercè | Serra Sutton, Victoria | Solans Domènech, Maite.

**COLLABORATORS:** Martí Coma, Magda.

## Main lines of research

- **Health Technology Assessment (HTA).**

To evaluate the efficacy, safety, effectiveness, efficiency, appropriateness and economic implications, organizational, legal, ethical and social issues of medical technologies, whether preventive, diagnostic, therapeutic, rehabilitative, organizational, etc. primarily through the review and synthesis of scientific knowledge (published data).

The technologies that most often are subject to evaluation:

Pharmaceuticals / Medical devices and procedures / Diagnostic Techniques / Information and Communication Technologies (ICT) for health.

- **Quality of Healthcare Assessment.**

Evaluation of the safety, effectiveness and efficiency of health interventions and development of instruments for measuring and for improving the quality of health care to improve access, utilization and appropriateness of health services by unpublished data (primary or secondary).

Sub-lines of research:

Quality Measures: Development and adaptation of indicators, instruments and measurement techniques of processes and outcomes of care. / Development and adaptation of instruments for measuring Health Related Quality of Life (HRQOL) and Patient Reported Outcomes (PROM). / Development of improvement strate-

gies through tools / interventions to support clinical practice and health management to promote and ensure equity in access to and utilization of health services. / Clinical effectiveness: designing strategies for monitoring quality in the provision of healthcare services by means of studies on medical practice variations, effectiveness, safety and efficiency of clinical practice.

- **Assessment of the Social Impact of Clinical and Health Services Research.**

Ex-post assessment of extramural research (projects, groups, centres, programs or plans), ie, research return to society by:

The impact or return (primary, secondary and final) of the research carried out in a given area. / Investment and outcomes (knowledge, publications, patent, applications, training of human resources, benefits for clinical practice and for health) of research in health sciences.

## Most relevant scientific articles

RAJMIL L., ARTAZCOZ L., GARCÍA-GÓMEZ P., FLORES M., HERNÁNDEZ-AGUADO I.. Spanish children are most affected by the economic crisis, says the Spanish Society of Public Health (SESPAS). *BMJ (Online)*. 2015;350.

ROBLES N., RAJMIL L., RODRÍGUEZ-ARJONA D., AZUARA M., CODINA F., RAAT H. ET AL. Development of the web-based

Spanish and Catalan versions of the Euroqol 5D-Y (EQ-5D-Y) and comparison of results with the paper version. *Health and Quality of Life Outcomes*. 2015;13(1).

MARINELLI M.. Impact of television on the quality of sleep in preschool children. *Sleep Medicine*. 2015.

## Highlights

Group 15 has national and international projects related to the evaluation of health technologies (e-health), quality of care and the social impact of research. Specifically, in 2015 we have produced: a) Clinical Practice Guidelines for the dissemination of scientific evidence to clinical practice and have developed algorithms and quality indicators for assessing implementation; b) Reports of the National Quality Plan and Reports of Pharmacy (areas: Primary Care and Hospital) including systematic reviews of the effectiveness of various procedures, medications and health interventions; c) Analysis of changes in medical practice procedures and health interventions; d) medical records to assess the effectiveness and quality of care; e) Research on comparative effectiveness of different reperfusion therapies for ischemic stroke patients and models of care for patients with chronic diseases; f) Development and validation of instruments perceived by patients and classification systems results.

In addition, we have led various projects to help improve transparency and accountability on the results of the health system in Catalonia. We have also participated in over 10 competitive public research projects, including: the Joint Actions CHRODIS - JA on Chronic Diseases and promoting healthy ageing across the life-cycle (Role: lead of WP on assessment) and EUnetHTA-European Network for Health Technology Assessment (Role: collaborator); SUSTAIN (Role: associated partner providing data on integrated social and health care); DECIPHER (1st EU PCP project in the field of mHealth, role: coordinator and leader of WP on evaluation); United4Health (Role: leader of WP on assessment); INSPIRE (Role: Lead of WP on Dissemination); ENIGMA (Role: lead of PCP Deliverables Guidance, Monitoring and Evaluation); PEGASO (Role: lead of WP on evaluation of the platform and associated App); VISCERAL (Role: Lead of WP on providing radiological data); UNWIREDHEALTH (Role: Lead of WP on evaluation of the PCP process).

**Institution:** Agència de Qualitat i Avaluació Sanitàries de Catalunya (AQUAS)

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## Group 9

Programme: Assessment of Health Services

Lead Researcher: Alonso Caballero, Jordi



## Group Members



**STAFF MEMBERS:** García Forero, Carlos | Martín Morris, Luisa Aurea | Pardo Cladellas, Yolanda.

**ASSOCIATED MEMBERS:** Ávila Pacheco, Mónica Marcela | Blasco Cubedo, M<sup>a</sup> Jesús | Castellví Obiols, Pere | Ferrer Fores, Montserrat | Garín Boronat, Olatz | Hernández Pombo, M<sup>a</sup> Gimena | Olariu, Elena | Pont Acuña, Àngels | Vilagut Saiz, Gemma.

**COLLABORATORS:** Barbas López, Puri.

## Main lines of research

**Health-Related Quality of Life (HRQL) Measurements.** Development and evaluation of HRQL instruments in a cross-sectional research line (health services, public health and clinical research). We have adapted and validated more than 40 HRQL instruments, developing a standard guide for evaluating the quality of these instruments (EMPRO), and we have developed a "Method and system for evaluating an individual's Health-Related Quality of Life" (patent application No. P200600211). Collaboration in several European Union-funded projects: International Quality of Life Outcomes Database (IQOD), Measuring Health and Disability in Europe (MHADIE) and the KIDSCREEN project. Active participation with the PROMIS (Patient-Reported Outcomes Measurement Information System) initiative funded by the USA NIH. J Alonso is a member of the Board of Directors of the PROMIS Health Organization (PHO). We lead the tech-

nology platform BiblioPRO, a virtual library of HRQL questionnaires in Spanish.

**Estimation of the burden of mental disease.** Research on frequency, risk factors, disabilities, and economic and social costs related to the most common mental disorders. Research performed in collaboration with World Mental Health (WMH) Surveys Consortium [<http://www.hcp.med.harvard.edu/wmh/>] in 29 countries, coordinated by Harvard University and WHO. Our group leads the 10 European participating countries with funding from the European Commission and other funds. Assessment of the burden of mental health problems in Europe and estimates on care needs. It also includes studies on specific populations (such as university students) carried out in several countries simultaneously. WMH Consortium's contributions are relevant to improve the knowledge on health care needs and are a more solid basis for decision-making

and for developing and evaluating health policies.

**Evaluation of health services efficiency and effectiveness.** Application of Health-Related Quality of Life (HRQL) measuring instruments as outcomes in the evaluation of the efficacy, effectiveness and efficiency of medical procedures or health programs, specially

psychometric or econometric tools to measure HRQL, respectively) for the economic evaluation of health services. Research findings are relevant for clinicians' and regulators's decision-making and, therefore, they should contribute to quality improvement and efficiency of the national health system.

## Most relevant scientific articles

AVILA M., BECERRA V., GUEDEA F., SUAREZ J.F., FERNÁNDEZ P., MACIAS V. ET AL. Estimating preferences for treatments in patients with localized prostate cancer. *International Journal of Radiation Oncology Biology Physics*. 2015;91(2):277-287.

MCGRATH J.J., SAHA S., AL-HAMZAWI A., ALONSO J., BROMET E.J., BRUFFAERTS R. ET AL. Psychotic experiences in the general population: A cross-national analysis based on 31 261 respondents from 18 countries. *JAMA Psychiatry*. 2015;72(7):697-705.

NAVARRO-MATEU F., TORMO M.J., SALMERON D., VILAGUT G., NAVARRO C., RUIZ-MERINO G. ET AL. Prevalence of mental disorders in the South-East of Spain, one of the Europe-

an regions most affected by the economic crisis: The cross-sectional PEGASUS-Murcia project. *PLoS ONE*. 2015;10(9).

SILOVE D., ALONSO J., BROMET E., GRUBER M., SAMPSON N., SCOTT K. ET AL. Pediatric-Onset and Adult-Onset Separation Anxiety Disorder Across Countries in the World Mental Health Survey. *The American journal of psychiatry*. 2015;172(7):647-656.

VILAGUT G., FORERO C.G., ADROHER N.D., OLARIU E., CELLA D., ALONSO J. ET AL. Testing the PROMIS® Depression measures for monitoring depression in a clinical sample outside the US. *Journal of Psychiatric Research*. 2015;68:140-150.

## Highlights

In 2015, the Group published 39 articles (JCR Science): 38 international, 50.2% in 1st quartile. SCOPUS H-index: 85 (J. Alonso), 39 (M. Ferrer) and 37 (G. Vilagut).

J.Alonso is **WHO World Mental Health (WMH) Surveys'** region's coordinator for Europe. He is a Board member of the **PROMIS Health Organization (PHO)** since 2015. M.Ferrer is the scientific coordinator of **BiblioPRO**, a transference activity lead by researchers from groups within CIBERESP, CIBERSAM, CIBERNED, and REDISSEC. M.Ferrer and J.Alonso organized the **2nd Scientific Meeting of BiblioPRO**, 19/2/2015, PRBB-Barcelona. M.Ferrer, J.Alonso, G.Vilagut, C.G.Forero, and O.Garin have organized and taught the course: **Development and use of EMPRO: a tool for standardized evaluations of PRO measurements** (12.7 credits by the CCFPCS) from 15/12/2014 to 15/04/2015 (75 hours).

The Group has developed 5 research projects during 2015 with competitive funding: **UNIVERSAL**.- University and Mental Health. Predictive Models for Suicidal Ideation and Behaviour in Spanish University Students. ISCIII-FIS-PI13/00343FEDER. PI: J.Alonso. **PROMIS.es**.- Mental Health: calibration and validation of a com-

puterized Patient Reported Outcomes Measurement Information System for mental health diagnosis and monitoring. ISCIII-FIS- PI13/00506FEDER. PI: G.Vilagut. **CAPROST**.- Long-term effectiveness: 10 years follow-up of the "Spanish multicentric study of localized prostate cancer" cohort. ISCIII-FIS-PI13/00412FEDER. PI: O.Garin. **SPANIEQ 5D**.- Coordinated study on the new Spanish Euroqol version (EQ-5D). ISCIII-FIS-PI12/00772FEDER PI and coordinator: M.Ferrer. **ASTROLAB**.- Safety of LABAs in asthma:health-care databases and direct patient follow-up. CE-HEALTH-F5-2011-282593. PI: M.Ferrer.

In 2015, the Group has obtained funding for 2 new competitive projects, one through Instituto de Salud Carlos III (ISCIII-FIS-PI15/00449; 2016-18; PI: M.Ferrer) and the other one from Plan Nacional sobre Drogas (Exp.2015/015;2016-18; PI: J.Alonso).

Predocctoral contract funding: M.J. Blasco Cubedo, **Jordi Gras** grant, (Parc de Salut Mar-IMIM) and **Río Hortega Contract**, FIS-CM14/00125(2015-2016), and M. Martí Pastor (**Jordi Gras** grant (Parc de Salut Mar-IMIM) and **Río Hortega Contract**, FIS-CM15/00167(2016-2017).

**Institution:** Consorci Mar Parc Salut de Barcelona

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## Group 41

**Programme:** Epidemiology and Environmental and Occupational Risk Prevention

**Lead Researcher:** Ballester Díez, Ferrán



## Group Members



**STAFF MEMBERS:** Estarlich Estarlich, M<sup>a</sup> Luisa | Gimeno Martos, Silvia.

**ASSOCIATED MEMBERS:** Arnedo Pena, Alberto | Barona Vilar, Carmen | Bellido Blasco, Juan | Esplugues Cebrián, Ana | Ferrero Sanchís, Amparo | Fuentes Leonarte, Virginia | Íñiguez Hernández, Carmen | Llop Pérez, Sabrina | López Espinosa, M<sup>a</sup> José | López Villarrubia, Elena | Marco Macian, Alfredo | Martínez Beneito, Miguel Ángel | Martos Jiménez, M<sup>a</sup> del Carmen | Ramón Bonache, Rosa | Tenias Burillo, José M<sup>a</sup> | Zurriaga Llorens, Óscar Ernesto.

**COLLABORATORS:** Cases Català, Amparo.

## Main lines of research

- Children and Environmental Health.
- Air pollution, climatic factors and health.
- Public Health Surveillance.
- Epidemiology of infectious diseases.
- Mechanisms of development of asthma and allergic diseases.
- Inequalities in health.
- Rare diseases.
- Clinical epidemiology.
- Statistical methods for analysis of epidemiological and environmental data.
- Women's Health.
- Environmental health impact assessment.
- Assessment of exposure to toxic compounds. Biomonitoring.
- Preventive Medicine.
- Outbreaks' investigation.

## Most relevant scientific articles

LLOP S., LÓPEZ-ESPINOSA M.-J., MURCIA M., ÁLVAREZ-PEDREROL M., VIOQUE J., AGUINAGALDE X. ET AL. Synergism between exposure to mercury and use of iodine supplements on thyroid hormones in pregnant women. *Environmental Research*. 2015;138:298-305.

LÓPEZ-ESPINOSA M.-J., COSTA O., VIZCAINO E., MURCIA M., FERNÁNDEZ-SOMOANO A., INIGUEZ C. ET AL. Prenatal Exposure to Polybrominated Flame Retardants and Fetal Growth in the INMA Cohort (Spain). *Environmental Science and Technology*. 2015;49(16):10108-10116.

ARNEDO-PENA A., SABATER-VIDAL S., HERRERA-LEON S., BELLIDO-BLASCO J.B., SILVESTRE-SILVESTRE E., MESEGUER-FERRER N. ET AL. An outbreak of monophasic and biphasic

Salmonella Typhimurium, and Salmonella Derby associated with the consumption of dried pork sausage in Castellon (Spain). *Enfermedades Infecciosas y Microbiología Clínica*. 2015.

FUENTES-LEONARTE V., ESTARLICH M., BALLESTER F., MURCIA M., ESPLUGUES A., AURREKOETXEA J.J. ET AL. Pre- and postnatal exposure to tobacco smoke and respiratory outcomes during the first year. *Indoor Air*. 2015;25(1):4-12.

MARI-DELL'OLMO M., MARTÍNEZ-BENEITO M.A.. A multilevel regression model for geographical studies in sets of non-adjacent cities. *PLoS ONE*. 2015;10(8).

## Highlights

During 2015 and coordinated by the Department of Environment and Health FISABIO the 10-11 years visit within the INMA project in Valencia has been initiated. This visit has three distinct parts in three coordinated multicenter projects with the aim to assess: 1) the exposure to ultrafine particles and their relation to respiratory health; 2) the cognitive abilities, the social environment and pubertal development and 3) the exposure to electromagnetic fields from children of the INMA cohort.

The participation of INMA project in various European research projects: DENAMIC, CHICOS, GERONIMO, REMBRANDT, HELIX, ESCAPE and GEN-Hg has followed. In December 2015 the final meeting of DENAMIC project was held, with the release of a documentary about exposures to environmental contaminants among children.

Within the climate and health research line the results of the European project PHASE has been disseminated. Nationally, two researchers of the group participate as experts in the Centre for Health and Climate Change and the Valencian strategy against climate change.

In the line of Inequalities in Health, coordinated by the Research Area of the same name FISABIO noteworthy organized the final event of the Joint Action that took place in October 2015 in Valencia.

Among the research projects of the line of Rare Diseases the participation in the Joint Action EUROCAT (Surveillance of Congenital Anomalies) and the creation of the Alliance in translational research in rare diseases of Valencia has been important achievements.

The line of on outbreaks research has developed an intense activity, especially in the investigation of outbreaks of Salmonella, pertussis, influenza and rotavirus.

From the line of clinical epidemiology progress has been made in developing a multicenter research project on eosinophilic esophagitis.

## Group 33

Programme: DAPET Programme

Lead Researcher: Baquero Mochales, Fernando



## Group Members



**STAFF MEMBERS:** González Alba, José María | Moreno Bofarull, Ana.

**ASSOCIATED MEMBERS:** Coque González, Teresa | Galán Montemayor, Juan Carlos | Garcao Curiao, Tania Isabel | Holguin Fernández, África | León Sampedro, Ricardo | Ripoll González, Aida | Rodríguez Domínguez, Mario José | Rodríguez Fernández, Irene | Sánchez Valenzuela, Antonio Jesús | Santos Tedim, Ana Sofía | Turrientes López, M<sup>a</sup> del Carmen.

## Main lines of research

- Epidemiology and ecology of bacterial antibiotic resistance, in relation with antibiotic use, risk groups, and environmental changes.
- Research on mechanisms and dynamics of colonization and transmission of microorganisms among humans, and from animals to humans.
- Research on epidemiology of transmissible diseases, particularly HIV, HCV, LGV, respiratory and neurotropic viruses.
- Epidemiology of non-B HIV-1 subtypes in immigrant and pediatric populations.

## Most relevant scientific articles

BAQUERO F., LANZA V.F., CANTON R., COQUE T.M.. Public health evolutionary biology of antimicrobial resistance: Priorities for intervention. *Evolutionary Applications*. 2015.

BAEZ J., HERNÁNDEZ-GARCÍA M., GUAMPARITO C., DIAZ S., OLAVE A., GUERRERO K. ET AL. Molecular characterization and genetic diversity of ESBL-producing *Escherichia coli* colonizing the migratory Franklin's Gulls (*Leucophaeus pipixcan*) in Antofagasta, North of Chile. *Microbial Drug Resistance*. 2015;21(1):111-116.

RODRÍGUEZ-DOMÍNGUEZ M., GONZÁLEZ-ALBA J.M., PUERTA T., MENENDEZ B., SÁNCHEZ-DÍAZ A.M., CANTON R. ET AL. High prevalence of co-infections by invasive and non-invasive *Chlamydia trachomatis* genotypes during the lym-

phogranuloma venereum outbreak in Spain. *PLoS ONE*. 2015;10(5).

TEDIM AP, RUIZ-GARBAJOSA P, CORANDER J, RODRÍGUEZ CM, CANTÓN R, WILLEMS RJ ET AL. Population biology of intestinal enterococcus isolates from hospitalized and nonhospitalized individuals in different age groups. *Applied and environmental microbiology*. 2015;81(5):1820-31.

FERNÁNDEZ MCPHEE C., ÁLVAREZ P., PRIETO L., OBIANG J., AVEDILLO P., VARGAS A. ET AL. HIV-1 infection using dried blood spots can be confirmed by Bio-Rad Geenius™ HIV 1/2 confirmatory assay. *Journal of Clinical Virology*. 2015;63:66-69.

## Highlights

The Group CIBERESP G-33 was founded in 2015 by a Project of the EU Commission (EVOTAR-282004), and it is integrated as an academic group in the 8th Call Innovative Medicines Initiative (IMI) - Programme ENABLE participating in the sub-projects MEDINA and TRN for the research on new antimicrobial agents targeting the antibiotic resistance problem in pathogens that play a key role in Public Health. Regarding Spanish funding this group has active four projects within the programme "Investigación en Salud" from ISCIII and one supported by the "Comunidad de Madrid" (PROMPT). The Group has taken part of the Scientific Advisory Board Joint Programming Initiative on Antibiotic Resistance of the EU Commission (Dr. Baquero and Dra. Coque), European Food Safety Agency (EFSA) Scientific (Dra. Coque). Dr. Baquero has been awarded the prestigious price for excellence "André Lwoff Award" from the Federation of European Microbiological Socie-

ties (FEMS) in Maastricht. The group published 26 articles in peer reviewed journals and generated 36 communications and several invited lectures, highlighting the Key-Plenary Lecture (Dr. Baquero) titled "Transmission: a basic process" during the FEMS European Congress of obvious importance in Public Health. Furthermore, Dr. Baquero directed a Ramón Areces International Symposium with the same topic "Transmission" in Madrid. He is also co-director and speaker of the International Conference on the Evolution and Transfer of Antibiotic Resistance. The group's scientific activity is centred on tearing apart barriers finding new proposals for the struggle against antibiotic resistance, molecular epidemiology of respiratory, HIV and other sexual transmitted infections, especially in developing countries.

## Group 6

**Programme:** Epidemiology and Environmental and Occupational Risk Prevention

**Lead Researcher:** Bolumar Montrull, Francisco



## Group Members



**Grupo 6 –CIBERESP**  
**IP:** F. BOLUMAR (FB)  
**IC:** J VIOQUE (JV)  
**IC:** M REBAGLIATO (MR)

**STAFF MEMBERS:** Navarrete Muñoz, Eva María.

**ASSOCIATED MEMBERS:** García de la Hera, Manuela | Quiles Izquierdo, Joan Manuel | Rebagliato Ruso, Marisa | Río Sánchez, Isabel | Vioque López, Jesús.

## Main lines of research

- Analyze the effect of pre and postnatal exposure to environmental pollutants and diet on neurodevelopment, lung function, allergy, and respiratory health in the INMA cohort study.  
([www.proyectoinma.org](http://www.proyectoinma.org))
- Identify associated factors in relation to overweight and obesity in adult and children of the INMA study.  
([www.proyectoinma.org](http://www.proyectoinma.org); [www.bibliodieta.es](http://www.bibliodieta.es))
- Evaluate the effect of diet on non-communicable diseases such as cancer, age-related macular degeneration and other metabolic diseases.

## Most relevant scientific articles

BILAL U., FERNÁNDEZ E., BELTRAN P., NAVAS-ACIEN A., BOLUMAR F., FRANCO M. Validation of a method for reconstructing historical rates of smoking prevalence. *American Journal of Epidemiology*. 2014;179(1):15-19.

URQUIA M.L., GLAZIER R.H., GAGNON A.J., MORTENSEN L.H., NYBO ANDERSEN A.-M., JANEVIC T. ET AL. Disparities in pre-eclampsia and eclampsia among immigrant women giving birth in six industrialised countries. *BJOG: An International Journal of Obstetrics and Gynaecology*. 2014;121(12):1492-1500.

GARCÍA-ARENZANA N., NAVARRETE-MUNOZ E.M., LOPE V., MOREO P., VIDAL C., Laso-Pablos S. et al. Calorie intake, olive oil consumption and mammographic density among Spanish women. *International Journal of Cancer*. 2014;134(8):1916-1925.

LLOP S., MURCIA M., AGUINAGALDE X., VIOQUE J., REBAGLIATO M., CASES A. ET AL. Exposure to mercury among Spanish preschool children: Trend from birth to age four. *Environmental Research*. 2014;132:83-92.

RODRÍGUEZ-BARRANCO M., LACASANA M., GIL F., LORCA A., ALGUACIL J., ROHLMAN D.S. ET AL. Cadmium exposure and neuropsychological development in school children in southwestern Spain. *Environmental Research*. 2014;134:66-73.

## Group 43

Programme: Clinical Epidemiology

Lead Researcher: Bonfill Cosp, Xavier



## Group Members



**STAFF MEMBERS:** Pardo Hernández, Héctor | Pequeño Saco, Sandra.

**ASSOCIATED MEMBERS:** Alonso Coello, Pablo | Bolibar Ribas, Ignasi | Gich Saladich, Ignasi | Martínez Zapata, María José | Quintana Ruiz, María Jesús | Roque Figuls, Marta | Sola Arnau, Ivan | Urrutia Cuchi, Gerard.

**COLLABORATORS:** Girós Boixadós, Meritxell.

## Main lines of research

- Evidence-based Medicine: Systematic reviews, clinical practice guidelines and clinical trials.
- Health service evaluations.
- Methodological research.

## Most relevant scientific articles

BALSELLS M., GARCÍA-PATTERSON A., SOLA I., ROQUE M., GICH I., CORCOY R.. Glibenclamide, metformin, and insulin for the treatment of gestational diabetes: A systematic review and meta-analysis. *BMJ (Online)*. 2015;350.

AGORITSAS T, HEEN AF, BRANDT L, ALONSO-COELLO P, KRISTIANSEN A, AKL EA ET AL. Decision aids that really promote shared decision making: the pace quickens. *BMJ (Clinical research ed.)*. 2015;350:g7624.

RUEDA JR, GUILLÉN V, BALLESTEROS J, TEJADAMI, SOLÀ I. L-acetylcarnitine for treating fragile X syndrome. *The Cochrane database of systematic reviews*. 2015;5:CD010012.

LÓPEZ-ALCALDE J, MATEOS-MAZÓN M, GUEVARA M, CONTERNO LO, SOLÀ I, CABIR NUNES S ET AL. Gloves, gowns and masks for reducing the transmission of meticillin-resistant *Staphylococcus aureus* (MRSA) in the hospital setting. *The Cochrane database of systematic reviews*. 2015;7:CD007087.

BESSISSOW A., KHAN J., DEVEREAUX P.J., ÁLVAREZ-GARCÍA J., ALONSO-COELLO P. Postoperative atrial fibrillation in non-cardiac and cardiac surgery: An overview. *Journal of Thrombosis and Haemostasis*. 2015;13(S1):S304-S312.

## Highlights

- Promoting research and dissemination of knowledge initiatives in the field of practice and procedure assessment, including the expansion of the website DianaHealth ([www.dianahealth.com](http://www.dianahealth.com)) of Dissemination of Initiatives to Analyse Appropriateness in Healthcare –with 3.000 new recommendations about low value interventions in healthcare. This effort has been recognized by the journal PLOS ONE accepting an article to be published in January 2016 describing this initiative.
- Obtaining a European project (European Commission) to provide methodological support for the development of evidence-based recommendations on breast cancer in the European Community.
- Active involvement in many international non-commercial clinical trials and studies in collaboration with other leading global research

academic institutions –in which the group has acted as national coordinator and promoter in several of them, especially in the field of perioperative medicine–, several of which have obtained competitive public funding and have generated high-impact publications.

- Creating and coordinating the Updating Guidelines Working Group within the Guidelines International Network (G-I-N).
- Continued involvement in collaborative workgroups and networks (Cochrane Collaboration, GRADE Working Group, Guíasalud, LatinCLEN, G-I-N), which implied attending several international meetings during 2015, such as the 12th International Conference G-I-N (Amsterdam), the annual meeting of the Iberoamerican Cochrane Network (Montevideo), or the 23rd Cochrane Colloquium (Vienna).

**Institution:** Instituto de Investigación del Hospital de la Santa Creu i Sant Pau

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## Group 3

Programme: Social Determinants of Health

Lead Researcher: Borrell Thió, Carme



### Group Members

**STAFF MEMBERS:** Camprubí Condom, Lluís | Gotsens Miquel, Mercè | Marí Dell'Olmo, Marc | Olabarria Sáez de Viguera, Marta | Palència Fernández, Laia | Puig Barrachina, Vanesa.

**ASSOCIATED MEMBERS:** Álvarez-Dardet Díaz, Carlos | Artazcoz Lazcano, Lucía | Cortes Franch, Immaculada | Díez David, Elia | Ferrando Belart, Josep | Gil González, Diana | Pasarin Rua, María Isabel | Peiró Pérez, Rosana | Pérez Albarracín, Gloria | Pérez González, Catherine | Rodríguez Sanz, Maica | Ruiz Cantero, María Teresa | Salvador Peral, Joaquín | Santamariña Rubio, Elena | Vives Cases, Carmen.

**COLLABORATORS:** Altimira, Patricia.

### Main lines of research

- Inequalities in health by social class, gender, immigration and geographical area.
- Development of theoretical frameworks and methodologies for the study of the intersections of social class, gender and country of origin on health inequalities.
- The social and political determinants of health and their effect on the construction of policies and interventions.
- Study of national and transnational influences on policies affecting health.

## Most relevant scientific articles

MEHDIPANAH R., MANZANO A., BORRELL C., MALMUSI D., RODRÍGUEZ-SANZ M., GREENHALGH J. ET AL. Exploring complex causal pathways between urban renewal, health and health inequality using a theory-driven realist approach. *Social Science and Medicine*. 2015;124:266-274.

MARÍ-DELL'OLMO M, GOTSSENS M, PALÈNCIA L, BURSTRÖM B, CORMAN D, COSTA G ET AL. Socioeconomic inequalities in cause-specific mortality in 15 European cities. *Journal of epidemiology and community health*. 2015.

ÁLVAREZ-DARDET C., MORGAN A., CANTERO M.T.R., HERNAN M.. Improving the evidence base on public health as-

sets-the way ahead: A proposed research agenda. *Journal of Epidemiology and Community Health*. 2015;69(8):721-723.

MARI-DELL'OLMO M., MARTÍNEZ-BENEITO M.A.. A multilevel regression model for geographical studies in sets of non-adjacent cities. *PLoS ONE*. 2015;10(8).

IKRAM U.Z., MALMUSI D., JUEL K., REY G., KUNST A.E.. Association between integration policies and immigrants' mortality: An explorative study across three european countries. *PLoS ONE*. 2015;10(6).

## Highlights

During 2015 the group closed the SOPHIE European project, having currently 53 scientific publications resulting from the project and about 30 more in development. During 2015 various dissemination actions such as a seminar in Barcelona or a meeting in Brussels with the participation of members of civil society and European parliamentaries were made. We have also continued to promote the tweets, the web, press releases and interviews with the press or other media, the slide share, info graphics and videos (there are 4 videos showing results of the project).

On the other hand there has been progress in the 2 projects funded by the Instituto de Salud Carlos III on the impact of the crisis on mortality and reproductive health, with several manuscripts in preparation. The project financed by RecerCaixa (Trellalals barris) follows with data collection. In 2015, the European Eurohealthy project has begun, led by the University of Coimbra and having a work package led by Carme Borrell.

## Group 44

Programme: Epidemiology and Control of Chronic Diseases

Lead Researcher: Bueno Cavanillas, Aurora



## Group Members



**STAFF MEMBERS:** Riquelme Gallego, Blanca.

**ASSOCIATED MEMBERS:** Amezcua Prieto, Carmen | Espigares García, Miguel | Espigares Rodríguez, Elena | García Martín, Miguel | Guillén Solvas, José Francisco | Jiménez Mejias, Eladio | Jiménez Monleón, José Juan | Lardelli Claret, Pablo | Moreno Abril, Obdulia | Mozas Moreno, Juan | Olmedo Requena, María del Rocío.

## Main lines of research

- Prevalent health problems.
- Epidemiology of road crash injuries.
- Health Services.

## Most relevant scientific articles

MARTÍNEZ-RUIZ V, JIMÉNEZ-MEJÍAS E, AMEZCUA-PRIETO C, OLMEDO-REQUENA R, LUNA-DEL-CASTILLO JDE D, LARDELLI-CLARET P. Contribution of exposure, risk of crash and fatality to explain age- and sex-related differences in traffic-related cyclist mortality rates. *Accident; analysis and prevention*. 2015;76:152-8.

BARRIO G., PULIDO J., BRAVO M.J., LARDELLI-CLARET P., JIMÉNEZ-MEJÍAS E., DE LA FUENTE L.. An example of the usefulness of joinpoint trend analysis for assessing changes in traffic safety policies. *Accident Analysis and Prevention*. 2015;75:292-297.

ARIZA-VEGA P., KRISTENSEN M.T., MARTÍN-MARTÍN L., JIMÉNEZ-MOLEÓN J.J.. Predictors of Long-Term Mortality in Older People With Hip Fracture. *Archives of Physical Medicine and Rehabilitation*. 2015;96(7):1215-1221.

GÓMEZ-RÍO M, TESTART DARDEL N, SANTIAGO CHINCHILLA A, RODRÍGUEZ-FERNÁNDEZ A, OLIVARES GRANADOS G, LUQUE CARO R ET AL. 18F-Fluorocholine PET/CT as a complementary tool in the follow-up of low-grade glioma: diagnostic accuracy and clinical utility. *European journal of nuclear medicine and molecular imaging*. 2015.

PAPANTONIOU K., CASTANO-VINYALS G., ESPINOSA A., ARAGONES N., PÉREZ-GÓMEZ B., BURGOS J. ET AL. Night shift work, chronotype and prostate cancer risk in the MCC-Spain case-control study. *International Journal of Cancer*. 2015.

## Highlights

We actively participate in the Predimed Plus study, collaborating with groups from CIBEROBN and CIBERESP. At the moment we are recruiting patients, but we hope to have a significant bibliometric impact from 2017.

We have got funds from ISCIII (AES-2015) for a coordinate project to study and analysis genetic data of MCC-Spain study, in collaboration with other CIBERESP groups. The MCC project is currently generating a significant number of collaborative publications in high impact journals.

We are going on our research line on road crass injuries. In 2015 it has been defended an international doctoral thesis derived from this line and we have published four articles in high impact international journals. There are two active research projects (one from FIS and another from DGT).

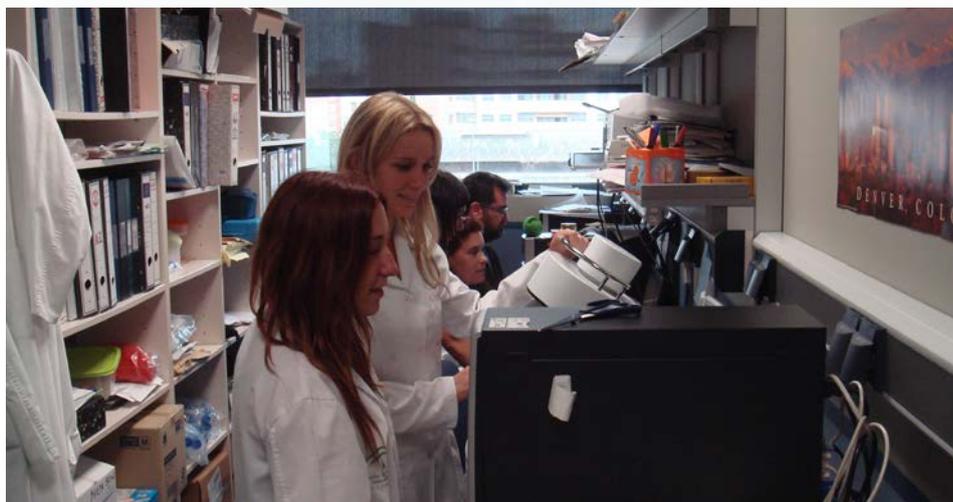
## Group 4

Programme: DAPET Programme / Clinical Epidemiology

Lead Researcher: Calderón Sandubete, Enrique José



## Group Members



**STAFF MEMBERS:** Fria Zapatiño, Vicente.

**ASSOCIATED MEMBERS:** Briones Pérez de la Blanca, Eduardo | De la Horra Padilla, María del Carmen | Marín León, Ignacio | Medrano Ortega, Francisco Javier | Montes Cano, Marco Antonio | Pérez Lozano, María José | Varela Aguilar, José Manuel.

## Main lines of research

- Epidemiology and physiopathology of the infection by *Pneumocystis jirovecii*.
- Role of infectious agents as determinants of non-communicable chronic diseases.
- Development of methods for evaluation and improvement of clinical practice.

## Most relevant scientific articles

BRIONES E., LACALLE J.R., MARIN-LEON I., RUEDA J.-R.. Transmyocardial laser revascularization versus medical therapy for refractory angina. The Cochrane database of systematic reviews. 2015;2:CD003712.

LE GAL S., BLANCHET D., DAMIANI C., GUEGUEN P., VIRMAUX M., ABBOUD P. ET AL. AIDS-related Pneumocystis jirovecii genotypes in French Guiana. Infection, Genetics and Evolution. 2015;29:60-67.

NAVARRO PUERTO M.A., MEDRANO ORTEGA F.J., IZQUIERDO GUERRERO R., CALDERON SANDUBETE E., BUZON-BARRERA M.L., MARIN-LEON I.. Assessment of thromboprophylaxis in medical patients hospitalized in Andalusia. A multicenter study. Revista Clínica Española. 2015;215(3):141-147.

## Highlights

In the first call of ERA-Net LAC grant, our project "Recognition of the primary infection by pneumonia in infants: a silent threat to public health" (ELAC2014 / HID0254) has been funding. In this project participate two groups of CIBERESP well as groups from Germany, France, Portugal, Cuba, Peru and Chile.

As a part of activities of the "Pneumocystosis Ibero-American Network" into the framework of CYTED, we have organized the third Ibero-American Conference on Pneumocystosis in Santiago de Chile with the participation of leading researchers in this field.

## Group 27

Programme: DAPET Programme

Lead Researcher: Casabona Barbara, Jordi



## Group Members



**STAFF MEMBERS:** Ferrer Serret, Laia | López Corbeto, Evelin.

**ASSOCIATED MEMBERS:** Agustí Benito, Cristina | Almeda Ortega, Jesús | Carnicer Pont, Dolors | Esteve Gómez, Anna | Fernández López, Laura | Folch Toda, Cinta M | González Soler, M<sup>a</sup> Victoria | Loureiro Varela, Eva | Lugo Colon, Rossie | Martro Català, Elisa | Matas Andreu, Joana M<sup>a</sup> Lourdes | Montoliu Giménez, Alexandra | Sabido Espín, Meritxell | Saludes Montoro, Verónica | Vallés Casanova, Francesc Xavier | Vives Martín, Nuria.

**COLLABORATORS:** Galdón Muñoz, Montserrat.

## Main lines of research

- Modelling and new methods for monitoring the HIV and sexually transmitted infections (STIs).
- Evaluation of preventive interventions for HIV and STI and prevention and control measures.
- Implementation studies and operational research in the early diagnosis of HIV.
- Biological, behavioural and structural determinants in the acquisition and spread of communicable diseases in migrant population.
- Global Health. Design of Multilevel preventive interventions and monitoring of social networks and metrics applied to the study of HIV and STIs epidemics.
- Development and validation of new molecular techniques for STIs diagnosis, including Hepatitis C Virus (HCV).
- Study of molecular epidemiology of HCV, and implications of its genetic variability for treatment resistance and progression of hepatic fibrosis.

## Most relevant scientific articles

CAIN LE, SAAG MS, PETERSEN M, MAY MT, INGLE SM, LOGAN R ET AL. Using observational data to emulate a randomized trial of dynamic treatment-switching strategies: an application to antiretroviral therapy. *International journal of epidemiology*. 2015.

CAMPBELL C.N.J., AMBROSIONI J., MIRO J.M., ESTEVE A., CASABONA J., NAVARRO G. ET AL. The continuum of HIV care in Catalonia. *AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV*. 2015;27(12):1449-1454.

GONZÁLEZ V, FERNÁNDEZ G, DOPICO E, MARGALL N, ESPERALBA J, MUÑOZ C ET AL. Evaluation of the VITROS Syphilis TPA chemiluminescence immunoassay as a first-line

method for reverse syphilis screening. *Journal of clinical microbiology*. 2015.

LAZAR C., SANCLEMENTE C., FERRER L., FOLCH C., CASABONA J.. Condom use among female sex workers in catalonia: Why do they use a condom, why don't they use it?. *AIDS Education and Prevention*. 2015;27(2):180-193.

JORDANA-LLUCH E., GIMÉNEZ M., DOLORES QUESADA M., RIVAYA B., MARCO C., Jesús Domínguez M. et al. Evaluation of the broad-range PCR/ESI-MS technology in blood specimens for the molecular diagnosis of bloodstream Infections. *PLoS ONE*. 2015;10(10).

## Highlights

As part of the European project EURO HIV Edat, CEEISCAT organized the 2nd Steering Committee Meeting. The meeting took place on 27th of November in Berlin and was attended by all committee members and representatives of the advisory committee. Also in Berlin, on 26th of November CEEISCAT members also participated in an expert group to discuss the development of a toolkit to be used in the implementation and evaluation of MSM Checkpoints.

In 2015 we published, in collaboration with the National School of Public Health of the Universidade Nova de Lisboa, the report "Cost and effectiveness of HIV testing for men Who Have sex with men in community-based Organizations. Results from six European cities". In the reported we evaluated the cost-effectiveness of providing HIV tests in six community centers of six European cities (Athens, Copenhagen, Lisbon, Ljubljana, Lyon and Paris).

Within the DAPET Program, coordinated by Group 27, CEEISCAT coordinated two round table discussions as part of the "XXXIII Reunión Científica de la SEE y X Congreso da APE", that took place in Santiago de Compostela from 2 to 4 September 2015, attended by international researchers.

The Microbiology Department of HUGTiP is conducting a (GILEAD Fellowship Program) competitive project to improve early diagnosis of infection acquired through sexual transmission in vulnerable populations in a community-based center (Stop Sida NGO) using alternative techniques for screening and confirmation of HCV (detection of RNA in dried blood). They have also established collaborative partnerships with diagnostics companies (Abbott GmbH & Co. KG and Amplex Diagnostics GmbH) and other groups CIBERESP, CIBEREHD and CIBER-BBN.

**Institution:** Fundació Institut d'Investigació Germans Trias i Pujol

**Contact:** C. de Estudios Epidemiológicos sobre las Infecciones de Transmisión Sexual y Sida de Cataluña Ctra. de Can Ruti. Cami de les escoles s/n. 08916 Badalona · Tel.: 93 497 88 91

E.mail: [ceeiscat@iconcologia.net](mailto:ceeiscat@iconcologia.net) · Website: <http://www.ceeiscat.cat>

## Group 11

**Programme:** Epidemiology and Control of Chronic Diseases

**Lead Researcher:** Castilla Catalán, Jesús

### Group Members

**STAFF MEMBERS:** Burgui Pérez, Rosana | Delfrade Osinaga, Iosu | Etxeberria Andueza, Jaione.

**ASSOCIATED MEMBERS:** Ardanaz Aicua, Eva | Arriazu Berastegui, María Teresa | Ascunce Elizaga, Nieves | Barricarte Gurrea, Aurelio | Casado Buesa, Marina Itziar | Echauri Ozcoidi, Marga | Ederra Sanz, María | Elizalde Soto, Lazaro | Erdozain Eguaras, Nieves | Floristan Floristan, María del Yugo | García Cenoz, Manuel | Guevara Eslava, Marcela del Pilar | Irisarri Zamarbide, Fátima | Marín Palacios, Pilar | Martínez Baz, Iván | Pérez Jarauta, María José | Vidan Alli, Juana.

### Main lines of research

- **Epidemiology of chronic diseases, by participation in multicenter cohort studies and in population-based registers of cancer and acute myocardial infarction.**

Cohort EPIC and associated projects EPIC-Heart, InterAct and Neuro-EPIC.

Multicase-Control Study MCC-Spain.

Spanish Network of Population-based Cancer Registries REDECAN.

Cardiovascular diseases and participation in the study FRESCO.

Analysis of mortality, trends and analysis of socioeconomic inequalities (MEDEA).

Studies on lifestyles and health.

Rare Diseases Registry.

- **Evaluation of screening programmes.**

Impact of breast cancer screening programmes.

Analysis of the probability of false-positive results in screening mammography.

Relationship among false-positive, true positive and adherence to the screening programmes.

Mammographic breast density in Spanish women coming to breast cancer screening programmes (DDM-Spain) and association with reproductive & lifestyle factors & genetic determinants (VarDDM).

- **Epidemiological research on infectious diseases and evaluation of the effectiveness and impact of the vaccines.**

Effectiveness and impact of vaccines: influenza, pneumococcal, varicella, rotavirus, mumps, whooping cough, meningococcal, etc.

Investigation of infectious diseases outbreaks.

Evaluation of preventive interventions against HIV, tuberculosis, etc.

Evaluation of the National Strategic Program against Hepatitis C infection.

## Most relevant scientific articles

CASTILLA J., GUEVARA M., MARTÍNEZ-BAZ I., EZPELETA C., DELFRADE J., IRISARRI F. ET AL. Enhanced estimates of the influenza vaccination effect in preventing mortality a prospective cohort study. *Medicine (United States)*. 2015;94(30).

RONDY M., LAUNAY O., PUIG-BARBERA J., GEFENAITE G., CASTILLA J., DE GAETANO DONATI K. ET AL. 2012/13 influenza vaccine effectiveness against hospitalised influenza A(H1N1)pdm09, A(H3N2) and B: estimates from a European network of hospitals. *Eurosurveillance*. 2015;20(2).

ETXEBERRIA J., SAN ROMAN E., BURGUI R., GUEVARA M., MORENO-IRIBAS C., URBINA M.J. ET AL. Brain and central nervous system cancer incidence in Navarre (Spain),

1973-2008 and projections for 2014. *Journal of Cancer*. 2015;6(2):177-183.

VISSER O., ARDANAZ E., BOTTA L., SANT M., TAVILLA A., MINICOZZI P.. Survival of adults with primary malignant brain tumours in Europe; Results of the EURO CARE-5 study. *European Journal of Cancer*. 2015;51(15):2231-2241.

LÓPEZ-ALCALDE J, MATEOS-MAZÓN M, GUEVARA M, CONTERNO LO, SOLÀ I, CABIR NUNES S ET AL. Gloves, gowns and masks for reducing the transmission of meticillin-resistant *Staphylococcus aureus* (MRSA) in the hospital setting. *The Cochrane database of systematic reviews*. 2015;7:CD007087.

## Highlights

During 2015 we have contributed notably to the CIBERESP activity. We have improved in three projects funded by FIS and three projects with European funds, and we have added the admission of other four new projects.

In chronic diseases we have started projects on the effects of bisfenol in the incidence of cancer, and on the effect of inflammation in the incidence of diabetes and Crohn disease (Inflames), both projects are based on the EPIC cohort. We have received a new FIS project to evaluate the effect of chrono-diet on the incidence of cancer in the same EPIC cohort study.

In infectious and vaccine preventable diseases we have started the participation in the I-MOVE-plus study, which is funded by the Horizon 2020 program. This study aims to evaluate the effectiveness and impact of pneumococcal and influenza vaccines on elderly people. This study adds to a previous FIS project, which evaluates the influenza vaccine effectiveness against laboratory confirmed

influenza since 2009. We have also started our participation in multicenter studies funded by the ECDC, which aim to evaluate the effectiveness and impact of pneumococcal vaccine (SpIDNet), influenza vaccine (I-move) and Pertussis vaccine (Pertinent). We have demonstrated high indirect effect of conjugate pneumococcal vaccination in children and its important impact on unvaccinated population. We have also demonstrated high impact of the influenza vaccine in preventing deaths, and we have detected interferences between the splits-virion and subunit influenza vaccines.

In 2015 we apply and were selected to be funded by the National Strategic Plan of Hepatitis C with the aim of evaluating the effect on preventive and therapeutic interventions against this infection.

Two researches of our team defended their PhD thesis and received the highest qualifications.

## Group 12

**Programme:** Prevention, Monitoring and Control of Communicable Diseases

**Lead Researcher:** Cayla Buqueras, Joan Artur



## Group Members



**STAFF MEMBERS:** Casals Toquero, Martí | Solano Silveira, Rubén.

**ASSOCIATED MEMBERS:** De Benito Langa, Javier | García de Olalla Rizo, Patricia | Manzanares Laya, Sandra | Marco Mouriño, Andrés | Martín Sánchez, Vicente | Millet Vilanova, Juan Pablo | Moreno Martínez, Antonio Vicente | Orcau Palau, Angels | Rius Gibert, Cristina | Rodrigo Sanz, María Teresa | Sánchez Martínez, Francisca.

**COLLABORATORS:** Asensio, Joan | Serrano, Carmen.

## Main lines of research

- **Application of the new technologies to tuberculosis (TB) control:** See the web page of the "TB Investigation Unit of Barcelona" (UITB): <http://www.uitb.cat>. The main objective of UITB is to produce scientific knowledge of relevance on the control, diagnosis, treatment and prevention of TB. Adherence to treatments and contact tracing are the priorities.
- **Community health workers' (CHW) role in the control of communicable diseases:** With the massive immigration observed since 2000, we incorporated CHW in the prevention and control of infectious diseases. They act as a cultural mediators and as a translators.
- **Studies about the increasing incidence of mumps, pertussis and sexually transmitted infections.**
- **Epidemic outbreaks.**
- **International Research:**

Clinical trials for TB: Our centre, which is the only such centre in Europe, is part of a network of international centres associated with the CDCs TB Trials Consortium, promoting international involvement in laying the therapeutic and strategic bases for the treatment of active and latent TB infection (LTBI). (See: "Sterling TR, et al. N Engl J Med. 2011). This paper has changed the treatment of LTBI. Now the recommendation is 3 months once weekly with rifapentine plus isoniazide.

Investigate the transmission of hepatitis B in autochthonous and immigrant populations: with several European groups with a grant from Executive Agency for Health and Consumers (Pro-

jecte Hepscreen. Screening for hepatitis B and C among migrants in the European Union).

- **Translational Investigation:** Significant international diffusion has been achieved with our web page. According to Google Analytics, every year

we had 10.000-20.000 visits, most of them from Spain and Latin America. From the visits and discussion forum comments, it is clear that we continue to play a key role in Spain and in Latin America.

## Most relevant scientific articles

MARCO A., GALLEGRO C., CAYLA J.A.. Incidence of hepatitis c infection among prisoners by routine laboratory values during a 20-year period. PLoS ONE. 2014;9(2).

JIMÉNEZ-FUENTES M.A., MILAAUGE C., GÓMEZ M.N.A., PEIRO J.S., DE SOUZA GALVAO M.L., MALDONADO J. ET AL. Screening for active tuberculosis in high-risk groups. International Journal of Tuberculosis and Lung Disease. 2014;18(12):1459-1465.

MOZALEVSKIS A, MANZANARES-LAYA S, GARCÍA DE OLALLA P, MORENO A, JACQUES-AVIÑÓ C, CAYLÀ JA. Can we rely on the antiretroviral treatment as the only means for human immunodeficiency virus prevention? A Public Health per-

spective. Enfermedades infecciosas y microbiología clínica. 2014.

BELLIDO-BLASCO J.B., PARDO-SERRANO F., BALLESTER-RODRÍGUEZ I., ARNEDO-PENA A., TIRADO-BALAGUER M.D., ROMEU-GARCÍA M.T. ET AL. An Estimate of the Incidence of Influenza-Like Illness During the Influenza Pandemic of 2009. Archivos de Bronconeumología. 2014.

SOLANO R., RIUS C., SIMON P., MANZANARES-LAYA S., ROS M., TOLEDO D. ET AL. Evaluation of reported cases of pertussis: Epidemiological study in a large city in Spain. Journal of Medical Microbiology. 2014;63:1688-1695.

## Group 46

Programme: Social Determinants of Health

Lead Researcher: Daponte Codina, Antonio



## Group Members



**STAFF MEMBERS:** Bernal Solano, Mariola | Cabrera León, Andrés | Danet, Alina.

**ASSOCIATED MEMBERS:** Bolívar Muñoz, Julia | Escudero Carretero, María | March Cerdá, Joan Carles | Mateo Rodríguez, Inmaculada | Prieto Rodríguez, María Ángeles | Sánchez Villegas, Pablo | Suess, Amets.

## Main lines of research

- **Environment and Health:**

- Air-pollution and health.

- Exposure assessment and biomonitoring.

- Planning and Health.

- Working conditions and health.

- **Patients, Citizenship and Health Services:**

- Citizen Expectations.

- Excluded and social exclusion: drugs and social exclusion.

- Immigration and health.

- Information needs of citizens.

- **Social Inequalities in Health:**

- Evictions, energy poverty, and health.

- Gender inequalities in health.

- Gender and informal care.

- Social and gender inequalities in cardiovascular health.

- Productive-work, gender and health.

- Interventions to reduce social and gender inequalities in health.

## Most relevant scientific articles

DANET A., MEDINA-DOMENECH R.M.. A "tale of two countries": Narratives of hearts, patients and doctors in the Spanish press. *Public Understanding of Science*. 2015;24(6):641-657.

CABRERA-LEÓN A, LÓPEZ-VILLAVARDE V, RUEDA M, MOYA-GARRIDO MN. Calibrated prevalence of infertility in 30- to 49-year-old women according to different approaches: a cross-sectional population-based study. *Human reproduction (Oxford, England)*. 2015.

MATEO RODRÍGUEZ I, DAPONTE CODINA A, BERNAL SOLANO M, SÁNCHEZ PÉREZ MJ, SÁNCHEZ PÉREZ MARÍA JOSÉ. [Elaboration of Criteria and Indicators to Develop and Evaluate

Programs of Healthy Aging in the Workplace]. *Revista española de salud pública*. 2015;89(5):497-514.

SALMI LR, BARSANTI S, BOURGUEIL Y, DAPONTE A, PIZNAL E, MÉNIVAL S ET AL. Interventions addressing health inequalities in European regions: the AIR project. *Health promotion international*. 2015.

NOLASCO A., MONCHO J., QUESADA J.A., MELCHOR I., PE-REYRA-ZAMORA P., TAMAYO-FONSECA N. ET AL. Trends in socioeconomic inequalities in preventable mortality in urban areas of 33 Spanish cities, 1996-2007 (MEDEA project). *International Journal for Equity in Health*. 2015;14(1).

## Highlights

On Environment and Health we are running the project on "The impact of urban areas on health in Andalusia", funded by the Ministry of Health of Andalusia. We have also initiated the coordinated FIS project "Energy Poverty and Health in Spain before and during the economic crisis", whose main objective is to analyze the fuel poverty in the Autonomous Regions of Spain and its relation to health, social determinants and climate, the urban environment and the economic crisis. In the research line on social inequalities in health, it has being initiated the project "Exploratory Study of the Effects of the eviction process in the Health of the children affected", in collaboration with the University of Granada. In addition, we continue to develop appropriate measures to ascertain the degree of "awareness" of the general population and of European health professionals about gender inequalities in heart disease, within the project GenCAD (Gender specific mechanisms in coronary artery disease (CAD) in

Europe). We have also participated in the white paper "Roadmap for Implementation of sex and gender into biomedicine and health research in Europe" within the EUGenMed Project (European Gender Medicine Network). Finally in this line of research on inequalities we have continued to work to complete an information system and its corresponding database, based on indicators on social, economic and environmental context of the Spanish autonomous communities, within the subprogram CIBER "crisis and health". Regarding the transfer of research activities, the project School of Patients funded by the regional Ministry of Health has conducted more than 175 workshops with patients, 70 for trainers 12 video-chat, the III Congress and the III Summer School. And the Andalusian Observatory on Environment and Health (OSMAN) is participating in the development of the EIS methodology for urban development, implementing the Andalusian legislation.

**Institution:** Escuela Andaluza de Salud Pública

**Contact:** Cuesta del Obsevatorio, 4. 18080 Granada · Tel.: 958 027 400

**E.mail:** antonio.daponte.easp@juntadeandalucia.es · **Website:** <http://www.easp.es>

## Group 16

Programme: Epidemiology and Control of Chronic Diseases

Lead Researcher: Delgado Rodríguez, Miguel



## Group Members



**STAFF MEMBERS:** Hervás Fernández, Isabel | Ortiz Ruiz, María Ángela

**ASSOCIATED MEMBERS:** Dierssen Sotos, Trinidad | Gómez Acebo, Inés | Llorca Díaz, Javier | Martínez Galiano, Juan Miguel | Prieto Salceda, María Dolores | Quindós Poncela, Luis Santiago.

## Main lines of research

- Epidemiological methods.
- Reproductive health epidemiology.
- Cancer epidemiology.
- Clinical epidemiology on rheumatic diseases.

## Most relevant scientific articles

PAPANTONIOU K., CASTANO-VINYALS G., ESPINOSA A., ARAGONES N., PÉREZ-GÓMEZ B., BURGOS J. ET AL. Night shift work, chronotype and prostate cancer risk in the MCC-Spain case-control study. *International Journal of Cancer*. 2015.

GÓMEZ-ACEBO I., DIERSSEN-SOTOS T., PAPANTONIOU K., GARCÍA-UNZUETA M.T., SANTOS-BENITO M.F., LLORCA J. Association between exposure to rotating night shift versus day shift using levels of 6-sulfatoxymelatonin and cortisol and other sex hormones in women. *Chronobiology International*. 2015;32(1):128-135.

DE PEDRO M., BAEZA S., ESCUDERO M.-T., DIERSSEN-SOTOS T., GÓMEZ-ACEBO I., POLLAN M. ET AL. Effect of COX-2 inhibitors and other non-steroidal inflammatory drugs on breast

cancer risk: a meta-analysis. *Breast Cancer Research and Treatment*. 2015;149(2):525-536.

PAPANTONIOU K., CASTANO-VINYALS G., ESPINOSA A., ARAGONES N., PÉREZ-GÓMEZ B., ARDANAZ E. ET AL. Breast cancer risk and night shift work in a case-control study in a Spanish population. *European Journal of Epidemiology*. 2015.

CASTANEDA S., MARTÍN-MARTÍNEZ M.A., GONZÁLEZ-JUANATEY C., LLORCA J., GARCÍA-YEBENES M.J., PÉREZ-VICENTE S. ET AL. Cardiovascular morbidity and associated risk factors in Spanish patients with chronic inflammatory rheumatic diseases attending rheumatology clinics: Baseline data of the CARMA Project. *Seminars in Arthritis and Rheumatism*. 2015;44(6):618-626.

## Highlights

Our group participates in three main projects: MCC-Spain, PREDIMED-DM and UNIHCOS.

MCC-Spain is a multicentre case-control study that has recruited about 10,000 patients among controls and cases of several types of cancer (breast, colorectal, gastric, and prostate cancers, and chronic lymphocytic leukemia). Inside MCC-Spain, this group has carried out the project "Genetic variants and pathways related with breast and prostate cancer, and their interaction with exposure to endogenous and exogenous sexual hormones: MCC-Spain study" (PI: Javier Llorca), which is funded by ISCIII (PI12/00715) and is going to carry out the project "Integration of genetic big data and clinical information: survivorship with breast cancer in the MCC-Spain Project" (PI: Javier Llorca, also funded by ISCIII; PI15/00069). The group is member of the PRACTICAL consortium (Prostate Cancer Association Group to Investigate Cancer Associated Alterations in the Genome), which is being funded by NIH and European Union FP7.

PREDIMED-DM is a multicentre controlled clinical trial on the effect of Mediterranean diet on diabetes mellitus-II incidence, which is also being funded by ISCIII (PI: Miguel Delgado).

UNIHCOS is a multicentre cohort study on addictions in university students, funded by the National Plan against Drug.

The group collaborates with groups from CIBER of obesity and nutrition (CIBEROBN), especially in the SUN and PREDIMED projects, and with groups from "Red de investigación en inflamación y enfermedades reumáticas" (RIER) on clinical epidemiology of rheumatic diseases.

Five doctoral theses have been defended in 2015 on breast cancer, subclinical atherosclerosis in rheumatoid arthritis, psoriatic arthropathy, patient satisfaction after being attended in ICUs, and prognostic factors in bronchiolitis.

**Institution:** Universidad de Jaén

**Contact:** Facultad de Ciencias de la Salud. Edificio B-3, Campus Las Lagunillas, s/n. 23071 Jaén.

## Group 1

**Programme:** Prevention, Monitoring and Control of Communicable Diseases

**Lead Researcher:** Domínguez García, Ángela



## Group Members



**STAFF MEMBERS:** Crespo Fernández, Inmaculada | Soldevila Pidemunt, Nuria

**ASSOCIATED MEMBERS:** Borrás López, Eva | Cardeñosa Marín, Nieves | Godoy García, Pere | Jansá Vallado, Josep Maria | Martínez Mateo, Ana | Muñoz García, Pilar | Plans Rubio, Pedro | Salleras Sanmartí, Luis | Torner Gracia, Nuria.

## Main lines of research

- Preventable diseases of viral etiology (measles, mumps and rubella) or bacterial etiology (pertussis, pneumococcal disease, meningococcal disease).
- Epidemic outbreaks of communicable diseases.
- Influenza.
- Viral hepatitis.
- Effectiveness and efficiency of vaccination programs.

## Most relevant scientific articles

DOMINGUEZ A., GODOY P., TOLEDO D., SOLDEVILA N., GARCÍA-CENOZ M., FARRUS G. ET AL. Importance of enhanced surveillance for prevention of pertussis in children. *Pediatric Infectious Disease Journal*. 2015;34(7):729-733.

ANTON-LADISLAO A., GARCÍA-GUTIERREZ S., SOLDEVILA N., GONZÁLEZ-CANDELAS F., GODOY P., CASTILLA J. ET AL. Visualizing knowledge and attitude factors related to influenza vaccination of physicians. *Vaccine*. 2015;33(7):885-891.

CRESPO I., TOLEDO D., SOLDEVILA N., JORDAN I., SOLANO R., CASTILLA J. ET AL. Characteristics of hospitalized cases

of pertussis in Catalonia and Navarra, two regions in the North of Spain. *PLoS ONE*. 2015;10(10).

GODOY P., FERRRUS G., TORNER N., CAMPS N., SALA M.R., GUIX S. ET AL. High incidence of norovirus GII.4 outbreaks in hospitals and nursing homes in Catalonia (Spain), 2010-2011. *Epidemiology and Infection*. 2015;143(4):725-733.

TORNER N., SOLDEVILA N., GARCÍA J.J., LAUNES C., GODOY P., CASTILLA J. ET AL. Effectiveness of non-pharmaceutical measures in preventing pediatric influenza: A case-control study. *BMC Public Health*. 2015;15(1).

## Highlights

Participation in the publication of the Guidelines of the Real Academy of Catalonia on Vaccines and Public Health. Available at: [www.rafc.cat](http://www.rafc.cat) and from the different scientific societies.

Participation in a press conferences and media interviews to explain the importance of vaccination for the health of the population in response to a case of diphtheria that occurred in Girona on the 18th June.

Participation as member and Secretary of the Scientific Advisory Committee on Ebola in Catalonia. On 28th January, participation in a scientific workshop on Ebola. Participation in the drawing up of surveillance protocols for Ebola in Catalonia.

Coordination of and participation in the Guidelines for the Prevention and Control of Hepatitis C, published by the Generalitat of Catalonia.

Participation in the Review of the Pertussis Vaccination Program in Spain, published by the Ministry of Health, Social Services and Equality.

Collaboration in the creation of the online glossary, Vaccine Terminology, available at:

[http://www.termcat.cat/es/Diccionaris\\_En\\_Linia/209/Presentacio/](http://www.termcat.cat/es/Diccionaris_En_Linia/209/Presentacio/)

On 23rd November, a scientific workshop was held entitled "Gastroenteritis outbreaks due to Norovirus: an emerging health problem", with 136 attendees, various speakers from CIBERESP, and the participation of Prof Marion Koopmans, an international expert from the Erasmus Medical Centre, University of Rotterdam.

Participation in international meetings of the Viral Hepatitis Prevention Board, a platform for the drawing up and diffusion of scientific information related to the prevention of viral hepatitis.

Supervision of the third year of the project "Effectiveness of the influenza and 23-valent polysaccharide pneumococcal vaccines in subjects aged =65 years" (FIS PI12/02079). Three articles have now been published in Q1 and Q2 journals.

## Group 28

**Programme:** Epidemiology and Control of Chronic Diseases

**Lead Researcher:** Dorronsoro Iraeta, Miren

### Group Members

**STAFF MEMBERS:** Echezarreta Olariaga, Nerea.

**ASSOCIATED MEMBERS:** Aldasoro Unamuno, Elena | Altzibar Arotzena, Jone Miren | Amiano Etxezarreta, Pilar | Arriola Larrarte, Larraitz | Basterrechea Irurzun, Mikel | Goñi Irigoyen, J. Fernando | Ibarluzea Maurolagotia, Jesús | Larrañaga Larrañaga, Nerea | Santa Marina Rodríguez, Loreto.

### Main lines of research

The group participates in research projects in collaboration with national and international groups in the disciplines of epidemiology, prevention and control of diseases mainly on two lines:

1. Epidemiology and control of chronic diseases
2. Epidemiology and prevention of diseases caused by environmental exposures during childhood.

We participate in MCC-Spain and INMA, national collaborative projects that have been strategic projects.

EPIC-cancer, EPIC-Heart, INTERACT, ESCAPE, HELIX and MEDALL are international projects in which we participate together with other groups CIBER

In the area of environmental exposures we also cooperate with the European project Geronimo (Generalised EMF using Novel Research Methods - an integrated approach: from research to support risk assessment and risk management to) and Rembrandt (Radiofrequency Electromagnetic Fields exposure and Brain Development: from exposure assessment to dose-response assessment).

The group also participates in two European projects about the effectiveness of the flu vaccine. In cycEVA (IMOVE) study, from the 2008-2009 season and from the current season in the IMOVE + Horizon 2020 a hospital-based case control study to measure seasonal influenza vaccine effectiveness against laboratory confirmed influenza hospitalizations across the European Union and European Economic Area Members States. In the project they are involved 23 European hospitals.

As far as responsible of the Basque Country Registry of Congenital Anomalies we are full members of EUROCAT. EUROCAT is a project of the EU- Programme of the Directorate General of Public Health Community Action on Rare Diseases. It was conceived to function as a service for the surveillance of congenital anomalies in Europe. Funded both by Member States and EU. Aiming to assess the feasibility of pooling data across national boundaries, cluster detection and evaluation well as identification of primary prevention initiatives.

## Most relevant scientific articles

KHOSHNOOD B., LOANE M., DE WALLE H., ARRIOLA L., ADDOR M.-C., BARISIC I. ET AL. Long term trends in prevalence of neural tube defects in Europe: Population based study. *BMJ (Online)*. 2015;351.

LERTXUNDI A., BACCINI M., LERTXUNDI N., FANO E., ARANBARRI A., MARTÍNEZ M.D. ET AL. Exposure to fine particle matter, nitrogen dioxide and benzene during pregnancy and cognitive and psychomotor developments in children at 15 months of age. *Environment International*. 2015;80:33-40.

UGARTE M.D., ADIN A., GOICOA T., CASADO I., ARDANAZ E., LARRANAGA N.. Temporal evolution of brain cancer incidence in the municipalities of Navarre and the Basque Country, Spain. *BMC Public Health*. 2015;15(1).

ALTZIBAR J.M., ZIGORRAGA C., RODRÍGUEZ R., LETURIA N., GARMENDIA A., RODRÍGUEZ A. ET AL. Outbreak of acute gastroenteritis caused by contamination of drinking water in a factory, the Basque Country. *Journal of Water and Health*. 2015;13(1):168-173.

ORIBE M., LERTXUNDI A., BASTERRECHEA M., BEGIRISTAIN H., SANTA MARINA L., VILLAR M. ET AL. Prevalence of factors associated with the duration of exclusive breastfeeding during the first 6 months of life in the INMA birth cohort in Gipuzkoa. *Gaceta Sanitaria*. 2015;29(1):4-9.

## Highlights

### CÁNCER

Cancer surveillance is made through the Basque Cancer Registry (BCR). The registry is member of the European Network of Cancer Registries (ENCR) and the International Association of Cancer Registries (IACR) and is involved in the activities coordinated by the IARC. The BCR also belongs to the Spanish Network of Cancer Registries (REDECAN), founded in 2010.

The BCR has participated in international projects: Cancer Incidence in Five Continents (IARC), The CONCORD (Global surveillance of cancer survival) is a program that includes epidemiological research, teaching and overall monitoring of cancer survival, The EUROCARE (POPULATION -based CANCER SURVIVAL IN EUROPE).

### SPECIFIC PROJECTS::

EPIC related:

- PI14/00556: Effect of exposure to Bisphenol-A on human health (cancer and ischaemic coronary heart disease) in the European Prospective Investigation into Cancer and Nutrition (EPIC-Spain) study.
- PI 13/00020. Plasma concentrations of organochlorine compounds, lifestyle factors, and pancreatic cancer risk within the EPIC cohort.
- PIE13/00048 Blood-based cancer detection: Development of an economical, sensitive and rapid paper-based device to detect cell free nucleic acids.
- PI15/01752 "Chronodiet, circadian clock genes polymorphisms, weight change, and obesity in the EPIC-Spain study".

### RESULTS:

Report: Characterization of exposure to radiofrequency electromagnetic fields in kindergarten and primary schools of Gipuzkoa.

San Sebastian November 10, 2015.

## Group 13

**Programme:** Prevention, Monitoring and Control of Communicable Diseases

**Lead Researcher:** Echevarría Mayo, Juan Emilio



## Group Members



**STAFF MEMBERS:** Fernández García, Aurora

**ASSOCIATED MEMBERS:** Castellanos Nadal, Ana | Guisasola Gorriti, María Eulalia | Mosquera Gutiérrez, María del Mar | De Ory Manchón, Fernando | Sanz Moreno, Juan Carlos.

## Main lines of research

- **Vaccine preventable diseases.**

The group of the National Center of Microbiology is the national reference laboratory for measles and rubella as recognized in the corresponding national plans for elimination and accredited by the WHO. Moreover, diagnostic techniques for other vaccine preventable diseases (mumps, pertussis or chickenpox) were studied in the context of specific programs of microbiological surveillance. Additionally to this official activity, the group currently keeps research activity in the following aspects:

Development and evaluation of diagnostic methodologies for measles virus (MeV, mumps virus MuV) and Rubella virus (RuV), and Bordetella pertussis. / Sero-epidemiology of MeV, RV and MuV. / Molecular epidemiology of MeV, MuV and RV. / Sero-epidemiology of pertussis. / Sero-epidemiology of influenza.

- **Rabies and another bat-associated viruses.**

The group of the National Center of Microbiology is officially recognized as national reference laboratory for several zoonoses, including rabies in humans and suspected animals. Additionally to this official activity, the group currently keeps research activity in the following aspects:

Development and evaluation of diagnostic methodologies for rabies. / Molecular Epidemiology of canine rabies in Ceuta and Melilla. / Epidemiology and pathogenesis of bat rabies. / Search of new potentially emergent viruses in bats. / Efficiency of rabies vaccines.

- **Neurological Diseases of viral etiology. Etiology of meningitis and encephalitis in Spain.**
- **Polyomavirus disease in the immune-compromised.**

## Most relevant scientific articles

PLANS P., DE ORY F., CAMPINS M., ÁLVAREZ E., PAYA T., GUI-  
SASOLA E. ET AL. Prevalence of anti-rubella, anti-measles  
and anti-mumps IgG antibodies in neonates and preg-  
nant women in Catalonia (Spain) in 2013: susceptibili-  
ty to measles increased from 2003 to 2013. *European  
Journal of Clinical Microbiology and Infectious Diseases.*  
2015;34(6):1161-1171.

DE ORY F., MINGUITO T., BALFAGON P., SANZ J.C.. Compar-  
ison of chemiluminescent immunoassay and ELISA for  
measles IgG and IgM. *APMIS.* 2015;123(8):648-651.

SANTIBANEZ S., HUBSCHEN J.M., MULLER C.P., FREYMUTH F.,  
MOSQUERA M.M., MAMOU M.B. ET AL. Long-term transmis-  
sion of measles virus in Central and continental Western  
Europe. *Virus Genes.* 2015;50(1):2-11.

DE ORY F., GUIASOLA E., TARRAGO D., SANZ J.C.. Application  
of a commercial immunoblot to define EBV IgG seroprofiles.  
*Journal of Clinical Laboratory Analysis.* 2015;29(1):47-51.

## Highlights

As results of the research project on measles, mumps and rubella viruses, included on the MMR vaccine, it has been published 4 scientific articles and there are other 9 in preparation. Also it has been published an article about the research on bats viruses and rabies virus, financed by a MINNECO project. We have participated in several national (3) and international conferences (4) to present the results of the projects.

As an active part in the Measles and Rubella Elimination Plan, as the microbiological surveillance, we have participated on the elaboration of the 2014 annual report for the WHO and at the annual meeting of the Verification Committee, which took place in June 2015 at the Ministerio de Sanidad, Asuntos Sociales e Igualdad. We also participated in the meeting: "Mission WHO. Elimination of measles and rubella", on June 17, 2015.

We have been granted for a research project entitled "Epidemiological and virological analysis of the viral agents included on the MMR vaccine: New Challenges" by the "Acción Estratégica en Salud Intramural 2015, ISCIII", to continue the research on this line. In this project there are involved members of the research team of our CIBERESP group, and also components of other CIBERESP groups as well as the "Laboratorio Regional de Salud de la Comunidad de Madrid", the "Servicio de Epidemiología de la Consejería de Sanidad de la Comunidad de Madrid", 27 primary care pediatricians and 1 pediatrician from a hospital of the "Comunidad de Madrid".

We participated on the workshop of emerging diseases in November 2015, in Barcelona, organized by the P2 program.

## Group 39

Programme: Clinical Epidemiology

Lead Researcher: Emparanza Knörr, José Ignacio

### Group Members

**ASSOCIATED MEMBERS:** Ansuategui Zengotitabengoa, Eukene | Aranegui Lasuen, Pedro | Arteché Ocasar, José María | Martínez Galarza, Amaya | Ojembarrena Martínez, Enrique | Pijoán Zubizarreta, José Ignacio | Urreta Barallobre, Iratxe | Zaballa Iñiguez, Manuel | Zubeldia Caminos, José Javier.

### Main lines of research

- Evidence Based Medicine.
- Diagnosis.
- Clinical prediction rules.
- Effectiveness and efficiency (RCT and SR).

## Most relevant scientific articles

SCHMIDT S., FRANCES A., LORENTE GARIN J.A., JUANPERE N., LLORETA TRULL J., BONFILL X. ET AL. Quality of life in patients with non-muscle-invasive bladder cancer: One-year results of a multicentre prospective cohort study. *Urologic Oncology: Seminars and Original Investigations*. 2015;33(1):19.e7-19.e15.

BONFILL X., MARTÍNEZ-ZAPATA M.J., VERNOOIJ R.W., SÁNCHEZ M.J., SUAREZ-VARELA M.M., DE LA CRUZ J. ET AL. Clinical intervals and diagnostic characteristics in a cohort of prostate cancer patients in Spain: A multicentre observational study. *BMC Urology*. 2015;15(1).

BURGOS J., IGLESIAS M., PIJOAN J.I., RODRÍGUEZ L., FERNÁNDEZ-LLEBREZ L., MARTÍNEZ-ASTORQUIZA T.. Probability of cesarean delivery after successful external cephalic version. *International Journal of Gynecology and Obstetrics*. 2015;131(2):192-195.

CASTIELLA A., MUGICA F., ZAPATA E., ZUBIAURRE L., IRIBARREN A., DE JUAN M.D. ET AL. Gender and plasma iron biomarkers, but not HFE gene mutations, increase the risk of colorectal cancer and polyps. *Tumor Biology*. 2015;36(9):6959-6963.

## Highlights

Within the MAPAC strategy, I must emphasize the development and implementation of the recommendation "Do not perform anesthesia consultation prior to colonoscopy" in individuals with a positive CRC screening result. The assessment of its impact during the first 3 months of implementation shows that the pre-anesthetic consultation has been unnecessary in 80% of the cases. This means that we have avoided 1600 unnecessary examinations (80% of 2000 annual colonoscopies for this reason).

We have also developed a project to standardize the procedure for preparing and reporting MAPAC recommendations so that they can be included directly in the DianaSalud portal. We will work with two other groups of program 7 during 2016.

We validated the clinical prediction rule HOMR (mortality during the first year after admission) in a random sample of 1600 patients discharged from our hospital during 2014. The Admission Service has begun to apply this RPC to all admitted patients. We offer, to those identified as high risk patients, a range of activities across the entire spectrum of social and health care areas (in collaboration with municipal and provincial services) to adequate the use of the most appropriate resources for these patients.

We have incorporated a statistician to our team (to be included administratively in our group) with specific training in big-data, and developed a project to use clinical databases that are routinely collected to assess outcomes of interest for patients .

In teaching, we continue the teaching programme on critical appraisal (Red CASPe) and Evidence-based Medicine in our hospital. Outside the hospital, we collaborate with the College of Physicians with a similar teaching proposal.

Internationally we are working with City University, London, and the company ConsultGen to create an app to support medical decision making under uncertainty.

## Group 22

**Programme:** Epidemiology and Environmental and Occupational Risk Prevention

**Lead Researcher:** Estivill Palleja, Xavier



## Group Members



**STAFF MEMBERS:** Escaramís Babiano, Geòrgia.

**ASSOCIATED MEMBERS:** Báñez Coronel, Mónica | Docampo Martínez, Elisa | Doménech, Laura | Kagerbauer, Birgit | Martí Puig, Eulalia | Montfort Roca, Magda | Morell Oriol, Marta | Prasad, Aparma | Puig Sola, Anna | Rabionet Janssen, Raquel | Sarriá Trujillo, Yaris.

**COLLABORATORS:** Carbonell García, Rut | Ponisch, Stefan.

## Main lines of research

- Genetic variants and liability to common traits and complex disease.
- Longitudinal and comprehensive analysis of mental diseases.
- Profiles of non-coding RNAs in neurodegenerative disorders.
- Environmental modulators of genetic factors in human disease.

## Most relevant scientific articles

YIN X., LOW H.Q., WANG L., LI Y., ELLINGHAUS E., HAN J. ET AL. Genome-wide meta-analysis identifies multiple novel associations and ethnic heterogeneity of psoriasis susceptibility. *Nature Communications*. 2015;6.

VAN DER VALK R.J., KREINER-MØLLER E., KOOIJMAN M.N., GUXENS M., STERGIAKOULI E., SÄÄF A ET AL. A novel common variant in DCST2 is associated with length in early life and height in adulthood. *Human molecular genetics*. 2015;24(4):1155-68.

DURST R., SAULS K., PEAL D.S., DEVLAMING A., TOOMER K., LEYNE M. ET AL. Mutations in DCHS1 cause mitral valve prolapse. *Nature*. 2015;525(7567):109-113.

HOR H., FRANCESCATTO L., BARTESAGHI L., ORTEGA-CUBERO S., KOUSI M., LORENZO-BETANCOR O. ET AL. Missense mutations in TENM4, a regulator of axon guidance and central myelination, cause essential tremor. *Human Molecular Genetics*. 2015;24(20):5677-5686.

BULLICH G., TRUJILLANO D., SANTIN S., OSSOWSKI S., MENDIZABAL S., FRAGA G. ET AL. Targeted next-generation sequencing in steroid-resistant nephrotic syndrome: Mutations in multiple glomerular genes may influence disease severity. *European Journal of Human Genetics*. 2015;23(9):1192-1199.

## Highlights

The group is part of the Pancancer Analysis of Whole Genomes initiative, participating in the analysis of germline variants in more than 2000 cancer germline genomes. We will attempt to identify germline variants involved in cancer risk. With a similar aim, we participate in the European project PanCanRisk, where we have developed targeted resequencing panels for breast, colorectal and ovarian cancers. Also, we have participated in the deep characterization of 12 cases of sézary syndrome, combining DNA, RNA and small RNA sequencing.

We are performing exome sequencing in a variety of disorders. We have identified novel genes such as TENM4 in Essential tremor, and validated proposed candidates such as LACC1 in Juvenile idiopathic arthritis, PLCG2 in systemic autoinflammatory disorders or THOC2 in mental retardation, for which we are currently performing functional validation. We are performing rare variant association analysis on exome data for OCD and stroke recovery, and we have identified a list of candidate genes to be validated by targeted resequencing.

The group is also studying the contribution of the non-coding RNAs to neurodegeneration. We are analyzing small non-coding RNAs perturbations in brains of patients with several neurodegenerative conditions. We are evaluating brain areas with diverse degree of affectation and several evolutionary stages. We have observed that small non-coding RNA perturbations occur at pre-motor stages of Parkinson's disease, suggesting that these alterations may contribute to disease evolution. In addition, we are studying the contribution of RNA pathogenic mechanisms in Huntington's disease and other trinucleotide repeat expansion diseases. In these diseases we are also evaluating the therapeutic potential of anti-sense oligonucleotides targeting the mutant gene.

## Group 8

Programme: Clinical Epidemiology

Lead Researcher: Ferreira González, Ignacio



### Group Members



STAFF MEMBERS: Ribera Sole, Aida

ASSOCIATED MEMBERS: Cascant Castello, Purificación | Marsal Mora, Josep Ramon | Permanyer Miralda, Cayetano

### Main lines of research

The Epidemiology Unit is devoted primarily to outcomes evaluation and effectiveness evaluation in cardiovascular interventions.

## Most relevant scientific articles

KASENDA B., VON ELM E., YOU J., BLUMLE A., TOMONAGA Y., SACCILOTTO R. ET AL. Prevalence, characteristics, and publication of discontinued randomized trials. *JAMA - Journal of the American Medical Association*. 2014;311(10):1045-1051.

MARTÍNEZ-SELLES M., GÓMEZ DOBLAS J.J., CARRO HEVIA A., GARCÍA DE LA VILLA B., FERREIRA-GONZÁLEZ I., ALONSO TELLO A. ET AL. Prospective registry of symptomatic severe aortic stenosis in octogenarians: A need for intervention. *Journal of Internal Medicine*. 2014;275(6):608-620.

GARCÍA-DORADO D., GARCÍA-DEL-BLANCO B., OTAEGUI I., RODRÍGUEZ-PALOMARES J., PINEDA V., GIMENO F. ET AL. Intracoronary injection of adenosine before reperfusion in

patients with ST-segment elevation myocardial infarction: A randomized controlled clinical trial. *International Journal of Cardiology*. 2014;177(3):935-941.

GARIN O., HERDMAN M., VILAGUT G., FERRER M., RIBERA A., RAJMIL L. ET AL. Assessing health-related quality of life in patients with heart failure: A systematic, standardized comparison of available measures. *Heart Failure Reviews*. 2014;19(3):359-367.

PONS J.M.V., PERMANYER-MIRALDA G., CAMI J., RODES J.. Animal experimentation and progress in medicine. *Medicina Clinica*. 2014;143(10):448-454.

**Institution:** Fundació Hospital Universitari Vall d'Hebron - Institut de Recerca (VHIR)

**Contact:** Passeig Vall d'Hebron, 119-129 08035 Barcelona · Tel.: 93 274 61 77

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## Group 21

Programme: Social Determinants of Health

Lead Researcher: Fuente Hoz, Luis de la

### Group Members



**STAFF MEMBERS:** Hoyos Miller, Juan | Molist Seña, Gemma | Ruiz García, Mónica | Sarasa Renedo, Ana | Sordo del Castillo, Luis

**ASSOCIATED MEMBERS:** Belza Egozcue, María José | Bravo Portela, María José | Espelt Hernández, Albert | Otero García, Laura | Pulido Manzanero, José | Regidor Poyatos, Enrique | Rosales Statkus, María Elena | Sanz Barbero, Belén | Vallejo Ruiz de León, Fernando.

### Main lines of research

- Epidemiology and patterns of drug consumption and associated health problems, with especial attention to infectious diseases, psychiatric comorbidities, injuries and excessive mortality.
- Epidemiology of sexual risk behaviours and associated infections, especially the development of HIV diagnosis policies to promote the control of the epidemic and decrease delayed diagnosis.
- Study of the social determinants of behaviours, health related problems and mortality with especial attention to the socioeconomic position both contextual and individual.
- Impact of social, economic and health policies on health inequalities and the mortality risk by cause of death, with especial attention to the most socially vulnerable groups (migrants, drug consumers, sex workers etc.).

## Most relevant scientific articles

REGIDOR E., VALLEJO F., GIRALDEZ-GARCÍA C., ORTEGA P., SANTOS J.M., ASTASIO P. ET AL. Low mortality in the poorest areas of Spain: adults residing in provinces with lower per capita income have the lowest mortality. *European Journal of Epidemiology*. 2015;30(8):637-648.

ROSALES-STATKUS M.E., DE LA FUENTE L., FERNÁNDEZ-BALBUENA S., FIGUEROA C., FERNÁNDEZ-LÓPEZ L., HOYOS J. ET AL. Approval and Potential Use of Over-the-Counter HIV Self-Tests: The Opinion of Participants in a Street Based HIV Rapid Testing Program in Spain. *AIDS and Behavior*. 2015;19(3):472-484.

SORDO L., BRAVO M.J., BARRIO G., INDAVE B.I., DEGENHARDT L., PASTOR-BARRIUSO R.. Potential bias due to outcome-related loss to follow-up in cohort studies on incidence of

drug injection: Systematic review and meta-analysis. *Addiction*. 2015;110(8):1247-1257.

SANZ-BARBERO B, PRIETO ME, CAMBAS N. Factors associated with a positive attitude towards receiving cancer information: a population-based study in Spain. *Health expectations : an international journal of public participation in health care and health policy*. 2015;

SARASA-RENEDO A., SORDO L., PULIDO J., GUITART A., GONZÁLEZ-GONZÁLEZ R., HOYOS J. ET AL. Effect of immigration background and country-of-origin contextual factors on adolescent substance use in Spain. *Drug and Alcohol Dependence*. 2015;153:124-134.

## Highlights

In the international context, our group has been participating in projects integrated in the Seventh EU Framework Programme for Research and Innovation, a Joint Action and an Action Cost as well as projects of the Consumers, Health and Food executive Agency and national Institutes of Health (USA). We have been hired by the European Monitoring Center for Drugs and Drug Addiction (EMCDDA) and the European Centre for Disease Control and Prevention (ECDC) for the assessment and analysis of their epidemiological information.

In Spain, we have led several research projects of the Health Strategic Action, of the State Research, development and innovation Programme oriented to Society Challenges (2013-2016) and its previous versions, research projects-contracts of national public organisms (The Drug National Plan, The Ministry of health, The woman institute, General Traffic Directorate, etc.), public-private (Spanish Foundation for the Research on HIV(FIPSE)) and exclusively private (Mutua Madrileña, Spanish Association for the Fight against Cancer, Health Sciences Foundation etc.), among which the projects related to the Itinere cohort should be highlighted.

We contribute to the training of new researchers by receiving resident physicians, pre and post doc contracts etc.

We have been applying our experience and the findings of our epidemiology and public health research participating as experts in both international (EMCDDA) and national organisms (DGT, national and regional HIV and drug plans), for the development of methodological tools for data collection and for the training of professionals in this field. We have translated our experience, training and research results to the design of epidemiological data collection systems both national and regional (National health survey, The Spanish House-based survey on alcohol and drugs, State based survey on drug use in secondary education, Evolution of the health indicators in Spain, etc) as well as the national and regional prevention and assistential plans and guides.

## Group 47

Programme: Assessment of Health Services

Lead Researcher: García Benavides, Fernando



### Group Members



**STAFF MEMBERS:** López Gómez, María Andree | López Ruiz, María | Ubalde López, Mónica

**ASSOCIATED MEMBERS:** Delclos Clanchet, Jordi | García García, Ana M<sup>a</sup> | Gimeno Ruiz de Porras, David | Ramada Rodilla, José M<sup>a</sup> | Ronda Pérez, Elena | Sánchez Niubó, Albert | Serra Pujadas, Consol | Vargas Prada Figueroa, Sergio.

### Main lines of research

**Occupational health problems:** In addition to work-related illnesses and workplace injuries, we are also interested in studying sickness absence, whether temporary or permanent, especially due to musculoskeletal and mental disorders, and the prognosis (duration) to return to work.

**Occupational safety and health policies:** The development of the Labour Risk Prevention Law (1995), through the Labour risk prevention management and the implementation of the Planes de Actuación Preferente (Priority Action Plans), developed by most of the Spanish Autonomous Communities in 2000, has managed to provide the development of most resources devoted to occupational health in the country. The CiSAL is contributing to assess the quality of such policies and to evaluate their effectiveness.

**Occupational health information systems:** The targets of the CiSAL are to have better information, of higher quality and organized so that it can be used appropriately. Whom develop projects of methodological character to improve the utility of the Work and Health Conditions Surveys, as well as the creation of a useful employment-exposition matrix for the investigation of new risks and the labour risk prevention management..

**Occupational health inequalities:** The existence of the highest rates of temporary employment in the European Union, as an indicator of precariousness, and the incorporation of a large number of workers born in countries outside the EU in the last 15 years, are research priorities at CiSAL, in order to provide the best information available to help adopt more effective policies to protect the health of these workers.

## Most relevant scientific articles

COLELL E., SÁNCHEZ-NIUBO A., DELCLOS G.L., BENAVIDES F.G., DOMINGO-SALVANY A.. Economic crisis and changes in drug use in the Spanish economically active population. *Addiction*. 2015;110(7):1129-1137.

BENAVIDES F.G., DURAN X., GIMENO D., VANROELEN C., MARTÍNEZ J.M.. Labour market trajectories and early retirement due to permanent disability: A study based on 14 972 new cases in Spain. *European Journal of Public Health*. 2015;25(4):673-677.

RONDA E., BRIONES-VOZMEDIANO E., GALON T., GARCÍA A.M., BENAVIDES F.G., AGUDELO-SUAREZ A.A.. A qualitative exploration of the impact of the economic recession in Spain on working, living and health conditions: Reflections based on immigrant workers' experiences. *Health Expectations*. 2015.

BERNAL D., CAMPOS-SERNA J., TOBIAS A., VARGAS-PRADA S., BENAVIDES F.G., SERRA C.. Work-related psychosocial risk factors and musculoskeletal disorders in hospital nurses and nursing aides: A systematic review and meta-analysis. *International Journal of Nursing Studies*. 2015;52(2):635-648.

CASAS M., CORDIER S., MARTÍNEZ D., BARROS H., BONDE J.P., BURDORF A. ET AL. Maternal occupation during pregnancy, birth weight, and length of gestation: Combined analysis of 13 European birth cohorts. *Scandinavian Journal of Work, Environment and Health*. 2015;41(4):384-396.

## Highlights

In this year, researchers from CiSAL-UPF (group 47) have led related projects with the Continuous Working Life Sample Cohort (funded by the IS Carlos III), the Occupational Pathology Unit (funded by the Parc Salut Mar), E-capacit8 (funded by Health Programme of the European Union), Work-related Traffic Occupational Injury (funded by the DGT), and Work, Immigration and Health in a cohort of immigration population in Spain (funded by IS Carlos III). Furthermore, CiSAL-UPF has been recognized, for third time, by AGAUR-Catalunya for the period 2015-2017.

Among other results, researchers from CiSAL-UPF have published 26 scientific papers and one PhD Thesis and 2 Master Thesis were defended, together with 14 scientific communications in national and international meetings. Furthermore, researchers from CiSAL-UPF have organized, together with researchers from the Faculdade de Medicina da Universidade Federal de Minas Gerais (Brazil), the II Encontro Ibero-americano sobre Inqueritos de Condições de Trabalho e Saúde in Belo Horizonte (9-10th July), publishing a report by the Instituto Nacional de Salud from Perú. Otherwise, it is noted the publication by Eurofound of a summary of 1st Central America Working Conditions Survey.

## Group 14

Programme: Epidemiology and Control of Chronic Diseases

Lead Researcher: Gestal Otero, Juan Jesús



## Group Members



**STAFF MEMBERS:** Piñeiro Lamas, María.

**ASSOCIATED MEMBERS:** Barros Dios, Juan Miguel | Caamaño Isorna, Francisco | Figueiras Guzmán, Adolfo | Montes Martínez, Agustín | Pérez Ríos, Mónica | Ruano Raviña, Alberto | Saulyte, Jurgita | Smyth Chamosa, Ernesto | Takkouche Souilamas, El Bahi | Taracido Trunk, Margarita.

## Main lines of research

- **Banal diseases.** This research line aims to analyze the role of environmental and genetic exposure factors, as well as the interaction of both the increased risk of disease or very frequent symptoms, without extreme gravity but with high impact on quality of life and economy. Among these pathologies are the common cold, aphthous stomatitis, headaches, allergic rhinitis, dysmenorrhea and premenstrual syndrome. The objective in the next years is to study the determinant of the most common symptom: pain.
- **Cancer Epidemiology.** Our group has made significant progress in the cancer epidemiology in recent years, especially in cancers related to environmental factors. We intend to determine whether exposure to residential radon influences other cancers apart from lung cancer and on the biological mechanisms through what the residential radon can cause lung cancer. We intend to go deeper and broader in the national multi-center study LCRINS (Lung Cancer Risk in Never Smokers) and to maximize the services of the Radon Laboratory of Galicia, the only residential radon laboratory recognized by the Nuclear Safety Council of northwest of Spain.
- **Pharmacoepidemiology.** research line has identified important determinants for prescribing, dispensing, and reporting of adverse drug reactions. Currently we have implemented three large-scale community trials to identify and to modify associated factors with poor prescribing/dispensing/use of antibiotics in order to reduce their resistances. We are also developing studies to further identify the genetic factors of adverse reactions to drugs most relevant from the point of view of public health, such as gastrointestinal bleeding.
- **Technology assessment and health services.** Our group aims to provide support within a consolidat-

ed evaluation activity such as technology assessment, services and health interventions through various mechanisms, one of them being the systematic reviews and the meta-analysis. The level of evidence derived from the meta-analysis is the highest and exceeds the experimental design. The objective in the following years is to propose a free-use package software that allows the non specialized scientific community to perform intu-

itively and with a minimal advice a meta-analysis from the first steps to the final proposal. This project is in a very advanced state of development. Also, the methodological elements will be investigated, such as heterogeneity and publication bias, and these methodological knowledge will be used to apply to specific meta-analysis, collaborating with the clinical services interested.

## Most relevant scientific articles

RUANO-RAVINA A., PÉREZ-RIOS M.. Lung cancer screening with low-dose CT: More questions than answers. *The Lancet Oncology*. 2015;16(1):e3-e4.

RUANO-RAVINA A., PROVENCIO-PULLA M., FERNÁNDEZ-VILLAR A.. Lung cancer screening white paper: A slippery step forward?. *European Respiratory Journal*. 2015;46(5):1519-1520.

TORRES-DURAN M., RUANO-RAVINA A., PARENTE-LAMELAS I., ABAL-ARCA J., LEIRO-FERNÁNDEZ V., MONTERO-MARTÍNEZ C. ET AL. Alpha-1 Antitrypsin Deficiency and Lung Cancer Risk: A Case-Control Study in Never-Smokers. *Journal of Thoracic Oncology*. 2015;10(9):1279-1284.

GONZÁLEZ-GONZÁLEZ C., LÓPEZ-VÁZQUEZ P., VÁZQUEZ-LAGO J.M., PINEIRO-LAMAS M., HERDEIRO M.T., ARZAMENDI P.C. ET AL. Effect of physicians' attitudes and knowledge on the quality of antibiotic prescription: A cohort study. *PLoS ONE*. 2015;10(10).

LÓPEZ MJ, PÉREZ-RÍOS M, SCHIAFFINO A, FERNÁNDEZ E. Mortality Attributable to Secondhand Smoke Exposure in Spain (2011). *Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco*. 2015.

## Highlights

Currently the group is running six competitive projects, in in which our researchers are IPs: a study about the consequences of alcohol consumption in university students; the Small Cell Study about small cell lung cancer, its risk factors and genetic susceptibility; the IMATID Study to assess the effectiveness of an educational intervention in community pharmacists to improve pharmaceutical care in flu, colds and other infections of the upper respiratory tract; the continuation of the project EMPHOGEN, through the new determinants gastrointestinal bleeding project associated with consumption of AAS as antiplatelet; a study on how the residential radon could see mediated its effect on lung cancer through different genetic polymorphisms in DNA repairing genes and the recognition by the **Xunta de Galicia (on competitive basis)** as a **group of competitive reference (GRC)**. The first three projects have received funding in 2015 AES call.

A group member has carried out a research stay at the Public Health School at Brown University for three months during 2015 through a Fulbright Scholarship (senior researchers). The award has been made on a competitive basis by the Ministry of Education in collaboration with the Department of Education of the United States Government.

In September 2015 it was perform in Santiago the II Congreso Iberoamericano de Epidemiología y Salud Pública with over 800 attendees. This international congress had as president a member of the group and other members were part of the organizing committee.

In 2015 the group presented the results of their research at national and international forums. So they have been invited to lecture at the Brown University, in a PharmaTrain in Pharmaceutical Medicine at Lisboa, among others.

## Group 23

Programme: Clinical Epidemiology

Lead Researcher: Gómez de la Cámara, Agustín

### Group Members

**ASSOCIATED MEMBERS:** Andrés Esteban, Eva | Cruz Bertolo, Javier de la | Lora Pablos, David | Ruiz López, Pedro Miguel.

### Main lines of research

Research areas:

**Development and validation of CLINICAL PREDICTION RULES:**

This group has been coordinator THEME COOPERATIVE RESEARCH NETWORK 03/090 for the development of methodologies for the implementation and management of knowledge in clinical practice and this node responsible for the line of research prognostic development of clinical prediction rules.

Since 1995 develops the research methodology in prognostic studies on predictive methods and conducting projects on clinical prediction rules in cardiovascular diseases, oncology, rheumatology [FIS96/1809], [FIS02/0242], [P-FIS03/248], [FIS03/0046], FIS04/019].

Participation and collaboration in the following projects:

- FIS Project PS07/0945 "Prediction of mortality in patients hospitalized for heart failure: building predictive models." The results are published in Cardiology Journal "Role of biological and non bi-

ological factors in Congestive Heart Failure mortality: PREDICE-SCORE, a Clinical Prediction Rule" (J Cardiol 2012;19, 6:578-585).

- FIS Project 05/1862" Validation of clinical prediction rules in recurrent stroke." Publication: Recurrence after a first-ever ischemic Stroke Development of a Clinical Prediction Rule. Research in Neurology: An International Journal Vol 2013 (2013) Article ID264063.

**CHRONIC DISEASE:**

- FIS IntraSalud10/02123 projects."Study DRECE V. (Diet and Cardiovascular Risk in Spain.) 20 years of monitoring of a Spanish cohort." [PI10/02123] Study DRECE V (Diet and Risk of Cardiovascular Disease in Spain), which aims are to determine the association between diet and overall mortality and cardiovascular in Spain. Describe patterns and nutritional study of cardiovascular risk factors and their association with mortality.

## Most relevant scientific articles

SELLIER E., PLATT M.J., ANDERSEN G.L., KRAGELOH-MANN I., DE LA CRUZ J., CANS C.. Decreasing prevalence in cerebral palsy: A multi-site European population-based study, 1980 to 2003. *Developmental Medicine and Child Neurology*. 2015.

SARAVIA G., CIVEIRA F., HURTADO-ROCA Y., ANDRÉS E., LEON M., POCIVI M. ET AL. Glycated hemoglobin, fasting insulin and the metabolic syndrome in males. Cross-sectional analyses of the aragon workers health study baseline. *PLoS ONE*. 2015;10(8).

HERRERA-MERCADAL P., MONTERO-MARIN J., PLAZA I., MEDRANO C., ANDRÉS E., LÓPEZ-DEL-HOYO Y. ET AL. The efficacy and pattern of use of a computer-assisted programme

for the treatment of anxiety: A naturalistic study using mixed methods in primary care in Spain. *Journal of Affective Disorders*. 2015;175:184-191.

SÁNCHEZ BARRUECO A., LORA PABLOS D., VILLAFRUELA SANZ M., ALMODOVAR ÁLVAREZ C.. Pediatric myringoplasty: Prognostic factors in surgical outcome and hearing threshold recovery. *Acta Oto-Laryngologica*. 2015;135(12):1233-1237.

VIRELLA D., PENNINGTON L., ANDERSEN G.L., ANDRADA M.D.G., GREITANE A., HIMMELMANN K. ET AL. Classification systems of communication for use in epidemiological surveillance of children with cerebral palsy. *Developmental Medicine and Child Neurology*. 2015.

## Highlights

The Scientific Support Unit: Epidemiology, Bioinformatics and Biostatistics of the Hospital 12 de Octubre (*Health Research Institute, imas12*) carries out supporting and research's activities of multidisciplinary nature which have impact on the clinical practice. This group develops a training programme in biomedical research methodology and offers methodologic, normative and operating support to the clinical research by the Institute's groups

The own research activity of the group in 2015 comes from primary care lines which are strategically settled on specific projects as the DRECE study. Our group has been focus on the project PI14/01940 Identification of a model gene(s)-diet(s)-phenotype(s) and its association with cardiovascular morbidity and mortality. This study, DRECE VI, has the purpose of laying down the association between genetic polymorphisms, diet and cardiovascular disease on established groups as high and low risk in Spanish population.

We currently participate and collaborate on the project FIS PS07/0945 "Mortality prediction in heart failure patients. Development of clinical prediction rules", published in *Cardiology Journal* "Role of biological and non-biological factors in Congestive Heart Failure mortality: PREDICE-SCORE, a Clinical

Prediction Rule". This project is being validating, therefore we have developed the protocol, CRF (Case Record Form) and informed consent for the validation of PRECIDE Score: Clinical Prediction Rule of a year mortality, in patients with a first episode of heart failure. During 2015 it has been carried out a recruitment and a data recollection for its validation.

Our Unit belongs to the network infrastructure SCReN (Spanish Clinical Research Network). It has developed its work of recover, promotion, dissemination and support to the independent clinical trials. In 2015, we have worked actively on the elaboration of the data management of the Standard Operating Procedures (SOP) and statistic's SOP, as the "USC's SOP about Data Reception and Management for the statistical analysis with scientific aims".

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28041 Madrid · Tel.: 91 779 28 37 · E.mail: [acamara@h12o.es](mailto:acamara@h12o.es) · Website: <http://www.imas12.es/>

## Group 26

**Programme:** Clinical Epidemiology / Assessment of Health Services / Social Determinants of Health / Epidemiology and Control of Chronic Diseases

**Lead Researcher:** Hernández Aguado, Ildefonso



## Group Members

**ASSOCIATED MEMBERS:** Aranz Andrés, Jesús | Lumbreras Lacarra, Blanca | Pastor Valero, María Asunción.

**COLLABORATORS:** García Aldeguer, Joaquín.

## Main lines of research

- Clinical epidemiology, evaluation of health technologies, assessment of diagnostic test and screening tests.
- Health services research, patient security and health care quality.
- Preventive medicine.
- Active aging.
- Politics and health policies, health governance.

## Most relevant scientific articles

LUMBRERAS B., DAVO-BLANES M.C., VIVES-CASES C., BOSCH F. Public health competencies and contents in pharmacy degree programs in Spanish universities. *Gaceta Sanitaria*. 2015;29(1):44-50.

RAJMIL L., ARTAZCOZ L., GARCÍA-GÓMEZ P., FLORES M., HERNÁNDEZ-AGUADO I. Spanish children are most affected by the economic crisis, says the Spanish Society of Public Health (SESPAS). *BMJ (Online)*. 2015;350.

GÓMEZ-SAEZ N., HERNÁNDEZ-AGUADO I., VILAR J., GONZÁLEZ-ÁLVAREZ I., LORENTE M.F., DOMINGO M.L. ET AL.

Lung cancer risk and cancer-specific mortality in subjects undergoing routine imaging test when stratified with and without identified lung nodule on imaging study. *European Radiology*. 2015;25(12):3518-3527.

CAIN LE, SAAG MS, PETERSEN M, MAY MT, INGLE SM, LOGAN R ET AL. Using observational data to emulate a randomized trial of dynamic treatment-switching strategies: an application to antiretroviral therapy. *International journal of epidemiology*. 2015.

## Highlights

We have completed the follow-up of the cohort (project funded by the FIS and directed by Blanca Lumbreras) of 16.078 patients that underwent radiological exams for diverse causes. We detected solitary lung nodule in 893 patients. We have published the results (*Eur Radiol*. 2015; 25:3518-27) that provide key information for the clinical management of solitary nodule as they allow us to establish overall cause of mortality in the cohort and lung cancer specific mortality. The cohort will continue to

provide interesting results with clear implications in clinical practice. Concerted with this project, an additional project also funded by FIS has been designed to develop clinical guidelines on radiological test request. Their results will be shared with the Sociedad Española de Radiología Médica in a workshop for the final phase of results translation.

## Group 38

Programme: Epidemiology and Control of Chronic Diseases

Lead Researcher: Kogevinas, Emmanouil



## Group Members



**STAFF MEMBERS:** Arjona Camí, Lourdes | Gracia Lavedan, Esther.

**ASSOCIATED MEMBERS:** Bosch de Basea, Magda | Cardis Mersch, Elisabeth | Carrasco Turigas, Gloria | Carretero García, Gemma | Casas Sanahuja, María Isabel | Castaño Vinyals, Gemma | Cirach Pradas, Marta | Cole-Hunter, Thomas Anthony | Dadvand, Payam | Donaïre González, David | Eastman, Chelsea | Esnaola Acebes, Mikel | Espinosa Morano, Ana | Figuerola Alquezar, Jordi | Font Ribera, Laia | González Ruiz, Juan Ramón | Grellier, James | Kubesch, Janet Nadine | Nieuwenhuijsen, Mark | Ocallaghan Gordo, Cristina | Papantoniou, Kyriaki | Pedersen, Marie | Rojas Rueda, David | Schembari, Ana | Triguero Mas, Margarita | Van Gent, Diana | Vila Rodríguez, Francisco Javier | Villanueva Belmonte, Cristina | Zock, Jan Paul.

**COLLABORATORS:** Ferrer de Molina, M<sup>a</sup> del Mar.

## Main lines of research

The main research of the group is focused in environmental, occupational and genetic factors related to cancer, respiratory disease and child health. Among the main exposures, the group is focused on radiations (smartphones, UV, ionizing), 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), 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. Research of the group is funded by grants from FIS, FP7 (EU), and Horizon2020.

## Most relevant scientific articles

PAPANTONIOU K., CASTANO-VINYALS G., ESPINOSA A., ARAGONES N., PÉREZ-GÓMEZ B., BURGOS J. ET AL. Night shift work, chronotype and prostate cancer risk in the MCC-Spain case-control study. *International Journal of Cancer*. 2015.

ESPEJO-HERRERA N., CANTOR K.P., MALATS N., SILVERMAN D.T., TARDON A., GARCÍA-CLOSAS R. ET AL. Nitrate in drinking water and bladder cancer risk in Spain. *Environmental Research*. 2015;137:299-307.

DADVAND P., NIEUWENHUIJSEN M.J., ESNAOLA M., FORNS J., BASAGANA X., ÁLVAREZ-PEDREROL M. ET AL. Green spaces

and cognitive development in primary schoolchildren. *Proceedings of the National Academy of Sciences of the United States of America*. 2015;112(26):7937-7942.

BOSCH DE BASEA M., PEARCE M.S., KESMINIENE A., BERNIER M.-O., DABIN J., ENGELS H. ET AL. EPI-CT: Design, challenges and epidemiological methods of an international study on cancer risk after paediatric and young adult CT. *Journal of Radiological Protection*. 2015;35(3):611-628.

CÁCERES A, GONZÁLEZ JR. Following the footprints of polymorphic inversions on SNP data: from detection to association tests. *Nucleic acids research*. 2015.

## Highlights

Some projects have started in 2015, including HORMONIT (hormonal changes associated to circadian disruption in night shift workers), Fondo de Investigación Sanitaria; SHAMISEN (Nuclear Emergency Situations-Improvement of Medical and Health Surveillance), and OPERRA (Open Project for the European Radiation Research Area), 7th EU Framework Programme; ExpoStat (Statistical methods, efficient algorithms and bioinformatic tools to analyze the exposome and its integration with omic data), MINECO; European Joint Programme for the Integration of Radiation Protection Research (CONCERT), European Commission; and Acciones de Dinamización "Europa Investigación", MINECO. These projects have provided new evidence in the environmental epidemiology area, in particular concerning potential health effects of radiations, water pollutants, green spaces, air pollution, active transport policies, and indoor pollution by mould, among other

environment exposures. In the occupational epidemiology area, these projects have provided new evidence about the effects in health of night shift work and cancer risk, and exposures to electromagnetic fields. Among the health effects assessed included there are several kinds of cancer in adults (prostate, bladder, breast, colorectal) and children (central nervous system), respiratory health and allergies in adults and children, reproductive effects (birth weight, gestation duration, etc.), and biomarkers, including -omics (epigenomics) and genetic data (genome wide). All this evidence provides possible recommendations to prevent disease and health promotion in the occupational settings and the public health, identifying preventable risk exposures. Results could be used by regulatory organisms to conduct a risk management based in the scientific evidence.

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## Group 18

Programme: Social Determinants of Health

Lead Researcher: López Medina, María José



### Group Members



**STAFF MEMBERS:** León Pujadas, Gabriel | Sánchez Martínez, Francesca.

**ASSOCIATED MEMBERS:** Ariza Cardenal, Carlos | Centrich Escarpenter, Francesc | Fontcuberta, Mireia | García Altes, Anna | Muñoz Guzmán, Gloria | Pérez Giménez, Anna | Puigpinós Riera, Rosa | Serral Cano, Gemma | Villalbi Hereter, Juan Ramón.

### Main lines of research

The main research line of the group is the evaluation of public health policies and programmes, which includes:

- Monitoring of behaviours and other health risk factors such as environmental exposures.

- Process, impact and economic evaluation of public health policies and programmes.
- Innovative topics on evaluation, such as the evaluation related to the use of Information and Communication Technologies (ICT) in public health.

## Most relevant scientific articles

GARCÍA-ALTES A., PINILLA J., MARI-DELL'OLMO M., FERNÁNDEZ E., LÓPEZ M.J.. Economic impact of smoke-free legislation: Did the Spanish tobacco control law affect the economic activity of bars and restaurants?. *Nicotine and Tobacco Research*. 2015;17(11):1397-1400.

PÉREZ-RIOS M., FERNÁNDEZ E., SCHIAFFINO A., NEBOT M., LÓPEZ M.J.. Changes in the prevalence of tobacco consumption and the profile of Spanish smokers after a comprehensive smoke-free policy. *PLoS ONE*. 2015;10(6).

GUIART A.M., ESPELT A., CASTELLANO Y., SUELVES J.M., VILLALBI J.R., BRUGAL M.T.. Injury-Related Mortality Over 12 Years in a Cohort of Patients with Alcohol Use Disorders: Higher Mortality Among Young People and Women. *Alcoholism: Clinical and Experimental Research*. 2015;39(7):1158-1165.

RUBIES A., MUNOZ E., GIBERT D., CORTES-FRANCISCO N., GRANADOS M., CAIXACH J. ET AL. New method for the analysis of lipophilic marine biotoxins in fresh and canned bivalves by liquid chromatography coupled to high resolution mass spectrometry: A quick, easy, cheap, efficient, rugged, safe approach. *Journal of Chromatography A*. 2015;1386:62-73.

LÓPEZ MJ, PÉREZ-RÍOS M, SCHIAFFINO A, FERNÁNDEZ E. Mortality Attributable to Secondhand Smoke Exposure in Spain (2011). *Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco*. 2015.

## Highlights

During 2015 we obtained two new research projects in competitive calls. One is a European project obtained in the Horizon 2020 call (Tackling second-hand smoke in Europe: assessment of SHS exposure according to policies, attributable disease and economic burden, and impact of interventions for reducing the exposure, TackSHS project), which will run for four years with the collaboration of partners from 6 European countries. The head of group 18 is the leader of one workpackage We have also obtained funding from the "Plan Nacional sobre Drogas" for the project: "Design and evaluation of the effectiveness of a selective prevention intervention of alcohol and cannabis among vulnerable young at the community level".

In addition, two members of the group are PI of the following research projects: "Exposure to environmental tobacco smoke in children under 12 years: prevalence and measurement of markers in homes and vehicles" and "Influence of social determinants, lifestyle, emotional wellbeing and use of unconventional therapies in the development of breast cancer in a cohort of women diagnosed in Barcelona".

During this year two thesis dissertations directed by members of the group have been presented for defense: "Individual and contextual factors associated with risky alcohol consumption among youth in Central Catalonia" (Universitat Pompeu Fabra) and "Programs preventing pregnancy, sexually transmitted infections, including HIV / AIDS among young students from Barcelona (1992-2014) (Universitat Autònoma de Barcelona).

Finally, we must mention the large number of communications presented at scientific meetings, and the participation of various members of the group as teachers in official masters like the Master of Public Health at the Universitat Pompeu Fabra or the Master of Tropical Medicine and International Health at the Universitat Autònoma de Barcelona.

## Group 7

**Programme:** Epidemiology and Control of Chronic Diseases

**Lead Researcher:** López-Abente Ortega, Gonzalo

### Group Members



**STAFF MEMBERS:** Castelló Pastor, Adela | Fernández de Larrea Baz, Nerea | González Palacios, Ángel.

**ASSOCIATED MEMBERS:** Aragonés Sanz, Nuria | Boldo Pascua, Elena Isabel | Fernández Navarro, Pablo | Ferreras Barrera, Eva | García Pérez, Javier | González Sánchez, Mario | Lope Carvajal, Virginia | Marín Rodríguez, María | Núñez, Olivier | Pastor Barriuso, Roberto | Pérez Gómez, Beatriz | Pollan Santamaría, Marina | Ramis Prieto, Rebeca | Sierra Oliva, María Ángeles.

### Main lines of research

The activities of the Environmental Epidemiology and Cancer Unit of the National Center of Epidemiology (CNE) continue and broaden the experience of the Cancer Epidemiology Unit, established in 1991. The group mainly works on three research lines: 1) Surveillance of cancer burden in Spain, where our unit is considered a national reference in the study of the spatial and temporal distribution of this group of diseases, 2) environmental, occupational and life style epidemiology research, exploring the impact of environmental exposures in cancer both from an ecological point of view -possible effects of industrial pollution or physical agents- as well

as using individual measurements of exposure in case-control and cohort studies; those projects related with biomonitoring in general population can also be included in this research line and 3) genetics and molecular cancer epidemiology, especially in breast cancer. Accordingly, the activities of the Unit, therefore, cover a wide range of topics in etiological research of different types of cancer and in the development of innovative methods of study design and data analysis. Most of the activities integrate researchers and groups external to the ISCIII from different disciplines.

## Most relevant scientific articles

CASTELLO A., MARTÍN M., RUIZ A., CASAS A.M., BAENA-CANADA J.M., LOPE V. ET AL. Lower breast cancer risk among women following the World Cancer Research Fund and American Institute for Cancer Research lifestyle recommendations: Epigeicam case-control study. PLoS ONE. 2015;10(5).

RAMON Y CAJAL T., CHIRIVELLA I., MIRANDA J., TEULE A., IZQUIERDO, BALMANA J. ET AL. Mammographic density and breast cancer in women from high risk families. Breast Cancer Research. 2015.

BUTT J., ROMERO-HERNÁNDEZ B., PÉREZ-GÓMEZ B., WILLHAUCK-FLECKENSTEIN M., HOLZINGER D., MARTÍN V. ET AL. Association of Streptococcus gallolyticus subspecies

gallolyticus with colorectal cancer: Serological evidence. International Journal of Cancer. 2015.

GARCÍA-PÉREZ J., LÓPEZ-ABENTE G., CASTELLO A., GONZÁLEZ-SÁNCHEZ M., FERNÁNDEZ-NAVARRO P.. Cancer mortality in towns in the vicinity of installations for the production of cement, lime, plaster, and magnesium oxide. Chemosphere. 2015;128:103-110.

GARCÍA-PÉREZ J., LÓPEZ-ABENTE G., GÓMEZ-BARROSO D., MORALES-PIGA A., PARDO ROMAGUERA E., TAMAYO I. ET AL. Childhood leukemia and residential proximity to industrial and urban sites. Environmental Research. 2015;140:542-553.

## Highlights

During 2015, the members of the Environmental Epidemiology and Cancer Unit collaborated in 15 research projects leading 12 of them. In addition, we got 3 new projects in competitive concurrency. The Group contributes very actively in 3 of the subprogrammes of the chronic disease program: 1) Project MCC-Spain, multicentric multicase-control study on the role of environmental factors in the etiology of the most prevalent cancers in Spain; 2) DDM studies on mammographic density as intermediate phenotype for breast cancer; 3) Industrial pollution and cancer in Spain. The work of the group is reflected in 42 scientific papers and 31 abstracts presented at national and international conferences. Our group is engaged in training activities, collaborating in different courses (Master's degree, courses on methodological aspects and epidemiology of cancer). Three

doctoral theses co-directed from our area have been defended this year as well as 6 master's thesis. Our group is particularly involved in aspects of dissemination and translation of knowledge at different levels: at a more technical level we developed and maintain the ARIADNA server (<http://ariadna.cne.isciii.es/>), which provides up-to-date information on mortality from cancer in Spain, and produce periodic reports that we also publish on our website. For the general population, we organize and participate in conferences to disseminate our results and others' in this field. In this regard, we highlight the monographic session organized by the group in collaboration with the Spanish Association against Cancer in Madrid with the title "Cancer in Spain: Current status and possibilities of prevention".

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**Website:** <http://www.isciii.es/ISCIII/es/contenidos/fd-servicios-cientifico-tecnicos/fd-vigilancias-alertas/epidemiologia-ambiental-y-cancer.shtml>

## Group 20

**Programme:** Epidemiology and Environmental and Occupational Risk Prevention

**Lead Researcher:** Marcos Dauder, Ricardo



## Group Members



**STAFF MEMBERS:** Pastor Benito, Susana.

**ASSOCIATED MEMBERS:** Alarcón Sánchez, Lourdes | Baida Gil, Aída | Creus Capdevilla, Amadeu | Guillamet Cros, Emma | Hernández Bonilla, Alba | López Castel, Arturo | Soriano Tarraga, Carolina | Velázquez Henar, Antonia | Xamena López, Noel.

## Main lines of research

**Genotoxic/carcinogenic mechanisms of arsenic.** This research field involves both in vitro and biomonitoring studies with exposed populations. The most interesting recent results can be summarized as:

In the human populations studied (Chile and Mexico), the exposed people (never mind if they are occupationally or environmentally exposed) present high levels of genetic damage. / We have found a new polymorphism of the AS3MT gene (Met287Thr) acting as an important modulator of the genetic risk. Individuals carrying such variant accumulate the metabolite MMA(III) that is the arsenic specie showing the highest genotoxic potentiality. / We have generated a wide set of in vitro tools to evaluate the carcinogenic potential of arsenic. / We have demonstrated for first time that oxidative damage plays an important role in both the genotoxicity and carcinogenicity of arsenic.

**Risk factors in patients with thyroid pathologies.** The most important goals reached in this research line can

be summarized as follows:

We have found a region in chromosome 1p12 showing a strong association with thyroid cancer. In this region there is a new gene (WDR3) responsible of the observed association. / We have found associations between different genes involved in the repair of DNA (OGG1, XRCC1, XRCC2 and XRCC3) and the metabolism of thyroid (TG) and the thyroid cancer. / In a wide study of all the genome (GWA), carried out with samples from four European populations we have found a strong association with the rs6759952 polymorphism of the DIRC3 gene. / Finally, in a collaborative study with Italian groups we have shown for first time that the thyroperoxidase gene (TPO) is involved in the risk of suffering thyroid cancer.

**Risk factors in patients with kidney thyroid pathologies.** The most important recent goals of this research line are as follows:

We have found that patients with chronic renal failure (CRF) present high levels of genetic damage at both primary and fixed level. / The CRF patients are characterized by genomic instability. This supposes that these patients are extremely sensitive to the environmental genotoxicants. / CRF patients present high mortality, but not specific causes have been found. / DNA oxidative damage and its inability to repair it is an important factor explaining why these patients show high levels of genetic damage.

**Genotoxic mechanisms of nanomaterials.** This is a recent research line aiming to determine the risk that

can suppose the presence of these new materials in our near environment.

The obtained results until now indicate that:

Silver in its nanoparticulated form is able of induce genotoxic damage *in vivo* as we have demonstrate in *Drosophila*. / We have detected several nanomaterials such as titanium dioxide and zinc oxide modulate the genotoxic effects induced by UV light. / Long-term exposures to sub-toxic doses of cobalt nanoparticles induce cell transformation as well as other markers of tumoral processes. / Cerium nanoparticles pose antioxidant potential both *in vivo* and *in vitro*.

## Most relevant scientific articles

BACH J., PEREMARTI J., ANNANGI B., MARCOS R., HERNÁNDEZ A.. Oxidative DNA damage enhances the carcinogenic potential of *in vitro* chronic arsenic exposures. *Archives of Toxicology*. 2015.

ANNANGI B., RUBIO L., ALARABY M., BACH J., MARCOS R., HERNÁNDEZ A.. Acute and long-term *in vitro* effects of zinc oxide nanoparticles. *Archives of Toxicology*. 2015.

FIGLIOLI G., CHEN B., ELISEI R., ROMEI C., CAMPO C., CIPOLLINI M. ET AL. Novel genetic variants in differentiated thyroid cancer and assessment of the cumulative risk. *Scientific Reports*. 2015;5.

RUBIO L., ANNANGI B., VILA L., HERNÁNDEZ A., MARCOS R.. Antioxidant and anti-genotoxic properties of cerium oxide nanoparticles in a pulmonary-like cell system. *Archives of Toxicology*. 2015.

ALARABY M., ANNANGI B., HERNÁNDEZ A., CREUS A., MARCOS R.. A comprehensive study of the harmful effects of ZnO nanoparticles using *Drosophila melanogaster* as an *in vivo* model. *Journal of Hazardous Materials*. 2015;296:166-174.

## Highlights

A total 17 publications with an accumulated impact factor of 68.110 have been published. This means an averaged factor of 4.001.

Participation in two research projects. One supported by FIS in collaboration with the Fundación Puigvert entitled: Biomarcadores de pronóstico y estrategias para disminuir la morbimortalidad de pacientes con insuficiencia renal. The second one has been funded by the UE and entitled: A common European approach to the regulatory testing of nanomaterials (NaNoREG).

Defence of three PhD Thesis entitled:

- Estudi *in vitro* del paper del dany oxidatiu com a mecanisme d'acció en la carcinogènesi associada a l'arsènic. Jordi Bach Griera. Directores: A. Hernández y R. Marcos. Lectura: 16-11-2015.

- Dany genètic i la seva modulació en pacients amb malaltia renal crònica. Lara Rodríguez Ribera. Directores: S. Pastor y R. Marcos. Lectura: 19-11-2015.
- Los factores de transcripción TBX15 e YY1 en cáncer. Función y regulación de TBX15. Expresión de YY1 en cáncer de tiroides. Jesssica Arribas Arranz. Directora: A. Velázquez. Lectura: 27-11-2015.

Ricard Marcos acted as expert, nominated by the Ministerio de Sanidad y Consumo, in the ad hoc Commission of the OCDE responsible for the revision and updating of the Guidelines on Genotoxicity Assays.

## Group 32

**Programme:** Prevention, Monitoring and Control of Communicable Diseases

**Lead Researcher:** Mateo Ontañón, Salvador de



## Group Members



**STAFF MEMBERS:** Gómez Barroso, Diana Belén | Saravia Campelli, Gabriela.

**ASSOCIATED MEMBERS:** Cano Portero, Rosa María | Delgado Sanz, María Concepción | Díaz Franco, Asunción | Díez Ruiz-Navarro, Mercedes | Fernández-Cuenca Gómez, Rafael | Herrera Guibert, Dionisio José | Herrera León, Laura | Jiménez Jorge, Silvia | Larrauri Cámara, Amparo | León Gómez, Inmaculada | López Perea, Noemí | Martín de Pando, María Concepción | Martínez de Aragón Esquivias, María Victoria | Martínez Pino, Isabel | Martínez Sánchez, Elena Vanessa | Masa Calles, Josefa | Oliva Domínguez, Jesús Ángel | Palmera Suárez, Rocío del Pilar | Rodríguez Valín, María Elena | Sánchez Serrano, Luisa Pilar | Sastre García, María | Simón Soria, Fernando | Torres de Mier, María de Viarce | Varela Martínez, María del Carmen.

## Main lines of research

- Development of excellence networks for epidemiological surveillance at European level.
- Methodological research for health early warning.
- Evaluation of public health measures against vaccine preventable diseases.
- Spatio-temporal variability study of risk in acquiring and developing infectious diseases.
- Molecular methodology use for detection and control of epidemic outbreaks.
- Developing collaborative and interdisciplinary research in the field of disease surveillance, prevention and control.

## Most relevant scientific articles

DIAZ A., ROMERO J.D., RODRÍGUEZ C., ALASTRUE I., BELDA J., BRU F.J. ET AL. Effects of region of birth, educational level and age on late presentation among men who have sex with men newly diagnosed with hiv in a network of sti/hiv counselling and testing clinics in spain. *Eurosurveillance*. 2015;20(14):1-8.

GÓMEZ-BARROSO D., HERRADOR Z., SAN MARTÍN J.V., GHERASIM A., AGUADO M., ROMERO-MATE A. ET AL. Spatial distribution and cluster analysis of a leishmaniasis outbreak in the south-western Madrid region, Spain, September 2009 to April 2013. *Euro surveillance : bulletin Européen sur les maladies transmissibles = European communicable disease bulletin*. 2015;20(7):11-20.

JIMÉNEZ-JORGE S., DE MATEO S., DELGADO-SANZI C., POZO F., CASAS I., GARCÍA-CENOZ M. ET AL. Estimating influenza

vaccine effectiveness in Spain using sentinel surveillance data. *Eurosurveillance*. 2015;20(28).

MONGE S, DÍEZ M, ÁLVAREZ M, GUILLOT V, IRIBARREN JA, PALACIOS R ET AL. Use of cohort data to estimate national prevalence of transmitted drug resistance to antiretroviral drugs in Spain (2007-2012). *Clinical microbiology and infection : the official publication of the European Society of Clinical Microbiology and Infectious Diseases*. 2015;21(1):105.e1-5.

MOLBAK K., ESPENHAIN L., NIELSEN J., TERSAGO K., BOSSUYT N., DENISOV G. ET AL. Excess mortality among the elderly in European Countries, December 2014 to February 2015. *Eurosurveillance*. 2015;20(11).

## Highlights

During 2015, our Group has participated in 5 National and 4 International Research Projects in collaboration with another CIBERESP Groups.

In relation to the National Plan for Tuberculosis Prevention and Control, we have been working in the Epidemiological indicators for 2014 and we launched the Technical Report about the Situation of Tuberculosis in Spain, 2014.

In the framework of the Plans for Eradication and Elimination (WHO), we elaborated the National Situation Reports about polio, measles and rubella in Spain. It is also remarkable our collaboration in updating the National Action Plan for Polio Eradication and the updating of the National Immunization schedule to be set up in 2017.

Our research in influenza vaccine effectiveness contributed to GIVE Report 2015 (The Global Influenza Vaccine Effectiveness Collaboration). The aim of this collaboration is to support WHO in the two annual selection processes of the influenza virus strains to include in the seasonal vaccine for the next flu season.

Besides, the "Procedures Guidelines for the Influenza Surveillance in Spain" was approved. This document collects the detailed surveillance guidelines from all the components of the National Influenza Surveillance Network.

Two Guidelines for Health Care Associated Infections in surgical sites and in intensive care units were developed during 2015. These Guidelines will be the bases for the implementation of this surveillance at national level.

It was also relevant our participation in the Strategic National Action Plan for reducing the risk of antibiotic resistance spreading. This Plan was supported from the National Spanish Agency for Drugs and Sanitary Products. We also collaborated in the elaboration of the Annual Report of the Strategic Plan.

Finally, our Group prepared the Outbreak Report in relation to the contamination of a chlorhexidine disinfectant with *Serratia marcescens*.

## Group 29

Programme: DAPET Programme

Lead Researcher: Menéndez Santos, Clara



### Group Members

**STAFF MEMBERS:** Jiménez Morera, Alfons.

**ASSOCIATED MEMBERS:** Aponte Varon, John Jairo | Arnaiz Gargallo, Joan Albert | Ascaso Terren, Carlos | Bardaji Alonso, Azucena | Bassat Orellana, Enrique | Bayas Rodríguez, José María | Carne Cladellas, Francisco Javier | Dobaño Lazaro, Carlota | González Álvarez, Raquel | Guinovart Florensa, Caterina | Lahuerta Sanau, Maria | Letang Jiménez de Anta, Emilio Ángel | Mayor Aparicio, Alfredo Gabriel | Naniche, Denise | Ordi Maja, Jaume | Pons Casellas, María Jesús | Quinto Domech, Llorenç | Sanz Bravo, Sergi | Trilla García, Antonio de Padua.

**COLLABORATORS:** Llamas, Alicia | Merino, M<sup>a</sup> José | Plasencia, Antoni | Vicente, Gonzalo.

### Main lines of research

**Maternal, Child and Reproductive Health**, especially focused on Malaria in Pregnancy, Causes of Mortality and Human Papillomavirus (HPV).

**Malaria control and elimination:** from Basic research in pathophysiology and immunology of the disease to clinical development of new tools for the prevention or treatment of malaria, including vector control, drugs and vaccines and social and economic issues, with a special focus now on malaria elimination strategies.

**HIV/AIDS:** current focus in acute HIV infection and HIV-induced immune activation in the both HIV-infected adults and infants.

## Most relevant scientific articles

MAYOR A., BARDAJI A., MACETE E., NHAMPOSSA T., FONSECA A.M., GONZÁLEZ R. ET AL. Changing trends in *P. Falciparum* burden, immunity, and disease in pregnancy. *New England Journal of Medicine*. 2015;373(17):1607-1617.

URBIZTONDO L., BRONER S., COSTA J., ROCAMORA L., BAYAS J.M., CAMPINS M. ET AL. Seroprevalence study of *B. pertussis* infection in health care workers in Catalonia, Spain. *Human Vaccines and Immunotherapeutics*. 2015;11(1):293-297.

## Highlights

### PROYECTOS:

Two new international projects have been launched: one operational research project aimed at evaluating alternatives to increase the coverage of intermittent preventive treatment of malaria in pregnancy (MIPPCOD Project) and a project aimed to improve technical capacity through conducting three workshops reduction of maternal and neonatal mortality (Project Safe Mothers and Newborns: a Leadership Workshop). The **MIPPCOD** (Malaria in Pregnancy Community Delivery) project in its initial planning phase (January 2015 to April 2016) will determine through a review of existing evidence and field visits- a number of eligible countries where it is feasible to evaluate the implementation of intermittent preventive treatment (IPTp) delivery during pregnancy through community health workers (CHW), as a complementary avenue to the current distribution through the antenatal care services in order to increase the effective coverage of the IPTp, a highly cost-effective intervention that currently only 25% of pregnant women in malaria endemic countries receives. The project **Safe Mothers and Newborns: A Leadership Workshop**; During 2015 we shaped the format and syllabus of the international workshop

ISGlobal organized in collaboration with the Maternal Health Task Force of the Harvard School of Public Health and the Aga Khan University. 60 participants attended the first edition of the workshop (including 20 international speakers and 40 participants from developing countries where the majority of maternal and neonatal deaths occur). Under the coordination of the team of Dr. Menendez two more workshops will be organized in Boston, USA (2016) i Nairobi, Kenya (2017), respectively.

### RESULTS:

As results, it would be highlighted a study published by the *New England Journal of Medicine* and led by ISGlobal and the Manhica Health Research Center (CISM) in Mozambique, shows that a reduction in the exposure to the malaria parasite can weaken the immune regulation of parasite density and increase the occurrence of adverse clinical outcomes among pregnant women that become infected, as well as their newborns

([http://www.isglobal.org/es/web/guest/new/-/asset\\_publisher/JZ9fGljXnWpl/content/el-repunte-de-la-malaria-puede-tener-consecuencias-graves-para-las-mujeres-embarazad-1](http://www.isglobal.org/es/web/guest/new/-/asset_publisher/JZ9fGljXnWpl/content/el-repunte-de-la-malaria-puede-tener-consecuencias-graves-para-las-mujeres-embarazad-1))

## Group 17

**Programme:** Epidemiology and Control of Chronic Diseases

**Lead Researcher:** Morales Suárez-Varela, María Manuela

### Group Members

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**STAFF MEMBERS:** Colomar Savall, Anna.

**ASSOCIATED MEMBERS:** Livianos Aldana, Lorenzo | Llopis González, Agustín | Navarro Pérez, Jorge | Picó García, Yolanda | Rojo Moreno, Luis Miguel | Ruiz Rojo, Elías.

### Main lines of research

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- Epidemiology of chronic diseases.
- Environment and health.
- Effects of prenatal and postnatal exposure to environmental contaminants.
- Effects of diet on paediatric neurodevelopment.
- Effects of diet on the risk of chronic diseases.

## Most relevant scientific articles

MARI-BAUSET S., LLOPIS-GONZÁLEZ A., ZAZPE I., MARI-SANCHIS A., SUAREZ-VARELA M.M.. Nutritional Impact of a Gluten-Free Casein-Free Diet in Children with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*. 2015.

MARÍ-BAUSET S, LLOPIS-GONZÁLEZ A, ZAZPE-GARCÍA I, MARÍ-SANCHIS A, MORALES-SUÁREZ-VARELA M. Nutritional status of children with autism spectrum disorders (ASDs): a case-control study. *Journal of autism and developmental disorders*. 2015;45(1):203-12.

MORALES-SUAREZ-VARELA M., RUBIO-LÓPEZ N., RUSO C., LLOPIS-GONZÁLEZ A., RUIZ-ROJO E., REDONDO M. ET AL. Anthropometric status and nutritional intake in children (6-9

years) in Valencia (Spain): The ANIVA study. *International Journal of Environmental Research and Public Health*. 2015;12(12):16081-16095.

LLOPIS-GONZÁLEZ A., ALCAIDE CAPILLA T., CHENLO ALONSO U., RUBIO-LÓPEZ N., ALEGRE-MARTÍNEZ A., SUAREZ-VARELA M.M.. Central nervous system (CNS) cancer in children and young people in the European Union and its involvements with socio-economic and environmental factors. *Journal of the Neurological Sciences*. 2015;359(1-2):151-155.

LIVIANOS L., GONZÁLEZ-VALLS P.I., GARCÍA-BLANCO A.C., TOBELLÀ H., DIAZ-ALONSO I., ALBEROLA N. ET AL. Hypoesthesia of the malleolus as a soft sign in depression. *Journal of Affective Disorders*. 2015;171:128-131.

## Highlights

Our group forms part of the University of Valencia and the Mixed Unit of Nutrition Research (FISA-BIO-CSISP-UVEG), of the Generalitat Valenciana (Regional Valencian Government).

We currently participate in many projects as the Principal Investigator in Assessing and predicting effects on water quantity and quality in Iberian rivers (SCARCE) (CDS2009-00065); Evaluation of emerging contaminants in the Turia Basin: in basic research applied to environmental forensics (CGL2011-29703-C02-02) and Identifying communication barriers between healthcare personnel and the patients who come to malaria healthcare services (Cooperation to Development Projects, the University of Valencia, 2014/15). Our group collaborates with other CIBER groups: Effectiveness of the flu and 23-valent pneumococcal polysaccharide vaccine in people aged 65 and over (PI12/02079); Analysing and improving the degree of adapting scheduled abdominal aortic aneurysm surgery (PI12/02530); Risk factors of adverse results at 3 and 5 years in patients with colorectal cancer. Multi-

centre study CARESS-CCR II (FIS13/0013); Study of adapting intermittent hormone therapy in patients with prostate cancer (PI15/00886) and in the Dynamic Cohort of university students to study drug use and other addictions (Spanish National Drugs Plan 2013-2016).

We collaborate with the Valencian Oncology Institute in studies into breast cancer and diet to achieve better patient recovery, and also with the Gynaecology Service of the La Fe Hospital with the Project entitled "Study on the lifestyle and health of newborns". This group leads the ANIVA (anthropometry and infant nutrition in Valencia) study.

It also collaborates with the Public Health Laboratory of the Valencian Community as part of the FISA-BIO framework.

Six doctoral theses have been defended (the directors are members of our group), all of which have been unanimously evaluated as excellent cum laude.

## Group 55

Programme: Epidemiology and Control of Chronic Diseases

Lead Researcher: Moreno Aguado, Víctor



## Group Members



**STAFF MEMBERS:** Atencia Rojas, Carmen Rosa.

**ASSOCIATED MEMBERS:** Alonso Aguado, M<sup>a</sup> Henar | Berenguer Llargo, Antonio | Binefa Rodríguez, Gemma | Closa Mosquera, Adrià | Cordero Romera, David | Crous Bou, Marta | Guino Domènech, Elisabet | López-Doriga Guerra, Adriana | Mila Díaz, Nuria | Rodríguez Moranta, Francisco | Sanz Pamplona, Rebeca | Sole Acha, Xavier | Soriano Izquierdo, Antonio.

**COLLABORATORS:** López Círcoles, Olga.

## Main lines of research

**Genetic Epidemiology:** Our research in the field of genetic epidemiology is focused primarily on identifying genetic polymorphisms as susceptibility markers of cancer risk associated with the study of drug consumption, colorectal cancer, and development of a predictor of individual risk based on the combination of multiple genetic polymorphisms associated with cancer. In this line we also develop new biostatistical and bioinformatics methods.

**Molecular diagnosis of cancer.** Within the area of molecular diagnosis of cancer, our research focuses on the identification of biomarkers useful for the early diagnosis of colorectal cancer. The domains of interest include genomics, proteomics and epigenetics. We believe that genomic regulatory networks are useful for the identification of new markers.

**Prognostic markers and therapeutic response prediction:** We have series of colorectal cancer patients well characterized from a clinical point of view, with a long follow-up and prospective data collection. These series are useful to identify prognostic markers, prediction of therapeutic response and toxicity of chemotherapy and radiotherapy.

**Identification of new therapeutic targets:** We use of bioinformatics tools for the identification of genes involved in cancer. This is a complex task since it requires in vivo and in vitro validation of hypotheses generated by bioinformatics models using genomic and proteomic data.

## Most relevant scientific articles

MORENO V., SANZ-PAMPLONA R.. Altered pathways and colorectal cancer prognosis. BMC Medicine. 2015;13(1).

SEGUI N., MINA L.B., LAZARO C., SANZ-PAMPLONA R., PONS T., NAVARRO M. ET AL. Germline Mutations in FAN1 Cause Hereditary Colorectal Cancer by Impairing DNA Repair. Gastroenterology. 2015;149(3):563-566.

ZAMORA-ROS R., GUINO E., HENAR ALONSO M., VIDAL C., BARENYS M., SORIANO A. ET AL. Dietary flavonoids, lignans and colorectal cancer prognosis. Scientific Reports. 2015;5.

MUR P., AIZA G., SANZ-PAMPLONA R., GONZÁLEZ S., NAVARRO M., MORENO V. ET AL. AMER1 is a frequently mutated gene in colorectal cancer - Letter. Clinical Cancer Research. 2015;21(21):4985.

SANTOS C., SANZ-PAMPLONA R., NADAL E., GRASSELLI J., PERNAS S., DIENSTMANN R. ET AL. Intrinsic cancer subtypes-next steps into personalized medicine. Cellular Oncology. 2015;38(1):3-16.

## Highlights

In 2015 we have initiated four new research projects:

**Motricolor: Molecularly guided Trials with specific treatment strategies in patients with advanced newly molecular defined subtypes of Colorectal cancer.** This

is a H2020 project that aims to assess the effectiveness of personalized treatment approaches in advanced colorectal cancer according to a stratification of tumors based on molecular subtyping. Three phase II clinical trials will be performed with specific treatments for each molecular subtype. Our group leads the biostatistical and bioinformatics analysis of the project, which is coordinated by the group of oncology at Vall d'Hebron Hospital (J. Tabernero).

Merck-Serono Oncology Grant for Innovation. **Individualized Mutatome-based Vaccination in Cancer Patients.** The project aims to design a therapeutic vaccine based on RNA designed to produce specific immunogenic peptides against mutations detected in tumors. Our group will analyze mutations in tumors

by next generation sequencing techniques and design sequences predicted to generate an immune response against the tumor. The IP project is the oncologist J.M. Piulats, Catalan Institute of Oncology.

**GEUS, Development of technology for the unified analysis of genome and epigenome with high precision.** Funded by the RETOS call, in collaboration with the company Aniling (L. Coll) and the Institute of Predictive and Personalized Medicine of Cancer (M. Peinado). The project aims to develop bioinformatics tools to analyze DNA methylation data from bisulfite sequencing.

**The Epidemiology of Immune Responses in Colorectal Cancer.** Project funded by the National Cancer Institute of USA. Led by Dr. S. Gruber, University of Southern California. The project aims to analyze the role of tumor infiltrating lymphocytes as a prognostic factor in colorectal cancer.

## Group 2

Programme: DAPET Programme

Lead Researcher: Moya Simarro, Andrés



## Group Members



**STAFF MEMBERS:** Gosalbes Soler, María José.

**ASSOCIATED MEMBERS:** Bracho Lapiedra, María Alma | Comas Espada, Iñaki | D'auria, Giusepe | Dhunkova, María | Francino Puget, María Pilar | García López, Rodrigo | González Candelas, Fernando | Isaac, Sandrine | Jiménez Hernández, Nuria | Latorre Castillo, Amparo | López Labrador, Francisco Javier | Patiño Galindo, Juan Ángel | Pérez Brocal, Vicente | Pérez Cobas, Ana Elena | Sánchez Buso, Leonor | Silva Moreno, Francisco José | Úbeda Morant, Carles | Vázquez Castellanos, Jorge Francisco.

## Main lines of research

Development of new methods for genomic, metagenomic, epidemiological and evolutionary analysis to apply to the research on infectious diseases or dysbiotic microbiota, and also the regular study of them, particularly in the Comunidad Valenciana. Our group research focuses on microorganisms concerning the human health, in order to propose guidelines to the health administration in relation to certain pathogens, diseases related to the microbiota alteration and outbreaks.

The objective of the studies in genomics, metagenomics, molecular epidemiology and evolution of organisms and / or microbial communities is their identification, sequencing and comparative and evolutionary analysis. The specific objectives aim to identify the genetic and metabolic factors associated with pathogenesis, to determine the genes or accessory elements responsible for the virulence, for the antigenic features relevant for vaccination or for the resistance to different treatments, as well as the evaluation of transmission routes, etc.

## Most relevant scientific articles

ROJO D., GOSALBES M.J., FERRARI R., PÉREZ-COBAS A.E., HERNÁNDEZ E., OLTRA R. ET AL. *Clostridium difficile* heterogeneously impacts intestinal community architecture but drives stable metabolome responses. *ISME Journal*. 2015;9(10):2206-2220.

SÁNCHEZ-BUSO L., COSCOLLA M., PALERO F., CAMARO M.L., GIMENO A., MORENO P. ET AL. Geographical and temporal structures of *Legionella pneumophila* sequence types in Comunitat Valenciana (Spain), 1998 to 2013. *Applied and Environmental Microbiology*. 2015;81(20):7106-7113.

PÉREZ-LAGO L., MARTÍNEZ LIROLA M., HERRANZ M., COMAS I., BOUZA E., GARCÍA-DE-VIDE D. Fast and low-cost decentralized surveillance of transmission of tuberculosis based on strain-specific PCRs tailored from whole ge-

nome sequencing data: A pilot study. *Clinical Microbiology and Infection*. 2015;21(3):249.e1-249.e9.

PUIG-BARBERA J., MIRA-IGLESIAS A., TORTAJADA-GIRBES M., LÓPEZ-LABRADOR F.X., BELENGUER-VAREA A., CARBALLIDO-FERNÁNDEZ M. ET AL. Effectiveness of influenza vaccination programme in preventing hospital admissions, Valencia, 2014/15 early results. *Eurosurveillance*. 2015;20(8).

MOSELE J.I., GOSALBES M.-J., MACIA A., RUBIO L., VÁZQUEZ-CASTELLANOS J.F., JIMÉNEZ HERNÁNDEZ N. ET AL. Effect of daily intake of pomegranate juice on fecal microbiota and feces metabolites from healthy volunteers. *Molecular Nutrition and Food Research*. 2015;59(10):1942-1953.

## Highlights

During 2015, our group has been funded by 6 grants both national and regional (PROMETEOII/2014/065, SAF2013-43521-R, SAF2013-49788-EXP, SAF2012-31187, BFU2014-58656-R, FPEF13-3E-2547) and 3 European (ERC-StG-2014-638553TB ACCELERATE, H2020-MSCA-RISE-2015, ERA-NET Infect-ERA (Seventh Research Framework Programme)). Also, we have participated in the European project "Recognition of the primary infection by *Pneumocystis* in infants: a silent threat to public health" (ELAC2014/HID0254) granted by "Instituto de Salud Carlos III" and led by Dr. Sergio Vargas (University of Santiago de Chile). During this year, the project "Identification of novel modulators of chronic inflammation in prevalent diseases: unveiling divergent mechanisms of disease" (PIE14/00045) has received funding and Prof. Andrés Moya is leader of workpackage 2 on Epidemiological Analyses. We belong to la Red de Excelencia "Genómica de la Adaptación" granted by Ministerio de Economía y Competitividad (CGL2015-71726-REDT,1/12/2015- 31/11/2017).

Furthermore, we maintain close partnerships with different national and international research groups and also with hospitals located in the Comunidad Valenciana and Spain to work in the field of human microbiome and infectious pathogens.

Our group have applied for an European patent (Application number: EP15305758.3) with the title "Methods and means for managing extended-spectrum beta-lactamase (ESBL)-producing enterobacteriaceae colonization" in collaboration with Dr. Andreumont from the University of Paris-Diderot (France). CIBER is listed as applicant with Universidad de Valencia, Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana, Université Paris Diderot Paris 7, Assistance Publique - Hôpitaux de Paris.

In 2015 the FISABIO-University of Valencia Academic Chair has continued, being Prof. Andrés Moya the director.

During 2015 two doctoral theses have been defended, and another four are ongoing. Also, during this year we received various students from both national and international universities.

## Group 24

Programme: Epidemiology and Control of Chronic Diseases

Lead Researcher: Navarro Sánchez, Carmen



## Group Members



**STAFF MEMBERS:** Huerta Castaño, José M<sup>a</sup> | Salmerón Martínez, Diego.

**ASSOCIATED MEMBERS:** Chirlaque López, M<sup>a</sup> Dolores | Cirera Suárez, Lluís | García Fulgueiras, Ana M<sup>a</sup> | García Ortuzar, Visitación | García Pina, Rocio | Gavrila Chervase, Diana | Guillén Pérez, José Jesús | López Rojo, Concepción | Mendiola Olivares, Jaime | Navarro Mateu, Fernando | Pérez Flores, Domingo | Tormo Díaz, M<sup>a</sup> José | Torres Cantero, Alberto Manuel.

**COLLABORATORS:** Ríos Molina, M<sup>a</sup> Esperanza.

## Main lines of research

**Cancer epidemiology.** The group has consolidated a research line on cancer over the last two decades by taking part in the cohort study European Prospective Investigation into Cancer and Nutrition (EPIC), focused on diet, cancer, and lifestyle and genetic interactions. Also recently, the group has joined the Spanish multi-center case-control population study (MCC-Spain), developed within the CIBERESP, aimed at investigating the effect of the environment and its interaction with genetic factors on high-incidence tumours in Spain. Furthermore, the group has an active participation in several national and international projects on cancer survival (EUROCORE, CONCORD, RARECARE), and information systems and cancer registries (EUROCHIP, REDEPICAN, REDECAN).

**Epidemiology of cardiovascular disease, diabetes, and other chronic diseases.** In the field of other chronic diseases, the group participates in the DARIOS and FRESCO studies, on cardiovascular risk functions for the Spanish population, and in the EPIC-CVD study, conceived to perform a joint study of the effect of genetic factors, biomark-

ers, and life styles, on coronary heart disease and stroke in Europe. On diabetes, the group takes part in the European case-cohort InterAct study on the interaction between genetic and modifiable life-style factors (particularly diet and physical activity), and has designed and developed the DINO study (study on diabetes, nutrition, and obesity in the Region of Murcia). It is also noteworthy the participation in an interesting project to analyse whether the presence of specific antibodies for rheumatoid arthritis could be able to predict the onset of the disease, and what are the related factors (genetic and environmental) that could affect this process. Other specific objective of the group is to estimate the burden of infectious diseases in Spain with a special focus on hepatitis B and C. Finally, the group has research interests in the epidemiology of neurological disorders such as Parkinson or Alzheimer disease, and dementia, and it is currently leading the PEGASUS-Murcia study (study on health and quality of life in the Region of Murcia), a population-based survey to know the prevalence of mental disorders, co-morbidity patterns and relat-

ed factors, in the general population.

**Environmental health, reproductive health, life styles, and diet.** The group works in this research line on food and nutrient patterns, physical activity, and other life style factors, in relation to health and development of chronic diseases. Other research interest focuses on reproductive health of young adults, and the study of its related factors, both endogenous and environmental (hormonal and developmental factors, diet, sedentarism, environmental pollutants, heavy metals).

**Social determinants of health. Inequality, immigration and gender.** Through the project 'Health and Cultures'

the group has carried out the study of the health of the immigrant population in Murcia and its determinant factors, in order to identify the specific health needs of such a minority and the barriers that limit their health care. Other research lines of the group involves the study of social problems such as the domestic violence, or the double workload (paid work and domestic labors) of women and its health consequences. Furthermore, within the MEDEA project, the group takes part in the study of economic and environmental inequalities on the morbidity and mortality in small areas of large cities in Spain.

## Most relevant scientific articles

CIRERA L, HUERTA JM, CHIRLAQUE MD, MOLINA-MONTES E, ALTZIBAR JM, ARDANAZ E ET AL. Life-course social position, obesity and diabetes risk in the EPIC-Spain Cohort. *European journal of public health*. 2015;

NAVARRO-MATEU F., TORMO M.J., SALMERON D., VILAGUT G., NAVARRO C., RUIZ-MERINO G. ET AL. Prevalence of mental disorders in the South-East of Spain, one of the European regions most affected by the economic crisis: The cross-sectional PEGASUS-Murcia project. *PLoS ONE*. 2015;10(9):-

SANT M., CHIRLAQUE LÓPEZ M.D., AGRESTI R., SÁNCHEZ PÉREZ M.J., HOLLECZEK B., BIELSKA-LASOTA M. ET AL. Survival of wom-

en with cancers of breast and genital organs in Europe 1999-2007: Results of the EUROCARE-5 study. *European Journal of Cancer*. 2015;51(15):2191-2205.

SALMERON D., CANO J.A., CHIRLAQUE M.D.. Reducing Monte Carlo error in the Bayesian estimation of risk ratios using log-binomial regression models. *Statistics in Medicine*. 2015;34(19):2755-2767.

GAULTON K.J., FERREIRA T., LEE Y., RAIMONDO A., MAGI R., RESCHEN M.E. ET AL. Genetic fine mapping and genomic annotation defines causal mechanisms at type 2 diabetes susceptibility loci. *Nature Genetics*. 2015;47(12):1415-1425.

## Highlights

Throughout 2015, the group has developed its diverse scientific programme at regional, national and international levels. The main research lines of the group are the study of the survival of ovarian cancer, worldwide (CONCORD) and Europe-wide (EUROCARE, SUDCAN), the effect of exposure to bisphenol-A on the risk of breast and prostate cancer and coronary heart disease (EPIC), the etiological role of physical activity and obesity on gastric cancer risk (MCC-Spain, EPIC), the GxE determinants of post-traumatic disorder (PEGASUS), the relevance of glycosylated hemoglobin for the prediction of coronary risk in non-diabetics (EPIC-CVD), the Bayesian modelling of health risks, the effect of endocrine disruption on fertility, or the characterization of intimate partner violence among immigrants. It is remarkable the participation in international scientific consortia, co-authoring papers in top scientific journals (Nat Genet: Gaulton et al., Michailidou et al.; J Natl Cancer Inst: Sampson et al.; JAMA Psychiatry: McGrath et al.). Furthermore, through our leadership in the EIP-AHA partnership in Murcia, the

group is actively involved in the innovative eHealth European projects IN3CA (<http://www.in3ca.eu/>) and FICHE (<https://www.f6s.com/fiche>).

In 2015, the group obtained competitive funding for two new research lines: "Chronodiet, circadian clock genes polymorphisms, weight change, and obesity in the EPIC-Spain study" (Institute of Health Carlos III, Madrid), and "Mediterranean diet and risk of Alzheimer and dementia in Spain, assessed in the multi-centre cohort of the EPIC study. Implications for the prevention of cognitive decline" (Fundación SÉNECA, Murcia).

Finally, the group has been selected as a partner for the EU 'Joint Action in Rare Cancers', and has accepted an invitation of the 'Global Burden of Metabolic Risk Factors of Chronic Diseases Collaboration' (Imperial College, London) to contribute first-hand representative survey data of the regional population for improving the local and global estimates of the prevalence of major metabolic risk factors.

**Institution:** Fundación para la Formación e Investigación Sanitarias de la Región de Murcia (FFIS)

**Contact:** D. G. de Salud Pública de Murcia. C/ Luis Fontes Pagán nº 9 - 1ª planta. 30003 Murcia

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## Group 19

**Programme:** Epidemiology and Environmental and Occupational Risk Prevention / Epidemiology and Control of Chronic Diseases / Clinical Epidemiology

**Lead Researcher:** Olea Serrano, Nicolás



## Group Members



**STAFF MEMBERS:** Jiménez Díaz, Inmaculada.

**ASSOCIATED MEMBERS:** Arrebola Moreno, Juan Pedro | Campoy Folgoso, Cristina | Fernández Cabrera, Mariana Fátima | Freire Warden, Carmen | Guirado Lorente, Damián | Nuñez Torres, María Isabel | Villalobos Torres, Mercedes.

## Main lines of research

Multidisciplinary group created to investigate environmental causes of disease, particularly, malignant tumors and its basic and clinical aspects, with a strong character translational and applied to clinical practice. Both the epidemiology of malignant tumor disease as the diagnosis and treatment has been and are the object of attention. Especially:

- Research on environmental factors related to exposure to hormonally active chemical contaminants (endocrine disruption) and physical agents (ionizing and non-ionizing radiation).
- The diagnosis of tumor disease in its early stages and subsequent evolution by radiological techniques and molecular imaging.
- A holistic approach to the concept of health and environment based on: i) markers of exposure; ii) development of biomarkers combined effect; iii) research focused on mechanisms of gene-environment interaction; and iv) actions in prevention.

## Most relevant scientific articles

CALVENTE I., FERNÁNDEZ M.F., PÉREZ-LOBATO R., DAVILA-ARIAS C., OCON O., RAMOS R. ET AL. Outdoor characterization of radio frequency electromagnetic fields in a Spanish birth cohort. *Environmental Research*. 2015;138:136-143.

ARREBOLA J.P., FERNÁNDEZ M.F., MARTÍN-OLMEDO P., BONDE J.P., MARTÍN-RODRÍGUEZ J.L., EXPOSITO J. ET AL. Historical exposure to persistent organic pollutants and risk of incident hypertension. *Environmental Research*. 2015;138:217-223.

FERNÁNDEZ M.F., ARTACHO-CORDON F., FREIRE C., PÉREZ-LOBATO R., CALVENTE I., RAMOS R. ET AL. Trends in children's exposure to second-hand smoke in the INMA-Granada cohort: An evaluation of the Spanish anti-smoking law. *Environmental Research*. 2015;138:461-468.

ARREBOLA J.P., BELHASSEN H., ARTACHO-CORDON F., GHALI R., GHORBEL H., BOUSSEN H. ET AL. Risk of female breast cancer and serum concentrations of organochlorine pesticides and polychlorinated biphenyls: A case-control study in Tunisia. *Science of the Total Environment*. 2015;520:106-113.

CLEMENTE DB, CASAS M, VILAHUR N, BEGIRISTAIN H, BUSTAMANTE M, CARSIN AE ET AL. Prenatal Ambient Air Pollution, Placental Mitochondrial DNA Content, and Birth Weight in the INMA (Spain) and ENVIRONAGE (Belgium) Birth Cohorts. *Environmental health perspectives*. 2015.

## Highlights

The CIBERESP-19 group has carried out clinical-epidemiological studies on exposure to persistent and non-persistent environmental endocrine-disrupting compounds and its effects on human health. Investigations have especially focused on the influence of this exposure on the development of children in the INMA cohort (urogenital malformations at birth, thyroid function and neurodevelopment during the first years of life) and on its effects in adults (metabolic disorders, obesity and hormone-related cancer) in the MCC-Spain study, among others. Access to the Red Biobancos (*Biobank Network*) has allowed us to: i) develop a biomarker of combined exposure to compounds with anti-androgenic activity (TEXB-AA), employed to demonstrate male reproductive health risks; and ii) study molecular, genetic and epigenetic changes as potential mediators between exposure and its effects; thus, the combination of atmospheric contamination and tobacco habit during pregnancy was found to be implicated in the specific methylation of genes associated with newborn weight at delivery. The competitive funding achieved by the group [FIS PI11/00610, PI13/02406, PI14/00067;

Autonómicos PI0513/2012, PI0730/20113] has allowed the group to consolidate existing research lines and initiate the following new lines: i) identification of environmental "obesogens", i.e., compounds that favour obesity, hypertension, diabetes and/or the metabolic syndrome; ii) study of the relationship of historic exposure to bisphenol-A with hormone-dependent cancers and cardiovascular risk in the EPIC-Spain cohort; iii) characterization of exposure to non-ionizing radiation in the INMA-Granada cohort with development of an exposure measurement protocol for INMA-Spain; and iv) analysis of the effects of current anti-tobacco legislation in children. We organized the XII National Conference on Endocrine Disruptors (Cartagena), bringing together more than 350 professionals. We contributed to the EU report on bisphenol-A exposure in the hospital setting. Finally, our research activity contributed to the ISCIII accreditation of the *Instituto de Investigación Biosanitaria* (ibs.GRANADA), whose Scientific Director is Principal Investigator of our group.

**Institution:** Fundación para la Investigación Biosanitaria en Andalucía Oriental (FIBAO)

**Contact:** Hospital Clínico San Cecilio · Dr. Azpitarte, 4-4ª Planta. Edificio Licinio de la Fuente  
18012 Granada · Tel.: 95 824 40 49 · E.mail: nolea@ugr.es · Web: [http://cts206.ugr.es/datos\\_inicio/](http://cts206.ugr.es/datos_inicio/)

## Group 35

Programme: Epidemiology and Control of Chronic Diseases

Lead Researcher: Porta Serra, Miquel



### Group Members



**STAFF MEMBERS:** Pumarega Rodríguez, José Antonio.

**ASSOCIATED MEMBERS:** Alguacil Ojeda, Juan | Casamitjana Abella, Montserrat | Collet Divi, Immaculada | Gasull Panades, Magdalena | Larrea Kilinger, Cristina | López Jiménez, Tomás | Morales Bartolomé, Eva.

**COLLABORATORS:** Rovira Pons, Yolanda.

### Main lines of research

- Clinical and molecular epidemiology of exocrine pancreatic cancer, chronic pancreatitis and cancer of the extrahepatic biliary system. This line of work is fundamentally focused on two projects, the PANKRAS I and PANKRAS II studies. They are a joint collaboration with research units of the cancer research programme of IMIM, as well as with other organizations such as CSIC, Centro Nacional de Investigaciones Oncológicas (CNIO), University Miguel Hernandez from Elx-Alacant, the Harvard School of Public Health and the National Institute of Child Health and Human Development de USA.
- Analysis of out patient and inpatient phases of the “Symptom to treatment interval” (STI) and its impact on survival. Early detection of breast cancer. This line of work is based on the Tumour Registry Working Group at the Hospital del Mar and on the “Breast Cancer Prevention Program” (IMAS/SCS).
- Concentrations of Persistent Organic Pollutants in the general population. This line of work is fundamentally focused on two projects, Blood concentrations of *Persistent Organic Pollutants in the population of Catalonia*, a joint collaboration with Departament de Salut of Generalitat de Catalunya, and *Blood concentrations of Persistent Organic Pollutants in the population of Barcelona*, a joint collaboration with Agència de Salut Pública de Barcelona.

## Most relevant scientific articles

GASULL M., PALLARES N., SALCEDO N., PUMAREGA J., ALONSO J., PORTA M. Self-rated health and chronic conditions are associated with blood concentrations of persistent organic pollutants in the general population of Catalonia, Spain. *Environmental Research*. 2015;143:211-220.

LEGLER J., FLETCHER T., GOVARTS E., PORTA M., BLUMBERG B., HEINDEL J.J. ET AL. Obesity, diabetes, and associated costs of exposure to endocrine-disrupting chemicals in the European Union. *Journal of Clinical Endocrinology and Metabolism*. 2015;100(4):1278-1288.

PEARCE N., BLAIR A., VINEIS P., AHRENS W., ANDERSEN A., ANTO J.M. ET AL. IARC monographs: 40 years of evaluating

carcinogenic hazards to humans. *Environmental Health Perspectives*. 2015;123(6):507-514.

PORTA M., VINEIS P., BOLUMAR F. The current deconstruction of paradoxes: one sign of the ongoing methodological "revolution". *European Journal of Epidemiology*. 2015;30(10):1079-1087.

SUAREZ-LÓPEZ J.R., LEE D.-H., PORTA M., STEFFES M.W., JACOBS D.R. Persistent organic pollutants in young adults and changes in glucose related metabolism over a 23-year follow-up. *Environmental Research*. 2015;137:485-494.

## Highlights

GRECMC is and strives to be a research group with a global and local scholarly influence and recognition. We conceive and develop this influence mainly through research, teaching, and knowledge transfer, which includes a regular activity in global and local academic institutions, media, networks, and advocacy forums. In 2015 we continued publishing in journals internationally recognised 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. *A Dictionary of Epidemiology* (Oxford University Press) reflects as well our aims and approaches.

Our knowledge transfer activities are often reflected in the media;

<http://goo.gl/ZEcF21> ; <http://goo.gl/DXIEQV>  
<http://goo.gl/lo6J2P> ; <http://goo.gl/M7ajDj>  
<http://goo.gl/GkyOaW> ; <https://goo.gl/QTQFPE>  
<http://goo.gl/SCezRk> ; <http://goo.gl/8s0ZRh>

In 2015 we continued the study on plasma concentrations of organochlorine compounds, life styles and conditions, and pancreatic cancer risk in the EPIC cohort, funded by FIS/ISCIII and Marató de TV3, as well as through the innovative crowdfunding platform *Precipita*.

## Group 25

Programme: Epidemiology and Control of Chronic Diseases

Lead Researcher: Rodríguez Artalejo, Fernando



### Group Members



**STAFF MEMBERS:** Laclaustra Gimeno, Martín.

**ASSOCIATED MEMBERS:** Banegas Banegas, José Ramón | García García-Esquinas, Esther | Graciani Pérez-Regadera, María Auxiliadora | Guallar Castellón, Pilar | Gutiérrez Fisac, Juan Luis | López García, Esther | Pérez Tasiqchana, Raul Francisco | Valencia Martín, José Lorenzo.

### Main lines of research

Our strategic objective is to produce relevant information to support clinical and population-based policies aimed at controlling CVD. The results of our studies have been explicitly incorporated into the National Strategy for Ischemic Heart Disease Control, the National Strategy for Obesity Prevention and Control, and the National Strategy on Disease Prevention and health Promotion, elaborated by the Ministry of Health. Moreover, our research results have also supported the development of clinical guidelines in this field; specifically, the guidelines of the Spanish Society for Arterial Hypertension, and guidelines of the Spanish Society of Family Medicine, the leading society devoted to primary health care in Spain.

Our main research themes are:

- Determinants and consequences of frailty in the older adult.
- Improvement of diagnosis and prognosis of the patient with hypertension and heart failure.
- Diet and physical activity as determinants of obesity and cardiovascular risk in the elderly.

## Most relevant scientific articles

LEON-MUNOZ L.M., GARCÍA-ESQUINAS E., LÓPEZ-GARCÍA E., BANEGAS J.R., RODRÍGUEZ-ARTALEJO F.. Major dietary patterns and risk of frailty in older adults: A prospective cohort study. *BMC Medicine*. 2015;13(1).

PADRON A., GALAN I., GARCÍA-ESQUINAS E., FERNÁNDEZ E., BALLBE M., RODRÍGUEZ-ARTALEJO F.. Exposure to second-hand smoke in the home and mental health in children: A population-based study. *Tobacco Control*. 2015.

DANAËI G., FAHIMI S., LU Y., ZHOU B., HAJIFATHALIAN K., CESARE M.D. ET AL. Effects of diabetes definition on global surveillance of diabetes prevalence and diagnosis: A pooled analysis of 96 population-based studies with 331

288 participants. *The Lancet Diabetes and Endocrinology*. 2015;3(8):624-637.

GARCÍA-ESQUINAS E., NAVAS-ACIEN A., PÉREZ-GÓMEZ B., ARTALEJO F.R.. Association of lead and cadmium exposure with frailty in US older adults. *Environmental Research*. 2015;137:424-431.

HOSHIDE S., KARIO K., DE LA SIERRA A., BILO G., SCHILLACI G., BANEGAS J.R. ET AL. Ethnic differences in the degree of morning blood pressure surge and in its determinants between Japanese and european hypertensive subjects: Data from the ARTEMIS study. *Hypertension*. 2015;66(4):750-756.

## Highlights

The major milestones in the group's activity are:

- H2020 funds the ATHLOS project (Ageing Trajectories of Health: Longitudinal Opportunities and Synergies), in which our group is a partner.
- Completion of the second follow-up of ENRICA Seniors cohort in June 2015.
- Exponential increase in the scientific contributions made by our group on the following topic: Influence of diet and other lifestyle factors on the frailty syndrome and disability among older adults.

- Fostering of the evaluation of the second action plan of the National Strategy on Drugs 2009-2016 (Ministry of Health), which is led by one of the researchers of the group.

## Group 5

**Programme:** Epidemiology and Environmental and Occupational Risk Prevention

**Lead Researcher:** Rodríguez Farre, Eduard



## Group Members



**STAFF MEMBERS:** Martí Perales, Elisenda.

**ASSOCIATED MEMBERS:** Briz Herrezuelo, Víctor | Olgúin Alderete, Nair Temis | Palou Serra, Aina | Suñol Esquirol, Cristina.

## Main lines of research

- Neurotoxicity of environmental pollutants.
- Biomarkers of exposure to mercury and persistent organochlorine pollutants.
- Endocrine disruption induced by environmental pollutants in the central nervous system.

## Most relevant scientific articles

BAL-PRICE A., CROFTON K.M., SACHANA M., SHAFER T.J., BEHL M., FORSBY A. ET AL. Putative adverse outcome pathways relevant to neurotoxicity. *Critical Reviews in Toxicology*. 2015;45(1):83-91.

DOS SANTOS A.A., NAIME A.A., DE OLIVEIRA J., COLLE D., DOS SANTOS D.B., HORT M.A. ET AL. Long-term and low-dose malathion exposure causes cognitive impairment in adult mice: evidence of hippocampal mitochondrial dysfunction, astrogliosis and apoptotic events. *Archives of Toxicology*. 2015.

REGUEIRO J., OLGUIN N., SIMAL-GANDARA J., SUNOL C.. Toxicity evaluation of new agricultural fungicides in primary cultured cortical neurons. *Environmental Research*. 2015;140:37-44.

## Highlights

### ACTIVE RESEARCH PROJECTS::

- "Neurotoxicity induced by prolonged exposure to organochlorine pollutants and methylmercury. Cellular and human studies". IP: Cristina Suñol. FIS PI13/01252.
- "Nano-structured Electroactive Materials for Electrodes in Central Nervous System (CNS) stimulation and repair". IP: Cristina Suñol. Fundació La Marató de TV3 110131. 2012-2015.
- "Study of neurotoxicity pathways for chronic exposure to neurotoxic pollutants: role of GABA-A, glutamate and estrogens. Possible therapeutic interventions". IP: Cristina Suñol. FIS PI13/01252. 2011-2015.

### CLINICAL GUIDES:

- "The safety of medical devices containing DEHP-plasticized PVC or other plasticizers on neonates and other groups possibly at risk (2015 update)". Autors: Hartemann P, Rodríguez-Farré E, Testai E, et al. European Union, 2015. doi: 10.2772/45179; ISBN: 978-92-79-35606-3.
- "Opinion on Synthetic Biology II Risk assessment methodologies and safety aspects". Autors: Vermeire T, Epstein M, Hartemann P, Proykova A, Rodríguez Farre P, Martínez Martínez L, et al. European Union, 2015. doi:10.2772/63529; ISBN 978-92-79-43916-2.
- "The safety of dental amalgam and alternative dental restoration materials for patients and users". Autors: Rodríguez-Farré E, Testai E, et al. European Union, 2015. doi: 10.2772/42641; ISBN: 978-92-79-35605-6.
- "The safety of the use of bisphenol A in medical devices". Autors: Testai E, Rodríguez-Farré E, Hartemann P,..., Olea N, et al. European Union, 2015. Doi: 10.2772/75546. ISBN 978-92-79-30133-9.

**Institution:** Agencia Estatal Consejo Superior de Investigaciones Científicas

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## Group 50

Programme: Social Determinants of Health

Lead Researcher: Ruiz Pérez, Isabel



## Group Members



**STAFF MEMBERS:** Martín Baena, David.

**ASSOCIATED MEMBERS:** Bermúdez Tamayo, Clara | Hernán García, Mariano | Lacasaña Navarro, Marina | Maroto Navarro, Gracia | Olry de Labry Lima, Antonio.

## Main lines of research

- Social Inequalities.
- Gender Violence.
- Women's Health.
- Mental health.
- Crisis and Health.

## Most relevant scientific articles

MOLINA-VILLALBA I., LACASANA M., RODRÍGUEZ-BARRANCO M., HERNÁNDEZ A.F., GONZÁLEZ-ALZAGA B., AGUILAR-GARDUNO C. ET AL. Biomonitoring of arsenic, cadmium, lead, manganese and mercury in urine and hair of children living near mining and industrial areas. *Chemosphere*. 2015;124(1):83-91.

ROJAS-GARCÍA A., RUIZ-PÉREZ I., RODRÍGUEZ-BARRANCO M., GONCALVES BRADLEY D.C., PASTOR-MORENO G., RICCI-CABELLO I.. Healthcare interventions for depression in low socioeconomic status populations: A systematic review and meta-analysis. *Clinical Psychology Review*. 2015;38:65-78.

ÁLVAREZ-DARDET C., MORGAN A., CANTERO M.T.R., HERNAN M.. Improving the evidence base on public health as-

sets-the way ahead: A proposed research agenda. *Journal of Epidemiology and Community Health*. 2015;69(8):721-723.

GÓMEZ-MARTÍN A., HERNÁNDEZ A.F., MARTÍNEZ-GONZÁLEZ L.J., GONZÁLEZ-ALZAGA B., RODRÍGUEZ-BARRANCO M., LÓPEZ-FLORES I. ET AL. Polymorphisms of pesticide-metabolizing genes in children living in intensive farming communities. *Chemosphere*. 2015;139:534-540.

GONZÁLEZ-ALZAGA B., HERNÁNDEZ A.F., RODRÍGUEZ-BARRANCO M., GÓMEZ I., AGUILAR-GARDUNO C., LÓPEZ-FLORES I. ET AL. Pre- and postnatal exposures to pesticides and neurodevelopmental effects in children living in agricultural communities from South-Eastern Spain. *Environment International*. 2015;85:229-237.

## Highlights

- Address 2 Environmental Health Doctoral Thesis.
- Home of 1 doctoral thesis on gender violence.
- Start the process for joining the European Human Biomonitoring Initiative ( EHBMI ).
- H2020 EU call involving 3 other groups CIBER.
- Participation in the Editorial Board of the journal *Gaceta Sanitaria*.
- Collaboration with the European Observatory on Health Systems and Policies The Health and Financial Crisis Portal Monitor (<http://www.hfcm.eu/>).
- Gestion consortium creation birth cohorts on environmental exposures in pregnant women.
- Participation in the SAFEKYNREST International Project on environmental education in pregnancy.

**Institution:** Escuela Andaluza de Salud Pública

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## Group 51

**Programme:** Social Determinants of Health / Clinical Epidemiology / Epidemiology and Control of Chronic Diseases

**Lead Researcher:** Sáez Zafra, Marc

### Group Members



**STAFF MEMBERS:** Serra Saurina, Laura.

**ASSOCIATED MEMBERS:** Arroyo Borrell, Elena | Barceló Rado, María Antònia | Capó Artigues, Aina María | Coenders Gallart, Germà | Coll de Tuero, Gabriel | Coromina Soler, Lluís | González Raya, Sonia | Ivina No, Olga | Maynou Pujolras, Laia | Oisca Gelis, Gemma | Puig Vives, Montserrat | Renart Vicens, Gemma | Saurina Canals, Carme | Xabadia Palmada, Maria Àngela.

### Main lines of research

#### Health econometrics

- Effects of the economic crisis on health
  - Use of health services.
  - Self-perception of health.
  - Prevalence and incidence of metabolic syndrome.
  - Suicides.
  - Mental Health.
  - Psychotropic Drugs.
- Evaluation of public policies.
- Evaluation of health technologies.

#### Epidemiology

- Socioeconomic inequalities in health.
- Environmental inequalities in health.
- Clinical epidemiology - Cardiovascular Risk Factors.
- Epidemiology of cancer.
- Delinquency as a public health problem.

## Most relevant scientific articles

SAURINA C., MARZO M., SÁEZ M.. Inequalities in suicide mortality rates and the economic recession in the municipalities of Catalonia, Spain. *International Journal for Equity in Health*. 2015;14(1).

ARROYO E., RENART G., SÁEZ M.. How the economic recession has changed the likelihood of reporting poor self-rated health in Spain. *International Journal for Equity in Health*. 2015;14(1).

CUELVA GO, PEÑA CC, ORTEGA JA, ZAFRA MS, MORENO JL, ESTEBAN JA ET AL. Effectiveness of a brief primary care intervention to reduce passive smoking in babies: a cluster randomised clinical trial. *Journal of epidemiology and community health*. 2015;69(3):249-60.

MARÍ-DELL'OLMO M, GOTSSENS M, PALÈNCIA L, BURSTRÖM B, CORMAN D, COSTA G ET AL. Socioeconomic inequalities in cause-specific mortality in 15 European cities. *Journal of epidemiology and community health*. 2015.

GARCÍA-ESQUINAS E., GUINO E., CASTANO-VINYALS G., PÉREZ-GÓMEZ B., LLORCA J., ALTZIBAR J.M. ET AL. Association of diabetes and diabetes treatment with incidence of breast cancer. *Acta Diabetologica*. 2015.

## Highlights

Research carried out by our group in 2015 falls into two main lines of research. On the one hand, our participation in the project "Crisis and Health 'funded by the Crisis CIBERESP applet (program 4) (2014-2015) and on the other, in the project 'dynamic behavior of metabolic syndrome and development of an equation to predict cardiovascular risk in patients with type 2 diabetes a retrospective cohort ', which, although has obtained funding in the last call of the Strategic Health Action 2015, Carlos III Health Institute, have been working since 2013 . Related front

four articles published in 2015, three of them in publications located in the first quartile of the base JCR / ISI and one located in the second quartile. In addition, we made two articles, one already published and another in the press, both in 2016 and located in the first quartile of the base JCR / ISI. Regarding the second, we published an article in 2015, located in the second quartile of the base JCR / ISI and perform another, in print, in a publication located in the first quartile. Also during 2015 three doctoral theses defended within our group.

## Group 34

**Programme:** Epidemiology and Control of Chronic Diseases

**Lead Researcher:** Sánchez Pérez, María José



## Group Members



**STAFF MEMBERS:** Molina Portillo, Elena | Salamanca Fernández, Elena.

**ASSOCIATED MEMBERS:** Espín Balbino, Jaime | García Gutiérrez, José Francisco | Martínez García, Carmen | Sánchez-Cantalejo Ramírez, Emilio.

## Main lines of research

The Granada Cancer Registry (GCR), since its startup in 1985, has developed research projects produced by the GCR itself or in collaboration with other national or international institutions, along four main research lines:

- Descriptive epidemiology of cancer:

Temporal trends of cancer incidence in Granada for adults, children and adolescents; Survival of cancer in Granada; Estimates of cancer incidence and prevalence in Andalusia and Spain; Rare malignant tumors (RDR Spain): definition, incidence and survival; Risk of second primary multiple tumors.

- Risk factors for cancer and other chronic diseases, especially in the Framework of the EPIC project (European Prospective Investigation into Cancer and Nutrition).

Studies on the association between lifestyle factors, diet and other environmental factors with risk of cancer and other chronic diseases (diabetes, cardio-

vascular diseases,...); Studies on the association between biomarkers of exposure (antioxidants, inflammation, oxidative stress, etc.) with risk of cancer and other chronic diseases; Studies on gen\*environment and gen\*gen interactions and their association with risk of cancer and other chronic diseases.

- Health care and outcomes assessment in cancer patients.

Survival and patterns of care in cancer and variability in clinical practice (diagnostic methods, stage, treatment, tumor markers, second primary cancers, recurrences): differences between countries and geographical areas (EUROCARE, CONCORD and EMPARO-CU projects); Surveillance and control of rare tumors in Spain and Europe (EUROCARE project).

- Health technologies and drugs economic evaluation.
  - Pricing policies and reimbursement of drugs.

## Most relevant scientific articles

FONSECA-NUNES A., AGUDO A., ARANDA N., ARIJA V., CROSS A.J., MOLINA E. ET AL. Body iron status and gastric cancer risk in the EURGAST study. *International Journal of Cancer*. 2015.

GATTA G., BOTTA L., SÁNCHEZ M.J., ANDERSON L.A., PIERANUNZIO D., LICITRA L. Prognoses and improvement for head and neck cancers diagnosed in Europe in early 2000s: The EUROCARE-5 population-based study. *European Journal of Cancer*. 2015;51(15):2130-2143.

SANT M., CHIRLAQUE LÓPEZ M.D., AGRESTI R., SÁNCHEZ PÉREZ M.J., HOLLECZEK B., BIELSKA-LASOTA M. ET AL. Survival of women with cancers of breast and genital organs

in Europe 1999-2007: Results of the EUROCARE-5 study. *European Journal of Cancer*. 2015;51(15):2191-2205.

CIRERA L, HUERTA JM, CHIRLAQUE MD, MOLINA-MONTES E, ALTZIBAR JM, ARDANAZ E ET AL. Life-course social position, obesity and diabetes risk in the EPIC-Spain Cohort. *European journal of public health*. 2015.

CELORRIO D, MUÑOZ X, AMIANO P, DORRONSORO M, BUJANDA L, SÁNCHEZ MJ ET AL. Influence of Dopaminergic System Genetic Variation and Lifestyle Factors on Excessive Alcohol Consumption. *Alcohol and alcoholism (Oxford, Oxfordshire)*. 2015.

## Highlights

- Participation in the integrated excellence Project INTERCIBER Identification of novel modulators of inflammation in prevalent chronic diseases: unveiling divergent Mechanisms of disease.
- Coordination of the project financed by ISCIII through the ERA-NET call on Translational Cancer Research (TRANSCAN): High Resolution Projects on Prognosis and care of cancer patients.
- Coordination of multicentric project: Effect of the exposure to Bisphenol-A on health (cancer and ischemic heart disease) within EPIC-Spain, financed by the FIS.
- IP of the Multicenter Project: Cronodiet, genes polymorphisms that regulate the circadian clock, weight change and obesity in EPIC Spain, funded by the FIS.
- Ministry of Health, Social Services and Equality Nomination of CIBERESP group 34 to participate in the Joint Action on Rare Cancers, funded by the EU.
- Coordination of WP5 Cancer "Mapping Chronic Non-Communicable Diseases Research Activities and their Impact (MAPPING\_NCD)" funded under the EU 7th Framework Programme.
- Coordination WP 6 "Strengthening and Implementing HTA in Emerging Settings" in the project Rethinking the future of Health Technology Assessment (ADVANCE-HTA), funded under the EU 7th Framework Programme.
- Integration of a consolidated research group to the Institute for Bio-Health Research of Granada (ibs. Granada), to coordinate the cancer scientific area.
- Autorship of CIBERESP Group 34 in the "Estimates of cancer incident and survival in Spain and situation in Europe" report, within the framework of the Spanish Network for Cancer Registries (REDECAN), for the National Cancer Strategy and the Ministry of Health, Social Services and Equality.
- Participation as external expert of the European project CANCON (Joint Action for cancer control)
- Participation in diagnosis and needs advice on Health Technology Assessment in El Salvador.
- Participation in ACCISS Study on Global Access to Insulin project.
- Participation as WHO invited expert for Baltic Policy Dialogue on drug policy.

## Group 36

**Programme:** Epidemiology and Control of Chronic Diseases / Epidemiology and Environmental and Occupational Risk Prevention

**Lead Researcher:** Sanjosé Llongueras, Silvia de



## Group Members



**STAFF MEMBERS:** Alarcón Moral, Francesc | Casabonne, Delphine.

**ASSOCIATED MEMBERS:** Albero Abril, Ginesa | Alemany Vilches, Maria Eulàlia | Benavente Moreno, Yolanda | Domingo Domènech, Eva | Roura Fornells, Esther.

## Main lines of research

### **Epidemiology, etiology and prevention of cancers related to Human Papilloma Virus (HPV).**

- Studies of prevalence and HPV type distribution in cancers of the vulva, penis, vagina, anus, oral cavity, oro-pharynx and larynx (HPVVAPO study).
- Evaluation of cervical cancer screening program in Catalonia.
- Phase III and phase IV studies of new generation vaccines.
- Assessment of the burden of HPV-related diseases worldwide (HPV Information Center).
- Cost-effectiveness models of cervical cancer prevention.
- Training and elearning programs on HPV associated cancer prevention (e-oncology).

### **Epidemiology and etiology of lymphoid neoplasms.**

- Epidemiology of chronic lymphocytic leukaemia (CLL) (MCC-Spain study).  
Evaluation of environmental and occupational exposures; Genetic susceptibility; Sero-epidemiology of Epstein-Barr virus and poliovirus infections.
- Evaluation of the association between human and viral miRNA in plasma and CLL.
- Study of endemic Burkitt lymphoma and Epstein-Barr virus.
- International consortiums (InterLymph, International Multiple Myeloma Consortium, Hodgkin Lymphoma Consortium):  
Comprehensive evaluation of risk factors and different histologic lymphoma subtypes within an international consortium (InterLymph NHL Subtype Project); Evaluation of hormonal and reproductive factors in multiple myeloma etiology (Internacional Multiple Myeloma Consortium); Gene and environment interaction studies; GWAS studies on follicular lymphoma, Hodgkin lymphoma and other subtypes.

## Most relevant scientific articles

ALEMANY L., SAUNIER M., ALVARADO-CABRERO I., QUIROS B., SALMERON J., SHIN H.-R. ET AL. Human papillomavirus DNA prevalence and type distribution in anal carcinomas worldwide. *International Journal of Cancer*. 2015;136(1):98-107.

CASABONNE D., BENAVENTE Y., ROBLES C., COSTAS L., ALONSO E., GONZÁLEZ-BARCA E. ET AL. Aberrant Epstein-Barr virus antibody patterns and chronic lymphocytic leukemia in a Spanish multicentric case-control study. *Infectious Agents and Cancer*. 2015.

COSTAS L., INFANTE-RIVARD C., ZOCK J.-P., VAN TONGEREN M., BOFFETTA P., CUSSON A. ET AL. Occupational exposure to endocrine disruptors and lymphoma risk in a multi-centric European study. *British Journal of Cancer*. 2015;112(7):1251-1256.

SERRANO B., DE SANJOSE S., TOUS S., QUIROS B., MUNOZ N., BOSCH X. ET AL. Human papillomavirus genotype attribution for HPVs 6, 11, 16, 18, 31, 33, 45, 52 and 58 in female anogenital lesions. *European Journal of Cancer*. 2015;51(13):1732-1741.

GEORGALIS L., DE SANJOSE S., ESNAOLA M., BOSCH F.X., DIAZ M.. Present and future of cervical cancer prevention in Spain: a cost-effectiveness analysis. *European Journal of Cancer Prevention*. 2015.

## Highlights

The group has completed the main analysis on the genotyping of HPV in uterine, vulva, penis, vagina, anus, oral cavity, oropharynx and larynx cancers (HPVVAPO Studio).

The group has completed the review of preventive activities of cervical cancer in Catalonia, and has prepared a new protocol and published the population impact models based on cost-effectiveness. The new protocol has been reviewed and approved by the relevant scientific societies.

The group continues with a relevant activity in Phase III-IV of new generation vaccines and therapeutic vaccines against HPV infection and cervical cancer.

In the activities that relate to the MCC-CLL Spain and ICGC CLL projects, the group has carried out various analyzes to evaluate the immune response of patients with chronic lymphocytic leukemia and

common viral infections. We have also assess hormonal factors that could explain the differences in incidence of lymphomas associated with sex. Under the InterLymph consortium we have published a monograph on the epidemiologic study of 11 types of lymphoma. The group has had a lead in the chapters on chronic lymphocytic leukemia; marginal lymphoma, follicular lymphoma and Burkitt lymphoma. The group continues its relationship with the consortium to evaluate the relationship between variations in the HLA region and marginal lymphomas and diffuse large cell. Now we are leading the study of inversions and variation in gene copy number and their role in the development of lymphoma.

With the lymphomas EPIC consortium we have evaluated plasma levels of CD23 and its role in the risk of developing chronic lymphocytic leukemia.

## Group 30

**Programme:** Epidemiology and Control of Chronic Diseases

**Lead Researcher:** Schröder, Helmut



## Group Members



**STAFF MEMBERS:** Cabañero Marimón, Marta | Subirana Cachinero, Isaac.

**ASSOCIATED MEMBERS:** Baena Díez, José Miguel | Funtikova, Anna | Martí Soler, Helena | Molina Ferragut, Luis | Vila Domènech, Juan Salvador.

## Main lines of research

### **Impact of diet on cardiometabolic health.**

Diet plays an important role in the prevention of chronic diseases. We have determined the association between diet (foods/beverages/nutrients/dietary patterns) and cardiovascular risk factors, such as dislipemia, lipid oxidation, and obesity in children and adults.

### **Development and validation of short assessments tools.**

An urgent need in dietary and physical activity assessment is the development of short tools that provide valid assessments of dietary quality for use in time-limited settings. Therefore, we developed and validated 3 short screeners for dietary quality assessment in adults. Currently we are validating a short physical activity screener in 150 boys and girls aged 6 to 10 year.

### **Prevalence and impact of obesity on cardiometabolic health.**

The obesity epidemic is one of the biggest current challenges for health policy. Surrogate measures of general and abdominal adiposity have been related to cardiometabolic risk in children, adolescents, and adults. We have analyzed the prevalence and trends in general and abdominal obesity in adults and children. Furthermore, we have determined the impact of adiposity on cardiovascular risk factors. Currently we are analyzing the impact of obesity on cardiovascular events in 50.000 Spaniards.

### **Effect of a community based intervention program to prevent childhood obesity.**

The rapid growth of childhood obesity is a serious problem for public health worldwide. Spain has one of the highest prevalence rates of childhood

overweight and obesity among OECD countries. A recent study reported 25,3% of Spanish children aged 8-13 were overweight and 9.6% were obese [6]. Childhood obesity has a multifactorial aetiology. Unhealthy lifestyle such as inadequate diet and low physical activity is strongly related with weight gain. Community Based Interventions programs (CBI) are a holistic approach to prevent childhood obesity. CBI act from all key sectors that influence childhood

development (family, school, health professionals, sports, media, stores and food markets). However, there is limited information on the efficacy of CBI in Europe. Currently we are performing a parallel intervention study including 2249 children aged 8 to 10 years from 4 Spanish towns to determine the efficacy of a CBI on the prevention of childhood obesity and modification of lifestyle.

## Highlights

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Our group participated in several publications of the PREDIMED study. One of the most important works was published in JAMA Internal Medicine and present data on the effect of the Mediterranean diet to prevent breast cancer in women at high cardiovascular risk. We observed a significant reduction of the incidence of breast cancer in women in the two Mediterranean diet intervention groups (one group was supplemented with extra virgin olive oil and the other with nuts) compared to the group control group.

Within our research line Impact of diet on cardio-metabolic health we have published a review in Molecular Nutrition and Food Research with the aim to give an answer to the question if metabolically healthy obesity can be explained by genetics, diet, and inflammation. Furthermore, we provided additional evidence for adverse impact of soft drinks on health outcomes. We showed that consumption of soft drinks is associated with increased waist circumferences and odds of 10-y incidence of abdominal obesity. Replacement of 100kcal of soft drinks with 100kcal of milk was associated with 1.3cm decrease in waist circumferences. This work was published in The Journal of Nutrition.

## Group 40

**Programme:** Epidemiology and Environmental and Occupational Risk Prevention

**Lead Researcher:** Sunyer Deu, Jordi



## Group Members

**STAFF MEMBERS:** Cirugeda Bolós, Lourdes | Delgado Llobet, Ana | García Esteban, Raquel | Gros Monné, Susana | Murcia Hinarejos, Mario Jesús.

**ASSOCIATED MEMBERS:** Agis Cherta, David | Aguilera Jiménez, Immaculada | Antó Boqué, Josep Maria | Arbillaga Etxarri, Ane | Basagaña Flores, Xavier | Benet Mora, Marta | Borrás Santos, Alicia | Bouso Castillo, Laura | Bustamante Pineda, Mariona | Casas Ruiz, Lidia | Damaskini, Valvi | Fochs Casas, Silvia | Foraster Pulido, María | García Aymerich, Judith | Gascón Merlos, Mireia | Gimeno Santos, Elena | Guxens Junyent, Mónica | Julvez Calvo, Jordi | López Vicente, Mónica | Persavento, María Cecilia | Pey Rosell, Nuria | Pinart Gilberga, Mariona | Rivas Lara, Ioar | Serra Pons, Ignasi | Torrent Quetglas, Matías | Vafeiadi Marina, Vafeiadi Marina | Vilahur Chiaraviglio, Nadia | Vrijheid, Martine.

## Main lines of research

Pre and post-natal life are critical periods in the origins of chronic diseases, such as obesity, the metabolic syndrome, cognitive development, and the origins of asthma and allergy.

The major scientific objective is: To perform epidemiological studies on the early life origins of the neurodevelopment, the obesity and metabolic syndrome and allergy and asthma.

Scientific objectives:

- To discover the effects of early life environmental factors (i.e., traffic, indoor air pollution, fish intake) on brain function, lung function and asthma/allergy.
- To investigate the role of environmental agents (i.e., DDE, BPA, PFCs, endocrine disruptors) on obesity and metabolic syndrome, and on asthma and the immune system.
- To identify early epigenetic markers of neurodevelopment, obesity and growth, and asthma, as well as the gene-environmental interactions related to asthma and COPD progression.
- To develop methods on omics in child health studies and methods on the statistical analysis of these data.
- To extend the program to a global health agenda following collaboration on risk balance of indoor residual spraying and indoor biofuel mass combustion.
- To assess the effects of physical activity and diet in asthma/allergy, obesity and COPD. To assess the phenotypic heterogeneity and the comorbidities of respiratory and allergic diseases and COPD.

## Most relevant scientific articles

AGAY-SHAY K., MARTÍNEZ D., VALVI D., GARCÍA-ESTEBAN R., BASAGANA X., ROBINSON O. ET AL. Exposure to endocrine-disrupting chemicals during pregnancy and weight at 7 years of age: A multi-pollutant approach. *Environmental Health Perspectives*. 2015;123(10):1030-1037.

GASCON M., CASAS M., MORALES E., VALVI D., BALLESTEROS-GÓMEZ A., LUQUE N. ET AL. Prenatal exposure to bisphenol A and phthalates and childhood respiratory tract infections and allergy. *Journal of Allergy and Clinical Immunology*. 2015;135(2):370-378.

DADVAND P., NIEUWENHUIJSEN M.J., ESNAOLA M., FORNS J., BASAGANA X., ÁLVAREZ-PEDREROL M. ET AL. Green spaces and cognitive development in primary schoolchildren.

*Proceedings of the National Academy of Sciences of the United States of America*. 2015;112(26):7937-7942.

SUNYER J., ESNAOLA M., ÁLVAREZ-PEDREROL M., FORNS J., RIVAS I., LÓPEZ-VICENTE M. ET AL. Association between Traffic-Related Air Pollution in Schools and Cognitive Development in Primary School Children: A Prospective Co-hort Study. *PLoS Medicine*. 2015;12(3).

GUERRA S., HALONEN M., VASQUEZ M.M., SPANGENBERG A., STERN D.A., MORGAN W.J. ET AL. Relation between circulating CC16 concentrations, lung function, and development of chronic obstructive pulmonary disease across the lifespan: A prospective study. *The Lancet Respiratory Medicine*. 2015;3(8):613-620.

## Highlights

Pre and post-natal life are critical periods in the origins of chronic diseases, such as obesity, the metabolic syndrome, cognitive development, and the asthma and allergy. However, our current understanding of how chronic diseases develop during fetal life and childhood is still very limited. Still few isolated risk factors have been assessed and its causal mechanisms are poorly understood. We propose that:

- The epidemiological studies by applying birth cohorts from the general population is a successful strategy for unraveling the complex multicausal origins of chronic disease.
- Potentially harmful environmental and behavioral factors should be assessed at a much wider scale through a better integration of the omics. This has been significantly consolidated with the leadership (PI M Vrijheid) of the Helix Project to develop the exposome in birth cohorts and the leadership of J Garcia-Aymerich developing new methods for unsupervised statistics.
- The integration of imaging together with the 'exposome' in epidemiological studies opens new

opportunities for understanding the underlying mechanisms. An area of particular interest in our group is the understanding of which and how environmental risks play a detrimental role on neurodevelopment during the fetal and first years of life, an effort promoted by the ERC-Adv Breathe project (PI J Sunyer).

- The alliance with CRESIB under the ISGlobal opens opportunities to enlarge studies to a global context.
- The environmental determinants of respiratory diseases are leading causes of DALYs worldwide: particulate matter, physical inactivity and low physical activity occupational particulate matter, gasses and fumes, ozone pollution and occupational asthmogens. Increasing research shows that asthma and COPD are complex phenotypes whose definitions and classification need to be reconsidered. We have consolidated as scientific leaders in these fields, by leading and participating in large national and international projects.

## Group 53

**Programme:** Epidemiology and Environmental and Occupational Risk Prevention

**Lead Researcher:** Tardón García, Adonina



## Group Members



**STAFF MEMBERS:** Fernández Somoano, Ana.

**ASSOCIATED MEMBERS:** Arias Díaz, María Cristina | Ezama Coto, Esteban | Riaño Galán, Isolina | Rivas del Fresno, Manuel | Souto García, Ana.

## Main lines of research

**CAPUA STUDY (LUNG CANCER in ASTURIAS).** It is the largest epidemiological study in Spain in lung cancer research with 880 incident cases and 844 controls with demographic data, history of cancer and potential risk factors, and 24 SNPs genotyped.

In 2010 is integrated into the International Lung Cancer Consortium of the International Agency for Research on Cancer. It has also been incorporated into the SYNERGY project, which brings together several European case-control studies to analyze the effects of exposure to occupational carcinogens in the development of lung cancer.

**SPANISH BLADDER CANCER STUDY.** In Asturias it was initiated in 1997 as a collaborative project of the IMIM, DCEG INC in USA, and the University of Oviedo for assessing the risk of bladder cancer in relation to environmental and occupational exposures, lifestyle, genetic susceptibility and its interaction with environmental exposure. It is also evaluating mo-

lecular genetic and clinical factors associated with survival.

**INMA PROJECT** - Childhood and Environment. It was created with the aim of studying the role of the most important environmental pollutants in air, water and diet during pregnancy and early life, and its effects on infant growth and development. Asturias INMA Cohort in the III health area, begins in 2004 and follows 485 pregnant women from the 12th week of pregnancy and their children up to 7-8 years.

**MCC SPAIN.** Poblational multicase-control study that was initiated in 2008 with funding from the Transversal Action in Cancer, to investigate the influence of environmental factors and their interaction with genetic factors in common or with peculiar epidemiologic characteristics tumors in our country (colorectal, breast, stomach, prostate and chronic lymphatic leukemia).

## Most relevant scientific articles

FIGUEROA J.D., KOUTROS S., COLT J.S., KOGEVINAS M., GARCÍA-CLOSAS M., REAL F.X. ET AL. Modification of Occupational Exposures on Bladder Cancer Risk by Common Genetic Polymorphisms. *Journal of the National Cancer Institute*. 2015;107(11).

CLEMENTE DB, CASAS M, VILAHUR N, BEGIRISTAIN H, BUSTAMANTE M, CARSIN AE ET AL. Prenatal Ambient Air Pollution, Placental Mitochondrial DNA Content, and Birth Weight in the INMA (Spain) and ENVIRONAGE (Belgium) Birth Cohorts. *Environmental health perspectives*. 2015.

LÓPEZ-ESPINOSA M.-J., COSTA O., VIZCAINO E., MURCIA M., FERNÁNDEZ-SOMOANO A., INIGUEZ C. ET AL. Prenatal Exposure to Polybrominated Flame Retardants and Fetal

Growth in the INMA Cohort (Spain). *Environmental Science and Technology*. 2015;49(16):10108-10116.

MORALES E., JULVEZ J., TORRENT M., BALLESTER F., RODRÍGUEZ-BERNAL C.L., ANDIARENA A. ET AL. Vitamin D in Pregnancy and Attention Deficit Hyperactivity Disorder-like Symptoms in Childhood. *Epidemiology*. 2015;26(4):458-465.

PAPANTONIOU K., CASTANO-VINYALS G., ESPINOSA A., ARAGONES N., PÉREZ-GÓMEZ B., ARDANAZ E. ET AL. Breast cancer risk and night shift work in a case-control study in a Spanish population. *European Journal of Epidemiology*. 2015.

## Highlights

In lung cancer, study CAPUA, we have conducted in collaboration with the SYNERGY project of IARC, an array of occupation-exposition (SYN-JEM) for the development of occupational exposure variables to assess relations occupation-exposition in lung cancer and estimate the interactions between occupational carcinogens. Study CAPUA in ILCCO is part of the international basis "The database of genotype and Phenotypes (dbGaP)", including genome-wide association, sequencing, molecular diagnosis, genotype and treatment. The objective is to increase the power of detection of genetic factors influencing all histological types of lung cancer, to be able to analyze, cancers that make their debut very young, of certain histological characteristics, groups of never-smokers or women. The breadth of these studies GWAS sample will allow studying the interactions of gene and environment on lung cancer, with the ul-

timate goal of identifying individuals and groups at high risk can lead to screening and early detection in lung cancer. Bladder cancer in collaboration with NCI and the CNIO, have continued the exploration and analysis of genetic susceptibility, through application of pathways analysis factors candidates and multi-single nucleotide polymorphism (multi-SNP), by Bayesian analysis to detect the main effects of variants of genes of bladder cancer and inflammation. In the INMA cohort we have completed follow-up at age 7 with a rate of 93,55%, the highest of the INMA project tracking. We have signed an agreement with the Ministry of health of Asturias to participate in the Plan of the air quality in Gijón. We have participated in the drafting of the Guide Clinic: recommendations about nutrition with iodine in the preconception stage, pregnancy and lactation. Technical report.

## Group 42

Programme: Clinical Epidemiology

Lead Researcher: Zamora Romero, Javier



## Group Members



STAFF MEMBERS: Arroyo Manzano, David.

ASSOCIATED MEMBERS: Muriel García, Alfonso | Plana Farras, María Nieves.

## Main lines of research

- Evaluation of clinical practice and health technologies, covering a wide range of research objectives, all oriented to the analysis of clinical practice, health outcomes and health technology assessment, with special emphasis on the diagnosis.
- Evaluation and improving of the appropriateness of Clinical Practices with special focus on diagnostic technologies and procedures.
- Multivariate models and research on prognosis, which is dedicated to the study of multivariate regression models and its extension to particular situations as longitudinal studies with repeated measurements and Individual Patient Data meta-analysis.

## Most relevant scientific articles

VIALE L, ALLOTEY J, CHEONG-SEE F, ARROYO-MANZANO D, MCCORRY D, BAGARY M ET AL. Epilepsy in pregnancy and reproductive outcomes: a systematic review and meta-analysis. *Lancet* (London, England). 2015;386(10006):1845-52.

ARANA E., KOVACS F.M., ROYUELA A., ASENJO B., PÉREZ-RAMIREZ U., ZAMORA J. Agreement in the assessment of metastatic spine disease using scoring systems. *Radiotherapy and Oncology*. 2015;115(1):135-140.

DE DIOS CABALLERO J., DEL CAMPO R., ROYUELA A., SOLE A., MAIZ L., OLVEIRA C. ET AL. Bronchopulmonary infection-colonization patterns in Spanish cystic fibrosis patients: Results from a national multicenter study. *Journal of Cystic Fibrosis*. 2015.

ARANA E., KOVACS F.M., ROYUELA A., ASENJO B., PÉREZ-RAMIREZ U., ZAMORA J. Spine Instability Neoplastic Score: Agreement across different medical and surgical specialties. *Spine Journal*. 2015.

ANTOLIN-AMERIGO D., CERECEDO CARBALLO I., MURIEL A., FERNÁNDEZ-RIVAS M., DIEGUEZ PASTOR M., FLOKSTRA-DE BLOK B. ET AL. Validation of the spanish version of the food allergy quality of life questionnaire– adult form (S-FAQLQ-AF). *Journal of Investigational Allergology and Clinical Immunology*. 2015;25(4):270-275.

## Highlights

Cochrane Collaborating Center in Madrid (CCC-CAM) has been consolidated during 2015. The Clinical Biostatistics Unit of the Ramón y Cajal Hospital hosts the Cochrane Collaborating Center thanks to a collaboration agreement between the Ramón y Cajal Health Research Institute (IRYCIS) and the Francisco de Vitoria University in Madrid. The CCC-CAM pursues as its primary objective, to give promote, support and provide methodological advice to researchers in Madrid Autonomous Region, who wish to participate in the activities of Cochrane. As a result, of these activities of the Cochrane Collaborating Center of the Community of Madrid we have promoted many titles and protocols as well as published several protocols and complete full reviews. This significant milestone for our group has meant boosting our capacity to perform translational activities to bring scientific evidence into clinical practice.

The group has developed during 2015 an intense international collaboration with groups of clinical, epidemiological and methodological research in the field of maternal and child health. In addition, to the relevant scientific production derived, we have established research agreements to perform clinical studies aimed to assess the association of oral health with pregnancy health outcomes as well as studies to evaluate the effect of diet, lifestyle and consumption of probiotics during pregnancy.

Finally, resulting from this international collaboration, the group has been involved in the development of the recommendations of the World Health Organization (WHO) on the use of cesarean section procedures.

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