

2018  
activity report

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# 1. Introduction

## 1.1. Main interests

In March 2016, we started a research unit working in the fields of epidemiology, clinical and outcomes research, aiming at providing scientific information of excellence, gathering health and diseases issues and covering clinical, social, economic and human aspects of chronic non-communicable diseases. The research unit has also experience in developing, testing and applying innovative forms of measuring health condition and conducting interventional studies through new information and communication technologies (ICT) such as online platforms, apps and interactive TV, using patient oriented strategies.

This Unit has expertise in conducting surveys, chronic disease registries, observational studies and management of large databases including demographic, life habits, clinical, pharmacological, socio-economic, labour, quality of life, imaging, genetics and laboratorial data. We have been made long term investment in a population based longitudinal cohort with imaging and blood samples.

We are also committed to help patients and vulnerable population groups to improve their health, namely in health promotion of elderly. We are pioneer on promoting educational and training strategies using information and communications technology (internet, apps and smart TV tools).

Our aim is to contribute to patient empowerment, to reduce inequities in health and to provide evidence for public health policies targeting vulnerable namely elderly and diseased people.

In this context, we work in close collaboration with CEDOC's basic and translational research units and with pharmacoconomics and health economics researchers at Escola Nacional de Saúde Publica, Centro Médico Universitário de Lisboa's (CMUL) affiliated hospitals and primary care centers and other institutions like Faculdade de Ciências e Tecnologia, Instituto Saude Publica da Universidade do Porto, Sociedade Portuguesa de Reumatologia, Associação Patient Innovation, Universidade Catolica Portuguesa, Universidade de Trondheim, Universidade de Stavenger, Universidade de Aveiro, Universidade de Evora, Instituto Politecnico de Setubal, Hospital Espirito Santo, Ilha Terceira e Direcção Geral da Saude.

The main activities of the joint research unit of NOVA Medical School and National School of Public Health, are:

➤ **Research:**

- Clinical investigation of chronic non-communicable diseases;
- Design, implementation and development of epidemiological and clinical studies (observational and interventional);
- Support of internal and external researchers to carry out research projects;
- Creation and validation of technological tools for collecting data, intervention and health promotion;
- Empowerment of vulnerable population groups (i.e. elderly, chronically ill, multimorbid) to improve their health;
- Development and support of EpiDoC cohort, with wide dissemination and communication of health data that it generates and its impact on health policies.

➤ **Training and educational activities:**

- Education and training in epidemiology and clinical research: through this Chair, researchers (fellows, trainees, pre- and post-graduate students, doctoral and postdoctoral students, etc.) have access to database information and facilities including education and training in clinical research, epidemiology and cohort study design; dataset cleaning, analysis and interpretation.
- The Chair is responsible for teaching undergraduate medical students at NMS and post-graduate students at NMS and ENSP in fields of Epidemiology and Clinical Research in established courses and by creating new ones. The Unit endorses mentorship, regular seminars, scientific courses and hands-on workshops to assure high quality research training.

Teaching and training strategies, using information and communication technologies (ICT, internet, online information, applications for smartphones and smart TV) for easy access and distribution, namely training programs and promotion of healthy life styles broadcasted on national TV, to the general population and special vulnerable groups.

➤ **Services to scientific community:**

Our research Unit gives assistance with the preparation and development of research designs: conceptualize the research problem, develop protocols, study design selection, study setting, exposure definition and measurement, outcome definition and measurement, covariate and data sources selection, study size and power calculations. We can cover large, diverse, defined populations selected for a disease, condition or procedure; to capture complete clinical information about this population over time, including longitudinal information on clinical care, changes in clinical characteristics and conditions, and assessment of clinical care services and outcomes in health.

We edited a handbook “Viver com Saúde, depois dos 60 anos” especially dedicated to older people, to improve health literacy and active ageing.

The book is freely available online at our website [http://cedoc.unl.pt/wp-content/uploads/2018/01/Livro\\_SaudePontoCome\\_20dezembro2017.pdf](http://cedoc.unl.pt/wp-content/uploads/2018/01/Livro_SaudePontoCome_20dezembro2017.pdf)) and also at virtual library from Health ministry. We have also an English version “Long and Healthy Life” , freely available at [http://cedoc.unl.pt/wp-content/uploads/2018/11/Book\\_LongHealthyLife\\_144ppi\\_high.pdf](http://cedoc.unl.pt/wp-content/uploads/2018/11/Book_LongHealthyLife_144ppi_high.pdf) .

➤ **Clinical Research Communication and Diffusion:**

The “Chair” and the research Unit are fully committed in sharing and giving open access to all generated knowledge and advancements. Main results are announced in academic health-related publications and websites, as well as in specialized peer-review journals. Our results have been and will be published in scientific journals from different research fields such as epidemiology, health economy, public health and medicine. Other dissemination activities include website, flyers, as well as the organization of different events and conferences.

➤ **Networking and Collaborations:**

Our Unit relies on distinguished researchers and recognized professionals as well as on national and international collaborations, from the most diverse scientific and technological areas

(medicine, psychology, nutrition, engineering, innovation, management, computer science, statistics, etc.) as well as with outstanding scientific institutions and technology companies, medical scientific societies, pharmaceutical companies and other private and public health institutions (NOVA Medical School, Escola Nacional de Saúde Pública, CATOLICA Lisbon School of Business and Economics, Instituto de Saúde Pública da Universidade do Porto, Sociedade Portuguesa de Reumatologia, Liga Portuguesa Contra as Doenças Reumáticas, Direção-Geral da Saúde, Administração Central dos Serviços de Saúde, NTNU – Trondheim, Norway, University of Stavanger – Stavanger, Norway, Harvard Medical School – Boston, USA, Microsoft Portugal, Innovave etc.). These collaborations bring together a wealth of experience in research, product development and scientific validation, chronic disease registries, observational studies and management of large databases (including a wide range of data: demographic, lifestyle, clinical, pharmacological, socio-economic, labor, quality of life and laboratory data). It is also highlighted by the evidence given in the conduction of health intervention studies through the new information and communication technologies.

## 1.2. Team

<i>Helena Canhão, MD, PhD</i>	<i>PI</i>
<i>Jaime Cunha Branco, MD, PhD</i>	Co-PI
<i>Ana Maria Rodrigues, MD, PhD</i>	Scientific head
<i>Rute Dinis de Sousa, MSc, MBA</i>	Unit manager
<i>Sara Simões Dias, PhD</i>	Senior statistician
<i>Maria João Gregório, PhD</i>	Researcher
<i>Anayza Soares, MSc</i>	Research assistant

## 2. Major achievements in 2018

Reports regarding 2016 and 2017 were presented timely. The present document is presenting 2018 Annual Report (January 2018 – December 2018).

2018 was a year of consolidation for our Chair and research unit at NOVA Medical School and ENSP, with a growing number of applications with new partnerships, approved projects and educational initiatives. In addition, it was an important year for the preparation and analysis of collected data, as well as the writing of scientific papers and participation in conferences and congresses. Also, our unit, in the person of Helena Canhão, was an important motor engine to the development of a broader unit – CHRC – gathering over 230 researchers from 5 national institutions (Nova Medical School, Escola Nacional de Saúde Pública, Lisbon Global of Mental Health, Universidade de Évora and Hospital Santo Espírito da Ilha Terceira).

This year's big numbers are:

- 24 published papers (average of 2 papers/month)
- 20 ongoing projects
- 23 oral communications
- 3 books
- 7 posters
- 1 PhD thesis concluded
- 3 MSc thesis concluded

## 3. Activity report

### 3.1. Teaching

#### 3.1.1. Courses and classes

##### **Pedagogic Coordination**

- Epidemiology, in the Specialization Course in Hospital Administration – Escola Nacional de Saúde Pública
- Research Methodologies in Public Health 1, in the Specialization Course in Public Health – Escola Nacional de Saúde Pública
- Epidemiology and Methods in Clinical Research - MEGIC - Master in Management of Clinical Research – Nova Medical School
- Epidemiology – Programa Doutoral em Medicina 2018/2019 – NOVA Medical School
- Methods of clinical investigation – MIM – NOVA Medical School

##### **Participation in teaching**

- Seminars on Epidemiology, in the Doctoral Program in Public Health – Escola Nacional de Saúde Pública
- Epidemiology 2, in the Specialization Course in Public Health – Escola Nacional de Saúde Pública
- ICT Seminar in Medicine 4.0 - optional MIM – NOVA Medical School
- Epidemiology – Post graduation in Aging – NOVA Medical School
- Aging and nutrition – Post graduation in Aging – NOVA Medical School

##### **Other**

- Online course on Osteoporosis – Portuguese Society of Rheumatology
- Tópicos em engenharia biomédica – seminars at NOVA - FCT
- SPSS Course for rheumatology interns in Portuguese Society of Rheumatology



### 3.1.2. Post-graduated students

#### *PhD Thesis*

1. Ana Rodrigues (MD), FMUL – “Linking wnt pathway with bone mineralization, mechanical properties and fracture risk in osteoporosis” – concluded
2. Cristina Ponte (MD), FMUL – “The role of ultrasound as a predictor of disease activity and response to therapy in Giant Cell Arteritis” – ongoing
3. Luís Castel Branco (MD), ENSP – “Comparison of effectiveness in anti-pd1 checkpoint inhibitors in treatment of non-small cell lung cancer” – ongoing
4. Óscar Fernandes (MSc), ENSP – “Readmission of patients with chronic diseases - network analysis” – ongoing
5. Diana Fernandes (MSc) Coupling of atherosclerosis progression and bone disturbances in rheumatoid arthritis – ongoing
6. Diogo Ribeiro (MSc) Epidemiologia da Doença de Menière – ongoing
7. Rita Oliveira (MSc), NMS - Assessing pain management of non-inflammatory rheumatic diseases: osteoarthritis, fibromyalgia and low back pain – ongoing
8. Elsa Sousa (MD), FMUL – Linking biomechanics, inflammation and bone formation in early Psoriatic Arthritis - a translational approach – ongoing
9. Kelli Destri (MSc), ENSP – Global Public Health – ongoing

#### *Master Thesis*

1. Ana Barros – “A case study between the Biomedical Community of NOVA Medical School and the Senior Community of the Parish of Arroios” – concluded
2. Rita Marçal – “Simulation agents as model of analysis of determinants of healthy lifestyles” – concluded
3. Beatriz Catarino – “Simulation models in health - multimorbidity and health.” – concluded
4. Tânia Gomes da Silva – “Characterization and evaluation of therapeutic donor management in people with non-inflammatory rheumatic diseases in Portugal: osteoarthrosis (hand, hip and knee) and fibromyalgia.” – ongoing

## 3.2. Research

### 3.2.1. Projects

- 1) Stratified primary care for low back pain – SPLIT – Funded by P2020 (147.000€)
- 2) Personalized therapy for Rheumatic Diseases via machine learning – PREDICT – funded by FCT (239.923€)
- 3) Revolutionizing Healthcare: Empowering patients by valuing innovation and promoting entrepreneurship: Patient2Entrepreneurship (P2E) – funded by FCT (231.100€)
- 4) CoReumaPt\_Osteoporose (mulheres com 65 anos de idade): CTOGRA – development and validation of a new imageology method to predict osteoporotic fractures (Ana Rodrigues, et al) funded by Research grant SPR/Pfizer (5.000€)
- 5) Anxiety, depression and quality of health-related life: a comparative study of individuals with and without self-reported rheumatic disease (Sónia Gonçalves et al)
- 6) Influence of the mtDNA haplogroups in the progression of osteoarthritis in different geographic populations (Francisco Javier Blanco et al)
- 7) Relationship between serum vitamin D and oral health in the elderly (Artur Miler, José Pereira da Silva, et al)
- 8) Psychological conditions in the adherence and impact of a multicomponent intervention for older adults with osteoarthritis (Natália Duarte et al)
- 9) Risk of fragility fractures and falls in the Portuguese diabetic population (Sofia Furtado et al) – concluded– funded by Research grant SPR (3.700€)
- 10) Assessing pain management of non-inflammatory rheumatic diseases: osteoarthritis, fibromyalgia and low back pain (Helena Canhão et al) – ongoing – funded by Research grant SPR (5.000€)
- 11) ReumaHEART - a Portuguese population-based study (Vital Domingues et al) – concluded – funded by Research grant SPR (3.700€) and Research grant SPR/Pfizer (4.700€)
- 12) Impact of different Community-Based interventions in a range of very different European countries (Giuseppe Liotta et al)
- 13) The impact of a lifestyle changing program through an interactive TV application on the muscle strength of food-insecure elderly: A quasi experimental study design (Frederico Baptista et al)
- 14) Anxiety and depression in Portuguese elderly – determinants and impacts (Rute de Sousa et al) – funded by Research grant SPR (3.700€)

- 15) Improvement osteoporosis treatment adherence and reduction of falls using ICTs- the Healthy Bone TV app program (Ana Rodrigues et al) –funded by Research grant SPR/Pfizer (10.000€)
- 16) PAASPORT – Prevalence, patient characteristics and patient’s quality of life – understanding the impact associated to psoriatic arthritis and ankylosing spondylitis in Portugal (Helena Canhão et al)– funded by Novartis (30.000€)
- 17) Osteoarthritis and Adherence to Mediterranean Diet – funded by Research grant SPR (2.500€)
- 18) ARTificial Intelligence for BOne functioning Simulation, – funded by Research grant SPR (37.000€)
- 19) Investigating the association of fluoride in drinking water in the epidemiology of skeletal ectopic calcifications and bone fragility in Portugal, FLEPIPORT– funded by Research grant SPR (7.500€)
- 20) Inhibiting the jak-stat pathway as a strategy to treat osteopetrosis – funded by Research grant SPR /Jakie (5.000€)
- 21) Sleep duration and association upon rheumatic diseases (RD) – a national population study – funded by Research grant SPR (2.500€)
- 22) No + Fracture Portugal Fracture Clinics Network Implementation– funded by Grand Prize SPR (50.000€)
- 23) Socioeconomic Status, Poverty and Rheumatic Musculoskeletal diseases – funded by Research grant SPR (2.500€)

### 3.2.2. Books

- 1) **Viver com Saúde – Depois dos 60 anos. 2nd Edition.** Rodrigues A, Canhão H, Branco J C, Gregório MJ, Sousa RD. Saúde.Come. EpiDoc Unit (2018). ISBN: 978-989-98576-8-1  
  
[http://cedoc.unl.pt/wp-content/uploads/2018/01/Livro\\_SaudePontoCome\\_20dezembro2017.pdf](http://cedoc.unl.pt/wp-content/uploads/2018/01/Livro_SaudePontoCome_20dezembro2017.pdf)  
  
also available here: <http://biblioteca.sns.gov.pt/artigo/viver-com-saude-depois-dos-60-anos-manual/>
- 2) **Long and healthy Life** Rodrigues A, Canhão H, Branco J C, Gregório MJ, Sousa RD. Saúde.Come. EpiDoc Unit (2018). ISBN: 978-989-20-8945-4

[http://cedoc.unl.pt/wp-content/uploads/2018/11/Book\\_LongHealthyLife\\_144ppi\\_high.pdf](http://cedoc.unl.pt/wp-content/uploads/2018/11/Book_LongHealthyLife_144ppi_high.pdf)

- 3) **EpiReumaPt – The Dream of a generation in a decade of Work** – Grande Prémio Bial de Medicina 2016 Branco, JC, Rodrigues A, Canhão H, Sousa RD, et al (2018). ISBN: 970-989-7523182

### 3.2.3. Papers

- 1) [Effects of tofacitinib in early arthritis-induced bone loss in an adjuvant-induced arthritis rat model.](#) Vidal B, Cascão R, Finnilä MAJ, Lopes IP, da Glória VG, Saarakkala S, Zioupos P, Canhão H, Fonseca JE. *Rheumatology (Oxford)*. **2018** Dec 12. doi: 10.1093/rheumatology/key377. [Epub ahead of print] No abstract available.
- 2) [Self-reported low-energy fractures and associated risk factors in people with diabetes: A national population-based study.](#) Furtado S, Rodrigues A, Dias S, Branco JC, Canhão H. *Diabetes Res Clin Pract*. **2018** Nov 24;147:93-101. doi: 10.1016/j.diabres.2018.11.015. [Epub ahead of print]
- 3) [Overactive bladder symptom bother and health-related quality of life in patients with systemic lupus erythematosus and primary Sjögren syndrome.](#) Pereira E Silva R, Romão VC, Neves M, Garcia R, Oliveira S, Brites J, Ramos FO, Canhão H, Palma Dos Reis J, Pereira da Silva JA, Lopes T. *Lupus*. **2018** Nov 12;961203318811605. doi: 10.1177/0961203318811605. [Epub ahead of print]
- 4) [Rheumatology in Portugal: 70 years improving the future for rheumatic patients.](#) Canhão H, Cunha Miranda L. *Acta Reumatol Port*. **2018** Jul-Sep;43(3):170-171. No abstract available.
- 5) [Functional Status and Quality of Life Determinants of a Group of Elderly People With Food Insecurity.](#) Baptista FM, Rodrigues AM, Gregório MJ, de Sousa R, Cruz E, Canhão H. *Front Nutr*. **2018** Oct 25;5:99. doi: 10.3389/fnut.2018.00099. eCollection **2018**.
- 6) [Editorial: Active Aging and Disease Management.](#) Canhao H, Branco JC, Liotta G. *Front Med (Lausanne)*. **2018** Oct 5;5:278. doi: 10.3389/fmed.2018.00278. eCollection **2018**. No abstract available.
- 7) [Polymorphisms at phase I-metabolizing enzyme and hormone receptor loci influence the response to anti-TNF therapy in rheumatoid arthritis patients.](#) Canet

- LM, Sánchez-Maldonado JM, Cáliz R, Ramos AR, Lupiañez CB, Canhão H, Martínez-Bueno M, Escudero A, Segura-Catena J, Sorensen SB, Hetland ML, Soto-Pino MJ, Ferrer MA, García A, Glintborg B, Filipescu I, Pérez-Pampin E, González-Utrilla A, Nevot MÁL, Conesa-Zamora P, Broeder AD, De Vita S, Jacobsen SEH, Collantes-Estevez E, Quartuccio L, Canzian F, Fonseca JE, Coenen MJH, Andersen V, Sainz J. *Pharmacogenomics J.* **2018** Oct 5. doi: 10.1038/s41397-018-0057-x. [Epub ahead of print]
- 8) [Smoking and response to rituximab in rheumatoid arthritis: results from an international European collaboration.](#) Chatzidionysiou K, Lukina G, Gabay C, Hetland ML, Hauge EM, Pavelka K, Nordström D, Canhão H, Tomsic M, Rotar Z, Lie E, Kvien TK, van Vollenhoven RF, Saevarsdottir S. *Scand J Rheumatol.* **2018** Sep 27:1-7. doi: 10.1080/03009742.2018.1466363. [Epub ahead of print]
- 9) [Cohort Profile: The Epidemiology of Chronic Diseases Cohort \(EpiDoC\).](#) Dias SS, Rodrigues AM, Gregório MJ, de Sousa RD, Branco JC, Canhão H. *Int J Epidemiol.* **2018** Dec 1;47(6):1741-1742j. doi: 10.1093/ije/dyy185. No abstract available.
- 10) [Psychological distress in elderly people is associated with diet, wellbeing, health status, social support and physical functioning- a HUNT3 study.](#) Grønning K, Espnes GA, Nguyen C, Rodrigues AMF, Gregorio MJ, Sousa R, Canhão H, André B. *BMC Geriatr.* **2018** Sep 4;18(1):205. doi: 10.1186/s12877-018-0891-3.
- 11) [The GO-DACT protocol: a multicentre, randomized, double-blind, parallel-group study to compare the efficacy of golimumab in combination with methotrexate \(MTX\) versus MTX monotherapy.](#) Vieira-Sousa E, Canhão H, Alves P, Rodrigues AM, Teixeira F, Tavares-Costa J, Bernardo A, Pimenta S, Pimentel-Santos F, Gomes JL, Aguiar R, Videira T, Pinto P, Catita C, Santos H, Borges J, Sequeira G, Ribeiro C, Teixeira L, Ávila-Ribeiro P, Martins FM, Ribeiro RM, Fonseca JE. *Acta Reumatol Port.* **2018** Apr-Jun;43(2):80-92.
- 12) [Food Insecurity in Older Adults: Results From the Epidemiology of Chronic Diseases Cohort Study 3.](#) Fernandes SG, Rodrigues AM, Nunes C, Santos O, Gregório MJ, de Sousa RD, Dias S, Canhão H. *Front Med (Lausanne).* **2018** Jul 12;5:203. doi: 10.3389/fmed.2018.00203. eCollection **2018**.
- 13) [Active Ageing in Europe: Adding Healthy Life to Years.](#) Liotta G, Canhão H, Cenko F, Cutini R, Vellone E, Illario M, Kardas P, Poscia A, Sousa RD, Palombi L, Marazzi MC. *Front Med (Lausanne).* **2018** Apr 30;5:123. doi: 10.3389/fmed.2018.00123. eCollection **2018**.

- 14) [Common Evaluations of Disease Activity in Rheumatoid Arthritis Reach Discordant Classifications across Different Populations](#). Canhão H, Rodrigues AM, Gregório MJ, Dias SS, Melo Gomes JA, Santos MJ, Faustino A, Costa JA, Allaart C, Gvozdenović E, van der Heijde D, Machado P, Branco JC, Fonseca JE, Silva JA. *Front Med (Lausanne)*. **2018** Mar 8;5:40. doi: 10.3389/fmed.2018.00040. eCollection **2018**.
- 15) [The impact of osteoarthritis on early exit from work: results from a population-based study](#). Lares PA, Canhão H, Rodrigues AM, Eusébio M, Gouveia M, Branco JC. *BMC Public Health*. **2018** Apr 11;18(1):472. doi: 10.1186/s12889-018-5381-1.
- 16) [Portuguese recommendations for the prevention, diagnosis and management of primary osteoporosis - 2018 update](#). Rodrigues AM, Canhão H, Marques A, Ambrósio C, Borges J, Coelho P, Costa L, Fernandes S, Gonçalves I, Gonçalves M, Guerra M, Marques ML, Pimenta S, Pinto P, Sequeira G, Simões E, Teixeira L, Vaz C, Vieira-Sousa E, Vieira R, Alvarenga F, Araújo F, Barcelos A, Barcelos F, Barros R, Bernardes M, Canas da Silva J, Cordeiro A, Costa M, Cunha-Miranda L, Cruz M, Duarte AC, Duarte C, Faustino A, Figueiredo G, Fonseca JE, Furtado C, Gomes J, Lopes C, Mourão AF, Oliveira M, Pimentel-Santos FM, Ribeiro A, Sampaio da Nóvoa T, Santiago M, Silva C, Silva-Dinis A, Sousa S, Tavares-Costa J, Terroso G, Vilar A, Branco JC, Tavares V, Romeu JC, da Silva J. *Acta Reumatol Port*. **2018** Jan-Mar;43(1):10-31.
- 17) [Challenges of Ageing in Portugal: Data from the EpiDoC Cohort](#). Rodrigues AM, Gregório MJ, Sousa RD, Dias SS, Santos MJ, Mendes JM, Coelho PS, Branco JC, Canhão H. *Acta Med Port*. **2018** Feb 28;31(2):80-93. doi: 10.20344/amp.9817. Epub **2018** Feb 28.
- 18) [The burden and undertreatment of fragility fractures among senior women](#). Rodrigues AM, Eusébio M, Santos MJ, Gouveia N, Tavares V, Coelho PS, Mendes JM, Branco JC, Canhão H. *Arch Osteoporos*. **2018** Mar 7;13(1):22. doi: 10.1007/s11657-018-0430-z.
- 19) [Food Insecurity Is Associated with Low Adherence to the Mediterranean Diet and Adverse Health Conditions in Portuguese Adults](#). Gregório MJ, Rodrigues AM, Graça P, de Sousa RD, Dias SS, Branco JC, Canhão H. *Front Public Health*. **2018** Feb 21;6:38. doi: 10.3389/fpubh.2018.00038. eCollection **2018**.
- 20) [Early arthritis induces disturbances at bone nanostructural level reflected in decreased tissue hardness in an animal model of arthritis](#). Vidal B, Cascão R, Finnillä

MAJ, Lopes IP, Saarakkala S, Zioupos P, Canhão H, Fonseca JE. PLoS One. **2018** Jan 9;13(1):e0190920. doi: 10.1371/journal.pone.0190920. eCollection **2018**.

- 21) [Effects of tofacitinib in early arthritis-induced bone loss in an adjuvant-induced arthritis rat model.](#) Vidal B, Cascão R, Finnilä MAJ, Lopes IP, da Glória VG, Saarakkala S, Zioupos P, Canhão H, Fonseca JE. *Rheumatology (Oxford)*. **2018** Aug 1;57(8):1461-1471. doi: 10.1093/rheumatology/kex258.
- 22) Small Steps in Knowledge to Better Care and Quality of Life. Canhão H, Pereira J, A: *Port J Public Health* 2018;36:I-II. doi: 10.1159/000495998
- 23) [Enabling Cape Verde to Perform Total Hip Replacement: Cost-Benefit Study.](#) Nunes AM, Canhão H, Rodrigues TL. *Acta Med Port.* 2018 Dec 28;31(12):738-741. doi: 10.20344/amp.10405. Epub 2018 Dec 28.
- 24) [Sleep duration, lifestyles and chronic diseases: a cross-sectional population-based study.](#) Reis C, Dias S, Rodrigues AM, Sousa RD, Gregório MJ, Branco J, Canhão H, Paiva T. *Sleep Sci.* 2018 Jul-Aug;11(4):217-230. doi: 10.5935/1984-0063.20180036.

### 3.2.4. Posters

- 1) Self-reported Low-energy Fractures and Associated Risk Factors in Diabetic Portuguese Patients: a cross-sectional population-based study. Furtado S., Rodrigues A., Dias S., Branco J. C., Canhão H. European Congresso of Endocrinology. Barcelona, Spain, 19-22<sup>nd</sup> May 2018
- 2) Food insecurity: a huge health challenge in elderly dwelling in community. XXXVI Reunión científica annual de la SEE y XIII Congresso da APE. Lisbon, 11-14 September 2018
- 3) ReumaHeart – A Portuguese population-based study on cardiovascular risk factors. Da Silva Domingues VM., Rodrigues A., Dias S., Branco J., Canhão H., on behalf of EpiReuma. EULAR, Annual European Congress of Rheumatology. Amsterdam, Netherlands, 13-16 June 2018

- 4) Serum levels of DKK2 and sFRP1 are associated to incident fragility fractures in older women. American Society for Bone and Mineral Research, ASBMR 2018 Annual Meeting. Québec, Canada, 28 September a 2 October 2018
- 5) Certolizumab Pegol Like Mice Equivalent Reduces Inflammation and Bone Damage in transmembrane TNF Transgenic Mice.11<sup>th</sup> International Congress on Spondyloarthritides. Gent, Belgium, 4-6 October2018
- 6) The Go-DCT Protocol: A Randomized controlled Trial To Compare The Efficacy Of Golimumab In Combination With Methotrexate (MTX) Versus MTX Monotherapy, In Improving Dactulitis and Enthesitis, In MTX Naïve Psoriatic Arthritis Patients.11<sup>th</sup> International Congress on Spondyloarthritides. Gent, Belgium, 4-6 October 2018
- 7) Performance of referral strategies for spondyloarthritis: a population-based nationwide study.11<sup>th</sup> International Congress on Spondyloarthritides. Gent, Belgium, 4-6 October 2018

### 3.2.5. Communications and seminars

- 1) Efeitos paradoxais da terapêutica biológica – IV Forum Inovação Janssen- Lisbon, 24 Macrh 2018.
- 2) Chalk talk – CHRC Comprehensive Research Centre, Value-based Healthcare – colab. CEDOC, Lisbon, 9 April 2018
- 3) Performance of referral strategies of spondyloarthrutus: a population-based nationwide study.Sepriano A., Ramiro S., Araújo F., Machado P., Rodrigues AM., Gouveia N., Eusébio M., Canhão H., Branco JC. XX Congresso Português de Reumatologia. Vilamoura, 2-5 May 2018
- 4) Inovação em Reumatologia - Patient Innovation. XX Congresso Português de Reumatologia. Vilamoura, 2-5 May 2018
- 5) ReumaHeart: cardiovascular risk in inflammatory rheumatic disease – a Portuguese population-based study. XX Congresso Português de Reumatologia. Vilamoura, 2-5 May 2018
- 6) Serum levels of DKK2 ans sFRP1 are associated to incident fragility fractures in older women. XX Congresso Português de Reumatologia. Vilamoura, 2-5 May 2018



- 7) Communication tools for the elderly. Rodrigues AM., Gregório MJ., Santos MJ., Sousa RD., Graça P., Branco JC., Canhão H. XVII Congresso de Nutrição e Alimentação & Congresso Internacional de Nutrição e Alimentação. Lisbon, 10 May 2018
- 8) Vitamina D Table Moderator . XI Congresso de Osteoporose SPODOM. Coimbra, 13-15 Maio 2018
- 9) The three companions: Pain, fatigue and dyssomnia – Fatigue in females. Lisbon Sleep Summit, Sleep in Women. Lisbon, 16-19 May 2018
- 10) Determinantes do estado funcional e qualidade de vida de um grupo de idosos com insegurança alimentar. Baptista F., Canhão H., Cruz E., Rodrigues AM., Gregório MJ., de Sousa R. Ageing Congress 2018. Coimbra, 28-29 May 2018
- 11) Improving healthcare by Empowering Patients – Civic Innovation Hub @ Better Life Index – Patient Innovation. Organization for Economic Cooperation and Development, OECD Forum 2018. Paris, France, 29-30 May 2018.
- 12) Performance of referral strategies for spondyloarthritis: a population-based nationwide study. Sepriano A., Ramiro S., Araújo F., Machado P., Rodrigues AM., Gouveia N., Eusébio M., Canhão H., Branco JC. EULAR, Annual European Congress of Rheumatology. Amsterdam, Netherlands, 13-16 June 2018
- 13) Don't Delay, Connect Today. EULAR, Annual European Congress of Rheumatology. Amsterdam, Netherlands, 13-16 June 2018
- 14) Comprehensive Health Research Centre. The Aga Khan University. 10 July 2018
- 15) A validation study of a telephone-administered version of Mediterranean Diet Adherence Screener (MEDAS) questionnaire for the adult Portuguese population. XXXVI Reunión científica annual de la SEE y XIII Congresso da APE. Lisbon, 11-14 September 2018
- 16) Comorbidities of sleep deprivation in adults – EpiDoC Cohort study. XXXVI Reunión científica annual de la SEE y XIII Congresso da APE. Lisbon, 11-14 September 2018
- 17) Serum levels of DKK2 and sFRP1 are associated to incident fragility fractures in older women. XXXVI Reunión científica annual de la SEE y XIII Congresso da APE. Lisbon, 11-14 September 2018
- 18) Circadian profile of the Portuguese population, comparison with other countries in Europe . XXXVI Reunión científica annual de la SEE y XIII Congresso da APE. Lisbon, 11-14 September 2018
- 19) Vitamin D and Autoimmune diseases – 1st Meeting OHD. Unhais da Serra. 27 October 2018

- 20) O impacto da doença e necessidades não satisfeitas na AR e APs. “Evolução ou Revolução? Tofacitinib – Novo paradigma de tratamento”. Lisbon, 17 November 2018.
- 21) O doente como parceiro inside-out / outsider-in. Clinical Summit Lusiadas. Lisbon, 8 December 2018.
- 22) Conflitos de interesse na saúde. Comunicação NOVA saúde ageing 2018 - Jornadas NOVA saúde. Lisbon, 13 December 2018
- 23) Cada grande solução começa com uma pequena ideia. Instituto Informatica Segurança Social, Lisbon, 14 December 2018

### **3.3. Other activities**

#### **3.3.1. Calls we applied to in 2018**

1. Pfizer 2018 - Challenges of ageing
2. Pfizer 2018 – on WNT
3. AAL – Healthy Bone
4. AAL – Soulmate
5. APE
6. Prémio Arnaldo Sampaio
7. Prémio Banco Carregosa /SRRNOM
8. Bolsa Celgene
9. Bolsa Fundação Francisco Manuel dos Santos
10. La Caixa – Care2Senior
11. La Caixa – Impact of mitochondrial genetic viability on healthy aging
12. H2020 – Osteomentor
13. Santander Totta Investigação Colaborativa 2018
14. H2020 – mobileDENIS
15. H2020 – LivingFlix
16. Fundo SPR – FLEPIPORT
17. Fundo SPR – ARIBOS
18. Fundo SPR – OA and Mediterranean Diet
19. Fundo SPR – Rheumatic Diseases and Sleep
20. Fundo SPR – Impact of poverty in Rheumatic Diseases
21. Grande Prémio de Investigação SPR
22. Prémio ISPA

## 23. Prémio Assunção Teixeira

### AWARDED:

1. Fundo SPR – FLEPIPORT
2. Fundo SPR – ARIBOS
3. Fundo SPR – OA and Mediterranean Diet
4. Fundo SPR – Rheumatic Diseases and Sleep
5. Fundo SPR – Impact of poverty in Rheumatic Diseases
6. Grande Prémio de Investigação SPR
7. Pfizer 2018 - Challenges of ageing
8. Pfizer 2018 – on WNT
9. H2020 – mobileDENIS – reserve list
10. Prémio Assunção Teixeira  
*(from 2017)*
11. FCT – P2E
12. FCT – PREDICT

### WAITING FOR RESPONSE:

1. Bolsa Fundação Francisco Manuel dos Santos
2. H2020 – LivingFlix
3. H2020 – Osteomentor

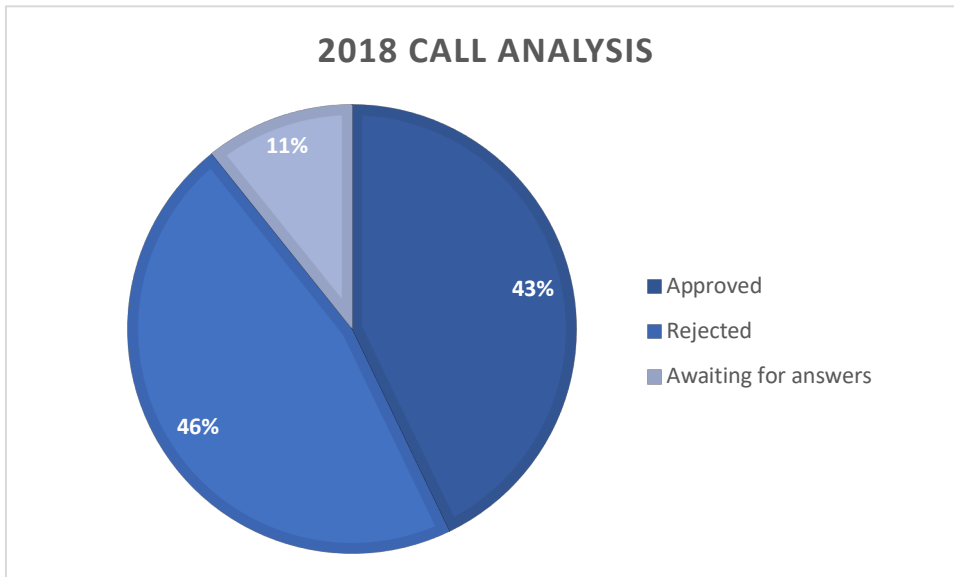
### REJECTED:

1. Prémio ISPA
2. La Caixa – Care2Senior
3. La Caixa – Impact of mitochondrial genetic viability on healthy aging
4. AAL – Healthy Bone
5. AAL – Soulmate
6. Prémio Arnaldo Sampaio
7. Prémio Banco Carregosa /SRRNOM
8. APE
9. Bolsa Celgene
10. Santander Totta Investigação Colaborativa 2018

(from 2017)

11. FCT – BONSAI
12. FCT – SLE
13. P2020 – High Sleep Low Stress

**Success rate: 43%**



### 3.3.2. Other scientific activities

- Reviews for Arthritis Research & Therapy
- Review process of the ERA PerMed Joint Transnational Call 2018 – Biomedical Research and Data and ICT. Espanha 2018
- Scientific committee of tge 4<sup>th</sup> IPLeia International Health Congress: Global Health Trends organized by the Center for Innovative Care and Health Technology (CiTechCare). Leiria, 11-12 May 2018
- National Expert for H2020 (– societal challenge in health do h2020
- Jury for European grants ERAPERMED 2018
- Scientific Commission Celgene grants 2018
- Jury for Individual PhD Grants FCT – Health Panel 2018
- Jury of the Doctoral Thesis – Joaquim Luís Duarte Raposo "Metabolic Syndrome: Definition and prevalence in Portugal and associations with hypovitaminosis D, thyroid dysfunction and autoimmunity"
- Jury of the Doctoral Thesis – Paula Broeiro-Gonçalves
- Jury of the Doctoral Thesis – Marta Patrícia Carvalho Viana

- Jury of the Master Thesis – Filipe Presado
- Jury for FCT researcher – Raquel Lucas

### **3.3.3. Services to the Community**

- NOVA Representant at 'Idade +' Workgroup
- Participation as a lecturer in INCLUIR Project – promoted by INFARMED
- Epidemiological study in the reference area of SN Seixal – Siderurgia Nacional, S.A..
- Chairman of the Board of 'Associação Mais Proximidade Melhor Vida' General Assembly President

## 4. In the media

- 2018

- 1) Adesão à Dieta Mediterrânica  
<https://www.publico.pt/2018/10/15/sociedade/noticia/menos-de-10-dos-portugueses-segue-a-dieta-mediterranica-1847547>
- 2) Project LivingFlix : <https://www.publico.pt/2018/09/19/culto/noticia/sera-possivel-criar-uma-netflix-de-saude-para-idosos-1844471/amp>
- 3) Artrite Reumatoide – Maratona da Saúde. Disponível em:  
[http://www.rtp.pt/antena1/os-dias-da-radio/maratona-da-sade-2018\\_10169](http://www.rtp.pt/antena1/os-dias-da-radio/maratona-da-sade-2018_10169)
- 4) Doenças Reumáticas com José Vaz Patto e Paulo Coelho – Programa Sociedade Civil – Luis Castro (14 maio 2018). Disponível em:  
<https://www.rtp.pt/play/p4365/e346404/sociedade-civil>
- 5) Dor, Fadiga e alteração do sono – Antena 1 (18 maio 2018). Disponível em:  
<http://www.rtp.pt/antena1/programacao/18-05-2018>
- 6) Envelhecimento Activo – RTP Tânia Ribas Oliveira e José Pedro (29 Junho 2018). Disponível em:  
<https://www.rtp.pt/play/p4223/e354207/agora-nos>
- 7) Filmes educativos doenças reumáticas – Doença reumática juvenil – ReumaSpot. Disponível em: <https://www.reumaspot-cpr.com/filmeseducativos>
- 8) Rede ibero-americana de dor crónica, liderada pelo Professor Jordi Miró, da Universidade Virgili e Rovira de Tarragona. Disponível em:  
<http://diaridigital.urv.cat/es/el-catedratico-jordi-miro-urv-coordinara-la-red-iberoamericana-de-expertos-en-dolor-infantil/>
- 9) 5 Radio Programs on Rheumatology
  - a. <http://radiosim.sapo.pt/Detail.aspx?fid=1357&did=47161&FolderID=1271>
  - b. <http://radiosim.sapo.pt/Detail.aspx?fid=1357&did=47167&FolderID=1271>
  - c. <http://radiosim.sapo.pt/Detail.aspx?fid=1357&did=47178&FolderID=1271>
  - d. <http://radiosim.sapo.pt/Detail.aspx?fid=1357&did=47179&FolderID=1271>
  - e. <http://radiosim.sapo.pt/Detail.aspx?fid=1357&did=47193&FolderID=1271>
- 10) Portugal organiza primeira conferência internacional sobre envelhecimento ativo  
<http://www.jornalmedico.pt/atualidade/36245-portugal-organiza-primeira-conferencia-internacional-sobre-envelhecimento-ativo.html>

11) Portugal organiza primeira conferência internacional sobre envelhecimento ativo <http://www.jornalmedico.pt/atualidade/36245-portugal-organiza-primeira-conferencia-internacional-sobre-envelhecimento-ativo.html>

- Previous

12) Notícia no website News Farma “Criação do futuro Biobanco do Centro de Estudos de Doenças Crónicas (CEDOC) da NOVA Medical School (NMS)”. Disponível em: <http://www.newsfarma.pt/noticias/6043-cedoc-da-nova-medical-school-arranca-com-a-cria%C3%A7%C3%A3o-de-umbiobanco-em-lisboa.html>

13) Notícia no website News Farma “Osteoartrose está entre as principais causas de incapacidade e reforma antecipada. Disponível em: <http://www.newsfarma.pt/noticias/5824-osteoartrose-está-entre-asprincipais-causas-de-incapacidade-e-reforma-antecipada.html>

14) Notícia no Sapo Lifestyle “Osteoartrose está entre as principais causas de incapacidade e reforma antecipada. Disponível em: <https://lifestyle.sapo.pt/saude/noticias-saude/artigos/medica-alerta-queosteoartrose-esta-entre-as-principais-causas-de-incapacidade-e-reformaantecipada>

15) Notícia no âmbito do Dia Mundial das Doenças Reumáticas. Diário dos Açores. Disponível em: <http://www.atlasdasaude.pt/publico/content/dia-internacional-das-doencasreumaticas>

16) Notícia no website Toluna no âmbito do Dia Mundial das Doenças Reumáticas. Disponível em: <https://pt.toluna.com/opinions/3560517/Dia-Mundial-das-Doen%C3%A7as-Reum%C3%A1ticas>

17) Notícia no website Raio-X intitulada “Osteoartrose está entre as principais causas de incapacidade e reforma antecipada. Disponível em: <http://raiox.pt/osteoartrose-esta-as-principais-causasincapacidade-reforma-antecipada/>

18) Notícia no website da Revista Atletismo intitulada “Osteoartrose está entre as principais causas de incapacidade e reforma antecipada. Disponível em: <https://revistaatletismo.com/osteoartrose-esta-entre-asprincipais-causas-de-incapacidade-e-reforma-antecipada/>

19) Notícia no website do jornal A voz do Algarve intitulada “Osteoartrose está entre

20) as principais causas de incapacidade e reforma antecipada”. Disponível em: <http://www.avozdoalgarve.pt/detalhe.php?id=27298>

- 21) Notícia no website ALERT “Um terço dos doentes reumáticos não são diagnosticados”. Disponível em: <http://www.alertonline.com/pt/news/health-portal/um-terco-dos-doentes-reumaticos-naosao-diagnosticados>
- 22) Notícia no “Um Olhar Povoacense” intitulada “Osteoartrose está entre as principais causas de incapacidade e reforma antecipada”. Disponível em: <http://olharpovoacense.blogspot.pt/2017/10/12-deoutubro-dia-mundial-das-doencas.html>
- 23) Notícia no website Oeiras Digital intitulada “Osteoartrose está entre as principais causas de incapacidade e reforma antecipada”. Disponível em: <http://www.oeirasdigital.pt/noticias/saude/osteoartrose-estaentre-as-principais-causas-de-incapacidade-e-reforma-antecipada/204>
- 24) Notícia no website Rádio Região de Basto intitulada “Osteoartrose está entre as principais causas de incapacidade e reforma antecipada”. 12 de outubro de 2017. Disponível em: <http://www.radioregiaodebasto.com/index.php/pt/sociedade/4572-osteoartrose-entre-as-principais-causas-de-incapacidade-e-reformaantecipada.html>
- 25) Notícia no website Atlas saúde intitulada “Osteoartrose está entre as principais causas de incapacidade e reforma antecipada”. Disponível em: <http://www.atlasdasaude.pt/publico/content/osteoartroseesta-entre-principais-causas-de-incapacidade-e-reforma-antecipada>
- 26) Notícia no website TVEuropa intitulada “Osteoartrose está entre as principais causas de incapacidade e reforma antecipada”. Disponível em: <https://www.tveuropa.pt/noticias/osteoartrose-e-uma-dasprincipais-causas-de-incapacidade-e-reforma-antecipada/>
- 27) Notícia no website + Algarve no âmbito do Dia Mundial das Doenças Reumáticas. 11 de outubro de 2017. Disponível em: <https://www.maisalgarve.pt/rubricas/consultorio-medico/8966-12-deoutubro-dia-mundial-das-doencas-reumaticas>
- 28) Notícia no website Saúde Online “Osteoartrose está entre as principais causas de incapacidade e reforma antecipada”. Disponível em: <https://saudeonline.pt/2017/10/12/osteoartrose-esta-entre-as-principaiscausas-de-incapacidade-e-reforma-antecipada/>
- 29) Entrevista para a CMTV sobre o tema “Exercício físico dentro de água. A hidroginástica é uma modalidade que se adapta a todas as idades. A médica, Helena Canhão explica quais os seus benefícios”. Disponível em: [http://www.cmjornal.pt/cmtv/programas/detalhe/exerciciofisico-dentro-de-agua?ref=programas\\_destaque](http://www.cmjornal.pt/cmtv/programas/detalhe/exerciciofisico-dentro-de-agua?ref=programas_destaque)



- 30) Entrevista para uma notícia no jornal País ao minuto “A dor de costas que os jovens ignoram e que afeta 50 mil portugueses. Disponível em: <https://www.noticiasao minuto.com/pais/835091/a-dorde-costas-que-os-jovens-ignoram-e-que-afeta-50-mil-portugueses>
- 31) Entrevista para uma notícia no Correio da Manhã “Vitamina D: grupos de risco têm falta de exposição solar. Ausência pode provocar problemas nos ossos”. Disponível em: <http://www.cmjornal.pt/sociedade/detalhe/vitamina-d-grupos-de-risco-tem-falta-de-exposicao-solar>
- 32) Uma análise do padrão alimentar português. Notícia no Blog Nutrimento do Programa Nacional para a Promoção da Alimentação Saudável da Direção Geral da Saúde. <https://nutrimento.pt/noticias/uma-analise-do-padrao-alimentar-portugues/>
- 33) Notícia na “Volta a Portugal em Bicicleta | Volta ao conhecimento” da RTP sobre o tema “Saúde Envelhecimento e bem-estar” “Investigador + clínico = Inovação”. Disponível em: <http://www.voltaaoconhecimento.pt/single-post/2017/08/01/Saudeenvelhecimento-e-bem-estar>
- 34) Entrevista para o Jornal Expresso “Investigador + clínico = Inovação”. 26 de junho de 2017. Disponível em: <http://expresso.sapo.pt/sociedade/2017-06-26-Investigador---clinico---Inovacao#gs.REYdI0Y>
- 35) Notícia na Viver Saudável “Saúde.come lança manual para uma vida saudável depois dos 60 anos”. Disponível em: <http://www.viversaudavel.pt/noticia/saude-come-idosos-livro-universidadenova-de-lisboa>
- 36) Notícia no website Agenda Portugal “Saúde.come: Uma vida saudável depois dos 60 anos. Disponível em: <http://www.agendaportugal.net/saude-come-uma-vida-saudavel-depois-dos-60-anos/>
- 37) Notícia na RTP Notícias sobre “Um quarto dos portugueses com mais de 60 anos vive sozinho e com pouca qualidade de vida”. 25 de maio de 2017. Disponível em: [https://www.rtp.pt/noticias/pais/um-quarto-dos-portugueses-com-maisde-60-anos-vivem-sozinhos-e-com-pouca-qualidade-de-vida\\_a1003964](https://www.rtp.pt/noticias/pais/um-quarto-dos-portugueses-com-maisde-60-anos-vivem-sozinhos-e-com-pouca-qualidade-de-vida_a1003964)
- 38) Entrevista para uma peça da SIC Notícias sobre “Estudo revela que idosos portugueses têm pouca qualidade de vida”. Disponível em: <http://sicnoticias.sapo.pt/pais/2017-05-25-Estudo-revela-que-idosos-portugueses-tem-pouca-qualidade-de-vida>
- 39) Notícia no Jornal i “Idosos com mais de 65 anos têm em média três doenças crónicas”. Disponível em: <https://ionline.sapo.pt/565003206>
- 40) Notícia no Jornal Sol “Idosos com mais de 65 anos têm em média três doenças crónicas”. Disponível em: <http://www.tempomedicina.com/noticias/32412>

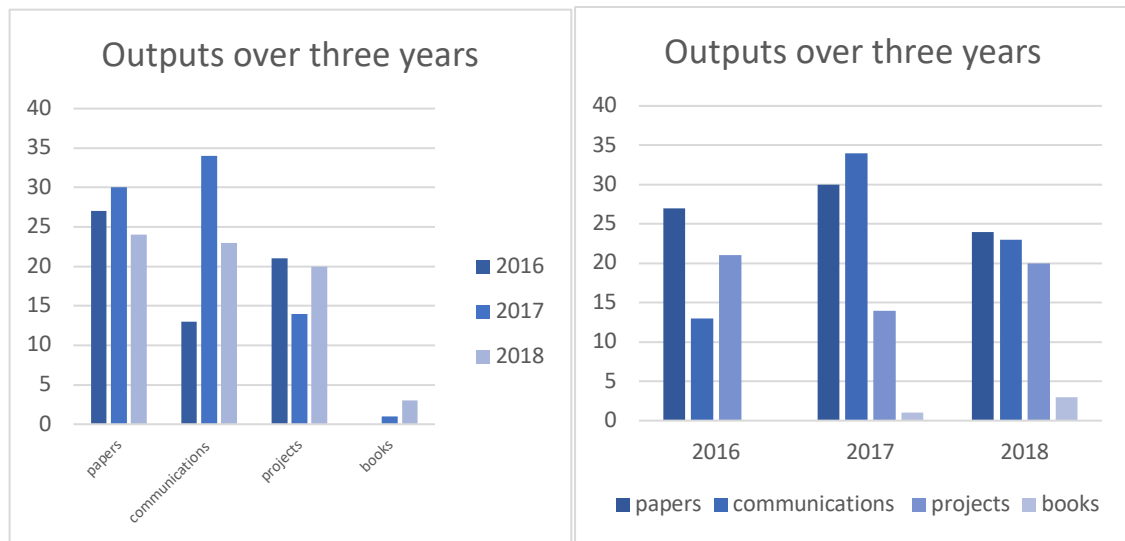
- 41) Notícia no Jornal Médico “Dois terços dos idosos em Portugal são sedentários”. Disponível em: <http://www.jornalmedico.pt/atualidade/33600-dois-tercos-dos-idosos-empportugal-sao-sedentarios.html>
- 42) Notícia no website TempoMedicina online “Viver com Saúde depois dos 60 anos”. Disponível em: <https://sol.sapo.pt/artigo/565004/idosos-com-mais-de-65-anos-t-m-emmedia-tr-s-doencas-cronicas->
- 43) Notícia no website Família Cristã “Idosos têm “estilo de vida menos saudável””. Disponível em: <https://familiacrista.paulus.pt/idosos-temestilo-de-vida-menos-saudavel>
- 44) Notícia no website País ao minuto “Dois terços dos idosos em Portugal são sedentários”. Disponível em: <https://www.noticiasominuto.com/pais/799280/dois-tercos-dos-idosos-empportugal-sao-sedentarios>
- 45) Notícia do Diário de Notícias sobre “Dois terços dos idosos em Portugal são sedentários”. Disponível em: <https://www.dn.pt/lusa/interior/dois-tercos-dos-idosos-em-portugal-saosedentarios-8499130.html>
- 46) Notícia na TVI 24 sobre “Idosos mexem-se pouco, comem mal, fumam e bebem”. Disponível em: <http://www.tvi24.iol.pt/sociedade/sedentarismo/idosos-mexem-se-poucocomem-mal-fumam-e-bebem>
- 47) Notícia na SIC Notícias sobre “Dois em cada três idosos em Portugal são sedentários”. Disponível em: <http://sicnoticias.sapo.pt/pais/2017-05-23-Dois-em-cada-tres-idosos-em-Portugal-sao-sedentarios>
- 48) Notícia na Viver Saudável “Investigação: Dois terços dos idosos em Portugal são sedentários”. Disponível em: <http://www.viversaudavel.pt/noticia/investigacao-idosos-sedentarismoportugal-saude-come>
- 49) Notícia no website SAÚDE ONLINE “Saúde.come lança manual prático para estilo de vida saudável depois dos 60 anos. Disponível em: <http://saudeonline.pt/2017/05/23/saude-come-lanca-manual-pratico-paraestilo-de-vida-saudavel-depois-dos-60-anos/>
- 50) Reportagem na SIC Notícias no âmbito do Dia Nacional do Doente com Artrite Reumatóide. Disponível em: <http://sicnoticias.sapo.pt/programas/edicaodamanha/2017-04-05-Dia-Nacional-do-Doente-com-Artrite-Reumatoide>
- 51) Peça no Jornal da Uma da TVI sobre “Alimentação: Estudo Universitário revela problemas na alimentação dos portugueses”. Disponível em: <http://www.tvi.iol.pt/programa/jornal-dauma/53c6b2633004dc00624392e1/videos/--/videos--juma/video/5894a3470cf22b4ee2d15b09>

- 52) Notícia na TVI e TVI 24 intitulada “Um quinto das famílias em insegurança alimentar”. Disponível em: <http://www.tvi24.iol.pt/sociedade/alimentacao/um-quinto-das-familias-eminseguranca-alimentar>
- 53) Discurso Direto da TVI 24 sobre o tema “Insegurança alimentar”. Disponível em: <http://www.tvi24.iol.pt/equipatvi24/paulamagalhaes/53f6141a3004bbf68d25aa77/videos/1/video/5894a43d0cf237f3233c859a>
- 54) Notícia na SIC Notícias “Cerca de 20% dos portugueses não tem acesso a uma alimentação saudável”. Disponível em: <http://sicnoticias.sapo.pt/pais/2017-02-02-Cerca-de-20-dos-portugueses-naotem-acesso-a-uma-alimentacao-saudavel>
- 55) Notícia no website ESQUERDA.NET “Cerca de 20% da população Portuguesa está em situação de insegurança alimentar”. Disponível em: <https://www.esquerda.net/artigo/cerca-de-20-da-populacao-portuguesa-estaem-situacao-de-inseguranca-alimentar/46817>
- 56) Notícia na Rádio RENASCENÇA “Uma em cada cinco famílias sem alimentação saudável por razões económicas”. Disponível em: [http://rr.sapo.pt/noticia/75186/uma\\_em\\_cada\\_cinco\\_familias\\_sem\\_alimentacao\\_saudavel\\_por\\_razoes\\_economicas](http://rr.sapo.pt/noticia/75186/uma_em_cada_cinco_familias_sem_alimentacao_saudavel_por_razoes_economicas)
- 57) Notícia no PT JORNAL “Uma em cada cinco famílias portuguesas encontram-se em insegurança alimentar”. Disponível em: <http://ptjornal.com/cinco-familias-portuguesas-encontram-insegurancaalimentar-141955>
- 58) “Portugueses com medo de não ter o que comer”. Disponível em: <http://www.fatimamissionaria.pt/artigo.php?cod=36305&sec=7>
- 59) Notícia na ANTENA 1 “Famílias sem acesso a uma alimentação saudável”. Disponível em: [http://www.rtp.pt/noticias/pais/familiassem-acesso-a-uma-alimentacao-saudavel\\_a980408](http://www.rtp.pt/noticias/pais/familiassem-acesso-a-uma-alimentacao-saudavel_a980408)
- 60) Notícia no OBSERVADOR “Uma em cada cinco famílias sem acesso ou com medo de não ter acesso a comida saudável”. Disponível em: <http://observador.pt/2017/02/03/um-em-cada-cinco-familias-sem-acesso-oucom-medo-de-nao-ter-acesso-a-comida-saudavel/>
- 61) Notícia no Jornal PÚBLICO “Uma em cada cinco famílias sem alimentação saudável”. Disponível em: <https://www.publico.pt/2017/02/03/sociedade/noticia/um-quinto-dasfamilias-nao-tem-acesso-a-uma-alimentacao-saudavel-1760709>
- 62) Notícia no RTP “Famílias sem acesso a uma alimentação saudável”. Disponível em: [http://www.rtp.pt/noticias/pais/familiassem-acesso-a-uma-alimentacao-saudavel\\_a980408#](http://www.rtp.pt/noticias/pais/familiassem-acesso-a-uma-alimentacao-saudavel_a980408#)

- 63) Notícia no jornal EXPRESSO “Uma em cada cinco famílias portuguesas com insegurança alimentar. Disponível em: <http://expresso.sapo.pt/sociedade/2017-02-03-Uma-em-cada-cinco-familiasportuguesas-em-inseguranca-alimentar>
- 64) “Um em cada cinco famílias portuguesas em insegurança alimentar- estudo. 3 de fevereiro de 2017. Disponível em: [http://24.sapo.pt/noticias/nacional/artigo/uma-em-cada-cinco-familias-portuguesas-em-inseguranca-alimentar-estudo\\_21884075.html](http://24.sapo.pt/noticias/nacional/artigo/uma-em-cada-cinco-familias-portuguesas-em-inseguranca-alimentar-estudo_21884075.html)
- 65) Notícia na SAPO LIFESTYLE. Disponível em: <http://lifestyle.sapo.pt/saude/noticias-saude/artigos/uma-em-cada-cincofamilias-portuguesas-vive-em-inseguranca-alimentar?artigo-completo=sim>
- 66) “Um em cada cinco famílias em insegurança alimentar.” Disponível em: <https://www.dinheirovivo.pt/economia/cinco-familias-inseguranca-alimentar/>
- 67) “Um em cada cinco famílias portuguesas não tem acesso a uma alimentação saudável. Disponível em: <http://saudeonline.pt/2017/02/03/uma-em-cada-cinco-familias-portuguesasnao-tem-acesso-a-uma-alimentacao-saudavel/>
- 68) “Uma em cada cinco famílias portuguesas em insegurança alimentar – estudo”. Disponível em: <http://www.correiodamanhacanada.com/uma-em-cada-cinco-familiasportuguesas-em-inseguranca-alimentar-estudo/>
- 69) “Uma em cada cinco famílias portuguesas está em insegurança alimentar. Disponível em: <http://www.dnoticias.pt/pais/uma-em-cada-cinco-familias-portuguesas-estaem-inseguranca-alimentar-AG855376>
- 70) “O papel da alimentação e do sol no bebé explicado por uma médica. Disponível em: <http://lifestyle.sapo.pt/familia/bebe/artigos/o-papel-da-alimentacao-e-do-solno-bebe-explicados-por-uma-medica>

## 5. A three-year overview

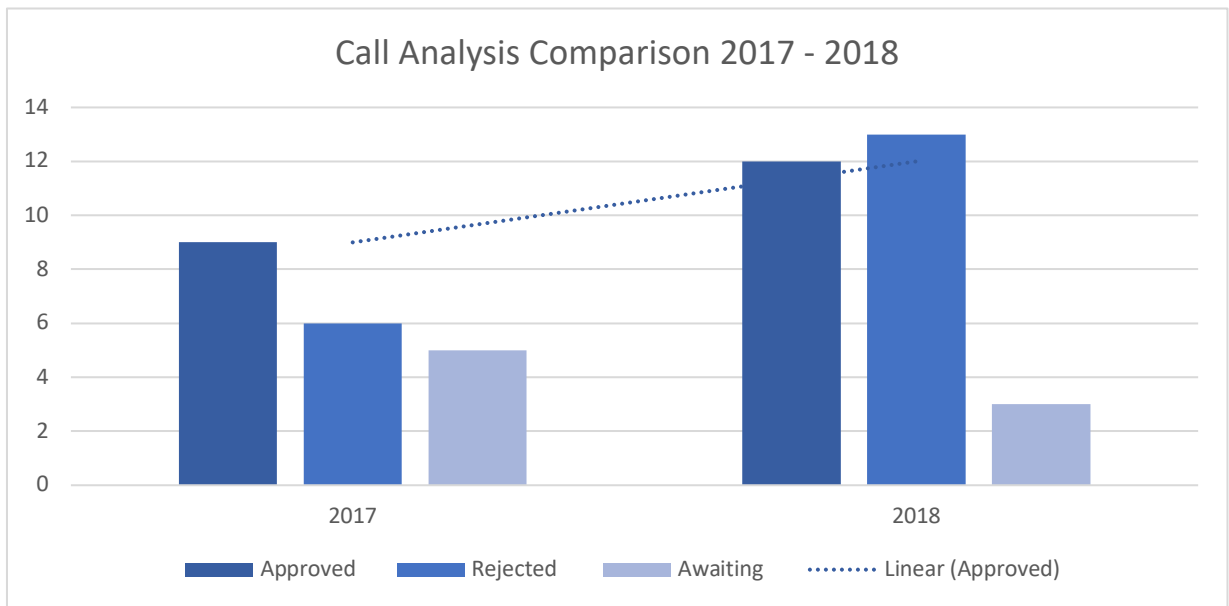
### Outputs



The previous graphs shows the evolution of four important scientific productivity indicators for EpiDoC Unit: published scientific papers, oral communications, ongoing projects, and books, over the last three years.

2016 presents the largest number of articles published and a number of ongoing projects similar to 2018. However, oral communications and seminars are well below the following years. This analysis also shows that 2017 was the year in which there were more published articles and oral communications, but it was also the year with the lowest number of ongoing projects. The year of 2018 seems to be the one that presents the best balance between articles, communications and projects, and an increase in book publication.

## Calls



The graph represents the final result of the effort made on applications in competitive tenders, in a comparison between 2017 and 2018. The year 2016 does not present comparable data. The trend line is based on the number of approved applications.

In general, there is an increase in the total number of applications and also an increase in the number of applications approved. By 2018, however, the number of applications rejected was higher than the number of applications approved. This interpretation may however present reservations, given the difference in the number of waiting responses.