NOVAsaúde Ageing

I International Conference | I Conferência Internacional

19th September 2018 - Auditorium B - UNL Rectory

Program & Abstracts Book

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NOVAsaúde Ageing

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Programa
Program

09:00 - 09:30 *Registration*

09:30 - 09:45 *Opening*
  José Fragata (Vice-Rector UNL)
  Graça Freitas (Diretora-Geral da Saúde)

09:45 - 10:15 *Lecture: Ageing in Europe - adding healthy years to life*
  Speaker: Giuseppe Liotta (Universitat Tor Vergata Roma)

10:15 - 11:15 *1st Panel: Fighting disability*
  Moderator: Pedro Soares Branco (NMS|FCM)
  Manuel Gonçalves Pereira (NMS|FCM)
  José António Pereira Silva (CHUC)
  Giuseppe Liotta (Universitat Tor Vergata Roma)
  Andreia Jorge Silva (DGS)

11:15 - 11:45 *Coffee break*

11:45 - 12:45 *2nd Panel: New technologies and information systems*
  Moderator: Luis Lapão (IHMT)
  Hugo Gamboa (Fraunhofer|FCT NOVA)
  João Marques (Comissão Nacional para a Proteção de Dados - CNPD)
  Paula Lobato Faria (ENSP)

12:45 - 14:30 *Lunch and visiting Posters presentation*

14:30 - 15:30 **Palestra: Envelhecimento - desafios e impacto nos sistemas de saúde e social**
  Palestrante: António Bagão Félix

15:30 - 16:30 **3.º Painel: Envelhecimento, Família e Respostas**
  Moderador: Laurinda Alves
  Enquadramento:
  Pessoa em processo de envelhecimento: Maria Amália Botelho (NMS|FCM)
  Heróis do quotidiano: 10 anos passados: Ana Paula Gil (CICS.NOVA / FCSH)
  Viver sozinho em casa: Angela Valença (AMPMV)
  Cuidados Continuados em Portugal: Manuel Lopes (Universidade de Évora|RNCCI)

16:30 - 16:45 **Encerramento**
  José Fragata (Vice-Reitor UNL)
  Helena Canhão (NOVAsaúde Ageing)

Poster	Title
1	Ageing in Algarve: perceptions, profile and quality of life
2	The Augmented Human Assistance System: A Robotic Driven Augmented Reality Exergaming System for Fitness Promotion for the Elderly Population
3	Anxiety and depression in the Portuguese older adults: prevalence and associated factors
4	Low serum levels of DKK2 predict incident low-impact fracture in older women.
5	Development of a virtual assistant to promote physical activity in older people with type 2 diabetes
6	The MeNuCHAl Study - Medication Management and Nutrition Care in Care Homes: the reality and structuring services in the Algarve region.
7	International Centre on Aging: A First Report of activities implemented by University of Algarve
8	CHRODIS + | Joint Action on Chronic Diseases Implementing Good Practices for Chronic Diseases
9	Ageing Ativa Saúde
10	Health literacy for a healthy and active ageing in the portuguese population
11	How can we improve patient's health and quality of life using telemedicine systems? A refresh on what is operating in the Portuguese speaking countries' domain and a look to its potential to the future of healthcare services integration.
12	Unparalleled ultrasonic energy-based workflow to speed up clinical proteomics
13	The social pattern of sarcopenia in Portugal
14	Smartphone based Pupillometer for Glaucoma detection
15	Ageing and fertility
16	The temporal pattern of Sarcopenia in 22 European countries
17	Divergent Synthesis of Phenolic Carbohydrate Derivatives from Plant Origin as Potent Antioxidants with Application against Neurodegenerative Diseases
18	Effects of Socio-Demographic Variables on Performance on the Cambridge Neuropsychological Automated Tests for the Assessment of Alzheimer's Disease in Portuguese Older Adults Living in Retirement Homes
19	Isolation of recombinant antibodies against Tumor necrosis factor-α (TNF-α) protein.
20	A synergistic approach to rejuvenate retina and promote elderly vision
21	CARELINK for Dementia sufferers and their community
22	A facility for next-generation proteomics in health and disease
23	Online Global Geriatric Assessment

Poster 1

Ageing in Algarve: perceptions, profile and quality of life

Aurízia Anica[1], Francisco Gil[2]

[1]University of Algarve/ IELT, [2] University of Algarve/CIAC

Background: the Algarve is characterized by being a strong dissonance region. From demographic point of view, it presents a high contrast between the thinning and ageing of the inland population and the concentration and adulthood of the coast population. Concerning the well-being of residents in Algarve, the contrasts are mirrored in the OECD Regional Welfare Index indicators. In this index, the indicator related to the environment is the one that obtains the highest value, following the health and safety indicators. Those are in contrast with the indicators of satisfaction with life, civic engagement, and education, whose scores are the lowest. On the other hand, a stereotype has spread about the excellence of ageing in this region. The objective of this communication is to answer to a double question: Is Algarve the place of excellence to grow old that stereotype has spread? How do you really age in Algarve? Method: A systematic review of the literature on the subject is made, seeking to know how the residents in Algarve perceive their own ageing process and what factors are related to the quality of life perceived in it. The bibliographic research was restricted to scientific papers, dissertations and books related to the results of empirical investigations carried out on the Algarve context, identified through the online resources SAPIENTIA, RCAAP and b-on. For this purpose, we used the key words social gerontology, ageing, quality of life, conjugated with the words Algarve and University of Algarve. Results: The Algarve is a territory of profound contrasts in the ways of ageing and in the quality of life in the ageing process. Quality of Life (QoL) is related to gender, level of schooling, health, autonomy in activities of daily living, mobility, the reason for institutionalization and family relationships. Female gender, low level of schooling, illness, performance difficulties of daily life activities and institutionalization against the will of the person are associated with lower QoL. Depression and functional disability appear as major and widespread QoL problems in traditional residential settings, affecting more than ¾ of the people living there. Conclusions: The revised studies highlight the need to improve the adequacy of social responses, especially the ERPI, to the needs and choices of the senior population. At the same time, it is advisable to invest in the promotion of active or positive ageing in place, in order to preserve the good quality of life and to prevent or minimize the factors of institutionalization.

Poster 2

The Augmented Human Assistance System: A Robotic Driven Augmented Reality Exergaming System for Fitness Promotion for the Elderly Population

Alexandre Bernardino[1], Sergi Bermúdez i Badia[2], Fátima Baptista[3], Filomena Carnide[3], Hugo Gamboa[4], Asim Smailagic[5], Dan Siewiorek[5], David Belo[4], Mónica Cameirão[2], Élvio Rúbio Gouveia[2] e Hugo Simão[1]

[1]ISR, IST, Universidade de Lisboa, Portugal; [2]M-ITI, University of Madeira, Portugal; [2]FMH, Universidade de Lisboa, LBMF, LabES, CIPER, Dafundo, Portugal; [4]FCT, Nova University of Lisbon and LIBPhys-UNL, Portugal; [5]CMU, Pittsburgh, USA

Aging and sedentarism are two main challenges for social and health systems in modern societies. To face these challenges a new generation of ICT based solutions is being developed to support the large populations of patients that suffer chronic conditions as result of aging. Such solutions have the potential to transform healthcare by optimizing resource allocation, reducing costs, improving diagnoses and enabling novel therapies, thus increasing quality of life. To address this problem the Augmented Human Assistance(AHA) project has developed a novel Robotic Assistance Platform designed to promote exercise for a healthy lifestyle, sustain active aging, and support those with motor deficits, both at home, care centers and clinical facilities. Innovation and fundamental research in the areas of HCI, robotics, serious games and physiological computing are combined to provide users and institutions tools for: Physical (re)training: Building on the existing expertise on Augmented Reality (AR) and serious games, several adaptive AR physical training tools have been developed to prevent sedentarism, support active aging and provide personalized tools for function re-training in motor impaired patients. Increasing self-awareness: Monitoring of user state by means of biosensors, computer vision systems and exercise performance data. User state is assessed and data is to be visualized through friendly user interfaces, and shared with patients, clinicians and/or relatives. Augmented assistance: These systems are integrated on a mobile robotic platform with indoor navigation capabilities that interacts through a virtual coach system to assist patients, provide reminders on tasks, guide patients through exercises, and support them in daily routines. These technological advances have a strong potential towards novel and low cost treatments, health promotion, and disease monitoring and prevention. At a community level, such eHealth applications support the development of personalized and person-centric care methods and services. ICT based training and rehabilitation systems easily transfer from clinic-based training to at-home applications for tele-rehabilitation, creating a continuum of diagnostics and training possibilities. The inclusion of multi-user and networked systems to enable social interactions among users makes our approach unique, creating new possibilities for services and products to be built around the AHA system, promoting the adherence to the therapy as well as reducing the high depression levels of stroke survivors. The use of virtual coach technology for in-home therapy could reduce readmissions and medical revisions, thus reducing aggregate costs of rehabilitation. An even broader impact is the transformative effect these technologies will have on other forms of exercise, as well as the potential applicability to other domains where goal-oriented repetition is needed to learn a skill.

Poster 3

Anxiety and depression in the Portuguese older adults: prevalence and associated factors

Rute Dinis de Sousa[1,2], Ana Maria Rodrigues[1,2,3,4], Maria João Gregório[1,2,5], Jaime Cunha Branco[1,2,3,6], Maria João Gouveia[7], Helena Canhão[1,2,3,8], Sara Simões [1,2,9]

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With recent economic crisis - very important in Southern European countries -, isolation, loneliness and exclusion of the active society, mental problems are probably raising and associated with distinct factors. In this cross-sectional analysis, nested in a longitudinal population-based cohort study, we analyze anxiety and depression prevalence, and their related factors, in a representative cohort of Portuguese seniors. We used data retrieved from second wave of follow up of EpiDoC Cohort – EpiDoC 2 study, which is composed by 10,661 adults, representative of adult Portuguese population. The current study included all ≥ 65 years old EpiDoC 2 study participants, who responded to Hospital Anxiety and Depression Scale (HADS), n=1,680. Sociodemographic, lifestyles, self-reported non-communicable diseases, health related quality of life (EQ-5D-3D), physical function (HAQ) and health resources consumption data were collected. Anxiety and depression were assessed with HADS. Anxiety and depression prevalence were estimated. Multivariable logistic regression was used to assess anxiety and depression score determinants. The estimated prevalence of anxiety among Portuguese elderly is 9.6% and depression is 11.8%. Seniors with anxiety and seniors with depression have a higher probability to self-report higher levels of physical disability (OR=3.10; 96% CI 2.12-4.52; OR=3.08, 95% CI 2.29-4.14, respectively) and lower levels of quality of life (OR=0.03, 95% CI 0.01-0.09, OR=0.03; 95% CI 0.01-0.06, respectively). Female gender (OR=2.77, 95% CI 1.53-5.00), low educational level (OR=2.30, 95% CI 1.22-4.36), allergic (OR=2.02, 95% CI 1.14-3.55) and rheumatic disease (OR=2.92; 95% CI 1.74-4.90) were significantly and independently associated with the presence of anxiety symptoms. Physical inactivity (OR= 1.64 95% CI 1.11-2.42), and low educational level (OR=2.40, 95% CI 1.41-4.09) were significantly and independently associated with depression symptoms. Subjects that reported to drink alcohol daily or occasionally were negatively associated with depression symptoms. Anxiety and depression are frequent among Portuguese elderly. These prevalence rates suggest that preventing mental illness in senior population is a crucial need. A well-designed prevention strategy might have an effective action in raising the wellbeing of elderly.

Poster 4

Low serum levels of DKK2 predict incident low-impact fracture in older women.

Ana M. Rodrigues[1,2,3], Mónica Eusébio[4], Jorge M. Mendes[7], Pedro Simões Coelho, João Eurico Fonseca[6,8], Jaime C. Branco MD[1,9,10], Helena Canhão[1,3,11]

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There are currently no robust non-invasive markers of fragility fractures. Secreted frizzled related protein-1 (sFRP-1), dickkopf-related protein 1 (DKK1) and DKK2, and sclerostin (SOST) inhibit Wnt signalling and interfere with osteoblast-mediated bone formation. We evaluated associations of serum levels of sFRP-1, DKK1, DKK2, and SOST with incident low-impact fracture and BMD in 828 women aged ≥65 years from EpiDoC, a longitudinal population-based cohort. A structured questionnaire during a baseline clinical appointment assessed prevalent fragility fractures and clinical risk factors (CRFs) for fracture. Blood was collected to measure serum levels of bone turnover markers and Wnt regulators. Vertebral and hip BMD were determined by DXA scanning. Follow-up assessment was performed through phone call interview; incident fragility fracture was defined by any new self-reported low-impact fracture. Multivariate Cox proportional hazards models were used to analyse fracture risk adjusted for CRFs and BMD. During a mean follow-up of 2.3±1.0 years, 62 low-impact fractures were sustained in 58 women. A low serum DKK2 level (per 1 SD decrease) was associated with a 1.5-fold increase in fracture risk independently of BMD and CRFs. Women in the two lowest DKK2 quartiles had a fracture incidence rate of 32 per 1,000 person-years, whereas women in the two highest quartiles had 14 fragility fractures per 1,000 person-years. A high serum sFRP1 level was associated with a 1.6-fold increase in fracture risk adjusted for CRFs but not independently of BMD. Serum levels of SOST (r=0.191; p=0.0025) and DKK1(r=-0.1725; p=0.011) were correlated with hip BMD but not with incident fragility fracture. These results indicate that serum DKK2 and sFRP1 may predict low-impact fracture and suggest that Wnt pathway regulators should be further studied in other populations as potential non-invasive markers of fragility fracture risk.

Poster 5

Development of a virtual assistant to promote physical activity in older people with type 2 diabetes

Nuno Pimenta[1], Adriana Henriques[1], Afonso Cavaco[1], Ana Paula Cláudio[1], Anabela Mendes[1], Isa Félix[1], Isabel Costa e Silva[1], João Balsa[1], Maria Beatriz Carmo[1], Susana Buinhas[1], Mara Pereira Guerreiro[1]

Escola Superior de Desporto de Rio Maior - IPSantarém

Background Active ageing is crucial to achieve a better quality of life, contributing to the sustainability of health care systems. Type 2 Diabetes Mellitus (T2D) is highly prevalent in older adults. Physical activity (PA) is a key component of T2D management. Technology-based interventions have successfully been used to tackle adherence to PA; they embody a promising cost-effective approach. Our aim is to describe the development of an intervention to promote PA in older adults with T2D, as part of a multi-behaviour change intervention delivered by a virtual assistant (VA) software prototype (http://vaselfcare.rd.ciencias.ulisboa.pt). Methods Content development of the VA prototype was guided by a literature review on [a] clinical guidelines on PA in this population; [b] relational agents and automated interventions; [c] theories underpinning health behaviour change and interventions resorting to these theories. Development of the VA prototype comprised: [a] identification of prerequisites; [b] production using Unity, a software for interactive applications, Speech2Go, a text to speech audio, and Yarn, a dialog editor. Ethical approval was granted (Ref. 6104/CES/2018 ARSLVT). Results The intervention is split into assessment and follow-up stages; interactions with the VA within each stage follow structured steps (e.g. greeting, counselling). Daily step counts measured by a pedometer are used as reference to ascertain PA; patients meeting targeted steps/day will receive home-based resistance training counseling. The Behaviour Change Wheel, which posits capability (C), opportunity (O) and motivation (M) as behaviour determinants (COM-B), was the chosen theoretical framework. Report of behaviour change techniques (BCTs) has been overlooked in the literature. The prototype operates without internet access in tablet devices with Android system. The VA interface displays an anthropomorphic empathic character, named Vitória, capable of speaking and expressing emotions through facial and body animations. The user communicates with Vitória using buttons. The prototype has the capability of displaying plots with step counts over time and give feedback accordingly. Conclusion An early prototype has been obtained. We pursued a thorough theoretical approach to behaviour change, likely to maximize the intervention effectiveness on PA. Next steps include linking key domains for behaviour change to intervention functions and subsequently mapping BCTs, plus fine-tuning the prototype with a sample of health care professionals and users. This research has the potential to enhance the management of T2D in older adults, by extending the reach of usual health care in a sustainable fashion.

Poster 6

The MeNuCHAI Study - Medication Management and Nutrition Care in Care Homes: the reality and structuring services in the Algarve region.

Margarida Espírito-Santo[1,2,3], Tânia Nascimento[1,2,3], Manuela Meireles[1,2,3,4], Maria Palma Mateus[1,2,3]

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Ageing is a growing phenomenon and a worrying reality concerning most societies in developed countries. The increase in life expectancy raised the need for home care institutions and services, allowing to support individuals for a longer life period, assuring a good quality of life. It is therefore of great importance to optimize the support services available in these home care facilities, such as medication management and nutrition care, ensuring a positive impact in health outcomes for users. The aim of this study is the development of structured interventional services in the area of nutrition and medication management to be applied in care homes. Furthermore, the characterization and analysis of the medication circuit and nutritional care services available in these institutions, and the identification of focal problems in these two areas of support services, will be performed. A sample of different types of ageing care facilities will be included in this study, such as RSEs (Residential Structures for the Elderly); Day Centers (DCs); and Home support service (HSSs), located in the Algarve region. The study will be carried out in three distinct phases. To start, Phase I (Sep´18) will include an observational descriptive study, using a sample of the different types of ageing care facilities. Secondly, on Phase II, a Delphi panel, including several stakeholders who participate in the provision of these services (Care Homes users, physicians, nurses, pharmaceutical services, nutritionists), will discuss and identify relevant problems concerning medication management and nutrition care in home care institutions. Finally, Phase III will be divided in Phase IIIa, which will include the design of an interventional program providing medication management and nutritional services, considering the results obtained on Phase I and Phase II; and Phase IIIb, where a pilot test will be held to implement the interventional program previously designed in Phase IIIa. The outcomes from Phase I will allow to characterize the services provided to users by these institutions in the Algarve region, and are expected to be presented until May 2019. Phase II outcomes will contribute to Phase III, where it is intended to delineate an interventional pilot model in the scope of nutrition care and medication management services to be applied in home cares. The development of structured services in the area of nutrition and medication management, specifically applied in care homes, is an area in great need, since as increased lifespan not always reflects healthspan. With the development of the current work, a positive impact in the improvement of the ageing care facilities users health outcomes is anticipated.

International Centre on Aging: A First Report of activities implemented by University of Algarve

Nídia Braz[1,2,3], Margarida Santos[3,4], Lara Ferreira[3,4] , Maria Palma Mateus[1,2,3] Andreia Roque[,3] Joana Boto[1] Sandra Pais[3,5]

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International Centre on Aging (CENIE) is a joint venture shared by Fundación General de la Universidad de Salamanca, Fundación General del Consejo Superior de Investigaciones Científicas, Direção-Geral da Saúde and University of Algarve (UAlg) and funded by INTERREG. Aiming to create a common vision on population aging between Portugal and Spain, CENIE is organized in three main areas: "Training"- New professionals, for a new society; "Research" to understand aging challenges regarding health and quality of life improvement; "Innovation" Innovative social entrepreneurship models on ageing. Methods To fulfil CENIE's goals, UAlg, assembled a multidisciplinary research task force, from Health, to Tourism and Management, Statistics, Psychology and Anthropology. Three work groups were organized: "The active and healthy aging training nucleus"; focused on training programs, workshops and seminars; "The Algarve Ageing Lab" dedicated to studying and monitoring health and ageing; and the "Ageing challenges and Innovation nucleus" based on the concept of Silver Economy, aiming to generate a development model based on ageing for the region. In order to maximize opportunities arising from ageing in the region, public, private and social economy health care structures, social support institutions, Public Authorities and Companies have been involved in the preparation of joint documents, assessments and initiatives. Results During the first year of the CENIE's project, initiatives included two open journeys, (October 2017 and May 2018) oriented for public and elderly-care professionals. One pilot workshop on health literacy was carried out, to test the application of an original game designed to promote health literacy in the areas of medication, public health and physical activity, to be played by groups of seniors. A package of different training modules, designed for different types of professionals that work with ageing populations, covering accessibility in ageing, responsible use of medication, quality and management of elderly care facilities, elderly nutrition and food, and promotion of physical activity in institutionalized elderly, has been offered. The "Algarve Ageing Lab" is being equipped in the UAlg's facilities (Gambelas Campus) and agreements with the Algarve Biomedical Center, Rehabilitation Department of the University Hospital, and Local Health Administration have been established. A "White Document on Ageing in Algarve - Challenges and opportunities" is under construction, using focus group methodology. Conclusions The institutions and public involved in CENIE's activities have shown increasing interest over the past year in CENIE's actions proposed by the University of Algarve. Over 1000 general public, elderly and professionals have been involved in several activities. The involvement of different professionals and organizations created a ground for new approaches and methodologies, which, so far, have resulted in increased value.

Poster 8

CHRODIS + | Joint Action on Chronic Diseases Implementing Good Practices for Chronic Diseases

Andreia Jorge Silva da Costa[1,2,3], Miguel Arriaga[1,3], Rita Horgan[1], Jessica Filipe[1], Nicole Chaves[1], Graça Freitas[1]

[1] Directorate General of Health

[2] Instituto de Saúde Ambiental

[3] CRC-W – Católica Research Centre for Psychological, Family and Social Wellbeing

Objectives: Chronic diseases (CD) cost the European Union (EU) economies 115b€ or 0.8% of Gross Domestic Product annually. Approximately 70-80% of healthcare budgets across the EU are spent on treating CD. In the scope of CD the Joint Action (JA) CHRODIS was established to identify cross-national policies, strategies and interventions to promote health and prevent and manage CD. Subsequently, the Joint Action CHRODIS-PLUS (CP) was developed with the objective of promoting policies implementation, strategies and interventions that demonstrated successful regarding health promotion and primary prevention; patient empowerment; tackling functional decline and quality of life; and making health systems sustainable and responsive to the aging of the population. For this, a collaboration between 42 beneficiaries representing 20 EU countries are integrated in 8 different Work Packages (WP). Between September 2016 and August 2020, CP will implement pilot projects, generate practical lessons, disseminate activities and monitor and evaluate them to verify the progress and impact of the actions. Methods: As a member of the Governing Board (GB) of CP, the Portuguese Directorate-General of Health (DGS) is integrated in WP4 and WP5. Being on the GB, DGS is responsible for: setting up a framework for all members' participation; providing strategic guidance to the JA; allowing communication between National Health Systems and the JA; and assuring the sustainability of the JA. For WP4, Integration in National Policies, DGS participates in: development of a Policy Dialogue (PD); construction of a responsive network; and preparation of a consensus statement and a report. In WP5, Health Promotion and Disease Prevention, DGS is responsible for: dissemination of good practices; increase health promotion across health systems; and perform a final overview. Discussion/Results: In Portugal, 25% of children under 10 years old are overweight and 7.7% are obese. Between 10-17 years old, 32.3% are overweight and 8.7% are obese. DGS is organising a PD that will assess and promote the measures available to improve nutrition and physical activity participation in children. WP5 will conduct a survey that aims to identify successful collaborations within healthcare, between the border health system and other sectors, as well as their enablers and barriers. Conclusion: Reducing the burden of CD such as diabetes, cardiovascular disease, cancer and mental disorders, is a priority for the EU, since CD affect 8 in 10 people aged 65+ in Europe. There is a potential for reducing this burden by using this knowledge in more effective ways. CP will contribute in implementing and testing best practices, tools and policies across EU countries; sharing experiences; supporting integration into national policies and sustainability; and the reduction of NCD's burden by promoting the implementation of policies and practices that have been demonstrated to be successful.

Ageing Ativa Saúde

Andreia Jorge Silva da Costa[1,2,3], Miguel Arriaga[1,3], Rita Horgan[1], Nicole Chaves[1], Francisco Mata[1], Carlota Ribeiro da Silva[1], Graça Freitas[1]

[1]Directorate General of Health

[2] Instituto de Saúde Ambiental

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Objectives: Portugal is the 4th country amongst the EU28 with the highest percentage of elderly people. Ageing represents a victory for socioeconomic development and public health but also a challenge for society adaptation. The impact of an ageing population on society will depend, in part, on the nature of policies that will respond to this new reality. The National Strategy for an Active and Healthy Aging (ENEAS) aims to promote the health and well-being of elderly people and assumes the values and principles of the United Nations for elderly people, with focus on independence, participation, assistance, self-achievement and dignity. ENEAS has as its main objectives to promote: health and well-being; participation; non-discrimination; inclusion; safety; and research in order to increase people's functional capacity, autonomy and quality of as they age. It also aims to raise awareness on the importance of an active aging, solidarity between generations, promote a change in attitude towards aging and elderly people, promote the cooperation and intersectoriality in the implementation of the Strategy, and, contribute to the development of policies that improve the quality of life of the elderly. Methods: ENEAS is based on 4 Strategic Axes: Health; Participation; Safety and Measurement; and Monitoring and Research. These strategic axes are based on a set of Guidelines for Actions and Measures. These Guidelines identify several opportunities to promote healthy aging throughout the course of life, always with a common goal: to maximise the functional capacity of the elderly. Discussion/Results: Health is influenced by environmental and personal factors: economical; social and cultural; physical environment; health system; and gender. Living for longer also means being more exposed to risks, such as health vulnerabilities, loneliness and physical, mental and economic dependence. The Portuguese Republic Constitution (CRP) safeguards the recognition of the dignity of the elderly, stating that "the elderly have the right to economic security and housing, family and community living conditions that respect their personal autonomy and avoid and overcome isolation or social marginalisation". ENEAS therefore proposes two sets of actions essential to the promotion of social participation of the elderly: at an individual level, the promotion of education and training throughout the life cycle, including strategies to promote health literacy; and at a contextual level, the creation of physical and social environments that enhance the integration and participation of the elderly. Conclusion: It is necessary to rethink aging. The economic needs of societies and the expectations of older people require them to participate in economic, political, social and cultural life. Additionally, they should have the opportunity to work to their abilities when desired, and be provided the access to continuing education and training programmes.

Health literacy for a healthy and active ageing in the portuguese population

Andreia Jorge Silva da Costa[1,2,3], Miguel Arriaga[1,3], Miguel Leitão Correia[1], Nicole Chaves[1], Francisco Mata[1], Carlota Ribeiro da Silva[1], Graça Freitas[1]

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Objectives: The Portuguese ageing index has increased from 27.5% in 1961 to 143.9% in 2015. Like many countries in the European Union (EU), in the last decades, Portugal has registered deep demographic transformations, in part due to the increase in life expectancy and the elderly population, and a reduction in birth rates and the youth population. Health literacy measures how people access, understand and apply health information in their daily lives. The objective is to identify the importance of having a good health literacy amongst the population, the effect it has in ageing, and what the level of health literacy in the Portuguese population is. Methods: The United Nations 2030 Agenda for Sustainable Development is composed of 17 global goals for member states to pursue. These goals cover social and economic development issues and seven of them can be directly affected by the promotion of health literacy. Preliminary results from the Health Literacy Europe research provides us with preliminary results on the level of health literacy amongst the Portuguese population. Discussion/Results: Portuguese preliminary results demonstrate that overall, 8.6% have excellent levels of health literacy, 42.4% have sufficient health literacy levels, 38.1% have problematic health literacy levels and 10.9% have inadequate health literacy levels. The development of the national health literacy strategy comes up as the opportunity to tackle in aN integrated approach to Promote education and training throughout all stages of life including strategies to promote health literacy are therefore deemed necessary and crucial, especially when these levels are compared to other EU countries. Studies show that promoting health literacy at all ages will have a direct impact on ageing, specifically, on a more healthy and active ageing. This, in turn, will influence other key public health issues that are on the Agenda 2030, such as the global reduction of the level of multimorbidities and noncommunicable diseases. In 2014, the amount of healthy years expected at the age of 65 in Portugal was 6.9 for men and 5.6 for women. Since then, this value has been decreasing, highlighting the central problem where people are living for longer, but with less quality. Having a population with a high health literacy provides people with the knowledge to make informed decisions about health policies in their governments and regarding their health. Conclusion: A full conclusive investigation on the levels of health literacy in the Portuguese population must be carried out in order to proceed with the development of a national programme and strategy that targets health literacy at all age groups and throughout the entire lifecycle.

Poster 11

How can we improve patient's health and quality of life using telemedicine systems? A refresh on what is operating in the Portuguese speaking countries' domain and a look to its potential to the future of healthcare services integration.

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How can we improve patient's health and quality of life using telemedicine systems? A refresh on what is operating in the Portuguese speaking countries' domain and a look to its potential to the future of healthcare services integration. Mélanie R. MAIA and Luís V. LAPÃO. Global Health and Tropical Medicine, Instituto de Higiene e Medicina Tropical, Universidade Nova de Lisboa. Background: The global trend of population positive ageing is a fact. The Portuguese-speaking health systems (CPLP) have to address it considering the goal of improving people's quality of life in this context of increasingly active lifestyles. Since the mid-1960s, Telemedicine services, complementary to other medicine practices, are a sustainable solution to address the global problem of distant populations and the lack of health workforce. The aim of this analysis was to survey the current situation, identifying operating telemedicine services, in the CPLP's domain, and to understand Telemedicine's potential to the future of healthcare. Methods: This analysis was accomplished using the development of 3 prospective scenarios of Telemedicine in the future (over the next 20 years), supported by a bibliographic review, within the validated methodology, proposed by Thore and Lapão. Results: Telemedicine can help a patient to access its appointment (e.g. Pediatric Telecardiology) with less impact for both cases, by saving concern, time, and money. It can be the difference in saving lives in an emergency, enabling immediate support to the ambulance staff or in case of evacuation. It is an important tool to the leadership and health professionals' capacity building (e.g. promotion of training, second opinion, consulting events). Sustainability is crucial to the implementation process, by addressing critical factors (Momentum). The new strategic lines for telemedicine (since 2015) supports telemedicine systems' optimization and services integration. Multiple telemedicine initiatives, have been succeeded in delivering care and training: 20 years of Pediatric Telecardiology Service (Coimbra's Central Hospital) in collaboration with district hospitals and CPLP countries; World Gastroenterology Organization Port Training Center (São João Hospital) and the Gastro-intestinal Cancer Unit Telenursing program (Portuguese Institute of Oncology); Telephysiatry (North Alentejo Local Health Unit). It is expected in the future: (1) comprehensive ehealth systems - telemedicine systems integrated with the health information network; (2) clear communication between health professionals and with the patient, to optimize healthcare response. Conclusions: Rapid response and informed medical decision-making will have a significant impact on patient's health and quality of life (e.g. by reducing unnecessary costs for families and healthcare systems), but also on professionals capacity strenghtening. A sustainable implementation process of Telemedicine is key to its success and continuity.

Poster 12

Unparalleled ultrasonic energy-based workflow to speed up clinical proteomics

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Background: The discovery of novel biomarkers and early disease stratification is mandatory to enable the detection of initial clinical stages, monitor activity and predict severity of the diseases and treatment response across the targeted therapy. Through proteomics it has been possible to establish that certain diseases can be traced from alterations of certain proteins in biological fluids. However, the proteomics workflows are complex and time-consuming sample handling procedures with many steps. We report on the new cup horn ultrasonic device as a powerful tool to speed proteomics workflows with unparalleled throughput. Methods: Variables such as ultrasonication time, ultrasonication amplitude, and protein to enzyme ratio were optimized. 2D gel electrophoresis MS-based approach was used to compare protein expression patterns between rheumatoid arthritis and systemic lupus erythematosus, and in shotgun MS-based approach was applied to analyzed through profiling in patients diagnosed with i) lymphoma and myeloma, ii) rheumatoid arthritis, systemic lupus erythematosus and spondylitis ankylosing and iii) knee osteoarthritis disease, with prosthesis and healthy individuals with no history of joint disease. Results: We found the protein digestion efficiency homogeneously distributed in the entire cup horn surface using the following conditions: 4 min sonication time and 25% amplitude. The protein expressed pattern delivered a total of 18 spots differentially expressed resulting in 6 unique proteins. For patients with lymphoma and myeloma a successfully classification was achieved. Conclusion: Overall, the new approach allows profiling a disease in just one week while allows to match the minimalism rules as outlined by Halls.

Poster 13

The social pattern of sarcopenia in Portugal

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Objective: Sarcopenia is one of the least studied conditions associated with disability and lower quality of life in the elderly. The main objective of this study is to identify the social pattern (gender, age, education and income gradients) of Sarcopenia in Portugal. Material and Methods: Using the SHARE (Survey on Age, Health and Retirement in Europe), wave 3 (2011) and wave 6 (2015) databases, we conducted a logistic regression analysis of 2387 observations, including demographic controls, allowing to establish a socio-economic profile of Sarcopenia in the Portuguese population. The criteria for the likelihood of having Sarcopenia were based on muscle strength, assessed with handgrip dynamometers. An harmonised protocol across countries and waves was used. The thresholds of European Working Group on Sarcopenia in Older People (EWGSOP, 2010) - 20 kg for females and 30 kg for males - were considered. Results: There are no significant overall differences between 2011 and 2015. Age, gender and education are the principal determinants of Sarcopenia. There are considerable age impacts and gender differences in the probability of Sarcopenia, with women being more likely to present it. On the other hand, there is a strong education gradient benefit: 10 years more of education lead to a Sarcopenia probability percentage points equivalent-in-age decrease of 7.5 years. We find no income gradient associated with the presence of Sarcopenia. Other individual characteristics included in the study, such as body mass index, smoking status and living alone, are not associated with the presence of Sarcopenia. Conclusions: The results contribute to the elaboration of a social profile of Sarcopenia in Portugal.

Poster 14

Smartphone based Pupillometer for Glaucoma detection

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Background: Glaucoma is a group of eye conditions that damage the optic nerve, that can lead to blindness due to the destruction of their ganglion cells, on a progressive manner. An early detection is the main effective strategy to reduce glaucoma morbidity, as there is no known cure for this disease. The existing methods for glaucoma early detection are technically complex, hard to implement and time consuming. Recent studies [1, 2] show a correlation between pupillary response to blue light stimulus and optic nerve damage in glaucoma patients. Therefore, the main purpose of this research is to develop a smartphone based pupillometer, using blue light as a stimulus and that can be used as a monitoring and screening device for glaucoma. Methods: This project has two main development stages: acquisition system and algorithms for data extraction. For the acquisition system was developed a first prototype of an Android app that acquires videos of the eye using the smartphone camera and shooting a flash as stimulus. As for the second stage, the development of algorithms to detect and measure pupil in the video were started. After these stages, clinical validation will be made, in both healthy and glaucomatous eyes, with proper ophthalmological procedures.

Results: The developed algorithms for pupil detection are being applied to the videos acquired with the app, to validate image quality to allow a proper measurement of the pupil. These results influence the next steps, for the validation in healthy/glaucomatous eyes with different light colours stimulus.

Conclusions: Developing a portable device that can be used in an ambulatory environment and screen glaucoma with low cost technology is the main goal of this research. Smartphone cameras seem to be the right choice to achieve this. After validating the images quality acquired with a smartphone camera, next steps evolves improving pupil detection algorithms, experiments using stimulus with different light colours and analysing healthy versus glaucoma populations.

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Ageing and fertility

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The earliest signs of physical ageing can be found in the genital system, with consequent impairment of reproductive quality. In morphological terms, the landmarks of ageing are to be detected in the vascular system. A thorough research of the angiomorphological characteristics of the reproductive systems may bring out important fundaments for the morphofunctional study of the ageing process, with physiological implications towards a better understanding of Health and Youth, in terms of fertility. MATERIALS AND METHODS - The authors studied 250 uterine arteries (25 human and 100 Wistar rats), covering wide age range, and different moments of the hormonal cycle, including pregnancy, to compare the main angiomorphological signs of the uterus throughout life, both in humans and in the experimental animals (1). We completed these observations with a previous enlarged series of microvascular observations of 300 testicular and epidyme arteries, from humans, Wistar rats and dogs (2). All the material here presented corresponds to experimental studies, prepared at the Anatomy Lab of the NOVA Medical School of the New University of Lisbon, Portugal. The Clearing technique (Spalteholtz-modified) offers good images of the macroscopic features of vascular beds. Scanning Electron Microscopy of Vascular Corrosion Casts after arterial injection of Metil-metacrylate completes the previous study with original observations of the microvascular networks. RESULTS - In the female genital system, the main vascular signs of ageing consist of a remarkable reduction of the density of capillary networks, with loss of the degree of arterial coiling and venous dilation. The consequent reduction of blood flow to the ovaries with lower estrogen production aggravates the functional difficulty of the process of endometrial placentation. These vascular changes remind the parallel observations of infant uteri and ovaries. Paradoxically, in one of the eldest cases from our series, from a mastectomysed human corpse, we found the highest degree of capillary networks density and coiling, much probably in relation to high dosage of hormonal uptake, so common in these cases of post-surgery for mammary carcinoma (3, 4, 5). In the case of the male genital system, the authors evaluated a persistent rise in the degree of coiling (sinuosity) of testicular arteries that may be responsible for consistent reduction of blood flow to the glandular compartment of the testicle, in ageing. CONCLUSIONS - There are many studies on the biochemical and biological aspects of hormonal changes and ageing. Not many devoted their time to analyse the relation between angiomorphology and function. We hope that the present studies, in coordination with biochemical studies, may bring new light and new horizons to the better understanding of the important questions of ageing and fertility.

Poster 16

The temporal pattern of Sarcopenia in 22 European countries

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Background: Sarcopenia is an important but under-recognized health challenge in the world today. The main objective of this study is to describe the evolution of Sarcopenia in Europe (2004-2015). Methods: Data from the SHARE (Survey on Age, Health and Retirement in Europe) was used. The criteria for the presence of Sarcopenia were based on muscle strength, assessed by handgrip dynamometers. An harmonised protocol across countries and waves was established and the thresholds of European Working Group on Sarcopenia in Older People (EWGSOP, 2010) - 20 kg for females and 30 kg for males - were considered. We used the 6 waves of SHARE, from 2004 to 2015, for an unbalanced panel of 22 European countries. A probit regression analysis was computed with 190903 observations, including demographic controls and country fixed effects. Results: The results show a decreasing trend in Sarcopenia, mainly due to evolution in women's scores. The main determinants of Sarcopenia are age and gender (female), followed by living alone, while years of education and income have a protective effect. Country differences are large, with Southern Europe countries, particularly Mediterranean countries, having significantly higher levels of Sarcopenia. Conclusions: There is a trend for Sarcopenia reduction, with social factors playing an important role in this process. Southern European countries seem to be the most affected. Genetic and environmental determinants should be assessed in future studies to allow a comprehensive understanding and an effective

Poster 17

Divergent Synthesis of Phenolic Carbohydrate Derivatives from Plant Origin as Potent Antioxidants with Application against Neurodegenerative Diseases

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Neurodegeneration is a multifactorial process where a complex set of toxic reactions, including oxidative stress, leads to the demise of neurons. It is accepted that oxidative stress increases with age, and that age is a major risk factor for several neurodegenerative diseases.[1] Antioxidants are considered promising therapeutic approach in neurodegenerative diseases since they play an important role in preventing neuronal oxidative damage. Dietary phenolic antioxidants, such as carotenoids, cinnamic acids and flavonoids,[2] act as reducing agents, free radical scavengers and singlet oxygen quenchers. Anyway, their large scale production and application is often hampered by the small amounts and difficult isolation and purification of single compounds. Herein, green chemistry methods for the one-step chemoselective synthesis of the title compounds both under microwave irradiation [3] and conventional conditions are presented. The obtained compounds were characterized by all common spectroscopic methods. Their antioxidant scavenging potential and cytotoxic activity against a number of human tumor cell lines was studied as well. As a result, a library of naturally occurring phenolic compounds [4] and their unnatural analogues were synthesized for the first time. Optimization of the conventional synthetic procedures using microwave irradiation was investigated, to achieve shorter reaction time. Their antibacterial, antifungal, cytotoxic and antioxidant activities were investigated.[5] The tested compounds showed a moderate cytotoxic and antioxidant potential, but without hepatotoxicity. As the synthesized product could be obtained in large quantities and at cheaper price comparing to the extracted one, it can find exciting applications in pharmacological compositions. References: [1] B. Uttara, A.V. Singh, P. Zamboni, R.T. Mahajan, Current Neuropharmacology, 2009, 7, 65-74. [2] Y. Gilgun-Sherki, E. Melamed, D. Offen, Neuropharmacology, 2001, 40, 959-975. [3] M.T. Barros, K.T. Petrova, P. Correia-da-Silva, T.M. Potewar, Green Chem., 2011, 13, 1897-1906. [4] P. Panda, M. Appalashetti, Z.M.A. Judeh, Curr. Med. Chem., 2011, 18, 3234-3251. [5] K.T. Petrova, M.T. Barros, R.C. Calhelha, M. Sokovic, I.C.F.R. Ferreira, Med. Chem. Res., 2018, 27, 980-988.

Poster 18

Effects of Socio-Demographic Variables on Performance on the Cambridge Neuropsychological Automated Tests for the Assessment of Alzheimer's Disease in Portuguese Older Adults Living in Retirement Homes

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Background. Older adults living in retirement homes usually stay in these homes until death. Unsurprisingly, cognitive deficits and dementia are prevalent in this population. The Cambridge Neuropsychological Test Automated Battery (CANTAB) for assessment of Alzheimer's disease (AD) includes tests that assess cognitive functions frequently affected in AD: Rapid Visual Information Processing (RVP), Paired Associates Learning (PAL), Spatial Working Memory (SWM), and Reaction Time (RTI). These tests are based on tasks and paradigms of experimental psychology that have been used in animal studies for AD research. Such tests have shown high sensitivity to cognitive decline and to drug effects. Some measures have also revealed high predictive value for AD, making them suitable for prodromal AD research. This study examined the effects of age, education, gender, computer experience, and psychotropic drug use on performance on these CANTAB tests, in older adults without neuropsychiatric diagnoses living in retirement homes. Portuguese norms for this population were set based on the results found in this study. Methods. Participants were 128 adults aged 69-96 years who had lived in retirement homes for 3-232 months. They had no neuropsychiatric diagnosis according with a screening session involving an interview (also held with each participant's physician) and the administration of pencil-and-paper tests. The CANTAB and other neuropsychological pencil-and-paper tests were administered about one week after the screening session. Results. Simultaneous multiple linear regressions were calculated to analyze the effects of the socio-demographic variables on test performance. These models were significant (p < .05) for all tests except the RTI 5-choice movement time measure. The general effect of the socio-demographic variables (i.e., total variance explained) was smaller for the CANTAB tests (4%-14%) than for the pencil-and-paper tests (10%-33%). Concerning the CANTAB tests, significant age and gender effects were found for RVP, PAL, and SWM. Significant psychotropic drug use effects were found for RVP and PAL. Computer experience revealed only a marginally significant effect for the RTI simple movement time measure (p = .085). Education, age, gender, and computer experience showed significant effects on several pencil-and-paper test measures. Conclusions. This study suggests that different socio-demographic variables influence the performance on different tests and that they do not influence all measures of a same test. Possibly, the effect of computer experience on several pencil-and-paper tests is mediated by cognitive skills that may have been developed through computer use.

Poster 19

Isolation of recombinant antibodies against Tumor necrosis factor-α (TNF-α) protein.

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Introduction: Ageing is associated with low-grade inflammation and markers such as (TNF-α) that initiates the inflammatory cascade and has been linked to several age-associated disorders. Rheumatoid arthritis (RA) is a chronic systemic inflammatory disease and in many patients can lead to joint destruction and loss of function. The expression of the proinflammatory cytokine (TNF-a) is widely related to the pathogenesis of RA. Recent evidence suggests that providing exogenous CO suppresses the inflammatory response associated with various disease states this is one of the mechanisms involved in the regulation of inflammation based on the inhibition of pro-inflammatory cytokine production such as TNF-α, CO might be a novel and important molecule in the treatment of RA. However, inhalation of gaseous CO presents serious intrinsic limitations as a drug due to the potent scavenging effect of hemoglobin, to circumvent these problems, CO Releasing Molecules (CORMs) have been designed to act as prodrugs, releasing CO *in vivo* and eliciting its therapeutic action. In this work we developed ligands (recombinant peptides) to TNF-α protein to be conjugated to CORMS for direct delivery to inflammatory sites. Materials and Methods: Four single Chain Fragment Variable (scfv) phage display libraries were used: Griffin, Tomlinson I+J and DAB to select rTNF-α scfv ligands. The following strains *E. coli* top10F´ or ER2837 were used to multiply the phages, according to the libraries. In the panning protocol the washing steps include a high salt buffer to remove the low binding and nonspecific phages. The phage elution and infection were performed in one step by mixing with E.coli top10F´ or ER2837 strain for one hour. From the 3rd panning, 90-92 clones were selected from each library and scfv-phage were then tested by Indirect-ELISA against recombinant TNF-α (rTNF-α commercial or in-house cloned and expressed). The selected phage display scfv clones were them sequenced by Sanger sequencing method (Stabvida). Results: The ELISA assays using the polyclonal phages from the three pannings. shows that the method used in the panning selection, was effective in the enrichment of TNF-α binding phage peptides starting from the 1st panning. We were also able to select at least 10 different phage clones expressing scfv ligands, capable to bind to rTNF-α protein from the several libraries tested. Discussion and Conclusions: We have shown in this study that we successfully screened phage display libraries for scfv ligands to rTNF-α. Next steps in the research include the inhibitory assay of these selected scfv in an in vitro inhibitory assay and used them to conjugate to CORMs for its final application. Acknowledgements: The authors acknowledge funding from Fundação para a Ciência e a Tecnologia, PTDC/QEQ-MED/1902/2014 - Nanoagentes de monoxido de carbono COGSs para combater a Artrite Reumatoide Carbon monoxide guided shuttles (COGSs) to fight Rheumatoid Arthritis.

Poster 20

A synergistic approach to rejuvenate the retina and promote elderly vision

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We aim to understand fundamental cellular processes of ageing with particular focus on retinal degeneration in the context of diseases such as age-related macular degeneration (AMD) and diabetic retinopathy (DR). AMD is the leading cause of vision loss in the elderly worldwide while DR is a progressive complication of diabetes and the leading cause of irreversible vision loss in working age adults. Although DR is considered a microvascular pathology, recent evidence suggests that neurodegeneration is an earlier event in the disease. Currently, there is neither a cure nor a strategy to prevent AMD and DR. In the particular case of AMD, new discoveries are beginning to provide a clearer picture of the relevant cellular events and biochemical processes associated with early AMD and the ageing process in general. The emerging idea focuses on the retinal pigmented epithelium (RPE) as the critical layer responsible for disease initiation and progression. RPE dysfunction, and eventually death, leads to pathological changes in the interface with the vascular layer, the choroid, typical of AMD. Our group combines expertise in retinal cell biology, both in homeostasis and pathological conditions, generation of mouse models and study of novel therapies. Our current projects involve i) understanding the early events leading to cell death in AMD and DR; ii) development of new pharmacological and/or genetic therapeutic strategies; iii) development of an *in vitro* model of RPE interfaced to choroidal vascular network (CVN) based on micro- and nano-fabrication techniques, to provide a more reliable device for pharmaceutical testing and evaluation of custom therapies for each patient; iv) promote clinical studies to build a bridge between clinical and basic research. All together, we have a broad research strategy that covers basic, applied and clinical aspects of retina degeneration, with the ultimate goal of ground-breaking contributions to promote elderly vision. Funding: Fundação para a Ciência e a Tecnologia, iNOVA4Health, Boehringer Ingelheim, Choroideremia Research Foundation, FP7 EU programme.

CARELINK for Dementia sufferers and their community

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CARELINK CARELINK for Dementia sufferers and their community Fernando Luís-Ferreira, João Sarraipa, Ricardo Jardim Gonçalves CTS, UNINOVA, Departamento de Engenharia Electrotécnica da Faculdade de Ciências e Tecnologia Universidade NOVA de Lisboa 2825-529 Caparica, Portugal Background CARELINK aims to deliver an intelligent location monitoring system, which can be customised to meet the unique needs of the Dementia patient and their carer. Within this solution we intend to address the issue of wandering in Dementia patients, using machine-learning technologies to build route profiles, and thus provide tracking and early warning systems. The ageing of the population in Europe during the coming decades will have many social effects. After the sixth decade of life, the risk of Dementia increases immensely taking the form, in most of the cases of the Alzheimer pathology. Carelink aims to ease the burden on informal carers within the healthcare sector, with regards to wandering in Dementia. Carelink Methodology The CARELINK project will apply state of the art development processes that have been trialled and tested in the TSSG at Ireland, UNINOVA at Portugal over many years ensuring the technological side. Other partners will introduce our solution to final users addressing issues in areas such as wearability, (flexible wearing options), and providing a service platform to follow personalized location and proximity based services in order to analysis this data. By allowing Dementia sufferers the freedom to be able to move around without the constant worry of being lost, or providing them with the facility to carry on with everyday activities will reduce the stress and anxiety levels for both the patient as well as the carer Results Uninova has already developed systems that are able to ensure safety and security of the patients with Dementia. Those results are materialized with solutions that use devices in the market, as smartphones and smartwatches with the advantage that they can be used without disturbing routines. Other devices will be designed towards acceptance but they will result in the integration of circuitry and sensors that extent battery and maximize utility, efficiency of the systems by improving its capacities and extending battery. Heartrate out of range is a health risk that can exist prior to the fall, and associated with causes. The results are improved by the usage of algorithms and machine learning approaches to improve the accuracy and effectiveness of the systems being developed. Conclusions The results obtained so far, most of them already published in scientific conferences, are proving the effectiveness and value of the CARELINK systems for monitoring and ensuring safety of older patients. The results show accuracy in determining falls and wandering behaviour and, with the project in the first year, the team is strongly motivated towards expressive results at the end of the thirty months of the CARELINK project.

A facility for next-generation proteomics in health and disease

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Large scale interrogation of biological systems by next-generation proteomics gives deeper knowledge of molecular mechanisms driving disease initiation, progression and response to treatment. The PROTEOMASS Mass Spectrometry Facility and the Laboratory for Biological Mass Spectrometry – Isabel Moura is equipped with a range of high resolution mass spectrometry systems, which can be used for the identification, characterization and quantitation of almost any type of biomolecules. We provide Mass Spectrometry services to identify and quantify proteins involved in complex biological processes, characterize their structure and monitor how their abundance or structure may change during these processes, in order to gain insights into the underlying molecular mechanisms. The PROTEOMASS Mass Spectrometry Facility and the Laboratory for Biological Mass Spectrometry – Isabel Moura are currently involved in several national and international projects. For example, we are using next-generation proteomics to (i) differentiate Renal Oncocytomas from Chromophobe Renal Cell Carcinoma in collaboration with Pittsburgh Cancer Institute (USA); (ii) Understand the molecular mechanisms metastasis in Nasopharyngeal Carcinoma in collaboration with IPO (Portugal) and (iii) Uncovering new biomarkers of Rheumatoid Arthritis and Bladder Cancer in collaboration with Hospital Egas Moniz, CEDOC-NMS, Hospital Lisboa Central, (Portugal). Our services include the so called full-package, where the samples are provided by the customer and results in the format of a manuscript are delivered. To request a quotation for your research contact Prof. Capelo, jlcm@fct.unl.pt. Keywords: Next-generation proteomics, High-resolution mass spectrometry, Quantitative biology, Biomarkers, Ageing, Cancer.

Online Global Geriatric Assessment

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Background: We believe that an overall assessment of the elderly, which includes their functionality, has not yet gained the attention of health professionals with a mission of care, namely their contribution the increase in active life expectancy and quality of life to linking the increased longevity (WHO, 2002; Botelho MA, 2005). Thus, global geriatric assessment is an interdisciplinary approach conducive to the identification of functional, physical, mental and social disturbances, contributing to an intervention plan focused on maintenance and / or recovery of the individual's functional capacity (Stuck AE & Iliffe S., 2011). Its current application can contribute to improve the holistic diagnostic vision of the individual, leading to better allocation and referral of intervention and monitoring plans. The integration of this type of care takes advantage of a multiprofessional approach. (Botelho, 2000, Mota-Pinto et al, 2011, Rodrigues et al., 2014). Primary areas are currently identified for the assessment of care needs in the elderly, namely: vision and hearing, mobility and falls, sphincter continence, memory and psychological distress, and their relationship with early detection of risk factors that favour functional decline and disability (Stuck AE & Iliffe S., 2011). According to this reality, we present a pilot approach consisting of a global geriatric assessment (AGG), which aims to respond to the needs of the community. Methods: This evaluation was carried out in the first half of 2018, in two IPSS of the border area of NMS, São Jorge de Arroios and Penha de França, respectively with 56 and 75 users. It is a convenience sample, by invitation to participate and with informed consent, anonymity and confidentiality. An online computer program was created for the application of the evaluation tool, which integrates the areas of the biopsychosocial component, a preliminary report for each person evaluated and descriptive statistics. For this purpose, the team members from three health professional areas were trained. Results: Of the 40 participants, 20 were from the IPSS of Arroios and 20 from the IPSS Penha de França, of which 30 women and 10 men, aged between 68 and 91 years (M = 83.2, SD = 5.47). The analysis concerning the variables of interest is in progress. Conclusions: The evaluation program for online application proved to be feasible, providing a report, recommendations plan and good interface with the professionals and the participants. We can conclude that this global geriatric assessment was an approach leading to the identification of functional, physical, mental and social disorders. The implementation of this approach can contribute to the maintenance and recovery of the functional capacity of the elderly evaluated and benefit their quality of life.