nevermind

NEurobehavioural predictiVE and peRsonalised Modelling of depressIve symptoms duriNg primary somatic Diseases with ICT-enabled self-management procedures

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Deliverable D8.5 – First Year Impact Report

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Nature: R	**Dissemination Level:** PU
R = Report E = Ethics P = Prototype D = Demonstrator O = Other W = Website, patents, filling, etc.	PU = Public PP = Restricted to other programme participants (including the Commission Services) RE = Restricted to a group specified by the consortium (including the Commission Services) CO = Confidential, only for members of the consortium (including the Commission Services)

Contents

INTRODUCTION

NEVERMIND Project Overview

The NEVERMIND project aims to advance the current management of comorbid mental illness in patients with a primary somatic disease, through the use of information and communication technologies (ICT). The main objective of NEVERMIND is to empower patients who suffer from depressive symptoms related to a serious somatic disease by placing them at the center of their mental healthcare. The main expected outcomes for the self-management of mental health through the NEVERMIND platform are to increase the wellbeing of patients, to reduce the high prevalence of depressive symptoms in severe somatic conditions, and reduce the healthcare costs associated with psychiatric comorbidity in somatic illness.

Depression is the leading cause of disability worldwide, and is a major contributor to the overall global burden of disease (WHO). In severe cases of depression; it can even lead to suicide. In patients with severe somatic diseases, such as cancer and kidney failure, the prevalence of depressive symptoms is much higher compared to the general population. Depressive symptoms in patients with somatic diseases have important consequences on morbidity, quality of live (QoL) and response to treatment and prognosis. Current literature has shown that depressive mood status can worsen the outcome of the primary somatic disease. Therefore, the presence of depressive symptoms, whether or not they are sufficient to fulfill the diagnosis of clinical depression, does not only negatively impact the quality of life of patients, but also affects the prognosis of the primary medical condition itself. Currently, in most EU healthcare systems, treatment for patients with serious somatic diseases does not incorporate any preventive methods or early diagnosis of the onset of comorbid depressive symptoms.

This is where the NEVERMIND project can be used. The two most important innovations of the NEVERMIND project are the promotion of patient's self-management of depressive symptoms, and the development of clinical predictors of the onset of depression for patients diagnosed with severe medical disorders. The patients will be equipped with a smartphone and a lightweight sensorized shirt that will collect data about their mental and physical health, and provide effective self-managing feedback to the patient.

The physiological data, along with sleep and speech analysis, will be combined with social interaction monitoring, mood agenda, and daily electronic diary and questionnaire scores to evaluate all the aspects of patients (psychological, physical, and social) as a whole. Based on the collected information, the NEVERMIND integrated treatment platform will provide personalized advice to the patient such as behavioral advices, mindfulness training, electronic cognitive-behavioral therapy, or referral to a physician. A fundamental aspect of the project is that the NEVERMIND system will process the collected data in real-time to predict how the health of the patient will evolve in the near future. The patient will be informed of these predictions, generated by the NEVERMIND technology, and give advice about self-management of health and wellbeing.

The NEVERMIND consortium is an EU-funded research project under Horizon 2020. The project comprises of nine partners from several European countries. These are: Germany; Italy; Portugal; Spain; Sweden and United Kingdom. The leading partner is the 'Centro Enrico Piaggio', located in Italy, at the University of Pisa. The NEVERMIND objectives will be addressed thanks to the efforts of the multi-disciplinary consortium of technical, commercial and clinical partners. These partners will work together to share expertise and resources in order to reach the objectives of the research project.

Purpose of the Dissemination and Communication Plan

The purpose of this document is to outline the dissemination and communication activities undertaken during the first year of the project. The aim of these activities is to promote the NEVERMIND project and to interest key stakeholders. The project aim, objectives, impact and results should be effectively disseminated to all potential stakeholders. As laid out in Work Package 8 (WP8) Karolinska Institutet and Inventya will lead the dissemination reports.

OBJECTIVES

The objectives of this report are:

- To track dissemination progress in the first year of the NEVERMIND project by:
  - Describing the dissemination activities completed, including key performance indicators.
  - Outlining the target audiences reached.

- To measure impact in the first year of the NEVERMIND project by:
  - Describing the different potential stakeholders reached.
  - Outlining the key messages received by the target audiences and total audience reached for the year.

- To ensure each partner in the consortium has an active role in dissemination and reaching key stakeholders.

Stakeholders & Target Audience

Stakeholders are parties, such as individuals, groups or organizations, who have a potential interest in the NEVERMIND project. These stakeholders can either affect or be affected by the implications of NEVERMIND.

The potential stakeholders, their position as either a supporter or an opponent and their level of interest in NEVERMIND are outlined in Table 1 as identified in Deliverable 8.2, the Dissemination and Communication Plan.

Stakeholders who are considered to agree with the implementation of the research project are considered supporters. Those who may disagree with the research project are considered opponents. If any stakeholders are identified without a clear opinion, they are considered neutral. The interest outlined in the table refers to the interest stakeholders may have in NEVERMIND. This is based on the advantages and disadvantages that the project may bring to the stakeholder. A stakeholder may be considered both high and low if their position is considered to be both a supporter and an opponent. Finally, the power refers to the stakeholder's ability to affect the implementation of the

research project. More information on the position, interest and power of the stakeholders can be found in Deliverable 8.2.

Table 2 outlines the target groups that may have an interest in the NEVERMIND project and the key messages that should be delivered when presenting the project to the respective groups.

Table 1: Stakeholder Analysis: Potential stakeholders, their positions, interest and power.

Stakeholder	Position	Interest	Power
European Commission	Supporters	High	High
European/National level policy makers: Health authorities responsible for guidance and advice in health and social care	Supporters	High	High
National and regional health care commissioners (Private and public national authorities, municipalities and country councils responsible for health service founding)	Supporters	High	High
Patients/ Disease groups/ Main caregivers	Supporters & Opponents	High	Low
Health professionals	Supporters	High	Low
Mental health professionals	Supporters & Opponents	High-Low	Low
eHealth and mental health research community	Supporters	High	High
eHealth industry sectors	Supporters	Medium-High	High

European, national and local non-profit mental health/health organisations	Supporters	Medium-High	Medium-High
Public and private clinical centres	Supporters	High	High
mHealth	Supporters	High	High
Health insurance companies	Supporters	High	High
Public and private mindfulness centres	Supporters	High	High
European organization networks for the elderly	Supporters & Opponents	High	High
Pharmaceutical companies	Supporters & Opponents	High	High

Table 2: Target Audience & the key messages to deliver to each audience type

Target Group	Key Messages
Scientific community	Self-management of mental health through the NEVERMIND platform is aimed to increase the wellbeing of patients and reduce healthcare costs associated with psychiatric comorbidity in somatic illness
Policy makers at the EU and national levels	NEVERMIND is aimed at developing a cost-effective tool for self-management of mental-health in patients with somatic illnesses, using ICT. NEVERMIND is designed to be transferred and implemented into the healthcare processes.
Medical device and healthcare technology industries	Synergies/dependencies between NEVERMIND technology development and broader e-health and medical device innovations. Future partnering/exploitation opportunities.
National health care commissioners	Self-management of mental health through the NEVERMIND platform is aimed to increase the wellbeing of patients and reduce healthcare costs associated with psychiatric comorbidity in somatic illness. NEVERMIND is designed to be transferred and implemented into the healthcare processes and aimed at improving quality of service and productivity of staff.
National secondary care specialists, consultants, nurses, CBT practitioners	NEVERMIND is aimed to effectively deliver self-management of mental health in combination with face-to-face therapies. Self-management of mental health through the NEVERMIND platform is aimed to increase the wellbeing of patients. NEVERMIND is aimed to improve patient outcomes and be easy to use.

National primary care doctors & nurses	NEVERMIND can be a cost effective addition to the current portfolio of tools to deliver interventions in self-management of mental health. Self-management of mental health through the NEVERMIND platform is aimed to increase the wellbeing of patients. NEVERMIND is aimed to improve patient outcomes and be easy to use
EU & national charities	NEVERMIND can be a cost effective addition to the current portfolio of tools to deliver interventions in self-management of mental health. NEVERMIND is aimed at developing a cost-effective tool for self-management of mental health in patients with somatic illness, using ICT

FIRST YEAR IMPACT REPORT

Overview

An internal section of the NEVERMIND website was used to collect the data on all of the dissemination and communication activities completed by each partner. The form used to collect the data can be found in the Appendix.

The dissemination activities have followed the schedule as laid out in the Dissemination and Communication Plan. This was issued at month 6, as outlined in Part A, Annex 1 of the Grant Application. In the first year of the project the consortium successfully completed a variety of different dissemination and communication activities, including delivering conference seminars and publishing journal articles. Moreover, the audience reached was much more than the minimum specified in the Dissemination and Communication plan.

Yearly Key Performance Indicators

The key performance indicators, as established the Dissemination and Communication Plan (D8.2), are shown in Table 3. Table 4 outlines the dissemination activities carried out by each partner during the first year of the project.

Table 3: Key performance indicators

Activity	Indicators	Timing	Completed in year one
Attending conferences	10	During the 4 year duration of the project	2
Exhibiting at conferences and health related events	4	During the 4 year duration of the project	2
Scientific journal articles	8	During the 4 year duration of the project	4
Press releases	3	Yearly, 12 in total	1
Social network reach and membership	200	During the 4 year duration of the project	0
Newsletter	16	Quarterly	0
Total audience reached:	Minimum 500	Yearly	1350

Table 4: Dissemination activities completed during the first year.

Partner	Abbreviation	Activities Completed	Audience
Università di Pisa	UNIPI	11	Scientific Community & General Public
Universidad Politécnica de Madrid	UPM	0	N/A
University of Essex	UESSEX	1	Scientific Community
Università degli studi di Torino	UNITO	0	N/A
AIDFM	AIDFM	1	Medical Community
Karolinska Institutet	KI	4	Policy Makers, Scientific Community
INVENTYA LTD	INVENTYA	0	N/A
GAIA AG	GAIA AG	0	N/A
Smartex	SMARTEX	2	Heterogeneous, Largely scientific community

ACTIVITIES COMPLETED

In 2016 a total of two conference seminars were given, four journal articles published, one press article was released and thirteen presentations were delivered. These were disseminated and communicated to relevant audiences and stakeholders. In addition to this, the NEVERMIND project website was launched to the public and a flyer was designed. Detailed information about each of the activities can be found below.

Attending & Presenting at Conferences

Karonlinska Institutet and Smartex attended and presented at conferences.

KI attended the 16th European Symposium on Suicide and Suicidal Behaviour (ESSSB), on September 08-10th 2016 in Oviedo, Spain. This is a biannual congress that is now recognized as one of the leading symposiums in the world focused on suicide and suicide prevention in Europe. The audience is largely from the scientific community, with researchers attending mainly from Europe but also other parts of the world. Vladimir Carli gave a plenary lecture about the NEVERMIND project with the title; 'E-tools for mental health promotion and prevention of self-harm behaviour: risks and opportunities'. This was presented to an audience of approximated 500 people.

Smartex attended the IEEE Engineering in Medicine and Biology Society BodyHacking Con (BDYHAX), on February 19-21st 2016 in Austin, Texas. This was the first event of its kind, bringing together scientists, entrepreneurs and the general public. There were registrants from across the U.S., Canada, the U.K., Netherlands and Germany. The presentation of the NEVERMIND project was titled: 'Textile Sensing Platforms to support a Healthier Life Style'. Rita Paradiso delivered the presentation to approximately 400 participants.

Journal Articles Published

A total of four journal articles were published in year one of the NEVERMIND project. These were all published by UNIPI.

A list of the publications and their abstracts can be found below:

1. Valenza, G., Greco, A., Gentili, C., Lanata, A., Sebastiani, L., Menicucci, D., Gemignani, A. & Scilingo, E.P., Combining EEG Activity and Instantaneous Heart Rate for Assessing Brain-Heart Dynamics during Visual Emotional Elicitation in Healthy Subjects. Philosophical Transactions of the Royal Society A, 2016: 374(2067); 20150176

Emotion perception, occurring in brain areas such as the prefrontal cortex and amygdala, involves autonomic responses affecting cardiovascular dynamics. However, how such brain-heart dynamics is further modulated by emotional valence (pleasantness/unpleasantness), also considering different arousing levels (the intensity of the emotional stimuli), is still unknown. To this extent, we combined electroencephalographic (EEG) dynamics and instantaneous heart rate estimates to study emotional processing in healthy subjects. Twenty-two healthy volunteers were elicited through affective pictures gathered from the International Affective Picture System. The experimental protocol foresaw 110 pictures, each of which lasted 10 s, associated to 25 different combinations of arousal and valence levels, including neutral elicitations. EEG data were processed using short-time Fourier transforms to obtain time-varying maps of cortical activation, whereas the associated instantaneous cardiovascular dynamics was estimated in the time and frequency domains through inhomogeneous point-process models. Brain-heart linear and nonlinear coupling was estimated through the maximal information coefficient (MIC). Considering EEG oscillations in the θband (4-8 Hz), MIC highlighted significant arousal-dependent changes between positive and negative stimuli, especially occurring at intermediate arousing levels through the prefrontal cortex interplay. Moreover, high arousing elicitations seem to mitigate changes in brain-heart dynamics in response to pleasant/unpleasant visual elicitation.

The impact factor of Philosophical Transactions of the Royal Society A is 2.147. This is a very prestigious journal, and is the world's first scientific journal. Publications in the journal are by invitation only.

2. Valenza, G., Greco, A., Citi, L., Bianchi, M., Barbieri, R. & Scilingo, E.P., Inhomogeneous Point-Processes to Instantaneously Assess Affective Haptic Perception through Heartbeat Dynamics Information. Scientific Reports, 2016: 6(28567); 1-14

This study proposes the application of a comprehensive signal processing framework, based on inhomogeneous point-process models of heartbeat dynamics, to instantaneously assess affective haptic perception using electrocardiogram-derived information exclusively. The framework relies on inverse-Gaussian point-processes with Laguerre expansion of the nonlinear Wiener-Volterra kernels, accounting for the long-term information given by the past heartbeat events. Up to cubic-order nonlinearities allow for an instantaneous estimation of the dynamic spectrum and bispectrum of the considered cardiovascular dynamics, as well as for instantaneous measures of complexity, through Lyapunov exponents and entropy. Short-term caress-like stimuli were administered for 4.3-25 seconds on the forearms of 32 healthy volunteers (16 females) through a wearable haptic device, by selectively superimposing two levels of force, 2 N and 6 N, and two levels of velocity, 9.4 mm/s and 65 mm/s. Results demonstrated that our instantaneous linear and nonlinear features were able to finely characterize the affective haptic perception, with a recognition accuracy of 69.79% along the force dimension, and 81.25% along the velocity dimension.

The impact factor of Scientific Reports is 5.525, this is an open access journal from *Nature* publishers.

3. Valenza, G., Nardelli, M., Lanata, A., Gentili, C., Bertschy, G., Kosel, M. & Scilingo, EP., Predicting Mood Changes in Bipolar Disorder through Heartbeat Nonlinear Dynamics, IEEE Journal of Biomedical and Health Informatics, 2016:20(4); 1034-1043

Bipolar disorder (BD) is characterized by an alternation of mood states from depression to (hypo)mania. Mixed states, i.e., a combination of depression and mania symptoms at the same time, can also be present. The diagnosis of this disorder in the current clinical practice is based only on subjective interviews and questionnaires, while no reliable objective psycho-physiological markers are available. Furthermore, there are no biological markers predicting BD outcomes, or providing information about the future clinical course of the phenomenon. To overcome this limitation, here we propose a methodology predicting mood changes in BD using heartbeat nonlinear dynamics exclusively, derived from the ECG. Mood changes are here intended as transitioning between two mental states: euthymic state (EUT), i.e., the good affective balance, and non-euthymic (non-EUT) states. Heart rate variability (HRV) series from 14 bipolar spectrum patients (age: 33.43 ± 9.76, age range: 23-54; six females) involved in the European project PSYCHE, undergoing whole night electrocardiogram (ECG) monitoring were analyzed. Data were gathered from a wearable system comprised of a comfortable t-shirt with integrated fabric electrodes and sensors able to acquire ECGs. Each patient was monitored twice a week, for 14 weeks, being able to perform normal (unstructured) activities. From each acquisition, the longest artifact-free segment of heartbeat dynamics was selected for further analyses. Sub-segments of 5 min of this segment were used to estimate trends of HRV linear and nonlinear dynamics. Considering data from a current observation at day to, and past observations at days (t-1, t-2 ,⋯,), personalized prediction accuracies in forecasting a mood state (EUT/non-EUT) at day t+1 were 69% on average, reaching values as high as 83.3%. This approach opens to the possibility of predicting mood states in bipolar patients through heartbeat nonlinear dynamics exclusively.

The impact factor for the Journal of Biomedical and Health Informatics is 2.093.

4. Greco, A., Lanata, A., Valenza, G., Vanello, N., Citi, L., Scilingo, E.P., Skin Admittance Measurement for Emotion Recognition: A Study over Frequency Sweep. Electronics, 2016:5(46); 1-13

The electrodermal activity (EDA) is a reliable physiological signal for monitoring the sympathetic nervous system. Several studies have

demonstrated that EDA can be a source of effective markers for the assessment of emotional states in humans. There are two main methods for measuring EDA: endosomatic (internal electrical source) and exosomatic (external electrical source). Even though the exosomatic approach is the most widely used, differences between alternating current (AC) and direct current (DC) methods and their implication in the emotional assessment field have not yet been deeply investigated. This paper aims at investigating how the admittance contribution of EDA, studied at different frequency sources, affects the EDA statistical power in inferring on the subject's arousing level (neutral or aroused). To this extent, 40 healthy subjects underwent visual affective elicitations, including neutral and arousing levels, while EDA was gathered through DC and AC sources from 0 to 1 kHz. Results concern the accuracy of an automatic, EDA feature-based arousal recognition system for each frequency source. We show how the frequency of the external electrical source affects the accuracy of arousal recognition. This suggests a role of skin susceptance in the study of affective stimuli through electrodermal response.

Electronics is an online, open access journal published every quarter by Molecular Diversity Preservation International and Multidisciplinary Digital (MDPI).

Presentations

A total of 13 presentations on the NEVERMIND project were delivered in 2016. The audiences of these presentations were made up of the scientific community, the medical community and policy makers.

UNIPI delivered six presentations at different locations, all to the scientific community. These talks were given by Gaetano Valenza and Enzo Pasquale Scilingo.

1. 'Time-varying Nonlinear models of Human Heartbeat Dynamics'. This was delivered on the 18th February 2016, at the University of Rome "Tor Vergata", Italy, to an audience of approximately 30 people.

2. 'Estimating Instantaneous Cardiovascular Nonlinear/Complex Dynamics using Inhomogeneous Point-Process Models'. This was

given on the 16th May 2016, at the University of Zaragoza, Spain, to an audience of 20 people.

3. A presentation was given at the Robotics Research Jam Session, at the University of Pisa, Italy, with the title 'Inhomogeneous Point-Process Stochastic Models for the Assessment of Gait Nonlinear Dynamics'. This was delivered to an audience of approximately 40 people on the 19th July 2016.

4. 'Time-varying Nonlinear models of Human Heartbeat Dynamics' presented at the University of Toronto, Canada, to an audience of 100 people, on the 12th August 2016.

5. 'Probabilistic Nonlinear Modeling for the Instantaneous Assessment of Human Heartbeat Dynamics' given at the University of Oxford, the United Kingdom, to an audience of approximately 70 people, on the 7th September, 2016.

6. 'Assessment of emotional perception and mood regulation through central and autonomic nervous system estimates' given at the University of Trento, Italy, on the 28th November 2016.

AIDFM gave a presentation to the medical community, with the audience coming from all over Europe. The audience compromised of approximately 50 people. The organisation where the presentation was given is GAIC.

UESSEX delivered a presentation-based seminar to 12 members of the Essex BCI-NE Lab, which constituted of 12 individuals who were graduate students, researchers and academic staff.

KI delivered four presentations to policy makers.

1. Valdimir Carli gave a presentation of the NEVERMIND project to three members of the Department of Health and Welfare of Sweden, a section of the Swedish Government. This was given on the 10th May

2016, at the National Centre for Suicide Research and Mental Ill Health Prevention (NASP), at Karolinska Institutet, Sweden.

2. Valdimir Carli also gave a presentation of the NEVERMIND project to five members of the Public Health Agency of Sweden. This was given at the National Centre for Suicide Research and Mental Ill Health Prevention (NASP), at Karolinska Institutet, Sweden.

3. Gergö Hadlaczky gave a presentation to members of the Stockholm County Council about the NEVERMIND project. This was given at the National Centre for Suicide Research and Mental Ill Health Prevention (NASP), at Karolinska Institutet, Sweden. This was given to an audience of approximately 20 people.

4. Gergö Hadlaczky gave another presentation to other members of the Stockholm County Council about the NEVERMIND project. This was also given at the National Centre for Suicide Research and Mental Ill Health Prevention (NASP), at Karolinska Institutet, Sweden, to an audience of approximately 50 people.

SMARTEX presented at the Summer School on Connected Health, in Artimino, Florence, Italy. This Summer School has been designed for early career researchers who are focusing on the research and development of technology based connected health solutions. The audience was composed of early career researchers, graduated students and industry stakeholders. The size of the audience was around 50 people.

Press Releases

There was one press release on the NEVERMIND project in 2016. The article titled 'Nevermind, a Technological T-shirt to Face Depression', published in the March 2016 edition of Techno Fashion World, outlines the key concepts of the NEVERMIND project with a focus on the wearable technology explained in an interview by Enzo Pasquale Scilingo.

COMMUNICATION CHANNELS

NEVERMIND Website

The NEVERMIND website was designed to spread information about the project available to the general public. The website contains general information about the project, the objectives of the project and the partners acknowledging the EU funding of the project. The website can be found at: http://www.nevermindproject.eu/

NEVERMIND Flyer

The flyer was created through a collaboration of KI and UNIPI. The flyer contains information general information of the NEVERMIND project. It is now available to use in dissemination activities. A copy of the flyer is available on request.

Social Media

It was not possible to establish any social media presence in the first year of the project due to intellectual property issues. This will be done in the subsequent months.

SUMMARY

Dissemination in year one of the NEVERMIND project has reached a wide audience from different backgrounds, including policy makers, scientific community and the medical community, as well as potential health care industry stakeholders among others. In addition to this, the target of reaching 500 individuals per year was exceeded by an extra 850 individuals. The total audience reached in the first year of the project was approximately 1350 people, all of whom are potential stakeholders. Moreover, the key messages were successfully communicated and well received by the relevant audiences and stakeholders not just in Europe but internationally.

APPENDIX

Annex 1 – Dissemination Activity Report Template

1. NEVERMIND Partner Information

Centre & Country:

Principal Investigator:

2. Dissemination Activity Report

Geographical Location

Stakeholder/Audience (Policy makers, scientific community, patient groups etc.)

Host of the Event:

Name of Organisation

Type of Organisation (University, NGO, Healthcare Bodies etc.)

Dissemination activity (Article, Poster, Interview, Presentation etc.)

3. Dissemination activity impact

Please provide a quantitative indicator (Size of audience, impact factor of open access journals, number of copies of distributed materials, etc.) in order to evaluate the dissemination impact.

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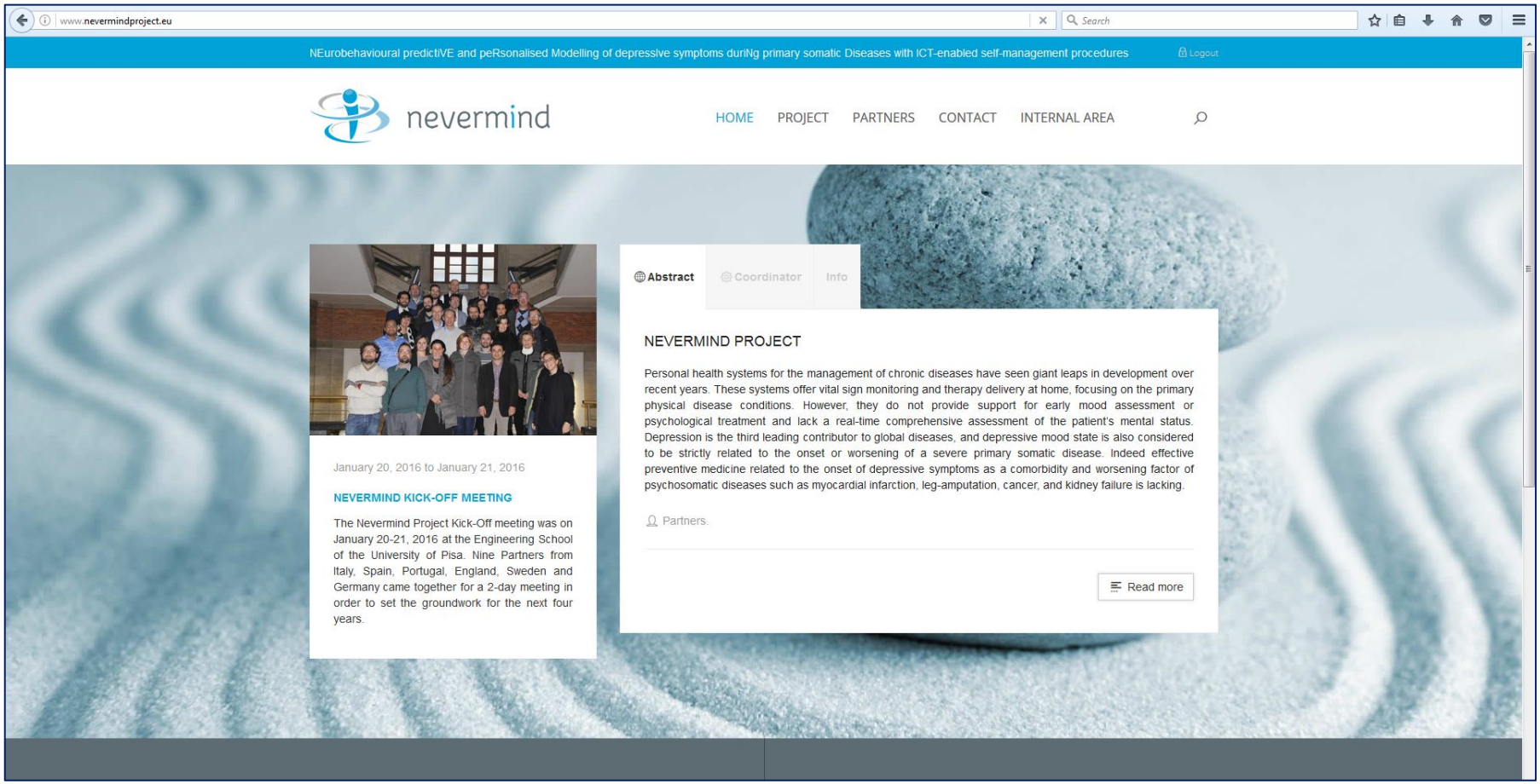
NEVERMIND Website & Flyer



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	AIDFM	GAIA
Spain	*Portugal*	*Germany*
University of Essex	Karolinska Institutet	Smartex
United Kingdom	*Sweden*	*Italy*

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“Nevermind, I can handle this.”

nevermind

Neurobehavioural predictive and personalised modelling of depressive symptoms during primary somatic diseases with ICT-enabled self-management procedures

PROJECT OVERVIEW

Life sometimes is challenging, and stress, thoughts and worries may arise. Emotions are resources that we are endowed with. If we fight, flee or let them overwhelm us, we risk falling into depression - if we learn how to live them we can overcome these challenges and grow.

Depression is among the leading causes of disability worldwide. Unfortunately most of us never learned how resourceful we are. For people who are facing severe health issues, such as cancer, kidney and cardiovascular diseases, and amputation, the prevalence of depression ranges from 10% to 40% and is associated with poorer prognosis, greater side effects of treatments and increased costs.

The nevermind project aims to restore our innate skills through an ICT-based system that assesses individual resources and frailties, predicts the risk of depressive symptoms, prevents their onset and manages them if they arise.

The nevermind system is based on an interactive dialogue among the person, a smart shirt that assesses physiological data (heart rate, breathing, movement, sleep, speech) and a smart phone that assesses the person's needs and preferences.The acquired data is elaborated and the system provides feedback to help promote a personalized program of self care.

The nevermind program rests on three fundamental pillars: 1) psychoeducation about emotions, anxiety and depression and how to manage them; 2) the promotion of healthy life styles (dietary, physical activities, sleep, social relationships); and 3) the development of Mindfulness and cognitive-based skills to deal with stress and to live life to the fullest.

www.nevermindproject.eu

PROJECT GOALS

Assessment of emotional state and traits, lifestyle habits, physiological indexes, brief psychological inventory, reaction patterns, motivation to change.

Prediction of the risk of developing anxiety and depressive symptoms using algorithms based on an overall data analysis through a real-time Decision Support System.

Personalised training thanks to a customized plan of goals and training generated from a combination of motivation, frailties and strengths. The system learns step-by-step from each person's physiological signals, responses and preferences and supports goal achievement through life style improvements, Mindfulness and cognitive-based interventions.

Empowerment due to greater skills in managing emotions, stress, relationships and achieving personal goals.

Wellbeing thanks to an increase of emotional and physical wellbeing and by living life to the fullest.