

Issue

31

December 2018 -

March 2019

# Newsletter



**eSMART: Randomised controlled trial to evaluate electronic Symptom Management using the Advanced Symptom Management System (ASyMS) Remote Technology for patients with cancer**

The Winter 2019 eSMART Newsletter Issue is here to keep you updated about the project's news and recent recruitment achievements! This edition has been prepared by the eSMART team at the National and Kapodistrian University of Athens, in which it will have a special feature on the recent "Thank you" dinner to Greek clinicians in January 2019 and the project's publications. Hope to enjoy it!

## eSMART upcoming events



[AIIHPC Designing and Developing Technologies for Palliative Care](#)

Wednesday 12<sup>th</sup> June 2019, Dublin, Ireland

Dr Patricia Fox is going to give a brief overview of the eSMART project on the event focusing on the use of Palliative Care and Technology to Improve Quality of Life.



eSMART Final Conference

04-05 July 2019, Brussels, Belgium

The eSMART Consortium invites you to the international conference of the project that is going to be organised towards the end of the project. The aim of the congress is to disseminate the results of the study and the findings of the work. The conference targets key stakeholders in the healthcare sector throughout Europe and the world including clinicians, policymakers, researchers, managers and patient groups, on innovative use of technology for improving patient care.

Dear Readers of our newsletter,



HELLENIC REPUBLIC

**National and Kapodistrian  
University of Athens**

— EST. 1837 —

We warmly welcome you to the Winter 2019 issue of the eSMART Newsletter from the National and Kapodistrian University of Athens (NKUA).

In the current edition of the Newsletter, we would firstly like to inform you about the completion of the study recruitment. Eligible patients were enrolled in our multi-centered study since 14<sup>th</sup> of December 2018, and all the participants were followed up until the end of March 2019. Please find an update on the recruitment figures across Europe on p.2. Thanks to our clinical colleagues and the researchers, we made a great work in the past three years!

Moreover, on the following pages, we would like to give you an update on the project's publications. A significant number of peer reviewed papers of the project have already been published in open access journals, providing accessibility of the study's results. Stay tuned, because many more will follow as we approach to the end of the eSMART project.

And last but not least, we would like to focus on the "Thank You" dinner which was held in Athens in January 2019. This event brought together all the members of the Greek eSMART research team, the clinicians (nurses and doctors), and academic persons.

We hope you enjoy reading!

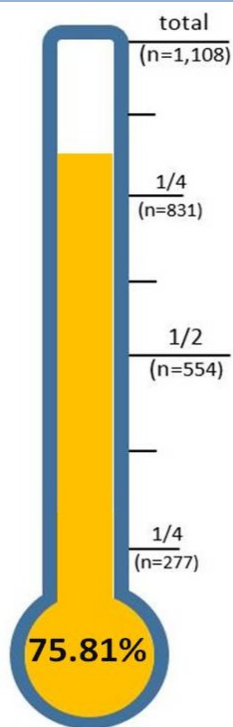
Best Wishes,

The NKUA eSMART Team



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement number 602289

## Recruitment Update



Recruitment thermometer

On 14<sup>th</sup> of December 2018 the recruitment was closed and in total 840 participants were enrolled in the study, since recruitment began in May 2016. However, the data collection for all the patients continued up to 31<sup>st</sup> of March, 2019. We would like to say thank you to all our researchers and clinical colleagues for all their important work over the past three years for identifying and recruiting eligible participants. This number of the participants is a great achievement for the study, which represents the 75.81% of the initial goal of the project. The average number of recruited patients per month was 28. Across our five countries (Ireland, Greece, Austria, Norway and the United Kingdom), our participants included:

- 599 with breast cancer,
- 153 with colorectal cancer and,
- 88 with haematological malignancies

Additionally, more than 600 patients had entered the follow up phase of the trial, which focuses on survivorship quality of life. Table 1 shows that overall response rate remained excellent. (Note: Data provisional extracted 31.03.2019. The figures are provisional as the data has not been reconciled yet).

|                 | 3 months | 6 months | 9 months | 12 months |
|-----------------|----------|----------|----------|-----------|
| Patients number | 657      | 604      | 559      | 481       |
| Completed PROMS | 485      | 421      | 388      | 336       |
| Response rate   | 74%      | 70%      | 69%      | 70%       |

Although, there were several challenges to conducting an international nursing study of this kind, overall patient participation has been healthy and attrition rates remain low. Further information on recruitment rates from all clinical sites are illustrated in the graphic below (Figure 1).

## eSMART Recruitment Figure

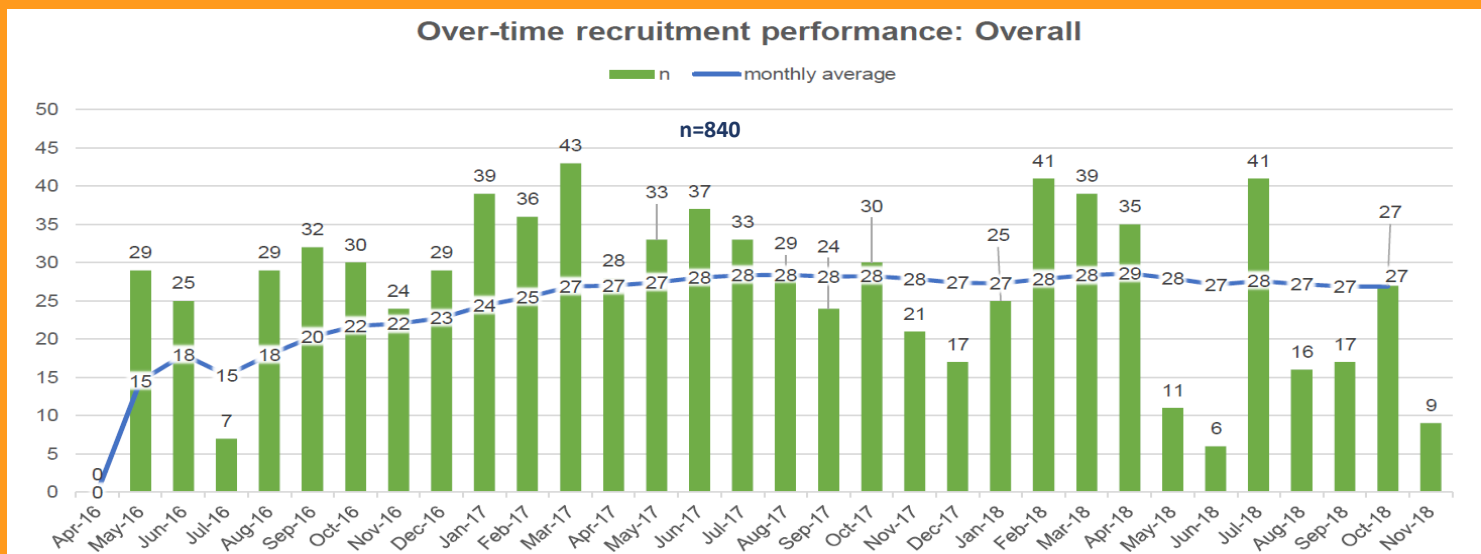


Figure 1. Total recruitment performance over time. Up to 30.11.2018, we have 840 patients recruited in total to the study.

## eSMART Publications

During the last three years, a number of papers related to the project have already been published in high impact, peer reviewed, and open access scientific journals. In this section, we would like to provide you with an update on the project's publications, and to reassure you that the majority of the project's results will be published in the following months, near to the end of the eSMART project.

The study protocol of the eSMART project was published in 2017 ([Maguire R. et al, 2017](#)), in order to inform the scientific community about the aim and the design of the study, the methods and analysis process, such as the ethics and dissemination activities. The electronic Symptom Management using the Advanced Symptom Management System (ASyMS) Remote Technology (eSMART) study is a repeated-measures, parallel-group stratified randomised controlled trial of oncology patients, who scheduled to commence first-line chemotherapy for breast, colorectal or haematological cancer from multiple sites across five European countries. The ethical approval was obtained prior to the implementation of all major study amendments.

Prior to the conduction of the prospective multicentre clinical trial to evaluate the effect of ASyMS on key patient outcomes, a preparation of the clinical sites for the integration of ASyMS within different healthcare systems across Europe and a review of the assessment and management of chemotherapy related toxicity to ensure that ASyMS reflects local practice, took place. The ASyMS was successfully implemented and deployed in clinical practices across 13 European clinical sites. The rigorous and simultaneous steps undertaken by the research team highlighted the strengths of the system in clinical practice, as well as the clinical and technical changes required to meet the diverse needs of its intended users within each country, before the commencement of the RCT ([Furlong E. et al, 2019](#)). Moreover, the review of the published and grey literature on assessment and management of chemotherapy related toxicities among patients receiving primary chemotherapy for breast, colorectal, Hodgkin and non-Hodgkin lymphoma showed that from the 27 publications which were included, the majority ( $n = 14$ ) addressed fatigue and focused on breast cancer patients. Relevant clinical practice guidelines / evidence-based resources from the main international cancer organisations were found for fatigue ( $n = 4$ ), nausea/vomiting ( $n = 5$ ), mucositis ( $n = 4$ ), peripheral neuropathy ( $n = 3$ ), diarrhoea ( $n = 2$ ), constipation ( $n = 2$ ), febrile neutropenia/infection ( $n = 7$ ), palmar plantar erythrodysesthesia ( $n = 1$ ), and pain ( $n = 4$ ). Symptom management protocols were provided by >40% of the clinical sites ([Fox P. et al, 2017](#)).

Additionally, publications related to the predictive risk models to deliver personalised care, one of the secondary objectives of the study are including four papers with different analysis process, so far. Existing evidence supports that some oncology outpatients experience a higher number of and more severe symptoms during chemotherapy. However, little is known about whether this high risk phenotype persists over time. By using, the latent transition analysis to examine the probability that patients remained in the same symptom class when assessed prior to the administration of and following their next dose of chemotherapy, what was identified was that of the 906 patients evaluated, 83.9% were classified in the same symptom occurrence class at both assessments. Of these 760 patients, 25.0% were classified as Low-Low, 44.1% as Moderate-Moderate and 30.9% as High-High. Compared to the Low-Low class, the other two classes were younger, more likely to be women and to report child care responsibilities, and had a lower functional status and a higher comorbidity scores. The two higher classes reported lower quality of life scores ([Miaskowski C. et al, 2016](#)).

In another publication, when the concordance between the number and types of subgroups of patients with distinct symptom profiles using latent class analysis and K-modes analysis was evaluated for 1329 patients, we found that using both analytic methods, four subgroups of patients with distinct symptom profiles were identified (i.e., all low, moderate physical and lower psychological, moderate physical and higher psychological, and all high). The percent agreement between the two methods was 75.32%, which suggests a moderate level of agreement. In both analyses, patients in the all high group were significantly younger and had a higher comorbidity profile, worse Memorial Symptom Assessment Scale subscale scores, and poorer QOL outcomes ([Papachristou N. et al, 2018](#)).

In our project, we work to develop and evaluate the effectiveness of predictive risk models in their ability to provide a more tailored, pre-emptive approach to the management of symptoms. Three common and inter-related symptoms in cancer patients are depression, anxiety, and sleep disturbance. We elaborated on the efficiency of Support Vector Regression (SVR) and Non-linear Canonical Correlation Analysis by Neural Networks (n-CCA) to predict the severity of the aforementioned symptoms between two different time points during a cycle of chemotherapy. Our results demonstrated that these two methods produced equivalent results for all three symptoms. ([Papachristou N. et al, 2018](#)).

In the most recent publication, we present findings from the first study that used Network Analysis to examine the relationships among 38 common symptoms in a large sample of oncology patients undergoing chemotherapy. Using two different models of Pairwise Markov Random Fields, we examined the nature and structure of interactions for three different dimensions of patients' symptom experience (i.e., occurrence, severity, distress). Findings from this study provide the first direct evidence that the connections between and among symptoms differ depending on the symptom dimension used to create the network. Based on an evaluation of the centrality indices, nausea appears to be a structurally important node in all three networks ([Papachristou N. et al, 2019](#)).





## eSMART "Thank You" Dinner

HELLENIC REPUBLIC  
National and Kapodistrian  
University of Athens  
EST. 1837

On a snowing night of January, a warm dinner was held in Athens in order to thank all the involved in the eSMART study researchers and clinicians from Greece. On 8<sup>th</sup> of January 2019, a special event took place in one of the historical places of the National and Kapodistrian University of Athens (NKUA), the "Kostis Palamas" Building.



That event brought together the Greek eSMART research team (Prof Elisabeth Patiraki, Dr Stylianos Katsaragakis, Dr Argyri Psychogiou, Maria Christou, Dimitrios Protogiros, Maria Dimoula, Stavroula Sgourou, Anna Theodoretou, Aimilia Papatristophilou, Konstantina Maniati, Fotini Deskou); the principal investigators of the three Greek clinical sites (Dr Chrysoula Karlou, Anna Papadouri and Dr Vasileios Barmounis); clinicians (nurses and doctors) from Air Force General Hospital, Agioi Anargyri Cancer Hospital, and Metropolitan Private Hospital that involved in the project; and academic persons from the NKUA.



In her introduction speech, Prof Elisabeth Patiraki, welcomed and thanked every single person who contributed in the great success of the eSMART study in Greece, in the past three years. She explained why each individual was important to the progress of the project and the accomplishment of the recruitment target (260 participants were enrolled from the three Greek clinical sites), under the special circumstances of the political situation in our country and the challenges that we faced with the implementation of the intervention in our national health system, and the collaboration between the University and the hospitals. Prof Elisabeth Patiraki highlighted that every team member made some sacrifice to be part of the project and sometimes that sacrifice came at the expense of spending time with their family members. And for that reason, one great way to show your colleagues you appreciate them is to having parties that celebrate the thankfulness.



Another remark of the event was the reading of the ode to the Greek eSMART team, that Prof Roma Maguire and Dr Lisa McCann prepared, as a way to thank their Greek partners. Unfortunately, their responsibilities and their busy agenda didn't allow them to attend the event.



All the participants had the opportunity to meet together, to exchange their experience and to discuss in a warm and relaxed atmosphere. And of course to enjoy their dinner!



ΓΕΝΙΚΟ ΟΓΚΟΛΟΓΙΚΟ  
ΝΟΣΟΚΟΜΕΙΟ ΚΗΦΙΣΙΑΣ  
"ΟΙ ΑΓΙΟΙ ΑΝΑΡΓΥΡΟΙ"

METROPOLITAN  
HOSPITAL



**An Ode to the Greek eSMART Team**

Roma and I are very sorry we can't be with you in Athens tonight  
If we could, we would definitely have jumped on a flight,  
But alas, the availability of days in our diary this week are just too few  
So instead we've written you a few words specially to say thank you,  
To all of you gathered tonight who have been part of eSMART  
Roma and I would like to thank you all so much for doing your part.

As our Greek eSMART colleagues, you have been real stars  
Without you all, recruitment wouldn't have got this far,  
All your hard work for the last few years has definitely been noted  
Your fantastic recruitment achievements have already often been quoted,  
You have all worked tirelessly to make eSMART a reality in Greece  
But I'm sure there are times when you wished the alert handler phone would give you peace.

For us, hearing how you all dedicated so much of your time and lives to this project was revealing  
We both know it is due to this commitment that so many patients found it appealing.  
You should all be proud of how you have represented your nursing profession  
You have cared for patients on the eSMART study with skill, knowledge and compassion,  
You've all made such a difference to the lives of patients who have participated in eSMART  
We know that those patients will remember this and will have taken you all to heart.

It has been a pleasure for us to meet with so many of you over the last few of years  
We hope you've also enjoyed the opportunity to get to know us and other eSMART peers,  
You've all really done such a tremendous job, just a few words can't convey  
But in absence, we have one more thing we'd like to say,  
Please now raise your glass  
ΕΥΧΑΡΙΣΤΩ and ΣΤΗΝ ΥΓΕΙΑ σας



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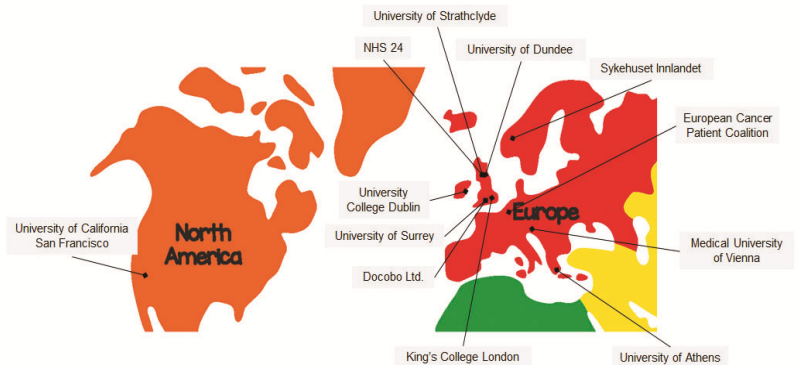
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# Newsletter

## eSMART PARTNERS



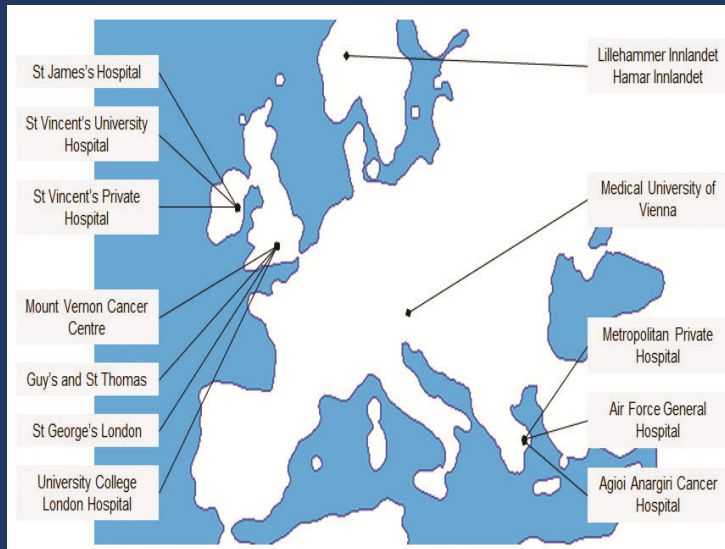
## Location of eSMART Partners map



| Partner | Clinical Site                    |
|---------|----------------------------------|
| MUV     | Medical University Vienna        |
| UCD     | St James's Hospital              |
|         | St Vincent's University Hospital |
|         | St Vincent's Private Hospital    |
| UoA     | Agioi Anargiri Cancer Hospital   |
|         | Metropolitan Private Hospital    |
|         | Air Force General Hospital       |

| Partner             | Clinical Site                      |
|---------------------|------------------------------------|
| UoStrath            | University College Hospital London |
| Sykehuset Innlandet | Innlandet Hospital Trust           |
|                     | Hammar Innlandet                   |
| UoSurrey            | Mount Vernon Cancer Centre         |
|                     | Guy's and St Thomas'               |
|                     | St George's London                 |

## Location of eSMART Clinical Sites



## YOUR FEEDBACK

We value your opinion and invite you to share your thoughts about the eSMART newsletter with us: [glasgow-esmart@strath.ac.uk](mailto:glasgow-esmart@strath.ac.uk)

## PREVIOUS ISSUES

If you wish to receive the eSMART Newsletter automatically, please provide us your email address. You can also find previous issues of eSMART Newsletter [here](#).

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