



Systems Medicine Awareness Event - NL

REPORT D6.4 / T6.3



15 February 2016, 9:00 a.m. – 17.30 p.m.

@ Grand Hotel Karel V, Utrecht, the Netherlands



Content

Rationale and methodology of awareness events3

 Introduction 3

 Objective 3

 Reporting rationale 3

Awareness event in the Netherlands.....4

 Aims of the event 4

 Target audience 4

 Accreditation 4

Programme5

Summary of presentations.....6

Evaluation8

 Target audience 8

 Aims of the event 8

 Suggested topics for future events 8

 Conclusion 8

Appendices9

 Event Flyer..... 9

Rationale and methodology of awareness events

Introduction

Systems medicine is a new discipline, combining the systems biology community with the clinical and patient communities. Clinical research groups have direct connection to patients and disease parameters. By applying a systems medicine approach, the cause of human diseases becomes more evident, thereby creating options for early diagnosis and treatment, drug design and prevention. ERACoSysMed aims to better understand diseases by application of systems medicine and stimulates the collaboration between clinicians, systems biologists and patients.

Objective

Currently, in most medical centres systems medicine is not a common habit. To further enhance awareness in the clinic and beyond, ERACoSysMed organizes meetings to inform clinicians, patient organizations, life scientists and other stakeholders such as industry and regulatory authorities about the approaches and success stories of systems medicine. Through these awareness events clinicians and patients obtain information on how systems medicine can contribute to prevent, diagnose and treat diseases. By bringing together different stakeholder groups in the event new collaborations may arise. The willingness of these stakeholder groups to provide access to necessary clinical and personal data is crucial for long-term success of systems medicine.

Depending on national interest and needs, each awareness event may focus on specific objectives. Awareness events are planned in The Netherlands (Utrecht, February 2016), Israel (Tel Aviv, June 2016), Germany (Marburg, November 2016), Slovenia (2017), Norway (2017) and Spain (2018).

Reporting rationale

This report is part of ERACoSysMed Task 6.3 (Additional activities to create awareness of systems medicine; ZonMw) and refers to Deliverable D6.4.



Awareness event in the Netherlands

The first awareness event was organised in the Netherlands on 15 February 2016.

Aims of the event

- Target audience gets aware of the opportunities of systems medicine and why this can be helpful in their daily practice
- Target audience meets potential collaboration partners
- Target audience exchanges opinions

Target audience

The event in the Netherlands was focused on creating awareness among clinicians and system biologists. Therefore, the primary stakeholders of the event were physicians / clinicians working at university medical centres and systems biologists working at research institutes.

Secondary stakeholders were industry, regulatory agencies, patient representatives, funding and policy agencies.

Accreditation

To ensure sufficient participation by clinicians as primary stakeholders, national procedures were followed to get accreditation for attendance of the workshop.

Accreditation was granted by:

- 'Nederlandse Internisten Vereniging' - 5 points
- 'Nederlandse Vereniging voor Reumatologie' – 5 points
- 'Nederlandse Vereniging van Artsen voor Longziekten en Tuberculose' - 6 points



Programme

Time	What	Who
9.00 – 9.10	Opening words	Jan Douwe Kroeske, moderator
9.10 – 9.20	ERACoSysMed: Systems Medicine calls and awareness	Dr. Rob Diemel, PhD (ZonMw, NL)
9.20 – 9.40	Introduction to the CASyM roadmap for implementing Systems Medicine in Europe	Prof. David Harrison, MD (Univ. St.Andrews, UK)
9.40 – 10.10	<i>Showcase 1: 'Cancer pathology as a moving target: how little do we need to know?'</i>	
10.10 – 10.25	Matchmaking	
10.25 – 10.55	<i>Showcase 2: 'Dynamic maps for systems medicine in metabolic diseases'</i>	Prof. Hans Westerhoff, PhD (Univ. Amsterdam, NL & Univ. Manchester, UK)
10.55 – 11.10	Matchmaking	
11.10 – 11.30	<i>Coffee break</i>	
11.30 – 12.00	<i>Showcase 3: 'Systems medicine for predictive and individualised medicine in inflammation and lung disease'</i>	Prof. Mikael Benson, MD (Univ. Linköping, SE)
12.00 – 12.15	Matchmaking	
12.15 – 12.45	<i>Showcasing patient perspective: 'A personal reflection on the potential of Systems Medicine in practice: The importance of patient expectation, education and engagement'</i>	David Supple (Asthma UK)
12.45 – 14.00	<i>Lunch</i>	
14.00 – 14.30	<i>Showcase 4: 'Systems Medicine in Rheumatology: aiming on clinical impact'</i>	Prof. Timothy Radstake, MD (UMC Utrecht, NL)
14.30 – 14.45	Matchmaking	
14.45 - 15.15	<i>Showcase 5: 'Advantages of computational modelling in cancer treatment'</i>	Prof. Lodewyk Wessels, PhD (NKI, NL)
15.15 - 15.30	Matchmaking	
15.30 – 16.00	Questions from the audience	All speakers
16.00 – 17.30	<i>Networking reception</i>	

Summary of presentations

Dr. Rob Diemel, PhD (ZonMw, NL)

'Systems Medicine calls and awareness'

ERACoSysMed and CASyM aim to better understand diseases by application of systems medicine and stimulate the collaboration between clinicians, systems biologists and patients. CASyM has formulated a road map for the implementation of Systems Medicine in Europe. CASyM is a network comprising hospitals, academia, industry, patients and policy. ERACoSysMed is a network of funding agencies organising awareness events for various stakeholder groups and launching Systems Medicine calls aiming for interdisciplinary and transnational collaboration.

Prof. David Harrison, MD (Univ. St.Andrews, UK)

'Cancer pathology as a moving target: how little do we need to know?'

Understanding cancer improves all the time, with the advent of genetic testing, predictive algorithms, liquid biopsy, and new small molecule and immune therapies. But we are lagging behind in assimilating these varied approaches and deciding how best to combine them. Starting with the biopsy we will explore the challenges of predictive medicine in oncology and how systems medicine can help plot the course ahead, drawing out themes important for other disease areas.

Prof. Hans Westerhoff, PhD (Univ. Amsterdam, NL & Univ. Manchester, UK)

'Dynamic maps for systems medicine in metabolic diseases'

The presentation discussed the nature of human disease and build the case that they are all multifactorial, although the various extents. Network diseases require systems biology approaches in diagnosis and therapy. The aspect of complexity was addressed by showing two examples where systems medicine is becoming feasible by strategic dissection of the human metabolic networks. A further integration of data into predictive models should further enable systems medicine into a truly individualized medicine.

Prof. Mikael Benson, MD (Univ. Linköping, SE)

'Systems medicine for predictive and individualised medicine in inflammation and lung disease'

We combine -omics, bioinformatics, functional and clinical studies of T cell associated diseases for predictive and individualised medicine. T cells constantly patrol the body for early detection of disease and are therefore ideal targets for early and individualised diagnostics in most diseases. This is supported by our studies of inflammatory (including asthma), malignant and metabolic diseases.

David Supple (Asthma UK)

'A personal reflection on the potential of Systems Medicine in practice: The importance of patient expectation, education and engagement'

Although systems medicine is growing in definition and practical application, there is much to gain, but also much to deliver to ensure equitable patient access and clinical pathway transformation. This presentation reflected on personal experiences in diagnosis and treatment of paediatric asthma and allergy and how a systems medicine approach could potentially benefit both, as well as examining some of the patient hurdles yet to overcome before this approach can achieve mainstream adoption.

Prof. Timothy Radstake, MD (UMC Utrecht, NL)

'Systems Medicine in Rheumatology: aiming on clinical impact'

Key measures of success in Rheumatology are early treatment, T2T and also, knowing when to stop treatment when disease remission is achieved. Using a multi-omics strategy followed by computational modelling our groups aims a patients re-stratification to optimise clinical trials, to achieve re-purposing of drugs and to predict response to therapy. Recently, using this approach, we were able to predict long-term disease remission on patients who stopped TNFa antagonists in the Poet Study.

Prof. Lodewyk Wessels, PhD (NKI, NL)

'Advantages of computational modelling in cancer treatment'

We have developed a computational framework to integrate protein expression, mutation and gene expression data to model the response of cancer cell lines to anti-cancer therapy. It was shown how this framework was used to explain the response of 30 breast cancer cell lines to 6 targeted therapies and to discover new mechanisms that improve our prediction of response to therapy. Subsequently, it was shown how these models can be employed to develop better strategies to treat cancer patients.



Evaluation

Target audience

A total of 59 persons attended the meeting. Among them were 14 clinicians (24%) and 16 systems biologist (27%) – the primary stakeholders for this meeting.

In addition, stakeholders from industry, science and policy attended the meeting.

Aims of the event

In order to find out whether the aims of the event had been met, a questionnaire was sent out to the participants one week after the event. The response rate to this questionnaire was 19% (n=11).

Overall, the feedback was very positive.

Question	Score average
Overall assessment on the Systems Medicine Awareness Event	7.6
Extent to which the event contributed to awareness	7.2
Quality of the presentations	7.5
Quality of the moderator	7.2
Quality of the meeting location	8.0

This feedback shows that the aim of the event – creating awareness of Systems Medicine – has been achieved. The responders felt that best practices of Systems Medicine were shown, opinions were exchanged and that the lunch and coffee breaks offered good opportunities for networking. In addition, the presentation on the patient perspective was much appreciated.

Suggested topics for future events

Some participants mentioned a preference for more practical information on how to set up Systems Medicine in clinical practice (e.g. organisational aspects, data management and data integration, lab techniques, modelling and bioinformatics). Future events could have a focus on collaboration, connections with cell biology and experimental model systems, or could be organised specifically for junior scientists. More possibilities for networking would be welcomed.

Further awareness event are planned in Israel (Tel Aviv, June 2016), Germany (Marburg, November 2016), Slovenia (2017), Norway (2017) and Spain (2018).

Conclusion

It is concluded that the awareness event was successful in reaching its aims and target audience.



Appendices

Event Flyer



Save the date
15 February 2016

Systems Medicine:
understanding disease pathways
for personalised treatment

What? Systems Medicine is a research methodology combining the systems biology community with the clinical and patient communities. It will provide a new tool to medical researchers and clinicians to diagnose and treat patients more precise and cost-effective. Using the Systems Medicine approach you will be able to make the first step towards personalised medicine.

This one day event will give you insights in the state-of-the-art in Systems Medicine. You will learn about the approach and what is needed to effectively collaborate between clinicians, statistical and mechanical modellers, molecular biologists, bioinformaticians, geneticists. The merits of Systems Medicine will be illustrated by national and international best practices presented by clinicians and systems biologists. After each showcase presentation there will be an interactive session.

Why? This is an easy opportunity for you to get acquainted with this new way of doing research. And to team up with various stakeholders to jointly address clinical research questions and participate in future Systems Medicine calls. Event participation is free of charge.

Who? This event is particularly focussed on clinicians and systems biologists.

When and **where?** This full day event will take place at 15 February 2016 at Karel V in Utrecht.

For more information visit our website www.zonmw.nl/systemsmedicine

This event is organized by ZonMw as part of the European initiative ERACoSysMed. If you have any questions related to this event, please contact Rob Diemel (diemel@zonmw.nl) or Simone de Graaf (sgraaf@zonmw.nl).

