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# ESPACOMP 2023

MEDICATION ADHERENCE  
FROM DRUG DEVELOPMENT TO PATIENT CARE

29 NOVEMBER – 2 DECEMBER 2023  
BUDAPEST, HUNGARY



PROGRAMME  
& ABSTRACT BOOK





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# About ESPACOMP

ESPACOMP, the International Society for Medication Adherence, is an international scientific association dedicated to promoting cutting-edge research in the field of medication adherence to increase the quality of research and support dissemination, implementation and uptake of knowledge in healthcare systems and policies.

## Main programme topics

This year's ESPACOMP Conference has a special focus on Medication Adherence from Drug Development to Patient Care. Aligning research and practice of medication adherence, from the first phases of drug development to the realities of daily practice in clinical settings, is a necessity for effective and safe use of medications. This meeting will bring together different stakeholder perspectives to present state-of-the-art research and policy initiatives and discuss how we could better integrate medication adherence throughout this continuum of research and care.

## Information / Registration at

[www.espacompeu](http://www.espacompeu)  
[info@espacompeu](mailto:info@espacompeu)

## Conference format

In person.

## Venue

**NOVOTEL Budapest Centrum**  
1088 Budapest  
Rákóczi út 43-45.  
Hungary

## Conference Organisation & Scientific Committee

Alexandra Dima,  
Liset van Dijk,  
Przemyslaw Kardas,  
Sara Mucherino,  
Todd Ruppard,  
Marie Paule Schneider,  
Bernard Vrijens,  
Tamas Agh,  
Judit Simon.

## The ESPACOMP President 2023

Alexandra L. Dima, PhD, HDR, AFBPsS

*(Sant Joan de Deu Research Institute, Spain)*



Alexandra Dima is Senior Researcher in the Health Technology Assessment in Primary Care and Mental Health (PRISMA) research group, at the Sant Joan de Déu Research Institute, Barcelona, Spain. Her primary expertise area is health psychology and her research focuses on improving management of chronic conditions via collaborative care and patient empowerment. Dr. Dima is an internationally recognized expert on medication adherence. She has contributed to the development and validation of several measurement instruments on adherence-related constructs, statistical algorithms for adherence calculation and visualization from electronic healthcare databases ([www.adherer.eu](http://www.adherer.eu)), and interventions for adherence and self-management support in chronic conditions. She is Chair of the Working Group on Medication Adherence Technologies within the ENABLE COST Action ([www.enableadherence.eu](http://www.enableadherence.eu)), where she leads the development of an interactive online repository aiming to facilitate best practice and use of technologies in medication adherence support.

# The ESPACOMP Executive Committee 2023

Filipa Costa  
Alexandra Dima  
Liset van Dijk  
Sabina de Geest  
Rob Heerdink  
Dyfrig Hughes  
Przemyslaw Kardas  
Alpana Mair  
Enrica Menditto  
Maria Rubio-Valera  
Todd Ruppap  
Marie-Paule Schneider  
Bernard Vrijens  
Leah Zullig

## The meeting secretariat

**Martina Kozderková**  
*Project manager*

**C-IN**  
5. května 65, Prague  
Czech Republic  
[www.c-in.eu](http://www.c-in.eu)

## Local Organizers

Prof. Tamas Agh,  
*Syreon Research Institute, Budapest, Hungary;  
Center for Health Technology Assessment and  
Pharmacoeconomic Research, University of Pécs,  
Pécs, Hungary*

Prof. Judit Simon  
*Institute of Marketing, Corvinus University  
of Budapest, Budapest, Hungary*

## Local support

Zsuzsanna Kun  
*Corvinus University of Budapest, Institute  
of Marketing and Communication Sciences*

Adam Konstantin Rojkovich  
*Corvinus University of Budapest, Institute  
of Marketing and Communication Sciences*

Dalma Erdősi  
*Semmelweis University, Center for Health  
Technology Assessment, Budapest, Hungary;  
University of Pécs, Center for Health Technology  
Assessment and Pharmacoeconomic Research,  
Pécs, Hungary*

## Welcome Word

Dear ESPACOMP Community and Conference Participants,

With great pleasure we welcome you to the 27<sup>th</sup> ESPACOMP meeting in Budapest, Hungary. We are all very pleased that you joined us for this unique event focused on medication adherence from drug development to patient care.

ESPACOMP aims to facilitate the dissemination of knowledge and cutting-edge evidence in the field of patient medication adherence. Since 1996, the annual meeting of ESPACOMP has provided a networking opportunity for an increasing number of international adherence researchers, health care professionals, and pharmaceutical industry personnel as well as patients and other important stakeholders.

The ESPACOMP annual meeting has matured over the years, reflecting the increased interest in adherence-related issues across Europe and beyond. This year, more than 80 abstracts were submitted, of which 30 were selected for oral presentations and 53 were confirmed for poster presentation. This includes posters from our late-breaking abstracts, presenting research completed as recently as 3 months ago. The pre- and post-conference educational days have 3 workshops focused on Implementation Science, Describing medication adherence interventions, and Self-report Adherence Measures.

We are very delighted that world-renowned adherence experts have accepted our invitation to present at this conference. This year, the 8<sup>th</sup> John Urquhart Memorial lecture will honour the memory of John Urquhart, the outstanding adherence researcher, colleague, mentor and friend. We are thrilled that this year's lecture will be given by Prof. Dr. Monique Elseviers (University of Antwerp, Belgium). Keynote speakers at the conference will be Dr Eduardo J. Sabaté (US and Switzerland), speaking on the 20<sup>th</sup> anniversary of the seminal WHO report on adherence to long-term therapies he led the publication of in 2003, Prof. Tamas Agh (Syreon Research Institute; University of Pécs) and Prof. Judit Simon (Corvinus University of Budapest), who will give an overview on medication adherence research and practice in Hungary, and Prof. Ellie Murray (Boston University, US), who will present state-of-the-art methods of adherence-adjustment of randomized trial results.

The six paper sessions demonstrate the direction of medication adherence in Europe and around the globe. Poster presentations will be available for viewing and discussion for the duration of the conference. Awards will be presented on Friday evening, including the Jean-Michel Métry poster prize and the Early Career Abstract Prize. There will be time and opportunity to network, meet colleagues, and exchange ideas during the breaks and after the sessions and also during the social program, including the conference dinner at the venue restaurant.

On behalf of the scientific & organizing committees, we wish you a very inspiring conference and a wonderful stay in Budapest. We thank you for your active participation in the 2023 ESPACOMP meeting!

### **THE ESPACOMP EXECUTIVE COMMITTEE 2023**

*Alexandra Dima, Filipa Costa, Liset van Dijk, Sabina de Geest, Rob Heerdink, Dyfrig Hughes, Przemyslaw Kardas, Alpana Mair, Enrica Menditto, Maria Rubio-Valera, Todd Ruppap, Marie-Paule Schneider, Bernard Vrijens, Leah Zullig*



# Corporate Members



## Venues

### Conference location

Novotel Budapest Centrum  
Address: Rakoczi ut 43-45, Budapest  
1088, Hungary  
GPS: 47.497418, 19.072095.  
Telephone. +36 1 477 5300.  
Fax. +36 1 477 5353.  
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<https://novotelbudapestcentrum.com/>



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Designed by architects Marcell Komor and Dezső Jakab, originally known as the Palace Hotel, opened in 1911. Being the most fashionable hotel of that time, it dazzled the elegant public with its stuccoes and wrought iron decoration, colored glass windows, marble columns, the hall with a gallery and the gilt chandeliers. Beside the Secessionist / Art Nouveau motifs and style, the hotel supplied several modern services as hot and cold running water in every room, “telephone message sender system” and elevator. The Palace Hotel became popular with the wealthy bourgeoisie, aristocracy and merchants.

The press described the hotel as following:  
*“Opening from the English-looking lobby is a breakfast room in Adam style and then a period restaurant a la Louis XIV. The beer hall in the basement features Old German furniture and stained glass windows. On the first floor are a reading room, a lounge and a terraced garden. All 150 rooms on the six floors of the hotel overlook the street, and most have a balcony and a bathroom. Room service can be summoned via small electric lights, and a water-filled American fire extinguishing system is on standby in case of fire.”*

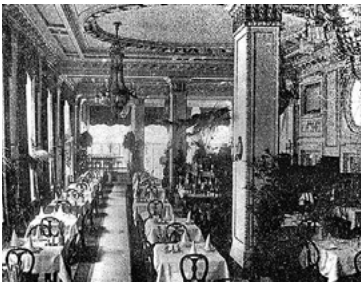
During the Second World War, the hotel sustained no serious damage, while after the war, like many other palaces in Budapest,

it became a political party headquarters and it was used by Social Democratic Party between 1946 and 1949. In 1951, it became a hotel again but it never recover its original splendour. In the lack of renovation and reconstruction the building turned out of condition and was finally closed in the 90's.

In 2002, after the renewal of its Secessionist decoration and being enlarged with two more side wings, this classical, grand hotel serves is original function with pomp once again. Renamed into Novotel Budapest Centrum, the hotel today, just like one hundred years ago, offers the beauty of elegance and the advantages of comfort to its guests.

Source: <https://www.historichotelsthenandnow.com/palacebudapest.html>





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## *Welcome Reception & Dinner*

### **Palace Restaurant**

Located on the ground floor  
of Novotel Budapest Centrum.

Address: Rakoczi ut 43-45

Budapest 1088

Hungary

GPS: 47.497418, 19.072095.



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# Workshop 1: Implementation Science

Wednesday, 29 November: 9:00 am to 5:00 pm

Developing Implementation Strategies: from theory to practice

## Faculty (in alphabetical order)

Dr. Charlotte Bekker, PhD

*Radboud university medical center, The Netherlands*

Prof. Dr. Bart van den Bemt, PhD, PharmD

*Radboud university medical center, The Netherlands*

Prof. Dr. Sabina De Geest, PhD, RN

*University of Basel, Switzerland & KU Leuven, Belgium*

Dr. Janette Ribaut, PhD, RN

*University of Basel, Switzerland*

Dr. Sabine Valenta, PhD, RN

*University of Basel & University Hospital of Basel, Switzerland*

## Introduction

Increasing high quality evidence on how to tackle medication non-adherence has been published, yet translation of that evidence into real-world clinical practice remains challenging.[1]

Implementation science defined as “*the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services and care*” and has gained traction as a valuable methodology to support real-world translation of interventions”.[2] In this year’s Implementation Science Workshop we will focus on **developing and tailoring implementation strategies as a foundational key element for implementation science projects.**

We will position implementation science among other research methodologies first. We will then continue to present and discuss how to context-wise select and tailor implementation strategies within implementation science projects. Practical examples will be provided, which will be followed by group work exercises and plenary discussion round.

Specifically, we will provide detailed guidance how to select and tailor implementation strategies and will use two implementation science projects with a focus on medication adherence interventions to exemplify the development, application and evaluation of implementation

strategies. The session will be highly interactive and will allow ample opportunity for discussion and application in group exercises.

At the end of the workshop, we offer a personal consultation for interested participants who have specific questions for their projects/clinical practice/research related to Implementation Science or specifically on developing/tailoring implementation strategies.

## Learning objectives

After the workshop, participants will be able to:

- Position implementation science and develop a basic understanding of its relevance and key concepts.
- Understand relevant steps and factors to consider the context-wise selection of implementation strategies.
- Develop familiarity with methods for selecting implementation strategies, and how to apply them in practice.

## Learning methods

The workshop combines theoretical lectures with small group work and plenary discussions.

## Target group

All researchers/clinicians/others interested in implementation science with or without previous experience/competence.

## Maximum number of participants

30, in person.

## Preparations for the workshop

Please read the following papers.

### Recommended:

- Proctor, E.K., Powell, B.J. & McMillen, J.C. Implementation strategies: recommendations for specifying and reporting. *Implementation Sci* 8, 139 (2013). <https://doi.org/10.1186/1748-5908-8-139>.
- Powell, B. J., Beidas, R. S., Lewis, C. C., Aarons, G. A., McMillen, J. C., Proctor, E. K., & Mandell, D. S. (2017). Methods to improve the selection and tailoring of implementation strategies. *The journal of behavioral health services & research*, 44(2), 177-194. <https://doi.org/doi:10.1007/s11414-015-9475-6>.
- Powell, B. J., Waltz, T. J., Chinman, M. J., Damschroder, L. J., Smith, J. L., Matthieu, M. M., Proctor, E. K., & Kirchner, J. E. (2015, Feb 12). A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project. *Implement Sci*, 10, 21. <https://doi.org/10.1186/s13012-015-0209-1>.
- Valenta, S., Ribaut, J., Leppla, L., Mielke, J., Teynor, A., Koehly, K., Grossmann, F., Gerull, S., Witzig-Brändli, V. & De Geest, S. for the SMILe study team (2023). Context-specific adaptation of an eHealth-facilitated, integrated care model and tailoring its implementation strategies-A mixed-methods study as a part of the SMILe implementation science project. *Front Health Serv*, 2, 977564. <https://doi.org/https://doi.org/10.3389/frhs.2022.977564>.

### Optional readings:

- Mielke, J., Leppla, L., Valenta, S. et al. Unraveling implementation context: the Basel Approach for coNtextual ANALYSIS (BANANA) in implementation science and its application in the SMILe project. *Implement Sci Commun* 3, 102 (2022). <https://doi.org/10.1186/s43058-022-00354-7>
- De Geest, S., Valenta, S., Ribaut, J., Gerull, S., Mielke, J., Simon, M., Bartakova, J., Kaier, K., Eckstein, J., Leppla, L., Teynor, A., & on behalf of the SMILe study team (2022). The SMILe integrated care model in allogeneic SteM cell TransplantatIon faciLitated by eHealth: a protocol for a hybrid effectiveness-implementation randomised controlled trial. *BMC Health Services Research*, 22(1), 1067. <https://doi.org/10.1186/s12913-022-08293-8>.

# Workshop Agenda

Wednesday, 29 November

- 09:00–09:10 ○ Welcome and opening
- 09:10–09:30 ○ **Lecture:** Introduction to implementation science
- 09:30–09:50 ○ **Lecture:** Introduction to implementation strategies
- 09:50–10:00 ○ Break
- 10:00–10:20 ○ **Lecture:** Introduction to develop and select context-specific implementation strategies
- 10:20–10:40 ○ **Introduction to 1<sup>st</sup> practical example and 1<sup>st</sup> group exercise:**  
“Tailoring implementation strategies to implement and evaluate an eHealth-facilitated, integrated care model for stem cell transplanted patients (SMILe)”
- 10:40–10:50 ○ Break
- 10:50–11:30 ○ **Group work exercise 1** – selecting and applying relevant implementation strategies
- 11:30–12:15 ○ **Wrap up results** from Group exercise 1 and morning session in plenary
- 12:15–13:30 ○ Lunch
- 13:30–13:50 ○ **Lecture:** How to apply your implementation strategy in practice
- 13:50–14:10 ○ **Introduction to 2<sup>nd</sup> practical example and 2<sup>nd</sup> group exercise:**  
“Medication Adherence Knowledge, Expertise and Implementation Taskforce: living labs implementing evidence-based adherence interventions”
- 14:10–14:50 ○ **Group work exercise 2** – follow-up and evaluate your selected implementation strategies
- 14:50–15:05 ○ Break
- 15:05–15:45 ○ **Wrap up results** from Group exercise 2 and afternoon session in plenary
- 15:45–16:00 ○ Wrap up and closing
- 16:00–17:00 ○ Personal consultation for interested participants (optional – please see description above)





### Dr. Charlotte Bekker

Charlotte is a biomedical scientist and works as assistant professor at the department of pharmacy, Radboudumc, Netherlands. She is passionate to combat societal challenges and her research interest revolves around establishing sustainable medication use. For example, Charlotte investigates novel strategies aiming to reduce medication waste, to tailor drug dosages to individual patients through shared decision making, and to implement medication adherence interventions. In her work, Charlotte incorporates implementation science elements to enhance uptake of results in clinical practice.



### Prof. Dr. Bart van den Bemt

Bart is a pharmacist/clinical pharmacologist and Professor in Personalized Pharmaceutical Care at Radboudumc and head of the pharmacy and research and innovation department and Sint Maartenskliniek, the Netherlands. His research focuses on the adequate use of drug therapy with special emphasis to medication safety and adherence. He is founder of the special interest group medication adherence of the European Society of Clinical Pharmacy and member of ESPACOMP. He was president of the European Society of Clinical Pharmacy (ESCP) and member of several pharmaceutical care/education committees.



### Prof. Dr. Sabina De Geest

Sabina De Geest is a Professor of Nursing at the Faculty of Medicine of the University of Basel (Switzerland), and part-time Professor of Nursing at the KU Leuven in Belgium. She leads the PIONEER international group, an interdisciplinary research group focusing on behavioural (e.g. medication adherence) and psychosocial issues in chronically ill (e.g. transplantation, rheumatology, older persons). Driven by implementation science methodology, her research portfolio focuses on the development of innovative care models partially powered by eHealth. In addition, her research addresses psychosocial and behavioural pathways and their relation to outcomes in chronic illness as well as the development and testing of instruments to assess patient reported outcomes. She is a co-founder of the Swiss Implementation science Network (<https://impact-dph.unibas.ch/>).



### Dr. Janette Ribaut

Janette Ribaut is a PostDoctoral researcher and study coordinator at the Institute of Nursing Science at the University of Basel. She is a nurse by training and focuses on the development, implementation and evaluation of eHealthsupported medication adherence interventions in her research. For example, she is part of the bi-national SMILE project (development/adaptation, implementation and evaluation of an integrated care model in allogeneic SteM cell transplantatIon faciLitated by eHealth).



### Dr. Sabine Valenta

Sabine Valenta is a Postdoctoral research fellow at the Institute of Nursing Science, University of Basel, and also works as a nursing scientist & advanced practice nurse (APN) at the University Hospital Basel in Switzerland. In addition, Sabine Valenta actively participates in scientific societies, including the EBMT Nurses Group Research Committee and the Swiss Association for Nursing Science, Academy Society Oncology Nursing.

Her research interests span a broad spectrum of areas in healthcare, encompassing implementation science, mixed-methods research, adaptation of complex interventions, APN role development, and integration of eHealth technology in the healthcare sector.

As a Co-Principal Investigator in the ongoing implementation science project SMILE (<https://smile.nursing.unibas.ch/>), her primary focus revolves around the tasks of adapting, implementing, and evaluating an integrated, eHealth-facilitated care model.

## Workshop 2: Describing Medication Adherence Interventions

Saturday, 2 December: 9:00 am to 12:30 pm

Bridging the gap between intervention development and reporting guidelines and behaviour change in real life:

### Faculty (in alphabetical order)

Prof. Vera Araújo-Soares PhD,  
*Professor of Prevention at the Faculty of Medical Sciences Mannheim, Heidelberg University, Germany*

MSc. Carmen Corral-Partearroyo,  
*PhD student in Public Health at Sant Joan de Déu Research Institute and Autònoma University of Barcelona, Spain*

Dr. Sarah Serhal PhD,  
*Postdoctoral Research Fellow in Pharmaceutical Sciences, University of Geneva, Switzerland*

Raya Vinogradov,  
*PhD student at the Population Health Sciences Institute, Newcastle University, UK*

### Purpose:

This workshop will introduce participants to medication adherence intervention development, provide an overview of the state-of-the-art on intervention reporting recommendations, and illustrate their application with ongoing project examples.

### Description:

The workshop will start with an overview of intervention development and reporting guidelines and recommendations to delineate the context of intervention development and description standards. It will then focus on three practical examples of ongoing intervention development and evaluation projects to illustrate the challenges of applying these standards to diverse real-life conditions.

## By the end, participants will be able to:

- Describe the main intervention reporting guidelines and frameworks available for medication adherence interventions (development and evaluation).
- Apply these recommendations to reporting example interventions.
- Describe and critically assess the practical challenges of applying these recommendations to medication adherence real-life intervention studies at different stages in the development process.
- Propose and justify solutions for applying reporting recommendations to real-life interventions.

This workshop aims to create a space to discuss practical challenges for reporting medication adherence interventions, and form a task force with those willing to continue towards a consensus on intervention description specific to medication adherence and consistent with available guidelines (EMERGE, ABC).

This workshop is relevant to adherence researchers and healthcare professionals planning and/or conducting medication adherence intervention studies.

- Requires **no** prior knowledge or experience, but experience with developing interventions is advantageous.
- It will have a mixed theory-practical format. Participants will be asked to work interactively to formulate solutions to reporting intervention challenges and discuss the implications.
- Includes a mix of short presentations, lectures, group discussions, and practical exercises.

## Leaders:

Professor Vera Araújo-Soares will provide an overview of medication adherence interventions and reporting guidelines and recommendations for intervention development and description. Vera has extensive experience in the development and evaluation of evidence-based health promotion interventions. Carmen Corral-Partearroyo, Raya Vinogradov and Dr. Sarah Serhal will illustrate their application with examples from ongoing projects as well as the challenges of applying these standards to diverse real-life situations. All leaders will synthesise the challenges of reporting interventions, potential solutions, and future steps toward a consensus.



### Vera Araújo-Soares

Vera is a Professor of Prevention at the Faculty of Medical Sciences Mannheim, Heidelberg University. She completed her PhD in 2006 in Portugal where she worked as an academic and a clinician. After her PhD she moved to the UK where she worked in Scotland and England. In England she was Professor of Health Psychology and Public Health at the Medical Faculty of Newcastle University. Her research targets the development and assessment of evidence-based interventions for the promotion of health behaviours and the prevention and self-management of chronic conditions. She is passionate about translating theory and empirical evidence into practice and by doing so, contributing to refining theory.



### Carmen Corral-Partearroyo

Carmen is a nursing and public health professional. She graduated in Nursing in 2015 from the Complutense University of Madrid and developed her professional career in London (UK). In 2020, she completed a MSc in Public Health at LSHTM. Since 2020, she is part of the PRISMA research group at Sant Joan de Déu Research Institute and a PhD student in the field of Design, Evaluation and Implementation of Complex Interventions at the University Autònoma of Barcelona with a particular interest in supporting medication adherence in a range of chronic conditions.



### Sarah Serhal

Sarah is a postdoctoral researcher within the School of Pharmaceutical Sciences, University of Geneva, Switzerland. She is a pharmacist with a Master's in International Public Health and completed her PhD at the Woolcock Institute of Medical Research/University of Sydney, Australia. Her research explores ways we can address patient, medication, and healthcare related barriers to achieve optimal illness control and how these actions can be transformed into real-world impact using principles of implementation science.



## Raya Vinogradov

Raya (BA Social and Life Sciences, MClinRes) is a research radiographer working in the North East of England (Newcastle upon Tyne NHS Hospitals Foundation Trust) and a PhD student in the Population Health Sciences Institute, Newcastle University, UK. Her research interests are focused on improving adherence to prophylactic aspirin amongst pregnant people.

## Workshop 3: Self-reported Adherence Measures

Saturday, 2 December: 2:00 to 5:30 pm

What are we looking for?

### Faculty (in alphabetical order)

PD Dr. Isabelle Arnet,

*University of Basel, Basel, Switzerland*

Dr. Christiane Eickhoff,

*ABDA – Federal Union of German Pharmacists Association, Berlin, Germany*

Dr. Alexandra Dima,

*Senior Investigator, Sant Joan de Déu Research Institute, Barcelona, Spain*

### Purpose:

This workshop aims to:

- Share experiences of different research teams on selecting and using self-report (SR) medication adherence measures;
- Compile the pros and cons of several SR medication adherence measures and their potential uses in research and clinical practice;
- Work together with participants towards a consensus on the quality criteria needed for SR medication adherence measures for different types of studies (research or clinical practice context);
- Initiate the writing of a position statement on the state-of-the-art on SR medication adherence and need for coordinated work on SR medication adherence measure development and adoption in research and clinical practice.

This workshop is directed to researchers; clinicians; students; and policy makers interested in medication adherence measures in research and/or clinical practice. At least experience in running or participating to one research study on medication adherence is required, but early career researchers might benefit most when they are in the planning phase of a research study on SR medication adherence.

## Description:

Self-report (SR) continues to be the most used method of collecting information on medication adherence behaviours and determinants. Numerous questionnaires have been developed, and validation work has been performed and reported following various methodologies. Recent systematic reviews (*Kwan et al., 2020*) highlight the heterogeneity of questionnaires and validation studies, as well as the lack of evidence on the full range of measurement properties recommended by the psychometric literature on patient-reported outcome measures (*Gagnier et al., 2021*). After decades of measure development, researchers initiating new studies on medication adherence are confronted with limited options applicable to their context, after considering a diversity of measures with various degrees of development and validation. Moreover, many measures available are not consistent with current consensus definitions of medication adherence (ABC) and reporting guidelines (EMERGE). In this context, there is a need to exchange experiences of different research groups on the selection and use of adherence measures for different types of studies, and work towards consensus recommendations on what quality criteria are necessary for SR medication adherence measures depending on the purposes for their use in research or clinical practice contexts. This consensus would build on prior ESPACOMP initiatives and contribute to the ESPACOMP mission of promoting the science of medication taking.

The format of the workshop will be predominantly interactive between speakers and audience mostly as roundtable or group discussion. One exercise in small groups is planned. Consensus will be obtained by voting. Participants will be invited to prepare in advance short presentations on their experiences on selecting and using a SR medication adherence measure, if applicable to their research. They will obtain a template PowerPoint with 10 slides to structure their presentation. The slides will cover 1. Title of the study, name of researchers involved, institution where the study was performed; 2. Rationale for performing the study and study aim; 3. Study setting; 4. Adherence measure; 5. Short results of the study; 6. What worked well; 7. What worked less well; 8. Pros; 9. Cons; 10. Summary.

After a 30-minute open discussion, the pros and cons of several SR medication adherence measures will be compiled. This will serve as basis for developing a consensus on quality criteria. Participants will delineate the quality criteria in small groups. Each group will work on one specific topic (eg, research or clinical practice context; targeted population and inclusion criteria). Back to the plenary, the groups will present their results. A consensus will be obtained by voting. Participants will be invited to join the moderators to write a position statement on the state-of-the-art on SR medication adherence.



## Workshop Agenda

Saturday, 2 December

- 14:00–14:30 ○ Overview of the COSMIN guidelines as applied to MA measures (moderators)
- 14:30–15:30 ○ Examples of participant's experiences with SR MA measures
- 15:30–16:00 ○ Interactive compiling of pros and cons of SR MA measures
- 16:00–16:30 ○ Interactive delineation of quality criteria in small groups
- 16:30–17:00 ○ Interactive voting towards consensus
- 17:00–17:30 ○ Synthesis of exchanges and structuring of position statement

## References:

Kwan YH, et al. Measurement properties of existing patient-reported outcome measures on medication adherence: systematic review. *J Med Internet Res.* 2020;22(10):e19179.

Gagnier JJ et al. COSMIN reporting guideline for studies on measurement properties of patient-reported outcome measures. *Qual Life Res.* 2021;30(8):2197-2218.

## Leaders:



**Isabelle Arnet**

*(University of Basel, Basel, Switzerland)*

Isabelle studied pharmacy at the Swiss Federal Institute of Technology Zurich, Switzerland, and graduated in 1991 with a federal diploma. After 2 years as a freelancer for the Johns Hopkins Hospital in Baltimore, Maryland, USA, she joined 1997 the staff of Prof. Dr. WE. Haefeli at the Department of Clinical Pharmacology & Toxicology of the University Hospital Basel, Switzerland. She acquired 1999 her PhD from the University of Basel, with a thesis on "Compliance/Non-compliance and psychological attributes". She entered 2000 the editorial department of *Documed*, Basel, and assumed the translation services, along with the development of tools for hospital pharmacies. In parallel, she kept teaching activities in pharmacy at the University of Basel. In 2008, she joined the Pharmaceutical Care Research Group at the Department of Pharmaceutical Sciences,

University of Basel, as a senior scientist with research and teachings assignment. She is an international recognized expert in medication adherence and developed among others electronic devices for the monitoring of polypharmacy, together with standards for calculation. As bilingual French and German, she worked on the translation of the adherence taxonomy. She is currently developing tools including questionnaires for pharmacists to ameliorate adherence in ambulatory patients. Her personal driver is to find practical solutions to practical problems in medication adherence, and the implementation of research results into practice. Isabelle Arnet is member of several national and international associations and societies, and joined in 2017 the board of PCNE (Pharmaceutical Care Research Network). She aims at stimulating young researchers, and at introducing new views and activities across borders.



### Christiane Eickhoff

*(ABDA – Federal Union of German Pharmacists Association, Berlin, Germany)*

Christiane graduated as a pharmacist from the Freie Universität Berlin, Germany. Christiane is now working as a research associate at the ABDA. Her work centres on pharmacy practice research with a focus on medication adherence, outcome measurement and the development, implementation and evaluation of pharmaceutical services. Together with Isabelle Arnet, she has developed a tool enabling pharmacists to screen for non-adherence in medication. Both have established the working group “medication adherence” within the Pharmaceutical Care Research Group. Christiane runs the professional secretariat of the Initiative for Pharmaceutical Care, an organisation aiming to establish pharmaceutical care in Germany, especially by consulting and funding research projects. Christiane is a lecturer at the Freie Universität, Berlin, and regularly presents at conferences both in Germany and internationally. She is voluntarily engaged in the development cooperation with Bangladesh with a focus on health, education and women, again chairing the NGO Shanti since 2016.



## Alexandra Dima

*(Senior Investigator, Sant Joan de Déu Research Institute, Barcelona, Spain)*

Alexandra's research on medication adherence adopts diverse quantitative and qualitative methodologies and mixed-methods approaches. Her methodological expertise includes psychometrics and measurement. She has led the development of the TEOS framework for medication adherence measurement, is one of the developers of the R package AdhereR for estimating medication adherence from electronic healthcare data and has developed and/or validated several self-report questionnaires related to medication adherence and more broadly self-management of chronic conditions. She is Chair of the ENABLE COST Action WP2 on Medication Adherence Technologies.

# ESPACOMP Scientific Meeting Program

## Wednesday, 29 November

- 9:00–17:00 **Pre-Conference Workshop**  
**Developing Implementation Strategies: from theory to practice**  
*Charlotte Bekker, Bart van den Bemt, Sabina De Geest, Janette Ribaut, Sabine Valenta*
- 17:00–19:00 **Registration**

## Thursday, 30 November

- 8:00–9:00 **Registration**
- 9:00–9:15 **Welcome Word**  
*ESPACOMP President Alexandra Dima*  
*Local Hosts: Judit Simon, Tamas Agh*
- 9:15–10:30 **Paper Session 1:**  
**Different stakeholder perspectives on medication adherence**  
*Session Chair: Tamas Agh*
- *Sabina de Geest*. Swiss Policy Brief on Implementing Medication Adherence Interventions
  - *Laura Mortelmans*. The development of recommendations for healthcare providers to support patients experiencing medication self-management problems
  - *Fatima Rezae*. Healthcare professionals' perspectives and experiences of osteoporosis medication treatment: A qualitative systematic review
  - *John Weinman*. Effectiveness of a series of courses for Latin American healthcare professionals to raise awareness on non-adherence and identify non-adherent patients with the help of behavioral science.
  - *Rebecca Bartlett Ellis*. Medication Adherence and Patient Activation in Chronic Kidney Disease (CKD)
- 10:30–11:00 **Coffee break & poster viewing**
- 11:00–11:45 **Plenary lecture:**  
**Eduardo Sabaté. Evidence-Based Policy Action: 20 years since the WHO Report on Adherence to Long-Term Therapies**  
*Session Chair: Marie Schneider*

11:45–13:00

**Paper Session 2:  
Patient and caregiver perspectives**

*Session Chair: Rob Heerdink*

- *Marcia Vervloet.* A contextual analysis of four living labs implementing medication adherence interventions
- *Jacqueline Hugtenburg.* Perceptions, needs and wishes of type 2 diabetes mellitus patients in the Dutch Caribbean regarding medication information and guidance: an interview study
- *Léa Solh Dost.* Medication management, understanding and adherence from hospital to ambulatory settings in type 2 diabetic polymorbid patients: a qualitative longitudinal study
- *Raya Vinogradov.* A co-produced systematic review and meta-ethnography of barriers and facilitators of adherence to aspirin prophylaxis in pregnancy.
- *Ana Tomas.* Adherence to antibiotic treatment in outpatients in Serbia

13:00–14:30

Lunch & poster viewing; Poster walks: sessions 1–4

14:30–15:45

**Paper Session 3:  
Medication adherence interventions**

*Session Chair: Maria Rubio Valera*

- *Marie Schneider.* The differential impact of a 6- versus 12-month pharmacist-led interprofessional medication adherence program on medication adherence in patients with diabetic kidney disease
- *Carmen Corral-Partearroyo.* The Initial Medication Adherence intervention to improve adherence to cardiovascular disease and diabetes treatments: mixed-methods process evaluation (the IMA-cRCT study)
- *Laura E.J. Peeters.* Antihypertensive drug concentration measurement combined with personalized feedback in resistant hypertension: a randomized controlled trial
- *Jasmine Hine.* Financial INcentives to improve Asthma (FINA): findings from a pilot RCT to improve medication adherence for children with asthma
- *Zoe Moon.* Interventions to increase adherence to antiretroviral therapy in people living with HIV: A systematic review and meta-analysis

15:45–16:30

**Roundtable 1:  
Patient engagement in medication adherence research:  
ESPACOMP-ENABLE joint roundtable**

*Cristian Andriciu, Wendy Davis, Mark Duman, Krisztina Tóth, Tamas Agh, Liset van Dijk, Francisca Leiva Fernandez, Marie Schneider*

16:30–17:00

Coffee break & poster viewing

- 17:00–17:45 **John Urquhart Memorial Lecture**  
**Adherence to medicines: the power of drug utilization data**  
*Monique Elseviers*  
*Session Chair: Alexandra Dima*
- 17:45–18:45 **ESPACOMP General Assembly**
- 19:00– **Conference reception & dinner**

## Friday, 1 December

- 08:15–9:15 **Early Career Group Networking Session**
- 09:15–10:30 **Paper Session 4:**  
**Determinants of medication adherence**  
*Session Chair: Marie Schneider*
- *Laura E.J. Peeters*. Monitoring antihypertensive drug concentrations to determine non-adherence in hypertensive patients with or without a kidney transplant
  - *Cristina Ghiciuc*. Medication non-adherence as precipitant factor in acute heart failure: a systematic review
  - *Cécile Payet*. Adherence patterns and their predictors among oral isotretinoin initiators between 2014 and 2018 in France
  - *Sarah Serhal*. Clinical estimations of patient adherence – opportunities for future clinical care
  - *Frauke Van Vaerenbergh*. The reporting of variables with impact on adherence assessment in COPD: a systematic review
- 10:30–11:00 **Coffee break & poster viewing**
- 11:00–11:45 **Plenary lecture**  
**State of the art in medication adherence research and practice in Hungary**  
*Judit Simon & Tamas Agb*  
*Session Chair: Przemyslaw Kardas*

11:45–13:00

**Paper Session 5:  
Digital medication adherence interventions and measurement**

*Session Chair: Marcia Vervloet*

- *Antoine Pironet*. The SystemCHANGE intervention improves medication-taking habit
- *Rebecca Bartlett Ellis*. Feasibility of Implementing SystemCHANGE™ for Medication Adherence in Chronic Kidney Disease (CKD) Using Digital Health
- *Non Davies*. Mobile health interventions to improve adherence to oral anticoagulant treatment: A systematic review
- *Kirstin Messner*. Outputs of freely available medication adherence applications – appearance and reality
- *Selina Barbaty*. Dispensing Patterns vs. Electronic Monitoring: Assessing Non-Adherence to Direct Oral Anticoagulants

13:00–14:30

Lunch & poster viewing; Poster walks: sessions 5-8

14:30–15:45

**Paper Session 6:  
Methodology**

*Session Chair: Dyfrig Hughes*

- *Kris Denhaerynck*. Psychometric properties of the BAASIS®: a meta-analysis of individual participant data
- *Frederik Hauptenthal*. Predictive Validity of the Basel Assessment of Adherence to Immunosuppressive Medication Scale (BAASIS®) After Renal Transplantation
- *Sarah Belcher*. Psychometric Evaluation of the PROMIS® Medication Adherence Scale (PMAS) among patients on oral anticancer medication (OAM) for multiple myeloma
- *Sarah Belcher*. Concordance between PROMIS® Medication Adherence Scale (PMAS) and electronic event monitoring (EEM) among patients on oral anticancer medication (OAM) for multiple myeloma
- *Jeffrey Rohay*. Variation in Adherence Measures as a Function of Calculation Methods

15:45–16:30

**Roundtable 2:  
Assessing medication adherence in clinical trials:  
challenges and solutions**

*Lina Eliasson, Vanessa Cooper, Bernard Vrijens, Amy Mulick*

16:30–17:00

Coffee break & poster viewing

17:00–17:45

**Plenary lecture:  
Eleanor Murray. Adherence-adjustment of randomized trial results  
is a knowledge problem, not a methods problem**

*Session Chair: Bernard Vrijens*

- 17:45–18:00 **Presentation of Jean-Michel Metry Poster Prize and Early Career Abstract Prize**
- 18:00–18:15 **Closure of the meeting**
- 18:30– **Social programme – City walk (information at the venue)**

## Saturday, 2 December

- 9:00–17:30 **Conference Workshops**
- 9:00–12.30 **Workshop How to describe medication adherence interventions? Bridging the gap between intervention development and reporting guidelines and behaviour change in real life**  
*Carmen Corral-Partearroyo, Sarah Serhal, Raya Vinogradov, Vera Araújo-Soares*
- 12:30–14:00 **Lunch break**
- 14:00–17:30 **Workshop Self-reported adherence in research and clinical practice: what are we looking for?**  
*Isabelle Arnet, Christiane Eickhoff, Alexandra Dima*



## Plenary Invited Speakers



*Dr Eduardo J. Sabaté*

### Evidence-Based Policy Action: 20 years since the WHO Report on Adherence to Long-Term Therapies

#### **Bio**

Dr. Eduardo J. Sabaté is a physician and Public Health professional with 25+ years research experience in Epidemiology, Health Systems, Real World Evidence, Clinical development and Health Economics and Outcomes Research. He is currently a Senior Director Medical Affairs at GILEAD SCIENCES Inc (acting in this activity on a personal basis). When the “Adherence to Long-term Therapies: Evidence for Action” report was written in 2003, he was a Medical Officer at the World Health Organization and played a pivotal role for the inclusion of adherence to therapies in the global public health agenda. For the past 20 years since the WHO report, he has continued to be a passionate researcher and advocate for patient access and drug innovation, patient-centered care and efficient health care systems worldwide. He is currently Board member in the Publication Committee of the American Association of Public Health.

#### **Summary**

This talk will give an overview of the past, present and future of medication adherence from the perspective of the “Adherence to Long-term Therapies: Evidence for Action” report and its impact on policy making. First, a journey back in history will give an account of how the WHO report initiated, developed and communicated at the time and the innovation it represented at the time. Second, it will describe the results it has had in the twenty years following its release, in terms of the impact on research and the provision of services and products by different health care stakeholders, with a particular focus on whether patients themselves have benefited from the changes initiated. Third, it will look towards the next steps in adherence research and practice. In particular, the future that is already here: Integrated health care platforms and new information technologies.



*Prof. Monique Elseviers PhD MS*

## Adherence to medicines: the power of drug utilization data

### Bio

Monique Elseviers is professor emeritus of the University of Antwerp, Belgium, where she worked as an epidemiological researcher and statistician in the fields of nephrology, non-adherence and drug utilization research. She was responsible for the courses of *Research methodology and statistics* in the department of Nursing and Midwifery. At the University of Ghent, she contributed to the research activities in pharmaco-epidemiology focusing on the quality use of medicines in old age and in de-prescribing. Currently, she coordinates a double-blind clinical trial on the reno-protective role of metformin in patient with renal failure using DATs for adherence assessment. She is past-chair and member of the board of EuroDURG (European Drug Utilization Research Group) for more than 20 years. She is chief editor and section leader of the Adherence chapters of the book *Drug Utilization Research: Methods and Applications* (with release of the second edition expected for December 2023).

### Summary

Data on adherence to medicines forms a key issue to evaluate the effectiveness of drug treatment. Decades ago, it was John Urquhart in his comments to published effectiveness of medicines who reacted already with a pleading to document the medication taking behavior before making any conclusion.

Until recently, adherence research focused on the specific drug utilization patterns of dosing history using primary data collection, neglecting the separate problems of initiation and discontinuation of medicine use. After the publication of the ABC taxonomy, the use of secondary drug utilization data sources became more appreciated in adherence research, particularly for the assessment of initiation and discontinuation of prescribed drug therapy. Additionally, in recent years, secondary drug utilization data forms a key source of information identifying drug classes with poor adherence in general practice and highlighting the possible problem of non-adherence in drug classes with a high resistance to treatment. For the evaluation of adherence interventions however, the collection of primary data remains essential for assessing their effectiveness.

Nowadays, Digital Adherence Technologies (DAT), like smart medication packages, combined with medicine taking data analytics offers the most powerful information of medication taking behavior in clinical practice. Although there is growing attention for the problem of non-adherence to prescribed therapy, support from the health care system for improving adherence, however, remains limited in most countries. In the future, the further development of DATs as well as the generalized availability of big data will enhance adherence research and the development of interventions. Despite the expected expansion of available data however, problems such as the increasing awareness of privacy protection will form an important challenge to overcome in future attempts to improve adherence to medicines.

*Tamás Ágh MD PhD DrHabil*

*Judit Simon, Professor*

## State of the Art in Medication Adherence Research and Practice in Hungary

*Tamás Ágh MD PhD DrHabil*

### Bio

Tamás Ágh graduated from the Semmelweis Medical University (MD, 2006), the Corvinus University of Budapest (Physician-Economist, 2010), the Semmelweis University School of PhD Studies (PhD in Pharmacoeconomics, 2013) and the University of Pécs Doctoral School of Health Sciences (DrHabil in Health Sciences, 2020). He specialized in family medicine in 2010. Dr. Ágh is a research associate professor at the Center for Health Technology Assessment and Pharmacoeconomic Research, University of Pécs, a principal researcher of Syreon Research Institute and has been practicing as a medical doctor since 2006. With 15 years of experience in health economics and outcome research, he developed expertise in the fields of medication adherence, patient reported outcomes, health technology assessment, and evidence synthesis. Dr. Ágh is chair of the ISPOR Medication Adherence and Persistence Special Interest Group and a member of the leadership group of the European Network to Advance Best practices & technoLogY on medication adherencE (ENABLE) Cost Action.





## *Judit Simon, Professor*

### **Bio**

Judit Simon graduated in the Master in Economics Program of the Corvinus University of Budapest in 1974 (at the predecessors in name). She got the PhD from the Hungarian Academy of Sciences (1994) and the habilitation from the Corvinus University of Budapest (2007). She worked for governmental and business institutions and joined the Corvinus University of Budapest in 1990. She served as the head of the Institute of Marketing (2008–2016) and as the founding director of the German Teaching Program in Business Administration (1993–2016). Her main research and teaching areas are the marketing research, health care marketing and customer behaviour. Her research focus in health care marketing is the research and measurement of patient adherence. She joined the ESPACOMP community in 2010. She has more than 240 academic publications, she published papers in *Industrial Marketing Management*, *Journal of Business and Industrial Marketing*, *Frontiers in Pharmacology* and in other international and Hungarian journals. She published the Hungarian book on “Marketing in Health Care” and the “Marketing research” book with Naresh K. Malhotra in Hungarian language. She is the honorary doctor and honorary citizen of the University of Passau (Germany) and she was awarded as Professor Emerita at the Corvinus University.

### **Summary**

Medication non-adherence in Hungary has emerged as a pressing public health concern. Despite the presence of numerous effective treatments, the alarming Eurostat statistics from 2019 show that only 50.8% of Hungarians adhered to their prescribed medication regimens. This low adherence to medication not only places a significant financial strain on Hungary's healthcare system but also detrimentally impacts patient health outcomes. A study under the framework of the ABC Project highlighted Hungary as one of the lowest-ranking EU countries in terms of medication adherence. Furthermore, in line with other European nations, Hungary faces the challenges brought about by an aging demographic. With the continuous growth of the elderly population, there's a subsequent increase in the incidence of multimorbidity and polypharmacy. This escalation amplifies the risk of medication non-adherence.

This presentation seeks to offer a thorough overview of medication adherence research and practice in Hungary. We will present the evaluation of the medication adherence landscape from its historical roots to the contemporary challenges it faces. Hungary's dedication to enhancing medication adherence can be showcased by various initiatives, including primary care interventions, pharmacist-led programs, academic research, and scientific publications. Attendees will be provided with a concise summary of these pivotal initiatives.

Understanding both the historical and current perspectives on medication adherence in Hungary is invaluable, not only for local stakeholders but also for international observers aiming to draw insights from Hungary's experience. In this presentation, we will shed light on the nation's specific challenges and explore potential lessons that might resonate beyond Hungary's borders.



*Eleanor Murray, Department of Epidemiology,  
Boston University School of Public Health*

## **Adherence-adjustment of randomized trial results is a knowledge problem, not a methods problem**

### **Bio**

Eleanor J Murray, ScD, is an Assistant Professor of Epidemiology at the Boston University School of Public Health. Dr Murray's research is on translational methodology for improving medical and public health decision-making. This new and growing area of research focuses on communicating new methodological developments to researchers and decision makers, and on identifying and solving practical challenges in applying these methodological developments to answer scientific questions. She has published extensively on the use of causal inference methods to adjust for non-adherence in clinical trials, and has written guidelines for designing and conducting pragmatic randomized trials. Dr Murray obtained her ScD in Epidemiology from the Harvard TH Chan School of Public Health. She is an Associate Editor for Social Media at the American Journal of Epidemiology and co-host of the methods podcast Casual Inference.

### **Summary**

Randomized clinical trials (RCTs) can provide important insights into causal effects of medical treatments. But RCTs can also be susceptible to biases which change the meaning, or alter the validity, of the answers they provide. Important questions of interest for patients and providers

include ‘will this medication work for people like me / my patient?’, “will this medication work well if taken perfectly?”, and “will this medication work if taken imperfectly?”. Answering these questions requires that we go beyond the basics of RCT design and incorporate techniques more commonly employed in observational studies. Despite skepticism, estimating patient-centered causal effects such as those adjusted for adherence levels can be done. In this presentation, Dr Murray will provide an overview of patient-centered causal effects and methods for adherence adjustment, including discussion of the types of adherence data needed and statistical tools for obtaining valid estimates of these effects. The presentation will conclude with some remarks on the challenges in communicating adherence-adjusted causal effect information to research and clinical audiences.

# Roundtables

## Roundtable 1:

### Patient engagement in medication adherence research: ESPACOMP-ENABLE joint roundtable

*Cristian Andriciu<sup>1</sup>, Wendy Davis<sup>2</sup>, Mark Duman<sup>3</sup>, Krisztina Tóth<sup>4,5</sup>, Tamás Ágh<sup>6,7</sup>, Liset van Dijk<sup>8</sup>, Francisca Leiva Fernandez<sup>9</sup>, Marie Paule Schneider<sup>10</sup>*

<sup>1</sup>Romanian Federation of Diabetes Associations, Cluj Napoca, Romania. <sup>2</sup>British Heart Foundation, London, UK, <sup>3</sup>MD health-care, Manchester, UK, <sup>4</sup>Bridge of Health Alliance against Breast Cancer Association, Budapest, Hungary. <sup>5</sup>Syreon Research Institute, Budapest, Hungary. <sup>6</sup>Syreon Research Institute, Budapest, Hungary. <sup>7</sup>Center for Health Technology Assessment and Pharmacoeconomic Research, University of Pécs, Pécs, Hungary. <sup>8</sup>Nivel, Netherlands institution for health services research, Utrecht, the Netherlands. <sup>9</sup>Multiprofesional Teaching Unit of Community and Family Care; Andalusian Health Service; Health District Malaga-Guadalhorce; IBIMA-Platform Bionand; University of Málaga, Málaga, Spain. <sup>10</sup>Medication adherence and interprofesional research and teaching group, Institute of Pharmaceutical Sciences of Western Switzerland, University of Geneva

**Aim:** There is broad consensus internationally that engaging patients in medication adherence research from drug development to clinical practice is essential to generate high-level evidence for supporting patients in their treatment and life goals. Still, there are many challenges to engage patients in research projects across countries, research areas, and clinical settings. This roundtable aims to highlight experiences of patient engagement in different countries with a focus on digital solutions, discuss several challenges specific to medication adherence, and explore potential solutions with the audience.

**Rationale:** Internationally, a variety of patient engagement strategies has been developed and used in adherence research. In a dedicated ENABLE/ESPACOMP workshop on November 29<sup>th</sup>, 2023 patient representatives, developers of digital solutions and researchers from different academic settings discussed steps and tasks where patient engagement can enhance the development and implementation of medication adherence digital technology. Thus, within the ESPACOMP society and the ENABLE COST Action, we can take advantage of the networking opportunities to promote and align best practices in this regard.

**Summary:** The roundtable will start with a summary of the results of the workshop of November 29<sup>th</sup>. Next, four patient representatives will share their experiences with patient engagement in an interview setting. Finally, the panel will discuss with the audience about the key adherence-specific challenges highlighted and potential solutions.

#### Timetable:

- 00:00–00:05 Overview of patient engagement approach and introduction of speakers
- 00:05–00:35 Interview with patient representatives: results of November 29<sup>th</sup> and experiences with patient engagement
- 00:35–00:45 Discussion with the audience on ESPACOMP-ENABLE patient engagement initiative