ESPACOMP 2022

MEDICATION ADHERENCE AND PATIENT SAFETY

17th – 19th NOVEMBER 2022
BERLIN

BERLIN

PROGRAMME & ABSTRACT BOOK

ESPACOMP
International Society for Medication Adherence

www.espacomp.eu

Content

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 and Patient Safety.

Venue

Leonardo Royal Berlin Alexanderplatz
Otto-Braun-Straße 90,
10249 Berlin,
Germany

Information / Registration at

www.espacomp.eu
info@espacomp.eu

Conference format

Hybrid.

Conference Organisation & Scientific Committee

Todd Ruppar
Liset van Dijk
Alex Dima
Enrica Menditto
Sara Muchierino
Leah Zullig

The ESPACOMP President 2022

Prof. Dr. Todd Ruppar, PhD, RN
(Rush University, USA)

Todd Ruppar is the John L. and Helen Kellogg Professor of Nursing at Rush University Medical Center in Chicago, Illinois, USA, where he also serves as Assistant Dean for Nursing Science Studies and Director of the PhD program in Nursing Science. Dr. Ruppar is an internationally recognized expert on medication adherence. His work uses both meta-analysis and clinical research methods to quantify the various influences on adherence to cardiovascular medications and improve patient outcomes by developing effective interventions through which patients and providers can work together to address medication non-adherence. Dr. Ruppar also serves as Editor-in-Chief of the Western Journal of Nursing Research.

The ESPACOMP Executive Committee 2022

Filipa Costa
Sabina de Geest
Alex Dima
Rob Heerdink
Dyfrig Hughes
Alpana Mair
Enrica Menditto
Todd Ruppar
Marie-Paule Schneider
Liset van Dijk
Robert Vander Stichele
Bernard Vrijens
Leah Zullig

Local Organizer

Prof. Dr. Martin Schulz, FFIP, FESCP
Director, Department of Medicine, ABDA – Federal Union of German Associations of Pharmacists;
Chairman, Drug Commission of German Pharmacists (AMK);
Director Pharmacy, German Institute for Drug Use Evaluation (DAPI);
Adjunct Professor, Institute of Pharmacy, Freie Universität Berlin

The meeting secretariat

Martina Kozderková
Project manager

C-IN
5. května 65, Prague, Czech Republic
www.c-in.eu

Welcome Word

Dear ESPACOMP Community and Conference Participants,

With great pleasure we welcome you to the 26th ESPACOMP meeting in Berlin, Germany. We are all very pleased that you joined us for this unique event focused on medication adherence and patient safety.

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 100 abstracts were submitted, of which 30 were selected for oral presentations and 74 were confirmed for poster presentation. This includes posters from our late-breaking abstracts, presenting research completed as recently as 3 months ago. The pre-conference educational days have 2 workshops focused on Adherence Data Analysis and Implementation Science.

We are very delighted that world-renowned adherence experts have accepted our invitation to present at this conference. This year, the 7th 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. Marcel Bouvy (University of Utrecht, The Netherlands). Keynote speakers at the conference will be Prof. Dr. Martin Schulz (ABDA – Federal Union of German Associations of Pharmacists), Prof. Dr. Patricia van den Bemt (University Medical Center Groningen), Prof. Dr. Hilary Pinnock (University of Edinburgh).

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. This year, we also have online posters available for registered participants on the conference website. For on-site participants, you will find QR codes in the poster viewing area that will link you to the virtual side of the conference. For onsite and online participants, you will find all information in your account on the ESPACOMP website, including online versions of posters and links to live and recorded conference sessions.

Awards will be presented on Saturday afternoon, 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 tonight's reception and tomorrow night's conference dinner at the historic Hamburger Bahnhof museum.

On behalf of the scientific & organizing committees, we wish you a very inspiring conference and a wonderful stay in Berlin. We thank you for your active participation in the 2022 ESPACOMP meeting!

THE ESPACOMP EXECUTIVE COMMITTEE 2022

Filipa Costa, Sabina de Geest, Alex Dima, Rob Heerdink, Dyfrig Hughes, Alpana Mair, Enrica Menditto, Todd Ruppar, Marie-Paule Schneider, Liset van Dijk, Robert Vander Stichele, Bernard Vrijens, Leah Zullig.

Corporate Members

Venues

Conference location

The on-site meeting will be held at the **Leonardo Royal Berlin Alexanderplatz**, Otto-Braun-Straße 90, 10249 Berlin, Germany.

The 4 star superior hotel is located in the immediate vicinity of Alexanderplatz and the Volkspark Friedrichshain. Experience a new spatial experience and more lightness, supported by historical architecture with art déco elements and cool marble, which has been upgraded with a fresh interior.

The hotel's history

As the medieval city wall (1st Berlin Wall) was still in the area of today's Alexanderplatz, at this point on the way to Bernau there was a vineyard. Later on here settled before the city wall with the George Hospital, St. George's Church (1st building from 1331 to 1779) to around which gradually formed the George suburb. For the 18th Century rapidly expanding city it was built an Akzisemauer (2nd Berlin Wall) to control and customs collection. Here, at the Bernauer road Bernau originated the gate. On 23rd of December 1809 came the Prussian King William III. And his wife Louise returned from exile in Königsberg through this gate into the prussian capital. On this occasion, the Bernauer road was renamed into New King's Road and the gate into Bernauer king's gate. The Akzisemauer was demolished after 1866, only the Brandenburg Gate was preserved.

Grewing rapidly in the second Half of the 19th century, the city stretched out over its old borders, in 1854 St. Bartholomew's Church was built at this location and there was a community school.

During the Second World War the area of Alexanderplatz was destroyed, the place almost entirely by air attacks. Many historic buildings were lost irretrievably, so also the Church of St. George and the public school.

To prepare the necessary construction of new power plants was established in 1951, the VEB energy configuration. In 1953, the planning began for a new building that would bring in its architecture but also reflected the importance of this branch of industry. The architects design team of the bureau for industrial constructions designed a three-blade system with a distinctive

tower-like angle enhancement. Clearly the influence of historicist architecture and design elements of the acquisition of high-rise buildings at the Weberwiese area and the high-rises along Strausbergerplatz created by Hermann Henselmann can be seen. But the architecture of the thirties and the bulking modern with its skeleton structures found in this building again. Equipped with a representative lobby, a ballroom, canteen and a bowling alley the in 1957 finished building is the most outstanding office buildings of that time.

After the fall of the third Berlin Wall in 1989 now the over 30-year-old house in a state of a renovation was urgently needed. At the same time the VEB was no longer energy project in its original form on. In one of the first joint venture with the value concept, the building was redeveloped from scratch and won as a tenant of the Savings Banks and Giro Association and the KABB. Other tenants came in over the years and since 2001 the headquarters of the Federal Police was in this building.

In 2006 when the federal police moved to another site deliberations began on a new meaning to the building and its appropriate use. Both the location and the design and development of the building are ideal for use as a hotel. So now a Leonardo Royal Hotel with 346 rooms, restaurant, banquet, and spa area aroused.

Conference dinner

The Conference Dinner will be held On **Friday, 18. November 2022** from **19:15 at**:

RESTAURANT IM HAMBURGER BAHNHOF

Address: Invalidenstraße 50–51, 10557 Berlin

18:45 Departure by bus

19:15 Dinner

22:00 & 22:30 Return transfers back to Leonardo Royal Berlin Alexanderplatz

Hamburger Bahnhof is the former terminus of the Berlin–Hamburg Railway in Berlin, Germany, on Invalidenstrasse in the Moabit district opposite the Charité hospital. Today it serves as a contemporary art museum, the Museum für Gegenwart, part of the Berlin National Gallery.

The Hamburger Bahnhof's History

The station was built to Friedrich Neuhaus's plans in 1846/47 as the starting point of the Berlin–Hamburg Railway. It is the only surviving terminus building in Berlin from the late neoclassical period and one of the oldest station buildings in Germany.

The building has not been used as a station since 1884, when northbound long-distance trains from Berlin began leaving from Lehrter Bahnhof (now Berlin Hauptbahnhof), just 400 m to the southwest. The original train shed was removed during the 1880s, when the building became an office and apartment complex.

More information about Hamburger Bahnhof available here: https://en.wikipedia.org/wiki/Hamburger_Bahnhof

In-Person Workshop: Implementation Science for Medication Adherence

Thursday, November 17, 9:00 am to 5:00 pm

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 **contextual analysis**, a foundational phase in implementation science. We will position implementation science among other research methodologies first. We will then continue with contextual analysis, which is the basis of subsequent intervention development/adaptation and choice of contextually adapted implementation strategies of implementation science projects. We will provide detailed guidance how to perform a contextual analysis and use a number of relevant medication adherence intervention examples. The session will be highly interactive and will allow ample opportunity for discussion also from own projects and will be invited to present/discuss projects that they are planning or conducting. We will have an open discussion round at the end to determine how to best to further develop support for young researchers in ESPACOMP who are planning or are conducting an implementation science project.

Learning objectives

After the workshop, participants:

- will have knowledge about the theoretical background of implementation science
- know what context is and why it relevant to implement medication adherence interventions
- understand how to plan and conduct a contextual analysis
- understand and map the relevant characteristics of the setting in which the intervention will be implemented

Learning methods

In-person meeting.
The workshop combines theoretical lectures with small group work and plenary discussions, as well as consultation on own planned or ongoing projects.

Target group

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

References

[1] Kostalova B, Ribaut J, Dobbels F, Gerull S, Mala-Ladova K, Zullig LL, De Geest S. Medication Adherence Interventions in Transplantation Lack Information on How to Implement Findings from Randomized Controlled Trials in Real-World Settings: A Systematic Review. Transpl Rev. 2022; 36(1). doi:10. 1016/j.trre.2021.100671

[2] Eccles M, Mittman S. Welcome to Implementation Science. Impl Sci. 2006; 1(1)

Dr. Charlotte Bekker, PhD
Radboud university medical center, The Netherlands

Charlotte Bekker is a biomedical scientist. She is an assistant professor at the Pharmacy Department of Radboudumc (Netherlands). Charlotte is passionate to combat societal challenges and her research interest revolves around establishing sustainable medication use. She leads innovative projects aiming to reduce medication waste, tailor drug dosages to individual patients through shared decision making, and to implement medication adherence interventions. Throughout these projects she uses both effectiveness and implementation science outcomes to speed up the translation process to standard care.

Professor BJF (Bart) van den Bemt, PhD/PharmD/Clinical Pharmacologist

Radboud university medical center, The Netherlands

Professor Bart van den Bemt is clinical pharmacist, clinical pharmacologist and senior clinical scientist at the departments of Pharmacy in the Sint Maartenskliniek and the Radboud University Medical Center in Nijmegen, The Netherlands. Bart is medical manager of the in- and outpatient pharmacy of the Sint Maartenskliniek and head of Research and Innovation of the same hospital.

Bart earned his MSc in pharmacy and his pharmacist's degree at the University of Utrecht. Subsequently he completed his postgraduate qualification as community pharmacist. After several years working in a community pharmacy Bart decided to broaden his experience and started to work as pharmaceutical care-developer for a franchise formula for community pharmacies. Since 2003 Bart is working at the Sint Maartenskliniek.

Due to his experiences as community-, clinical-, outpatient- and formula-pharmacist Bart has extensive experience of pharmacy practice, the development pharmaceutical care programs and development of educational programs. Bart also founded a new Dutch bachelor course Pharmaceutical Consultant and is member of several committees/boards on pharmacotherapy, education, pharmaceutical care and outpatient pharmacy. Bart was president of the European Society of Clinical Pharmacy and vice-president of the Dutch Association of Hospital Pharmacy.

Bart's research interests are focused on Personalized Pharmaceutical Care including medication adherence, e-health, medication review, therapeutic drug monitoring of biologicals, transitional care, medication wastage and implementation of pharmaceutical care interventions in daily care.

Prof. Dr. Liset van Dijk, PhD,

Nivel Utrecht, The Netherlands & University of Groningen

Liset van Dijk, PhD, is research coordinator of pharmaceutical care at Nivel, Netherlands institute for health services research in Utrecht and honorary professor of Pharmacy Health Services Research at the University of Groningen. Her main research interests include adherence to medication, pharmaceutical patient care, patient-pharmacist communication, and policy evaluation. Liset is member of the honorary

editorial board of the journal Patient Preference and Adherence, board member of the "Centrum voor Patiënt en Geneesmiddel" and member of the executive board of ESPACOMP.

Prof. Dr. Sabina De Geest, PhD, RN
University of Basel, Switzerland & KU Leuven, Belgium

Sabina De Geest is a Professor of Nursing and Chair of the Department Public Health of the Faculty of Medicine at the University of Basel (Switzerland), and part-time Professor of Nursing at the KU Leuven in Belgium. Driven by implementation science methodology, her research portfolio focuses on the development of innovative care models partially powered by eHealth. She is a co-founder of the Swiss Implementation science Network (https://impact-dph.unibas.ch/).

Dr. Juliane Mielke,
UNIBAS, Switzerland

Juliane Mielke is a Postdoctoral Research Fellow at the Institute of Nursing Science at the University of Basel, Switzerland. She has a background in nursing and worked for several years in acute care settings in Germany and Switzerland. Juliane completed her PhD in 2022 which included the development of a methodology for studying context in implementation science. Her current research interest focuses on the combination of implementation science, systems science methods and routine data in integrated care research.

Prof. Dr. Leah Zullig, PhD, MPH
Duke University and Durham Veterans Affairs Centre for Health Services Research in Primary Care, USA

Leah Zullig is a health services researcher and implementation scientist. She is an Associate Professor in the Duke Department of Population Health Sciences and an investigator with the Center of Innovation to Accelerate Discovery and Practice Transformation (ADAPT) at the Durham Veterans Affairs Health Care System. Dr. Zullig has experience leading and collaborating on projects using a broad range of research methods to implement, adapt, and scale up evidence-based interventions and practices. Dr. Zullig's overarching research interests address the reduction of healthcare disparities, improving cancer care delivery and quality, and promoting cancer survivorship and chronic disease self-management.

In-Person Workshop: Adherence Data Analysis

Thursday, November 17, 8:45 am to 5:00 pm

Introduction

The 2022 ESPACOMP Data Analysis workshop will take place on November 17, before the annual conference planned for 17-19 November in Berlin, Germany. In previous years, trainees have appreciated an interactive format in which examples of ongoing or planned studies could be discussed with the trainers and the other participants. Interest was also expressed for hands-on practical sessions on estimating adherence from different types of data. In 2022 we will provide **conceptual overviews** as self-paced preparatory materials, **hands-on exercises**, and **interactive** sessions that address different stages of a research project, from study design to data analysis and reporting.

This 1-day workshop is intended for researchers and advanced students interested to estimate adherence from **electronic monitoring (EM),** or **electronic healthcare databases (EHD)**.

It will include new materials adding to previous ESPACOMP courses, but attendance to prior courses is not a requirement; the course could also represent a starting point to adherence research as individual recommendations will be provided for further study.

The course is designed for in-person participation. Preparatory materials will be accessible online in advance.

Learning objectives

By the end of the workshop, participants will be able to:

(1) Use the ABC taxonomy, EMERGE guidelines and TEOS framework to interpret published studies.

(2) Design and report their own study/analysis according to these guides.

(3) Calculate adherence to medications using R for sample datasets containing EM or EHD data.

(4) Describe different practical challenges in adherence study design / data analysis and possible solutions.

Learning methods

Online materials (short video presentations, reading materials, tutorials, R scripts). Data analysis examples will be provided following Open Science principles of transparency and reproducibility. Materials and recommendations for course preparation on R basics, adherence concepts, research design, and R scripts for adherence analysis will be provided.

Interactive discussions. Participants will be invited to propose examples from their own work for discussion, in the form of **case studies** describing the challenges they encounter in their own research. They can refer to either planned, ongoing, or completed research, and are intended to generate an open discussion with the workshop trainers and fellow adherence researchers. The case studies may concern the above-mentioned topics and be presented in 3-6 slides with the following structure:

- Context: study aims, research questions, key study design elements, setting
- Problem(s): what are the challenges you are confronted with?
- Question(s): what would you like to know from the workshop trainers and fellow participants?

Small group and individual work. Participants will work on the example datasets either in small groups or individually, during the afternoon sessions.

Requirements for participation

Upon registration, participants will be asked to provide information on prior training and work experience in statistics (including R & R Studio), relevant work / interest in adherence research, and expectations from the workshop.

Materials will be made available 2 weeks before the workshop. At this moment, participants will be invited to **register for presenting case studies** and questions for group work at least 2 days before the workshop.

Participants will be required to familiarize themselves with the preparatory materials before the workshop. They are required to bring a working computer with an up-to-date installation of R & R Studio at the workshop.

Faculty (in alphabetical order)

Prof. Dr. Samuel Allemann, PhD, RPh,

Assistant Professor, Department of Pharmaceutical Sciences (University of Basel, Switzerland)

Samuel Allemann is Assistant Professor for Pharmaceutical Care at the Department of Pharmaceutical Sciences at the University of Basel. He is active in the development and evaluation of pharmacy-related personalized patient care. In the field of adherence, his research focuses on adherence to polypharmacy and the assessment of temporal adherence patterns from electronic healthcare data.

Prof. Dr. Rebecca Bartlett Ellis, PhD, RN,

Associate Professor, Executive Associate Dean for Academic Affairs, School of Nursing (Indiana University, USA)

Rebecca Bartlett Ellis is an associate professor and the executive associate dean for academic affairs at the IU School of Nursing core schools in Indianapolis, Bloomington, Fort Wayne and Columbus, USA. Her research aims to produce new knowledge to reduce the complexity of medication self-management and improve adherence in people managing multiple chronic conditions. Her research interests lie in the use of sensors and mobile health (mHealth) technologies to measure the socio-cultural contexts and biobehavioral mechanisms related to medication-taking behaviors, adherence and treatment efficacy, and intervene to improve clinical outcomes. Dr. Ellis uses a team science approach and collaborates with researchers from medicine, clinical pharmacology, nursing, communications, electrical engineering, computer science, and user-centered design. She developed the Medication-taking Across the Care Continuum and Adherence-related Outcomes (MACO) Framework, which identifies three contexts in which medication-taking behaviors occur. She has examined provider and system factors that affect patient understanding of medications. She is a named inventor on a patented smart and connected pillbox system designed for intervention and monitoring of adherence.

Dr. Alexandra Dima, PhD, CPsychol,
Senior Research Fellow
(Sant Joan de Déu Research Institute, Spain),

Alexandra L. Dima is a Health Psychology researcher and Senior Research Fellow at the Sant Joan de Déu Research Institute, Barcelona. For the past 15 years, her research has focused on self-management of chronic conditions, including medication adherence, aiming to understand how people adjust psychologically and manage their health, how their health care providers support them in their efforts, and ultimately how self-management support services can be improved. With Dan Dediu and Sam Allemann, she has developed AdhereR, an R package for visualizing medication histories and computing adherence to medications from electronic healthcare databases (www.adherer.eu).

Prof. Dr. Marie Schneider, PhD, RPh,
Chair of Adherence and Interprofessionality
(University of Geneva, Switzerland)

Marie Schneider is a titular professor of medication adherence and interprofessionality at the Institute of Pharmaceutical Sciences of Western Switzerland, University of Geneva, Switzerland. Her research focuses on the long- term management of medication adherence in chronic patients. From 2004 to 2018, she implemented and managed an interprofessional medication adherence program at the Pharmacy of the Department of Ambulatory Care and Community Medicine in Lausanne. Since 2019, she is implementing it in Geneva, at pharma24, an academic-oriented pharmacy at the interface between the hospital and the community. She is the author of over 70 publications on medication adherence.

Dr. Isabella Locatelli, PhD,
Statistician (University of Lausanne, Switzerland)

Isabella Locatelli is statistician at the Center for Primary Care and Public Health (Unisanté) – University of Lausanne. Since 2012, she is Senior Scientist and Lecturer (MER-1) at the Faculty of Biology and Medicine (FBM), University of Lausanne. She has large experience in teaching statistics to medical students and health researchers (Certificates of Advanced Studies). She has methodological competencies in robust statistics, survival analysis, reliability methods, longitudinal models, and epidemiological and demographic methods. Her main applied research areas are the analysis of the length and cost of hospital stays, calculation of prediction scores, statistics for primary care and clinical decision making, and drug adherence estimation using Electronic Monitoring (EM) longitudinal data.

Prof. Dr. Bernard Vrijens, PhD,
Invited professor of Biostatistics (Liège University, Belgium) & CEO, Scientific Lead (AARDEX Group, Belgium)

Bernard Vrijens is CEO and Scientific Lead at AARDEX Group. He is Professor of Biostatistics at Liege University, Belgium. Vrijens holds a PhD from the Department of Applied Mathematics and Informatics at Ghent University, Belgium. He leads research programs investigating (a) the most common errors in dosing using a simple but robust taxonomy, (b) particular dosing errors that can jeopardize the efficacy of a drug, and (c) the optimal measurement-guided medication management program that enhances adherence to medications. Dr. Vrijens is the co-author of seven book chapters, over 100 peer-reviewed scientific papers, and named as inventor on 6 patents

Agenda

08:45–09:00	**Welcome and Review of the Workshop Program**
09:00–10:45	**Study example presentations from participants – part 1**
	2–3 case studies from participants
10:45–11:00	BREAK
11:00–12:45	**Study example presentations from participants – part 2**
	2–3 case studies from participants
12:45–13:45	LUNCH
13:45–15:15	**Interactive didactic session – EHD data**
	Overview of challenges and solutions, with examples and hands-on exercises
15:15–15:30	BREAK
15:30–16:30	**Interactive didactic session – EM data**
	Overview of challenges and solutions, with examples and hands-on exercises
16:30–17:00	**Q&A on adherence measurement**
	Group discussion on conceptual bases of adherence measurement and their practical applications

ESPACOMP Scientific Meeting Program

Pre-Conference workshops

In-Person Workshop: Implementation Science for Medication Adherence

Thursday, November 17, 9:00 am to 5:00 pm

In-Person Workshop: Adherence Data Analysis

Thursday, November 17, 8:45 am to 5:00 pm

Preliminary meeting program

Thursday November 17

17:00–17:30 **Doors Open**

17:30–17:45 **Welcome Word**
ESPACOMP President Todd Ruppar
Overview of OECD Report: The Economics of Patient Safety
Katherine de Bienassis, Organisation for Economic Co-Operation and Development (OECD)

17:45–18:45 **John Urquhart Memorial Lecture**
Prof. Dr. Marcel Bouvy, University of Utrecht
Session Chair: Prof. Dr. Rob Heerdink

18:45–20:00 **Welcome reception (all)**

Friday November 18

08:00–08:30 **Registration**

08:30–08:45 **Welcome and overview of the in-person conference**

08:45–10:00 **Paper Session 1: Medication Adherence in Health Systems**
Session Chair: Prof. Dr. Enrica Menditto

10:00–10:30 Coffee break & poster viewing

10:30–11:15 **Plenary: "Patient Safety in Medication Adherence Trials"**
Prof. Dr. Martin Schulz,
ABDA – Federal Union of German Associations of Pharmacists
Session Chair: Prof. Dr. Marie-Paule Schneider

11:15–12:30	**Paper Session 2: Patients' experiences and determinants of medication adherence** *Session Chair: Dr. Marcia Vervloet*
12:30–14:00	Lunch & poster viewing
14:00–15:15	**Paper Session 3: Medication adherence across conditions** *Session Chair: Dr. Rebecca Bartlett Ellis*
15:15–16:00	**Plenary: "Supporting Medication Adherence During Care Transitions"** *Prof. Dr. Patricia van den Bemt, University Medical Center Groningen* *Session Chair: Prof. Dr. Liset van Dijk*
16:00–16:30	Coffee break & poster viewing
16:30–17:45	**Paper Session 4: Supporting medication adherence** *Session Chair: Prof. Dr. Tinne Dilles*
17:45–18:45	**Early Career Group Networking Session**
18:45	Meet for departure to dinner

Saturday November 19

08:30–09:45	**Paper Session 5: Medication adherence and patient safety** *Session Chair: Dr. Alpana Mair*
09:45–10:15	Coffee break & poster viewing
10:15–11:00	**Plenary: "Implementation Science Issues for Medication Adherence Interventions"** *Prof. Dr. Hilary Pinnock, University of Edinburgh* *Session Chair: Prof. Dr. Sabina De Geest*
11:00–12:15	**Paper Session 6: Research methodology in medication adherence** *Session Chair: Dr. Alex Dima*
12:15–13:30	Lunch & poster viewing
13:30—13:45	**Presentation of Jean-Michel Metry Poster Prize and Early Career Abstract Prize**
13:45—14:45	**ESPACOMP Business Meeting**
14:45—15:45	**ESPACOMP Initiatives, Strategic Plan**
15:45—16:00	**Closure of the meeting**

Paper Session 1
Medication Adherence in Health Systems

Scalability of effective adherence interventions for patients using cardiovascular disease medication: A realist synthesis-inspired systematic review

Hogervorst S, Vervloet M, Adriaanse MC, Zamboni K, Zullig LL, Schoonmade L, Hugtenburg JG, van Dijk L

The presence of medication adherence management courses in European nurse education

De Baetselier E, Dijkstra NE, Sino CGM, Van Rompaey B, Dilles T

From adherence to treatment to adherence to follow-up: paradigm shift of gene therapy for haemophilia

Le Quellec S, Bredeveld D, Coppens M, Pinachyan K

Acceptance and adherence to COVID-19 Vaccine in a Portuguese Population Survey: role of cognitive and emotional representations

Pinho S, Cruz M, Dias CC, Lopes JM, Sampaio R

12-year evolution of immunosuppressant non-adherence in adult kidney trans-plantation recipients: The Swiss Transplant Cohort Study

Meury, P, De Geest, S, Denhaerynck, K, Dickenmann, M, Stürzinger, U, Huynh-Do, U, Binet, F-I, Künzler-Heule, P, Boehler, A, Beerli, N, Ribaut, J

Paper Session 2
Patients' experiences and determinants of medication adherence

Patients' Perspectives And Experiences Of Medication Use In Osteoporosis-Systematic Review of Qualitative Studies

Dey S, Spratt G, Koobasi M, Vleeskens C, Rezae F, Jaure A, El-Haddad C, Kelly A

Patients' Perspectives on Inflammatory Bowel Disease Medication Adherence in Southern New Zealand

Amiesimaka O, Braund R, Aluzaite K and Schultz M

Determinants of daily HIV pre-exposure prophylaxis implementation among men who have sex with men

Gillespie D, de Bruin M, Hughes DA, Ma R, Williams ADN, Wood F, Couzens Z, Jones A, Hood K

Optimising adherence to allopurinol through patient-led self-monitoring urate concentrations: gaining gout patient perspectives

Michael T, Spragg J, Aslani P, Coleshill M, Chan JS, Day R, Stocker S

Objective metrics of habit strength are associated with adherence

Pironet A, Phillips LA, Vrijens B

Paper Session 3
Medication adherence across conditions

Obstacle: determinants of adherence to secondary prevention medications among patients with stroke / transient ischemic attack

Hoarau D, Ramos I, Termoz A, Fernandez V, Allemann SS, Derex L, Schott AM, Viprey M

Adherence to antiretroviral therapy and treatment outcomes among HIV-positive adults in Indonesia: a cross-sectional study

Izzah Z, Tri Pudy Asmarawati TP, Suprapti B, Åberg C, Touw DJ

Adherence to FDA-Approved Medications for Alcohol Use Disorder

Blalock DV, Woolson S, Burns M, Bosworth HB, Dedert EA, Calhoun PS

Longitudinal trajectory modeling to assess adherence to Sacubitril / Valsartan among patients with Heart Failure

Mucherino S, Dima AL, Orlando V, Menditto E

Reinitiation of statins in patients with peripheral arterial disease

Wawruch M, Murin J, Petrova M, Trnka M, Tesar T

Paper Session 4
Supporting medication adherence

A contextual analysis and implementation plan for a pharmacist-led medication adherence program

Kelly A, Bossina S, Chan L, Frade S, Rezae F, Shakir M, Schneider MP

Improving the experience and adherence to adjuvant endocrine therapy after breast cancer: A pilot study

Memoli V, Assan O, Guillaumie L, Lemieux J, Provencher L, Gotay C, de Bruin M, Turcotte V, Lauzier S

Adherence to palbociclib and omitted doses management supported by pharmacometric modeling

Bandiera C, Locatelli I, Courlet P, Cardoso E, Zaman K, Stravodimou A, Sarivalasis A, Aedo-Lopez V, Zurcher JP, Guidi M, Wagner D, Csajka C, Schneider MP

Shared decision making and associated medication adherence in patients with COPD and/or asthma

Achterbosch M, van Dijk L, van Boven JFM

Paper Session 5
Medication adherence and patient safety

Where Are Prescription Medications Stored: An Investigation into Home Medication Management Practices

Gualtieri L, Boschetti R, Rigby M, Shaveet E

From paper-based to electronic prescribing of multidose drug dispensing – a longitudinal study of prescription changes

Josendal AV, Granas AG, Bergmo TS

Medication management during sick days: experiences of patients with and without impaired renal function

Coppes T, Koster ES, Philbert D, van Gelder T, Bouvy ML

Covid-19 pandemic did not impact on therapeutic continuity in chronic cardiovascular diseases in 2020

Olmastroni E, Galimberti F, Iommi M, Rosa S, Catapano AL, Tragni E, Poluzzi E, Casula M

Paper Session 6
Research methodology in medication adherence

Psychometric quality of questionnaires on medication adherence – a secondary analysis

Arnet I, Caloz S, Eickhoff C, Sculz M, Sahm LJ, Allemann SS

Impact of data preparation strategies on antipsychotics adherence estimates using real-world data

Fuente-Moreno M, Aznar-Lou I, Dima AL, Rubio-Valera M, Serrano-Blanco T

Development and evaluation of medication adherence technologies: Generating guidance for ENABLE repository users

Ribaut J, Nabergoj Makovec U, Goetzinger C, Barnestein-Fonseca P, Haupenthal F, Herdeiro MT, Jácome C, Roque F, Smits D, Tadic I, Dima AL

Open and standardised estimation and visualisation of medication adherence: new developments in AdhereR

Dima, AL, Allemann, S, Dediu, D

The development and evaluation of a risk of bias assessment instrument for medication adherence research

Sinnappah KA, Hughes DA, Stocker SL, Wright DFB

Plenary Invited Speakers

Prof. Dr. Marcel Bouvy, University of Utrecht

The pros and cons of (un)forgivingness and other stories; lessons learned from John Urquhart

Abstract: When I was a PhD student, John Urquhart had a certain 'free role' in the coaching team. During our research meetings and in personal encounters he had his own specific 'hobbyhorses'. These often concerned the relationship between the pharmacological properties of medicines and their relationship with the importance of adherence to therapy and the potential for specific dosage forms of administration. Concepts such as forgivingness, chronobiology and the Harter-Peck equation were often discussed. In this lecture, I would like to revisit these concepts and the relationship between pharmacology and adherence.

Short bio: Prof. Marcel L Bouvy (1966) obtained his PharmD at Groningen University in 1992 and his PhD at Utrecht University in 2002. In 2009 he was appointed as professor of pharmaceutical care at the department of Pharmacoepidemiology and Clinical Pharmacology at Utrecht university. Currently he is head of the department of Pharmaceutical Sciences. Since 2016 he is member of the Dutch Medicines Evaluation Board. Marcel was a PhD student when he attended the first lowlands compliance meeting, the predecessor of the European Society for Patient Adherence, Compliance and Persistence (ESPACOMP). Later he was one of the founding members of ESPACOMP. Marcel's research activities focus on patient adherence, clinical risk management, polypharmacy and multimorbidity and include both observational work and evaluations of innovative pharmacy interventions. Marcel is (co-)author of ~500 papers in peer reviewed and national pharmacy journals, both professional and consumer oriented book (chapters) on medicines.

Prof. Dr. Martin Schulz, ABDA – Federal Union of German Associations of Pharmacists

Patient Safety in Medication Adherence Trials

Abstract: Patient safety in medication adherence trials is widely neglected. But, what if the patient experiences side effects and then stops the medication? What happens if a patient's adherence improves, but then that leads to toxicity or adverse effects, also caused by technology? In clinical trials, adherence to study medication is high or even assured – is this true? In addition, different approaches to analyses exist. The ITT principle is the most commonly used approach for the primary analysis of RCTs. It measures the effect of assigning patients to treatment, which includes differences in individuals' adherence. Analyses that adjust for nonadherence (PP, AT), estimating the effect of receiving a treatment are challenging but may provide important information to complement (side) effects estimated from the ITT approach. Finally, medication adherence per se is not a clinical outcome and we should, therefore aim to improve adherence to appropriate medication only.

Short bio: Martin is the Director, Department of Medicine, ABDA - Federal Union of German Associations of Pharmacists (since 2008), Chairman, Drug Commission of German Pharmacists (since 2009), Director Pharmacy, German Institute for Drug Use Evaluation (since 2002), and Adjunct Professor Institute of Pharmacy, Freie Universität Berlin. He studied Pharmacy (1978–1983) and Medicine (1984–1986) and received a PhD 1988 in pharmacology (University of Hamburg). He is Board Certified in Pharmacology (1989) and as a Drug Information Specialist (1993). Research interests: medication effectiveness (adherence/safety) and pharmacoepidemiology. He has published over 550 papers (>100 peer-reviewed) and presented more than 500 talks. He is a Honorary Member of the Pharmaceutical Care Network Europe (PCNE) and received Fellowships from the European Society of Clinical Pharmacy (FESCP) and the International Pharmaceutical Federation (FFIP). In 2013, he received the FIP Distinguished Practice Award and in 2020 the highest Pharmacy Practice Award, the André Bédat Award.

Prof. Dr. Patricia van den Bemt,
University Medical Center Groningen

Supporting medication adherence during care transitions

Abstract: Most hospitalized patients end up leaving the hospital with more medication than they used before. Hospitals focus on optimizing medication safety for the patient while in hospital. However, patients spend most of their time at home and are often puzzled regarding the added medication and how to use it. This carries the risk of medication non-adherence. But there is a solution: care transitions offer great opportunities to support medication adherence and even the hospitalization itself can be used to familiarize patients with newly prescribed medication. This presentation will focus on potential interventions to improve medication adherence during the care transitions hospital admission and discharge.

Short bio: Prof. Dr. P.M.L.A. (Patricia) van den Bemt is a hospital pharmacist working as head of the section patient care in the department of Clinical Pharmacy and Pharmacology of the University Medical Center Groningen in the Netherlands. She is also appointed as a professor in clinical pharmacy, in particular pharmaceutical health services research. In addition, she is an epidemiologist and clinical pharmacologist. Her research focuses on medication safety, and she has published over 150 peer reviewed papers. She is a member or chair of several Dutch committees, among which the Academic Network of Northern Pharmacies and the Scientific Advisory Board of the Royal Dutch Pharmacists Association.

Prof. Dr. Hilary Pinnock, University of Edinburgh

Promoting medication adherence: complex interventions and challenging implementation

Abstract: Promoting medication adherence is a complex intervention. Implementation is challenging requiring consideration of the needs of the patient for information, understanding and acceptance of their condition, the skills of the professional in identifying the challenges and supporting behaviour change, and the routines and culture of the organisation which can enable or inhibit promotion of adherence. Crucial to successful implementation is recognising the impact of national policy, socioeconomic and local context on how healthcare is provided, as well as acknowledging the beliefs and cultural influences on how individuals live with and manage their condition. Typically embedded within the broader concept of supported self-management, this presentation will use the asthma as an exemplar condition in which adherence to regular medication is often poor, and highlight specific implementation strategies shown to be effective.

Short bio: Hilary Pinnock is Professor of Primary Care Respiratory Medicine, at the University of Edinburgh and a family doctor in Whitstable, Kent. She leads programmes of work in the Asthma UK Centre for Applied Research and the RESPIRE NIHR Global Health Research Unit on Respiratory Health. Her research interests include the delivery of care within the 'real-life' primary care setting including implementing supported self-management for asthma, remote consulting and telehealth for respiratory disease, talking therapies to help people with COPD and depression, supportive care for people with severe COPD. She is Chair elect of the Education Council of the European Respiratory Society, and actively involved with the International Primary Care Respiratory Group and the UK Primary Care Respiratory Society. She has been a member of the BTS/SIGN British Asthma Guideline Development Group, and is an Associate Editor of npjPrimary Care Respiratory Medicine.

Oral Presentations

Paper session 1. Medication Adherence in Health Systems

ESPACOMP-22-232

Scalability of effective adherence interventions for patients using cardiovascular disease medication: A realist synthesis-inspired systematic review

Stijn Hogervorst[1,2], Marcia Vervloet[3], Marcel C. Adriaanse[1,2], Karen Zamboni[4], Leah L. Zullig[5,6], Linda Schoonmade[7], Jacqueline G. Hugtenburg[2,8], Liset van Dijk[3,9]

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Introduction: Upscaling of medication adherence interventions to routine care is still challenging.

Aim: This realist theory-inspired review aimed to assess which intervention aspects are potentially important for the scalability of effective cardiovascular disease (CVD) medication adherence interventions and how they are reported in effectiveness studies.

Methods: A total of 4097 articles from four databases were screened of which ultimately 31 studies were included. Relevant information on scalability was extracted using a theoretic framework based on the scalability assessment tool used in the QUALIDEC study for the following domains: (i) innovation, (ii) implementers and patients, (iii) adopting organizations and health system, and (iv) socio-political context. Extracted articles were analysed for themes and chains of inference, which were grouped based on commonality and source of evidence to form new hypotheses.

Results: Six different domains relevant for scalability of adherence interventions were identified: (1) Complexity of the intervention; (2) training; (3) customization of the intervention; (4) drivers of the intervention; (5) technical interventions; and (6) stakeholder involvement.

Discussion: These six domains might be useful for the development of more scalable interventions by bridging the gap between research and practice. Data relevant for scalability is not well reported on in effectiveness trials for CVD medication adherence interventions and only limited data on scalability has been published in additional papers. We believe the adoption and reach of effective CVD medication adherence interventions will improve with increased awareness for the necessity of scalability in all phases of intervention development.

ESPACOMP-22-264

The presence of medication adherence management courses in European nurse education

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Aim: To describe the presence of nurses' responsibilities including medication adherence management (MAM) and related competences in European nursing curricula at different educational levels and students preparedness to achieve competences in clinical practice.

Methods: Quantitative cross-sectional survey. Final year nurse students of level 4 to 7 from 14 European countries participated.

Results: 1807 students participated (level 4/5, 8%; level 6, 80%, level 7, 12%) of which 79% indicated that pharmaceutical care was insufficiently present in their curriculum and 23% felt sufficiently prepared to achieve competences in clinical practice. The majority of students (66%) did consider MAM as sufficiently present (level 4, 73%; level 5, 65%; level 6, 67%; level 7, 57%). In level 5 curricula MAM was more absent than in other programs (level 4, 4%; level 5, 10%; level 6, 6%; level 7, 4%). Taking into account a participation number of at least 40 nurse students per level, 30-59% of the students of 4 countries (Belgium, level 5/6; Greece, level 6; Italy, level 6/7; Spain, level 6) indicated that MAM was insufficiently present or even absent in the curricula.

Discussion: This study indicates that the nursing responsibility 'medication adherence management' is present in nursing education but its presence and nursing competences could be improved. Nurses can with sufficient education support patients in improving adherence to medication therapy.

Conclusion: Although medication adherence management is present in current nursing curricula the embedding of the responsibility should be extended.

ESPACOMP-22-296

From adherence to treatment to adherence to follow-up: paradigm shift of gene therapy for haemophilia

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Introduction: First Gene Therapy (GT) products in haemophilia may be approved soon.

Aim: To design a patient journey for haemophilia including GT to understand patient barriers and motivations.

Methods: A mixed system-approach including ethnographical interviews of patients, family and health care professionals (HCPs) with experience in haemophilia care with or without experience in GT clinical trials, market research, literature analysis, peer-to-peer discussions were used to identify barriers and motivations along GT journey, including for adherence to follow-up, which is likely to be a regulatory requirement.

Results: Insights from 399 patients and 270 HCPs in 7 different European countries were gathered. Twelve steps were identified from diagnosis to long-term follow-up. While it is known that lack of adherence to current standard-of-care for haemophilia is mainly due to the burden and complexity of lifelong IV infusions

(prophylaxis), one of major considerations for GT is the intense short-term monitoring, and potentially lifelong long-term monitoring even when near-normal coagulation factor levels are achieved after GT. Continuous education of both patients and HCPs, and patient experience sharing were identified as conditions to help considering GT in a well-informed and safely manner.

Discussion: Multidisciplinary perspective for designing the patient journey for haemophilia including GT was key to define the treatment-related elements impacting monitoring adherence, a key factor of patient safety.

Conclusion: Designing a patient journey identified that the paradigm shift of GT for haemophilia also applies to the concept of adherence, from adherence to treatment

ESPACOMP-22-274

Acceptance and adherence to COVID-19Vaccine in a Portuguese Population Survey-role of cognitive and emotional representations

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Introduction: The recognition of the phenomenon of vaccine hesitation is of utmost importance, particularly during the COVID-19 pandemic.

Aim: Herein, we aim at evaluating COVID-19 vaccine acceptance in the Portuguese population and understanding COVID-19 and vaccine cognitive and emotional representations.

Methods: A cross-sectional online survey was conducted between 27th December 2020 and 27th January 2021. The questionnaire assessed: cognitive and emotional COVID-19 representations; COVID-19 vaccine status; cognitive and emotional representations of vaccination; and the perceived necessity and perceived concerns about the COVID-19 vaccine.

Results: Of 3158 participants, 91% accepted taking a COVID-19 vaccine. Compared with men, women (71.3%) more often considered that the pandemic has affected their lives ($p<0.001$), are most concerned with being infected ($p<0.001$) and feel emotionally disturbed by the pandemic situation ($p<0.001$). Among many results, it is important to highlight that perceiving oneself as extremely informed about the infection is not associated with greater vaccine acceptance (OR = 1.534 [1.160-2.029]; ($p=0.003$). Age groups between 25 and 65 years old and with lower education level are at higher risk of not accepting the vaccine (OR = 2.799 [1.085-7.221]; ($p=0.033$). Being more concerned about taking the vaccine lowers its acceptance (OR = 4.001[2.518-6.356]; ($p<0.001$).

Conclusion: It is of extreme importance that public health messages be adapted to the different characteristics of the population.

ESPACOMP-22-233

12-year evolution of immunosuppressant non-adherence in adult kidney trans-plantation recipients: The Swiss Transplant Cohort Study

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Aim: Life-long adherence to immunosuppressants is essential for optimal outcomes after kid-ney transplantation (KTx). Available longitudinal data on the evolution of immunosuppressant adherence are limited to seven years post-KTx showing an increase in non-adherence over time. We describe the evolution of non-adherence (implementation dimension) from pre- to 12 years post-KTx.

Methods: We used data of adult KTx-recipients in the prospective multicenter open Swiss Transplant Cohort Study (enrollment 2008-2021). Non-adherence (implementation dimension) to medications (pre-transplant) and immunosuppressants (post-transplant) was assessed us-ing one item (6-point Likert-type-scale) of the Basel Assessment of Adherence to Immuno-suppressive Medication Scale (BAASIS©) pre-transplant, six months post-transplant, and yearly thereafter until 12 years. Data were analyzed descriptively using frequencies, propor-tions, central tendency and dispersion. Evolution of non-adherence was visually presented in a figure.

Results: We included adherence data of 2'310 KTx-recipients (63.8% male; mean age 52.6, SD_13.6). Pre-transplant non-adherence to medications was 30.2% (n=2'310). Post-KTx, im-munosuppressant non-adherence increased from 8.9% 6-months (n=2'025), to 12.3% 1-year (n=1'862), 15.7% 5-years (n=1'099), 22.3% 10-years (n=269), to 25.0% 12-years post-transplant (n=44).

Discussion: Non-adherence to immunosuppressants increases after KTx with one in four pa-tients being non-adherent 12 years post-KTx. Non-adherence must be monitored as the fifth vital sign throughout transplant follow-up and adherence enhancing interventions must be im-plemented.

Conclusion: Our unique longitudinal dataset highlights the increasing magnitude of immuno-suppressants non-adherence post-KTx. Since non-adherence is a major risk-factor for poor outcomes, adherence management is crucial in post-transplant follow-up.

Paper Session 2. Patients' experiences and determinants of medication adherence

ESPACOMP-22-278

Patients' Perspectives And Experiences Of Medication Use In Osteoporosis-Systematic Review of Qualitative Studies

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Aim: Adherence to anti-osteoporotic medications is suboptimal (e.g. 50-70% discontinue therapy within 1 year), and is challenged by diverse patient-related, condition-related, socioeconomic and systemic factors. We aimed to describe patients' perspectives and experiences of medication use in osteoporosis.

Methods: Databases (MEDLINE, Embase, PsycINFO and CINAHL) were searched for qualitative studies reporting on the perspectives of adults aged 18 years and over with osteoporosis and/or osteopenia on anti-osteoporotic medication, in any language until February 2022. Thematic synthesis was used to analyse the data.

Results: From 45 articles with 1047 adults, four themes were identified: -Denying and deprioritising the diagnosis (accepted as normal ageing, giving higher priority to comorbidities, contradicting the stereotype, individualised risk outweighing benefits); -Disoriented by healthcare relationships (without agency in decision-making, confused by conflicting advice, intimidated by lacking information); -Fear of jeopardising autonomy and normality (distressed by deterioration and dependency, unnatural and toxic, overwhelmed by regimen burden, deterred by debilitating adverse effects); -Motivated by affirmative support (gaining confidence in empathy and encouragement from clinicians, sharing experiences and responsibility, assured by observed improvements, prepared with knowledge for self-management)

Conclusion: Patients were motivated by strong support systems and garnering knowledge about their condition, medications and managing adverse effects. However, trivialising disease severity, concerns about compromising lifestyle and strained healthcare relationships deterred patients from initiating, implementing and/or persisting with medications. Offering shared decision-making, tailored education and continued emphasis on treatment benefits may empower consumers and promote long-term adherence and improved outcomes.

ESPACOMP-22-271 VIRTUAL

Patients' Perspectives on Inflammatory Bowel Disease Medication Adherence in Southern New Zealand

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Introduction: Previous research has indicated that a third of patients with Inflammatory Bowel Disease (IBD) in southern New Zealand (NZ) have poor medication adherence (MA).

Aim: This study explored southern NZ IBD patients' experiences to determine factors that influence MA and recommend interventions to aid the patients' medication adherence.

Methods: Two focus group discussions were held with seven IBD patients (six women/one man) in Otago, NZ. Reflexive thematic analysis from a 'direct realist' viewpoint was used to analyse the data.

Results: Data were analysed in three segments: perceptions, experiences, and support. Participants perceived MA as a duty they fulfilled that was very important to their wellbeing. The participants' MA was centred around a routine that required proactivity to maintain. MA was negatively impacted by side effects and regimen factors including (high) pill numbers/dose frequency, and getting refills was framed as challenging; whilst healthcare professionals were presented as major MA facilitators. Lastly, the support structures identified included family, friends and colleagues alongside targeted health system factors e.g. medication subsidies.

Discussion: Multifaceted factors spanning those related to the patients, their socioeconomic status, the disease, IBD therapy and the health system were presented as inhibiting and/or facilitating IBD patients' MA in southern NZ.

Conclusion: Patients with IBD in southern NZ highlight the need for system cohesion and multifactorial interventions/policies to improve medicines access and adherence for better clinical and social outcomes.

ESPACOMP-22-251

Determinants of daily HIV pre-exposure prophylaxis implementation among men who have sex with men

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Introduction: The nature of HIV risk means measuring adherence to HIV pre-exposure prophylaxis (PrEP) requires concurrent measures of medication use and potential risk exposure. Investigating determinants of non-adherence to PrEP therefore requires a definition which incorporates both of these aspects.

Aim: To investigate the determinants of PrEP implementation among daily PrEP users in Wales.

Methods: We conducted an ecological momentary assessment study of individuals accessing oral PrEP through sexual health clinics in Wales. Daily PrEP use was ascertained via electronic monitors and condomless sex ascertained via brief web surveys. PrEP implementation was defined as: 1. Daily use; 2. Coverage of condomless anal sex (CAS) episodes by daily PrEP. We fitted regression models to study several determinants and their associations with our two definitions.

Results: We included 57 participants covering 5,463 person-days. Participants took PrEP on 67.6% of observed days, covering 53.9% of CAS episodes. We found associations between PrEP use and older age, higher anticipated stigma, and intentions to continue PrEP. An STI diagnosis was associated with lower odds of PrEP use. Associations were identified between a lack of PrEP coverage and an STI diagnosis, anticipated regret around missing a dose, and a perception that similar individuals take PrEP as prescribed.

Discussion and conclusion: Several determinants of poor PrEP implementation were identified. These results provide a good basis for the development of interventions to promote PrEP adherence, with an emphasis on maximising coverage of CAS episodes by PrEP. im.

ESPACOMP-22-235 VIRTUAL

Optimising adherence to allopurinol through patient-led self-monitoring urate concentrations: gaining gout patient perspectives

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Introduction: Despite poor adherence to allopurinol, an understanding of the facilitators and barriers to allopurinol adherence is lacking.

Aim: To understand the facilitators and barriers of adherence to allopurinol at initiation, implementation and discontinuation and identify strategies to improve adherence.

Methods: Semi-structured interviews were conducted with people with gout (n = 26), previously or currently taking allopurinol. De-identified transcripts were thematically analysed.

Results: Reluctance to initiate long-term medication, lack of trust in healthcare professionals (HCPs) and considering allopurinol unnecessary prevents initiation. Continuing to experience gout flares and insufficient urate monitoring are barriers to implementation and facilitate discontinuation. A belief that allopurinol is necessary and trust in HCP advice facilitate initiation. Regular urate monitoring and experiencing fewer gout flares reinforces this belief, promoting implementation and discouraging discontinuation. Paradoxically, over time the absence of gout flares generates the belief that allopurinol is no longer necessary, facilitating discontinuation. Education to better understand the benefits of allopurinol and regular urate monitoring were suggested to improve adherence. Self-monitoring urate was proposed to enable shared gout management decision making.

Discussion: Perceptions of the effectiveness and necessity of allopurinol influences intentional adherence across the three stages. Necessity is influenced by trust in HCPs, frequency of gout flares and understanding that allopurinol prevents gout flares.

Conclusion: Strategies that provide regular feedback on urate control, ensure patients understand the benefits of allopurinol and promote shared decision-making can improve gout management, including adherence to allopurinol.

ESPACOMP-22-225

Objective metrics of habit strength are associated with adherence

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Introduction: Taking medication habitually is associated with good medication adherence. Conventional habit strength metrics are self-reports of behavioral automaticity, which have widely recognized limitations. Several objective metrics of medication-taking habit strength have been proposed, based on medication adherence data collected by electronic monitoring.

Aim: The present work aims at exploring the correlation between objective habit strength metrics and objective adherence on a large dataset.

Methods: Electronic monitoring data from subjects following a once-daily regimen and monitored for ≥14 days were extracted from the MEMS® Adherence Knowledge Centre. Five objective habit strength metrics were computed from each subject's medication intake history. The quality of the dosing regimen implementation was measured using the proportion of days with exactly 1 event. Non-initiation and non-persistence are not part of the adherence evaluation in this research.

Results: 15,950 subjects met eligibility criteria. Four of the five objective habit strength metrics were associated to objective adherence (Spearman's r=0.55-0.71, p<0.001); one was not (r=-0.01, p=0.38). The proportion of the variance in adherence explained by the 4 best ranked habit metrics is >30%.

Discussion: The objective metrics of habit strength evaluated in this study are substantially associated with objective adherence. Results indicate that, among the numerous factors influencing medication adherence, habit strength is an important factor associated with the implementation of a dosing regimen.

Conclusion: Objective metrics of habit strength are correlated to objective adherence and have advantages to self-report measures, allowing to better identify patients who may benefit from habit-building support.

Paper Session 3. Medication adherence across conditions

ESPACOMP-22-291

Obstacle: Determinants Of Adherence To Secondary Prevention Medications Among Patients With Stroke/Transient Ischemic Attack

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Introduction: Secondary Prevention Medications (SPM) reduces the risk of recurrence following an ischemic stroke (IS) or a transient ischemic attack (TIA). Nethertheless, its effectiveness requires a lasting good medication adherence.

Aim: This study aims to assess patients' adherence to SPM over 3 years by combining prescription and dispensation data and explores factors of non-adherence from the five dimensions of the World Health Organisation.

Methods: Patients were recruited prospectively between november 2015 and december 2016 among patients of the STROKE69 cohort (France). Adherence was measured using the CMA7 index. Its calculation relied on dispensation data (administrative claim data) and prescription data (patients' auto-reported data). Patients with a CMA/compositeCMA ≥ 90 were considered as adherent. Determinants of adherence were collected from medical records and patients' surveys.

Results: 341 patients were included (54,5% men; median age: 70). 57,5% were admitted for IS. 199 patients had available data at 12, 24 and 36 months. The proportion of patients with an overall cCMA ≥ 90 remained stable over time, around 66%. For antiplatelet agents, proportion of adherent patients decreased from 92/130 (71%) at 12 months to 73/130 (56%) at 36 months (p=0.004). This proportion also decreased for hypolipidemic agents (82% vs 64%, p=0.003). Analysis of factors associated with patients' non-adherence is in progress.

Discussion and conclusion: This study showed that overall medication adherence remained stable over time. However, analysis of adherence to specific therapeutic classes revealed significative declines.

ESPACOMP-22-290

Adherence to antiretroviral therapy and treatment outcomes among HIV-positive adults in Indonesia: a cross-sectional study

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Introduction: Maintaining adherence to antiretroviral therapy (ART) is critical to achieve and sustain viral suppression in HIV-infected patients.

Aim: To assess adherence and treatment outcomes during the implementation of ART.

Methods: A cross-sectional study was performed in adult HIV-infected patients receiving ART for at least 6 months in a teaching hospital in Surabaya, Indonesia. The Indonesian version of the validated self-reported adherence (SERAD) questionnaire was used to recall ART use during the last week, month, and three months. Logistic regression analysis was used to identify factors affecting adherence and treatment outcomes (HIV-1 RNA viral load ≤1000 copies/mL and CD4 >200 cells/μL) with $p<0.05$ considered significant.

Results: Ninety five patients (male: 70.5%; duration of ART >24 months: 57.9%) completed the study. Viral suppression and improved CD4 were observed in 83.2% and 68.4% of the subjects, respectively. An adherence rate of ≥95% was considered highly adherent and observed in 89.5%, 88.4%, 95.8% of the subjects in the past week, month, and three months, respectively. WHO clinical stage III or IV and low adherence were significantly associated with detectable viral load and low CD4; ≥95% adherence rate was needed to achieve the outcomes. Forgetfulness and falling asleep were the most common reasons reported for missing doses or not respecting intake conditions.

Conclusion: Self-report is useful to assess adherence and reasons for nonadherence; large scale studies are needed to evaluate the validity of the adherence threshold in this population.

ESPACOMP-22-257 VIRTUAL

Adherence to FDA-Approved Medications for Alcohol Use Disorder

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Introduction: Medications for Alcohol Use Disorder (AUD) are effective in reducing harm associated with excessive alcohol intake but are highly underprescribed. Because of a focus on underprescription, little attention has been paid to adherence once prescribed.

Aim: Examine percent days covered (PDC) in the implementation phase of adherence to medications for AUD, as well as demographic and clinical predictors of PDC.

Methods: A retrospective cohort of N=839,947 patients receiving care in the United States (US) Veterans Affairs (VA) system with elevated levels of alcohol use was constructed, including demographic and clinical characteristics. Data were pulled on the three medications approved by the US Food and Drug Administration (FDA), including disulfiram, naltrexone, and acamprosate.

Results: A small proportion of patients with elevated levels of alcohol use had a diagnosis of AUD in their electronic health records (N=24,081, 2.9%). Naltrexone was the most commonly prescribed AUD medication (N=21,932, 2.6%) followed by acamprosate (N=4,217, 0.5%), and then disulfiram (N=2,169, 0.3%). Adherence rates in the implementation phase for these medications varied meaningfully and were predicted by several demographic and clinical characteristics of patients.

Discussion: Only a small fraction of these patients were prescribed FDA-approved medications for AUD. Even still, adherence in the implementation phase varied meaningfully and were associated with several demographic and clinical features.

Conclusion: Though prescription rates are low, investigating adherence to AUD medications could be used to target or tailor medication adherence interventions.

ESPACOMP-22-246

Longitudinal trajectory modeling to assess adherence to Sacubitril/Valsartan among patients with Heart Failure

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Introduction: Measuring adherence from electronic healthcare data by single estimates over extended periods does not capture its dynamic nature. Trajectory modeling may provide insights into long-term changes.

Aim: We estimated distinct Sacubril/Valsartan (Sac/Val) adherence trajectories and factors associated with each trajectory, focusing on two adherence phases: implementation and persistence.

Methods: Subjects with incident heart failure starting Sac/Val in 2017-2018 were identified from the Campania Regional Database for Medication Consumption, a data warehouse of ~6 million inhabitants. We used R (v4.0.1) to estimate patients' Continuous Medication Availability (CMA9; AdhereR) during 12-month periods over 1 year. We selected groups with similar CMA9 trajectories (Calinski-Harabasz criterion; package). We performed multinomial regression analysis (package) to assess the relationship between demographic and clinical factors and adherence trajectory groups.

Results: The study cohort included 4,455 subjects (mean age: 69.1±12 years), 70% male. Group-based trajectory modeling identified 4 distinct adherence trajectories: High Adherence (42.6% subjects; CMA Mean 0.91±0.08), Partial Drop-off (19.6%; CMA Mean 0.63±0.13), Moderate adherence (19.3%; CMA Mean 0.54±0.11), Low adherence (18.4%; CMA Mean 0.17±0.12). Polypharmacy was associated with partial drop-off adherence (OR 1.194, 95%CI 1.175-1.214) while occurrence of _1 HF hospitalizations (OR 1.165, 95%CI 1.151-1.179) or other hospitalisations (OR 1.481, 95%CI 1.459-1.503) were associated with low adherence.

Conclusion: Treatment complexity in terms of polypharmacy and multimorbidity impacts negatively on adherence to HF treatment. Early identification of complex situations may predict nonadherence risk and guide a patient-tailored approach.

ESPACOMP-22-206

Reinitiation of statins in patients with peripheral arterial disease

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Aim: The aim of our study was to analyse reinitiation of statin treatment in patients with peripheral arterial disease (PAD) who were non-persistent with statins and to identify patient- and medication-related characteristics associated with reinitiation.

Methods: Our study cohort (n=5743) included PAD patients who became non-persistent with statins during the 5-year follow-up period. Reinitiation was defined as the first statin prescription recorded after a 6-month treatment gap period which was used to define non-persistence. To analyse predictors of reinitiation, Cox regression with time dependent covariates was applied. The database of the General Health Insurance Company represented a source of data for our study.

Results: Within the group of 5,743 non-persistent patients (aged 65.1 ± 9.8 years), 2,492 (43.4%) patients reinitiated statin treatment. Increasing age, general practitioner as index prescriber, being a new statin user and prescription of loop diuretics decreased patient´s probability of reinitiation. On the other hand, increasing overall number of medications, myocardial infarction during non-persistence and high intensity statin treatment were associated with reinitiation.

Discussion and conclusion: Patients with decreased probability of reinitiation require intensive motivation for reinitiation of statin treatment. In these patients, special attention should be paid to the improvement of their persistence with statin treatment.

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Paper Session 4. Supporting medication adherence

ESPACOMP-22-303

A contextual analysis and implementation plan for a pharmacist-led medication adherence program

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Aim: Medication non-adherence is a complex issue for people with gout, a common, painful, and highly treatable condition. Our aim is to improve adherence (including all phases using ABC taxonomy) and health outcomes of people with gout through the implementation of a co-designed pharmacist-led medication adherence program.

Methods: Multi-stakeholder semi-structured interviews (using Consolidated Framework of Implementation Research and implementation mapping) are being conducted. We use frameworks to guide behaviour change (COM-B) . Thematic synthesis will be used to analyse the data, in collaboration with a consumer reference group.

Results: From May to July 2022, we have conducted 32 interviews with patients/caregivers, rheumatologists, pharmacist, executive hospital leaders and policy makers, and international adherence and gout experts. Patient/caregiver suggestions included reducing stigma surrounding gout, providing clear education (diet, exercise and medications) through culturally-proficient health professionals, considering their co-morbidities and multiple medications, and broader community education and prevention strategies. Health professionals/leaders and policy makers emphasised the need for relationship building and clear communication between Pharmacy and Rheumatology, upskilling all staff in medication adherence to reduce the burden on the specialised adherence service, and demonstrating a values-based healthcare approach to advocate for long-term funding.

Discussion/Conclusion: Our implementation science approach will engage local stakeholders and policymakers throughout the trial to provide a contextually appropriate intervention that addresses barriers to service provision, so that health professionals are able to adopt best practices to support medication adherence faster.

ESPACOMP-22-285

Improving the experience and adherence to adjuvant endocrine therapy after breast cancer: A pilot study

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Aim: SOIE program includes an educational group session, consultations with nurse navigators, and online chat sessions to support breast cancer women with adjuvant endocrine therapy (AET). This program was pilot-tested to assess its effect on factors hypothesized to influence AET adherence.

Methods: A one-year pilot RCT was conducted among women initiating AET. Psychosocial factors hypothesized to influence AET adherence based on the Theory of Planned Behavior (intention to persist with AET -main outcome, attitude, subjective norm, behavioral control), additional constructs (knowledge, social support, anticipated regret, coping planning), and adherence were measured by questionnaires. Groups were compared using models with generalized estimating equation.

Results: 106 women were randomized (SOIE:52; control:54). Intention was high in both groups over the 12-month follow-up. Patterns over time were not statistically different between groups for intention (group*time interaction: p-value=0.701). Patterns over time were statistically different for knowledge (p-value=0.002) and coping planning (p-value=0.016). Compared to the control group, higher proportions of SOIE women reported perfect implementation in the last month (93.5%vs73.5%, p-value=0.013) and feeling supported with AET (95.8%vs76.0%, p-value=0.019).

Discussion: SOIE did not influence the intention to persist with AET. However, the program enhanced AET implementation and made women feel better informed, prepared, and supported with the treatment.

Conclusion: Among these women who were highly motivated to persist with AET, the primary benefits observed for this one-year program were related to supporting women in their experience with the treatment.

ESPACOMP-22-210

Adherence to palbociclib and omitted doses management supported by pharmacometric modeling

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Aim: We evaluated palbociclib (an oral cyclic chemotherapy) implementation component of adherence and its association with pharmacokinetics (PK) and neutropenia.

Methods: Metastatic breast cancer (MBC) patients on palbociclib participated in a 1:1 randomized, controlled intervention and used electronic monitors (EM). Intervention was a 12-month interprofessional medication adherence program with monthly motivational interviews with a pharmacist. Implementation was compared between groups using generalized estimating equation models adjusted for covariables. Model-based palbociclib PK and neutrophil profiles were simulated over 3 cycles in 1000 patients under two scenarios: (A) optimal implementation, (B) 2 doses omitted and caught up at the end of cycle.

Results: At 6 months, implementation was slightly higher and more stable in intervention (n=19) than in control (n=19) patients (99.2% and 97.3%, _1.9%, IC95% 1.1-2.9). The impact of the intervention was larger in intervention patients diagnosed with MBC for >2 years (_3.6%, 95%CI 2.1-5.4%), patients who received >4 cycles before inclusion (_3.1%, 95%CI 1.7-4.8%) and patients older than 65 (_2.3%, 95%CI 0.8-3.6%). Simulations showed that 25% patients have neutropenia grade ≥3 during the following cycle in scenario (A) versus 30% in (B).

Discussion: Patients older than 65 and those with longer treatment and disease experience were at higher risk for suboptimal implementation. OFF-period length reduction due to caught-up doses may lead to higher risk of neutropenia and subsequent inappropriate dose reduction.

Conclusion: Patient education and cycle monitoring along with PK measurements should help clinicians to improve prescription and decrease toxicity.

ESPACOMP-22-205

Shared decision making and associated medication adherence in patients with COPD and/or asthma

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Aim: To assess the level of shared decision making (SDM) in patients with asthma/COPD in the Netherlands, its association with medication adherence and underlying mechanisms.

Methods: Cross-sectional survey using validated questionnaires. The survey was distributed among patients who used COPD/asthma medication through community pharmacies. SDM was assessed using the SDM-Q-9 and adherence (the implementation construct) with the TAI-10 questionnaire. The feeling of competence (PCS), relatedness (IOS) and feeling of autonomy (HCCQ) from the Self-Determination Theory were proposed as mediating variables for multivariate regression analyses.

Results: From the included patients (n=396 out of 2904 approached), 55% had asthma, 33.3% COPD and 15.7% had both asthma and COPD. A moderate score of 26.7 (SD 12.1) on the SDM-Q-9 (scale 0-45) was found and 58.8% of the patients (TAI<50) were marked as non-adherent. No significant correlation (r=0.045) was found between SDM and medication adherence. The mediating variables correlated weak yet positively with SDM, but not with medication adherence.

Discussion: A representative and heterogeneous patient sample was obtained. Nevertheless, non-response bias and response bias may have occurred. More importantly, the previous assumed and validated relationship between SDM and mediation adherence could not be confirmed.

Conclusion: SDM as experienced by patients with asthma/COPD has not yet been fully applied in daily clinical practice. This might be a reason why no relationship with adherence was found. More research is necessary into this relation and possible underlying mechanisms, e.g. using qualitative in-depth interviews.

Paper Session 5. Medication adherence and patient safety

ESPACOMP-22-292VIRTUAL

Where Are Prescription Medications Stored: An Investigation into Home Medication Management Practices

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Introduction: Little is known about where patients store their medications in their homes.

Aim: Our objectives were to identify the most common home medication storage locations and their associations with self-reported medication adherence.

Methods: Data were collected via the deployment of an online home medication management survey deployed between November 18 and December 14, 2021. Participants were recruited primarily via informational posts on social media platforms. Study protocols were approved by the Tufts University Health Sciences Institutional Review Board.

Results: Among our sample of 1,673 adult respondents, the most popular home medication storage locations included in their nightstand drawer (28%), atop their nightstand (27%), in their kitchen cabinet (22%), in their medicine cabinet (20%), in their kitchen drawer (18%), and on their kitchen counter (18%). We identified significant associations between self-reported medication adherence and certain storage locations including nightstand drawer, top of nightstand, and bathroom vanity ($p<0.05$ by chi2 test).

Discussion: Home medication storage location is understudied as a component of medication adherence and there is minimal guidance for patients for effective home medication management practices. We are conceptualizing interventions for physicians and pharmacists to use to guide patients in selecting storage locations. We are also designing medication adherence devices that use storage locations or the routines associated with locations to provide as-needed context-sensitive reminders.

Conclusion: To improve medication adherence, clinical guidelines for healthcare providers and context-sensitive medication adherence devices should be developed to guide patients in their selection and use of medication storage

ESPACOMP-22-240

From Paper-Based To Electronic Prescribing Of Multidose Drug Dispensing – A Longitudinal Study Of Prescription Changes

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Introduction: Multidose drug dispensing (MDD) is an adherence aid with machine dispensed medications. MDD has been suggested to lower the quality of prescribing and the number of medication changes compared to patients with ordinary prescribing. In Norway, an electronic prescribing system is currently being piloted for MDD patients.

Aim: To examine whether the electronic MDD system affects the number of prescription changes.

Methods: A longitudinal study on patients piloting the electronic prescribing system from June 2012 to August 2020. Dispensed prescriptions were compared at 2 weeks intervals, for 24 weeks prior to the implementation of the e-prescribing system and 42 weeks after. Prescription changes were categorized as medication-related (new/stopped medications, dose changes, change to reimbursement information) or administrative (no change to the prescribed medicines, such as the patient's address, name, or renewing of prescriptions).

Result: On average 17% of the 499 patients included, had prescription changes between each MDD order (every 2 weeks) prior to the implementation. Of these, 11% were medication-related, 6% were administrative. After the implementation, 50 % of patients had prescription changes between each MDD order. Of these changes, 26 % were medication-related changes and 24 % were administrative changes.

Discussion: In the new system, prescriptions were changed three times more often, with a 4-fold increase in administrative changes and a 2-fold increase in medication-related changes.

Conclusion: The electronic prescribing system from MDD was associated with more frequent changes to the prescriptions.

ESPACOMP-22-224

Medication management during sick days: experiences of patients with and without impaired renal function

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Introduction: During sick days - periods of fever, vomiting or diarrhoea -, patients with impaired renal function (IRF) should temporarily discontinue potential nephrotoxic medication to prevent medication-related problems such as dehydration, hypotension and renal failure.

Aim: Aim of this study was to investigate how patients with and without IRF manage their medication during sick days.

Methods: An online questionnaire was sent to a pharmacy patient panel mainly consisting of elderly patients with chronic diseases. Topics included reporting sick days to healthcare providers and medication management

during sick days. Patients with IRF received additional questions regarding information provision by healthcare providers about medication management during sick days.

Results: The questionnaire was completed by 5960 patients (46% female, median age 69 [61-74]) including 837 patients with IRF. Of the patients with IRF, 35% indicated that they adhered to their prescription and took all their medication during sick days, 23% contacted a healthcare provider to discuss medication intake and 33% had never experienced sick days before. In patients without IRF this was 32%, 21% and 39%, respectively. Additionally, only 30% of IRF patients had received information about medication management during sick days.

Discussion and conclusion: Around a third of IRF patients fully continue their medication during sick days, which poses a risk for their safety. Medication management during sick days does not differ between patients with and without IRF. To ensure patient safety additional patient guidance is recommended.

ESPACOMP-22-204

Covid-19 Pandemic Did Not Impact On Therapeutic Continuity In Chronic Cardiovascular Diseases In 2020

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Introduction: The COVID-19 pandemic has posed major challenges to healthcare systems.

Aim: We aimed to investigate the pandemic impact on prescription and adherence pattern of chronic cardiovascular therapies (lipid-lowering, antihypertensives, and oral antidiabetic drugs) using administrative pharmaceutical databases.

Methods: The study period (2020) was compared with the control period (2019). For all adult patients (≥40 years) resident in Lombardy Region or in the Local Health Authority of Romagna, with at least one prescription of the selected drugs, we evaluated the percentage change in packages dispensed, and the adherence to therapy, selecting individuals with a proportion of days covered (PDC) ≥80% in Jan-Feb and assessing PDC in the next four-month period.

Results: For all the three treatments, a slight increase in packages dispensed was observed in Mar-Apr (lipid-lowering drugs: +4.52%; antidiabetics: +2.72%; antihypertensives: +1.09%), with a sharp decrease in May-Jun (-8.40%, -12.09%, and -10.54%, respectively). When adherence was analysed, the impact of the COVID-19 pandemic on chronic cardiovascular treatments appears negligible: among patients showing high adherence to lipid-lowering therapy in Jan-Feb, 2.29% became poorly adherent (PDC <20%) in the following four-month period in 2020 (vs 1.98% in 2019). A similar increase was observed for antihypertensives (1.25% in 2020 vs 0.93% in 2019). For antidiabetics, the increase was restrained (1.55% in 2020 vs 1.37% in 2019).

Conclusion: The rush to supply drugs at the beginning of the lock-down led to preserve the continuity of chronic cardiovascular therapies.

Paper Session 6. Research methodology in medication adherence

ESPACOMP-22-207

Psychometric quality of questionnaires on medication adherence – a secondary analysis

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Introduction: Various questionnaires on medication adherence have been published in the scientific literature. However, differing validation methods have been used.

Aim: To summarize the psychometric quality of validated instruments assessing medication adherence.

Methods: We performed a secondary analysis of data published by Kwan et al in 2020 in which the validation of 121 unique instruments to measure medication adherence was analysed. There were nine measurement properties relating to validity (content validity, hypotheses testing for construct validity, structural validity, cross-cultural validity, criterion validity), reliability (internal consistency, test-retest reliability, measurement error), and responsiveness. Psychometric quality and evidence of each measurement property were evaluated following the COSMIN guidelines. We calculated frequencies of i) each measurement property, ii) instruments with sufficiently measured properties, and iii) instruments with at least a degree of moderate evidence.

Results: No instrument was validated with all nine measurement properties. The most frequently assessed were hypotheses testing for construct validity (88.4% of the instruments), content validity (67.8%) and internal consistency (67.8%). Cross-cultural validity was never evaluated, despite 46 translations undertaken. Internal consistency was the most often sufficiently measured property (52.1% of the instruments), followed by construct validity (46.3%) and content validity (42.2%). At least moderate evidence was observed the most often for construct validity (48.8%).

Discussion: Psychometric properties of medication adherence instruments are insufficiently established and evidence for their use is low.

Conclusion: It would be advantageous to define a minimal set of measurement properties for the validation of medication adherence instruments.

ESPACOMP-22-276 VIRTUAL

Impact of data preparation strategies on antipsychotics adherence estimates using real-world data

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Introduction: Real-world data requires extensive preparation to correct for variation in data entry, considering clinical processes involved in complex medication regimens like long-term antipsychotic treatment. However, evidence of the impact of data preparation on obtaining accurate adherence estimates is scarce.

Aim: To estimate the effect of different data preparation strategies on adherence estimates in a complex real-world setting.

Methods: Retrospective cohort study conducted in a region of Catalonia, Spain, including subjects with ≥1 antipsychotic prescription in 2015-2016. Four strategies were developed for data cleaning of simultaneous prescriptions, considering the minimum dose; maximum dose; latest date and; sum of doses. For each strategy, treatment episodes (TE) were defined per patient, drug and dosage form. The index-TE was defined as the first TE ≥ 30 days occurring per patient and, the observation window was capped to 12 months. Initiation was estimated per index-TE. Polytherapy was defined as ≥1 TE concurring with the index-TE for ≥30 days. A derivate Daily Polypharmacy Possession Ratio method was used to assess implementation of polytherapy.

Results: For 37.978 subjects included, the minimum dose strategy identified 19.407 index-TE (median duration 300 days; range 30-1527), which 29.6% were in polytherapy. Preliminary comparisons on example cases showed large differences across strategies in TE composition and adherence estimates. Full results will be presented at the conference.

Discussion and conclusion: Discussing results of alternative strategies with clinical experts using example cases can improve analysis decisions and validity of adherence estimates.

ESPACOMP-22-270

Development and evaluation of medication adherence technologies: Generating guidance for ENABLE repository users

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Aim: The ENABLE COST Action (CA19132) aims to build an online repository of medication adherence technologies (MATech). Information about MATech development and evaluation (D&E) is necessary for decisions on adoption in clinical practice or research and needs to be presented in a structured, accessible way. We developed D&E description form and user guide within the broader repository development process.

Methods: Findings from the multi-stakeholder Delphi study on the repository structure (e.g., research, clinical care, patient representation) and feedback from two experts were used to adapt descriptors. We developed

a MATech description form with questions for each descriptor and a user guide for completing the form following international guidelines (e.g., HTA-Core-Model, EMERGE).

Results: Eighty-three Delphi participants considered all 20 D&E descriptors relevant (median 7.05-7.49, 9-point scale), except ISO label (6.34). All definitions were considered clear (7.17-7.65). Following qualitative feedback, 18 descriptors were revised, 2 were included in other descriptors and 4 added (i.e., contextual analysis, accessibility, traceability, safety). The form contains 25 open-ended questions with brief explanations to facilitate understanding and describing diverse MATech. The user guide synthesizes key methodological recommendations for MATech D&E.

Discussion: D&E descriptions need to balance methodological comprehensiveness and rigor with the diversity and constraints of real-world MATech development. Their understandability and feasibility will be evaluated on several MATech examples.

Conclusion: Achieving a standardized description of diverse technologies is challenging, yet necessary for repository users to compare and select suitable MATech for their needs.

ESPACOMP-22-267

Open and standardised estimation and visualisation of medication adherence: new developments in AdhereR

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Introduction: Estimating medication adherence from electronic healthcare databases (EHD) transparently and reproducibly increases evidence standardisation and credibility. AdhereR and AdhereRViz are open-source R packages for calculating and visualising medication initiation, implementation and persistence. The complexity of EHD requires continuous extension of functionalities.

Aim: To develop new functionalities for adherence analyses within AdhereR.

Methods: An iterative software development process has been ongoing since the release of AdhereR in 2017, coordinated through GitHub and using R, R Markdown, Shiny, SQL, HTML, JavaScript, Python, Julia and Stata. Improvements were based on user feedback, and clinical and methodological considerations.

Results: AdhereR v.0.8.1 includes several developments relevant to research and clinical practice. Duration of dispensed medication supplies can be computed using prescription, dispensation and hospitalisation data (compute_event_durations). Treatment episodes (persistence) can include the maximum permissible gap duration (maximum.permissible.gap.append.to.episode); dispensing events can be mapped onto episodes (return.mapping.events.episodes). Continuous Medication Availability (CMA; implementation) can be calculated per patient, period and medication group, separately and as polypharmacy implementation (CMA_polypharmacy). Several options exist for plotting CMA for consecutive observation windows. AdhereR can be used from other programming languages and environments: Python, including Juniper Notebooks, fully functioning; Stata and Julia under development. It can be used with large relational and non-relational databases, and in batch mode.

Discussion and conclusion: AdhereR is freely available for researchers to estimate adherence from EHD following established methodological recommendations. User feedback and contributions are welcome to expand this resource for the adherence community.

ESPACOMP-22-218 VIRTUAL

The development and evaluation of a risk of bias assessment instrument for medication adherence research

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Introduction: Standards for conducting and reporting medication adherence research have traditionally been unclear raising concerns about study bias. Currently available bias assessment tools do not adequately capture sources of bias important in adherence research.

Aim: (1) Develop risk of bias assessment instruments for interventional and observational adherence research, (2) evaluate and validate the instruments.

Methods: Important sources of bias in adherence research were identified from the Oxford Catalogue of Bias, the EMERGE guidelines, the TEOS framework, and by expert consultation with the Centre for Business Innovation Medical Adherence and Digital Health consortium and ESPACOMP. Bias domains were subdivided into specific research components (items) that are expected to be present in adherence studies. Each item was mapped to a potential source of bias. A Likert-style scale was designed to capture the presence or absence of key items. Evaluation and validation of the instruments includes three phases, (i) expert consultation, (ii) pilot testing, and (iii) consensus using a Delphi methodology.

Results: This is an ongoing project. The development of two instruments, RoBIAS (Risk of Bias instrument for Interventional Adherence Studies) and RoBOAS (Risk of Bias instrument for Observational Adherence Studies) is in progress. The evaluation and validation phases will be presented.

Discussion and conclusion: We are developing and validating risk of bias instruments (RoBIAS & RoBOAS) for medication adherence research. These are expected to have utility for adherence researchers to aid bias assessments and improve research quality.

Posters at a Glance in-Person

Poster session 1: Patient experiences

ESPACOMP-22-208

Learning from the patient: Experiences from a pharmacy student-patient buddy project

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Introduction: Patient-centered communication is essential in assessing patients' medication use, including adherence. During their study program, pharmacy students at Utrecht University have limited possibilities for long-term patient contact, which hampers practicing building a patient-provider relationship. We therefore implemented a buddy project to give students insight into impact of disease and medication use.

Methods: The project was implemented in a 10-week experiential learning course during the masters' first year (April 2021). Students were paired with a community-dwelling patient. Learning activities included: teaching group start meeting, three buddy contacts, discussion with internship supervisor and written reflection.

Results: In total, 66 students participated. Most students experienced contact as a fun and useful. Students mentioned patients to be open and friendly. Taking the time to bond and understand what someone likes was perceived important. The first conversation was exciting, also because this often went by telephone due to the corona pandemic. Lack of non-verbal communication hampered contact. Students indicated the buddy to be different from what they had imagined and patients often deviated from the healthcare providers advice regarding medicine use. Internship supervisors saw learning benefits for students, as well as added value for the pharmacy.

Discussion: We advise to include at least one home visit, preferably the first contact.

Conclusion: The buddy project is a good way to expand patient contact and gives students opportunity to practice building relationships, which is of importance during communication about medication use.

ESPACOMP-22-209

Patient experiences with the treatment of atopic dermatitis

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Aim: To investigate the experiences of patients with atopic dermatitis (AD) with treatment and information provision.

Methods: We conducted an online survey among a pharmacy patient panel comprised of mostly older individuals that regularly visit a community pharmacy. The questionnaire included questions about AD treatment, information needs and corticophobia.

Results: In total, 5447 panel members (57% male, mean age 68 years) filled out the questionnaire, of which 27% had been diagnosed with AD. Of the 937 participants who experienced symptoms in past year, 90% used topical treatment (63% moisturizer and 73% topical corticosteroid (TCS)). Most participants (70%) received

information from their general practitioner (GP). Some participants (7%) reported having received contradictory or different information from different health care providers, 24% did not recall the information and 25% received no information. Whilst about a third of the participants would like to receive more information about AD treatment. Participants have some concerns about TCS and many patients would stop TCS treatment as soon as they can and worry about application of too much cream.

Conclusion: Patient education and counseling could be improved, as a considerable proportion of patients reported limited information provision.

ESPACOMP-22-239

Patient's Experiences With Multidose Drug Dispensing – A Qualitative Study

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Introduction: Multidose drug dispensing (MDD) is machine-dispensed medicines in disposable unit bags, usually for 14-days. MDD replaces manually filled dosettes in many home care services in Norway and is frequently used as an adherence aid. However, little is known about the patient's experiences with this system.

Aim: Explore patient's experiences with the MDD system in relation to medication use, medication management and medication information needs.

Methods: We did 17 semi-structured interviews with 19 MDD users in Oslo during August 2019 to February 2020. The interviews took place at the patients' home.

Results: The patients expressed that they trusted the MDD system and got the medicines they were prescribed. They were generally satisfied with the system. Despite having limited knowledge about their medicine, they did not express any need for more information. If the home care nurse was running late, some patients opened the MDD pouch and took the tablets, before taking other medicines that required assistance (e.g. inhalers, injections, creams). Many, however, had problems opening the pouches.

Discussion: The MDD system seemed to help patients to take the right medications and enable patients to handle their own medications. However, the patients seemed to have limited knowledge about their medicines.

Conclusion: Most participants expressed that they were satisfied with the use of MDD, and felt that MDD was a safe system. Despite having little knowledge about their medicine, they did not express the need for any further medication information.

ESPACOMP-22-254

Pre-implementation qualitative interviews of patient/carers for an interdisciplinary gout clinic

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Introduction: Being the most common form of inflammatory arthritis, Gout is a painful & debilitating condition. Despite availability of effective medications, gout has one of the lowest rates of adherence.

Aim: We aimed to describe patients' perceptions and experiences of medications to better support adherence (all phases as per ABC taxonomy) to urate-lowering therapies (ULT).

Methods: We conducted individual semi-structured video/phone interviews with adults with gout or their caregivers in English, recruited purposefully by rheumatologists in a tertiary Australian hospital. Inductive thematic analysis was used with triangulation.

Results: We interviewed six patients and one carer. Participants were aged 48-81 years (median 58) with a disease duration of 3-32 years (mean 18yrs), and were of Caucasian (3), Asian (2), and Pacific Island (2) ethnicities. Two themes emerged: Years of lost opportunity to ease the suffering, and gain control of gout (Reflecting on the past with regret, Desperation for relief at the detriment of the future) and Empowering patients to execute optimal treatment in the community (Thirst for knowledge, Faith their specialist would recommend therapy in their best interest, Medications are confusing and frustrating, Mastering their disease & Fear of recurrence).

Discussion: Interviewees want support and information about gout and treatment, without this, treatment is delayed.

Conclusion: Regrettably patients take many years to effectively control their gout. An early partnership with a Rheumatologist, careful introduction of ULT and increased health literacy can improve medication adherence and empower patients to master their disease.

ESPACOMP-22-263

Home care patients' experiences with home care nurses' support in medication adherence

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Aim: To describe home care nurses' interventions for medication adherence, and patients' experiences and desired improvements with this care.

Methods: Questionnaires and interviews were performed. Patients of the care panel of the Netherlands Patients Federation participated. Descriptive statistics and a thematic analysis approach were used.

Results: 59 patients participated (questionnaire n=59, interviews n=14). The satisfaction score was 7.9 (IQR 7-9). Most common interventions were: noticing when I don't take medication as prescribed (n=35) and helping me to find solutions to overcome problems with using medications (n=32). Fifteen participants missed ≥1 interventions. Most mentioned the following: regularly asking about potential problems with medication use (33%) and regularly discussing whether using medication is going well (29%). Positive experiences included: improved self-management of adequate medication taking, discussion of adherence problems, and the arrangement of practical support for medication use. Negative experiences included: insufficient timing of home visits, rushed appearance of nurses, and insufficient expertise about side effects and taking medication. Home visits on time, more time for providing support in medication use, and more expertise about side effects and administering medication were suggested.

Discussion: Patients receive several adherence support interventions from home care nurses, and a few wanted more interventions.

Conclusion: Overall, patients were satisfied with home care nurses' support. Nurses' support improved self-management of medication taking and enabled discussion of adherence problems. Adequately timed home visits, more time for support, and accurate medication-related knowledge are desired.

ESPACOMP-22-297

Direct oral anticoagulants – opinions, attitudes, and experience of patients with atrial fibrillation

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Introduction and aim: The objective was to analyze opinions, attitudes, and experience of outpatients towards direct oral anticoagulants (DOACs) as well as the factors with possible influence on medication adherence in its implementation phase.

Methods: A prospective single-center study conducted between 05/2021–06/2022 in adult outpatients using long-term DOACs for atrial fibrillation. Patients were addressed by questionnaire survey via structured interview with a pharmacist during 3 regular visits at physician´s (month 0, 3, and 6).

Results: A total of 101 patients were enrolled (5 lost to follow-up gradually). Patients had mean age 74.5 years, 55.6% were men (N=99). Patients were mostly retired (82.7%), treated by rivaroxaban (39.8%), apixaban (28.6%), and dabigatran (31.6%); in 61.2% they used medication dispensers to simplify the medication use (N=101). They were characterized as non-smokers in 65.3%, occasionally drinking alcohol in 59.2%; the majority had warfarin use history (73.5%), 77.8% were more satisfied with DOAC treatment and 83.1% did not see any DOACs´ limits compared to warfarin; infrequency of doctor visits (76.1%) and fewer dietary restrictions (54.9%) were reported as an advantage of DOACs (N=98). Rivaroxaban users had awareness about the necessity of using the drug with meal (69.2%), only 18.8% of dabigatran users were educated about its proper storage (N=96).

Discussion and conclusion: Patients were more satisfied with DOACs than with warfarin. They perceived DOACs as treatment with low limitations. Nevertheless, patients need more education about the proper use of DOACs.

Poster session 2: Methods

ESPACOMP-22-211

Evaluation of methods measuring medication adherence in patients with polypharmacy

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Aim: To assess the feasibility and validity of methods measuring medication adherence in patients with polypharmacy two months post-discharge.

Methods: In a quantitative prospective descriptive study (January-May 2022) in patients with polypharmacy, medication adherence (implementation phase) was monitored during two months using pill counts based on preserved medication packages and a diary in which patients registered their adherence-related problems. During a home visit, the Probabilistic Medication Adherence Scale (ProMAS) and a questionnaire on feasibility were administered. Correlations between adherence rates measured by pill counts, the medication diary and the ProMAS were investigated using Spearman's Rho.

Results: Of the 85 participants enrolled, 69 completed the study (81.2%). Most participants reported that preserving medication packages (91%), completing the diary (99%) and the PROMAS (99%) were no effort. According to the majority (60%), pill counts most accurately reflected medication adherence, followed by the medication diary (39%) and the ProMAS (1%). Pill count-based adherence correlated with ProMAS scores, but not with the frequency of problems reported in the diary. However, adherence measured by the medication diary and ProMAS correlated significantly.

Discussion: This combination of tools seemed feasible in practice and can provide insight into the extent to which a patient's actual dosing corresponds to the prescribed dosing regimen, but also into problems contributing to non-adherence.

Conclusion: The results can inform our choice of adherence monitoring in a future clinical trial evaluating the effect of medication self-management on adherence post-discharge.

ESPACOMP-22-214

Using two adherence assessment methods to guide treatment in uncontrolled epilepsy

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Introduction: Adequate implementation of prophylactic treatment is essential to achieve seizure control in epileptic patients. Knowing patients' adherence to antiepileptic agents can guide physicians to adapt treatment.

Aim: To evaluate two adherence assessment methods used with an ambulatory patient with uncontrolled epilepsy.

Methods: case presentation A 35-year-old man with focal epilepsy has been treated with valproate and lamotrigine for 20 years and cenobamate for 1 year. Valproate plasma levels were repeatedly sub-therapeutic. Several seizures occurred in the last 12 months including tongue bites despite treatment adjustment. An interprofessional team consisting of a neurologist, a community pharmacist and the pharmaceutical care research group provided patient care starting January 2022. Intake of the entire medication (7 medicines at 2 intake times) was assessed by electronic monitoring with a small device (Time4Med™) and pill count after repackaging in individual weekly punch cards (Pharmis®) by the pharmacy.

Results: Electronic monitoring was performed for 7 weeks starting 28 January. Timing adherence was 56%, correct dosing days were 47%. Variation in the morning intakes was considerable (standard deviation ±1.7 h). Punch cards were delivered for the next 4 weeks. In total, 9 unused cavities were returned (correct dosing days: 71%).

Discussion: Although a visual control of the punch cards is convenient, adherence was overestimated and timing variations were not reflected compared to electronic monitoring.

Conclusion: Electronic adherence monitoring was superior to individual punch cards in estimating adherence and allowed targeted treatment adjustment.

ESPACOMP-22-243

Identification of target groups and individuals for adherence interventions using tree-based prediction models

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Introduction: In chronically ill patients medication adherence during implementation – understood as the extent to which a patient's actual dosing corresponds to the prescribed dosing regimen – can be crucial for treatment success and hence can decrease future health costs.

Aim: Because in some populations regression models do not show this relationship, we aim to estimate subgroup-specific and personalized effects to identify target groups for interventions.

Methods: We use German claims data to define a cohort of type 2 diabetes patients (n=85,162) and estimate the overall association between adherence and costs with multiple linear regression. Moreover, we apply model-based trees to identify subgroups of patients by sociodemography and health status and model-based random forests to estimate personalized adherence effects. To measure its performance we compare the personalized effects

estimated by the forest for training data to the effects estimated for test data, given the fixed forest. A regression of these two estimates with 95% prediction intervals identifies patients where the forest predicts a negative adherence effect with the given certainty.

Results: While the linear regression model shows positive association between adherence and costs overall, model-based trees and forests robustly identify patients with negative effects.

Discussion: Our approach shows that tree-based models can identify patients with different effects and the precision of personalized effects is measurable.

Conclusion: Identified patients can form target groups for adherence-promotion interventions with the aim to increase health and decrease associated costs.

ESPACOMP-22-294

Meta-analysis of the SPUR behavioral diagnosis tool via six international patient cohorts

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Introduction: The SPUR behavioral diagnostic tool is an interactive digital questionnaire designed to determine the risk and drivers of adherence to medication for chronic disease. It has been the subject of a three-year research project with studies published in academic journals including Patient Preference and Adherence, The Journal of Patient Reported Outcomes, and the BMJ Open.

Aim: Data from six different patient cohorts across three countries and four pathologies has been gathered, with some results already published. This meta-analysis groups all six cohorts with the aim of further validating the tool and refining its scoring.

Methods and Results: The different cohorts all completed the SPUR tool, while different data was gathered for different cohorts. All also completed various accepted PROMs with respect to adherence, including the MMAS-8, PAM, MARS, ACCEPT and the BMQ. For some cohorts, MPR was also collected via disbursement data. As such, initiation cannot be taken into account, and overall adherence analysis is restricted to MPR. Validation of SPUR consists of comparison to accepted PROMs and MPR, while further analysis addresses internal consistency reliability, construct validity, known-groups validity and concurrent validity.

Discussion and Conclusion: The SPUR tool demonstrates robust validity across multiple cultures and pathologies, and its internal construction is robust. The meta-analysis allowed further refinement in the scoring of items relating to less frequently seen behavioral drivers. Work remains to be done to investigate the relevance.

ESPACOMP-22-326

Salivary drug concentrations and adherence: currently used analytical methods

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Introduction: Medication adherence is a key process for therapeutics outcomes in chronic patients. Collection of salivary samples is simple, non-invasive and can be realized by the patient at home, but only free fraction of drug passes through saliva.

Aim: to identify what methods are currently used to determine salivary drug concentrations for the evaluation of adherence.

Methods: We carried out a review of analytical methods available to detect drugs in saliva, used in studies evaluating medication adherence.

Results: The most frequent method is liquid chromatography-tandem mass spectrometry (LC-MS/MS), but other methods used are ultra-high performance liquid chromatography, coupled to tandem MS (UHPLC-MS/MS), high performance liquid chromatographic (HPLC) with diode-array detection (DAD), liquid chromatography-tandem MS in positive ionization mode, HPLC system or MS as a detector, LC-tandem MS with positive ionization, porous silicon based surface-assisted laser desorption ionization MS (pSi SALDI-MS), thin layer chromatography (TLC), HPLC with UV detection, fluorescence-polarization immunoassay technique.

Discussion: The use of these bioanalytical methods is time consuming and very expensive, therefore, new biosensors should be developed for drugs with high problems of adherence. A recent review identified 31 drugs detected in saliva in studies on medication adherence, but only few of them are highly valid and applicable for clinical use.

Conclusion: Saliva might be a promised matrix patient-friendly that can be an alternative matrix to determine drug concentrations for the evaluation of adherence.

ESPACOMP-22-244

Impact of Direct-Acting Antivirals Adherence on Cure Rate in Chronic Hepatitis C Virus

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Introduction and aim: We aimed to understand if adherence is one of the barriers to achieving sustained virological response (SVR) for patients with chronic hepatitis C virus (HCV) treated with direct-acting antivirals (DAAs). Health-Related Quality of Life (HRQoL) was also evaluated to predict adherence in Romanian HCV patients.

Methods: Our prospective cohort study included all patients with chronic HCV who received DAAs treatment (dasabuvir/ombitasvir/paritaprevir/ritonavir or ledipasvir/sofosbuvir, Group1, glecaprevir/pibrentasvir or sofosbuvir/velpatasvir, Group2) at the Gastroenterology Department from University County Hospital of Craiova, Romania, in the period May 2020 – March 2022. We used two instruments: the Romanian validated instrument HCV-AD10 for measuring the adherence (at the end of treatment, EOT) and 15D for HRQoL assessment (baseline and EOT). Mann-Whitney test and Spearman's rho were used in data analysis.

Results: Of 240 patients, 73.3% were female, age 59.7±11.6 years, 28% were in the F4 stage of fibrosis. The cure rate was 97.9%, 51.7% being treated with dasabuvir/ombitasvir/paritaprevir/ritonavir. The medication adherence in Group1 was not significantly different from Group2 (90.99±8.71 vs 92.06±8.06, p=0.529). The HRQoL increased after treatment (0.90±0.08 and 0.94±0.07, baseline and EOT, p<0.0001), and no differences were observed between the two groups (p=0.055). A positive correlation was found between adherence and HRQoL (rho=0.157, p=0.015).

Discussion: HRQoL was improved in HCV patients at DAAs EOT.

Conclusion: Despite a high level of adherence and a significant increase of HRQoL after DAAs treatment, no correlations were found between the cure rate and adherence or HRQoL.

Poster session 3: Determinants I

ESPACOMP-22-215

Adherence barriers to oral HCV treatment in ambulatory setting

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Introduction: The hepatitis C virus (HCV) represents a major public health threat and the World Health Organization has set targets to eradicate HCV by the year 2030. Barriers to HCV treatment are still present at the level of patients, providers, and systems. To achieve optimal adherence to oral HCV treatment, barriers before treatment initiation should be identified.

Aim: To identify barriers to oral HCV treatment initiation in ambulatory patients.

Methods: We developed a comprehensive interview guide with barriers to HCV treatment from literature and items from the framework on patients' lived experience with medicines (PLEM). We recruited ambulatory patients of the University Psychiatric Clinics in Basel (Switzerland) who underwent oral HCV treatment and performed semi-structured interviews. Interviews were recorded, transcribed, and coded with a deductive approach for thematic analysis.

Results: Seven patients (one woman) were interviewed between November 2021 and February 2022. Five themes were identified (lack of information, negative attitude towards medication, difficulties with the application, insufficient social environment, and lifestyle) corresponding to 13 specific situations.

Discussion: Only five themes were considered as barriers by former users of oral HCV treatment. The multiple barriers were at the level of patients, providers, and systems and can be compiled as a checklist for healthcare professionals.

Conclusion: Our results can be used in medical or pharmacy practice before oral HCV treatment initiation. We will now develop a user manual and interventions matching the barriers.

ESPACOMP-22-226

Medication adherence among older people discharged from hospital

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Aim: To develop an in-depth understanding of the barriers, if any, to medication adherence among older people discharged from hospital.

Methods: Face-to-face semi-structured interviews were performed with people ≥75 years, discharged from hospital within 6-12 months, living at home, to focus on their implementation phase of medication adherence. Exclusion criteria were home healthcare, cognitive impairment or other conditions making interviews difficult. Interviews were analyzed with qualitative content analysis and self-reported medication adherence using the 5-item version of Medication Adherence Report Scale (MARS-5).

Results: Among interviewed participants (n=15), mean age was 83.5 years (range 75-95 years). Two thirds were women (67%), 60% lived alone, and 20% had dose-dispensed medications. MARS-5 showed overall high scores, where half the participants scored 25 (range 21-25). Four categories were identified: Good medication adherence, Personal responsibility, Participation, and Availability.

Discussion: The medication adherence among included participants was high in general. Participants showed strong personal responsibility and were dependent of the availability of health care when problems arose. Participants expressed that it is easier to get in contact with the hospital than their primary care center and that they were satisfied with the participation level they had, regardless if it was high or low.

Conclusion: Good medication adherence and large personal responsibility during implementation was shown among included older individuals, living at home, and managing their own medications. The most prominent barrier was difficulty to reach primary care on their own initiative.

ESPACOMP-22-256

The impact of health-related quality of life and associations with adherence in real-world leukemia patient

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Aim: The study evaluates the relationship between medication adherence to oral anticancer agents (OCAs) and health-related quality of life (HRQoL) in leukemia patients.

Methods: This is a single arm, prospective longitudinal study. Patients were surveyed via phone every 3 months for 3 surveys total, which included Wilson's 3-item instrument to address adherence and the PROMIS-Global Health Scale to evaluate HRQoL. Optimal adherence was defined as ≥90 on the Wilson measure's composite score.

Results: 33 patients have completed all 3 surveys. 54.5% were male and the average age was 59.2 years old. 63.6% were married, 51.5% reported income above the US median, and 63.6% were college educated. At baseline, 36.4% of patients did not meet optimal adherence threshold, compared to 24.2% at 3 months and 30.3% at 6 months. Marital status and having a college education was associated with improved adherence (P=0.047). There was no significant association between income level and adherence. Only 36.4% rated their overall health as very good at baseline, and this decreased to 24.2% at 6 months. Additional analyses looking at the relationship between adherence and HRQoL are forthcoming.

Discussion: OCAs for leukemias require life-long treatment and adherence, which can negatively impact HRQoL.

Conclusion: Among leukemia patients, marital status and education level play a role in adherence to OCAs. HRQoL is suboptimal and decreases over time.

ESPACOMP-22-259

Beliefs about medicines in obstructive pulmonary diseases

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Introduction: The level of adherence in obstructive diseases varies between 10-40% and is the most common cause of exacerbations conditioning the effectiveness of treatment. Despite the existence of modern therapeutic solutions, patients do not achieve the benefits of therapy due to emerging obstacles to adherence. The purpose of this study was to evaluate the impact of the level of pharmacological adherence of patients with obstructive pulmonary diseases and beliefs about treatment.

Methods. The study involved 325 patients with asthma or COPD aged 63.04±11.29 years. The study used standardized questionnaires: BMQ, TAI and ARMS.

Results. Patients presented a moderate level of adherence (21.15±6.23), were most concerned about the necessity to take medication (3.87) and least concerned about the harmful (2.82). In correlation analysis, belief in overuse (r=0.301), harmful (r=0.382), and concerns (r=0.317) significantly decreased medication adherence, while belief in the necessity increased the level of adherence (r=-1.167). In linear regression analysis, the significant determinants that increased the level of adherence were unemployed status (R= -5.073), non-smoking (R=-1.983) and belief in medication (R=-0.34), and those that decreased the number of hospitalizations for exacerbations of the disease in the last year (R=1.897) and belief in the harmfulness of medication (R=0.417).

Conclusion: Patients with obstructive pulmonary diseases show moderate adherence to the oral and inhaled pharmacotherapy. Beliefs about medications have a significant impact on adherence to oral and inhaled medications.

ESPACOMP-22-266

My journey exploring adherence to diabetes medication in Saudi Arabia: 2010–present

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Introduction: Low medication adherence presents a challenging situation for health care providers (HCP). Assessing adherence and building interventions to improve it is a necessity but is not a straightforward process.

Methods: The journey of my research conducted since 2010 up to today included 1)a cross-sectional study using the Arabic version of the Morisky Medication Adherence Scale, 2)two semi-structured interviews studies using the Theoretical Domain Framework to explore key determinants of adherence, 3) development and validation of a diabetes medication adherence scale (ASMA Scale) and a simple and rapid LC-MS/MS method for analysis of metformin in dried blood spot (DBS) sample to assess adherence will be described.

Results: The cross-sectional study included 395 patients of whom 60% had an unsatisfactory level of adherence. The qualitative studies included 20 patients with diabetes, 12 HCP and 5 family members who identified several themes impede diabetes medication adherence.

Discussion: The results of the qualitative studies were used to develop a 31 questions ASMA scale. Finally, the results of the Metformin analytical assay using DBS to assess adherence and to validate other methods will be presented.

Conclusion: Although this presentation showed considerably a lot of work, over a long period of time it still did not achieve the improved medication adherence goal in the targeted population. My journey presents how much preliminary work is required before jumping to intervention design.

Poster session 4: Determinants II

ESPACOMP-22-269

Electronic and self-reported medication adherence to direct oral anticoagulants for atrial fibrillation

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Aim: We aimed to examine electronic and self-reported medication adherence (MA) to chronic use of DOACs including beliefs about DOACs in outpatients with atrial fibrillation (AF).

Methods: A prospective single-center follow-up study (May 2021 to June 2022) consisted of adult outpatients visiting University Hospital. For the evaluation of the implementation and MA to DOACs, electronic MEMS devices were used for six months period (visits in the 3rd and 6th month). Additionally, medication-taking behavior including self-reported MA was investigated with Czech validated versions of BMQ-CZ and MARS-CZ during a structured interview with a pharmacist.

Results: Of 101 enrolled patients, MA data was assessed in 83 patients. Five patients discontinued the study, thirteen didn't attend the visit in 3rd month. Most patients were retired (84.34%) and treated with rivaroxaban 20 mg (39.76%). The mean value of electronically monitored MA for 192 days (SD=21.89) was 92.29%. Although MA kept high throughout the study, a statistically significant decrease between two-time checkpoints (93.14% vs. 91.39%; p=0.002) was detected. On the contrary, self-reported MA by MARS-CZ was increasing (from 72.29% to 80.72%). According to the BMQ-CZ, patients had a relatively high necessity score (3.75; SD=0.72) and low concerns score (1.74; SD=0.66) about DOACs treatment.

Conclusion: Overall, electronically monitored adherence to long-term use of DOACs was high, however, there was a significant decrease during the six months of follow-up. Outputs of the questionnaire indicated higher needs for and lower worries about the DOACs treatment.

ESPACOMP-22-279

Relationship between Accuracy of Perceived Cause of Glaucoma and Medication Adherence

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Introduction: Glaucoma is an age-related ocular disease that can lead to blindness. Primary open-angle glaucoma (POAG) is the most common type of glaucoma.

Aim: Determine whether the accuracy of the perceived cause of glaucoma was associated with medication adherence.

Methods: POAG patients completed the Brief Illness Perception Questionnaire (BIPQ), which contains eight Likert-type questions and one open-ended question that asks patients to identify the cause of their glaucoma. The American Academy of Ophthalmology standards were used to classify responses as accurate or inaccurate. Adherence to ocular hypotensive medication was measured during the implementation phase using the electronic

monitors. Mann-Whitney U tests were performed to compare adherence between patients who reported accurate and inaccurate perceived causes of POAG.

Results: 119 patients were included, 77 (65%) reported accurate causes (p=0.046). These patients had higher scores on the knowledge subscale of the BIPQ (p.= 0.046). Significantly lower mean adherence (87.06% ± 16.9) was observed in patient who reported accurate causes (p = 0.02).

Discussion: In this study, accurate knowledge about the cause of glaucoma didn't translate into better medication adherence. Most accurate responses provided by patients were age and genetics. It is possible that patients assumed that these causes could not be altered by treatment, perhaps resulting in lower adherence.

Conclusion: It is important to ensure that disease knowledge translates into a positive effect on both treatment perception and outcomes.

ESPACOMP-22-310

Understanding the influence of ethnicity on adherence to antidiabetic medications: Meta-ethnography and systematic review

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Aim: This review is aimed to explore the barriers and facilitators of adherence to antidiabetic medications among ethnic minority groups in high-income countries.

Methods: A comprehensive searching of Medline, Embase, CINAHL, and PsycINFO databases for qualitative studies explored the barriers or facilitators of adherence to antidiabetic medications in ethnic minority groups were conducted from database inception to March 2022(PROSPERO CRD42022320681). A quality assessment of the studies was conducted using the Critical Appraisal Skills Program tool. Key concepts and themes from relevant studies were synthesised using a meta-ethnographic approach.

Results: A total of 18 studies were included in the review. Four major themes were developed: 1) cultural underpinnings, 2) communicating and building relationships, 3) religious beliefs and practices, and 4) managing diabetes at home and away.

Discussion: The findings of this meta-ethnography systematic review provide an explanation of why ethnic minorities reported a lower adherence rate to antidiabetic medications compared to the majority population. Therefore, tailored medication adherence interventions focusing on the identified adherence barriers among minorities group are vital for improving the diabetes care of people from these groups.

Conclusions: People from ethnic minorities in high-income countries have multiple barriers and facilitators hindering and facilitating adherence to antidiabetic medications. A medication adherence intervention that focuses on identified barriers and facilitates adherence to antidiabetic medications in ethnic minorities may help in improving diabetes outcomes in these groups.

ESPACOMP-22-289

Validation of an announced telephone pill count in people with diabetes or cardiovascular disease

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Introduction: Multiple studies have validated the use of a telephone pill count. These studies were primarily conducted in people with HIV and telephone pill counts were performed unannounced.

Aim: The aim of this study was to assess the validity of an announced telephone pill count in people using oral diabetes and/or cardiovascular medication.

Methods: A total of 34 participants older than 18 years (53% men, mean age 69.6±9 years, average of 6.1±3 medications) using oral diabetes and/or cardiovascular medication completed an announced telephone pill count directly followed by a home-visit pill count. A subsample of the participants (n=11) completed a second telephone pill count before the home-visit pill count. Intraclass correlation coefficients (ICC) were used to determine concordance and Bland-Altman plots were used for the assessment of agreement and outliers.

Results: We conducted 203 pill counts. Concordance between the first telephone pill count and home-visit pill count was high with an ICC of 0.96 (95%CI 0.94-0.97) at medication count level and 0.98 (95%CI 0.96-0.99) at individual level. The ICC for the first telephone pill count was 0.88 (95%CI 0.81-0.93) and 0.89 (95%CI 0.82-0.93) for the second telephone pill count. The Bland-Altman plots indicated high agreement between the telephone and home-visit pill count.

Conclusion: An announced telephone pill count is considered a valid alternative for a home-visit pill count in people with diabetes and/or cardiovascular disease. A single pill count appears sufficient.

ESPACOMP-22-324

Medication adherence in the DREAMING study: a pragmatic randomized placebo controlled trial in insomnia patients

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Introduction: The DREAMING study aims to assess the effectiveness of the use of low-dose amitriptyline (10-20 mg/day) and mirtazapine (7.5-15 mg/day) for 16 weeks in 80 participants with insomnia disorder (18-85 years) in general practice. Given its pragmatic design, it is of particular interest to study implementation adherence and early discontinuation.

Methods: Percent of Days Covered (PDC) was calculated for each participant using data on medication supplied by and returned to the study center. Adherence was also assessed by means of 3 self-composed yes/no questions in the follow-up questionnaire at week 20 (or earlier in case of preliminary discontinuation of treatment).

Results: Twenty-one of 80 participants discontinued study medication early or were lost to follow-up. Fifty-nine patients filled out the adherence questionnaire. Respectively, 8, 18 and 21 of these participants reported to have taken more doses per day than prescribed, to have passed overdoses and to have forgotten doses. Reasons for passing overdoses included: medication was not necessary, lack of effect on sleep, side effects and the need to drive a car the next day. PDC could be calculated for 56 participants who returned left over study medication. Mean PDC was 98.2 ± 11.8%. PDC was below 80% in 3 participants.

Discussion: In the DREAMING study both early discontinuation and intentional and non-intentional medication non-adherence occurred.

Conclusion: The results will help to explain the effectiveness, occurrence of side effects and withdrawal symptoms in the DREAMING study.

Poster session 5 : Interventions I

ESPACOMP-22-222

A summative study on the safety and usability of a next generation auto-injector device

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Introduction: Connected devices offer an opportunity to positively impact adherence among patients with growth disorders.

Aim: Evaluate the usability of the third generation easypod® autoinjector device with automatic data transmission (Merck KGaA, Darmstadt, Germany) for delivery of recombinant human growth hormone.

Results: 2 physicians, 9 nurses and 35 patients/caregivers were trained on the device before using it themselves in a simulated environment. Feedback from the participants indicated that the device was perceived to be safe (45/46) and the instructional resources were clear and effective. Participants evaluated different features and functionalities of the device using a 5-item scale. The majority agreed that, among others, the device is (1) intuitive, easy to use and easy to learn, (2) quiet during use, (3) light and easy to handle, (4) able to perform injections easily due to button placement, (5) able to transfer data easily, (6) comfortable for patients to use by themselves, (7) a robust device. Several minor changes were identified by the participants that need to be implemented going forward, including changes to the language used when describing the injection process and warning notes on the user interface.

Discussion: The autoinjector device was perceived to be safe and effective, while some areas for improvement were identified.

Conclusion: This evaluation demonstrates that participants agreed that the device provides a good treatment experience for patients and their families.

ESPACOMP-22-231

Testing the acceptability and feasibility of an intervention for people with asthma

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Introduction: Asthma affects 1 in 11 young people (YP) in the UK. Medication adherence is overall low, especially in young people. As they go through puberty, it is challenging for them to gradually take over responsibility for their treatment. To support YP with asthma, we developed an intervention that targets adherence to preventer medication.

Aim: Moreover, the aim of this study was to test acceptability and feasibility.

Methods: The intervention contains four sessions that cover topics such as goal setting, how to talk about asthma with family, friends, and health care professionals (HCPs), and social support. It targets the implementation and

persistence phases of adherence. Following the Intervention Mapping Approach, we assessed needs and capacity, identified the most promising intervention, made adaptions, pilot-tested, and evaluated it. Eleven Interviews with HCPs and stakeholders were the basis for adapting materials. Subsequently, an asthma nurse pilot-tested the intervention with families in the UK National Health Services (NHS).

Results: Interviews revealed that the content needs to be shortened so that it can be delivered within the NHS. Condescending language was removed, and content should be more focused on the family so that it is easier for families to integrate it into their daily routine. Pilot testing showed that it is overall feasible to deliver this type of intervention within the NHS.

Discussion and Conclusion: Families enjoyed taking part and valued new insights into topics such a goal-setting, communication styles, and social support.

ESPACOMP-22-245

Impact of guidance and reminders from pharmacists on medication compliance in Greece: The CONCORD study

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Introduction: Pharmacist-led interventions impact on compliance to medication in chronic conditions.

Aim: To assess impact of pharmacist guidance and reminders on self-reported compliance to hypertension, dyslipidemia, and chronic venous circulation disorders (CVCD) medication.

Methods: In month 0, a cohort of 1,146 patients with these conditions, aged 45-75, all regular (≥1 per month) customers of a single-network pharmacies in Attica and southern Greece (PEIFASYN), self-reported their compliance to medication. Their pharmacists were trained to provide information and reminders on medication adherence over 4 months. Impact was evaluated in month 4.

Results: 48% of patients were men and 60% were aged 55 – 74. 47% were diagnosed with hypertension, 43% with dyslipidemia and 10% with CVCD. In month 4, patients were less likely to a) forget to take their medication (month 4: M = 1.86 versus month 0: M = 2.45, p <.001), b) forget to take their medication during the last 30 days (month 4: M = 1.72 versus month 0: M = 2.22, p<.001), and c) stop taking their medication without their doctor's advice (month 4: M = 1.65, versus month 0: M = 2.13, p <.001).

Discussion: Patients who received reminders/advice from their pharmacists over a period of 4 months reported increased adherence to medication versus patients who received neither.

Conclusion: Pharmacists' intervention, following specific training, had a positive impact on medication adherence across most of the dependent variables.

ESPACOMP-22-249

Novel m-health-tool to adequately discontinue short-term PPI treatment

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Introduction: Proton pump inhibitors (PPIs) are among the most commonly prescribed medicines in Switzerland. Although often prescribed for short-term, PPI treatment is often prolonged for several reasons such as continuation after hospital stay. Unnecessary long-term treatments can cause adverse effects and increased healthcare costs.

Aim: Aim of this study is to investigate the usefulness of an m-health-tool that assists patients in discontinuing short-term PPI treatment.

Methods: An application on patients' smartphones will record the initiation and discontinuation of the PPI. During 30 days, daily push messages will assess three indicators: medication intake (adherence), symptoms and disease burden during the past 24 hours. Should a pre-set threshold be exceeded, a pharmacist will intervene through telephone consultation. Clinicians (2 GPs, 2 gastroenterologists) have defined the threshold: Worse symptoms will trigger the intervention; adherence behaviour will guide the consultation. An uncontrolled feasibility study in a primary care setting with patients newly prescribed a PPI for 4 weeks is ongoing. Primary endpoint is the number of patients who discontinued the PPI after 4 weeks. Secondary endpoints are number of treatment extensions including reasons, satisfaction with the application, and number of reliable diagnosis after treatment.

Results: Study results will be presented at the congress.

Discussion: This study will deliver insight into patient's (non)adherence to short-term PPI treatment, from its initiation to its predefined discontinuation. Guidance for healthcare professionals will be generated when short-term treatment is prescribed.

Conclusion: n.a.

ESPACOMP-22-280

Asthma treatment adherence behaviour based on real world data from MASK-air® app

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Introduction and aim: Using real world data from the MASK-air® mHealth app, we aimed to evaluate and to better understand adherence behaviour in asthma patients.

Methods: We performed an observational study, assessing MASK-air® users with self-reported asthma and with at least one day of inhaled corticosteroids (ICS) + long-acting beta-agonists (LABA). We assessed all provided complete weeks (i.e., weeks during when participants reported their symptoms and medication use for all days). We compared users under ICS+formoterol (less disease symptoms) versus ICS+other LABA (more disease symptoms). Visual analogue scale (VAS) for asthma was used to assess the asthma control.

Results: We analysed 443 users (3085 weeks; 5.3% of total users), including 275 users under ICS+formoterol (1929 weeks), and 168 users (1156 weeks) under ICS+other LABA. Adherence (Medication Possession

Ratio [MPR]>70%) was observed in 2142 weeks (69.4%). In 122 weeks (4.0%), there was partial adherence (41%≥MPR ≤70%), while in 172 weeks (5.6%) there was low adherence (1%≥MPR ≤40%), and in 649 (21%) weeks there was no-adherence (MPR=0%) to asthma treatment. Higher adherence was observed in the ICS+other LABA group (77.6%) than in the ICS+formoterol group (64.5%). An association between daily adherence and asthma control in the ICS+formoterol group (OR=1.06; 95%CI=1.05-1.07; p<0.001) and ICS+other LABA group (OR=1.02; 95%CI=1.01-1.03; p=0.006) was reported.

Discussion and Conclusion: This study highlights the bimodal distribution of adherence, and its association with disease symptoms. This study also demonstrates the opportunity to measure secondary adherence from an app (modified MPR) and to analyse medication-taking behaviour.

ESPACOMP-22-322

The teach-back method and comprehensible prescription label instructions: effects on initiation of chronic medication

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Introduction: Adherence to chronic medication is often poor in patients with limited health literacy. The teach-back method and comprehensible prescription label instructions are interventions to improve medication adherence in this population, however they are rarely implemented in daily pharmacy practice.

Aim: To investigate effectiveness of the teach-back method used during pharmacy encounters and comprehensible prescription label instructions on initiation of chronic medication in a Dutch low health literate real world setting.

Methods: Patients of 18 years and over were selected at first dispense of chronic medication. The intervention group received both interventions, whereas the control group received usual care. Successful initiation of chronic medication was determined from pharmacy records and defined as picking up a second prescription within 30 days of the theoretical enddate of the first prescription.

Results: The intervention group contained 158 first dispenses, vs control group contained 72 first dispenses. No significant difference on successful initiation was found between the intervention group and the control group (73% vs 74%, odds ratio = 0.96 (95%Ci 0.51 - 1.80).

Discussion: To focus on effectiveness we could increase the number of participants and extend the period of data collection.

Conclusion: This study did not show a significant effect of the teach-back method and the comprehensible prescription label instructions on persistence in the selected low literate area population.

Poster session 6 : Interventions II

ESPACOMP-22-284

Health-Related Quality of Life Among Acutely Hospitalized Older Adults – Data From the IMMENSE Trial

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Introduction: Health-related quality of life (HRQoL) among older adults can guide decision-making regarding treatment and healthcare resources.

Aim: To investigate HRQoL and associated factors during a 12-month study period among acutely hospitalized older adults.

Methods: Patients ≥70years included in the IMMENSE trial investigating a medication optimization intervention were interviewed by a nurse blinded to study group allocation. The EuroQol 5-dimension-3-level instrument (EQ-5D-3L) and the visual analogue scale (EQ-VAS) were completed at the time of discharge, and at 1, 6 and 12 months. Utilities were derived using the United Kingdom society-based algorithm. Mixed model regression was applied to address the multilevel structure and missing data.

Results: We included 295 patients with ≥1 measurements for EQ-5D-3L and/or EQ-VAS. At discharge, extreme problems (level 3) were most frequently reported for the dimensions Usual activities and Pain/Discomfort (30% and 13% of the patients, respectively). For moderate problems (level 2) Mobility and Pain/Discomfort were most frequent (68% and 52%, respectively). Utilities improved the first month after discharge (β=0.07, p=0.018) and subsequently gradually deteriorated. The EQ-VAS followed a similar pattern. Higher number of medications and/or receiving home care services were associated with worse HRQoL, while no HRQoL-differences were observed between study groups.

Discussion and Conclusion: Improvements seen in the first month were not sustained throughout the study period. Pain/discomfort and polypharmacy was common, calling for strategies addressing drug-related problems, including untreated indications.

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Many implementation strategies needed to implement adherence interventions in local real-world settings

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Introduction: Implementation of adherence-enhancing interventions in real world settings is not common in the Netherlands. The ERIC-study distinguished 73 implementation strategies that can support implementation of interventions in health care.

Aim: To explore which and how many of the 73 implementation strategies are used in four local real-world primary care settings (living labs) that implement adherence interventions.

Methods: The living labs each implemented different interventions for the initiation or implementation stage of adherence: teach-back, annual medication consultation or telephone counseling (2x). In a one-day interactive workshop with two representatives per living lab the supporting research consortium (Make-It) presented the 73 strategies. Representatives were asked to note and explain strategies used in their living lab.

Results: Overall, 49 strategies were used by at least one living lab, 11 strategies by all. The living labs used 21, 23, 24 and 40 strategies respectively. The use of implementation strategies changed over the course of the project: from creating support and facilitating cooperation in the preparatory stage to supporting health care professionals in implementation and evaluating processes in the execution stage.

Discussion: The fact that multiple strategies have to be used in different stages of implementing even relatively simple interventions might be a reason for the lack of implementation.

Conclusion: To implement an adherence intervention in daily practice, a wide range of strategies is needed. The Make-it consortium extracts recommendations from the acquired knowledge to promote wider implementation to begin with a group of 4 other living labs.

ESPACOMP-22-313

An interprofessional medication adherence program to optimize adherence to oral anticancer therapies: a randomized-controlled trial

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Aim: We aimed at evaluating the impact of an interprofessional medication adherence program (IMAP) on patients' implementation and persistence to oral anticancer therapies (OAT) for solid cancers.

Methods:

Enrolled patients treated with OAT were randomized in two arms. The intervention arm consisted in delivering OAT in electronic monitors (EM) coupled with monthly motivational interviews led by pharmacists to support patients' OAT management during 12-month. Control arm received standard care, plus EM without intervention. Implementation and persistence were compared between groups, using generalized estimating equation models and Kaplan-Meier curve.

Results: The OAT implementation was constantly higher in intervention (n=58) than in control arm (n=60), respectively 98.2% and 95.1% at 6 months, _3.1% (IC95: 2.5-3.8%); while probability of persistence was comparable, respectively 91.2% and 91.7% at 6 months, _-0.5% (IC95: -12.0; +11.2%). In each group, 6 patients discontinued OAT because of side effects. In the intervention and control groups, OAT was stopped respectively in 19 versus 14 patients due to cancer progression.

Discussion: The IMAP slightly increased implementation to OAT whereas no impact was found on persistence. The EM database was rigorously cleaned, as the numerous OAT altered regimens, interruptions due to side effects and premature OAT stops could have led to data misinterpretation. Association with covariables such as gender and time since diagnosis is currently investigated.

Conclusion: The IMAP, led by pharmacists in interprofessional collaboration, supports implementation to OAT. Further analysis to determine the impact of the intervention are ongoing.

ESPACOMP-22-311

Healthcare provider's perspectives on medication adherence management in New Zealand

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Nothing interrupts a treatment more than not taking the prescribed medication on time. Not only does it damage the patient, but it affects the whole health system. However, many changing variables affect the patient's medication intake after an Rx is issued to a patient and the result is often related to the patient's effort to adhere to the planned treatment. In our research, we engaged with healthcare professionals and health technology designers to develop a conceptual model based on their insights into poor Medication Adherence (MA) and a method for improving MA using mHealth. We interviewed twenty-two participants. The interviews were analysed to define the underlying themes and categories. The interviewees suggested many ideas to mitigate the problems caused by a lack of MA. Some key insights included: (1) the patient's ability to engage in their course of treatment; (2) collaboration among members of healthcare teams; (3) medication use; the potential effectiveness and side effects of prescribed medications; and (4) acceptance and simplicity of the technology. The findings improved our understanding of the complexity of MA and helped us design a MA management wireframe based on the most highly recommended features. We considered checking the reliability and validity of the proposed wireframe by evaluating it through a subset of the participants. We needed to validate the results and ensure the features and functions implemented into the wireframe were well-translated and reflected the participants' input.

ESPACOMP-22-242

Addressing non-adherence in an interprofessional medication management service in Germany (ARMIN-Project)

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Introduction: Since July 2016, medication management conducted by physicians and pharmacists is offered within ARMIN. The overall aim is to improve the effectiveness and safety of pharmacotherapy.

Aim: Identifying drug-related problems (DRPs) and classifying the resulting pharmaceutical interventions (PIs) with a focus on medication non-adherence.

Methods: We aimed to recruit n=60 patients. Over 6 months, pharmacists documented DRPs and PIs. PIs were classified retrospectively by two independent raters using the PharmDISC tool. Results Overall, 79 patients were included (54% female; median number of medications: 9; range: 5–26); 470 DRPs were detected, resulting in 538 PIs. Non-adherence was documented in 24 patients (30%); accounting for 40 DRP (8.5% of all DRPs) resulting in 56 PIs (10.4% of all PIs). Most frequent interventions for non-adherence were sharing information (n=21, 38%), patient counselling (n=16; 29%), and optimization of administration (n=11; 20%).

Results: of the PIs were: successfully implemented (n=21; 38%), accepted but not implemented (n=6, 11%), and not accepted (n=1, 2%). For the remaining PIs, result was not known (n=22; 39%), or acceptance not needed (n=6; 11%). Non-adherence was most often observed for lipid-modifying agents (9 out of 40 DRP; 23%). Main reason was forgetting the evening dose (n=4), one patient reported a fear of statin-related myopathy.

Conclusion: Non-adherence, a frequent problem for instance in lipid-modifying agents, can be identified and solved in an interprofessional medication management with PIs. This indicates that pharmacists can contribute to optimize the patients' medication adherence.

Poster session 7: Medication use and adherence

ESPACOMP-22-237

Use of antidiabetic drugs in naïve diabetic patients of the ASLTO4 (Piedmont, Italy)

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Aim: To describe the use of antidiabetic drugs (ADs) in newly diagnosed diabetic patients.

Methods: Adults (≥18 year of age) with the first prescription of an AD in 2019 were selected from drug dispensing data of the ASLTO4 (period January, 2018–December, 2021). Exclusion criteria were: death during the study period, <2 dispensations/year of ADs, first prescription with >1 ADs. Patients with metformin as the index drug were classified according to the complexity of their antidiabetic therapy: monotherapy, 2-ADs, 3-ADs, 4-ADs, ≥5-ADs.

Results: 1,759 patients started antidiabetic therapy with 1 AD. Of these, 83.3% started with metformin: 68.4% patients remained on monotherapy, 21.2% were in the 2-AD group, 6.8% in the 3-AD group, 2.3% in the 4-AD and 1.3% added ≥5 ADs. The most co-prescribed drugs were those of the cardiovascular system, anti-infectives and drugs of the digestive system. From a more in-depth analysis of the 2-AD group it was found that 65.4% of patients added a second drug, 31.8% switched to a different drug and 2.8% discontinued therapy after switch. The most co-prescribed ADs were SGLT2 inhibitors (22.8%), sulfonylureas (SUs; 12.5%) and GLP-1 analogues (12.1%); monotherapy was mostly replaced by combinations of ADs (10.0%), SUs (6.9%) and DPP-4 inhibitors (5.5%).

Discussion: The 4-AD group had more co-prescriptions of drugs of other classes except pesticides. SUs are still widely prescribed despite recommendations.

Conclusion: Strategies should be implemented to improve prescriptive appropriateness of ADs.

ESPACOMP-22-238

Assessing medication adherence and persistence to antidiabetic drugs in naïve patients from Piedmont (ASLTO4, Italy)

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Aim: To identify differences in medication adherence and persistence of adult naïve patients of the ASLTO4 starting antidiabetic therapy with metformin.

Methods: New antidiabetic drug (AD) users of 2019 were selected from drug dispensing data of the ASLTO4 collected between January 2018 and December 2021. Patients were followed from their index date to their last dispensation date or the end of the study period. Patients who died within the study period, with <2 ADs dispensations/year or with index drugs other than metformin alone were excluded. Adherence to ADs was measured in each patient observation window as the Continuous Multiple-Interval Measure of Medication

Acquisition (CMA). Persistence was measured at 365 days as the time to discontinuation to ADs; a 30-day gap was allowed.

Results: 1,361 patients (55.4% males) were analyzed (median 67.0 year of age). Patients were classified according to the number of ADs co-prescribed: metformin monotherapy (68.4%), 2 ADs (21.2%), 3 ADs (6.8%), 4 ADs (2.3%) and ≥5 ADs (1.3%). The median time to discontinuation was significantly shorter (P<0.001; Log-rank test) with metformin monotherapy (60 days; IQR 25-184) than other groups. The proportion of partially adherent patients (40%<CMA<80%) prevailed in all groups.

Discussion: Patients on metformin monotherapy were less adherent and persistent than patients with more complex AD therapies.

Conclusion: Strategies need to be implemented to improve the management of AD therapies.

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Assessing medication adherence and persistence to statins in adults of the ASLTO4 (Piedmont, Italy)

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Aim: We did an observational, retrospective study to explore the use of statins in the ASLTO4, a Local Health Unit in the northern area of the city of Turin in the Piedmont Region (Italy).

Methods: Adults (age ≥18 years) with ≥1 statin prescription in 2018 from the ASLTO4 administrative databases of chronic disease exemptions and drug prescriptions were followed for 2 years from their index date. Patients who were prescribed with other lipid-lowering drugs were excluded. Adherence and persistence were measured at 2 years after stratification based on either the statin prescribed or at least one of the following conditions: previous cardiovascular events (PCEs), diabetes, chronic kidney disease (CKD), hypertension or treatment with maximum dose of statin.

Results: Overall, 2,061 individuals (50.5% females) were included (median age 68.0 years). Of them, 43.6% had PCEs (69.0 years), 33.8% diabetes (69.0 years), 3.7% CKD (68.0 years), while 79.4% were on the maximum statin dose (70.0 years). The median time to discontinuation was significantly longer (P<0.001; Log-rank test) for rosuvastatin (616 days; IQR 224-728) than for other statins and for patients with diabetes compared to other conditions (660 days; IQR 300-730). The proportion of adherent patients (MPR≥80%) prevailed in all subgroups.

Discussion: Persistence to statins is associated with both the prescribed drug and the patient's health status.

Conclusion: Subgroups of patients with suboptimal medication adherence should be further investigated before adjusting the treatment.

ESPACOMP-22-287

A prospective and comprehensive monitoring of medication adherence over the first year after renal transplantation

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Aim: Sufficient granular and longitudinal data on medication adherence after renal transplantation is still limited. Therefore, we designed the prospective ADTORQUE-trial including a multi-component adherence monitoring with focus on the implementation and persistence phase.

Methods: A total of 226 adult kidney graft recipients consecutively transplanted at the Medical University of Vienna from January 2018 to December 2019 were prospectively monitored every three month over the first year post-transplantation. The monitoring included self-report, electronic-drug-monitoring, pharmacy-refill-records, tacrolimus-trough-level, evaluation by a transplant psychologist and Torque-Teno virus plasma loads mirroring the host' immune function. Herein we present preliminary data on self-reported adherence using the BAASIS©-questionnaire.

Results: Non-adherence was detected in 52% across all time-points: 27% reported non-adherence only once, while 25% revealed non-adherence at multiple time-points. The proportion of non-adherence increased within the first three months post-transplantation, from 11% to 31% (month 3), and remained at 27%, 27% and 32% over subsequent visits. Failed dose-timing was the most frequent cause of non-adherence (41%). Patients revealed non-adherence at least once had a higher rate of biopsy-proven rejections compared to adherent patients (18% vs. 6%, p=0.015).

Discussion: Analyses of the full adherence monitoring might add further insight to our preliminary findings.

Conclusion: Inappropriate adherence was substantially reported already in early phases post-transplantation, whereby taking doses on time was the main barrier. The BAASIS©-questionnaire is a cheap and easy implementable method to identify patients at risk for kidney graft rejection due to non-adherence.

ESPACOMP-22-323

Adherence of lung cancer patients to oral anticancer agents in the implementation phase: the Sympro-Lung

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Introduction: SYMPRO-lung is a stepped wedge cluster trial, with a control and two intervention groups using patient-reported outcome measures.

Aim: To evaluate the adherence of lung cancer patients to oral anticancer agents (OACA) in the implementation phase of their treatment.

Methods: Adherence to OACA was evaluated in the implementation phase by means of a questionnaire (MARS-5) at two time points (15 weeks [T1] and 6 months [T2] after the start of treatment). The BMQ

questionnaire was used only at T2. An additional self-composed questionnaire was sent weekly both intervention groups.

Results: Of the 52 patients who initiated OACA treatment, 34 and 40 completed the MARS-5 questionnaire at T1 and T2, respectively. Twenty-one percent reported non-adherence at T1 and 18% at T2. The BMQ questionnaire was completed by 40 patients. Seventy-eight percent of the patients were accepting, 20% were ambivalent, and 2.5% was indifferent towards their medication. Of the 34 patients who completed the weekly questionnaire, 11 reported not to have taken their medication every day in the past week. Ten patients had discussed this with their doctors and 1 patient reported a different reason.

Discussion: Although OACA are important to control cancer progression, there are still some patients that report non-adherence in the implementation phase of their treatment. Furthermore, patients report ambivalence and indifference towards their medication.

Conclusion: The SYMPRO-lung trial indicates that adherence to OACA is persistently sub-optimal and there is room for educating patients to change their belief about medication.

Poster session 8: Communication, information, education

ESPACOMP-22-247

Information for parents about their child's medication: does it meet their needs?

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Introduction: Accessible and understandable information about medication is crucial for good medication use and adherence. Not much is known about how parents value medication information they obtain about their child's medication.

Aim: Our aim was to explore to what extent this information meets the needs of parents of children who use chronic medication.

Methods: A mixed method study using video observations of encounters between pharmacy technicians (PTs) and parents collecting their child's medication, semi-structured interviews with parents and an online questionnaire for parents.

Results: Observation of 14 video-taped encounters revealed that PTs provide information but do not often assess parents' needs or possible concerns about the medication. Results from eight interviews and the questionnaire completed by 65 parents showed that parents often receive information from their physician or pharmacist, which they complement with information found in the package leaflet and on the internet. The used information sources are valued by parents in terms of findability, understandability and completeness, and thus these sources approached their ideal information sources. Parents did suggest to add information specifically aimed at the children themselves.

Discussion: Our small number of respondents limits generalizability, and selection bias might have occurred. However, the obtained results provide a good first insight.

Conclusion: Parents are positive about the available information for their child's medication (use). Providing information directly to the children, so that they themselves can also learn more about their medication, might benefit their adherence.

ESPACOMP-22-272

Counselling for inhaled medication: evaluation of communication between Pharmacy Technicians and chronic lung patients

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Introduction: 70% of chronic lung patients use their medication sub-optimally. In the Netherlands, patients often receive instructions on use in the pharmacy. Proper inhaler technique education may improve initiation, implementation and persistence of inhaled medication.

Aim: To explore the interaction in communication between Pharmacy Technician (PT) and chronic lung patient during dispense counselling sessions including inhaler technique instruction.

Methods: A coding scheme was developed to evaluate video-taped inhaled medication counselling sessions between PTs and patients.

Results: 31 video-taped counselling session were observed. Overall, more instructions (N=51) were provided by PTs to patients than compliments (N=45). Most instructions were related to breathing-related (n=16) prior to- or during inhalation. Most compliments concerned the entire process of inhalation. Patients mainly expressed informational concerns (64%), to which PTs reacted with an informational answer (98%). Emotional concerns that were expressed by patients were reacted to with emotional answers (60%), but also with informational answers (20%) by PTs.

Discussion: During counselling sessions regarding inhaled medication, a mismatch is present in the way feedback is provided by PTs to their patients during inhaled medication counselling session.

Conclusion: Efforts can be made to improve the balance the amount of instructions or compliments are provided by PTs, as well as on how to deal with concerns that are expressed by patients. A better match may result in better initiation, implementation and persistence of inhaled medication adherence.

ESPACOMP-22-273

Use of the teach-back method in patient-provider communication during first dispense counseling in community pharmacies

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Introduction: Written and verbal information is important to support the patient in medication use and adherence. At first dispensing, pharmacies counsel patients how to use their medication and to stimulate initiation. The teach-back method is effective to improve comprehension of information, especially for patients with limited health literacy.

Aim: This study investigates the communication between patient and healthcare-provider when using teach-back during first dispense counseling before initiation of the therapy.

Methods: The teach-back method was implemented in two community pharmacies in a low health literacy setting in Utrecht, the Netherlands. Encounters at first dispensing were audio recorded, transcribed verbatim and quantitively analyzed on content of the encounter and wording of the teach-back. A qualitative analysis was performed on how the teach-back influenced patient-provider interaction.

Results: In total 79 encounters were recorded. Providers most often discussed instructions for use (60%) and dominate the conversations (65% of the words). The teach-back was often formulated as a closed question and not targeted at a specific part of the medication instructions (e.g., dosage instructions).

Discussion: Although providers dominated the conversations, using teach-back led to patient-provider interaction. Teach-back is a promising start for shared decisions on how to use medication. A common patient-provider responsibility might have positive impact on adherence to initiate new medication.

Conclusion: Pharmacies were able to use teach back during first dispense counseling. Patients had a passive role, with giving instructions about medication as primary focus of professionals.

ESPACOMP-22-277

Portuguese medical students' attitudes to partnership in medicine taking

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Introduction: The determining factors for therapeutic adherence are several and very complex. One such factor is the patient's trust in the treatment itself. However, a dimension less often considered but equally critical for adherence is the quality of the patient-doctor bond.

Aim: The present study aims to shed light on the way therapeutic adherence is perceived among medical students, since this is largely still unknown.

Methods: Medicine students from the Faculty of Medicine of Porto were invited to fill a questionnaire to measure their attitudes to therapeutic partnership in medicine taking (LATConII), by the end of their school year (June 2022).

Results: In general, all 792 medicine students included in the study agreed with the patient-doctor concordant approach to medicine taking. Notwithstanding, the 387 participating clinical grade students, when compared with the 405 basic grade students were in greater agreement with the following: the importance of the level of participation and involvement that patients should feel they have in the consultation ($p<0.001$); the necessity to find common ground and be in agreement over decisions ($p<0.001$); the perceived benefits of partnership in medicine taking ($p<0.001$); and the equality and shared control within the interaction ($p<0.001$).

Discussion and Conclusion: Although not significant, the continued use of a paternalist style on the patient-doctor interaction was higher in basic grade students. It is urgent to perceive the attitudes of those who are fundamentally a part of the process and use this information to mould medical education.

ESPACOMP-22-281

The narrative interview in the therapeutic education of patients and caregivers for chronic therapy

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Aim: The gold standard in research is represented by randomized controlled trials (RCTs). While safety of patients selected by the Clinical Trial Center for RCTs is ensured, there remains the need for clinicians to know how patients will respond to and manage chronic therapy in real life and how factors like patient (digital) skills and medication adherence behaviour can impact on their safety. Therefore, this study aims to evaluate whether the narrative interview can be used to improve medication adherence.

Methods: Pragmatic research in real world with mixed method in collaboration with the Azienda Sanitaria Locale TO4 (Piedmont, Italy) and the University of Turin. The study protocol includes the recruitment of 18 patients and caregivers.

Results: Recruitment and data collection are ongoing, and results are expected in the next months addressing the impact of therapeutic prescription in daily-life patients.

Discussion: Medication adherence is affected by barriers in which patient decision making plays an important role. Narrative interviews can provide information on patient daily activities and habits and allow healthcare professionals to better understand how patients follow their therapies and face adverse effects.

Conclusion: Digital skills, daily habits and education profiles of patients represent the main categories according to the EPOC Taxonomy of patients-oriented actions aimed in particular at their own safety.

Poster session 9: Building resilience in response to global crises and challenges

ESPACOMP-22-236

The importance of communication and dissemination in a European project on medication adherence

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Introduction: CA19132 - European Network to Advance Best practices & technoLogy on medication adherencE (ENABLE) project aims to raise awareness of medication adherence (MA) and digital technologies. ENABLE is composed of 40 European countries including members from various backgrounds. Communication and dissemination play an important role in this project.

Aim: To present communication and dissemination activities in the COST ENABLE project.

Methods: The outlined plan for communication including the selection and utilization of appropriate channels of dissemination and communication during the first two-year period is presented.

Results: A website and accounts on LinkedIn and Twitter were created to increase visibility by sharing all relevant events, publications, and congresses. A communication plan was prepared using an analysis of strengths, weaknesses, opportunities and threats to predetermine the activities to be held in the 4-year period. Newsletters were prepared in quarterly periods, and upcoming events were announced to all members and new participants. Promotional materials were designed to create a sense of belonging among the members and to promote the project. A press release was prepared using lay language to communicate with the general public.

Conclusion: To carry out a joint European project and effectively disseminate its results to stakeholders (scientific community, pharmaceutical industry, researchers, patients, patient associations and general public), effective communication and dissemination strategies are needed, and these strategies can be a driving force in policymaking at international level by raising awareness

ESPACOMP-22-212

Actions to improve medication adherence during the COVID-19 pandemic in Europe

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Introduction: In the European Cooperation In Science and Technology (COST) project CA19132 - European Network to Advance Best practices & technoLogy on medication adherencE (ENABLE), Work Group 1 examines how medication adherence is managed across Europe.

Aim: To gain knowledge on specific actions and initiatives to improve medication adherence during the COVID-19 pandemic.

Methods: A cross-sectional, online survey was carried out 4/21–6/30, 2021. COST members from 39 countries were asked to disseminate the survey to key-opinion leaders (i.e., medication adherence experts) from health, academic, and governmental institutions, and patient associations with the aim of 5 respondents per country. Answers to open-ended questions were analyzed using the Framework Method. This abstract presents the results on the question on actions to improve adherence during the pandemic.

Results: In total, 140 KOLs from 35 COST countries responded. Most of them (n=74) represented a research/academic organization. 57 respondents from 27 countries answered that there were no specific actions in their country to improve adherence during the pandemic. In addition, 32 respondents were not aware of any actions. Telemedicine (n=22) was the most often reported action. Other actions included, for example, easier access to medicines and public information and education.

Conclusion: Most of European countries seem not have had actions specifically aimed at improving medication adherence during the pandemic. Many actions are known to have been taken to maintain access to care and medication, but these were not seen as actions to improve adherence.

ESPACOMP-22-293

Effects of COVID-19 pandemic on healthcare services availability: cross-sectional online survey in Poland

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Aim: COVID-19 disrupted provision of healthcare services in many countries. The aim of the study was to assess the effect of pandemic on provision of healthcare services in Poland, and particularly, the maintenance of long-term therapies.

Methods: A cross-sectional online survey, opened January 13th - March 7th, 2021.

Results: 1505 respondents aged 23.4 +/- 6.5 participated in the study (male, 45.0%, female 52.0%). Respondents reported poorer access to primary care doctors (56.0%) and specialist doctors (42.7%), as well as longer waiting time for consultation (42.2%). Most of them could consult their doctors via teleconsultation, and videoconsultations. In general, participants had no problems with obtaining prescription needed, nor filling them in the community pharmacy. Some respondents reported running out of the drugs they needed (once - 10.7%, 2 or more times – 5.5%). Some of them they felt less (16.2%) or much less well (11.0%) supported by the healthcare professionals during pandemic.

Discussion: Our survey illustrated the shift from onsite to various forms of teleconsultations. Despite availability of national eHealth system (e.g. ePrescriptions), our result point at disruption of the continuity of access to healthcare services, and related discontinuation of the therapies. These results need to be interpreted in a light of young age of survey participants - in the older groups the scenario could even look worse.

Conclusion: Our survey identified gaps in the coverage of national healthcare system in Poland during unfavourable conditions of COVID-19 pandemic.

ESPACOMP-22-258

The impact of war on maintenance of long-term therapies in Ukraine

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Aim: The aim of the study was to analyze how the Russia's war against Ukraine affected the maintenance of long-term therapies.

Methods: A qualitative study based on the content analyses of written documents and semi-structured expert interviews of local pharmacists and family physicians.

Results: War in Ukraine has a major impact on entire national healthcare system. In the regions attacked by Russian troops, the availability of medical services and drugs is very limited. Massive internal and external migration of Ukrainians creates additional challenges to the maintenance of long-term therapies. In order to minimise these negative effects, several changes in legislations have been adopted. Ukrainian national drug reimbursement program applies to the outpatient treatment of cardiovascular diseases, bronchial asthma, diabetes, mental and behavioural disorders, epilepsy. The program continued to work on the territory controlled by the Government of Ukraine in July 2022. Reimbursed medicines can be prescribed on electronic or ordinary paper prescriptions by any general doctor regardless the place of residence of the patient, unlike in the pre-war scenario. The overall number of prescriptions have decreased. Not all reimbursed medicines are available now. Discussion and conclusion: Ukraine is trying to minimise the influence of war on its healthcare system by adapting the legislation. However, the drug reimbursement program covers limited number of medicines only. This, along with lack of certain drugs, creates challenges toward maintenance of chronic therapies, and illustrates the reasons for which Ukraine requires international support now.

Posters at a Glance Virtual

ESPACOMP-22-217

Understanding sources of bias in medication adherence research

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Introduction: Sources of bias in medication adherence research are not well defined. Better understanding of the potential biases associated with adherence measures and how these might affect specific phases of adherence is required.

Aim: To define the sources of biases associated with different medication adherence measures and to map these to the phases of adherence defined by the ABC Taxonomy (initiation, implementation, and discontinuation).

Methods: A scoping literature review was conducted to identify measures used to quantify adherence in healthcare studies. Sources of biases in adherence research were identified from the Oxford Catalogue of Bias, the EMERGE guidelines, the TEOS framework, and by expert consultation with the Centre for Business Innovation Medical Adherence and Digital Health consortium. A map was constructed to establish potential sources of biases for each adherence measure and adherence phase. Possible strategies for mitigating risk of bias when designing studies are proposed.

Results: This is an ongoing project. In a preliminary review we have identified 11 types of biases directly related to medication adherence. Tabulation and classification of the findings including proposed strategies will be presented.

Discussion and conclusion: We have collated information on study biases and mitigation strategies specific to adherence measures for medication initiation, implementation, and discontinuation. Understanding these sources of biases will inform the design of adherence studies to select suitable adherence measures to minimise the risks of biases in all three phases of adherence.

ESPACOMP-22-220

Antidiabetic prescription and use pattern in the population. Results from the EpiChron Cohort Study

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Introduction: Non-adherence to medication has a global impact on patients, especially those with chronic conditions such as type 2 diabetes. Objectives: To study antidiabetic treatment initiation, add-on, switching, and medication persistence.

Methods: Observational study including ≥14-year-old patients who initiated antidiabetic treatment between 2013 and 2014 in the EpiChron Cohort (Spain). A descriptive analysis of treatment initiation, add-on and treatment switching was conducted. Non-persistence was considered as a gap of ≥90 days between two dispensations. Cox regression models were used to estimate the likelihood of non-persistence.

Results: Metformin was the most prescribed oral antidiabetic (80.5%), followed by combination therapy in 40–79-year-old adults (10.9%), and DPP-4 inhibitors in those over 80 years (12.7%). Individuals initiating metformin treatment showed a lower likelihood of addition or treatment change. Treatment persistence at one year was 69%. Patients over 40 years, from rural or deprived areas, and with polypharmacy had a lower risk of discontinuation.

Discussion: The observed prescription pattern follows the clinical evidence. The lower incidence of metformin treatment adjustments suggests that using this drug at initiation could reduce the risk of complications compared with other antidiabetics. The high persistence rate found, consistent with the literature, is influenced by age, area of residence, and the presence of polypharmacy.

Conclusion: Given the high clinical and social impact of diabetes, the implementation of strategies to avoid undesirable consequences of treatment discontinuation in high risk groups of patients is essential.

ESPACOMP-22-221

Pharmacist counseling and mobile health technologies: impact on medication adherence for type 2 diabetic patients

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Introduction: This study explored the benefits of the use of mobile technologies combined with health coaching by the community pharmacist for type 2 diabetic patients.

Aim: The intervention aimed to reinforce the patients' willingness to actively participate in the management of their disease, to adopt favorable health behaviors and to increase their level of medication adherence. Both implementation and persistence were considered and explored.

Methods: This quantitative pre-experimental study focused on the intervention of the community pharmacist (educational and coaching sessions) and the use of a mobile health application provided by Comunicare. There were 3 data collection periods at baseline, after 3 months and after 6 months. Primary outcomes, related to the level of medication adherence, and secondary outcomes, considered as cardiovascular risk factors, were analyzed.

Results: The baseline sample consisted of 66 patients, 46 of whom completed the study. Statistical analyses did not show an improvement in the level of medication adherence. However, significant results were observed for systolic blood pressure ($p = 0.01$) and waist circumference ($p = 0.002$).

Discussion: Systolic blood pressure and waist circumference, considered as cardiovascular risk factors, showed a positive trend. All other outcomes studied, including HbA1c, changed positively or stabilized between the beginning and the end of the study.

Conclusion: Counseling by the community pharmacist, combined with the use of a mobile health application can have a positive impact on type 2 diabetic patients' health and disease management.

ESPACOMP-22-223

Intervention to improve medication adherence in systemic lupus erythematosus

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Introduction: We developed a provider-led intervention to promote medication adherence in Systemic lupus erythematosus (SLE) by encouraging providers to review real-time pharmacy refill data with patients and use effective communication strategies to discuss adherence barriers. Here, we examine fidelity, time spent, communication quality, and change in adherence.

Methods: We audio recorded clinic encounters when the intervention was performed. Patients with 90-day medication possession ratio (MPR) <80% for SLE-specific medications based on pharmacy refill information were eligible. We coded whether physicians reviewed refill data and used open-ended questions, validation, and positive reinforcement during adherence discussions. Patients completed interviews about their experiences with the intervention. We assessed change in 90-day MPR.

Results: We recorded and analyzed 24 encounters among six physicians. Of these (patient median age 37, 100% female, 75% Black), physicians reviewed refill data in 20, used positive reinforcement in 21, validation in 17, and open-ended questions in 11 encounters. On average, adherence discussions took 3.9 minutes. Among 15 patients interviewed, nearly all felt that time spent discussing adherence was just right and described positive experiences. Of 20 patients with 90-day MPR post intervention, 13 had improved adherence with an average of 46% absolute increase in MPR.

Discussion and conclusion: Our results suggest that the intervention is feasible and effective at increasing MPR. Additional work is needed to improve provider training in asking open-ended questions. Future research should test the intervention in a larger controlled setting.

ESPACOMP-22-230 VIRTUAL

The effect of the pandemic on statin adherence in primary cardiovascular prevention

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Aim: To identify groups of statin users according to their adherence pattern before and during the COVID-19 pandemic and to analyze predictors of these patterns.

Methods: Observational longitudinal study in participants of the CARhES cohort (Aragón, Spain) who initiated statin therapy as primary cardiovascular prevention during January-June 2019. Information was gathered from healthcare system datasources. Adherence (implementation phase) was bimonthly estimated by the Continuous Medication Availability (CMA9 function in AdhereR). Group-based trajectory models were conducted to group statin users according to their adherence pattern from July 2019 to June 2021. Predictors of the adherence patterns observed were analyzed using multinomial logistic regression.

Results: Among the 15,332 new statin users identified, 4 adherence patterns were found: high adherence (37.2% of them); poor adherence (35.6%); occasional use (14.9%); and gradual decline (12.3%). The two last groups comprised users with an increase or a decrease in adherence once emerged the pandemic. Being younger, not pensioner, not institutionalized and presenting a low number of comorbidities was associated with suboptimal adherence. Being a woman and switching between statins of different intensity increased the likelihood of showing an ascending trend in adherence during the pandemic.

Conclusion: A total of 4 distinct adherence patterns were identified. The pandemic context could have affected the medication-taking behaviour in two of the groups identified. Their characterization enables the effective resources distribution in future crisis and the routine implementation of effective interventions for enhancing medication adherence.

ESPACOMP-22-248

Exploration of Systems Thinking: A Secondary Data Analysis

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Aim: The aim was to evaluate the effect of the 6-month SystemCHANGETM intervention on systems thinking in adult kidney transplant recipients.

Methods: This intervention, delivered by a nurse trained in SystemCHANGETM intervention, harnesses patients' established routines of daily living, environments, and important others (their personal systems), as possible solutions that are reoccurring and reliable that could support medication-taking to become a routine. A secondary data analysis of the MAGIC (Medication Given Individual Change) Study data was conducted. Data from 83 participants from five US transplant centers were included. Systems thinking was measured using the reliable and valid Systems Thinking survey.

Results: Mean age was 51.72 years with 55.4% male. At 6-months, systems thinking scores for the SystemCHANGETM intervention group (mean 3.67, SD .671) and the attention-control group (mean 3.63,

SD .669) were not significantly different (p=0.87). No statistically significant correlations were found between system thinking scores and age (p=.886; r=.041), gender (p=.908; r=.324), ethnicity (p=.211; r= .094), marital status (p=.714; r=.034), education (p=.684; r=.001), or employment status (p=.925; r=187).

Discussion and conclusion: Correlational analyses of systems thinking and medication adherence scores are in progress. Though the SystemCHANGETM intervention was superior to the attention-control intervention in improving medication adherence in the parent study, this study found that systems thinking scores were not different between groups. The brief participant baseline training on SystemCHANGETM principles may have been insufficient to change participant knowledge but nonetheless changed medication adherence rates.

ESPACOMP-22-250 VIRTUAL

High rate of Covid-19 vaccination adherence in HIV+ people: monocentric assessment from real data

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Introduction: In the last six years we have implemented vaccinations in HIV+ patients, as recommended by guidelines. All our patients are sent to their vaccination hub also to promote destigmatization but we have local administration service (COVID-19 excluded).

Aim: Our study intends to estimate adherence rate to COVID-19 vaccines.

Methods: Our center takes part to SIRVA, the Piedmont Regional Informative System of Vaccination and we use it to verify Adherence. We included 943 HIV+ patients: 739 male and 204 female subjects. Median age (years) was respectively 50,93 and 50,43; 784 patients were Italian while 159 foreigners. Motivations of vaccination hesitancy were investigated through specific questionnaires.

Results: At May 2022, 878 patients (93,1%) underwent COVID-19 vaccination primary cycle. 65 (6,9%) didn't undergo COVID-19 vaccination with significant association between no adherence and female sex (p 0.013); no association was seen with nationality. Analysis of questionnaires on hesitancy is ongoing.

Discussion: We found high rate of COVID-19 vaccination adherence in our patients, also greater than in general Italian population (84.24%). According to 3C vaccination hesitancy scheme, our model, based on counselling and promotion of responsibility about the other vaccinations, could favoirite confidence, complacency and convenience in this specific population.

Conclusion: Data collection instrument like SIRVA allow a good assessment of adherence (initiation phase and persistence) based on objective data, essential to take action to reduce vaccination hesitancy.

ESPACOMP-22-255

Adherence to treatment recommendations in chronic diseases. Does gender matter?

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Introduction: Some papers point to better adherence of young men to therapeutic recommendations, while others mention better adherence of older women.

Aim: Therefore, the aim of this study was to determine the relationship of gender and the level of adherence to pharmacological recommendations among patients with a diagnosis of hypertension (HTN) and diabetes (DM).

Methods: The study included 1570 subjects with a diagnosis of HTN(n=1039) or DM(n=541). ARMS was used to assess the level of adherence with pharmacological recommendations.

Results: The level of adherence was statistically significantly higher in the female compared to the male group (18.2 (6.1) vs. 19.0 (6.8); p=0.015). Among respondents regardless of diagnosis, 47% of women vs. 42% of men achieved a high level of adherence. Significant differences in adherence levels were observed by diagnosis for both hypertension (18.8(6.6) women vs. 19.8(7.7) men and diabetes (16.6(4.2) women vs. 17.8(4.8) men). In the diabetic group, women were significantly more likely to achieve high levels of adherence (52% vs. 39%; p=-0.004). Linear regression analysis for the entire group of patients found that female gender was a significant determinant of adherence to pharmacological recommendations (_=0.003; p=0.07). In the multiple logistic regression model, women achieve a low adherence score about 20% less often than male respondents.

Conclusion: Gender is a significant factor that is related to the level of adherence to pharmacological recommendations. Female gender is the most important determinants improving adherence to pharmacological therapy.

ESPACOMP-22-261

The Economic Impact Of Non-Initiation Of Psychiatric Treatments In The Paediatric Population

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Introduction: Medication non-initiation is associated with higher costs for the healthcare system in adulthood. There is a lack of evidence regarding the paediatric population.

Aim: To estimate the impact of non-initiation of psychiatric treatments on the use of healthcare services and costs in the paediatric population.

Methods: Longitudinal register-based study including all under-18 patients receiving a prescription for specific psychiatric treatments in Catalonia (Spain) from 2016 to 2017. Healthcare service use was registered one year before and after the index prescription. To estimate the mean differences in costs and health services use between initiators and non-initiators, two-part models with gamma distribution and log link, and with Poisson distribution were used respectively.

Results: 15,975 prescriptions were included. 1-month incidence of non-initiation was 13.59%. After one year, non-initiators used less of most healthcare services analysed and spent on average 201.13€ (CI:-260.56; -141.69) less than initiators.

Discussion: Paediatric patients who initiate prescribed psychiatric treatments make greater use of healthcare services and have higher healthcare expenditure than non-initiators, in the short term. This is opposed to evidence regarding adults, which shows that non-initiation is associated with higher costs for the healthcare system.

Conclusion: Medication adherence is necessary to achieve treatment effectiveness, however, medical effects of poor adherence to psychiatric medications might be seen in the long term. In the short term, clinical and social consequences of non-initiation may be easily seen due to the social burden of mental health problems.

ESPACOMP-22-275

The Initial Medication Adherence intervention: study protocol of a cluster-Randomised Controlled Trial using Real-World Data

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Aim: The Initial Medication Adherence – cluster-Randomised controlled trial (IMA-cRCT) aims to evaluate the effectiveness and cost-effectiveness of the IMA intervention, which is expected to improve initiation, adherence and clinical parameters, and to assess its mechanism of action and its applicability and generalisability.

Methods: The IMA-cRCT is an effectiveness-implementation hybrid design, which consists of a pragmatic cluster-RCT, including a process evaluation, and economic modelling. The intervention will be performed in 24 general practices in Spain and will include >3,600 patients. Patients with a new prescription for cardiovascular disease or diabetes will receive the IMA intervention from their general practitioners, supported by nurses and pharmacists. The intervention promotes shared decision-making using support tools and will be compared to usual care. Real-world data will be used to evaluate the short-term effectiveness and cost-effectiveness of the intervention. The process evaluation will include quantitative and qualitative methods to assess implementation, mechanisms of impact, and context of the intervention. Markov models will be constructed to extrapolate the results of the cRCT and estimate the long-term cost-effectiveness of the intervention.

Discussion and Conclusion: The study will provide evidence on the effectiveness, efficiency and feasibility of the IMA intervention, as well as on a novel methodology to develop and evaluate complex interventions. The results will be disseminated to stakeholders, including decision-makers, health care professionals and patient groups, and may have implications for practice, policy and research.

ESPACOMP-22-295

Clinical pharmacists experience on medication adherence management in Sublingual Immunotherapy (SLIT)

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Introduction: Sublingual immunotherapy (SLIT) is known to be associated with a high risk of sub-adherence/discontinuation, with poor outcome and increased economic burden. Therefore, in Mauriziano Hospital of Turin, a pharmacist-led service was created to monitor and support the patients in their home treatment.

Aim: -Enhance adherence's interventions; -Develop data analysis on pharmacy refill for SLIT cohort.

Methods: The clinical pharmacist engages patients and applies appropriate counselling techniques in order to promotecompliance. SLITs monitored were: Grazax® (GR)(3-year continuous treatment) and Oralair® (OR) (seasonal treatment). Adherence's analysis were carried out with Medication Possession Rate (MPR: days of treatment withdrawn/days of treatment prescribed x100) from drugs-refill database. Sub-adherence were discussed both with physicians and patients, also through a telepharmacy system.

Results: From Sep 2019 to Jun 2022, 494 analysis of MPR were carried out: 44 on GR and 450 on OR. MPR was 100% in 303 analysis (7 (16%) on GR and 286 (64%) on OR); range 80-99% in 87 analysis (11 (25%) on GR and 76 (17%)on OR); range 40-79% in 54 analysis (8 (18%)on GR and 46 (10%) on OR); MPR<40% in 60 analysis (18 (41%)on GR and 42(9%)on OR). The average adherence in GR cohort was 58% and 86% in OR cohort.

Discussion: The average adherence in our cohortwas higher than reported in other studies, despite this preliminary analysis requires further investigation. Conclusion The pharmacist's intervention and technological innovation we used represent a useful tool in increasing patients' treatment adherence.

ESPACOMP-22-298

Promoting medication adherence in COPD patients: pilot study in a sample of Italian community pharmacies

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Introduction: Underuse and improper use continue to be one the most common causes of poor medication-adherence in patient whit COPD that use chronic inhalation therapy (CIT).

Aim: To measure medication adherence in COPD patients undergoing CIT, analyze the causes of non-adherence and evaluate the effectiveness of an educational intervention program provide by community pharmacist.

Methods: A pilot study to assess medication adherence to inhaler treatment in COPD patients attending at community pharmacies was developed. All participating pharmacies involved a clinical community pharmacist (CCPs) whose had been specifically trained to deliver the educational intervention. Medication adherence and causes of non-adherence to CIT were assessed with TAI-Test at baseline (T0) and after 2 months (T1). CCPs performed a tailored education intervention to patients on the basis of T0 TAI score and patterns of non-adherence.

Results: Twelve community-pharmacies participated in the pilot study. A total of 71 subjects were enrolled (T0). Eight patients didn't attend visit 2 (T1). T0 monitoring medication adherence with TAI Test highlights that 62.0% were non-adherents (low or intermediate score of adherences). Moreover 58.3% of subject presented erratic pattern of non-adherence, 30.6% deliberate and 19.4% unwitting. After educational intervention performed by CCPs (T1) 50.8% of COPD patients were totally adherents to CIT (high score of TAI Test). All non-adherence behavior pattern were improved. Conclusion: Preliminary data showing that a targeted educational intervention driven by TAI-test and promoted by CCPs may improve medication-adherence to CIT.

ESPACOMP-22-299

Intentional non-adherence in chronic illness before and during the COVID-19 pandemic

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Introduction: Since there is still considerable unexplained variance in studies investigating the determinants of non-adherence, it is necessary to evaluate new measurement tools, such as the Intentional Non-adherence Scale.

Aim: Which are the main factors influencing adherence in patients with chronic illness? To what extent was adherence and its determinants affected during the COVID-19 pandemic?

Methods: 2 surveys were conducted in January 2020 and in March 2021, during the 3rd wave of COVID-19. Our samples consist of 482 and 583 patients with chronic diseases. We used the same questionnaires, with additional questions about COVID-19 in the second phase. Questionnaires included the MARS-5, the INAS-scale, the BMQ-Specific, PAM 13 and the Fear of COVID-19 Scale (FCV-19S) We formulated a model using the scales as constructs of exogeneous latent variables influencing the endogenous latent variable, MARS-5.

Results: We tested the model for both periods, the comparison with MGA showed a high reliability of the constructs. The SEM model showed significant relationships between MARS-5 and a range of factors (R2=0.45). Fear of COVID-19 mainly affected adherence to the pandemic instructions and only had a slight effect on adherence to medication for the chronic diseases.

Discussion: the results provide further validation of the INAS scale in a different country. The structural model explains significant variance in adherence before and during COVID. Conclusion: This study adds to our understanding of the factors influencing medication adherence.

ESPACOMP-22-300

Clinical pharmacist counseling to enhance medication and pathway adherence at discharge

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Introduction: Non-adherence to medication or follow-up may be associated with hospitalisation and mortality. Literature shows that pharmacists counseling interview at discharge may decrease hospital readmissions. 'Professional counseling' needs to in-depth knowledge and skills that must be acquired and appropriately applied

to optimize the interview. At Mauriziano Hospital, the clinical pharmacists attended a specific training course to improve professional counseling skills.

Aim: 1) Analyze pharmacists' interviews and communication tools; 2) Classify the different counseling techniques applied to monitor and support adherence.

Methods: We analyzed communicative contents and counseling skills in structured interviews led by pharmacists at discharge, with a particular attention on telepharmacy. We focused on communication tools used to identify adherence issues (initiation, persistence, discontinuation phases) and risks (intake errors, drug interactions or adverse drug reactions).

Results: From January to June 2022, 10.988 interviews (44 teleconsult) led by pharmacists were analyzed. Interviews were structured in 6 phases: welcome, opening, recognition, development, closing and leave. Telepharmacy had also: 'preparation'. Communicative contents were divided into 2 macro-areas (subdivided in incoming and outgoing communication): Professional (clinical-pharmacological information) and Emotional. The analysis identified 6 communication skills applied to adherence evaluation: active listening, questioning, checking, reflection, focusing, supporting.

Discussion: The analysis of counseling skills used by pharmacists allowed to improve knowledge, enhance patient centered services and promote patient empowerment.

Conclusion: Care transition is a critical step in patient pathway and counseling expertise can be useful to identify, prevent and work on voluntary or involuntary sub-adherence.

ESPACOMP-22-317

Correlates to nonadherence to routine appointments of kidney transplant patients: results of ADHERE Brazil Study

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Introduction: Routine appointment non-adherence (A-NAd) after kidney transplantation (KT) is a unexplored risk factor for graft outcomes. We reported a prevalence of 12.7% of A-NAd in ADHERE Brazil Study. The identification of barriers to A-NAd is essential for designing strategies to approach its effects.

Aim: Identity multilevel (patient, health professional, transplant center, health care system) factors associated with A-NAd after KT.

Methods: Cross=sectional and multicenter design. A multistage randomized sample of 1,105 patients from 20 centers was studied. We classified patients as non-adherent to health care appointments if they were absent of >1 from the last 5 scheduled. Following Bronfenbrenner´s ecological model, we analyzed 45 multilevel factors associated with A-NAd by sequential logistic regression.

Results: Most patients were male (58.5%), with a mean age of 47.6±12.6 years. Factors associated with A-NAd were, at patient level: age (OR 0.97, CI 0.96-0.99, p=0.001); more than 5 years post KT (OR 2.03, CI 1.38-3.00, p<0.001); NAd to immunosupressives (OR 2.41, CI 1.66-3.50, p<0.001); at micro level (health care professionals): trust in the team scale (OR 0.98, CI 0.95-1.00, p<0.079), and at meso level (KT service): appointments

frequency (monthly) (OR 1.75, CI 1.10-2.77, p<0.018) and limited access to scheduling (OR 1.91, CI 1.16-3.17, p<0.011).

Conclusion: This is the first multicenter study evaluating association between A-NAd post KT and factors beyond the patient level. Our results suggest we need strategies beyond the patient level for reducing A-NAd after KT.

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Impact of the COVID-19 pandemic-related decline in medication adherence on visual function

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Introduction: We previously reported a pandemic-related decline in the trajectory of adherence during the implementation phase among patients with primary open-angle glaucoma (POAG).

Aim: To assess the impact of the pandemic-related decline in adherence on visual function.

Methods: This cohort study used an interrupted time series design in which the four-year monitoring period bracketed the pandemic declaration in the United States. Patients with a diagnosis of POAG treated with ocular hypotensive eyedrops were included. Visual function was assessed every four months with standard automated perimetry. The slopes of the mean deviation in the periods before and after the pandemic were derived with linear regression. The Davies test was used to compare the slopes and the Chi-square test was used to determine whether changes in adherence and visual function trajectories were associated.

Results: The sample included 79 patients with a mean (SD) age of 71 (8) years. The trajectory of visual function declined following the onset of the pandemic, with a change in slope of -0.33 decibel/year ($p < 0.001$). A significant association between the trajectories of adherence and visual function was observed in Black patients only (Chi-square = 4.2; $p = 0.04$).

Discussion: These results suggest a pandemic-related decline in visual function. Lower pre-pandemic mean adherence in Black patients may have translated in a decline in visual function.

Conclusion: Vigilance is needed to identify and address the downstream impact of the pandemic on adherence and vision.

ESPACOMP-22-319

HealthBeacon: Weekday vs Weekend Scheduling and Medication Adherence

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Introduction: HealthBeacon's Injection Care Management System (ICMS) electronically monitors adherence by recording used injections ('drops') in a connected sharps bin.

Aim: To compare adherence on weekdays (Monday- Friday) versus weekends (Saturday, Sunday).

Methods: HealthBeacon recorded 287,088 drops from 6,587 patients between January 2018-July 2022, across Gastroenterology, Dermatology, Rheumatology and Neurology. Regression analysis identified effects of age, gender, injection frequency and therapeutic area (TA) on adherence to doses scheduled on weekdays versus weekends. Adherence was categorised into 'Overall' (all drops recorded regardless of scheduled day), '24-Hour' (+/-24 hours from scheduled time) and 'Same-Day' adherence (on scheduled day).

Results: Overall adherence was strong, at 86%. However, significant differences were observed in weekday versus weekend adherence; '24-Hour' and 'Same-Day' rates dropped 4% on weekends, with the lowest observed on Saturday, a sub-optimal day for scheduling ($p<0.001$). Older patients or those on monthly injections demonstrated more precise adherence, and although adherence improved with age, lower rates on weekends persisted for all groups except 18-29 ($p=0.104$). The interaction between other factors also affected weekend adherence, with lowest rates amongst Dermatology patients ($p<0.001$).

Conclusion: Dose scheduling impacts patients' tendency to take medication on time, with adherence dropping on weekends. Interactions between patient factors and adherence varies, highlighting the need for tailored scheduling. Capturing reasons for such patterns is an important next step, however by better understanding patient behaviour, prescribing instructions can be optimised to fit schedules and enhance compliance.

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