

Medication adherence in older adults - advances in research and practical implementations

Prof. Przemyslaw Kardas

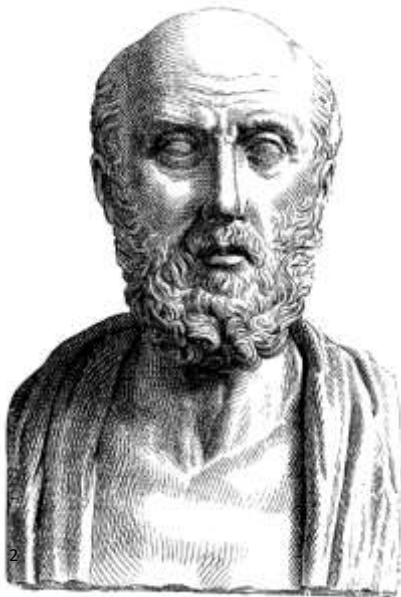
Medical University of Lodz, Poland



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50th ESCP Symposium
Polypharmacy and ageing
Prague, 19-21 October 2022

Old problem of non-adherence



...keep watch also
on the faults of the patients,
which often make them lie
about the taking of things
prescribed...

Hippocrates

V - IV century BC



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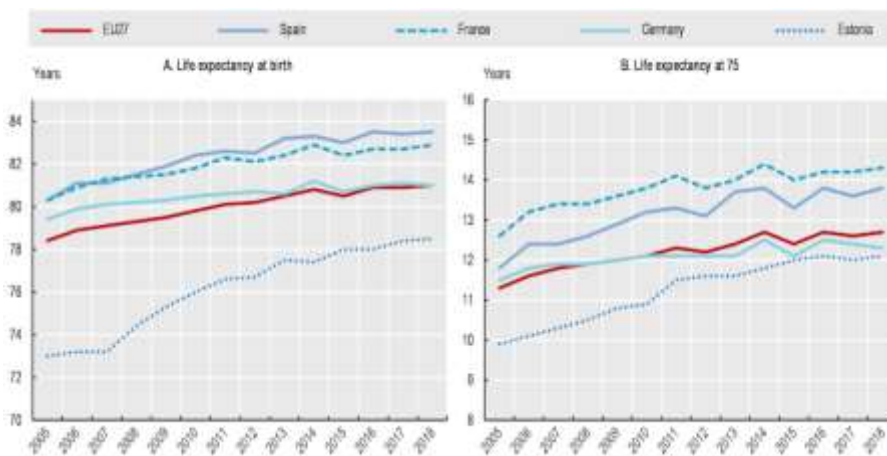
What will this presentation bring?

- New CONTEXT
- New RESEARCH RESULTS
- New SOLUTIONS

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Europeans live longer and longer

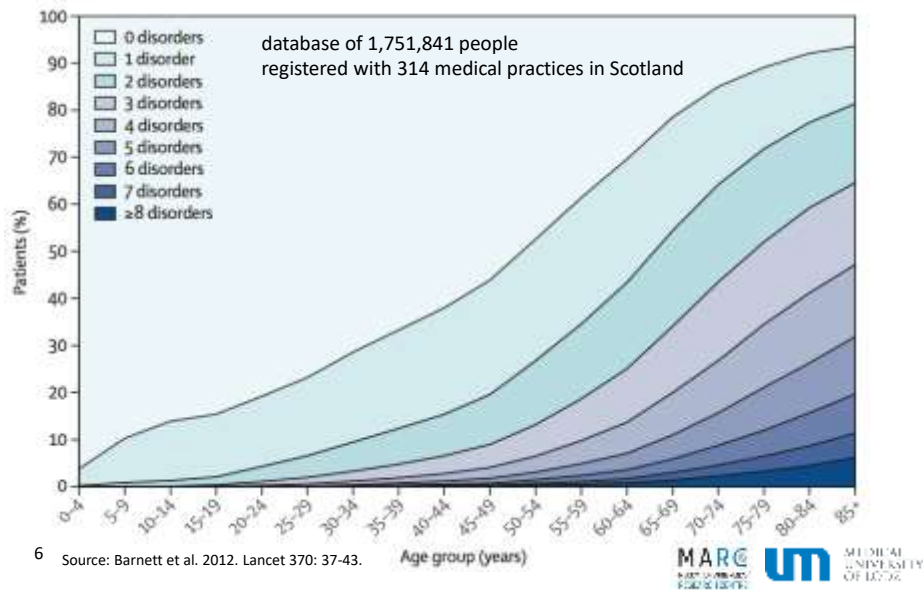
Trends in life expectancy, 2005-2018



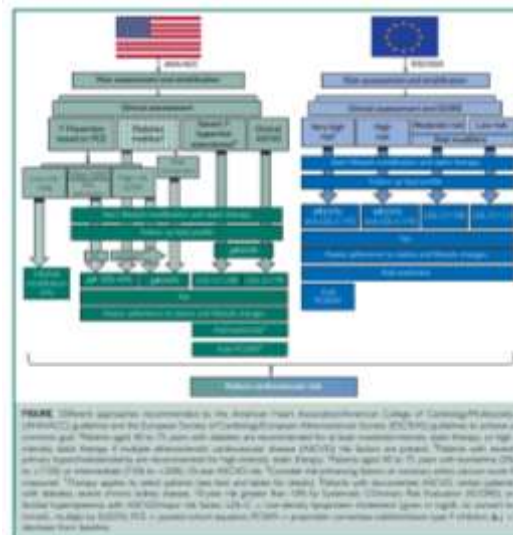
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Source: Eurostat Database

The older the population the more prevalent the chronic conditions are



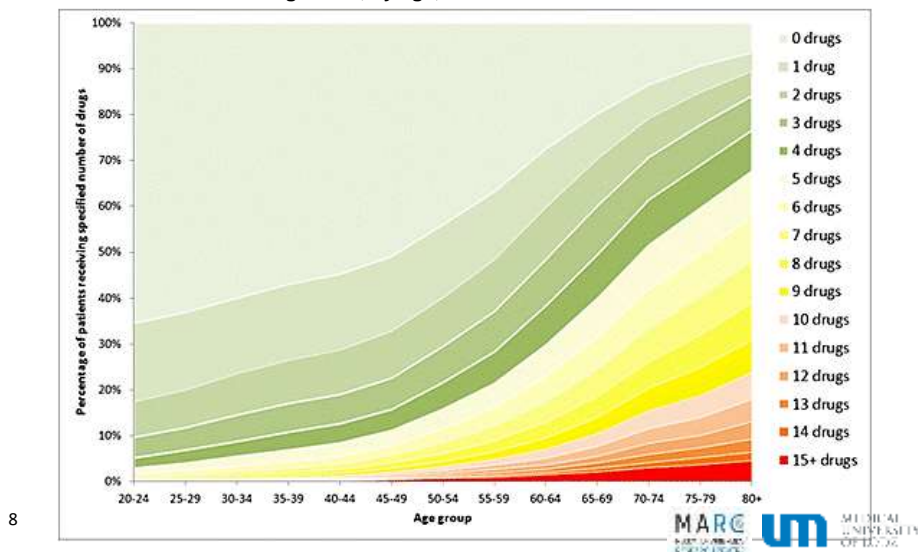
Wonders of Evidence-Based Medicine



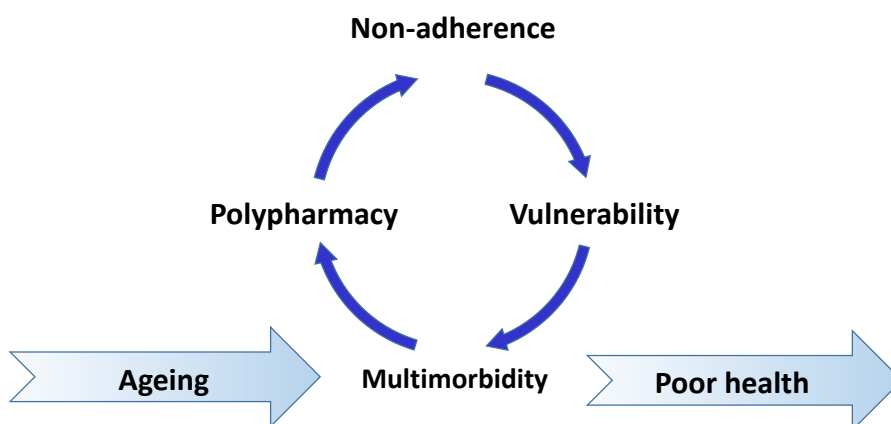
7 Singh M et al. Comparison of Transatlantic Approaches to Lipid Management: The AHA/ACC/Multisociety Guidelines vs the ESC/EAS Guidelines. Mayo Clin Proc. 2020 May;95(5):998-1014.

The older the population the more drugs the patients are using

2010 Number of drugs used, by age, data for Scotland



Polypharmacy leads to poor health



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Active & Healthy Ageing in European agenda



Günther Oettinger, European Commissioner for Digital Economy & Society



*"An ageing population is clearly one of the most important challenges but also **opportunities** for Europe."*

Carlos Moedas, European Commissioner for Research, Science and Innovation,
European Summit on Innovation for Active and Healthy Ageing, Brussels, 9-10 March 2015

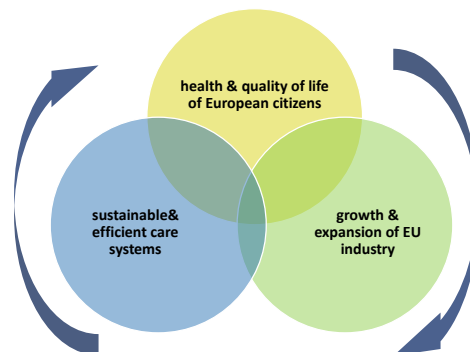
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European Innovation Partnership on Active & Healthy Ageing

- Is a pilot initiative launched by the European Commission **to foster innovation in the field of active and healthy ageing**
- Has been conceived for **connecting & engaging stakeholders across sectors**, from private & public sector to accelerate **scaling-up of innovation** for active and healthy ageing
- Pursues a **Triple Win for Europe**

+2 Healthy Life Years **by 2020**



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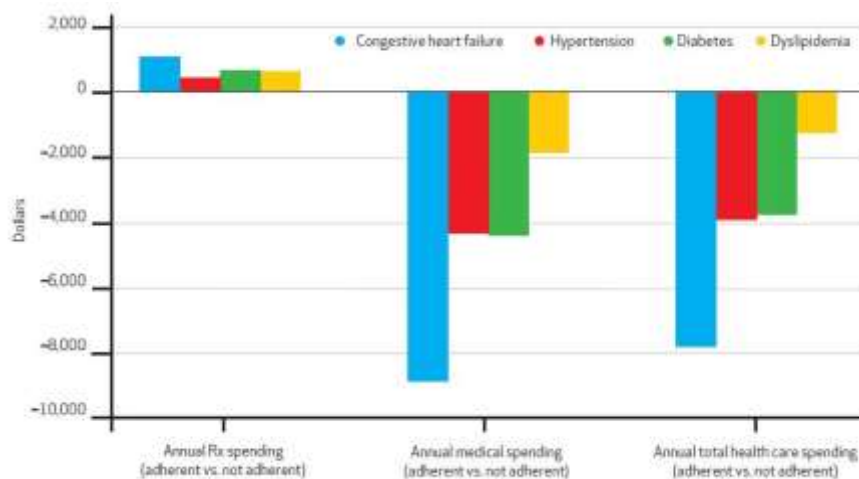


EIP on Active and Healthy Ageing



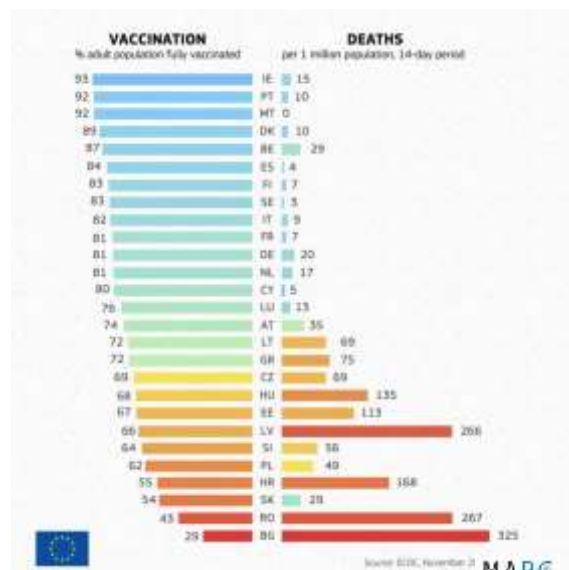
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Effect of perfect adherence on costs



13

Major non-adherence in COVID-19 era



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https://twitter.com/eu_commission/status/1463119478099693571

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ENABLE collaboration

COST Action CA19132 ENABLE –
*European Network to Advance
 Best practices & technoLogy on
 medication adherence*



cost
 EUROPEAN COOPERATION
 IN SCIENTIFIC AND TECHNOLOGICAL RESEARCH

Action duration - 20/10/2020-
 19/10/2024

No. of participating countries: 40

No. of participating researchers: > 100

www.ENABLEadherence.eu



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Aims of ENABLE

- To evaluate **current practices** related to medication adherence
- To establish a network to raise awareness of **adherence enhancing solutions**
- To accelerate translation of **adherence innovations into practice**
- To work collaboratively towards **economically viable policy and implementation** of adherence enhancing technology across healthcare systems



van Boven JF et al. Front Pharmacol. 2021 Oct 11;12:748702.



TherapyMaintenance@COVID-19 study

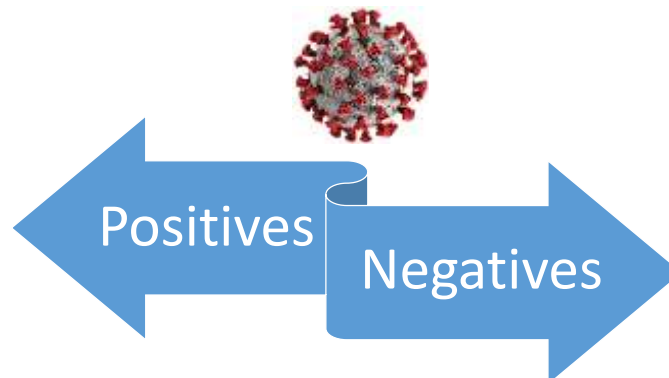
Cross-sectional, web-based survey conducted in December, 2020 to assess the status of, and approaches to **maintaining medication continuity for NCDs** during the second wave of the COVID-19 pandemic across all 39 ENABLE countries



¹⁸ Kardas P et al. Lancet Reg Health Eur. 2021 May;4:100099.; Ágh T et al. Front Pharmacol. 2021 Jun 7;12:685696.



TherapyMaintenance@COVID-19 results



**Acceleration of the uptake
of eHealth solutions**

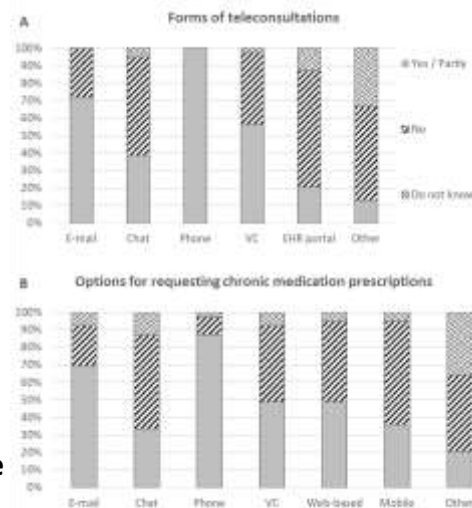
**Many European countries were
not prepared to maintain
continuity of NCD therapies**

19 Kardas P et al. Lancet Reg Health Eur. 2021 May;4:100099.; Ágh T et al. Front Pharmacol. 2021 Jun 7;12:685696.



TherapyMaintenance@COVID-19 results (2)

- Mean±SD number of available forms of teleconsultation services: 3±1.3
- **E-prescription** was available in 92% countries, whereas **home delivery** of Rx medication was available in **67% countries only**
- **A national policy or specific guidance** on ensuring on-going access to medication for NCDs during the COVID-19 pandemic **was available only in half of the countries**



20 Kardas P et al. Lancet Reg Health Eur. 2021 May;4:100099.; Ágh T et al. Front Pharmacol. 2021 Jun 7;12:685696.



TherapyMaintenance@COVID-19 conclusions

- Study highlighted **major disparities** in the way European countries dealt with the challenge of the management of NCDs during the COVID-19 pandemic
- Urgent need for a **paradigm shift in NCD-related healthcare services** to assure the maintenance of chronic treatments during COVID-19, and beyond
- Strategies for improvement:
 1. **An increased range of remote services for ordering repeat prescriptions** (e.g., online, via mobile app)
 2. **Expanding the scope of professionals authorised to prescribe** (or issue repeat prescriptions)
 3. **Increasing the duration of prescriptions** (though this needs to be balanced with managing shortages)
 4. **Enabling community pharmacies to dispense** medications normally restricted to hospitals
 5. **Allowing substitution of unavailable drugs**
 6. **Creating e-health systems supporting patients** in long-term treatment, encouraging patient empowerment and patient-centred care
 7. **Providing publicly available guidance** on strategies for maintaining treatment during pandemic lockdown

21 Kardas P et al. Lancet Reg Health Eur. 2021 May;4:100099.; Ágh T et al. Front Pharmacol. 2021 Jun 7;12:685696.



EUREcA study aims

The EUREcA study



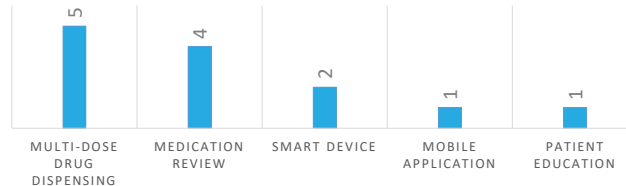
A web-based, cross-sectional survey performed across 38 European countries and Israel

Aims:

- To get a snapshot on the current European reimbursement landscape of MAEIs
- To provide an in-depth overview and critical assessment of reimbursed MAEIs in European countries at national and regional levels
- To pave the way for further MAEIs to be implemented in the future

EUREcA study results

- There is scarcity of publications targeting the reimbursement of MAEIs
- 13 reimbursed MAEIs from 9 countries were identified only:



The median GDP per capita of countries having ≥ 1 reimbursed MAEI was **significantly higher** compared to countries having no reimbursed adherence intervention (33.9 kEUR vs 16.6 kEUR, $p = 0.05$).

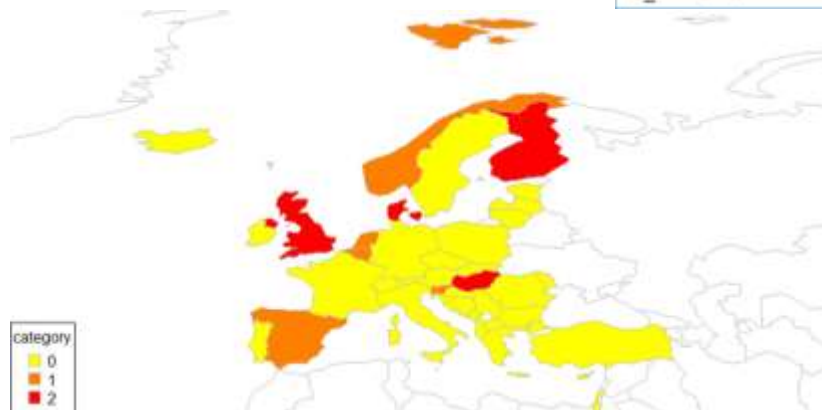
23 Agh T, et al. Reimbursed Medication Adherence Enhancing Interventions in European Countries: Results of the EUREcA Study. Front Pharmacol. 2022; 13:892240.



EUREcA study results (2)

EUREcA study –

No. of reimbursed MAEIs per country



24 Agh T, et al. Reimbursed Medication Adherence Enhancing Interventions in European Countries: Results of the EUREcA Study. Front Pharmacol. 2022; 13:892240.



EUREcA study & follow-up - conclusions

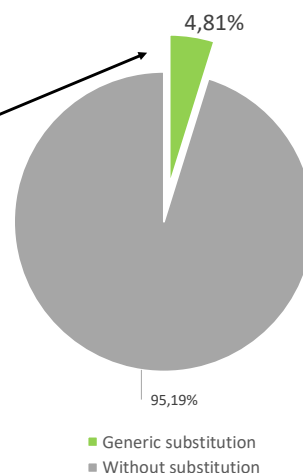
- Despite of the significant burden of medication non-adherence, **reimbursement of MAEIs remain on a low priority on the health policy agenda**
- **Lack of common terminology** made it difficult to identify reimbursed MAEIs
- **Country income may influence** the implementation and reimbursement of MAEIs
- Recommendation on reimbursement pathways for the different types of MAEIs would be warranted
- HTA guidelines involving multiple value indicators would allow the comprehensive assessment of MAEIs

25 Ágh T, et al. Reimbursed Medication Adherence Enhancing Interventions in European Countries: Results of the EUREcA Study. Front Pharmacol. 2022; 13:892240.
Kardas P, et al. Reimbursed medication adherence enhancing interventions in 12 european countries: Current state of the art and future challenges. Front Pharmacol. 2022; 13:944829



Drug affordability is targeted infrequently

- Analysis of Polish national 2019 prescription and dispensation data for Metformin
- **Generic substitution** employed in **<5% of cases**, despite enabling legislation
- This scenario leads to major public and individual patients' losses, and may favour non-adherence



26 Kardas P et al. . The Potential to Reduce Patient Co-Payment and the Public Payer Spending in Poland through an Optimised Implementation of the Generic Substitution: The Win-Win Scenario Suggested by the Real-World Big Data Analysis. Pharmaceutics. 2021 Jul 28;13(8):1165.



Patient preferences matter



The most preferred combination of drug parameters were:

- **Small yellow capsule** for chronic treatment,
- **Small yellow long tablet** for short-term treatment

Study participants were **happy to pay extra**:

- 6.52 PLN (1.63 EUR) for this drug formulation per month of antihypertensive treatment
- 14.44 PLN (3.61 EUR) for this drug formulation per 7-days' long course of antibiotic treatment

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Kurczewska-Michalak M, Kardas P, Czajkowski M. Patients' Preferences and Willingness to Pay for Solid Forms of Oral Medications-Results of the Discrete Choice Experiment in Polish Outpatients. *Pharmaceutics*. 2020 Mar 6;12(3):236.



ABC Project produced guidance for non-adherence management in Europe



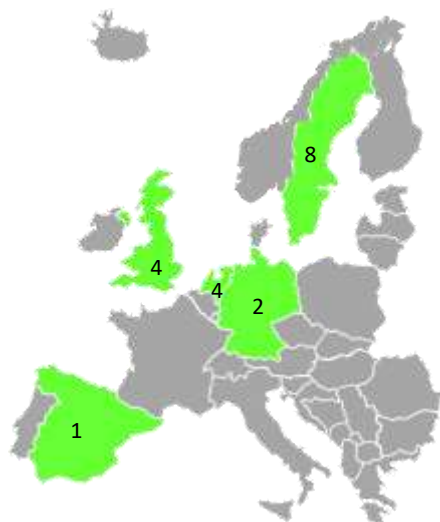
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SIMPATHY review of polypharmacy management guidelines

Country	No of guidelines
Germany	2
Spain	1
Sweden	8
The Netherlands	4
UK	4
TOTAL	19



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Stewart D et al. Expert Opin Drug Saf. 2017 Feb;16(2):203-213.



SIMPATHY Benchmarking app

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<https://www.zmr.lodz.pl/SIMPATHY-benchmarking-app/>


SIMPATHY Benchmarking app

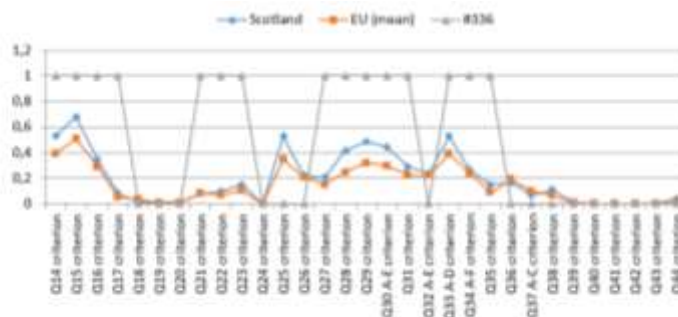


Figure 2

Exemplar of the benchmarking of the individual program (#336) against the trajectory of national, and European mean.



32 Kardas P, et al. Manuscript in preparation

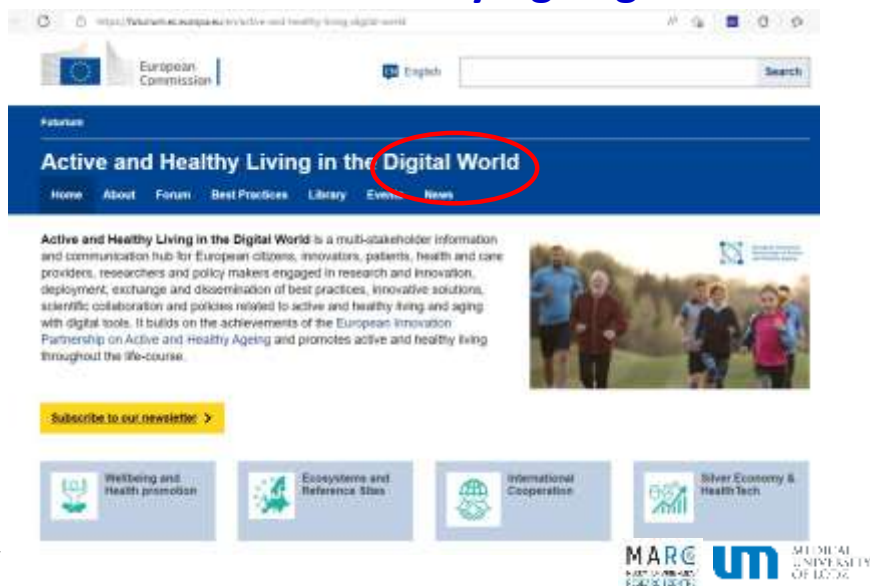
iSIMPATHY project



33 <https://www.isimpathy.eu/>



European Innovation Partnership on Active & Healthy Ageing *now*



Adherence app dedicated for older adults

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Visit us at www.Skills4Adherence.eu



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Skills4Adherence educational course

- Program is composed of **17 cohesive items: videos and expert presentations**
- It is available in **English, Italian, Polish, and Portuguese**
- Program encompasses **knowledge test, and certification.**



40

www.skills4adherence.eu

ENABLE new initiative: Medication Adherence Centers of Excellence



- 41 Kardas P et al., Half a century of fragmented research on deviations from advised therapies: is this a good time to call for multidisciplinary medication adherence research centres of excellence? Front Public Health, in peer review



Thank you!



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<https://www.zmr.lodz.pl/index.php/en/marc/>



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