

ECHOO

**EMPOWERING EUROPEAN HEALTH CONSUMERS THROUGH
HIGHER EDUCATION ON PLACEBO AND NOCEBO EFFECTS**

Coordinator: University of Bologna



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Department of Medical and Surgical Sciences – DIMEC-
Prof. Katia Mattarozzi

Co-funded by the
Erasmus+ Programme
of the European Union



Overview

- What inspired ECHOO

The General Context

Identifying the Gap and the Needs of the General Context

Placebo and Nocebo - What are they?

The Knowledge Gap in Placebo and Nocebo phenomena

Special Needs by Placebo

Partnership

General Objective and Results

- ECHOO overview

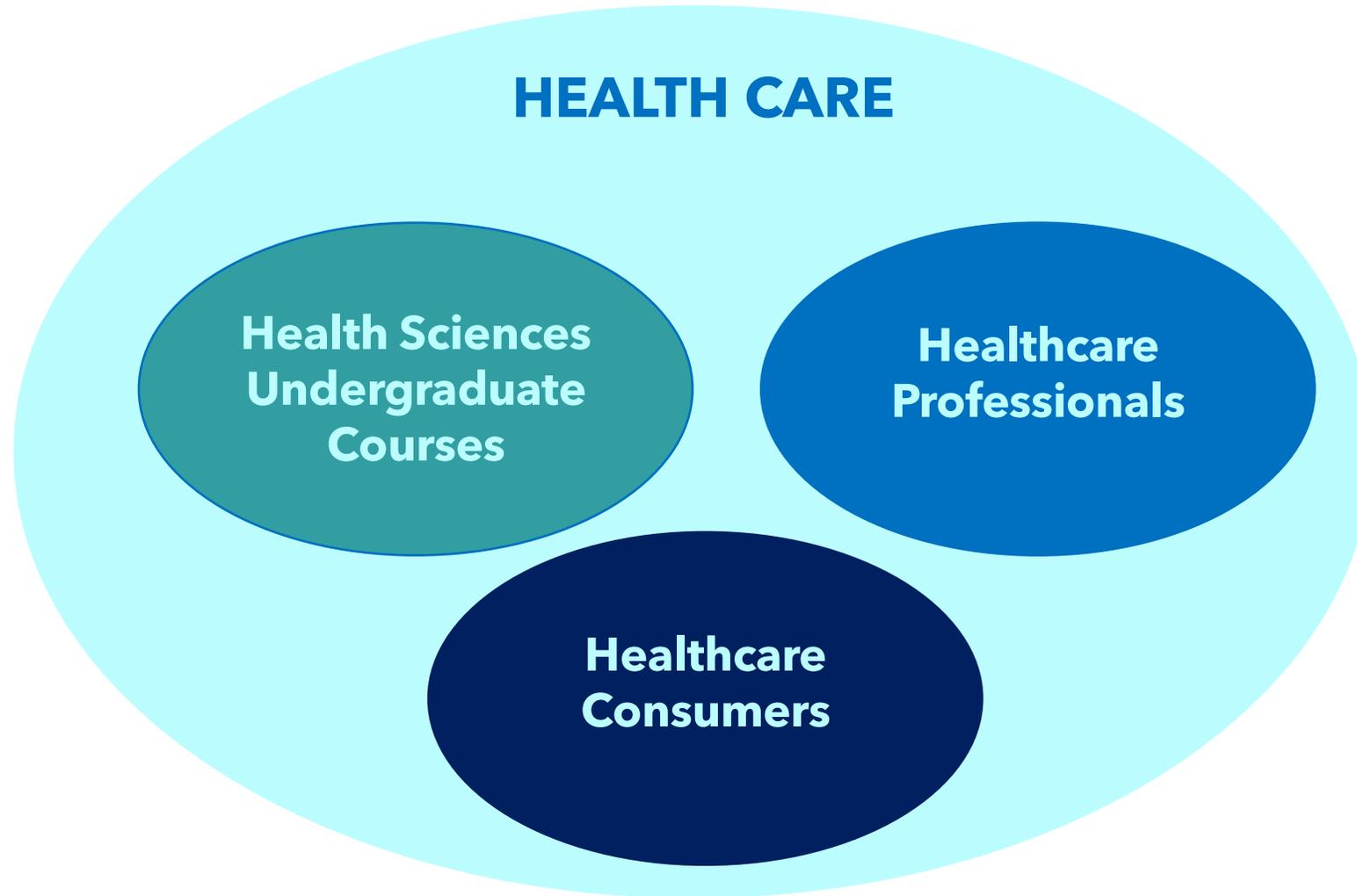
General and Specific Objectives

Expected Impact

Sustainability

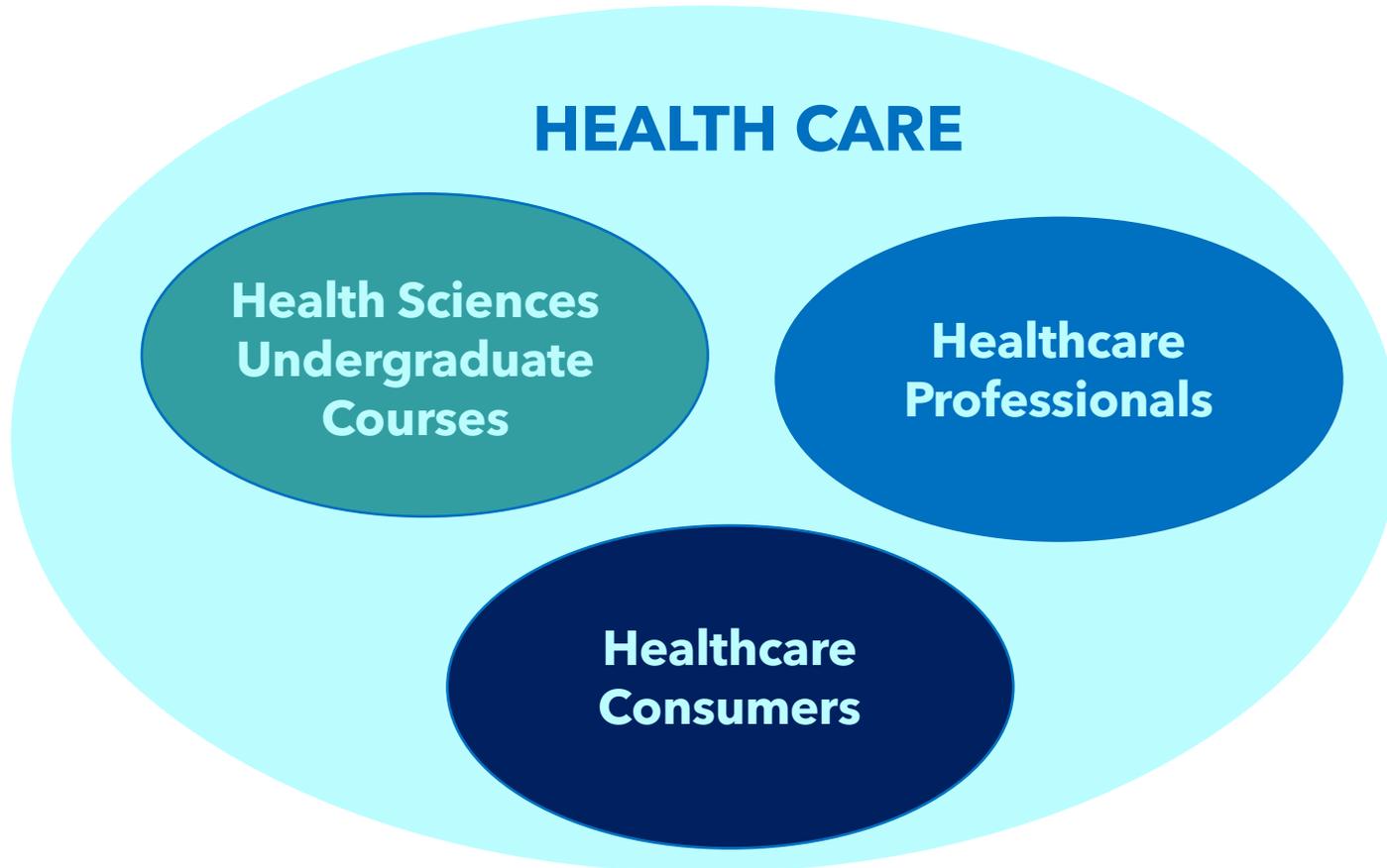
- Challenges encountered

The General Context



Key Needs and Problems of the General Context

THERAPY



- **Medication overprescription**
- **Dose regulation and efficacy**
- **Side effects**
- **Poor Adherence and Discontinuity**
- **Drug misuse**
- **Drug abuse**

Identifying the Gap and the Needs of the General Context

TREATMENT INFORMATION / COMMUNICATIONS

The **communication** and **psychosocial context** surrounding the patient and therapy significantly impact clinical outcomes.

PLACEBO and NOCEBO EFFECTS

providing the strongest evidence-based support for this influence.

The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

Allan H. Ropper, M.D., *Editor*

Placebo and Nocebo Effects

Luana Colloca, M.D., Ph.D., and Arthur J. Barsky, M.D.

Physiol Rev 93: 1207–1246, 2013
doi:10.1152/physrev.00043.2012

PLACEBO AND THE NEW PHYSIOLOGY OF THE DOCTOR-PATIENT RELATIONSHIP

Fabrizio Benedetti



The NEW ENGLAND
JOURNAL of MEDICINE

Vista

Inspector

Zoom

Placebo Effects in Medicine

Ted J. Kaptchuk and Franklin G. Miller, Ph.D.

HEALTH PSYCHOLOGY REVIEW
2025, VOL. 19, NO. 2, 409–447
<https://doi.org/10.1080/17437199.2025.2471792>

Routledge
Taylor & Francis Group

REVIEW ARTICLE

OPEN ACCESS

**A scoping review of placebo and nocebo responses and effects:
insights for clinical trials and practice**

Arianna Bagnis^a, Stefanie H. Meeuwis^b, Julia W. Haas^{c,d}, Mary O'Keeffe^e, Elzbieta Anita Bajcar^f, Przemyslaw Babel^f, Andrea W.M. Evers^b, Evelina Glogan^c, Marek Oleszczyk^g, Antonio Portoles^h, Johan W.S. Vlaeyen^c, Katia Mattarozzi^h and on behalf of PANACEA Consortium^a

**The placebo and nocebo effects are cross-cutting topics in the healthcare field,
with evidence-based higher clinical relevance**

Placebo and Nocebo - What are they?

Psycho-neuro-biological mechanisms active whenever an individual experiences a change in health status

and approach a treatment

PLACEBO

Positive Outcome

NOCEBO

Negative Outcome

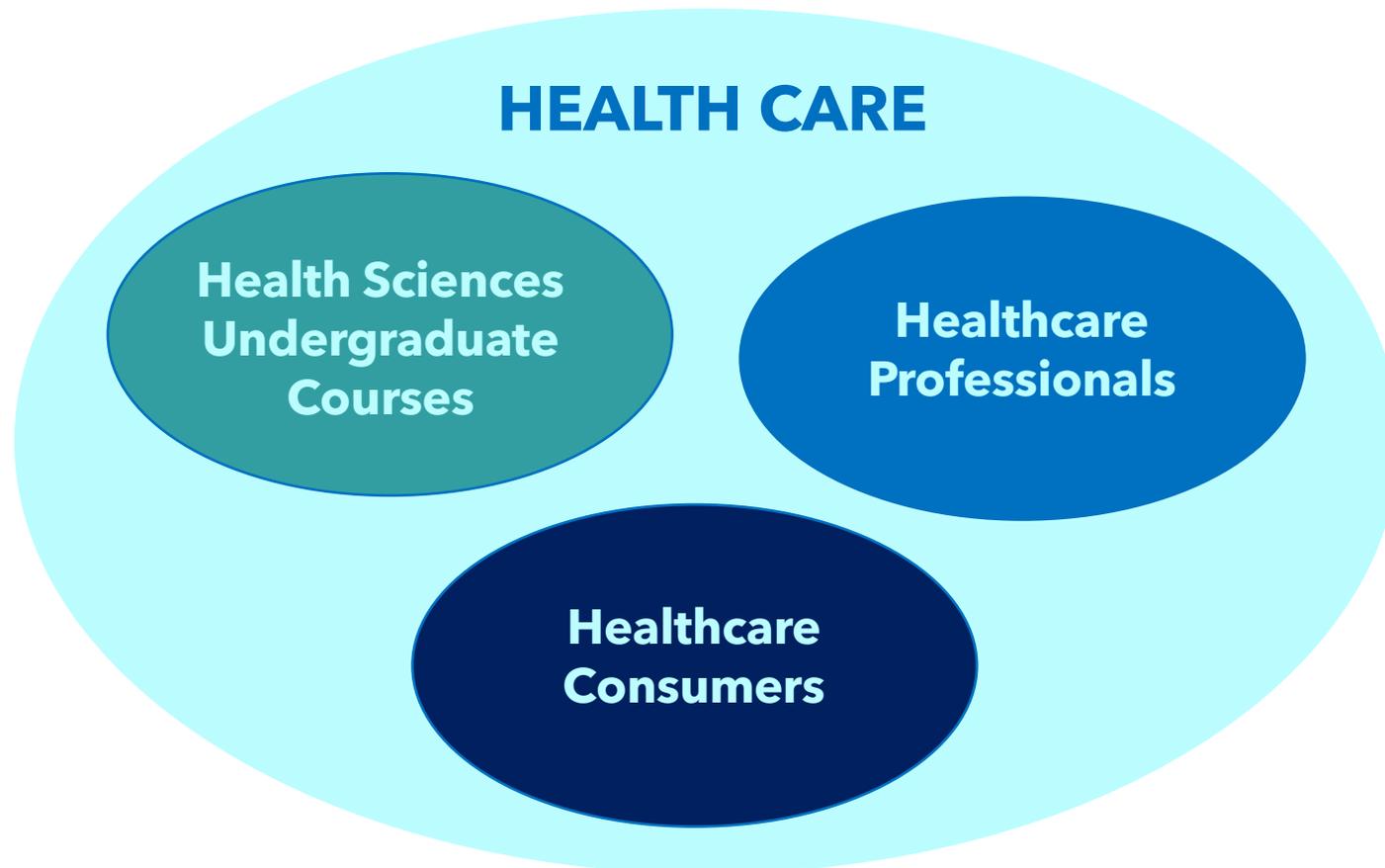


Not explained only by pharmacological or biological agent

Studies point to the critical role of patient's **expectations** about clinical outcomes that are driven by **learning** through experience (i.e., associative or observational learning), **explicit knowledge and beliefs** (i.e., **verbal information, doctor-patients relationship**), **emotion** and personality traits (*Bagnis et al., 2025*)

The Knowledge Gap in Placebo and Nocebo phenomena

The placebo and nocebo phenomena are relatively poorly understood, despite being present and impactful in the healthcare context. Current knowledge among healthcare professionals and consumers often lacks a foundation in scientific evidence, which in turn limits their proper implementation and regulation.



This knowledge gap affects:

- **Current and future healthcare professionals**, who may underestimate or mismanage these effects in clinical practice.
- **Healthcare consumers**, who may have misconceptions or limited awareness of how expectations influence treatment outcomes.

Special Needs by Placebo



Programme to Advise, Normalize and Control its European Administration

1 December 2022 – 30 November 2025



Empowering European Health Consumers through Higher Education on PlacebO and NocebO Effects

1 December 2025 – 30 November 2028

Two higher education projects sharing the same mission: to promote evidence-based knowledge about a clinical phenomenon that impacts health – the placebo and nocebo effects

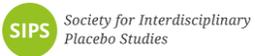
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KU LEUVEN



College of Family Physicians
in Poland

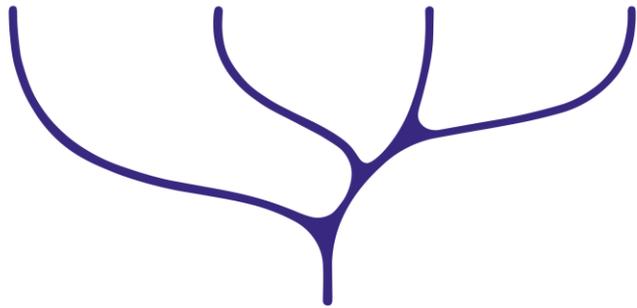


Special Needs by Placebo



PANACEA

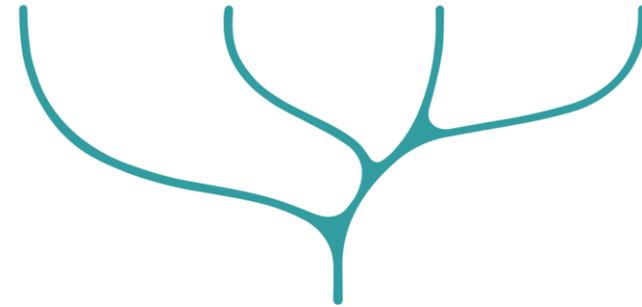
EDUCATION ON PLACEBO



Programme to Advise, Normalize and Control its European Administration

ECHO

EDUCATION ON PLACEBO



Empowering European Health Consumers through Higher Education on Placebo and Nocebo Effects

What differentiates them are the **TARGET GROUPS** and, thus, the **OUTPUTS**

**HEALTHCARE
PROFESSIONALS**

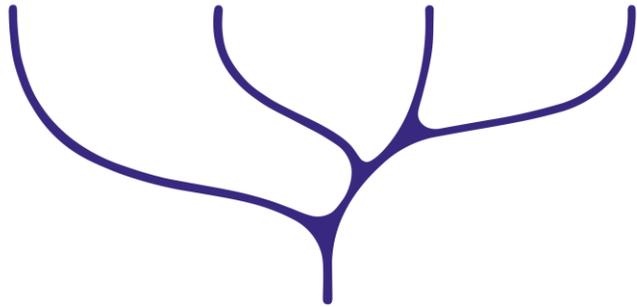
**HEALTH
CONSUMERS**

Special Needs by Placebo



PANACEA

EDUCATION ON PLACEBO



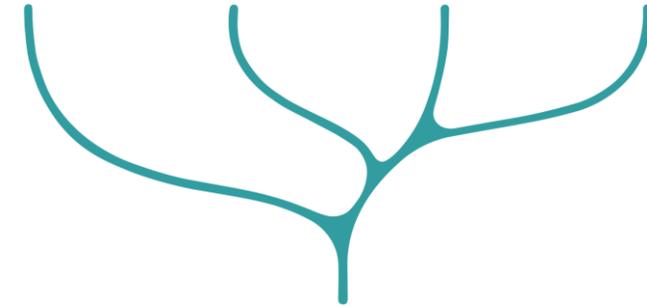
Programme to Advise, Normalize and Control its European Administration

Main goal: Bridging the gap between **scientific evidence** and **clinical practice** – from laboratory research to patient care.

Focus: Translational approach **integrating research and education**, promoting the direct application of evidence into everyday clinical settings.

ECHOO

EDUCATION ON PLACEBO



Empowering European Health Consumers through Higher Education on PlacebO and NocebO Effects

Main goal: Starting from **scientific evidence**, ECHOO emphasizes a transdisciplinary approach in **education**, advancing toward the **third mission** of higher education.

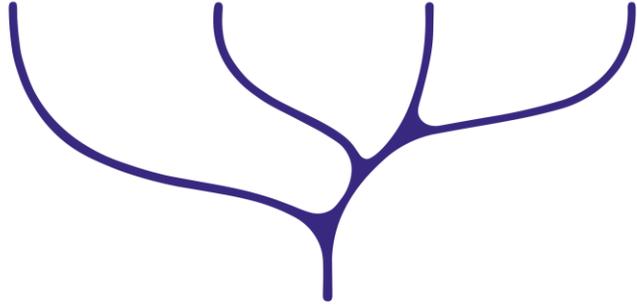
Focus: From research to innovative teaching, ultimately fostering social impact and **community engagement**.

Partnership



PANACEA

EDUCATION ON PLACEBO



Programme to Advise, Normalize and Control its European Administration



UNIVERSIDAD
COMPLUTENSE
MADRID



UNIVERSIDAD
COMPLUTENSE
MADRID



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



Universiteit
Leiden



ALMA MATER STUDIORUM
UNIVERSITA DI BOLOGNA



Universiteit
Leiden



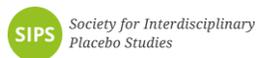
JAGIELLONIAN
UNIVERSITY
IN KRAKOW



JAGIELLONIAN
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College of Family Physicians
in Poland

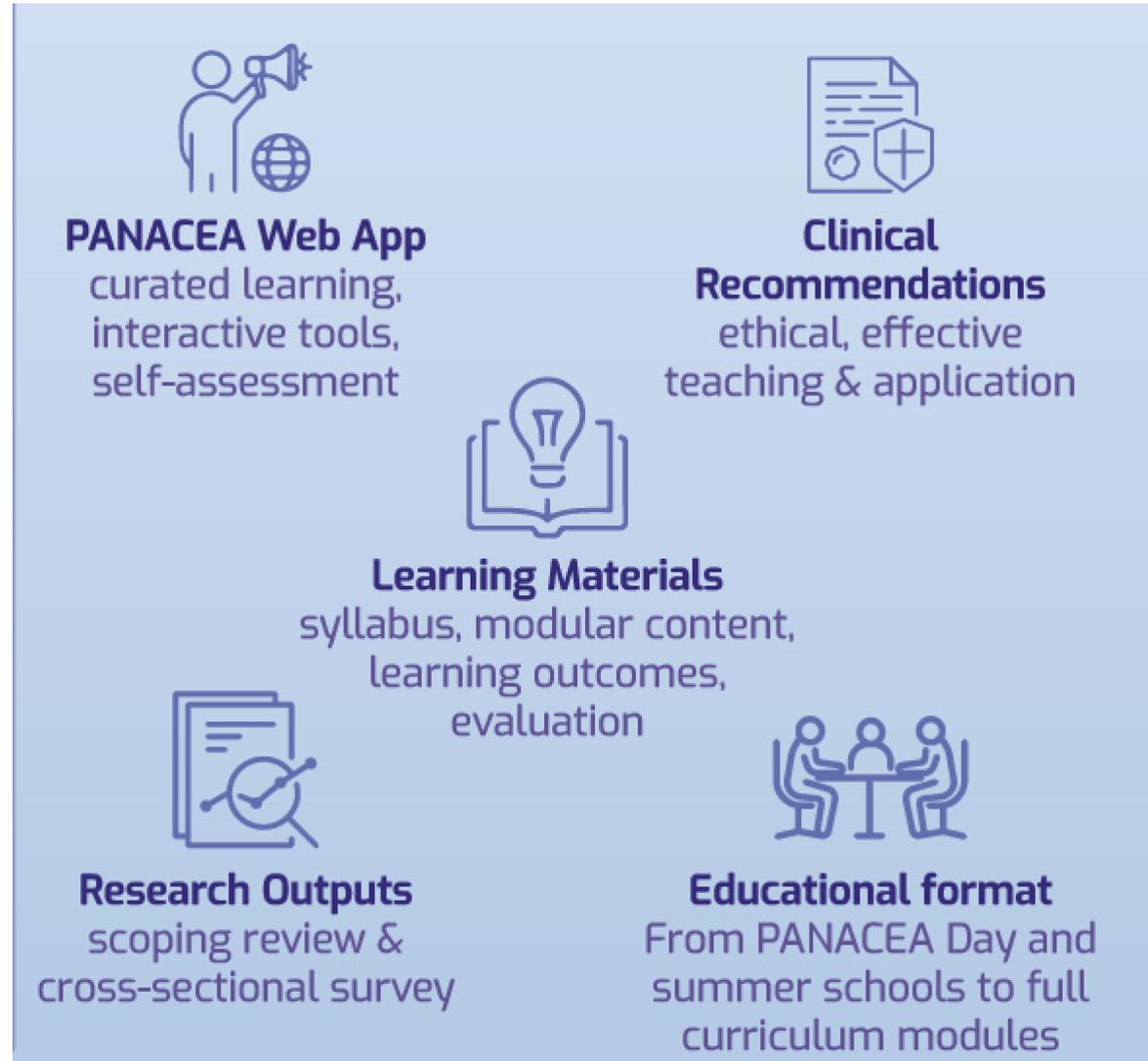




General Objective:

PANACEA aims to contribute to **reducing the gap between placebo/nocebo scientific evidence and clinical practice** of the future, and of today healthcare professionals.

Achieved Sustainable Results:





What we are

ECHOO overview

General and Specific Objectives

Expected Impact

Sustainability

Budget

Co-funded by the
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General Objective:

ECHOO aims to **enhance the knowledge of health consumers about placebo and nocebo effects**, fostering more effective treatment approaches in both interaction with healthcare professionals and in self-care contexts.



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Specific objectives:

EMPOWERING KNOWLEDGE

To transform, adapt, make accessible and transferable knowledge and evidence-based concepts of placebo and nocebo phenomena for health consumers, despite their age, roles, and skills.

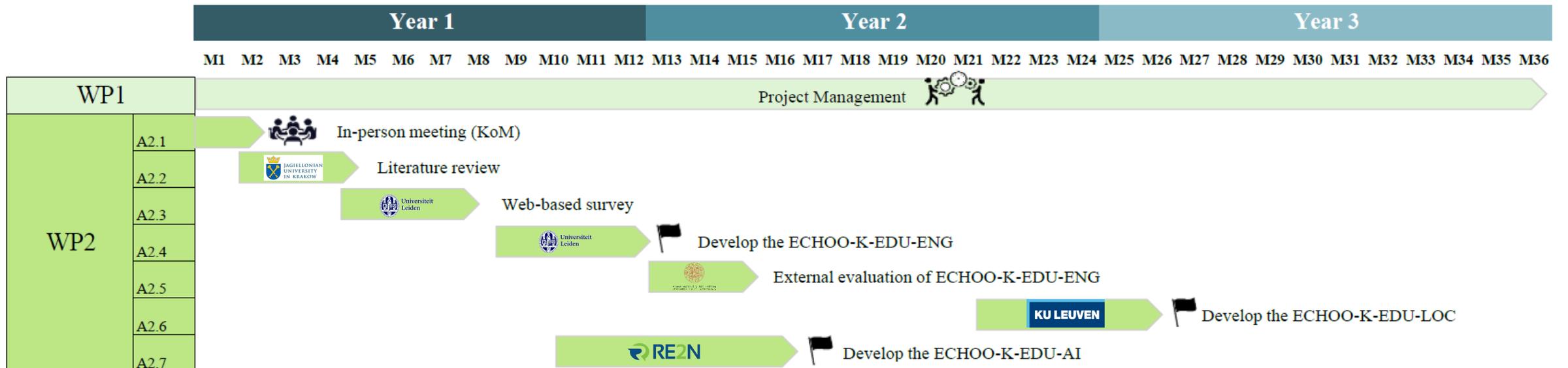


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Expected Results:

ECHOO Knowledge
Multimedia Resources
(ECHOO-K)
(WP2)



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EMBEDDING KNOWLEDGE

To embed knowledge about placebo and nocebo effects within universities transversal competence catalogues.



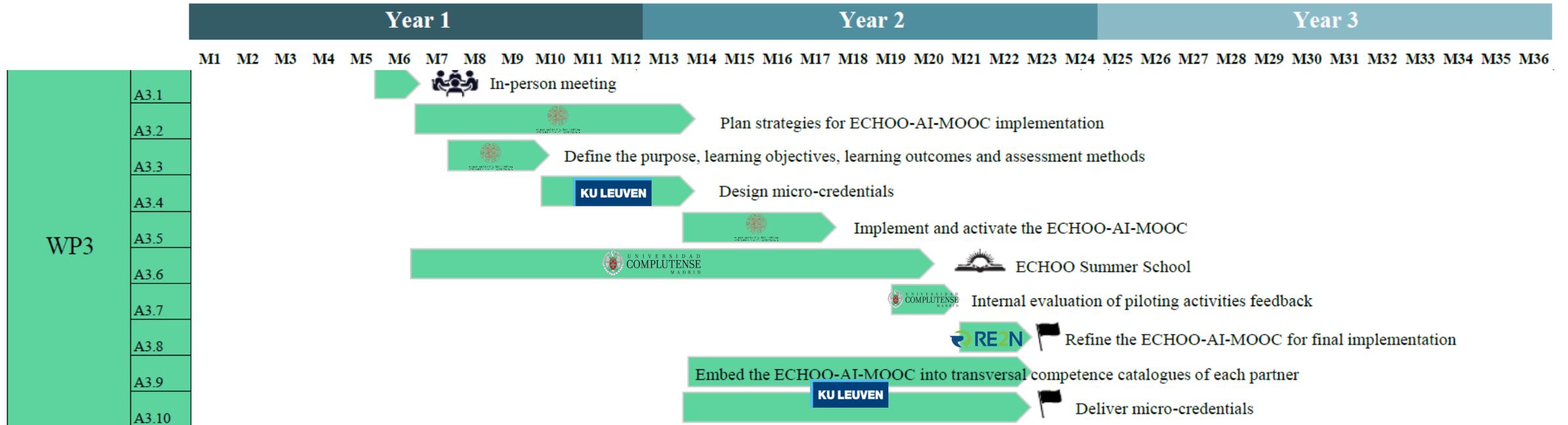
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ECHOO Interactive
AI-based MOOC
(ECHOO-AI-MOOC)
(WP3)



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Specific objectives:

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Multimedia Resources
(ECHOO-K)
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ECHOO Interactive
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(ECHOO-AI-MOOC)
(WP3)

SPREADING KNOWLEDGE

To engage the broader community to enhance public awareness, understanding, and skills about placebo and nocebo phenomena.





ECHOO Civic Engagement Toolkit (ECHOO-CET) (WP4)




General Objective:

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Specific objectives:

ECHOO Knowledge
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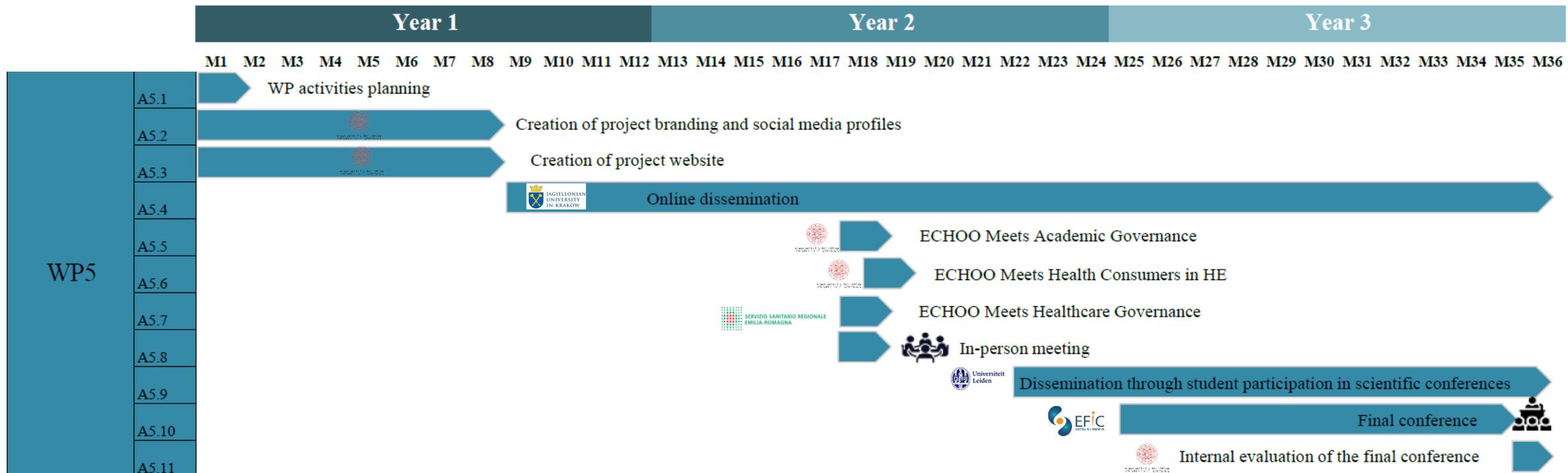
ECHOO Interactive
AI-based MOOC
(ECHOO-AI-MOOC)
(WP3)

ECHOO Civic
Engagement Toolkit
(ECHOO-CET)
(WP4)

DISSEMINATION

To disseminate project findings and resources within and beyond partner institutions to enhance the project's reach and impact on health literacy.





ECHOO Civic Engagement Toolkit (ECHOO-CET) (WP4)

ECHOO Project and Results Dissemination (WP5)

General Objective:

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TARGET GROUP

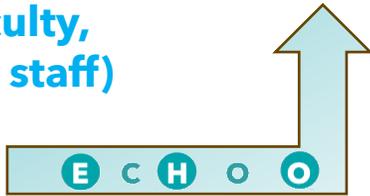
**HEALTH
CONSUMERS**



**HE INTERNAL
COMMUNITY**

(students, faculty,
administrative staff)

**EXTERNAL
COMMUNITY**

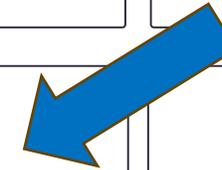


Research - Knowledge - Civic Engagement

Specific objectives:

**ECHOO Knowledge
Multimedia Resources
(ECHOO-K)
(WP2)**

**ECHOO Interactive
AI-based MOOC
(ECHOO-AI-MOOC)
(WP3)**



**ECHOO Civic
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(ECHOO-CET)
(WP4)**

ECHOO Project
and Results
Dissemination
(WP5)



Co-funded by the
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Expected Impact



ON PARTICIPATING ORGANIZATION

- On **University partners** → broadened **transversal competences** and **personal health skills**, joint Una Europa **micro-credentials**, engagement with local communities (**third mission**)
- On **AUSL Romagna** and **College of Family Physicians** → project results integrated into clinical settings, **enhanced clinical practice and communication between patients and healthcare professionals**
- On **EFIC** → collaboration with HE institutions, **wider audience** engagement in health education
- On **RE2N** → **collaboration with HE institutions**, experience on innovative educational resources



ON TARGET GROUPS HEALTH CONSUMERS

Health consumers engaging with ECHOO results will gain a **deeper understanding** of how their beliefs and expectations shape treatment outcomes:

- **more empowerment** in participating in healthcare **decision making**
- **more responsibility in medication use** and treatment choices (e.g., decrease overprescription, less inappropriate use of medications, lower antibiotic resistance)
- more skills at recognizing and **managing perceived side effects** (improved adherence to therapies and less discontinuity)



ON ASSOCIATED PARTNERS

- On **SIPS and FIBHCSC** →
 - wider professional networks
 - fostered **collaborative synergies** with leading academic and healthcare institutions
 - enhanced credibility as an **innovator in health education**



Expected Impact

AT LOCAL AND REGIONAL LEVEL

Health consumers within the universities (i.e., students, faculty, and administrative staff) and beyond (external community) will develop competencies in understanding placebo and nocebo effects → **impact on their skills in healthcare decision-making and approaching treatments more proactively.**

The involvement of AUSL Romagna and the College of Family Physicians in Poland will ensure that the project's results are applied within local healthcare practice.

AT NATIONAL LEVEL

Each partner institution will integrate the project's outcomes into their own universities, embedding evidence-based education on placebo and nocebo effects into their **transversal competence catalogues.**

Partners will establish a national network within their respective countries, engaging key stakeholders (academic institutions, healthcare providers, policymakers).

AT EUROPEAN LEVEL

ECHOO will make its results widely accessible, enabling HE and healthcare institutions to enhance the skills of health consumers across different countries → strong dissemination strategy that leverages our European and international networks, including EFIC and SIPS, facilitating the widespread adoption of the project's insights and **fostering a lasting transformation in health literacy and clinical practice across Europe.**

IMPACT INDICATORS

LEARNING IMPACT INDICATORS

They measure the effectiveness of educational materials in enhancing knowledge.



IMPACT INDICATORS

EXAMPLES

- **% of health consumers who report improved** understanding of placebo and nocebo effects after using the ECHOO-K
- **knowledge level** of target groups who engage with the ECHOO-K, measured by a learning test
- **% of participants completing the ECHOO-AI-MOOC and receiving the micro-credentials**



IMPACT INDICATORS

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SATISFACTION INDICATORS

They capture qualitative insights into participant experiences and perceived benefits.



IMPACT INDICATORS

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EXAMPLES

- **satisfaction** levels of institutions and individuals involved
- testimonials on the **relevance and clarity of materials**
- **audience involvement and reactions to civic engagement events**



IMPACT INDICATORS

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CIVIC ENGAGEMENT INDICATORS

They ensure the effectiveness of civic engagement activities to reach, through an echo, the broader community.



IMPACT INDICATORS

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EXAMPLES

- surveys and **feedback** from participants
- **engagement metrics**, such as the number of participants, website visits, and distribution of educational content



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DISSEMINATION INDICATORS

They assess the project's reach and visibility.



IMPACT INDICATORS

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EXAMPLES

- **number of participants** in dissemination events, categorized by target group
- **number of** local, national, and international **conferences** attended
- website and social media engagement



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GOVERNANCE INDICATORS

They ensure effective implementation of ECHOO results into the partner organizations and beyond.



IMPACT INDICATORS

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EXAMPLES

- **implementation of the ECHOO-AI-MOOC and micro-credentials** system within the partner universities
- **adoption of ECHOO-CET in educational and healthcare institutions**
- partner involvement in activity implementation



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EXAMPLES

- **surveys and feedback from participants**
- **engagement metrics, such as the number of participants, website visits, and distribution of educational content**

EXAMPLES

- **number of participants in dissemination events, categorized by target group**
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EXAMPLES

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- **adoption of ECHOO-CET in educational and healthcare institutions**
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PROJECT MANAGEMENT INDICATORS

They are related to compliance with the work plan to ensure punctuality, completeness, and timeliness in the preparation and delivery of reports and outputs.



IMPACT INDICATORS

EXAMPLES

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- number of participants in dissemination events, categorized by target group
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- website and social media engagement

EXAMPLES

- implementation of the ECHOO-AI-MOOC and micro-credentials system within the partner universities
- adoption of ECHOO-CET in educational and healthcare institutions
- partner involvement in activity implementation
- structured content from SC reports

EXAMPLES

- **level of communication** among partners
- engagement in meetings, workshops
- collaboration in preparing working materials and activities





ECHOO Sustainability



INSTITUTIONAL INTEGRATION

- **Partners integrate ECHOO results into regular academic and clinical activities.**
- Continuous updating of educational materials to remain evidence-based and research-aligned.
- Open-access availability ensures broad and long-term use.



LONG-TERM EDUCATIONAL ASSETS

- ECHOO-K (WP2): downloadable multimedia resources into **universities' transversal competence catalogues.**
- ECHOO-AI-MOOC & Micro-Credentials (WP3): hosted on UniBO Open Knowledge (BOOK) and partners' MOOC platforms.
- ECHOO-CET (WP4): civic engagement toolkit (scripts, podcasts, videos, campaign guidelines).



ENDURING DISSEMINATION

- Continuous promotion via institutional websites, ECHOO website, and social media.
- **Partners' platforms for third mission initiatives and MOOC hosting ensure digital visibility.**
- AUSL Romagna: **maintains and promotes materials** in health facilities for public access.
- College of Family Physicians in Poland: promotes materials within clinical practices.



ECHOO Sustainability



POLICY ALIGNMENT

- **Integration with national and international health policies to foster sustainability.**
- **Supports inclusion of placebo/nocebo knowledge in public health campaigns and clinical guidelines.**



ASSOCIATED PARTNERS' CONTRIBUTION

- SIPS and FIBHCSC: ensure long-term exploitation and replication of results beyond project completion.



Challenges encountered (in designing and/or starting ECHOO)

Co-funded by the
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MAIN CHALLENGES

TRANSNATIONAL ALIGNMENT ON MICRO-CREDENTIALS

Mitigation: Early governance involvement (e.g. KU Leuven as leader of this task - Una Europa framework)

COMMUNICATION ACROSS A LARGE, CROSS-SECTOR PARTNERSHIP

Mitigation: Partnership mainly based on another project; bilateral and multilateral communication

BUDGETING UNDER THE LUMP-SUM MODEL

Mitigation: Setting a transparent internal detailed budget and monitoring tools upfront



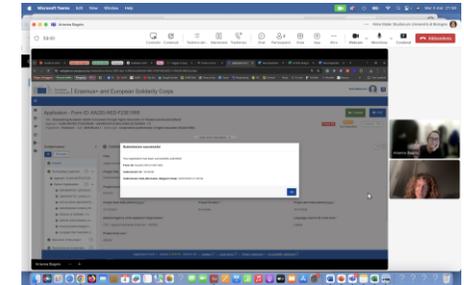
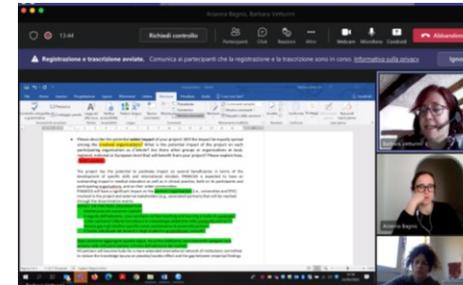


SPECIAL THANKS to:



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UNIVERSITÀ DI BOLOGNA

DIPARTIMENTO
DI SCIENZE MEDICHE
E CHIRURGICHE

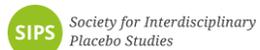


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GRAZIE PER L'ATTENZIONE

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