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Message from the Action Chair

by [Maria-Paola Costi](#), Action Chair

October 2025

Dear Members of the **OneHealthDrugs** Action,

As we approach the final stretch of our Action, I am delighted to share the October 2025 edition of our newsletter — a reflection of the remarkable progress, engagement, and scientific collaboration that continue to define our community.

This season marks an important phase for OHD, as we launch our **Veterinarian**

Survey to better understand the use and environmental impact of antiparasitic drugs. We are also preparing for our major online event, the **OHD Marathon Days (2–5 December 2025)** — a four-day gathering designed to highlight our collective achievements, strengthen our networks, and pave the way for our concluding activities.

Our **Working Groups and Horizontal Groups** have been exceptionally active, advancing projects such as the OHD1–OHD6 series, the OHD:LUB docking initiative, and the Brooks project on scientific language harmonisation. Each of these efforts brings us closer to achieving a balanced integration of drug efficacy, sustainability, and environmental responsibility under the **One Health** vision.

With new training and mobility opportunities, ongoing publications, and the forthcoming events, your continued engagement is vital. Let us sustain the momentum as we prepare to close this Action with lasting scientific and societal impact.



Maria Paola Costi, Action Chair

Veterinarian Survey Launched: Understanding Drug Use and Environmental Impact

ONEHEALTHDRUGS

CA21111



PARTICIPATE IN OUR SURVEY FOR VETERINARY PRACTITIONERS

https://ec.europa.eu/eusurvey/runner/OneHealthDrugs_COST_Action_21111

- Shape the future of parasitic vector-borne diseases treatments
- Focus on environmental impact

Join 350+ European Scientists



We are pleased to announce the launch of the **OHD Veterinarian Survey**, a Europe-wide initiative designed to gather critical insights on the use of antiparasitic drugs and their potential environmental impacts. This survey targets **veterinary practitioners, researchers, and policymakers**, aiming to map current practices, prescribing habits, and awareness levels regarding the ecological footprint of veterinary medicines.

The collected data will serve as a foundation for developing **evidence-based recommendations** and **policy frameworks** that support both animal health and environmental protection within the One Health paradigm. By participating, members contribute to one of the Action's core missions — promoting the **responsible and sustainable use of pharmaceuticals** in

veterinary care.

You can access the survey here

The survey takes only **5–10 minutes to complete** and is available in **multiple European languages**.

The data gathered will help us better understand the challenges and identify opportunities for sustainable, evidence-based interventions across Europe.

We encourage all members to spread the word by sharing the link on their **social media channels** or forwarding it within your **institutions, veterinary associations, and professional networks, their national and institutional networks**. Your engagement will help ensure a diverse representation of European veterinary practices and strengthen our collective understanding of how to mitigate the environmental risks associated with antiparasitic drug use.

Together, we can make a difference in promoting more **responsible and sustainable veterinary practices** in line with the **One Health** approach.

OHD Marathon Days 2025: A Four-Day Online Showcase of Science and Collaboration

Get ready for **OHD Marathon Days 2025**, an exciting four-day online event taking place from **2 to 5 December 2025**. This dynamic gathering will bring together the entire OHD community — from Working Group members and Young Researchers to external collaborators — for an intensive series of presentations, discussions, and networking sessions.

Throughout the event, each day will feature **focused thematic sessions**, covering scientific progress across OHD projects, updates from Working Groups and Task Forces, and collaborative discussions on the **One Health framework** for drug discovery. Special sessions will be dedicated to **Young Researchers and Innovators (YRI)**, offering



them a platform to present their work, exchange ideas, and receive feedback from senior experts.

During the **OHD Marathon Days 2025** we will award two prizes of **€1,000 each**:

- **YRI Conference Grant** – recognising outstanding contributions from **Young Researchers and Innovators (YRI)**.
- **ITC Conference Grant** – supporting **participants from Inclusiveness Target Countries (ITC)** to present their research at upcoming conferences.

The OHD Marathon Days aim to consolidate the Action's key outputs, strengthen interdisciplinary collaborations, and set the groundwork for future initiatives beyond the project's lifetime. This event is an excellent opportunity to celebrate collective achievements, share best practices, and reinforce OHD's vision for responsible, environmentally conscious research on antiparasitic drugs.

Stay tuned for the full programme and registration details, which will be announced soon through the **OHD communication channels** and on our **LinkedIn group**.

OHD Projects in Focus: From Databases to Ecotoxicology and Harmonised Research

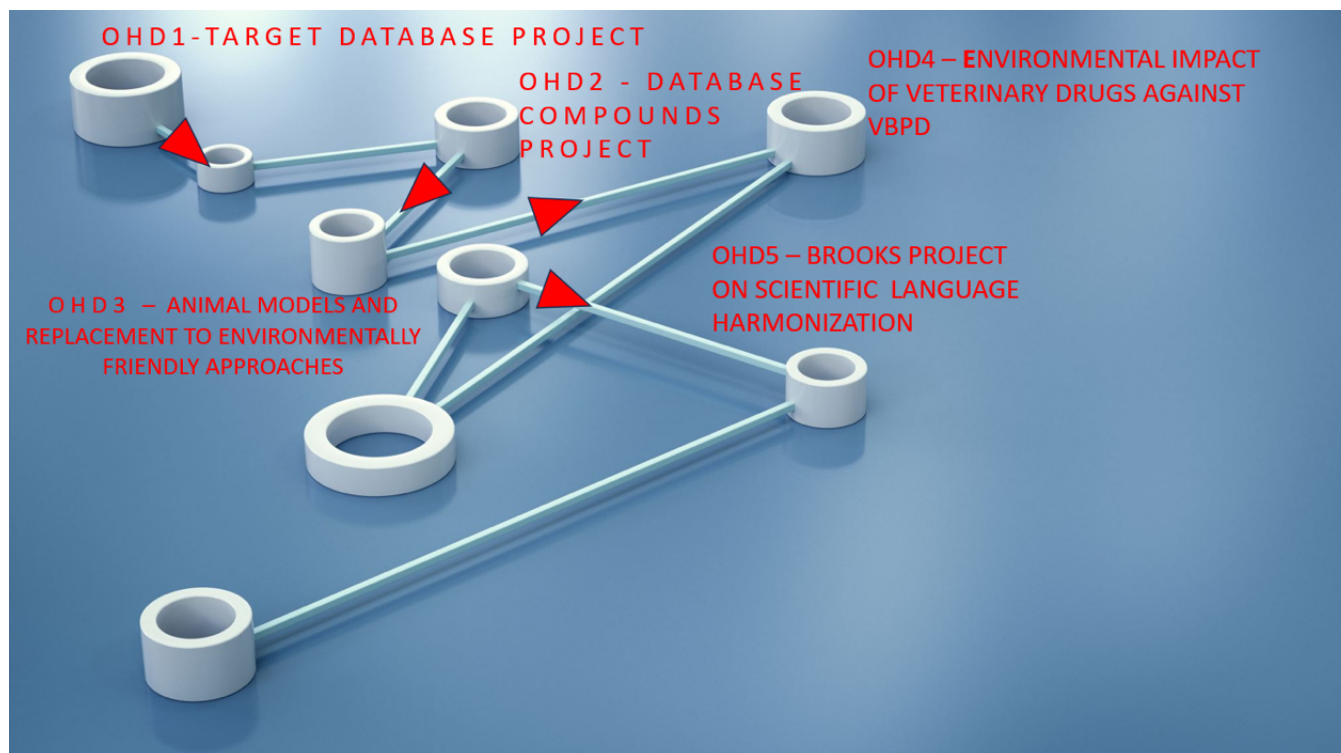
The six OHD projects continue to advance the Action's mission by linking scientific innovation with environmental responsibility and translational impact. Together, they reflect the multidimensional scope of **OneHealthDrugs** — from molecular discovery to ecological safety and harmonised communication.

OHD1 – BioTarget Database and **OHD2 – Compound Database** are now fully operational, providing centralised resources for the integration of biological target data and compound libraries. Both databases incorporate **ecotoxicological modelling** and **predictive assessment tools**, helping identify antiparasitic compounds with reduced environmental impact. The integration between OHD1 and OHD2 allows for the development of a shared platform supporting cross-disciplinary drug discovery.

OHD3 – Environmental Impact of Veterinary Drugs focuses on understanding and mitigating the ecological consequences of antiparasitic compounds, while **OHD4 – Animal Models and Replacement Strategies** promotes the refinement and reduction of animal use through validated in vitro and computational approaches.

OHD5 – LUB Docking Project advances molecular modelling and docking methodologies to predict compound behaviour and interaction profiles, ensuring drug efficacy and safety across One Health domains. Meanwhile, **OHD6 – The Brooks Project** is dedicated to harmonising scientific terminology and methodology within the Action, enhancing clarity, reproducibility, and collaboration across research groups.

Together, these projects form the scientific backbone of the **OneHealthDrugs Action**, uniting diverse expertise toward a common goal — advancing antiparasitic drug discovery while preserving environmental and public health integrity.



OHD1 – BioTarget Database

The **BioTarget Database** (CA21111) focuses on collecting information on biological targets under study by OHD members, aiming to identify **environmentally friendly drug targets** for antiparasitic compounds. Developed by **Net4Science**, the database enables chemocataloguing of chemical entities through an advanced web interface that supports molecular descriptor searches — including **Lipinski's Rule of Five**, **PAINS**, **ADME-Tox**, **eTox**, **chirality**, and **logP** properties.

The first datasets were contributed by **Unimore Lab (Costi MP)**, and the system continues to expand with additional targets provided by the network. The platform promotes collaboration among CA21111 partners and the development of new research projects.

Access: [OHD1 Target Collections](#)



OHD2 – OneHealthDrugs Database

The **OHD2 Database**, developed by **Daniele Aiello**, **Francesco Ortuso**, and **Stefano Alcaro** (University of Catanzaro), serves as a comprehensive **chemoinformatic resource** for antiparasitic compounds with low environmental impact. It combines molecular property calculations, **scaffold identification**, and **ecotoxicological modelling**.

Currently, over **7,000 in-house compounds** and an additional **10,000 compounds from Enamine** are part of the dataset. The **EcoTox algorithm** is progressing, analysing molecular diversity to identify sustainable drug scaffolds. The project has submitted a research paper (September 2024) and continues optimising the database for open access.

Website: [OHD Database](#)

Contact: daniele.aiello@unimore.it

OHD:LUB Project (Linked to OHD1 + OHD2)

The **OHD:LUB Project**, led by **Crtomir** and **Marko Jukič**, connects OHD1 and OHD2 in a large-scale **docking simulation effort**. With 17,000 compounds

now catalogued, the project is running docking calculations against validated **protein targets** to identify **low environmental impact compounds**.

The process follows three phases — *Preparation* (ligand and target setup), *Docking Calculations*, and *Analysis*, targeting completion by **January 2026**. The first pilot study uses **PTRI** as a validation case, marking a milestone in integrating computational chemistry and environmental pharmacology.

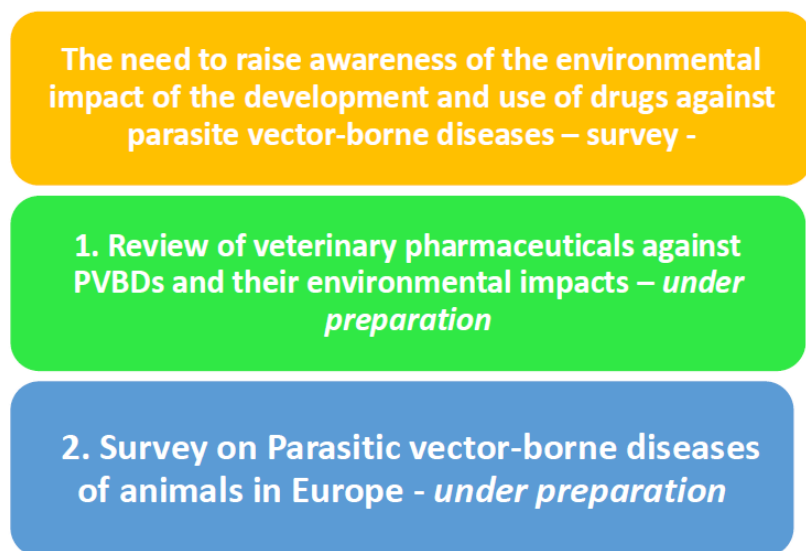
Project link: [OHD:LUB Docking Initiative](#)

OHD3 – Animal Models and Replacement Strategies

OHD3 is leading the transition toward **environmentally friendly approaches** in drug evaluation. A **Standard Operating Procedure (SOP)** for animal model standardisation has been drafted, with the manuscript *“Roadmap of in vitro and in vivo laboratory experiments towards high-quality drug lead candidates for neglected tropical diseases caused by kinetoplastids”* currently **under review**.

Complementary **cell-based studies** are underway in collaboration between **Mirco Bundschuh’s and Guy Caljon’s labs**, focusing on **drug efficacy and ecotoxicological profiling**.

OHD4 - Environmental impact of veterinary drugs against VBPD. *ONGOING*



OHD4 – Environmental Impact of Veterinary Drugs

This project investigates the **ecological footprint** of veterinary antiparasitic drugs. Ongoing work includes two major studies:

1. A **review of veterinary pharmaceuticals** against PVBDs and their environmental impacts (in preparation).
2. A **survey on antiparasitic drug use in animals across Europe**, aiming to shape policy and stewardship recommendations.

These studies form part of the broader campaign to raise awareness of environmental impacts linked to antiparasitic treatments.

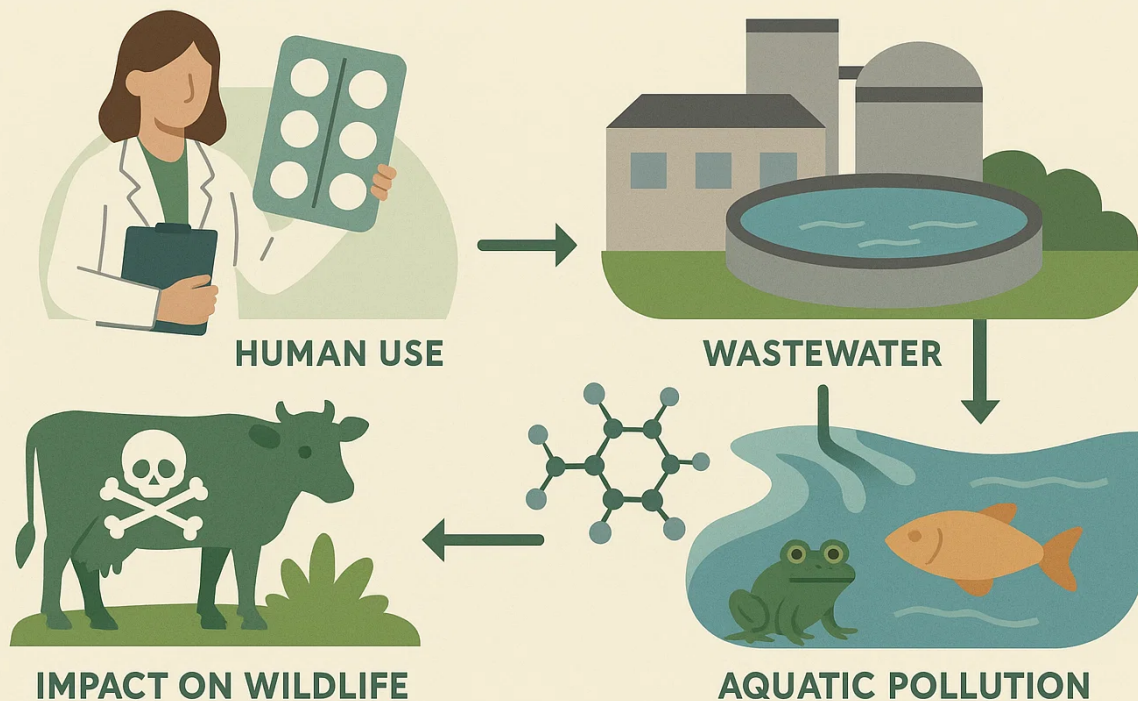
OHD5 – Brooks Project on Scientific Language Harmonisation

The **Brooks Project** explores how discipline-specific terminology can hinder effective collaboration in One Health research. A **network-wide survey** was conducted to assess differences in understanding of key scientific terms and concepts.

Preliminary results show that enhanced **semantic consistency and communication training** could greatly improve cross-disciplinary collaboration. The project's next phase will publish an analytical report

reflecting on **communication gaps and solutions within One Health drug research.**

ENVIRONMENTAL IMPACT OF ANTIPARASITIC DRUGS AGAINST VBPD IN HUMAN MEDICINE



OHD6 – Environmental Impact of Human Antiparasitic Drugs

Building on OHD4, **OHD6** extends the environmental investigation to **human medicine**, focusing on the **ecotoxicological effects of antiparasitic drugs** used in human healthcare. A **review paper** is currently under preparation, aiming to provide a comprehensive overview of pharmaceuticals' environmental fate and propose **sustainability recommendations** for future drug development.

Events & Workshops: Shaping the OHD Agenda Across Europe



The coming months will see a vibrant schedule of **OHD meetings, workshops, and training activities** across Europe — each contributing to the consolidation of scientific knowledge, interdisciplinary cooperation, and the Action's sustainability goals.

- **Brussels (November 2025)** – A key strategic workshop hosted at **COST Headquarters**, focusing on **Stakeholder Engagement** and the **Science-Policy-Industry nexus**. The event will bring together policymakers, researchers, and industry representatives to explore how OneHealthDrugs outputs can inform EU-level actions and regulatory developments.
- **Giessen (November 2025)** – Organised by **WG3**, this meeting will advance the discussion on **in vitro and in vivo models** for parasitic vector-borne diseases, addressing ethical standards, reproducibility, and translational value in animal-free drug testing approaches.
- **Landau (December 2025)** – Hosted by **WG6**, this in-person meeting will delve into the **environmental impacts of antiparasitic drugs**, highlighting the results of current ecotoxicological studies and the development of predictive tools for environmental assessment.
- **Modena (December 2025)** – Coordinated by **WG1**, the Modena workshop will focus on **drug targets and mechanistic pathways**, bridging the outputs from the BioTarget and Compound databases (OHD1 and OHD2). The session aims to identify potential compounds for low-impact drug design and facilitate cross-WG collaborations.

- **Kos, Greece (June 2026)** – The **Kos Science Forum** will feature a high-level panel discussion on **Ethics, Responsibility, and Global Engagement in One Health Research**, serving as a bridge between the scientific community and societal stakeholders.
- **Namur (Spring 2026)** – The next **Training School** will focus on **cell culture as in vitro models for vector-borne parasitic diseases**. Led by **WG4**, it will combine lectures, practical sessions, and mentoring opportunities, supporting capacity building among early-career researchers.

These events collectively define the **OHD calendar for 2025–2026**, setting the stage for impactful dialogue and knowledge exchange as the Action moves towards its final implementation year.

***CALENDAR of the planned events for 4th Working
Period***

Training Opportunities and Grants: Supporting Researchers and Innovators

The **OneHealthDrugs Action** continues to empower **Young Researchers and Innovators (YRIs)** through a strong set of training, mobility, and funding initiatives designed to enhance research capacity and encourage transdisciplinary collaboration.

The **8th Training School**, titled “*Crash Course in Ecotoxicology: From Concepts to Practice*”, will take place in **Namur (Belgium)** from **27–29 May 2026**. The event will provide participants with hands-on training on experimental design, data analysis, and predictive modelling of environmental toxicity related to antiparasitic compounds. This school marks a significant step toward integrating ecotoxicological principles within drug discovery pipelines and supporting sustainable development in One Health.

In addition, **Short-Term Scientific Missions (STSMs)** remain a cornerstone of capacity building, with an allocated budget of **€16,650** to fund approximately **7–10 missions (around €2,400 each)**. These missions enable early-career

researchers to visit host institutions, learn new techniques, and strengthen international collaborations.

6th STSM Call: 1 October – 12 November 2025 (submissions after 1 November)

7th STSM Call: 20 January – 3 March 2026

All STSMs must be completed by **15 August 2026**.

To further encourage active participation, two **€1,000 awards** will be granted this year:

- **YRI Conference Grant** – supporting early-career researchers presenting their work at international meetings.
- **ITC Conference Grant** – for participants from Inclusiveness Target Countries, ensuring equal access to dissemination and networking opportunities.

Through these initiatives, the Action not only fosters scientific excellence but also strengthens inclusivity and innovation across Europe's One Health research ecosystem.

Publication Highlights: OHD Special Issue and New Book Projects

STRATEGIC ROADMAP TOWARDS HIGH-QUALITY LEADS AND DRUG DEVELOPMENT CANDIDATES: *IN VITRO* AND *IN VIVO* LABORATORY APPROACHES FOR KINETOPLASTID-RELATED NEGLECTED TROPICAL DISEASES

AUTHORS

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The **OneHealthDrugs (OHD) network** continues to expand its scientific visibility through major open-access publications that strengthen its position at the intersection of medicinal chemistry, environmental science, and One Health policy.

Special Issue in *Molecules*

A dedicated Special Issue titled *“One Health Drugs Against Vector-Borne Parasitic Diseases — A Sustainable Chemical/Biological Approach”* has been launched under the **Medicinal Chemistry** section of *Molecules* (ISSN 1420-3049).

This initiative welcomes contributions addressing innovative antiparasitic drug discovery, sustainable synthesis methods, and low environmental impact strategies for drug development. The deadline for manuscript submissions is **31 January 2026**, and accepted papers will form a valuable open-access resource for the research community.

 [Special Issue link](#)

New Book Project with Wiley

In parallel, a major book titled *“One Health Drugs Against Parasitic Diseases”* is now in development with **Wiley**.

The volume will serve as a **comprehensive reference on antiparasitic drug discovery**, anchored by the **One Health paradigm**, highlighting the interconnectedness of human, animal, and environmental health. It will feature contributions from a **select group of global experts**, drawing heavily on members of the **COST Action CA21111**, ensuring a strong foundation in specialised knowledge transfer.

The project aims to establish a cornerstone publication that consolidates multidisciplinary advances from chemistry and pharmacology to ecotoxicology and regulatory perspectives.

Call to Action: Reporting Outputs for the Final Assessment

As the **OneHealthDrugs Action** approaches its final year, the process of consolidating results and documenting outcomes has officially begun. Every

member's contribution is essential to ensure a comprehensive and accurate representation of our collective achievements.

We kindly ask all **Working Group (WG) leaders, project coordinators, and active participants** to review their deliverables and submit updates on activities, outputs, and scientific contributions. This includes:

- Publications, conference papers, and book chapters acknowledging the Action;
- Participation in workshops, meetings, and training events;
- Short-Term Scientific Missions (STSMs) and dissemination grants;
- Development of databases, standard operating procedures, or technical tools;
- Collaborative projects, proposals, and partnerships initiated under OHD.

Your input will directly inform the **Final Assessment Report**, which evaluates the Action's scientific excellence, impact, and network sustainability. This is also an opportunity to highlight new collaborations, joint publications, and interdisciplinary initiatives that extend beyond the Action's official timeframe.

To streamline reporting, a dedicated form will be circulated in the coming weeks. Meanwhile, members are encouraged to reach out to their **WG leaders** or the **Chair's Office** with any pending updates or supporting materials. Together, let's ensure that the OHD legacy reflects the full strength and reach of our community.

Give us your valuable feedback

We will be pleased to answer any questions you may have or consider suggestions for improving our Community.

Please email us at onehealthdrugs.events@gmail.com

**Contact us if you have any questions,
suggestions or you wish to share your news**



CA21111 - One Health drugs against parasitic vector borne diseases in Europe and beyond (OneHealthdrugs)

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