

EXECUTIVE SUMMARY

ROUNDTABLE

**ENDOCRINE DISRUPTORS IN
SWITZERLAND: FOSTERING
EXPERTISE COLLABORATION
FOR EFFECTIVE HEALTH AND
ENVIRONMENTAL ACTION**

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CONTEXT AND OBJECTIVES

The PIRSE, established in 2024 as a Swiss think tank focusing on health–environment interactions, organized this foundational roundtable to address three critical challenges facing Switzerland regarding endocrine disruptors (EDs):

1. **Expertise fragmentation** across disciplines despite high-quality individual research
2. **Implementation gaps** between scientific knowledge and concrete actions
3. **Information deficits in knowledge translation** for policymakers, health professionals, and the public

The event brought together leading Swiss experts from complementary fields to establish an interdisciplinary foundation for addressing ED challenges in Switzerland, **emphasizing the critical need for multidisciplinary approaches** to complex health–environment interactions.

KEY SCIENTIFIC AND REGULATORY INSIGHTS

Current Scientific Understanding

Dr. Nathalie Chèvre (Ecotoxicology, University of Lausanne) highlighted fundamental challenges:

- The term "endocrine disruptor" proves overly generic for substances with highly diverse mechanisms of action
- Current approaches remain anthropocentric, overlooking species-specific hormonal systems across biodiversity
- Late collective awareness (2000s) concerns numerous diverse substances present throughout daily life.

Dr. David Lopez-Rodriguez (Bioinformatics, University of Lausanne/EAWAG) emphasized paradigm shifts:

- EDs challenge classical toxicological principles, exhibiting significant effects at very low doses
- Non-monotonic dose-response curves complicate safety threshold establishment
- Epigenetic effects may impact multiple generations, complicating causal relationship establishment
- Delayed manifestations further complicate epidemiological studies.

Regulatory Landscape

Dr. Anne-Laure Demierre (Federal Office of Public Health) outlined Switzerland's collaborative approach:

- First ED identification regulations appeared in 2018 for biocides and phytosanitary products
- New EU/Swiss 2023 regulations introduced specific hazard classes
- Switzerland maintains independence for specific substance actions (like bisphenol S ban) while participating actively in EU discussions and OECD expert groups
- Strategy combines general regulation, individual substance action, and communication/awareness, supported by research funding.

Dr. Valentine Python (Former Swiss MP) identified critical political barriers:

- ED concept introduced to Swiss Parliament only in 2021, revealing significant knowledge gaps
- Strong influence of well-organized chemical industry lobbies at European and international levels
- "Profound scientific denial" among political and economic decision-makers
- Health-environment dimension absent from federal non-communicable disease prevention strategy.

GOVERNANCE AND SYSTEMIC CHALLENGES

Institutional Fragmentation

Prof. Céline Mavrot (Health Systems Governance, University of Lausanne) analyzed structural obstacles:

- Legislative fragmentation through sectoral regulations (soil, water, air, food) prevents comprehensive risk assessment
- Institutional compartmentalization with federal/cantonal offices operating in silos
- Current regulatory regimes, historically based on limit values and maximum doses, fail to address ED specificities
- Evidence administration methods favor laboratory studies over observational studies that would better reveal synergistic effects.

Sociological Perspectives

Prof. Francesco Panese (Social Studies of Medicine and Science, University of Lausanne) introduced the concept of "environmental exposure inequalities":

- Certain populations face potential overexposure to environmental risk factors due to intersection of social, territorial, and environmental dimensions
- DOHaD hypothesis (Developmental Origins of Health and Disease) identifies conception to age two as critical window for environmental exposures
- Reducing exposure inequalities requires paradigm shift from individual health conception based on behaviors to environmental context intervention.

EXPERT RECOMMENDATIONS AND SOLUTIONS

Immediate Priorities

1. **System Reform:** Favor multidisciplinary collaborations and value transdisciplinary work in researcher evaluation criteria
2. **Enhanced Interdepartmental Initiatives:** Overcome administrative silos through strengthened coordination
3. **Research-Regulation Interface:** Organize targeted information sessions and develop new testing recommendations
4. **Substance Research Diversification:** Address current imbalances (13,000 studies on bisphenol A while other potentially dangerous compounds remain understudied)

Strategic Approaches

1. **Health Sciences Training:** Create dedicated university-level programs (master's) developing critical reading competencies across domains
2. **Strategic Media Utilization:** Leverage demonstrated effectiveness in influencing policy (e.g., pesticide limit value revisions)
3. **Economic Argumentation:** Demonstrate non-regulation and inaction costs (€157 billion annually for EU in 2016) to counter industrial arguments
4. **Transdisciplinary Expertise Body:** Create new entity modeled on Technology Assessment (TA-Switzerland) emphasizing agility and targeted investments

Communication and Formation

1. **Target information for professionals** in contact with at-risk populations (gynecologists, midwives, pediatricians)
2. **Develop coherent communication strategies** focusing on clearly defined priorities (nutrition and cosmetics)
3. **Advance medical training** evolution toward environmental health integration, noting particular interest among young physicians

CONCLUSIONS AND FUTURE DIRECTIONS

The roundtable revealed five essential aspects requiring coordinated action:

1. **Scientific Complexity:** EDs represent unprecedented challenges through their number, mechanism diversity, low-dose effects, and potential transgenerational impacts
2. **Institutional/Political Fragmentation:** Siloed organization coupled with considerable industrial lobby influence significantly slows public action
3. **Exposure Inequalities:** Populations face unequal ED exposure and avoidance capabilities
4. **Multiple Complementary Approaches:** Addressing the challenge requires interdisciplinary research strengthening, regulation improvement, professional and public information, local initiatives, and association support
5. **Paradigm Change Urgency:** ED issues invite fundamental reconsideration of our relationship with chemical substances, economic models, scientific evidence production, and health conception

PIRSE STRATEGY: RESPONDING TO IDENTIFIED NEEDS

The PIRSE positions itself as a catalyst for interdisciplinary collaboration, bridging the gap between scientific knowledge and actionable policy recommendations while addressing the complex, multi-faceted nature of endocrine disruption challenges. Drawing directly from the roundtable insights, PIRSE has tailored its approach around three strategic axes that address the core challenges identified:

Addressing Expertise Fragmentation - Creating structured platforms for multidisciplinary collaboration and knowledge synthesis to overcome the silos that currently limit coordinated action on EDs.

Bridging Science-Action Gap - Developing translation mechanisms that transform complex scientific evidence into practical recommendations for health professionals, policymakers, and practitioners.

Meeting Information Demand - Establishing credible, evidence-based communication channels that provide coherent, actionable information to counter current media fragmentation and respond to growing public and professional needs.

This targeted response demonstrates how interdisciplinary dialogue can directly inform organizational strategy, ensuring that research initiatives align with real-world needs and systemic challenges.

