

## Tackling hidden endocrine disrupting chemicals: Regulate to improve people's health, inform and educate to promote better choices

Everyday consumer goods like personal care products, cosmetics, and food storage materials can contain endocrine disrupting chemicals (EDCs). These chemicals can disrupt the normal functioning of our bodies' hormone system and impact human health.

A review of the scientific literature carried out by researchers in the ATHLETE project shows that educating people on how to avoid chemicals can reduce exposures to some EDCs. However, the information available to consumers about what chemicals are in products and packaging needs to be improved. To better protect citizens' health, EU, national and local policies targeting the use of chemicals in processing, manufacturing, and packaging will need to be introduced without delay.

### What are endocrine disrupting chemicals?

EDCs have the ability to interfere with our hormone systems. A growing body of scientific research indicates that exposures to EDCs can adversely affect our health, including implications for diabetes, obesity, and cognitive effects.

Our daily exposure to a range of EDCs, such as phthalates, synthetic phenols like BPA and triclosan, and glycol ethers, is due to their omnipresent use in a wide range of consumer goods. EDCs are used as plasticizers, fixatives, solvents, and preservatives in everyday products like personal care products (like shampoo, soaps, creams, cosmetics) and materials used in food manufacturing and storage (such as cutlery, plastic storage containers, and drinking bottles).

There are currently EU regulations ((EC) No 1223/2009; (EC) No 2023/2006; (EC) 1907/2006; (EC) No 1935/2004) that limit or ban some chemicals in cosmetics and food contact materials but these measures may not be enough as these compounds are still detected in human studies.

### Research and methodology

Research was done to understand whether individuals can reduce their personal exposure or whether upstream policies are needed to protect human health.

A review of the scientific literature identified 26 studies that intervened on individual behavior and knowledge to change people's body burden to EDCs including synthetic phenols or phthalates either by:

- Providing products containing these compounds such as body creams, toothpaste, canned food, and plastic bottles to understand how quickly and to what extent these products impact on exposures.
- Changing people's behaviors through education on how to avoid exposure to EDCs.
- Removing or replacing commonly used products with EDC-free products such as stainless steel or glass food and beverage containers, or EDC-free personal care products.

### Conclusion: Removing or replacing products containing EDCs can reduce exposures

Results from our research shows that:

- Changes in the amount of chemicals present in the body could be seen in as few as two days.
- Education and product removal or replacement interventions reduce exposure, but require participant compliance, motivation, and ability to find suitable replacements. This limits how successful relying on individual actions can be.
- Contamination from food packaging and difficulty identifying harmful ingredients in personal care products make it challenging to reduce individual exposure to EDCs.

### Policy recommendations

To maximize impact while minimizing burden for individuals, policy efforts at EU, national and local level should target the use of EDCs across various sectors including processing, manufacturing, and packaging. This includes:

- Ensuring consumer information on the chemicals used within products and packaging are easy to access and widely available.
- Implementing policies which target the use of chemicals in multiple upstream sectors (including processing, manufacturing, and packaging) to reduce the burden on individuals to identify and find alternative products.
- Considering the potential harms of chemicals such as preservatives before these chemicals are introduced into manufacturing processes or consumer products.

#### References

Yang, T. C., Jovanovic, N., Chong, F., Worcester, M., Sakhi, A. K., Thomsen, C., ... & Philippat, C. (2023). Interventions to Reduce Exposure to Synthetic Phenols and Phthalates from Dietary Intake and Personal Care Products: a Scoping Review. *Current Environmental Health Reports*, 1-31.