



Awareness rising on pharmaceutical problems

in frame of CWPharma2

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CWPharma2 on-line Final seminar, 23.11.2021.



In order to implement CWPharma results, CWPharma2 aims fill public awareness gaps

- **Goal:** Raise awareness on APIs in the environment and the proper disposal of unused APIs, focus on Baltic States & Poland
- **By** producing an easy **communicable video** (in national languages of Latvia, Lithuania, Estonia and Poland) on APIs in the environment and correct disposal of unused pharmaceutical and spreading it via social media.
- The video is raising awareness on issues on API **by proving important information on APIs in the environment and the correct disposal of APIs in the target countries Poland and the Baltic States.**
- It is planned to help to increase acceptance of any kind of reduction measures in the long run.

Activity lead by: LIAE

PPs: EVEL, IOS, KWB



Why active pharmaceutical ingredients?

- During the last decades, it has become evident that some active pharmaceutical ingredients (API) **have harmful environmental impacts on aquatic ecosystems.**
- Therefore, there is a **need to decrease the amount of pharmaceutical residues that end up in the environment.**
- **Information gaps related to increased awareness of the environmental impacts of pharmaceuticals in the health care sector and the promotion of sustainable consumption of pharmaceuticals have been identified in the Status Report on Pharmaceuticals in the aquatic environment of the Baltic Sea Region (BSR) published by UNESCO and HELCOM in 2017*.**



* <https://helcom.fi/media/publications/BSEP149.pdf>

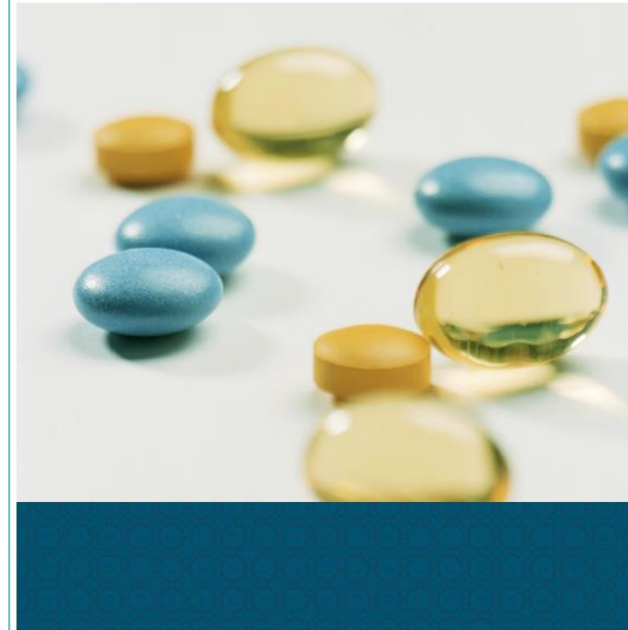
How raise awareness?

- CWPharma in 2020 published recommendations* ... where Swedish practices are described and evaluated, and the measures that can be implemented in the other BSR countries are formulated as recommendations.
... because In Sweden, there are good practices for healthcare professionals about how to consider the environmental impacts of medications already at the prescription phase, as well as guidelines for how to make the environmental information available and accessible to healthcare professionals and the public.
- It also contains information about existing practices in Baltic Sea region (BSR) countries, provided by the project partners in the CWPharma project.
- And concludes that countries in the BSR are currently at different levels when it comes to management of pharmaceuticals and their residues in the environment. Public awareness of the environmental impacts of pharmaceuticals differs, as do the systems for returning leftover medications.

*<https://www.lansstyrelsen.se/download/18.f2dbbcc175974692d2ad14/1605692665464/Recommendations%20of%20efficient%20dissemination%20of%20environmental%20information%20regarding%20pharmaceuticals2.pdf>

Recommendations for efficient dissemination of environmental information regarding pharmaceuticals

Clear Waters from Pharmaceuticals (CWPharma) Activity 4.2 Report



County Administrative Board in Östergötland in cooperation with Finnish Environmental Institute (SYKE), Finnish Medicines Agency (FIMEA), Kalundborg Utility (Denmark), Estonian Environmental Research Centre (EERC), Estonian Waterworks Association (EVEL), Berlin Centre of Competence for Water (KWB), Latvian Environment, Geology and Meteorology Centre (LEGMC), Institute of Environmental Protection- National Research Institute (IOS, Poland).

Why rising awareness activities in Baltic countries and Poland?

- CWPharma in 2020 published report*

...where current national practices for take-back and disposal of unused medicines and other pharmaceutical waste in Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, and Sweden were evaluated.

Concludes:

- The proportion of citizens who return unused pharmaceuticals via designated collection points varies greatly between Baltic Sea countries, from about 10% to 70%, with 16–80% disposing of them as mixed household waste and 3–30% flushing them down the drain.
- The most commonly cited reason for improper disposal of medicines on households' part is lack of information about their environmental impacts and how to get rid of them in an environmentally sound manner.
- Separate collection of unused household pharmaceuticals does not exist in Russia, and the collection mechanism functions poorly in Latvia, Lithuania and Poland.

*https://helda.helsinki.fi/bitstream/handle/10138/319009/SYKEre_34_2020_CWPharma.pdf?sequence=4&isAllowed=y

Good practices for take-back and disposal of unused pharmaceuticals in the Baltic Sea region

Clear Waters from Pharmaceuticals (CWPharma) Activity 4.1 Report

Jukka Mehtonen, Lauri Äystö, Ville Junntila, Noora Perkola, Terhi Lehtinen, Jeppe Bregendahl, Ülle Leisk, Vallo Kõrgmaa, Pille Aarma, Jan Schütz, Michael Stapf, Anete Kublina, Ieva Karkovska, Marlena Szumska, Aleksandra Bogusz, Radosław Kalinowski, Sara Spjuth, Kristina Nyhlén, Torsten Jakobsson, Sergej Suzdalev, Elena Kaskelainen



From example of Sweden to CWPharma2 raising awareness video

- Eight recommendations were formulated through dialogues with stakeholders in Sweden.
- The recommendations are divided into four main areas i.e.:

- ✓ – education,
- *databases and guidelines*,
- ✓ – dissemination of information to public,
- ✓ – collaboration among stakeholders.

Video is with educational character on:

- **Overall environmental risks** of APIs and **harms** on environment (ecotoxicological effects)
- **APIs concentrations in environment**
- **..and respective harm** (input from CWPharma report of GoA 2.1, 2.2 and MORPHEUS project)
- **Existing practices** and areas that need improvement in **national level** (input from CWPharma report of GoA 4.1)
- **Challenges** of API removal in **WWTP**, existing practices and possible **upgrades of WWTP** (input from CWPharmaWP 3)
- **Correct disposal** of APIs

Adapted parts

...were made by involving experts from Estonia, Lithuania and Poland to whom I'd like to express my thankfulness:

- **Latvia** - Kristine Juckovica, Executive Director at Pharmaceutical Care Association of Latvia
- **Lithuania** - Galina Garnaga-Budrė, Director of Environment Research Department - Environmental Protection Agency
- **Estonia** – Egge Haiba, Senior Lecturer at TalTech – Tallinn University of Technology (involved at CWPharma)
- **Poland** - Professor Barbara Gworek, Warsaw University of Life Sciences

The 4 script, 1 take-home message:

Be part of the solution! Use responsibly! Dispose properly!

Part I

Every year, tonnes of pharmaceutical drugs are used worldwide. In 2020 alone, over one trillion euros was globally spent on medication. These include painkillers, hormonal treatments, blood pressure pills, anti-inflammatories, and so on. No drug could do its job

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Pharmaceutical drugs are consumed by a notable amount of the population – and this amount is still increasing due to the ageing of society. Researchers in CWPharma 2 have made several recommendations for curbing pharmaceutical pollution.

One of the solutions is continued education, but it is also important to develop methods for appropriately disposing of pharmaceutical waste. Hospitals are a test bed for seeing how well certain algorithms can help in curbing pollution. A single pill from a hospital can become a dangerous vector for pollution.

Sandra Simkus, Head of Infrastructure and Logistics at Pauls Stradins Clinical University Hospital

We dispose of this unused pill in a hazardous waste container, which is then picked up by a hazardous waste service which removes it. If we look at capsules and ampoules, it is clear there is a large amount of waste – about 150,000 units. On the other hand, empty infusion bottles, as long as they have no sharp components, get recycled alongside plastic waste.

At any given time, the hospital will have around 800 patients, all of whom will be receiving some kind of medical treatment. It is hard to approximate how many drugs will be released this way, but without these kinds of algorithms, we would have no clue how many drugs we get through, and all of this pharmaceutical waste would end up in the environment alongside household waste.

The volume of pharmaceutical waste is significant. However, it is important not to downplay the effects of household waste, too. It is, therefore, important to use pharmaceuticals as they were intended, and not to stockpile them at home. When the time comes to dispose of them, this should be done according to the country's regulations.

Be part of the solution!

Use responsibly!

Dispose properly!



Project duration: 01.2021 – 12.2021
Total ERDF funding: xxx
Total budget: xxx

Video created by



Supported by



In parallel with video creation in Latvia – environmental communication campaign with stakeholder involvement

- **Pharmacists' Society of Latvia (PSL)** is a professional Pharmaceutical organization that represents economic and legal interests of Pharmacists, promotes public health in Latvia and improves the professional qualification of Pharmacists and Pharmaceutical assistants in Latvia. PSL was founded in 1994 and unites approximately 1000 members.
- **Pharmaceutical Care Association of Latvia** is non-governmental organization that has been operating since 2008 and unites four pharmacy companies, for which the development of pharmaceutical care for the population in Latvia is especially important. Their mission - Providing an environment and regulation of pharmaceutical activities in Latvia, in the way that everyone can receive effective pharmaceutical care



- And with input from Kurzeme Planning region and Latvian Environment, Geology and Meteorology Centre



Let's treat ourselves but do not overdose nature

ĀRSTĒJAM SEVI, BET NENOZĀĻOJAM VIDI!



NOSKENE  LAI UZZINĀTU VAIRĀK PAR MEDIKAMENTU IETEKMI UZ APKĀRTĒJO VIDI



In parallel with video creation in Latvia – communication campaign in media

...regarding API pollution problem and proper API disposal:

- Ieva Putna – Nīmane gives comment about pharmaceuticals in nature to local public radio journalist “Ieva Putna – Nīmane gives comment about pharmaceuticals in nature to local public radio journalist” (audience LSM.lv – 165 k, radio – 9,2 k)
- An interview about pharmaceuticals in nature to TV journalist “How grassed are the waters of Latvia?” in Morning news (audience TV3 – 10,9 k)
- An interview about pharmaceuticals in nature to journalist “There is cause for concern! Scientists are discovering pharmaceutically active substances in Latvian waters” (audience Jauns.lv – 642 k).

Latvijā nav sakārtota sistēma nevajadzīgo medikamentu savākšanai

Dalīties:



Farmaceits un medikamenti aptiekā. Attēls ilustratīvs.

Foto: LETA, Ieva Makare



Ir pamats uztraukumam: Zīmātkrāslī Latvijas ūdeņos atklāj farmaceitiski aktīvās vielas

Klausīties audio formātā

SABIEDRĪBA | 12. novembris 06:44 Jauns.lv

ABONĒ PĒRIŠI XXXX GAJAM
ETĀURĪ UN SANĒM DĀVANĀU!

“Uztraukumam ir pamats,” tā intervijā portālam Jauns.lv sacīja Latvijas Hidroekoloģijas institūta pētniece Ieva Putna-Nīmane, stāstot par vērīgu pētījumu, kurā Latvijas ūdeņos atklātas augstas koncentrācijas farmaceitiski aktīvās vielas.

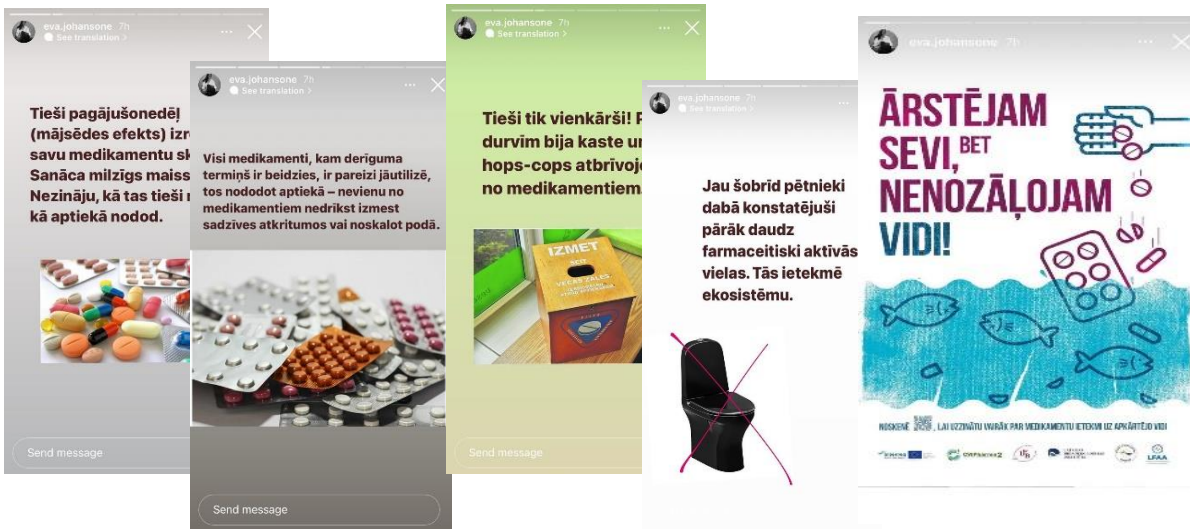
POPULĀRĀKAIS ŠODIEN

- Press release of the campaign at home page of **Latvian Pharmaceutical Care Association**
- Press releases about campaign at home page of **Medicine Information Centre**



Instagram

- Noticed by well known person in Latvia (7877 followers) who in first days of campaign placed IG story about



Sākas izglītojoša sociālā kampaņa "Ārstējam sevi, bet nenozāļojam vidi!"

Oktobra beigās Latvijas Hidroekoloģijas institūts sadarbībā ar Latvijas farmaceitiskās aprūpes asociāciju un Latvijas Farmaceitu biedrību uzsāk izglītojošu sociālo kampaņu "Ārstējam sevi, bet nenozāļojam vidi!" Kampaņas mērķis ir pievērst sabiedrības uzmanību draudiem, ko rada farmācijas aktīvo vielu un to metabolītu nonākšana apkārtējā vidē.

Sociālās kampaņas ietvaros Rīgā, Jelgavā, Siguldā, Valmierā un Ventspilī sabiedriskā transporta pieturvietās izvietoti informatīvie stendi, kā arī tiek gatavots izglītojošs video, kurā nespēlāstiem viegli uzveramā veidā skaidrota šī problēma.

Pateicoties zinātnes atklājumiem un attīstībai, mūsdienās daudzas slimības, ar kurām slimo cilvēki un dzīvnieki, iespējams izārstēt – un tas ir liels ieguvums. Diemžēl medikamentu lietošana ne vienmēr tiek veikta atbildīgi, tāpēc apkārtējā vidē – tai skaitā Baltijas jūrā – nonāk daudzas farmaceitiski aktīvās vielas un to metabolīti. Noteiktā koncentrācijā tie atstāj nopietnu ietekmi uz ekosistēmu, tāpēc – uz mums visiem, ziņo kampaņas rīkotāji.

Kopš 2017.gada rudenis septiņās Eiropas valstīs – Dānijā, Igaunijā, Somijā, Vācijā, Latvijā, Polijā un Zviedrijā piecpadsmit dažādas organizācijas īsteno projektu "Clear Waters from Pharmaceuticals" un deviņas no šīm organizācijām – projekta turpinājumu "Clear Waters from Pharmaceuticals 2"; abus finansāli atbalsta ES Interreg Baltijas jūras reģiona programma.

Jau piecus gadus šo projektu ietvaros visas uzskaitāmajās valstīs zinātnieki veic pētījumu, lai varētu identificēt, kuras no farmaceitiski aktīvajām vielām un to metabolītiem visbūtiskāk piesārņo gan vietojo ekosistēmu, gan Baltijas jūru.



Next steps

- **Estonian, Lithuanian and Poland videos planned to publish in the end of November-beginning December together with press releases**
- Project partners will **spread** the video in their social media in order to reach their followers
- In Latvia additional activities regarding awareness rising will be implemented together with **stakeholders Pharmacists' Society of Latvia and Pharmaceutical Care Association of Latvia and in addition to CWP Harmaz take home message we explain:**
 - Use responsible -> according to doctors/pharmacists recommendations
 - Don't share -> what works for you, may harm to other
 - Dispose properly -> don't flush & don't waste



Be part of the solution!

Use responsibly! Dispose properly!

[Latvian version of video](https://www.youtube.com/watch?v=5E_jUXkSbTU)

https://www.youtube.com/watch?v=5E_jUXkSbTU

