

International Best Practices: Medication Disposal in Finland



Written by [Alex Evans, PharmD, MBA](#) | Reviewed by [Lindsey Mcilvena, MD, MPH](#)

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Key takeaways:

- Finland has a very high rate of participation in medication collection programs, with around 90% of Finns disposing of liquid and solid waste according to government recommendations.
- Landmark research into medication waste in 2016 led to a series of reforms aimed at limiting the amount of waste generated.
- This year, research is being conducted again to investigate the effectiveness of those reforms and search for opportunities to improve.



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In our pharmacy around the world series, we have explored how community pharmacy differs across the globe, from [Canada](#) to [Iran](#) to [Switzerland](#). In doing so, we have been able to uncover [best practices](#) that might give us an opportunity to improve our own healthcare system.

In an extension of this series, we're exploring healthcare initiatives from other countries. And in this post, we'll look at how Finland has successfully managed medication waste and disposal.

To help us better understand Finland's practices for medication waste, we've interviewed [Johanna Timonen, PhD](#), a university researcher and faculty member at the [University of Eastern Finland School of Pharmacy](#).

The legal landscape for medication disposal in Finland

The laws and policies related to medication disposal come from two sources: the European Union and the Finnish government.

The European Union

As a member of the European Union (EU), Finland is responsible for carrying out [EU directives](#), which are goals that all EU members must achieve.

One of those directives, [2004/27/EC](#), requires member states to establish systems for medication take back and disposal. It also has systems in place to assess and limit the environmental effects of a medication.

In 2019, the [European Commission](#), which is responsible for a lot of the policy work of the European Union, published a more detailed guide titled [Strategic Approach to Pharmaceuticals in the Environment](#). Some of the aims outlined look at limiting waste by optimizing medication package sizes. It also looked at assessing medication disposal practices and exploring how they could be improved.

Finally, the EU also has a comprehensive [list of waste](#), which includes hazardous waste and medication waste.

Finland

Finland has several laws that regulate medication waste, including the [Waste Act](#) and the [Narcotics Act](#). The [Finnish Medicines Agency](#) also issues policies that can affect the disposal of medications.

Finland has gone one step further than the EU's list of waste and classified all medication waste as hazardous. This includes medication waste generated by households. Healthcare facilities must track and manage the waste, while municipalities must manage household waste.

Finally, there are regulations in place for veterinarians and medication waste from animals. There are ones to make sure that the waste goes to licensed facilities as well.

Current practices

In Finland, municipalities — not pharmacies — are legally required to have a system in place for handling household medication waste.

Municipalities must make sure that there are enough collection points that are accessible to the public. They must often share information about hazardous waste collection with the public as well.

The Finnish Medicines Agency also has [information](#) for the public about the proper disposal of medication waste.

Most municipalities, however, contract with pharmacies to offer collection services, and all pharmacies in the country act as collection points for the public. The municipality will provide the collection receptacles and pay for the disposal fees.

Pharmacies benefit because they can include their own waste, which allows them to have it disposed of at no cost to them in exchange for offering the take back services. This is different from the U.S., where the [DEA](#) has banned pharmacies from using collection receptacles to dispose of their own controlled substances.

In total, an estimated 3% to 4% of all medication in Finland is wasted.

According to [2016 research](#) by the Association of Finnish Pharmacies, the most common reasons were:

- The medication package was larger than needed
- A change in therapy
- The medicine expired
- The medicine was not needed

[Research](#) published by Dr. Timonen and colleagues found that 89% of Finns disposed of expired liquid medications and 93% disposed of expired solid medications by returning them to the pharmacy for disposal. Only 1% of either medication type was disposed of down the drain.

This is a high level of success. While data on routes of disposal in the U.S. is limited, [patient surveys](#) looking at opioid disposal found that only 12% to 41% of patients followed federal recommendations for disposal.

Continuous research led to change

The [same research from 2016](#) also estimated that about 78 million euros (\$78 million) of medications were returned to pharmacies.

Other research found that this only represented about 60% to 80% of all medication waste. Using this information, the researchers could estimate a total waste nationally of 95 to 125 million euros (\$95 to \$125 million).

Based on their findings, they recommended the following changes:

- Smaller package sizes on a first fill, in case the medication is changed
- Limiting reimbursement of more expensive medications to 1 month
- Paying for a refill on a medication only when the previous refill is about to run out
- Extension of automated dispensing services to dispense doses in 2-week intervals

Many of these changes were later [implemented](#), including by reforming the Health Insurance Act, to make changes to reimbursement structures to limit waste.

Future directions

Dr. Timonen and her colleagues are now conducting [new research](#) to study the effects of the changes made after the 2016 research. They are also looking to discover ways to further cut down medication waste across the country. In total, more than 80 pharmacies are participating.

The research will dig even deeper to look at the different categories of medication waste, whether the medications are prescription or over the counter, and the distribution of waste across reimbursement categories (similar to tiers in the U.S. insurance system). Like the 2016 study, they will also research the reasons the medication was not used.

Dr. Timonen hopes this new study, along with the more robust data set and analysis, can be used to fine-tune practices.

For example, if some medication categories are commonly wasted, then prescribing practices could be researched to see if there are opportunities to improve them. If a large part is over the counter, then it could be a chance for pharmacists to focus on counseling patients interested in buying these medications.

The bottom line

Finland has a comprehensive legal structure and robust system in place to make sure medications do not end up in waterways and in drinking water. In addition, previous research in Finland led to evidence-based strategies to limit waste. Finally, more research is underway to explore how to improve even more on the country's existing medication waste management system.

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