Event Report

From medication waste to smarter medication management: pathways for EU action

On 28 May 2026, the European Health Management Association (EHMA) convened a high-level webinar entitled *'From Medication Waste to Smarter Medication Management: Practical Pathways for EU Action'* to present its recent policy paper examining the structural causes, system-wide implications, and potential policy responses to medication waste across Europe. The discussion brought together experts from health management, pharmacy practice, academia, and public health to assess how smarter medication management can contribute to more resilient, sustainable, and efficient European health systems.

A central theme emerged consistently throughout the discussion: medication waste should no longer be approached as an isolated pharmaceutical or disposal issue, but rather as a **systemic governance challenge** that intersects directly with patient safety, health system sustainability, digital transformation, industrial policy, and environmental protection. Speakers emphasised that while Europe has increasingly focused on pharmaceutical shortages and supply chain resilience in recent years, **insufficient attention has been paid to inefficiencies occurring after medicines enter care pathways**. This gap represents a significant missed opportunity for both cost containment and quality improvement.

Opening the discussion, Dr Sergio Olivera Formoso framed **medication waste as a 'triple burden'** generating clinical harm, economic inefficiency, and environmental pollution simultaneously. He highlighted evidence from multiple Member States demonstrating the scale of the problem. Importantly, Dr Olivera Formoso argued that **medication waste and medicine shortages now coexist across Europe**, illustrating deeper structural weaknesses in pharmaceutical management systems.

The webinar stressed that **medication waste is driven** not primarily by isolated consumer behaviour, but **by systemic failures** embedded throughout healthcare delivery. Non-adherence to treatment, inappropriate prescribing, polypharmacy among ageing populations, fragmented care pathways, inadequate medication reviews, pack-size mismatches, and weak redistribution or disposal systems were all identified as contributing factors. Several speakers noted that demographic ageing and the growing prevalence of multimorbidity will likely intensify these pressures over the coming decade unless structural reforms are implemented.

The Dutch experience with Automated Dose Dispensing (ADD), presented by Lars Vogelzang of the Spits Group, was discussed as one of the most advanced operational models currently implemented in Europe. Mr Vogelzang described how centralised automated dispensing systems in the Netherlands have enabled substantial improvements in medication adherence, patient safety, and logistical efficiency, while also reducing medication waste. The Dutch model organises medicines into patient-specific dose rolls

prepared under centralised, GMP-compliant conditions and distributed through local pharmacies. He stressed that **successful implementation depends** not only on technology adoption but also **on enabling regulatory and reimbursement frameworks**. He argues that reimbursement policy remains one of the decisive factors determining whether large-scale medication optimisation systems become sustainable in practice.

The economic rationale for automation and digitalisation was further reinforced by Dr Daniele Bellavia of LIUC University, who presented findings from a multi-country economic assessment examining the financial impact of automated medication management technologies in European hospitals. The analysis evaluated technologies including inventory robotics, unit-dose systems, automated dispensing cabinets, smart infusion pumps, and medication traceability platforms. He argues that **investing in these systems produces strong medium-term returns, with estimated payback periods between two and four years and returns on investment exceeding 200% over ten years**. Significantly, approximately one-third of all projected savings is derived from reductions in medication waste and unused stock. Additional savings emerged through reductions in medication errors, improved workforce efficiency, and shorter care processes.

Digitalisation and automation should not be viewed solely as technological modernisation projects but as strategic investments in healthcare sustainability and resilience. Several speakers noted that **current adoption levels across Europe remain uneven**, largely due to high upfront investment costs, fragmented procurement systems, and insufficient integration of economic evidence into policymaking.

Professor Ranieri Guerra, Vice President of the Federation of European Academies of Medicine (FEAM), provided a strong macroeconomic framing. Prof Guerra argued that medication waste effectively functions as a recurring "tax" on European healthcare systems and proposed a framework distinguishing between direct waste costs, operational handling costs, and broader consequential costs resulting from non-adherence and systemic inefficiencies. Prof Guerra's intervention repositioned medication waste reduction within the broader European strategic priorities. He argued that current debates surrounding the Critical Medicines Act, the Pharmaceutical reform, and European strategic autonomy cannot be fully effective if **inefficiencies in medicine utilisation remain unaddressed.**

During the final segment of the webinar, Dr Elena Petelos situated smarter medication management within the broader context of EU health governance, digital transformation, and financial planning. Dr Petelos argued that the issue aligns directly with emerging European priorities, including the European Health Data Space (EHDS), cross-border interoperability, health system resilience, and sustainability objectives under the next Multiannual Financial Framework (MFF). She also cautioned that digital transformation alone will not automatically generate equitable outcomes. **Without coordinated implementation strategies, workforce training, interoperable standards, and appropriate governance mechanisms, digitalisation risks reinforcing existing inequalities** in access and care quality. She stressed the importance of implementation research, harmonised indicators, and workforce capacity-building to ensure that technological solutions can be scaled sustainably across different health system contexts.

Throughout the discussion, a broad consensus emerged around several strategic priorities for European action. First, speakers called for the **establishment of EU-wide medication waste monitoring and surveillance systems** supported by common indicators and interoperable digital infrastructure. Second, multiple contributors highlighted the **need to reform reimbursement and procurement models** in ways that incentivise dose-based dispensing, shorter dispensing cycles, and medication optimisation. Third, participants emphasised the importance of **embedding medication management more explicitly within ongoing EU pharmaceutical and digital health reforms.**

The webinar ultimately reinforced the conclusion that Europe already possesses sufficient evidence, technological capacity, and operational examples to significantly reduce medication waste. **The primary challenge now lies in political prioritisation, coordinated implementation, and long-term investment**. As several speakers noted, medication waste reduction represents a rare area of health policy where clinical, economic, environmental, and industrial interests align around a shared objective. The policy question facing European institutions and Member States is therefore no longer whether action is justified, but how rapidly implementation can be deployed.