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'We need to be part of the solution': lessons from the 2024 PPRI Conference on ensuring access to affordable medicines through innovative policies

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ABSTRACT

On 25–26 April 2024, the 5th PPRI (Pharmaceutical Pricing and Reimbursement Information) Conference on ensuring equitable access to affordable medicines took place in Vienna (Austria). Twenty-four accepted contributions were presented either as oral presentations or posters, adding to invited keynote lectures, stakeholder debates and workshops. The global multi-stakeholder audience discussed a range of approaches in pharmaceutical policies, which have the potential to successfully and sustainably address current and future challenges in ensuring patient access to affordable medicines globally. These discussions benefited from the interaction between policy-makers, stakeholders in the private sector and researchers who provided evidence on implemented and piloted policies. Among the policy options that drew the most attention during the PPRI Conference were procurement with targeted instruments to achieve strategic objectives, innovative payment models such as different variants of managed-entry agreements, and new models to fund pharmaceutical research and development. Experiences on established policy options that are being newly introduced in several countries, such as price regulation, health technology assessment, evidence-based selection for

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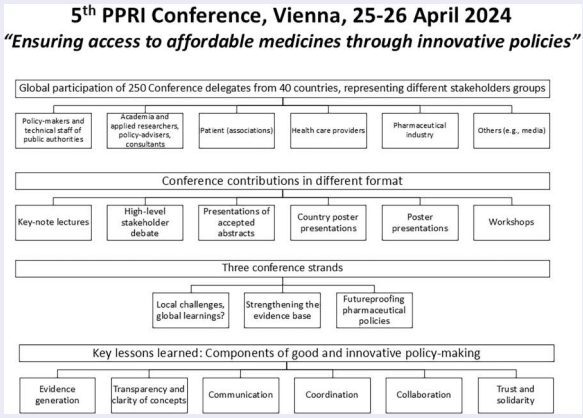
reimbursement decisions and measures to enhance the uptake of biosimilar medicines were also shared. The PPRI Conference reaffirmed the relevance of pharmaceutical pricing, procurement and reimbursement policies aligned with policy actions in other areas and along the pharmaceutical life-cycle and emphasised the importance of developing needs-driven health systems. Innovation in policy-making is needed to work towards equitable patient access to affordable medicines. This requires transparency, alignment on evidence requirements, communication, coordination, intra-country and international collaboration, solidarity and trust.



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Introduction

On 25 and 26 April 2024, the World Health Organization (WHO) Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies affiliated to the Pharmacoeconomics Department at the Austrian National Public Health Institute (GÖG) held the 5th PPRI (Pharmaceutical Pricing and Reimbursement Information) Conference in Vienna, Austria. Considering current challenges in equitable access to affordable medicines across the globe, approximately 250 Conference delegates from 40 countries (21 European Union (EU) Member States, eleven further countries from the WHO European Region such as Norway and Ukraine and eight countries of other Regions such as Brazil, Canada, Singapore, South Africa and the US) discussed optimising pharmaceutical policies. A Scientific Programme Committee with representation of several WHO Collaborating Centres working on pharmaceutical policies supported the Conference organiser.

'Pharmaceutical Pricing and Reimbursement Information', abbreviated as PPRI, relates to the thematic focus of the research, policy-advice and

capacity-building activities of the Conference organiser. Additionally, it is the acronym to denote the PPRI network which is coordinated by the Pharmacoeconomics Department of the Austrian National Public Health Institute. The PPRI network comprises public authorities that are in charge of pharmaceutical pricing and reimbursement in 50 countries and offers a platform for information sharing and exchange of experiences with policy implementation (Vogler et al., 2014; Vogler & Zimmermann, 2022; Vogler, Zimmermann, Haasis, Gombocz, et al., 2024).

Every few years, a PPRI Conference is held to disseminate learnings from pharmaceutical policies in the PPRI member countries. Researchers are invited to present their study findings and discuss policy implications with the PPRI community. PPRI Conferences (organised in 2007, 2011, 2015, 2019 and now in 2024) offer an opportunity for a global and diverse audience (policy-makers, academics and researchers in applied sciences, patients, pharmaceutical industry, health professionals, and media) to meet, to listen to the perspectives of other stakeholder groups and to exchange ideas, potential policy solutions and best practices (Vogler, Zimmermann, Haasis, Knoll, et al., 2024).

The 2024 PPRI Conference, entitled 'Ensuring Access to Affordable Medicines Through Innovative Policies', offered two days of keynote lectures, presentations of research findings (some of which unpublished at the time of the Conference), country pharmaceutical systems and policy solutions, panel discussions, workshops and poster presentations. The presentations of this on-site Conference have been published on the Conference website (WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, 2024a), alongside with an abstract poster book (WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, 2024b) and a country poster book (WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, 2024c). These open access documents add to the Conference Supplement, which published accepted abstracts of the Conference ('Abstracts from the 5th PPRI Conference, 2024: Ensuring Access to Affordable Medicines Through Innovative Policies, Vienna, Austria, 25–26 April 2024'), and a pre-Conference Editorial offering an outlook on the Conference (Vogler, Zimmermann, Haasis, Knoll, et al., 2024). Figure 1 provides a selection of topics, clustered per Conference strand, that were addressed by submitted abstracts.

Building on previous PPRI Conferences (Vogler et al., 2015, 2019), the 2024 PPRI Conference brought back the topics around pricing, procurement and reimbursement, however frequently from the perspective of considering innovative policy components (e.g. fair pricing calculator, environmental criteria in tenders, novel payment models). Additionally, presentations and debates targeted further topics (e.g. costs of research and development,

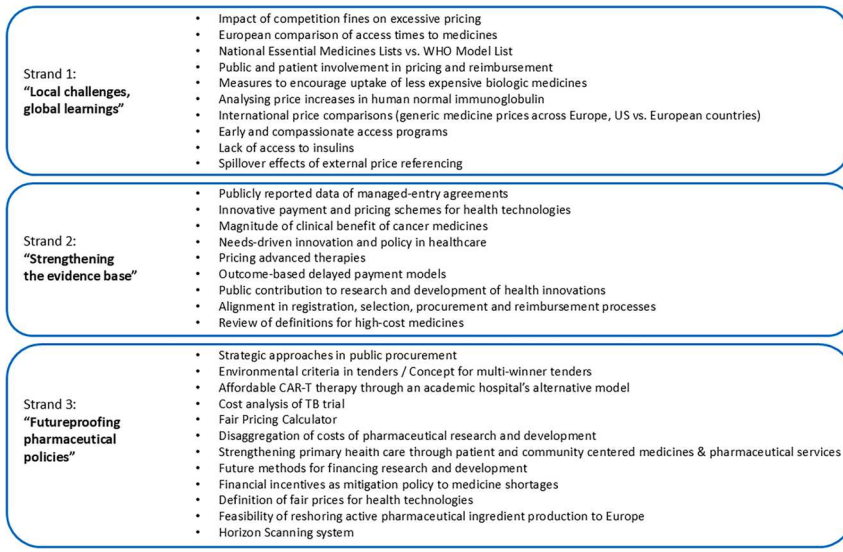

Figure 1. Topics of submissions at the 5th PPRI Conference.

needs-orientation of health systems, local production of active pharmaceutical ingredients, collaboration in health technology assessment) about medicines and beyond (e.g. medical devices). This confirmed the relevance of cross-cutting approaches which integrate and coordinate with further policy areas. Overall, the 5th PPRI Conference was not limited to stock-taking of the current situation but offered successfully piloted and implemented policy options as well as ideas for sustainable, thus future-proof solutions. Moreover, it highlighted key principles (e.g. transparency and solidarity) and supportive action (e.g. robust evidence generation, communication and collaboration) to provide leverage towards sustainable patient access to affordable effective medicines (see also Figure 2).

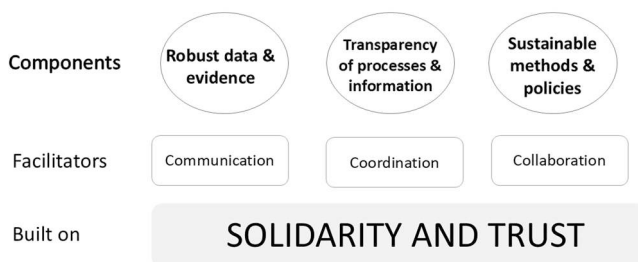

Figure 2. Lessons of the 5th PPRI Conference – Components for ensuring access to affordable medicines.

Established policy options with novel elements

Cross-country learnings at the PPRI Conference were offered through 30 country posters, on which PPRI network members and further Conference delegates outlined the pharmaceutical policy framework in their country, particularly related to pricing and reimbursement [7]. Country presentations and research pointed to special interest in procurement practices, policies to encourage uptake of off-patent medicines including biosimilar medicines, and funding mechanisms for medicines, including novel therapies.

Procurement policies to achieve different policy objectives

Procurement policies can help achieve different policy objectives, such as access, affordability, security of supply, climate protection and crisis preparedness, but they need to be designed appropriately, as Maximilian Salcher-Konrad from the Austrian National Public Health Institute explained in his presentation of the 'Study on Best Practices in the Public Procurement of Medicines' (Vogler et al., 2022). Careful selection and weighting of multiple award criteria (so-called 'Most Economically Advantageous Tender' (MEAT) according to EU Directive 2014/24/EU [European Commission, 2014]) and awarding multiple winners are considered good practice but are rather rarely used due to knowledge gaps and lack of experience in practical implementation. Hallstein Husbyn from the Norwegian Medical Products Agency shared lessons from a tender pilot conducted by three institutions in the public sector for medically equivalent, on-patent outpatient PCSK9 inhibitors (cholesterol-lowering medicines) in Norway. Applying a multi-winner approach, the tender resulted in improved access, higher discounts compared to previous reimbursement contracts and a modest increase in public spending due to more patients treated (Husbyn, 2024).

Benefitting from competition in off-patent pharmaceutical markets

Generic and biosimilar medicines create access to quality and effective medicines at lower prices. This was stressed by Maja Graf of the International Generic and Biosimilar Medicines Association (IGBA) during a high-level panel discussion. However, questions remain regarding the choice of policies and appropriate timing and preparedness since public authorities may lack information on the actual patent expiry of the (biological) originator.

Additionally, breach of antitrust laws through abuse of dominance or cartel-building of companies undermines benefits arising from competition. Leen De Vreese from the Directorate-General Competition of the European Commission reported how the European Commission has succeeded in safeguarding access of EU citizens to affordable and innovative medicines by

enforcing competition laws, in collaboration with the European Competition Network of competition authorities of EU Member States (European Commission Directorate-General for Competition, 2024). The importance of enforcing measures was also stressed by Kati Sarnola of the Finnish Social Insurance Institution, who analysed success factors (e.g. demand-side measures targeting pharmacists, such as substitution of biologic medicines, and doctors through prescription steering) in encouraging the uptake of less expensive biologic medicines in Finland (Sarnola & Koskinen, 2024).

Innovative policies to ensure public coverage of medicines with very high price tags

Given the emergence of new therapies with extremely high und thus unaffordable prices for health systems, such as advanced therapy medicinal products (ATMPs), innovative payment models were one of the main points of discussion during the 5th PPRI Conference. Presentations about outcome-based managed-entry agreements (MEAs) highlighted the importance of decision-guiding tools: Marcelien Callenbach from Utrecht University presented a framework and calculation tool to support the negotiation of an MEA for atidarsagene autotemcel, a gene therapy for the treatment of metachromatic leukodystrophy in the Netherlands (Callenbach et al., 2024). Augusto Afonso Guerra Júnior and colleagues from the Federal University of Minas Gerais piloted the methods of the Efficiency Frontier and the Pharmaceutical Innovativeness Index for new Chimeric Antigen Receptor T-Cell (CAR-T) therapies for the Brazilian health system (Alvares-Teodoro et al., 2024). Another innovative model for improving access is the non-for-profit development of affordable CAR-T therapies in academic hospitals. Adrián Alonso Ruiz from the Graduate Institute of International and Development Studies in Geneva, award winner for the best poster at the Conference, presented learnings from academic development of the first CAR-T therapy in a hospital in Spain, which resulted in a price two thirds lower than for comparable commercial products (Ruiz et al., 2024).

Making medicines affordable and accessible to patients

In addition to ensuring affordability and financial sustainability for health systems, pharmaceutical policies need to ensure affordability for patients. In his keynote speech, Tamás Evetovits of the WHO Barcelona Office for Health Systems Financing presented data on catastrophic out-of-pocket payments across Europe, including in high-income countries. Appropriate reimbursement and co-payment policies can ease the financial burden for patients. A good practice checklist for policy-makers and an interactive platform on universal health coverage (UHC watch) were developed for

tracking progress on affordable access to health care in Europe and Central Asia.

Despite progress in research and good practice examples, implementing effective pharmaceutical pricing policies remains a challenge. In his talk, Zaheer-Ud-Din Babar – affiliated to the University of Huddersfield, UK, at the time of the Conference – highlighted the specific challenges faced by policy-makers in low- and middle-income countries (LMICs), including lack of access to relevant data for the assessment and monitoring of the pharmaceutical situation in their health systems, and challenges with securing technical expertise to implement pricing policies such as value-based pricing (Babar, 2024). Actionable, practical policy advice at country level needs to take the local context into consideration, rather than relying on high-level recommendations.

Evidence generation and transparency

A prerequisite for good decision-making is the availability of robust and meaningful evidence, as stressed by several speakers and panelists who also referred to the importance of Health Technology Assessment (HTA). 'HTA is the air traffic controller of patient access', Meindert Boysen, Chair of Health Technology Assessment international (HTAi) Global Policy Forum, UK, pointed out in his keynote talk. 'HTA plays a critical role in bringing the various parties together to safely land innovative technologies in the hands of patient and their clinicians. It is also the imperative to actively use evidence to inform policy and practice to improve access to medicines'.

However, evidence is frequently limited. Earlier pieces of research, particularly for oncology medicines, showed low (added) therapeutic benefits and high uncertainty (Davis et al., 2017; Vokinger et al., 2022), and this was again confirmed in research of HTA Austria – Austrian Institute for Health Technology Assessment, presented by study author Nicole Grössmann-Waniek. While there is an increasing trend for single-arm trials, payers prefer to see comparative trials as often as possible, Johan Pontén from the Dental and Pharmaceutical Benefits Agency (TLV) in Sweden said in the high-level stakeholder debate at the PPRI Conference. He urged for having this evidence available, ideally at the time of marketing authorisation. This could be fostered by joint scientific advice of regulatory authorities and HTA bodies.

Even if evidence is limited, available data need to be published, said Dimitra Panteli of the European Observatory for Health Systems and Policies, co-author of a Policy Brief on implications of policies increasing transparency of prices paid for medicines (Webb et al., 2022). Since approximately 25% of published protocols remained without results over the last decade and clinical trials without significant or positive findings are less likely to be published,

she welcomed the new Clinical Trial Information System introduced in Europe through the EU Clinical Trial Regulation (European Commission, 2022). She also explained how transparency of further pieces of information, as laid down in the World Health Assembly (WHA) Resolution 72.8 on 'Improving the transparency of markets for medicines, vaccines, and other health products' (WHA, 2019), such as cost of research and development and net prices, can support policy-makers in their decision-making process.

Insights into research and development costs and prices

Insight into exactly this type of data was also provided at the Conference. Melissa Barber, Yale Collaboration for Regulatory Rigor, Integrity, and Transparency (CRRIT), USA, analysed the costs of the multi-centre phase 2/3 TB-PRACTECAL trial in drug-resistant tuberculosis, sponsored by Médecins Sans Frontières, and pointed out that public reporting of clinical trial costs by key funders in a standardised format would ensure comparability and enable a deeper understanding of the key cost drivers of clinical trials (Gotham et al., 2024). Daniel Fabian of HTA Austria – Austrian Institute of Health Technology Assessment presented research on direct and indirect public contributions for pharmaceutical research and development (R&D). It was argued that such an approach to disintegrate different cost components would help to better understand the factors influencing costs of pharmaceutical R&D, which are often brought forward by the pharmaceutical industry as the main reason for high medicine prices (Fabian & Wild, 2024).

Eliana Barrenho of the Organisation for Economic Co-operation and Development (OECD) provided an update on the latest insights from the OECD's quest for understanding pharmaceutical price transparency. Building on the 2022 OECD report 'Exploring the consequences of greater price transparency on the dynamics of pharmaceutical markets' (Barrenho & Lopert, 2022), the OECD has been exploring the feasibility of sharing information on real medicine prices across countries (Moens et al., 2024).

Beyond some initiatives of increasing transparency of confidential data, such as net prices agreed in confidential MEAs, activities are ongoing to foster transparency of published data through better communication. Winner of the best presenter award, Nora Franzen from Netherlands Cancer Institute, showcased her efforts to identify and comparatively analyse publicly reported data on MEAs across Europe (Franzens et al., 2024). Other studies presented at the Conference used published list prices to compare price levels across Europe and identify potential need for policy actions. Peter Schneider, Austrian National Public Health Institute, reported the findings of a European price comparison for off-patent medicines, and Ana Correia of the National Authority of Medicines and Health Products in

Portugal presented a time series analysis of prices of human normal immunoglobulin in Portugal and further European markets. An innovative tool that can inform price negotiations by disentangling cost components that may impact a medicine price, is the 'Fair Pricing Calculator', developed by the International Association of Mutual Benefit Societies (AIM). Thomas Kanga-Tona of AIM presented this policy concept and explained how it was being piloted for practice.

Clarity of concepts and communication

Adding to calls for transparency of data, the importance of clarity in presenting and communicating information, including terminology and methodological concepts, was emphasised. For instance, while innovative payment and pricing schemes such as novel forms of performance-based MEAs or subscription-fee based models are frequently considered as promising policy options to ensure patient access to novel medicines, different terms exist that often describe the models in a somewhat ambiguous manner. Winner of the young researcher award, Vittoria Ardito of the SDA Bocconi School of Management, Italy, presented ongoing work to establish a 'Pay for Innovation' Observatory that would describe the different payment and pricing schemes for health technologies based on a catalogue of pricing and payment schemes updated periodically (Ardito et al., 2024).

The importance of clarity in measurement was also exemplified in a presentation by Sophie Lopes of the French National Health Insurance Fund, who studied early access schemes (EAS) in four European countries. The findings of her research challenged previously published benchmarking exercises on time of access, and she explained the EAS paradox: EAS may lead to access ahead of the standard procedures, but negotiations afterwards tend to be longer and more challenging.

Communication and engagement with patients and stakeholders

The importance of clear and transparent communication between different stakeholders was highlighted several times during the Conference. 'When prices are not commensurate with outcomes of new drugs, saying 'no' is not the fault of the payers', Johan Pontén from TLV, Sweden stressed during a stakeholder debate, and called for payers to improve their communication, such as making clear what the roles of each stakeholder in the pharmaceutical eco-system are.

Patient involvement is seen as a prerequisite for ensuring that the right medication reaches the right patient. Anca Toma of the European Patients Forum (EPF) stressed that it pays to work with patients across the entire cycle of care and acknowledged the progress made regarding patient

involvement in recent years. However, she also emphasized that patient, and broader, citizen involvement in shaping pharmaceutical policies is not yet firmly established. To address this shortcoming, Lourdes Cantarero Arevalo of the WHO Collaborating Centre in the Patient Perspective on Medicine Use at the University of Copenhagen offered preliminary findings on best practices for effective citizen engagement in pharmaceutical pricing and reimbursement. Her research stressed the importance of accessible data and transparent reimbursement criteria, inclusive participation to ensure diversity, education, feedback mechanisms and accountability through better communication of outcomes, decisions and the rationale behind.

At previous PPRI Conferences, delegates had called for a more forward-looking perspective in pharmaceutical policy (Vogler et al., 2016): it was agreed that public health needs and priorities should be communicated by the decision-makers to the other stakeholders, including medicine developers. At the 2024 Conference, some panelists and participants referred to the ongoing 'Needs Examination, Evaluation and Dissemination' (NEED) project conducted by the Belgian Health Care Knowledge Centre (KCE). In the NEED project, which was presented by Muriel Levy of KCE, a framework was established to assess health-related unmet needs of patients and society, based on the dimensions of patient, societal and future needs, and equity. KCE tested the draft NEED framework for Crohn's disease and malignant melanoma in Belgium (Maertens de Noordhout et al., 2024).

Coordination and collaboration

Given the frequent recognition that they are key levers for progress, it is not surprising that coordination and collaboration between different stakeholders, settings, sectors and along the life-cycle of a medicine were raised in several discussions and presentations at the Conference.

Multi-sectorial collaboration

From a more holistic perspective, Thomas Allvin of the European Federation of Pharmaceutical Industries and Associations (EFPIA) called for an alignment between overall health system policies. He argued that pharmaceutical policy is often developed in a silo; for instance, the use of ATMPs requires the necessary infrastructures in the health system and a redesign of service delivery, but specific patient and diagnostic pathways are not available at scale. Christine Leopold from the WHO Collaborating Centre for Pharmaceutical Policy and Regulation at Utrecht University broadened the scope and pointed to the relevance of multi-sectorial collaboration between health and further policy areas, such as transportation, housing, or the educational sector, which are yet under-utilised (Vogler, Leopold, Suleman, and Wirtz, 2024).

Intra-country coordination

The Conference also addressed the benefits of coordination and collaboration within countries. Public discussions tend to focus predominately on cross-country collaborations, intra-country coordination and cooperation is potentially under-estimated despite its value as well as its role as a facilitator for international cooperation.

In a workshop on current developments regarding the implementation of HTA in Austria, both existing challenges due to the fragmented pharmaceutical system, with different competences and policies in the outpatient and inpatient sectors (Vogler, Haasis, and Zimmermann, 2024), as well as a recently introduced policy measure aiming to overcome this fragmentation and foster the use of evidence in decision-making were discussed. Through a newly established 'Appraisal Board' Austria is introducing a national HTA process for selected high-priced and specialised medicines in hospitals since such a coordinated process had been lacking in the inpatient sector. This new process is also intended to address selected medicines at the interface with the outpatient sector, aiming to address long-standing issues with lack of coordination across the two sectors.

Looking into coordinated processes along the life-cycle of medicines, Iris Joosse from the WHO Collaborating Centre for Pharmaceutical Policy and Regulation at Utrecht University studied the alignment in registration, selection, procurement and reimbursement of essential medicines for childhood cancers in South Africa. From the list of medicines considered essential, only those that are reimbursed can be considered accessible for patients. While private sector formularies continued to show major gaps, progress in the alignment of processes along the life-cycle in the public sector was detected (Joosse et al., 2023).

Collaboration across countries

Conference contributions relating to cross-country collaborations addressed key issues like HTA and procurement. A workshop organised by the Deloitte Health Economics and Outcomes Research Team discussed the contribution of cross-border HTA partnerships to sustainable access to medicines. Mentioned collaborations included the FINOSE HTA collaboration of Nordic European countries, the collaboration of the English National Institute for Health and Care Excellence (NICE) with Latin American and Central and Eastern European countries and the HTA strand within the Beneluxa Initiative (Austria, Belgium, Ireland, Luxembourg and the Netherlands). The discussion concluded that learning from each other is key, with a call for global thinking beyond the boundaries of Europe. Workshop participants highlighted the need for better coordination in the early stage of the product life-cycle in

this context as well, since cooperation in HTA alone comes in too late in the process. They called for collaboration already in horizon scanning and joint scientific advice at earlier stages.

A presentation by Rasmus Syberg Hazelton from the Danish hospital procurement agency AMGROS highlighted that cross-country collaboration and innovation in procurement practices can also be combined: AMGROS developed environmental award criteria (environmental certification, environmental policy or good practice, and eco-friendly transportation) for the procurement of medicines and successfully piloted them in national and cross-country Nordic tenders, the latter being conducted jointly by Denmark, Norway and Iceland in the frame of the Nordic Pharmaceutical Forum (Syberg Hazelton et al., 2024).

Further good practice examples of cross-country collaborations mentioned at the PPRI Conference included the Euripid Collaboration**,** which maintains a medicine price information database, and the PPRI network established and coordinated by the Conference organiser.

The Novel Medicines Platform (NMP), a multi-stakeholder forum of countries in the WHO European Region, complements collaborations in the public sector. In their keynote, Natasha Azzopardi Muscat and Tarang Sharma of the WHO Regional Office for Europe, presented the set-up of this platform, which was launched by WHO Europe in late 2023 based on the preceding Oslo Medicines Initiative (WHO Europe 2022). The NMP is based on the principles of transparency, sustainability and solidarity. At global level, WHO has been convening the biennial Fair Pricing Forum, another multi-stakeholder platform to follow up on the implementation of the WHA Resolution 72.8 (WHA 2019). Klara Tisocki from WHO provided updates from the 4th Fair Pricing Forum, held in February 2024. Proposals of the Fair Pricing Forum addressed similar challenges as discussed at the 5th PPRI Conference.

Solidarity and trust

Beyond cross-country cooperation, the relevance of solidarity across countries as an underlying principle, which should be brought to life and not remain a buzzword, was stressed several times throughout the Conference.

Giulia Segafredo from the Medicines Patent Pool (MPP) showcased how the MPP serves as a good practice example of international solidarity. Established in 2010, in response to access barriers to HIV medicines in many LMICs, the MPP facilitates access to defined medicines which are only available in high-income countries, through managing voluntary licensing agreements. However, this requires global solidarity, since the marketing authorisation holder needs to agree with allowing a generic manufacturer to produce and sell the product in specific countries.

Solidarity also comes into play in the management of medicine shortages that have become an increasing problem in many countries globally (Chapman et al. 2022; Vis et al. 2021; WHO Europe 2020). In response, several high-income countries implemented national stockpiles (European Parliament 2020; Vogler 2024; Vogler & Fischer 2020). At the same time, the usefulness of stockpiling as a national policy was challenged during the Conference, with industry representatives arguing that a stockpile for a large country like Germany would equate to total demand for Eastern Europe.

The topic of solidarity was extensively addressed in the closing keynote entitled 'Action Needed: Rediscovering Solidarity in Europe and Beyond', provided by Anja Schiel from the Norwegian Medical Products Agency, who questioned whether there were any lessons actually learned from the COVID-19 pandemic. Referring to the 'broken' supply-driven system for making medicines available to patients, Anja Schiel asked: 'If this is the (perverted) system we created, why are we not willing and fight to change it?', and explained that the way investments in R&D are made would need to change. Current priorities and expectations of financial returns are largely directed by venture capital firms. An R&D that is focused on societal need and ability to pay would require a reform of the upstream value chain of pharmaceutical development. She invited all participants to actively and jointly engage for solidarity not only in the downstream aspects of medicines but especially in R&D so that medicines meet the health needs and ability of society to pay for them. Her call 'We are all part of the problem; we need all be part of the solution' raised enthusiastic support among the Conference delegates. In the concluding session, Sabine Vogler of the WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies of the Austrian National Public Health Institute confirmed: 'I do not want to live in a world where only rich countries can buy the medicines their populations need'.

Conclusion

The 2024 PPRI Conference brought together thought leaders of different stakeholder groups from all over the world to discuss innovative solutions, for current and emerging challenges in achieving equitable patient access to affordable medicines. The research findings and good practice examples presented at the Conference confirmed the importance of pharmaceutical pricing, procurement and reimbursement policies aligned with policy action in other areas and along the life-cycle of a medicine. New funding and R&D models, which reflect the priorities of policy-makers in a more demand-driven system are needed to incentivize and reward pharmaceutical innovation, whose added value must be demonstrated by robust evidence. Despite difficulties, innovation in policy-making was shown to be possible and was considered inevitable. Important components for effective policy-

making include alignment on evidence requirements, transparency of processes and information and clarity of concepts and terms, and consideration of sustainable methods and policies. They need to be combined with facilitating mechanisms such as communication, coordination, and collaboration based on the foundations of solidarity and trust.

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Authors' contributions

SV wrote the first draft of the paper and revised it upon comments of all co-authors. All authors read and approved the final manuscript.

Availability of data and materials

All abstracts, presentations and posters (with consent of the authors to be published) are publicly accessible on the 2024 PPRI Conference website (https://ppri.goeg.at/ppriconference2024), including a Supplement to the *Journal of Pharmaceutical Policy and Practice* of published abstracts, a Country Poster Book and an Abstract Poster Book.

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No potential conflict of interest was reported by the author(s).

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