Supplementary Material

Contents

This document presents material that supplements:

Barrenho, E, Lopert, R (2022) "Exploring the consequences of greater price transparency on the dynamics of pharmaceutical markets", *OECD Health Working Papers,* No.146, OECD Publishing, Paris, https://doi.org/10.1787/c9250e17-en

List of acronyms / abbreviations

ABPI	Association of the British Pharmaceutical Industry
ACA	Affordable Care Act
AIFA	Agenzia Italiana del Farmaco
API	Active pharmaceutical ingredient
ATC code	Anatomical Therapeutic Chemical code
BAG	Bundesamt für Gesundheit
Beneluxa	Belgium, the Netherlands, Luxembourg, Austria and Ireland Initiative
BPS	Banco de Preços em Saúde
CAA	Consolidated Appropriations Act
CDR	Common Drug Review
CEPI	Coalition for Epidemic Preparedness Innovations foundation
CMS	Centers for Medicare and Medicaid
DAA	Direct Acting Antivirals
DDD	Defined Daily Dose
DRD	Drugs for rare disorders
DURD	Drugs ultra-rare disorders
EC	European Commission
ECCO	European CanCer Organisation
ECPC	European Cancer Patient Coalition
EEA	European Economic Area
EMA	European Medicines Agency
EML	Model List of Essential Medicines
EMVO	European Medicines Verification Organisation
EORTC	European Organisation for Research and Treatment of Cancer
EPF	European Patients' Forum

EU	European Union
EURIPID	European Integrated Price Information Database
EURORDIS	Rare Diseases Europe
FaAP	Fair and Affordable Pricing Initiative
FIMEA	Finish Medicines Agency
GCC	Cooperation Council for the Arab States of the Gulf
GDP	Gross Domestic Product
HIC	High Income Countries
HTA	Health Technology Assessment
IHSI	International Horizon Scanning Initiative
IMSS	Mexican Social Security Institute Procurement Portal
INAMI-RIZIV	Belgian National Institute of Health and Disability Insurance
KCE	Belgian Healthcare Knowledge Center
LATAM	Latin American
LMIC	Low and/or Middle Income Countries
LPG	Lowest priced generic
MCO	Managed Care Organization
MEDEV	Medicine Evaluation Committee
MeTA	Medicines Transparency Alliance
MI4A	Market Information for Access to Vaccines Initiative
MSI	Multi-Stakeholders Initiative
NCAPR	National Competent Authorities on Pricing and Reimbursement
NCPE	Irish National Centre for Pharmacoeconomics
NGO	Non-governmental organization
NHS	National Health System
NICE	National Institute for Health and Clinical Excellence
NoMA	Norwegian Medicines Agency
NPH	Neutral protamine Hagedorn
NPT	Full Net price transparency
OB	Originator brand
OECD	Organisation for Economic Co-operation and Development
OECS	Organisation of Eastern Caribbean States
OTMeds	Observatoire de la transparence dans les politiques du medicament
PAHO	Pan American Health Organization
PBS	Pharmaceuticals Benefits Scheme

pCPA	Pan-Canadian Pharmaceutical Alliance
PPI	Pharma Price Information
PPP	Purchasing Power Parities
PPRI	Pharmaceutical Pricing and Reimbursement Information
PPRS	Pharmaceutical Pricing Regulation Scheme
PPS	Pharmaceutical Procurement Service
PSD	Malaysian Pharmaceutical Service Division
RRP	Recommended retail price
R&D	Research and Development
SEP	Single Exit Pricing
SERCOP	National public procurement service of Ecuador
SISMED	Sistema de Información de Precios de Medicamentos
SKU	Stock-keeping units
SL	Spezialitätenliste
TB	Tuberculosis
TLV	The Dental and Pharmaceutical Benefits Agency’s
UNICEF	United Nations International Children's Emergency Fund
UNFPA	United National Populations Fund
VAT	Value Added Tax
VII	UNICEF's vaccine independence initiative
WHA	World Health Assembly
WHO	World Health Organisation
ZIN	Dutch National Health Care Institute

1 Annexes

Annex A. National provisions pertaining to transparency of pharmaceutical information

Table A A.1. National provisions pertaining to Transparency of Pharmaceutical Information

Country	Policy *(Implementation Date)*	Governance and objectives	Database and type of information shared	Evaluation studies
Australia	• Non-legal instruments: **Pharmaceuticals Benefits Scheme (PBS)**[1] *(1999)*	• Part of the larger National Medicines Policy, it provides overarching policy direction to meet medication and related service needs, so that both optimal health outcomes and economic objectives are achieved.	• **Price information shared**: restricted to subsidised medicines listing all of the medicines available to be dispensed to patients at a Government-subsidised price.	• (Karnon et al., 2016[1]) estimates the effects of price disclosure on the ongoing value for money of 12 pharmaceuticals listed on the PBS between 2008 and 2011. Potential cost saving estimated around A$168 million, of which A$73 million (43%) could have been saved between July 2014 and April 2015.
Austria	• Non-legal instruments: **Pharma Price Information (PPI)**[2] *(1990s)*	• Service of the Austrian National Public Health Institute Gesundheit Österreich GmbH, is part of the WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies. • PPI offers, at request and for a charge, price data of medicines and molecules defined by the clients for all European Union Member States, as well as Norway, Switzerland and the UK.	• Information for different types of price: ex-factory prices, pharmacy purchasing prices (wholesale prices) and pharmacy retail prices (consumer prices) excluding and including value-added tax. Additional types of price can be provided at the request. • **Price information shared:** only relates to official prices as commercial discounts cannot be provided due to their confidential character.	• (Vogler, Vitry and Babar, 2016[1]) survey official list prices per unit at ex-factory price level of 31 originator cancer drugs in 16 European countries, Australia, and New Zealand as of June, 2013. Differences in drug prices between the highest priced country and the lowest priced country varied between 28% and 388%. Greek prices ranked at a low level, whereas Sweden, Switzerland, and Germany showed price data in similarly high ranges. • (Moye-Holz and Vogler, 2022[2]) survey public procurement and ex-factory prices for 19 cancer medicines, as of 2017, in five Latin American (LATAM) countries and 11 European countries. In European countries

				with higher levels of income, PPP-adjusted prices tended to be lower than in European countries of lower income and LATAM countries. Except for one medicine, all surveyed medicines were considered unaffordable in most countries.
Belgium	• Legal provisions**:** legislation to permit dossiers submitted by manufacturers to be written in English[3]	N/A	N/A	N/A
Canada	• Non-legal instruments: **pan-Canadian Pharmaceutical Alliance (pCPA)**[4] (*2010)*	• pCPA is the federal, provincial, and territorial Canadian governments' organization that negotiates prices of new and existing medicines with pharmaceutical manufacturers. • Objectives include to achieve consistent and lower drug costs for participating jurisdictions and improving consistency of coverage criteria among participating jurisdictions.		• (Rawson, 2020[4]) examines medicines for rare and ultra-rare disorders, respectively with a completed pCPA negotiation or no negotiation for the period between 2014 and 2018, together with their reimbursement recommendations and listings in public drug programs. • A successful price negotiation led to listing in the majority of the public drug programs and a negative recommendation usually led to no listing. Less than half the recommendations before 2016 mentioned the need for a substantial price reduction, but this increased to 80% in those reported from 2016 onwards.
Chile	• Non-legal instruments: **ChileCompra public procurement portal**[5] *(2010)*	• ChileCompra is managed by the Ministry of Finance to centralise and digitalise the negotiation of multi-year agreements with suppliers. • Objective: is to promote transparency in public procurement in general, including medicine procurement.	• Access to the information portal is public and does not require payment or registration. • **Price Information shared:** restricted to medicines purchased by the public sector, both in inpatient and outpatient setting, on unit value per concentration, pharmaceutical form package, total value per concentration, pharmaceutical form package and quantity.	N/A
Colombia	• Non-legal instruments: **Medicines Price Information System of Colombia (SISMED)** [6] *(2010)*	• Managed by the regulatory authority, under the supervision of the Ministry of Health and social protection. • Objective: to monitor medicines prices	• Access to the information portal is public and does not require payment or registration. • Manufacturers, wholesalers and institutions providing health services have to report price information on a quarterly basis, including: average prices, minimum and maximum purchase price of medicines by commercial presentation of each drug marketed in the country.	• (Prada et al., 2018[5]) show that, after direct price controls were enacted, price inflation decreased but real pharmaceutical expenditure almost doubled due mainly to an increase in units sold. Such disproportionate increase in units sold may be attributable to better access to drugs due to lower prices, and/or to an increase in marketing efforts by

			• **Price Information shared**: includes both in inpatient and outpatient setting, and relates to price indices that correspond to a quarterly weighted average price of all national reports made for each commercial brand.	the pharmaceutical industry to maintain profits.
Denmark	• Non-legal instrument**: AMGROS**[7] *(1990)*	• Amgros is a public-sector organisation that undertakes procurement service for the five regional authorities in Denmark. • Objectives: to support medicine supply for patients at public hospitals by conducting tendering procedures and procurement for the Danish regions.	N/A	• Estimates of savings of aorund€314 million in 2015 across five Danish regions saved (Bartels, 2016[6]).
European Union	• Legal provision**: Council Directive 89/105/EEC** *(1989)*	• Member States must comply with (procedural) requirements to ensure the transparency of national decisions on medicine pricing and reimbursement, despite the decisions themselves being a national competence.	N/A	N/A
France	• Legal provision**: (article 79) LOI n° 2020-1576 du 14 décembre 2020 de financement de la sécurité sociale pour 2021/ Social Security Budget Bill**[8] *(December 2020)*	• Objective: pharmaceutical companies must disclose the amount of public funding that was received for R&D of a new drug when applying for approval to market the product in France.	• **Price information shared**: companies must disclose the amounts they received for R&D to the *comité économique des produits de santé*. This information is available for the public.	N/A
	• Non-legal instrument: **Observatoire de la transparence dans les politiques du medicament (OTMeds)**[9] *(2019)*	• OTMeds is an independent organisation operating on a voluntary basis under a broad national and international network. • Objectives: to ensure the implementation in France of the "Resolution on Transparency", a resolution on transparency in pharmaceutical markets.	• OTMeds published a 'transparency checklist' on a document that brings together some of the essential information that must be available to the public regulator in order to assess the relevance of the price of a drug at the time of setting of its price. • The implementation of this transparency check-list should lead to databases that are in open-access but it still remains to be implemented.	N/A
	• Non-legal instrument: **Public database on medicine list prices by for Agence technique de l'information sur l'hospitalisation (ATIH)**[10]	• ATIH – France's Technical Agency for Information on Hospital Care is a public administrative body coming under the authority of the Health and Social Security Ministers. Its strategic policies are defined by a Board of Directors, a Steering Committee and a Scientific Committee.	• **Price information shared**: publicly discloses national yearly list price aggregates for medicines undergoing price regulation prices, namely very expensive drugs and products paid on top diagnosis-related groups (DRGs).	N/A

		• Objectives: ATIH collects budget impact data to inform the design of reforms of payment models in France.		
Iceland	• Non-legal instrument**: public database**[11] *(2013)*	• Managed by the Icelandic Medicines Agency.	• **Price information shared**: publicly discloses representative discounted prices (without value-added tax) from their medicine price lists, which are indicative of the net prices, as well as data on maximum wholesale and retail prices, and reimbursement amounts.	N/A
Italy	• Legal provision: **Decree 2 August 2019**[12] *(2020)*	• Under this decree, companies seeking reimbursement from the NHS are requested to provide, in addition to scientific documentation showing the possible added therapeutic value of the medicine, information on marketing, sales and reimbursement in other countries, including negotiated prices. • Objectives: to support criteria and modalities with which the Italian Medicines Agency determines, through negotiation, the prices of medicines reimbursed by the NHS.	N/A	N/A
Mexico	• Non-legal instrument: **Mexican Social Security Institute Procurement Portal (IMSS)**[6] *(2004)*	• Managed by the Mexican Social Security Institute, its main objective is to promote transparency in public procurement.	• Access to the information portal is public and does not require payment or registration. • **Price information shared**: restricted to medicines purchased by the public sector showing the following information: unit price per concentration, pharmaceutical form, package, quantity contained total pharmaceutical form, package and quantity. The portal enables search by drug, showing individual drug purchases.	N/A
The Netherlands	• Non-legal instrument**: Pharmaceutical Accountability Foundation**[13] *(2018)*	• Independent organisation. • Objectives: to investigate cases of abuse of market exclusivity rights, allowing pharmaceutical companies to keep prices high at the expense of public health, and inform public or legal action if necessary.	N/A	N/A
	• Non-legal instrument: **Dutch Hospital Benchmark Initiative**[14] *(2017-2018)*	• Initiative of the Dutch hospitals to share information on a voluntary basis. Data is shared anonymously. Information shared is protected by confidentiality agreements.	• **Price information shared:** includes net purchase prices, volumes, order sizes per year and total spending by supplier.	• (Den Ambtman et al., 2020[7]) show that net prices for identical medical products vary significantly across hospitals. They conclude that higher levels of spending on a specific product assortment delivered by a specific

				supplier do not necessarily lead to lower prices. Purchasing a higher number of products resulted in lower unit prices for most products.
	• Non-legal instrument**: All-payer Claims Database**[15] *(2006)*	• Managed by the Vektis Health Care Information Center and established by Dutch health insurers to combine and interpret reimbursement data and enable the main players in the Dutch healthcare market to base decisions and policy on reliable, essential, and timely information.	• **Price information shared:** contains information on all procedures covered by Dutch statutory health insurance and a set of data on patients, providers, care products, and prices. • Data are not publicly available, as formal consent from the Dutch health insurers is needed to gain access to these files. Data are, however, available from Vektis Health Care Information Center upon reasonable request and with formal consent of the Dutch health insurers.	• (Geurten et al., 2022[8]) found that a large share of expenditures on care for the Dutch type 2 diabetes population was not directly related to diabetes treatment, suggesting whole-person care for patients with type 2 diabetes is costly.
	• Legal provision: **Wet Geneesmiddelenprijzen**[16] *(1964)*	• Law introducing the notion of setting maximum prices for medicines. • The ministry will twice a year examine whether maximum prices need to be set or adjusted. It is prohibited to sell medicines over the maximum price.	N/A	N/A
Norway	• **Transparency/confidentiality legislation**[17] *(2016)*	• Law removing a ban on claw-backs, which are rebates that are paid if certain sales levels are achieved	N/A	N/A
Spain	• Legal provision**: Act 19/2013, of 9 December**[18] *(2013)*	• National legislation requiring transparency in Government decisions and effectuating citizens' right of access to public information. • In 2019 the *Consejo de Transparencia y Buen Gobierno* (General Transparency Council), Spain's independent body responsible for ensuring the transparency of public activity, supported requests for the Spanish Government to publicly disclose the price of the cellular immunotherapy Kymriah (tisagenlecleucel), and the therapeutic and financial criteria used to justify its recent approval. This request was based on Spain's existing transparency legislation.	• **Price information shared**: net costs of medicines used in public hospitals, including discounts. Disclosure is not automatic and relies on citizens' request.	N/A

Sweden	• Non-legal instrument: **The Dental and Pharmaceutical Benefits Agency's (TLV)**[19] *(2002)*	• TVL publishes yearly reports analysing Sweden's pharmaceutical prices compared with 19 other European countries. • Objectives: to monitor and analyse the pharmaceutical price development from an international perspective.	• **Price information shared**: list prices consisting of the wholesale price determined by TLV.	• (TLV, 2021[1]), shows that Sweden has relatively low prices on pharmaceuticals in relation to other countries and that these have decreased compared to other countries compared with previous years. Prices for medicines on on-patent markets have been stable in relation to the average prices in Europe.
Switzerland	• Non-legal instrument: ***Bundesamt für Gesundheit BAG. Spezialitätenliste*** (SL)[20] *(2003)*	• Public database maintained by the Swiss Government.	• **Price information shared**: publicly accessible online list of highly priced medicines, including information on maximum price and rebate amounts that are reimbursed by the compulsory health insurance, along with the list price, ex-factory price and rebates offered on these products.	• (Vokinger et al., 2022[10]) compare patterns of price changes for cancer drugs within the same class in the USA and in Germany and Switzerland with national mechanisms for drug price negotiation. Drug prices at market entry were, in general, higher in Germany than in Switzerland, but decreased substantially after the first price evaluation and often dropped below prices in Switzerland.
United Kingdom	• Non-legal instrument**: Pharmaceutical Pricing Regulation Scheme (PPRS)**[21] *(2014)*	• Agreement between the Department of Health and the Association of the British Pharmaceutical Industry (ABPI) concerning the supply of licensed, branded medicines to the NHS to regulate pricing. • Objectives: 1) to cap the growth of NHS spending on branded medicines at an agreed rate, with any overspend paid back to the NHS; 2) to provide stability of spend to the NHS and offer an incentive to use new medicines at no extra cost.	• **Price information shared**: all new medicines to be appraised by NICE.	• To date, the industry has paid back over £3 billion to the Department of Health and Social Care for NHS spending above the cap (ABPI, 2022[2]). • (O'neill et al., 2012[3]) show that prices for the leading branded medicines in primary care in 2011 were still in the bottom quartile of international prices.
United States of America	• Legal provision**: Consolidated Appropriations Act**[22] **(CAA)** *(2021)*	• Establishment of protections for consumers related to surprise billing and transparency in health care endorsing public disclosure of price information on US government website. • Requires manufacturers to report the average sales price information to CMS for calendar quarters beginning on January 1, 2022, for drugs or biologicals payable under Medicare Part B.	• **Price information shared**: Total and per unit payment for prescription drugs under Medicare Part B, which covers drugs administered in physician offices and hospital outpatient departments, and these data are based on average sales prices net of discounts. • The U.S. government also posts information on drug prices in Medicare Part D, which covers self-administered drugs obtained from community and mail-order pharmacies, and in the Medicaid program, which provides health coverage including	N/A

			prescription drugs for low-income individuals and families, but the public information for these programs doesn't incorporate rebates and other discounts.	
	• Legal provision**: Executive order "Improving Price and Quality Transparency in American Health Care to Put Patients First"[23] (Transparency in Coverage Final Rule Act)** *(2019)*	• The act went into effect on January 1 2022 but enforcement won't start until July 1 2022. • Objectives: to ensure access to health insurance coverage for consumers with pre-existing conditions, expanding hospital price transparency, and limiting surprise billing.	• **Price information shared:** publicly post standard charge information, requires to inform beneficiaries of hospital billing quality and Hospital Compare would include whether the hospital provides patients with an itemized receipt of hospital services and how often the hospital pursues legal action against patients for outstanding bills.	N/A
	• Legal provisions: • 1) **Know the Lowest Price Act (2018)** [24] *(2018)* • 2) **Patients' Right to Know Drug Prices Act (2018)** [25] *(2018)*	• *Know the Lowest Price Act* prohibits gag clauses in Medicare Advantage and Part D plans (contains physician-administered drugs such as infusions and most injectables, most prescription drugs). • *Patients' Right to Know Drug Prices Act* prevents gag clauses in employer-sponsored and health care exchange plans.	• N/A	N/A
	• Legal provision: **The Hospital Price Transparency Rule**[26] *(effective January 1st 2021)*	• Each hospital operating in the USA will be required to provide clear, accessible pricing information online about the items and services as a comprehensive machined-readable file with all items and services and in a display of shoppable services in a consumer-friendly format. • Hospital price transparency helps Americans know the cost of a hospital item or service before receiving it.	N/A	N/A
	• **State level legal provisions:** 1) California (SB 17/Chapter 603) – 2017 2) Connecticut (HB 5384/ Public Act 18-41) – 2018 (HB = House Bill) 3) Maine (LD 1162 /Chapter 470) - 2019 (Amended in LD 686/Chapter 305 - 2021) 4) Minnesota (SF 1098/Session Law	• It requires to report information explaining high price increases and high-priced new drugs	N/A	(Ryan and Sood, 2019[13]) suggest most of state level legal provisions pertaining to price transparency are insufficient to incentivise the disclosure of true transaction prices. Moreover, no State passed legislation that provided effective transparency across the entire supply chain.

	Chapter 78) – 2020 5) Nevada (SB 539/Chapter 592) - 2018 (Amended in SB 262/Chapter 258 - 2019) (Amended in SB 380/Chapter 547 - 2021) 6) North Dakota (HB 1032) – 2021 7) Oregon (HB 4005/Chapter 7) - 2018 (Amended in HB 2658/Chapter 436 - 2019) 8) Texas (HB 2536) – 2019 9) Utah (SB 272) – 2020 10) Vermont (S 92 / Act 193) – 2018 11) Virginia (HB 2007/Assembly Chapter 304) – 2021 12) Washington (HB 1224/ Chapter 334) – 2019 13) West Virginia (SB 689) – 2020 Louisiana SB 283/282: Transparency law relative to prescription drug pricing; to provide for confidentiality; to provide for disclosure; to provide for information available to the commissioner of insurance; and to provide for related matters.			
Non-OECD countries				
Armenia	Legal provisions**: The Republic of Armenia Law on medicinal products** [27] (*2016*)	National legislation requiring national competent authorities to report prices on the website.	**Price information shared**: the Authorized Body has to post the reference price of reimbursed medicinal products and the maximum wholesale and retail premiums on its website.	N/A
Belarus	• Legal provisions: **Law of the Republic of Belarus on Medicinal Products**[28] *(2006 with last amendment on 29 June in 2016)*	• National legislation requiring national competent authorities to report prices on the website managed by the Centre for Expertise and Testing in Health Care.	• **Price information shared:** maximum selling price.	N/A
Brazil	• Non-legal instrument**: Brazilian Health Price information Database (Banco de Preços em Saúde , BPS)** [29] *(1998)*	• Objectives: to improve transparency and accountability in the pharmaceutical system and to facilitate the centralization of pricing information, and to decrease the high cost of medicines and medical supplies.	• Access to the information portal is public and does not require payment or registration. • **Price information shared:** restricted to medicines and health products purchased by public and private institutions registered in the system unit. It provides (weighted) average price by municipality, per concentration, pharmaceutical form, package,	(Kohler et al., 2015[14]) suggest the existence of the BPS tool has not led to consistent purchase price decreases for medicines in Paraiba and São Paulo.

			dosage. The database enables search by drug and other characteristics.	
Ecuador	• Non-legal instrument**: the national public procurement service of Ecuador (SERCOP)** [6] *(2013)*	• Managed by the Institutions of the Comprehensive Public Health Network. • Objective: to coordinate the public procurement of the health sector and increase the margin of savings from the National Public Procurement System.	• **Price information shared**: unit price per commercial presentation. Ecuador's SERCOP shows the description of the processes of contracting once the reverse auction is completed, including the reference value achieved for the volume demanded.	N/A
Malaysia	• Non-legal instrument: **Recommended retail price database for public access** [29] *(2011)*	• In 2011, the Ministry of Health encouraged pharmaceutical companies to voluntarily declare their wholesale and recommended retail price (RRP) to the Pharmaceutical Service Division (PSD).	• **Price information shared**: wholesale and recommended retail prices (RRP) for medicine used for acute and chronic diseases, including generic and innovator brands. The medicine prices declared to the PSD does not disclose discount and bonus schemes. RRP database is published on the Pharmaceutical Service Division (PSD) website.	• (Ahmad, Hatah and Makmor-Bakry, 2019[15]) suggest that voluntary medicine price declaration by pharmaceutical companies had a strong and significant association with private healthcare sector retail prices.
Republic of Moldova	• Legal provision: **Law on Medicines**, Monitorul Oficial. 1998. No. 52–3 Ст.368, **adopted 17 December 1997** [30] (1998)	• National legislation requiring national competent authorities to report prices on the website.	• **Price information shared**: manufacturer prices.	N/A
Russian Federation	• Legal provision: **Russian Federation: Federal Law on Circulation of Medicines**, adopted 24 March 2010 [31] *(2010)*	• National legislation requiring national competent authorities to report prices on the website.	• **Price information shared**: maximum retail manufacturer prices.	N/A
South Africa	• Non-legal instrument**: Single Exit pricing (SEP)** [32] *(2004)*	• The South African Medicines Price Registry is managed by the National Department of Health and is a publicly available database.	• **Price information shared**: SEP prices all registered medicines in South Africa, which consists of an ex-manufacturer price, a logistic fee and Value Added Tax. Data is publicly available and contains information of the price at which the manufacturer or importer of a medicine or scheduled substance can sell to a wholesaler or distributor. This is complemented with a provision for a regulated maximum increase in the single exit price, determined annually by the Minister of Health, on the advice of the Pricing Committee.	• (Naidoo and Suleman, 2021[16]) find that the ongoing SEP regulations have not had a significant impact on access to medicines. • (Mattila, Babar and Suleman, 2021[17]) suggest that oncology medicine prices in South Africa are high and show large price differences in the private sector between highest-priced and their lowest-priced equivalents, as well as between originator brand (OB) and lowest priced generic (LPG).
Tajikistan	• Legal provision**: national legislation requiring national competent**	N/A	• **Price information shared**: maximum selling prices.	N/A

	authorities to report prices on the website [33]			
Vietnam	• Legal provisions**: Government of Vietnam. Law on Pharmacy No. 34/2005/qh11 Passed by the National Assembly on 14 June 2005, Effective from 1 October 2005; Government of Vietnam: Hanoi, Vietnam, 2005**[34] *(2005)*	• Legal provision under the major legal initiative on pharmaceutical policies by the Government of Vietnam to manage drug prices.	• **Price information shared**: drug companies are required to declare their drug price to the Government of Vietnam in which such price not to be set higher than the reported price in regional countries that with similar health and economic conditions in Vietnam.	• (Angelino et al., 2017[18]) report that the cost of medicine is high and varies widely across facilities and regions as procurement system is highly decentralised with ceiling price set by the regional health department.

Source: [1] Pharmaceutical Benefits Scheme (PBS) | About the PBS [2] Medicine price data | WHOCC PPRI (goeg.at) [4] About pCPA | pCPA (pcpacanada.ca) [5] ChileCompra [6] Pages - Drug Prices (minsalud.gov.co) [7] https://amgros.dk/en/about-amgros/ [8] LOI n° 2020-1576 du 14 décembre 2020 de financement de la sécurité sociale pour 2021 (1) - Légifrance (legifrance.gouv.fr) [9] OTMeds.org – Observatoire de la transparence dans les politiques du médicament [10] https://www.scansante.fr/applications/synthese-dmi-mo-sus [11] https://verd.lyfjastofnun.is/index.php?pageid=83 [12] https://www.gazzettaufficiale.it/eli/gu/2020/07/24/185/sg/pdf [13] www.farmaterverantwoording.nl/nl/ [14] Analysing actual prices of medical products: a cross-sectional survey of Dutch hospitals | BMJ Open [15] Delineating the Type 2 Diabetes Population in the Netherlands Using an All-Payer Claims Database: Specialist Care, Medication Utilization and Expenditures 2016–2018 | SpringerLink [16] wetten.nl - Regeling - Wet geneesmiddelenprijzen - BWBR0007867 (overheid.nl) [17] https://www.stortinget.no/no/Saker-og-publikasjoner/Saker/Sak/?p=64489 [18] Ley 19/2013, de 9 de diciembre, de transparencia, acceso a la información pública y buen gobierno (hacienda.gob.es) [19] Förordning (2007:1206) med instruktion för Tandvårds- och läkemedelsförmånsverket Svensk författningssamling 2007:2007:1206 t.o.m. SFS 2020:356 - Riksdagen [20] http://www.spezialitaetenliste.ch [21] What was the PPRS? (abpi.org.uk) [22] Text - H.R.133 - 116th Congress (2019-2020): Consolidated Appropriations Act, 2021 | Congress.gov | Library of Congress [23] President Trump Signs Executive Order to Expand Hospital Price Transparency | AAMC [24] Text - S.2553 - 115th Congress (2017-2018): Know the Lowest Price Act of 2018 | Congress.gov | Library of Congress [25] Text - S.2554 - 115th Congress (2017-2018): Patient Right to Know Drug Prices Act | Congress.gov | Library of Congress [26] Hospital Price Transparency | CMS [27] http://www.pharm.am/attachments/article/4871/Law%20on%20Medicines_ENG_%2027.06.2017.pdf [28] https://etalonline.by/document/?regnum=H10600161 [29] https://www.gov.br/saude/pt-br/acesso-a-informacao/banco-de-precos [30] https://www. legis.md/cautare/getResults?doc_id=115116&lang=ru [31] http://pravo.gov.ru/proxy/ips/?docbody=&nd=102137440 [32] MPR - Home [33] Health Evidence Network synthesis report 73 (who.int) [34] Microsoft Word - Document7 (vertic.org)

Annex B. List of cross-country initiatives

Table A B.1. Existing cross-country initiatives

	Initiative *(Starting Date)*	Members	Aims and objectives	Governance	Type of information shared
1	Baltic Procurement Initiative[1] *(2012)*	Estonia, Latvia, Lithuania	• To facilitate joint procurement of medicines in order to reduce public procurement expenditure; to enable lending of medicines and medical devices to prevent, or cover, shortages and to ensure continuous access to these products. • Objectives: (1) joint procurement of vaccines, (2) lending of medicines, and (3) information exchange.	• Partnership agreement between the Ministry of Health of Latvia, the Ministry of Social Affairs of Estonia and the Ministry of Health of Lithuania.	• **Product scope and product level information**: medicines and medical devices -for lending- and vaccines -for joint procurement- (e.g. rotavirus, pneumococcal conjugate and hexavalent vaccines). • **Pricing and other information:** N/A
2	The BeNeLuxA Initiative[2] *(2015)*	Belgium, the Netherlands, Luxembourg, Austria, Ireland	• To ensure sustainable and timely access to, and appropriate use of, high-quality and affordable medicines in the participating countries. • Objectives: (1) joint horizon scanning, (2) mutual recognition of HTAs, (3) sharing policy expertise and best practices, (4) enhanced bargaining power through joint price negotiation, and (5) improved price transparency.	• Ministers responsible for pharmaceutical policy have given a mandate to their national experts to participate in the activities of the Initiative by signing a letter of intent. • The Initiative consists of a steering committee, which oversees overall collaboration.	• **Product scope and product level information:** Innovative medicines for rare diseases (e.g. Zolgensma (onasemnogene abeparvovec), Spinraza (nusinersen), drugs for spinal muscular atrophy). • **Pricing and other information:** information regarding pharmaceutical policy practice.
3	Central Eastern European and South-Eastern European Countries Initiative[3] *(2016)*	Romania, Bulgaria, Croatia, Latvia, Poland, Serbia, Slovakia, Slovenia, Republic of Moldova, FYR Macedonia	• Joint price negotiations to ensure lower prices in order to increase access to innovative medicines and to ensure that producers will not withdraw cheaper medicines from the market. • To address the problems with the free and open market for pharmaceuticals in the EU, which hinders access to new medicines in lower-income nations.		• **Product scope and product level information:** oncology drugs, drugs to treat rare diseases, and other expensive drugs from different groups. • **Pricing and other information:** N/A

4	The Cooperation Council for the Arab States of the Gulf ("GCC")[4] *(1981)*	United Arab Emirates, Saudi Arabia, Oman, Qatar, Bahrain, Kuwait.	• To support provision of high-quality medicines, medical supplies, and devices to member states and participating hospitals to the right location at the right time and from the registered manufacturers at fair prices. • To standardize the directory of pharmaceuticals, devices and medical supplies.	• The GCC has legal, financial and administrative independence. The Executive Body of the Council consists of individuals from the member states.	• **Product scope and product level information:** high-quality medicines, medical supplies, and devices. • **Pricing and other information:** N/A.
5	COVAX [5] *(2020)*	184 member countries	• To accelerate the development, production, and equitable access to COVID-19 tests, treatments, and vaccines. • To accelerate the development and manufacture of COVID-19 vaccines, and to guarantee fair and equitable access for every country in the world.	• COVAX is co-led by Gavi, the Vaccine Alliance, WHO and the Coalition for Epidemic Preparedness Innovations foundation (CEPI).	• **Product scope and product level information:** COVID-19 vaccines. • **Pricing and other information:** N/A.
6	COVID-19 Vaccine Market Dashboard[6] *(2020)*	Global	• To report publicly the latest information on the world's COVID-19 vaccine market and the COVAX Facility's vaccine deliveries.	• UNICEF launched the COVID-19 Vaccine Market Dashboard.	• **Product scope and product level information:** COVID-19 vaccines. • **Pricing and other information:** price per dose as reported by the media.
7	Declaration of Sofia[1] *(2016)*	Bulgaria, Croatia, Estonia, Hungary, Latvia, Macedonia, Romania, Serbia, Slovakia, Slovenia	• To share information sharing on prices and markets, with potential for joint purchasing.	• Declaration by participants in Ministerial meeting on the growing challenges in the field of pharmaceutical.	• **Product scope and product level information:** N/A • **Pricing and other information:** N/A
8	European Integrated Price Information Database (Euripid) [7] *(2019)*	EU countries (+ Switzerland, Norway, Iceland and Israel; and (-) Germany, Luxembourg, Malta and Romania)	• Voluntary and strictly non-profit cooperation to establish and maintain a database with information on official list prices of publicly reimbursed (mainly outpatient) medicinal products and standardised pricing regulations. • Objectives: (1) to expand the information on managed entry agreements, prices and sales volumes of reimbursable medicinal products, (2) to enhance the services for users, (3) to strength the cooperation in the field of pricing, and (4) to establish information with the general public.	• EC-funded project. The consortium acting on behalf of EURIPID consists of health/pharmaceutical institutes of Hungary, Austria, Czech Republic, Sweden and Norway. Clearing-house mechanism. • Voluntary and strictly non-profit cooperation.	• **Product scope and product level information:** Reimbursed out-patient medicines that may differ across countries. Product level information includes standardised units of a given brand, package, strength and dosage form, ATC code, and route of administration, allowing the comparison of price level of different pack sizes. Numbers of monthly sold packages are available from 10 countries. • **Pricing and other information**: Official prices of publicly reimbursed drugs. Four types of list prices: manufacturer ex-factory price, wholesaler price, net retail price and gross retail price. Certain prices are computed using legal mark-ups and VAT. Also, available information on

					existence of managed entry agreements (MEAs), company, INN, and date of reimbursement for a given country.
9	Eurostat-OECD Purchasing Power Parities (PPP) Programme [8] *(2006)*	Three groups of countries: EU Member States, OECD Member Countries and associate non-OECD member countries.	• To establish PPPs in order to compare, on a regular and timely basis, the GDPs of member countries, by expressing the GDPs and the components of expenditure -expressed in national currencies and valued at national prices- in a common currency at a uniform price level. • Collection and reporting of data to estimate PPPs indicators for 37 countries.	• OECD responsible for administering the survey and collecting the data. • OECD, Eurostat and countries share responsibility for methodological standardisation. • Countries are responsible for the calculation of PPPs and for the quality and accuracy of PPP results is shared between the three group members.	• **Product scope and product level information:** Around 150 essential commonly used pharmaceutical products. The list of pharmaceutical products includes information on active substance, ATC code, type of license (original or generic), strength and form. • **Pricing and other information:** For each selected product countries are required to report on observed quantity utilised over a given period and unitary price (i.e. expenditure data on pharmaceutical consumption), among others. The input data required from countries are not made publicly available.
10	Fair and Affordable Pricing (FaAP)[9] *(2017)*	Visegrad countries: Hungary, Poland, Slovakia, Czechia and Lithuania	• To improve and facilitate access to effective and affordable medicinal products for the citizens of member states, and to develop methods and modalities for cooperation and negotiation for pricing and reimbursement. • Objectives: (1) Exchanging information on pricing and reimbursement (2) organizing joint pilot negotiations in areas of pricing and reimbursement, and (3) joint HTAs.	• Memorandum of understanding between Ministers of Health acting decision-taking body, managing a coordination committee comprising designated pricing and reimbursement experts from each country.	• **Product scope and product level information**: Orphan, and high-priced medicines • **Pricing and other information**: Through information exchange and the organization of pilot negotiations, to achieve common position on certain confidential modalities of pricing of medicinal products, and to develop effective procedures of negotiations, and identify elements to be in included in international agreements.
11	FINOSE[10] *(2018)*	Finland, Norway, Sweden	• Aims to perform joint HTA assessments, gaining additional knowledge about the products, increasing quality of the assessment/s, as well as gaining insights in best practice and developing staff capacity. • Activities: Horizontal scanning, price negotiations, information sharing of old & new hospital medicines	• Memorandum of Understanding was signed by the Directors General of the HTA agencies of Finland (Finish Medicines Agency [Fimea]), Norway (Norwegian Medicines Agency [NoMA]), and Sweden (Dental and Pharmaceutical Benefits Agency [TLV]). This	• **Product scope and product level information:** Three joint assessments of Xtandi (an androgen receptor-signaling inhibitor), Tecentriq (anti-PD-L1 monoclonal antibody) and

				Memorandum established the collaboration network, FINOSE, in which the 3 HTA agencies write joint assessment reports that agree on clinical data to inform modeling, quality-adjusted life-year gain, and relative efficacy.	Zynteglo (for transfusion-dependent beta-thalassaemia) • **Pricing and other information:** The FINOSE pilot has resulted in three joint assessments. One of the reports has been used in a joint price negotiation.
12	The Global Fund's online procurement platform wambo.org[11] *(2001)*	Globally	• To support country procurement teams to search for quality products and submit and track orders and invoices, namely by simplifying transaction management, and improve procurement lead times. • wambo.org supports tailored approval chains per buyer, program and/or funding source, adapting to each organization's existing procurement processes.	• The Global Fund's online procurement platform	• **Product scope and product level information:** health products and selected non-health products used primarily for HIV, tuberculosis and malaria and COVID-19 health programs**.** • **Pricing and other information:** real-time transactions and payment data on available products, prices, expected delivery time and tracking.
13	International Horizon Scanning Initiative (IHSI)[12] *(2019)*	The Netherlands, Denmark, Norway, Ireland and Sweden.	• Objectives: (1) to promote fair and transparent pharmaceutical prices, (2) to use data to drive price reduction, (3) to mitigate the impact of disruptive innovation, (4) to support effective budgetary policy, and (5) support HTA and regulatory preparation.	• Collaboration between the Dutch National Healthcare Institute, the Danish Medicines Agency, the National Institute for Health and Disability Insurance, the National Authority of Medicines and Health Products, the Federal Office of Public Health, the Norwegian Medicines Agency, the Department of Health of Ireland, the Ministry of Health and Social Affairs Sweden.	• **Product scope and product level information:** upcoming pharmaceuticals expected to enter the global market within the next 2.5 years. Medicines with high potential to cause significant budget impact.
14	Medicine Evaluation Committee (MEDEV) [13] *(1998)*	22 national authorities from 18 EU Member States and Switzerland	• Objectives: (1) rapid assessments of (new) medicinal products of common interest, (2) exchanges on ongoing and planned assessments for reimbursement, methodologies and pharmaceutical policy, (3) review of EU-level activities impacting on national assessment, pricing and reimbursement, (4) timely analyses of drug related trends and innovations, and political and legal initiatives of the European Institutions.	• Established by representatives of the social health insurance organisations in Austria, Finland, Germany, Luxembourg, The Netherlands, and Switzerland to facilitate informed discussions and exchanges on pharmaceutical policy developments in the EU. • MEDEV provides an informal platform for exchanges between national bodies responsible for the assessment, pricing and reimbursement of medicines to support them in their role at national level across between 22 national authorities from 18 Member States and Switzerland.	• **Product scope and product level information**: provision of medicines to patients who are publicly insured. • **Pricing and other information:** assessments of (new) medicinal products, ongoing and planned assessments for reimbursement, methodologies and pharmaceutical policy, reviews of EU-level activities impacting on national assessment, pricing and reimbursement and timely analyses of drug related trends and innovations, and political and legal initiatives of the European Institution

15	Nordic Pharmaceuticals Forum *Nordic Laegemiddel Forum*[14] *(2015)*	Denmark, Iceland, Norway, Sweden (and Finland as an observer)	• To increase purchasing power to ensure better security of supply through a larger market, provide an informal platform for information exchange, and solutions with focus on joint procurement for hospital medicines. • Objectives: (1) horizon scanning, (2) ensuring the security of drug supply, (3) joint procurement of long-existing drugs, (4) joint price negotiations, and (5) manufacturing.	• Steering group consisting of one facilitator and two representatives from each country.	• **Product scope and product level information**: Innovative and expensive medicines, as well as older medicines. • **Pricing and other information:** sharing of knowledge and insights on the health care sector
16	Intentions agreement between Norway and Denmark [15] (*2018*)	Norway and Denmark	• To support joint negotiations for Denmark and Norway on the price for selected medicines.	• Intentions agreement between Danish and Norwegian Ministries of Health on increased cooperation, including joint tendering procedures and price negotiation	• **Product scope and product level information**: Innovative and expensive medicines, as well as older medicines. • **Pricing and other information:** N/A
17	Observatory of Medicines with High Financial Impact (Observatorio de Medicamentos de Alto Impacto Financiero DIME)[16] *(2013)*	Chile, Colombia, Costa Rica, Ecuador, El Salvador, Mexico, Peru, Dominic Republic. Brazil	• To promote efficient management of high financial impact medicines to improve access and efficiency in the use public health resources, by proving evidence-based information on prices, coverage, competition, rational use and HTAs. • Objectives: to share information on (1) medicine prices dynamics, (2) patents, and (3) regional guidelines development of HTAs.	• Funded by the Inter-American Development Bank. Executed by the IFARMA Foundation.	• **Product scope and product level information**: 38 high-cost medicines selected by members (e.g. endocrinology medicines, orphan drugs, immunostimulants, immunosuppressants, oncological, antiretrovirals and antivirals). • **Pricing and other information**: Minimum and maximum public list prices (USD nominal prices) by product and country. Public insurance coverage status, therapeutic indication, ATC code, defined daily dose (DDD), European Medicines Agency (EMA) approval status and health technology assessment (HTA) decisions among the 8 countries participating in the initiative, as well as information on on-patent competitors.
18	PAHO Revolving Fund [17] *(1979)*	42 countries in Latin America	• To assure constant flow of vaccines and related supplies for their immunisation programs. • Objectives: (1) joint procurement; (2) preparation of transparent tenders, (3) processing of the results of the competitive tenders into purchase orders for countries, (4) monitoring international shipping to countries.	• Technical cooperation mechanism of the Pan American Health Organization (PAHO). • The establishment of the PAHO Revolving Fund was authorised by the Resolution CD25.R27 of the 25th Meeting of the Directing Council 1977.	• **Product scope and product level information**: vaccines, syringes, and other related supplies of immunization programs.

					• **Pricing and other information**: single-procurement price representing the average price per dose.
19	PAHO Strategic Fund [18] *(2000)*	34 countries and territories in Latin America and 17 Health agencies	• Support of a variety of disease programs, including HIV/AIDS, tuberculosis, malaria, diabetes, neglected tropical diseases, cardiovascular diseases, and hepatitis C. • To support technical cooperation, pooled procurement, capacity-building, quality assurance, and innovative financing.	• Technical cooperation mechanism of the Pan American Health Organization (PAHO).	• **Product scope and product level information:** the Fund provides medicines and supplies included in the World Health Organization (WHO) Model List of Essential Medicines • **Pricing and other information**: single-procurement price
20	Pharmaceutical Pricing and Reimbursement Information (PPRI) network [19] *(2005)*	All 27 EU Member States, plus Albania, Armenia, Australia, Belarus, Brazil, Canada, Egypt, Iceland, Israel, Kazakhstan, Kyrgyzstan, Kosovo, North Macedonia, Moldova, Norway, Russia, Saudi Arabia, Serbia, Singapore, South Africa, South Korea, Switzerland, Türkiye, United Kingdom and Ukraine. Also, European Commission services and agency, OECD, WHO and the World Bank.	• Collaboration among pharmaceutical pricing and reimbursement authorities of 50 largely European countries as well as international and European institutions. The aim of this network is to facilitate exchange between public officials. • To improve access to medicines and medical devices in Austria, Europe and globally; to provide a platform for national experts working on relevant issues to exchange information and data; and to establish a sustainable reporting system for country information. • Objectives: (1) generation and sharing of research policy advice, (2) knowledge transfer to policy-makers, (3) capacity-building, (4) medicines price data provision, (5) enhancing networks of public authorities, among others.	• Coordination by the Pharmacoeconomics Department of the Austrian National Public Health Institute (a WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies)	• **Product scope and product level information:** Pharmaceutical products in general. Medicinal product information includes: active ingredient, ATC code, strengths and pharmaceutical forms, and specific medicines (e.g. originator, generics). • **Pricing and other information:** Pharma Price Information (PPI) data include latest and historical medicine price information in national local currency or in Euro. The database comprises information on the following price types: manufacturer prices (ex-factory prices), pharmacy purchasing prices (wholesale prices) and pharmacy retail prices (consumer prices) excluding and including value-added tax. Official reimbursement prices can be provided at request. Also information on ex-factory prices reduced by mandatory manufacturer discounts for those countries where applicable.
21	Pharmaceutical Procurement Service of the Organisation of Eastern Caribbean States (OECS)[20]	Antigua and Barbuda, St. Kitts and Nevis, Montserrat, Anguilla and the British Virgin Islands; and the Windward Islands:	• The Pharmaceutical Procurement Service (PPS) is the official institution within the OECS that procures medicines and allied health equipment on behalf of Member States. • Objectives: (1) to operate a restricted international tender through the OECS E-Tendering System in which suppliers are pre-qualified, (2) to monitor the delivery of	• The PPS is a self-financing public sector monopsony or buyers' cartel that covers its operating cost from a modest surcharge imposed upon subscribing Member States. • The PPS works closely with the Pharmaceutical Industry, Ministries of Health	• **Product scope and product level information**: 840 item product portfolio including a diverse range of pharmaceutical and non-pharmaceutical items, such as

	(1981)	Dominica, Saint Lucia, St. Vincent and the Grenadines and Grenada, Martinique and Guadeloupe.	pharmaceuticals and supplier performance to ensure OECS quality standards are met.	in each Member State and associated clinical and public health policy specialists to select medicines based on Member State requirements at any given time.	medical supplies, contraceptives, and radiological supplies. • **Pricing and other information**: N/A.
22	Romanian and Bulgarian Initiative[1] *(2015)*	Romania, Bulgaria	• Joint purchasing negotiations to obtain lower prices for pharmaceuticals, and cross-border exchange of medicines in short supply to ensure continuity of access.	• Intergovernmental agreement between Romania and Bulgaria for joint negotiations	• **Product scope and product level information**: new, innovative drugs coming on the market • **Pricing and other information**: N/A
23	RWE4Decisions [21] *(2020)*	Belgium, European Medicines Agency (EMA), Finland, the United Kingdom, the Netherlands, , Norway, Ireland, the European Cancer Patient Coalition (ECPC), the European Patients' Forum (EPF), the EURORDIS – Rare Diseases Europe, the European CanCer Organisation (ECCO), the European Organisation for Research and Treatment of Cancer (EORTC), UZ Leuven, EUCOPE, Astra Zeneca, Gilead Sciences, Novartis, Roche and Takeda	• RWE4Decisions brings together European policy-makers, HTA bodies, payers, regulatory agencies, patient groups, academics, clinicians, and industry to "agree what real-world data can be collected for highly innovative technologies – when, by whom and how – in order to generate real-world evidence that informs decisions by healthcare systems, clinicians and patients.	• The work has been commissioned by the Belgian National Institute of Health and Disability Insurance (INAMI-RIZIV) and contributors include several EU stakeholders namely: • The Belgian National Institute of Health and Disability Insurance (INAMI-RIZIV), European Medicines Agency (EMA), the Finnish Medicines Agency (FIMEA), Belgian Healthcare Knowledge Center (KCE), the UK's National Institute for Health and Care Excellence (NICE), the Dutch National Health Care Institute (ZIN), the Norwegian Medicines Agency (NoMA), the Irish National Centre for Pharmacoeconomics (NCPE), the European Cancer Patient Coalition (ECPC), the European Patients' Forum (EPF), the EURORDIS – Rare Diseases Europe, the European CanCer Organisation (ECCO), the European Organisation for Research and Treatment of Cancer (EORTC), UZ Leuven, EUCOPE, Astra Zeneca, Gilead Sciences, Novartis, Roche and Takeda.	• **Product scope and product level information**: highly innovative technologies • **Pricing and other information**: data on highly innovative technologies to generate evidence that inform decisions by healthcare systems, clinicians and patients.
24	Southern European initiative[1] *(2016)*	Greece, Bulgaria, Spain, Cyprus[1], Malta, Italy, Portugal	• Initiative focused on the procurement of innovative medicines.	• Collaboration between Southern European countries	• **Product scope and product level information**: innovative medicines
25	Stop TB Partnership's	Over 151 countries	• To establish long term agreements with manufacturers of TB medicines with the aim to achieve lower prices and also ensure the sustainable and reliable on-time supply of the	• The Stop TB Partnership, as it is now known, has evolved into a broad global partnership of over 2,000 partners drawn from TB	• **Product scope and product level information:** more than 500 diagnostics products, including the

	Global Drug Facility[22] *(2001)*		full range of quality-assured products to meet the needs of any TB laboratory globally following the latest WHO-recommended technologies for detecting TB and drug resistance.	communities, international and technical organizations, government programmes, research and funding agencies, foundations, NGOs, society and community groups, and private sector companies, all committed to eliminating TB as a public health problem by 2030.	latest WHO-approved TB diagnostic devices and reagents, together with the consumables and ancillary devices required to ensure a safe working environment as well as tuberculosis medicines. These products cater to all levels of laboratories, ranging from peripheral health centres to centralized reference laboratories, and provide countries with the. • **Pricing and other information:** N/A
26	UNICEF Supply Division Pricing data [23] *(2011)*	Globally	• To publish historic and current prices of certain products (mostly vaccines) procured by UNICEF with the aim to influencing the market, as opposed to only publishing prices purely for purposes of sharing information and information transparency. • Collection and reporting of data from international procurement solicitation notices and awarded contracts with pharmaceutical manufacturers, of countries procuring through UNICEF.	• UNICEF Supply Division publishes pricing information	• **Product scope and product level information:** Cold chain equipment, long-lasting insecticidal nets, nutrition, safe injection equipment, antiretroviral and vaccines. Currently 35 products are listed, of which 23 are vaccines. For each product, manufacturer (or supplier) and presentation. • **Pricing and other information:** Suppliers base prices (or spot price) in USD per product, i.e. price paid to a supplier that includes product delivery, hand over, and cleared for export, into the charge of a freight forwarder, named by UNICEF, at a named place or point. Prices are presented per manufacturer (supplier), per presentation, and per year. Also, product historical time series from 1998 to 2020 on total quantities and total value (spending) in USD presented when available.
27	UNICEF's vaccine independence initiative (VII)[24] *(1991)*	23 countries	• The VII offers four advantages: participation in a pooled Procurement Mechanism (through UNICEF); benefitting from economies of scale; payment after delivery instead of in advance; and payment in local currency (as permitted by the UNICEF Treasurer). The Vaccine Independence Initiative (VII) is a financial mechanism that enables	• Pre-financing tool managed by UNICEF, offering a support mechanism for countries utilizing their own domestic resources for procurement of health-related supplies	• **Product scope and product level information**: vaccines, ready-to-use therapeutic foods, antiretroviral drugs, HIV tests as well as other medicines and health products • **Pricing and other information**: N/A

			governments to manage temporary budget shortfalls and facilitate timely procurement of essential supplies. The VII offers flexible credit terms to countries, allowing them to pay after critical supplies are delivered, reducing stock-outs and ensuring a systematic and sustainable provision of goods.		
28	United Nations Fund for Population Activities (UNFPA) Procurement Services Branch [25] *(1969)*	Globally	• UNFPA is the lead agency within the United Nations system for the procurement of reproductive health commodities. Procurement at the UNFPA is driven by 4 key principles: (1) best value for money, (2) fairness, integrity, transparency, (3) effective international competition, and (4) the interest of UN agency.	• Procurement for UNFPA funded projects are undertaken by UNFPA country office or headquarters personnel.	• **Product scope and product level information:** quality-assured contraceptives, medical devices, pharmaceuticals, and kits related to reproductive health as well as census supplies and humanitarian supplies for use in crisis situations. • **Pricing and other information:** Average Unit procurement price (USD/Primary Unit)
29	The Valletta Declaration [26] *(2017)*	Cyprus[1], Greece, Italy, Malta, Portugal and Spain, Ireland, Romania, Croatia, Slovenia	• To improve patients' access to new and innovative medicines, and therapies and to support the sustainability of their national health systems, among member states. • (1) Joint pricing strategy/negotiation, (2) horizon scanning (3) price disclosure/information exchange, and (4) participation in R&D costs	• The Valetta Technical Committee, composed of technical experts from all participating countries to carry out the work agreed in the Declaration.	• **Product scope and product level information:** mainly new and innovative medicines and therapies. • **Pricing and other information:** The collaboration is exploring ways to develop a formal framework that will enable countries not to accept non-disclosure agreements with the pharmaceutical industry and to share price information among member countries.
30	The WHO Market Information for Access to Vaccines (MI4A) initiative [27] *(2018)*	Annually, over 150 countries report to WHO details of their vaccine purchases, through the WHO/UNICEF Joint Reporting Form.	• To identify, develop and establish method(s), mechanism(s) and/or tools to provide countries with accurate, reliable and useful data on vaccine products, prices and procurement, to facilitate the appropriate comparison of price information. • Collection and reporting of data. Participating countries are responsible for the accuracy of data.	• The MI4A initiative (previously called WHO Vaccine Product, Price and Procurement (V3P) initiative) is responsible for the data collection and reporting of the WHO Vaccine Product, Price and Procurement (V3P) initiative.	• **Product scope and product level information:** Vaccines, e.g. cholera, dengue, diphtheria, Ebola, hepatitis (A and B), human papillomavirus, influenza (pandemic, seasonal), measles, rubella, meningococcal, polio, rabies, rotavirus, tetanus, typhoid, varicella, yellow fever. Other

[1] "Note by Türkiye: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Türkiye recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Türkiye shall preserve its position concerning the "Cyprus issue". Note by all the European Union Member States of the OECD and the European Union:
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Türkiye. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus".

					information: name of vaccine, vaccine sub-type, manufacturer, presentation, and dosage. • **Pricing and other information:** it contains information on vaccine prices and procurement modalities, as reported by participating countries and partners, including PAHO Revolving Fund and UNICEF. Price is expressed in USD per dose. Other information: procurement mechanism (e.g. self-procurement, regional procurement, other pool procurement, PAHO RF, UNICEF Supply Division), contract length, and annual number of doses purchased.

Annex C. Literature Review: Summary of studies

Table A C.1. Results of the Literature review

	First author, year	Policy/Intervention studied	Geography	Outcomes	Data and Methods	Limitations
1	(Kohler et al., 2015[14])	• In 1998, the Brazilian Federal Government implemented the *Banco de Precos em Saude* (BPS). The BPS discloses purchasing prices of medicines that are paid for by public institutions at the federal, state and municipal levels of government, as well as of private and international institutions that have been registered in the system (e.g. some NGOs, private clinics/hospitals).	Non-OECD: Brazil	• No significant price decreases during the five-year period suggesting BPS has not lead to consistent purchase price decreases for medicines in Paraiba and São Paulo.	• Included 19 therapeutic classes and types of medicines: antiviral, antibiotic, antithrombotic agent, antihypertensive, anxiolytics, analgesic, antidepressant, antidiabetic, diuretic, anticoagulants, antidepressants. • Prices included in the analysis consist of purchasing prices of medicines that are paid by public institutions, namely procurement prices between federal public institutions and suppliers.	• Data not available to measure the counterfactual scenario of the policy, and therefore, not possible to control for other effects affecting prices. • Results underestimating drug prices due to the existence of discounts.
2	(Arinaminpathy et al., 2015[19])	• The Global Drug Facility was launched by the Stop TB Partnership in 2001 with the aim of using donor funding to consolidate demand from different countries and negotiate lower prices for quality-assured tuberculosis drugs.	OECD countries: Latvia and Lithuania. Non-OECD: Bangladesh, Brazil, Bulgaria, China, Dominican Republic, India, Indonesia, Pakistan, Peru, Philippines, Russian	• The price of most drugs was consistently higher when purchased from the private market. The price (per patient) per treatment course treatment of first-line drugs was lower for drugs supplied through the Global Drug Facility than through the private market. Similarly, the price (per patient) of a course of treatment for second line drugs was 82% lower through the Global Drug Facility than the private market. The exceptions were protionamide, capreomycin and kanamycin.	• Mean, maximum and minimum unit price per treatment course of first-line and second-line tuberculosis drugs. Prices reflect the ex-factory prices.	• Lack of micro-level, country specific data. • Inaccuracies in IMS estimates of ex-factory prices.

			Federation, South Africa, Thailand.			
3	(Vian et al., 2017[20])	• The Medicines Transparency Alliance (MeTA) is a Multi-Stakeholders Initiative (MSI) developed to promote transparency and accountability goals in the pharmaceutical sector. • MeTA was implemented in seven non-OECD countries from 2008 to 2015.	Non-OECD: Ghana, Jordan, Kyrgyzstan, Peru, Philippines, Uganda, and Zambia	• Greater transparency combined with the multi-stakeholder mechanism did result in some new policies and revisions to the national medicine policies in Jordan, Kyrgyzstan, and Uganda.	N/A	• Lack of accountability in MeTA documentation.
4	(Espin et al., 2018[21])	• Price comparison and future projections of pharmaceutical expenditure in France, Germany, Italy, Spain, and the UK (EU5).	OECD: France, Germany, Italy, Spain and UK	• Forecasts show that future growth in pharmaceutical expenditure in Europe is likely to be lower than previously forecasted based on list prices. The growth in use of confidential discounts over the last decades has led to increased divergence between list and net prices, with the associated overstatement of historical expenditure levels. • Net expenditure growth in EU5 is predicted to be approximately 1.5% CAGR over the next 5 years.	• IQVIA MIDAS® data on volumes and prices, for both branded medicines and generics, and prescribed and over the counter medicines, tracking virtually every medicine through retail and non-retail channels, with official, non-confidential prices applied at pack level to assess value spend. • Price data are captured at different points in the supply chain by market. However, country-specific mark-ups are used to reflect price at the publicly available ex-manufacturer level.	• While the study calculates net prices by adjusting the established IQVIA analysis ('list forecast') for discounts that are not currently incorporated ('net forecast'), data on confidential discounts or rebates overestimate real prices paid and can vary across countries.
5	(Gotham, Barber and Hill, 2018[22])	• Online database of exports data published by the Indian customs regulations supporting the initiative on *Addressing the Challenge and Constraints of Insulin Sources and Supply,* which aims to improve access to insulin.	Non-OECD: India	• Results suggest the production of biosimilars of recombinant human insulin and insulin NPH is likely to be profitable at a price of US$72 per patient per year. Similarly, the production of biosimilars of insulin analogues is likely to be profitable at prices of US$133 per patient per year. • Under price competition, prices could fall to US$48 per year and US$78–98 for for biosimilars of human insulin and insulin analogues, respectively. Such price competition could lead to sizeable savings.	• Per-kilogram prices of active pharmaceutical ingredient (API) of insulin neutral protamine Hagedorn (NPH), insulin aspart, insulin lispro and insulin glusine, insulin detemir and insulin deglutec. • Formulation cost, biosimilar development cost, other costs for mass production.	• Assumptions to estimate biosimilar prices.
6	(Gotham, Barber and Hill, 2019[23])	• Price comparison of essential medicines listed in the WHO's Model List of Essential Medicines (EML) that comprises medicines that meet the priority health needs of global populations and should	OECD: England. Non-OECD: India and South Africa.	• For injectable formulations on the WHO EML, 77% of medicines had prices above the estimated cost-based price in England, and 62% had prices above the estimated cost-based price in South Africa, while 85% of medicines in India had prices below estimated cost-based price. 19% of injectable medicines in England, 9%	• Medicines listed in the 2015 WHO EML as injectable formulations used a number of conditions, including: for neonatal care, cardiovascular medicines, medicines for mental and behavioural disorder, Hormones,	• Estimates do not account for differences of cost levels across manufacturers. • Differences on state-level taxes were not considered.

		be available at all times, at affordable prices.		in South Africa and 5% in India had prices more than 10 times the estimated cost-based price.	anticovulsants/antiepilectics, antineoplastics and immunosuppressives, oxytocics, anti-infectives, gastrointestinal medicines, muscle relaxants, antiallergics, medicines acting on the respiratory tract, medicines affectig the blood, medicine for pain and palliative care, anaresthetics, diuretics, antimigrane medicines, antiparkinsonsm medicines, dermatological medicines (tropical), ophtalmological preparations,ear nose and throat medicines (children), medicines for diseases of joints. • Estimated cost-based prices assuming an average profit margin. Prices of API exported from India collected from an online database of exports data published pursuant to Indian customs regulations. Prices of API for England collect from the British National Formulary (BNF) and the electronic market information tool (eMit). Prices of API for South Africa collected from a database of prices in the public healthcare system as well as a database of prices in the private market.	
7	(Ahmad, Hatah and Makmor-Bakry, 2019[15])	• The Malaysian Ministry of Health encouraged pharmaceutical companies to voluntarily declare their wholesale and recommended retail price (RRP) to the Pharmaceutical Service Division (PSD) to develop the RRP database.	Non-OECD: Malaysia	• Wholesale prices (and declared RRP) in 2011-2015 are significantly associated with the retail price ($p < 0.05$). Generic medicines had a relatively higher percentage of median price mark-ups compared with the innovator brands medicines. The median retail price of generic medicines had a relatively higher percentage mark-up than innovator brand medicines. When comparing retail prices to IRP, however, the median price ratio for generic medicines was lower than that of IB.	• Medicine used for acute and chronic diseases (25 core and 32 supplementary medicines) either generic and innovator brands. • Wholesale and recommended retail prices (RRP). The median price ratio was calculated by comparing the consumer retail medicine price to its international reference price.	• Analysis excludes medicine prices from clinics of dispensing doctors. • Voluntary reporting of medicine prices by pharmaceutical companies is biased and inconsistent. Voluntary medicine price disclosure is strongly associated with private healthcare sector retail prices. • Medicine prices do not account for discount and bonus schemes. Since this type of procurement arrangement is usually confidential,

						it would be difficult to obtain true wholesale prices.
8	(Den Ambtman et al., 2020[7])	• The Hospital Purchase Benchmark is a consumer-based, not-for-profit initiative designed by and for hospitals. • It aims to reduce asymmetry of information across payers and initiate change towards more affordable and accessible healthcare.	OECD: The Netherlands	• Low variation in prices and price variations that can be explained by differences in bargaining power. No consistent price reductions derived from higher levels of spending on specific products and higher amounts paid to a given supplier. In addition, no differences found between academic and non-academic hospitals.	• 17 commonly used medical devices and health products including gloves, pacemakers and stents. • Net prices consisting of the actual price paid excluding Value Added Tax (VAT) per item.	• The voluntary participation in the initiative results in sample bias not representative of the population hospitals in the Netherlands • Data provided data by hospitals was not made regularly leading to the use of other data publicly available from annual reports.
9	(Dyck, Riccaboni and Swoboda, 2020[24])	• Simulation using a multi-agent model and dynamic theoretical model.	• OECD	• Full transparency is not viable across the board • Partial transparency is only viable if certain HICs including the United Kingdom and Germany commit to sharing net medicine prices, leaving all other countries free to opt for confidential discounts. However, these countries would have to accept paying relatively higher prices than those they currently paid under confidentiality	• On-patent drugs under scenarios of Net Price Transparency: disclosure of nationally agreed ex-factory prices. Final ex-factory price level agreed between national payers and manufacturers	• Medicine prices do not account for discount and bonus schemes therefore real prices are overestimated. Lack of transparency about historical net prices limits empirical research.
10	(Gandjour et al., 2020[25])	• The introduction of legislation, in Germany on 1 January 2011 that requires new products at the time of launch (and for any new indication) to be subject to an early benefit assessment in order to determine whether there is sufficient evidence of added medical benefits compared to appropriate therapeutic alternatives. • Based on the results of the benefit assessment, an appropriate reimbursement price is agreed upon.	OECD: Germany	• A significant and positive association of log-transformed negotiated annual treatment cost of the new medicines with annual treatment cost of its comparator(s), extent of added benefit, and log-transformed size of the target population. • Increase in adverse events significantly associated with price increases.	• 106 non-orphan drugs that underwent a benefit appraisal between January 2011 and June 2016, and displayed a reimbursement price in the German Drug Directory in November 2017. • Prices resulting from negotiation or arbitration.	• Overestimation of real prices until November 2017 given that discounts were not considered. Also, not considered re-appraisals of added benefit and budget impact of drugs after June 2016. • Confounding factors that may impact price negotiations were not accounted for.
11	(Grennan and Swanson, 2020[26])	• PriceGuide data (offered by the ECRI Institute, a nonprofit and independent health care research organization) is a database of pricing on medical/surgical supplies and implants utilized by	OECD: USA	• The study finds that hospitals that gain access to benchmarking information see subsequent savings on the brands for which they were previously paying relatively high prices. However, Access to the database information has heterogeneous effects across hospitals and brands.	• All purchases made by approximately 17% of US hospitals that joined the price benchmarking service during the period 2009–14. It includes medical devices: Coronary stents	• Limited scope of the analysis to coronary stents.

		hospitals to benchmark both their existing and proposed spend.		• Transparency leads to partial price convergence through decreases in the top of the price distribution.	• Prices negotiated between hospitals and suppliers.	
12	(Levänen et al., 2020[27])	• The European Medicines Verification Organisation (EMVO) is a Belgian non-profit organisation representing stakeholders united in securing the legal supply chain from falsified medicines. The platform is the first end-to-end verification system initiated by industry stakeholders to ensure the safety of the pharmaceutical products throughout the supply chain.	OECD	• By sharing data with the wholesalers, the logistics become more transparent, and with the end-customers, it helps pharmaceutical companies to develop more targeted services and products to the end-customers.	• Research data include 20 semi-structured in-depth interviews with 11 informants from the NPC and with 9 external industry expert informants.	
13	(Rawson, 2020[4])	• The pan-Canadian Pharmaceutical Alliance (pCPA) is the federal, provincial, and territorial governments' organisation that negotiates prices of new and existing medicines with pharmaceutical manufacturers.	OECD: Canada	• Post-2015 recommendations, there was an increase in the number of reports with a specified percentage reduction in the drug's list price to achieve an incremental cost ratio of $50,000 for drugs for rare disorders (DRDs) and $100,000 for drugs for ultra-rare disorders (DURDs). These percentages were frequently large, particularly for DURDs where they were 60% or higher. • A successful price negotiation was completed for 45.5% of the DRDs and 78.6% of the DURDs with a positive Common Drug Review (CDR) recommendation report specifying the need for a substantial price reduction.	• Restricted to medicines for indications with a prevalence of ≤20 per 100,000 population. • List prices provided in the CDR reports	• Restricted sample of medicines A limits the transferability of the results to other products.
14	(Mattila, Babar and Suleman, 2021[17])	• Introduction of the single exit pricing (SEP) which is a price regulation equalising the price at which the manufacturer or importer of a medicine can sell to a wholesaler or distributor." • The South African Medicines Price Registry discloses publicly data on SEP at fixed points in time. The database is an implementation of the transparent pricing policies for the private sector that is part of the South African legislation.	Non-OECD: South Africa	• Results suggest that oncology medicine prices in South Africa continue to be high showing large price differences in the private sector between highest-priced and their lowest-priced equivalents, as well as between originator products and lowest priced generics. • About 33% of the medicines have a ratio of almost 1 between OBs and LPGs, which suggests that the SEP policy may be hindering competition of some products by setting a price ceiling or capping increases. Alternatively, companies may be using the OB price as a guide to their price setting.	• Median price unit of cancer medicines (both originator brand (OB) and lowest priced generic (LPG) products).	• Median price ratios were not calculated not allowing data comparison with the international reference prices. • Sample selection of products in the analysis relates to products used in the private sector database, therefore not representing the whole market of South Africa.

15	(Noh, Janousek and Park, 2021[28])	• Introduction of the Patient Protection and Affordable Care Act (ACA) of 2010 extended state rebate programs to prescription drugs through Medicaid managed care, establishing the Managed Care Organization (MCO) rebate program.	OECD: USA	• The results suggest that Medicaid prescription spending was influenced by the negotiated pricing strategy, specifically MCO rebates, but not by the price transparency strategy. The research did not provide evidence that state operation of All Payer Claims Databases (APCDs) was effective in addressing Medicaid prescription spending. Two possible situations may account for the deviant results from the hypothesis: (1) the role of learning from experience; and (2) data analysis and reporting.	• Medicaid prescription spending per enrollee ($) for Medicaid prescription drugs.	• The number of states that adopting the MCO rebate program is limited during the period of analysis, while seventeen states have adopted the rebate program as of 2017. • Limited granular data availability at state level which undermines understanding of differentials across states.
16	(Naidoo and Suleman, 2021[16])	• Introduction of the 'Regulations relating to a transparent pricing system for medicines and scheduled substances' in 2004.	Non-OECD: South Africa	• Results shows that, although the anticipated introduction of single exit pricing (SEP) might have been the cause of product withdrawals, the limited annual price increases have not resulted in significantly increased withdrawals from the market, as predicted by manufacturers. Therefore, from this analysis it appears that the ongoing SEP regulations have not had a significant impact on access to medicines. • The highest number of stock-keeping units (SKUs) were withdrawn in the years shortly before the implementation of SEP (2002 - 2004), both for generics and innovator medicines. Study shows that anti-infective and cardiovascular drugs accounted for 22.97% and 9.97% of all SKU withdrawals, respectively. The majority of the withdrawn SKUs in the cardiovascular class was antihypertensives.	• Analysis covering the following medicines: anti-infectives for systemic use, nervous system, respiratory system, cardiovascular system, alimentary tract and metabolism, musculoskeletal system, antineoplastic and immunomodulating agents, dermatologicals, genito-urinary system and sex hormones, sensory organs, systemic hormonal preparations, excluding sex hormones and insulins, blood and blood-forming organs, antiparasitic products, insecticides and repellents.	• The study could not determine if an SKU was withdrawn early on in the implementation phase and reintroduced later. • Moreover, the study did not consider delayed entry into the market as a result of pricing policy interventions.
17	(Franzen et al., 2022[29])	• Empirical study to test the effects of price and R&D cost transparency on prices and R&D investments in a European setting using experimental design.	OECD: the Netherlands, Germany, Poland, and Spain	• Differing effects under both regimes; while there were no clear effects on prices under partial transparency there were reductions in R&D investment; under full transparency there was convergence toward reduced prices.	• Cancer medicines • Laboratory experiment simulating the dynamics of a bargaining game of repeated negotiations between payers and companies over the price of an "innovative and highly effective anti-cancer medicine" under two regimes of transparency: (1) *partial* transparency i.e. of price information and (2) *full* transparency i.e. information on prices *and* R&D costs.	• Results from laboratory experiments are not necessarily generalizable and transferable to the real world. • Variations in clinical effectiveness were not considered. • Experiment limited to four buying countries (Germany, the Netherlands, Spain, Poland) with limitations to understand the potential effects of strategic launch sequences on other markets.
18	International price comparison 2021, 2022	• International price comparison led by the Dental and Pharmaceutical Benefits Agency (TLV).	OECD: Sweden and the rest of EU	• The results show that Sweden has relatively low prices on pharmaceuticals in relation to other countries, especially for pharmaceuticals with competition - where	• Prescription pharmaceuticals dispensed in pharmacies accounting	• Differences across health care systems in regards to pricing and reimbursement of pharmaceuticals,

			countries	Swedish prices are among the absolute lowest. For pharmaceuticals without competition, Sweden has the sixth lowest prices. • The results also show that Swedish prices have fallen in relation to other countries compared with previous years. The development with falling prices is largely explained by the falling Swedish krona. If the effect of the changed currency exchange rate is removed, Swedish prices are only marginally lower over time in relation to other countries.	for about two thirds of sales in Sweden. • Within the Swedish PV system pharmaceuticals with competition are those that the Swedish Medical Products Agency has classified as substitutable and where generic competition exists These are older pharmaceuticals no longer under patent protection, 15 years after market introduction roughly corresponds to the expiration of patents. However, far from all pharmaceuticals older than 15 years lack competition. • The statistics analysed in the report are based on list prices. In Sweden, list prices consist of the wholesale price determined by TLV.	as well as quality of the data reported are not fully accounted for.
19	(Vokinger et al., 2022[10])	• Price comparison across USA, Germany and Switzerland for cancer drugs to measure the impact of different price regulations. • In the USA, manufacturers can freely set prices. In Switzerland, prices are negotiated on the basis of therapeutic cross-referencing with drugs for the same indication and external reference pricing. In Germany, manufacturers set the drug's price during the first year after launch and early assessment of the added therapeutic benefit of the medicine supports the price negotiation.	OECD: USA, Germany, Switzerland	• Results suggest that effective negotiation, as practised in Germany or Switzerland, could be a model for policy makers in the USA to help address the high price of cancer drugs in the USA, both at launch and after launch. • Monthly treatment prices of cancer drugs within and across all drug classes increased in the USA regardless of whether or not competitors entered the market. By contrast, monthly treatment prices for cancer drugs decreased in Germany and Switzerland over time, with gradual alignment for prices of cancer drugs within drug classes. In the USA and Europe, we found that monthly treatment prices were higher for drugs targeting renal cell carcinoma (combined PD-1/PD-L1 inhibitors and tyrosine kinase inhibitors) and melanoma (immuno therapies and BRAF-positive therapies), and were generally lower for drugs targeting breast cancer (CDK4/6 inhibitors).	• Cancer drugs approved for the treatment of solid cancers in adults in the USA and Europe between Jan 1, 2009, and Dec 31, 2020. • Monthly treatment prices in this study were calculated at the lowest per-mg basis at the national level and did not account for confidential discounts or rebates. Data collected from the RedBook database for USA (IBM Micromedex, Armonk, NY, USA) for the USA, the Lauer-Taxe database for Germany, and the positive list (Spezialitätenliste) published by the Federal Office of Public Health for Switzerland.	• Drug classes are defined broadly not accounting for the fact medicines can be used in a complementary manner. • Monthly treatment prices were calculated at the lowest per-mg basis at the national level and did not account for confidential discounts or rebates, and therefore might not reflect the costs paid by individual health insurers or by patients. • Actual monthly treatment prices might differ, because of the impact of varying availability of drug strengths and package sizes. In general, rebates for cancer drugs are small on average in the USA, and few cancer drugs have been granted confidential rebates in Switzerland.

20	(Ahmad, Makmor-Bakry and Hatah, 2020[4])	• Study aimed to systematically review studies evaluating the impact of drug pricing transparency initiatives on prices.	Global	• Scarcity of studies reporting drug pricing transparency initiatives. Due to sparse evidence, the effect of drug price transparency initiatives on price control is still inconclusive. • Twelve studies met the inclusion criteria for drug price transparency initiatives, of which only three reported the outcomes on the regulation of drug prices. Two studies in South Africa showed that price transparency initiatives did not necessarily reduce drug prices. Another study in the Philippines indicated a reduction in medicines' price based on the effects of government-mediated access prices. • Limitations and barriers in price transparency initiatives include fragmentation of the healthcare system and nondisclosure of discounts and rebates by pharmaceutical companies.	• Systematic review of literature published from a journal's inception until November 2018	• The study on focuses on the effect of price transparency initiatives toward the government and as price control mechanisms.
21	(WHO, 2020[5])	• Review of national pharmaceutical pricing policies To provide countries with evidence-informed recommendations in formulating and implementing policies relating to price management of, and access to, pharmaceutical products.	Global	• Lack of complete and good quality of evidence in relation to the impact of pharmaceutical policy implementation	• Systematic literature search and critical appraisal of existing evidence	• No consideration of potential spillover effects across countries • No examination of the impact on market dynamics of cross-country initiatives for sharing medicine prices.
22	(Webb et al., 2022[6])	• Review of pricing policies to better understand the consequences of net price transparency and how it relates to the complex pharmaceutical system, particularly in the European setting.	OECD: European countries	• Some policy-makers are concerned that moves towards increased price transparency would have a negative impact on accessibility, because companies may then withdraw from markets or set prices at unaffordable levels • The differing needs and negotiating capacities across countries and the complexities of the interactions between stakeholders hinder price transparency • Increasing transparency will require greater European and international collaboration – strengthening and going beyond existing initiatives.	• Overview of existing empirical evidence on the effect of net price transparency on access and affordability and unpacks the potential implications of implementing price transparency policies	

Note: Literature Review – search strategy: (drug* OR medicine* OR pharmaceutical* OR "pharmaceutical product*" OR "branded drugs" OR "branded medicines") AND (price* OR pricing OR spending OR fees pharmaceutical OR "net price*" OR "health expenditure" OR "cost saving" OR rebate* OR discount*) AND (negotiation* OR "sharing information" OR information OR transparency OR transparent OR "price transparency" OR disclosure OR confidential OR secrecy OR "confidential agreements") AND ("reimbursement mechanism" OR "drug policy" OR "medicine policy" OR "pharmaceutical policy" OR "health policy" OR "pharmaceutical services" OR "drug legislation" OR legislation"drug law" OR "drug regulation" OR "drug control" OR "drug industry")
Source: Authors

Annex D. List of experts

Experts	Affiliation
Kurt Brekke	Head of the Department and Professor at the Norwegian School of Economics; former chief economist at the Norwegian Competition Authority (2016- 2020)
Matthew Brougham	Senior Global Consultant, Brougham Consulting and Certara
Noémie Cabau	Post-doctoral researcher, Quantitative Social and Management Sciences Research Group, Budapest University of Technology and Economics
Marc-André Gagnon	Associate Professor, School of Public Policy and Administration, Carleton University
Sidartha Gordon	Professor of Economics, Université Paris-Dauphine, Université PSL
Jens Grueger	Partner, Boston Consulting Group, Switzerland
Ellen 't Hoen	Director of Medicines Law & Policy and Fellow at the Global Health Law Groningen Research Centre
Aaron Kesselheim	Professor of Medicine at Brigham and Women's Hospital/Harvard Medical School
Margaret Kyle	Chair in Intellectual Property and Markets for Technology, MINES ParisTech
Jorge Mestre-Ferrandiz	Independent Consultant and Profesor Asociado, Universidade Carlos III de Madrid
Suerie Moon	Co-Director of Global Health Centre, and Professor, Graduate Institute of International Development Studies
Steve Morgan	Professor, School of Population and Public Health, University of British Columbia
Katrina Perehudoff	Co-director of the Law Centre for Health and Life, University of Amsterdam
Sean Robbins	Managing Partner, LatticePoint
Marc Rodwin	Professor of Law, Suffolk University
Jack Scannell	Innogen Institute, University of Edinburgh
Fatima Suleman	Professor, School of Health Sciences, University of KwaZulu Natal & Director of WHO Collaborating Center for Pharmaceutical Policy
Peter C. Smith	Emeritus Professor of Health Policy, Imperial College Business School and University of York
Sabine Vogler	Head of WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies and Head of the Pharmacoeconomics Department at the Austrian National Public Health Institute

Annex E. Content of semi-structured interviews

Interview Questions

- In your view, what are the **expectations and motives** of stakeholders (e.g. payers, price regulators, HTA agencies, patients) in increasing price transparency? How do these motives differ in a given country?
  - *E.g. between OECD vs non-OECD member countries, countries with small vs large pharmaceutical markets.*

- In your opinion, what do stakeholders see as the **objectives and benefits** of increasing price transparency?
  - *E.g. public accountability, access and affordability; financial sustainability.*

- What are the likely **impacts of greater price transparency** on the functioning of markets?
  - *E.g. accountability of coverage and pricing decisions, anticompetitive firm behaviour (e.g. price collusion), firm strategic decisions (e.g. launching decisions), price convergence and higher prices and-or reduced patient access in countries with low ability to pay.*

- What would you anticipate as the **strategic responses** of the industry? What would be, for instance, the anticipated impact on competitive behaviour, and on decisions regarding the location and timing of market launches, etc.?

- What would you anticipate as the strategic responses of the "**pricing authorities**" **and payers**?

- In your view, how would transparent net prices affect **differential pricing and parallel trade** across countries? How would it affect the current international reference pricing policies?

- In your perspective, what **conditions** would be necessary to establish a mechanism to share pricing information at international level to contribute to greater price transparency?

Annex F. Final Agenda of the OECD Roundtable

DIRECTORATE FOR EMPLOYMENT, LABOUR AND SOCIAL AFFAIRS
Health Division

Exploring the feasibility and impact of sharing information on prices across countries

OECD Roundtable, Final Agenda

Wednesday 24th November 2021, 12.45pm-16.00pm CET

Participants:

- Professor Kurt Brekke (Norwegian School of Economics, Norway)
- Dr Noémie Cabau (Budapest University of Technology and Economics, Hungary)
- Dr Marc-André Gagnon (Carleton University, Canada)
- Professor Sidartha Gordon (University Paris Dauphine, France)
- Dr Jens Grueger (Boston Consulting Group, Switzerland)
- Professor Margaret Kyle (MINES ParisTech (École des Mines), France)
- Professor Steve Morgan (University of British Columbia, Canada)
- Dr Katrina Perehudoff (University of Amsterdam, The Netherlands)
- Dr Jack Scannell (Innogen Institute, University of Edinburgh, UK)
- Dr Sean Robbins (Managing Partner at LatticePoint, Switzerland)
- Professor Marc Rodwin (University of Suffolk, USA)
- Professor Fatima Suleman (University of Kwazulu-Natal & WHO Collaborating Centre for Pharmaceutical Policy and Evidence Based Practice, South Africa)

Professor Peter C. Smith (Imperial College Business School and the University of York, UK) will moderate the roundtable.

Wednesday 24 November 2021

13.00

The invited participants will be welcomed by **Eliana Barrenho**, OECD Secretariat.

Peter C. Smith, Emeritus Professor of Health Policy at Imperial College Business School & University of York, will moderate the discussion.

13.10

Objectives: to provide participants with a background overview of the current policy debate around price transparency.

Activities:

- **Eliana Barrenho**, OECD Secretariat, will present the mandate of the OECD Health Committee for current OECD work aiming at exploring the feasibility and potential impact of sharing pharmaceutical pricing information between countries.
- **Jens Grueger,** Partner at Boston Consulting Group, Switzerland, will provide an overview of trends in confidentiality in price negotiations between manufacturers and payers and challenges of information disclosure.

13.30

Objectives: To better understand *how* price transparency could impact the dynamics of the pharmaceutical markets and answer the following questions:

- What do you see as the **likely reactions** of manufacturers, "pricing authorities" and payers?
- What do you see as the **likely effects** of greater price transparency on the functioning of markets (e.g. price levels, differential pricing, launching times, collusive behaviour of firms)?

Activities:

- Facilitated panel discussion with short presentations from the following experts:
- **Sidartha Gordon,** Professor of Economics, University of Paris-Dauphine, France
- **Steve Morgan,** Professor of Health Care Policy, University British Columbia, Canada

- *Tour de Table* to collect reactions and contrasting perspectives.

14:30 – Coffee Break

14.45

Objectives: To gain understanding what conditions would be necessary if a mechanism to share pricing information at international level were to be established to contribute to greater price transparency.

Activities:

- Facilitated panel discussion with short presentations from the following experts:
- **Marc-André Gagnon,** Associate Professor of Public Policy and Administration, Carleton University, Canada
- **Katrina Perehudoff,** Senior Research Fellow at the Medicines Law & Policy and Co-Director of Law Centre for Health and Life, University of Amsterdam, The Netherlands
- *Tour de Table* to collect reactions and contrasting perspectives.

15.50

Objectives: to summarise the discussion and actions rising out of the roundtable and outline next steps of the OECD work.

Activities:

- **Peter C. Smith** will provide closing remarks.
- **Ruth Lopert,** OECD Secretariat, will reflect on the key outcomes of the workshop and outline how OECD will take this work forward.

16:00 Close of Roundtable