Patented Medicine Prices Review Board Canada
Conseil d'examen du prix des médicaments brevetés Canada

MARKET INTELLIGENCE REPORT

BIOLOGIC RESPONSE MODIFIER AGENTS, 2015

National Prescription Drug Utilization Information System
NPDUIS

SUPPLEMENT: 2017

Canada

INTRODUCTION

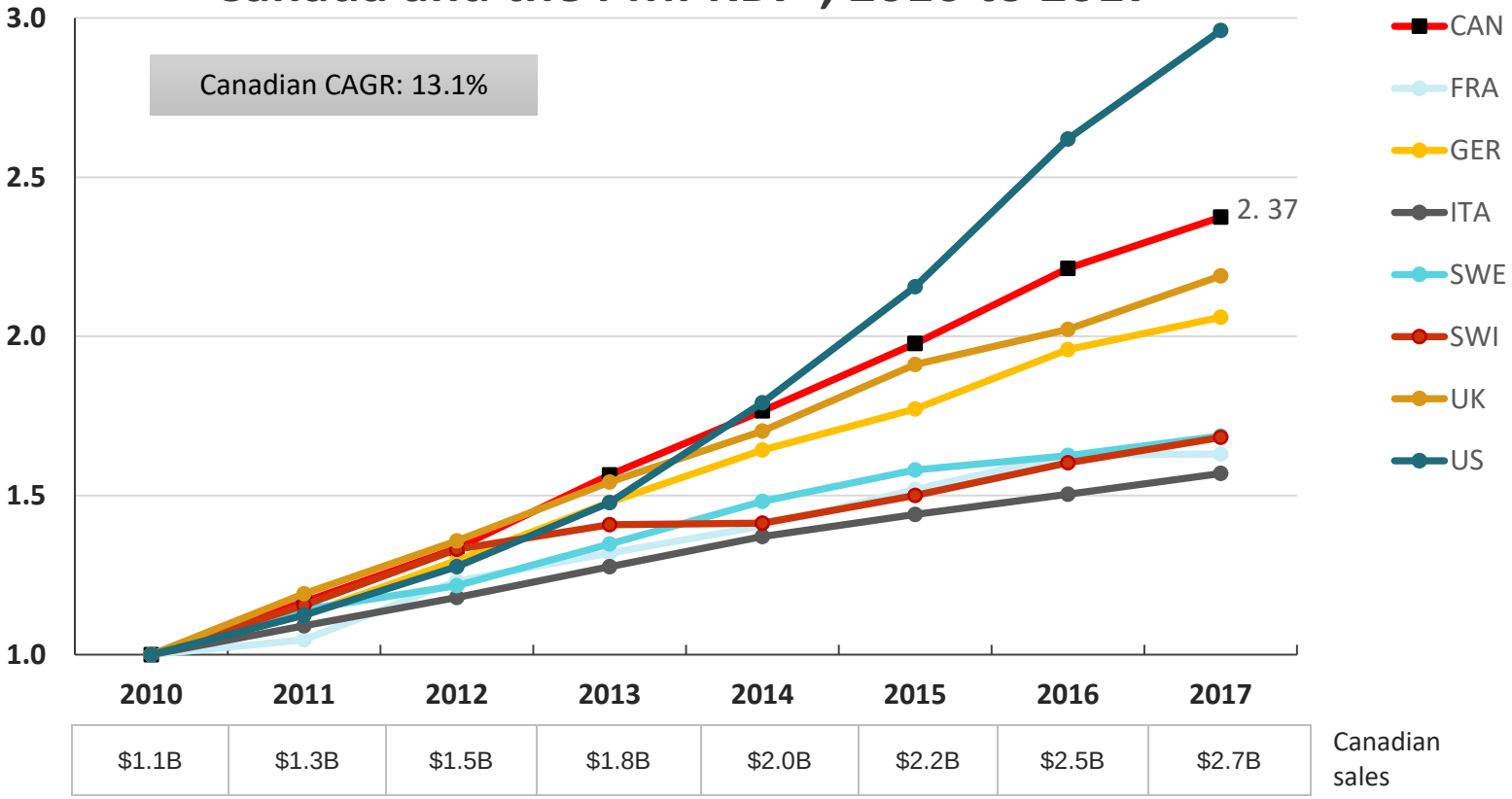
This document is a supplement to the PMPRB publication "Market Intelligence Report: Biologic Response Modifier Agents, 2015"[1] produced under the NPDUIS initiative. The supplement provides updated information for key market trends identified in the original report using data for 2016 and 2017. These trends, which are captured in the corresponding figures, represent only a subset of the results published in the original report.

The methodology is in line with that of the original study, and the associated introductory material, limitations, overall conclusions, and disclaimers still apply. The results presented in this supplement follow the general interpretation provided in the original report.

LIST OF FIGURES

[1] Patented Medicine Prices Review Board. 2016. Market Intelligence Report: Biologic Response Modifier Agents, 2015. Ottawa: PMPRB. Available at: http://www.pmprb-cepmb.gc.ca/view.asp?ccid=1286&lang=en

Figure 2.1 Biologic DMARDs sales* index Canada and the PMPRB7†, 2010 to 2017

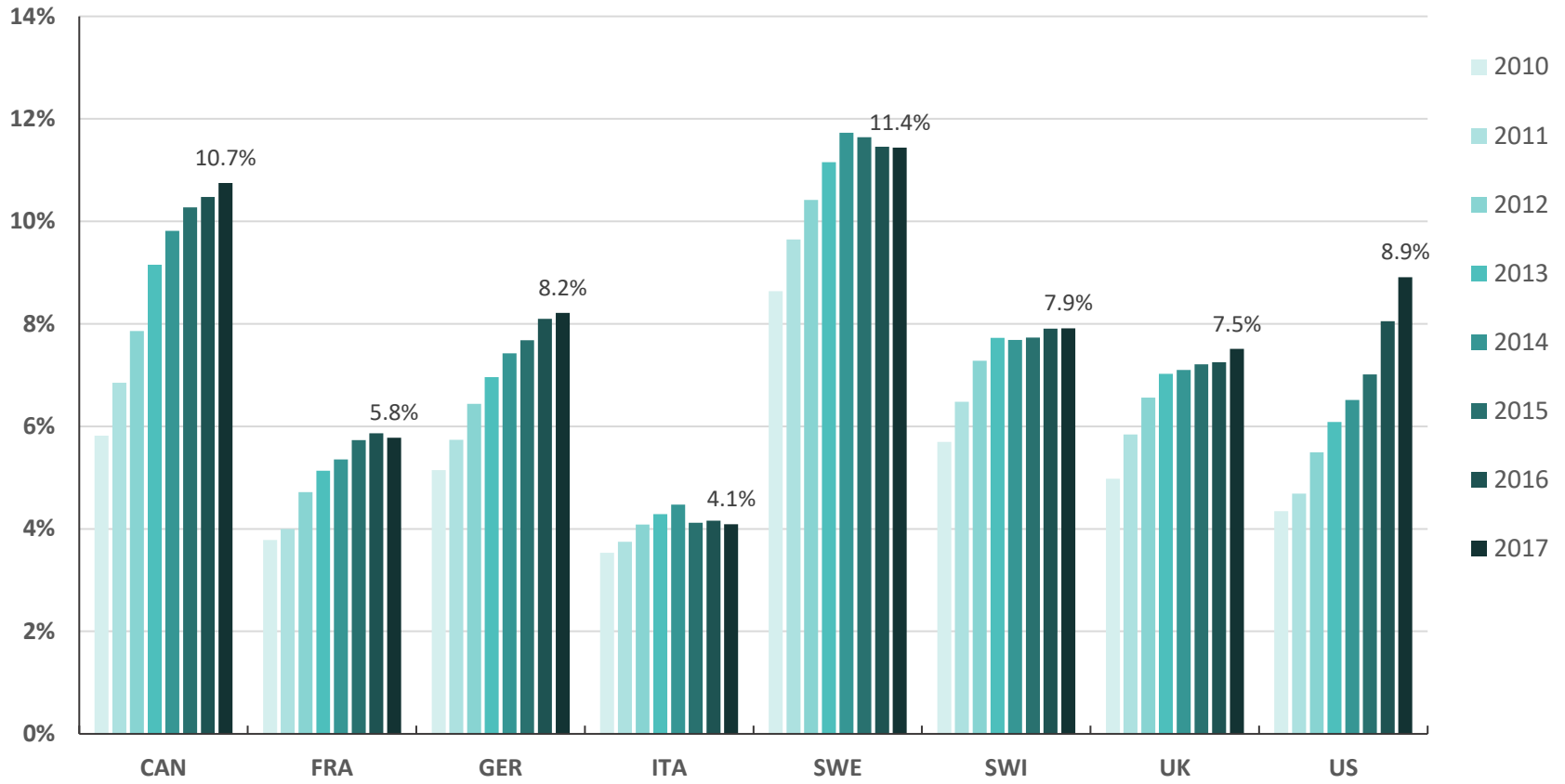


2010	2011	2012	2013	2014	2015	2016	2017	
$1.1B	$1.3B	$1.5B	$1.8B	$2.0B	$2.2B	$2.5B	$2.7B	Canadian sales

*Manufacturer price levels.

†France, Germany, Italy, Sweden, Switzerland, the United Kingdom, and the United States.

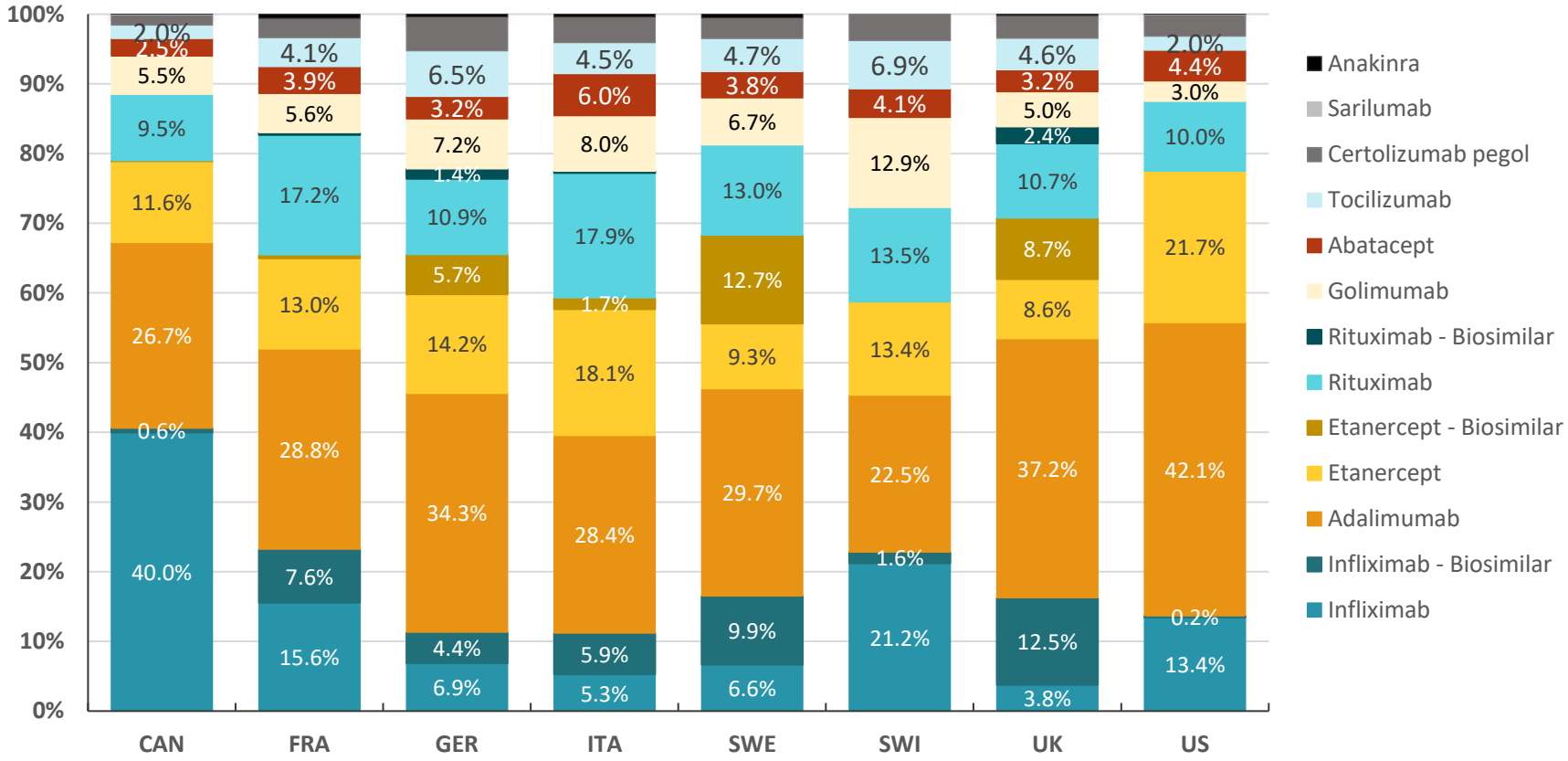
Figure 2.2 Biologic DMARD market shares of total pharmaceutical sales*, Canada and PMPRB7†, 2010 to 2017



*Manufacturer price levels.

†France, Germany, Italy, Sweden, Switzerland, the United Kingdom, and the United States.

Figure 2.4 Distribution of sales by biologic DMARD Canada and the PMPRB7*, 2017

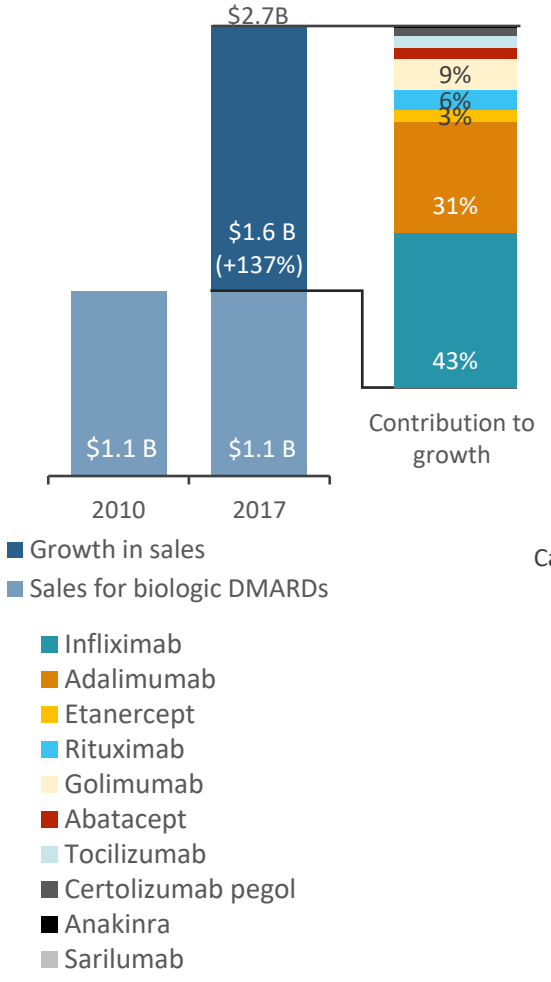


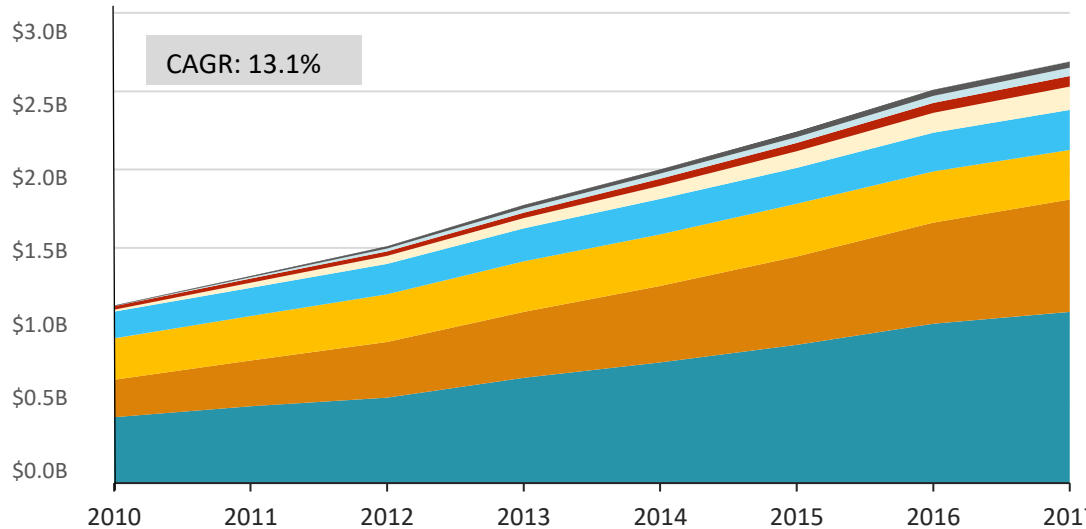
In 2017, the uptake of the biosimilar for infliximab in Canada was still relatively low (2.7% of all infliximab use) compared with the average (35.2%) and median (32.9%) uptake across all OECD countries.

*France, Germany, Italy, Sweden, Switzerland, the United Kingdom, and the United States.

Note: The OECD median for 2017 was originally reported as 35.2%. The text has subsequently been revised.

Figure 3.1 Trends in Canadian sales* of biologic DMARDs by drug product, 2010 to 2017

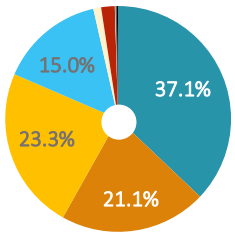




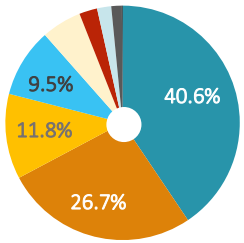
Canadian sales	$1.1B	$1.3B	$1.5 B	$1.8B	$2.0B	$2.2B	$2.5B	$2.7B

Infliximab
Adalimumab
Etanercept
Rituximab
Golimumab
Abatacept
Tocilizumab
Certolizumab pegol
Anakinra
Sarilumab

Share of sales



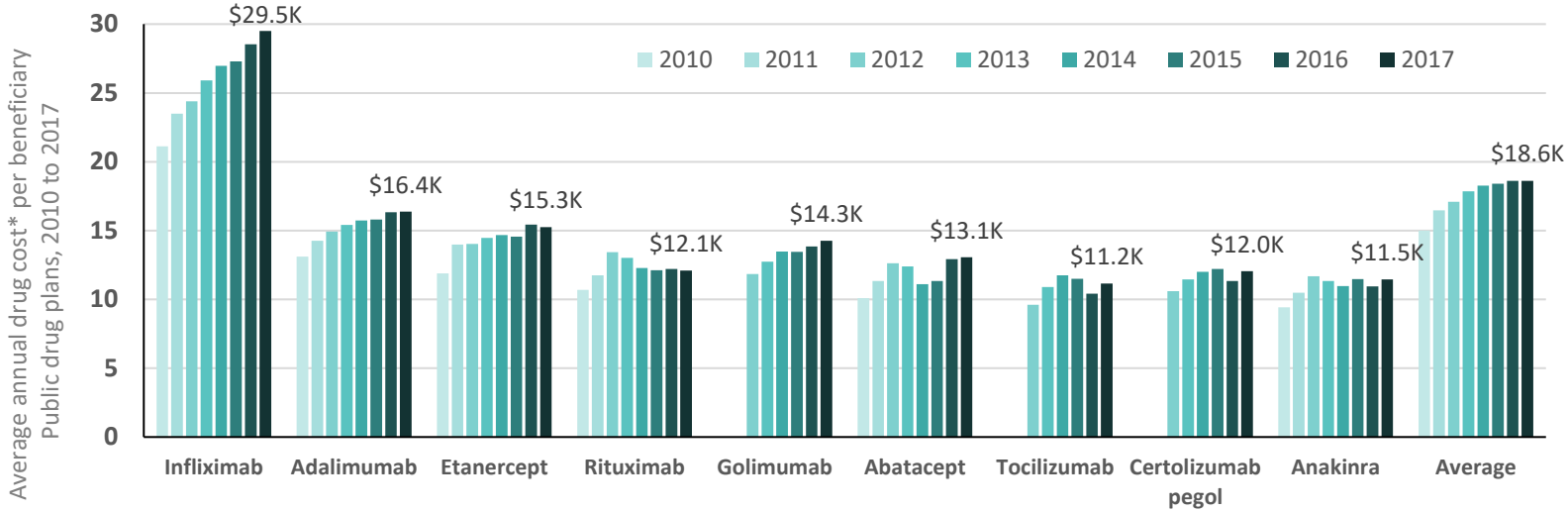
2010



2017

*Manufacturer price levels.

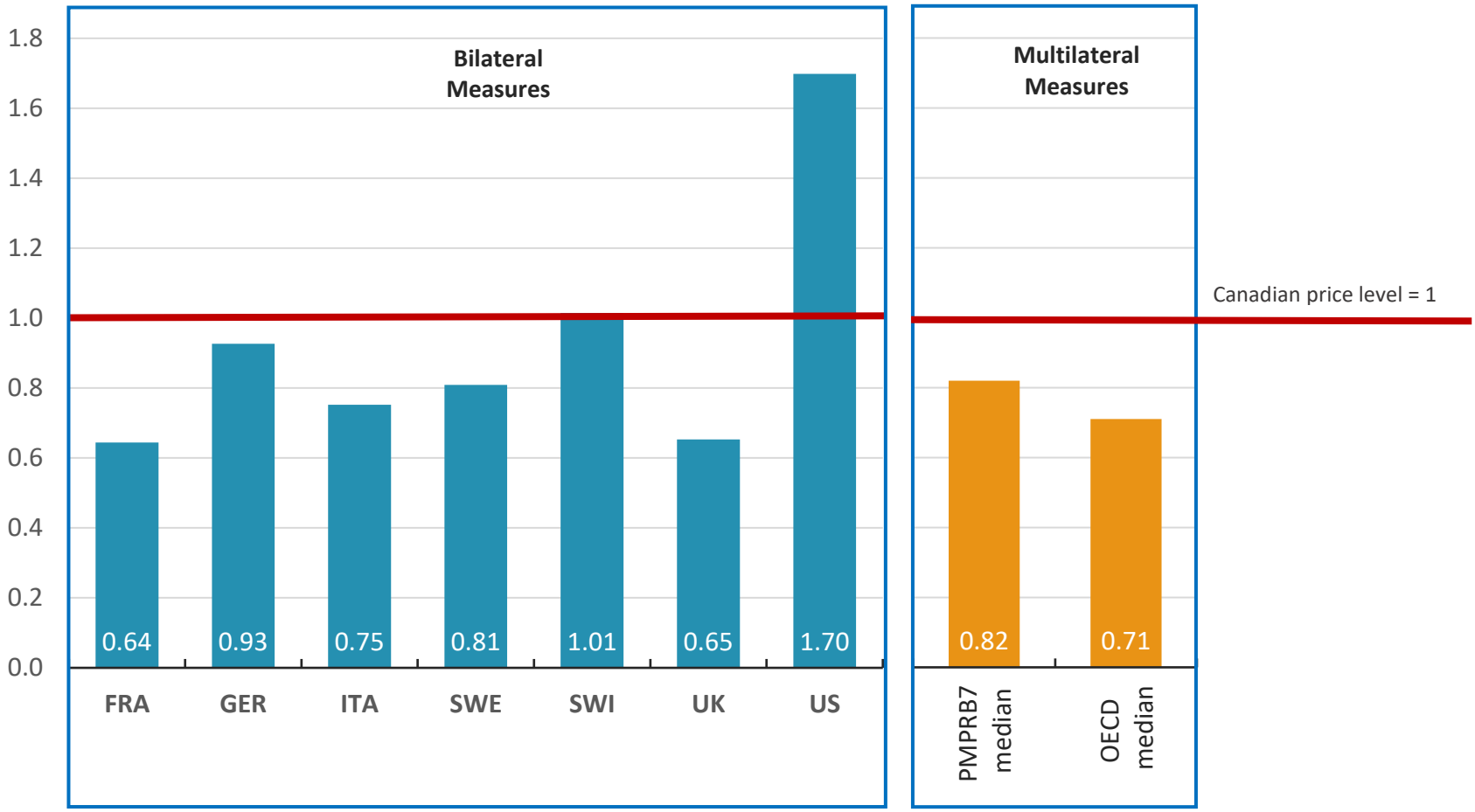
Figure 3.6 Annual treatment costs in public drug plans by biologic DMARD, 2010 to 2017



National sales (market share)		$1,092.1M	$717.4M	$316.3M	$255.7M	$148.9M	$66.9M	$52.6M	$39.1M	$0.2M
		40.6%	26.7%	11.8%	9.5%	5.5%	2.5%	2.0%	1.5%	0.01%
Average annual drug cost* per beneficiary	Public plans	$29.5K	$16.4K	$15.3K	$12.1K	$14.3K	$13.1K	$11.2K	$12.0K	$11.5K
	Private plans	$26.8K	$15.0K	$13.3K	$12.3K	$13.3K	$11.9K	$11.0K	$11.6K	$9.4K
Annual treatment cost based on HDAP† recommended doses – using AQPP‡ prices		$21.9K	$19.7K	$20.9K	$8.8K	$16.5K	$22.9K	IV: $16.8K SC: $18.9K	$17.4K	$18.3K
PMPRB HDAP† recommended dose for annual maintenance		2,275 mg	1,040 mg	2,600 mg	2,000 mg	600 mg	9,750 mg	IV: 7,280 mg SC: 8,424 mg	5,200 mg	36,500 mg

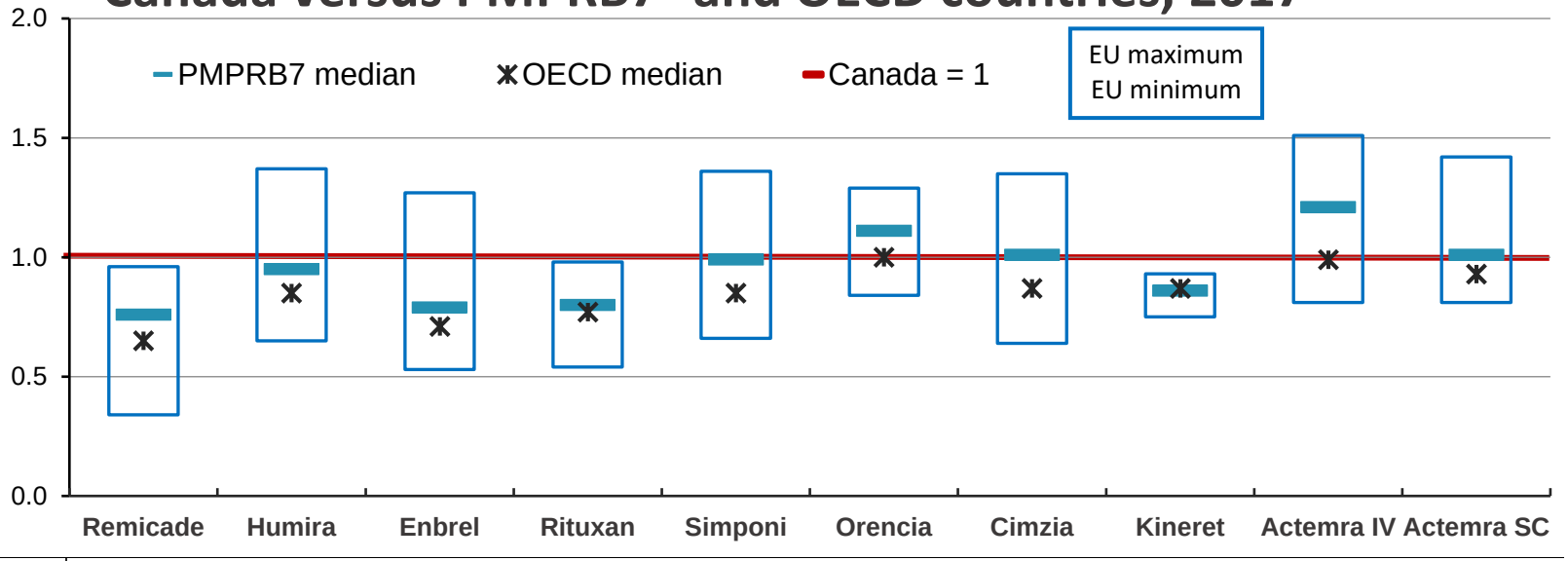
*Includes drug cost and excludes markup and dispensing cost; the costs reported reflect the amounts what were accepted for reimbursement by the drug plans.
†PMPRB Human Drug Advisory Panel.
‡Association Québécoise des pharmaciens propriétaires.
Data source: Public drug plans: National Prescription Drug Utilization Information System Database, Canadian Institute for Health Information, 2010 to 2017.
Private drug plans: IQVIA Private Pay Direct Drug Plan Database, 2010 to 2017.

Figure 4.1 Average foreign-to-Canadian price* ratios for biologic DMARDs, Canada versus PMPRB7† and OECD countries, 2017



*Manufacturer price levels. †France, Germany, Italy, Sweden, Switzerland, the United Kingdom, and the United States.

Figure 4.2 Foreign-to-Canadian price* ratios by biologic DMARD, Canada versus PMPRB7† and OECD countries, 2017



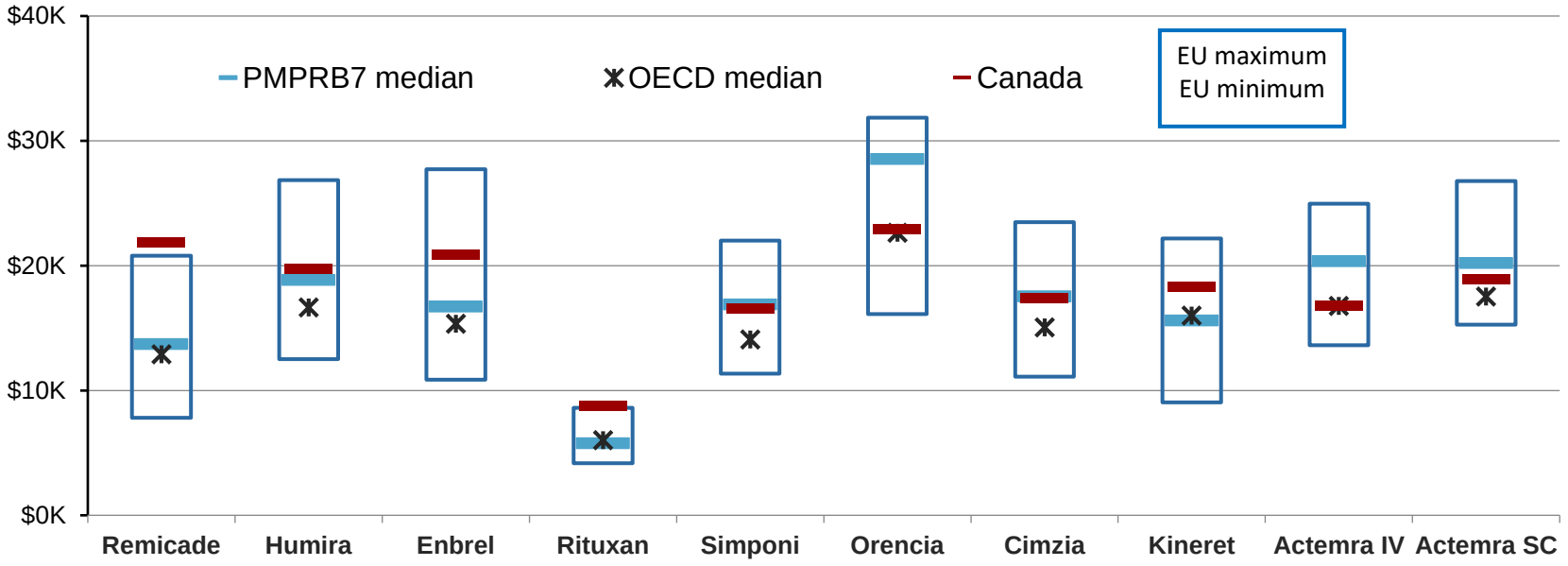
		Remicade	Humira	Enbrel	Rituxan	Simponi	Orencia	Cimzia	Kineret	Actemra IV	Actemra SC
Strength		100 mg	40 mg/ 0.8 mL	50 mg/ mL	500 mg	50 mg/ 0.5 mL	250 mg	200 mg/ mL	150 mg /mL	400 mg/ 20 mL	162 mg
Canadian price = 1		$973	$762	$396	$2,288	$1,543	$490	$668	$50	$919	$364
Foreign-to-Canadian price ratio											
PMPRB7	**EU minimum**	0.34	0.65	0.53	0.54	0.66	0.84	0.64	0.75	0.81	0.81
	PMPRB7 median	0.76	0.95	0.79	0.80	0.99	1.11	1.01	0.86	1.21	1.01
	US	0.96	3.34	3.23	1.81	3.13	2.03	3.16	2.52	2.20	3.02
	EU maximum	0.96	1.37	1.27	0.98	1.36	1.29	1.35	0.93	1.51	1.42
OECD median		0.65	0.85	0.71	0.77	0.85	1.00	0.87	0.87	0.99	0.93

The 24% price differential between foreign and Canadian list prices for Remicade translates into $262 million in drug sales in Canada in 2017.

Note: In Canada, Remicade infusions are almost exclusively delivered in manufacturer-sponsored infusion centers, while in other countries the infusions are generally delivered in hospitals.

*Manufacturer price levels. †France, Germany, Italy, Sweden, Switzerland, the United Kingdom, and the United States.

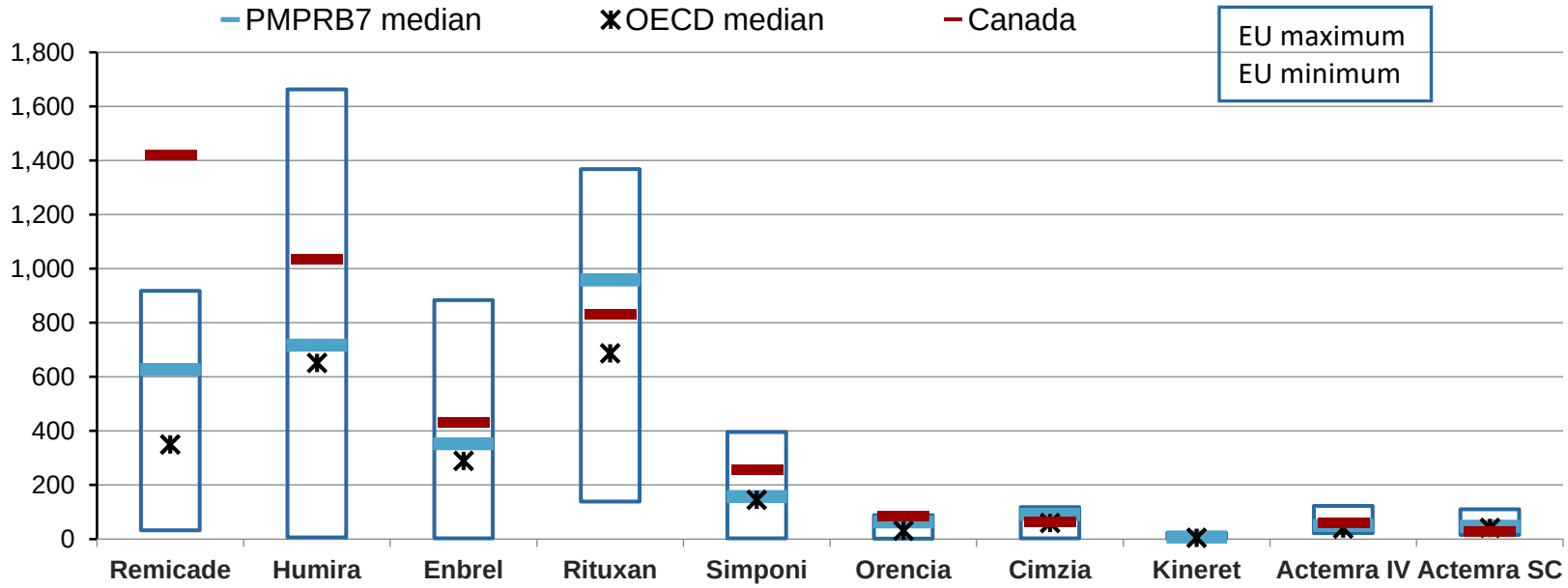
Figure 4.3 Annual treatment costs for biologic DMARDs Canada versus PMPRB7* and OECD countries, 2017



Annual treatment cost											
PMPRB7	EU minimum	$7.8K	$12.5K	$10.9K	$4.2K	$11.3K	$16.1K	$11.1K	$9.0K	$13.6K	$15.3K
	PMPRB7 median	$13.7K	$18.8K	$16.7K	$5.8K	$16.9K	$28.5K	$17.5K	$15.6K	$20.3K	$20.2K
	Canada	$21.9K	$19.7K	$20.9K	$8.8K	$16.5K	$22.9K	$17.4K	$18.3K	$16.8K	$18.9K
	US	$21.3K	$66.3K	$69.3K	$16.4K	$29.8K	$53.0K	$24.9K	$46.4K	$36.6K	$57.2K
	EU maximum	$20.8K	$26.9K	$27.7K	$8.6K	$22.0K	$31.9K	$23.5K	$22.2K	$25.0K	$26.8K
OECD median		$12.9K	$16.6K	$15.3K	$6.0K	$14.1K	$22.6K	$15.1K	$16.0K	$16.8K	$17.5K

Note: Annual doses are based on PMPRB Human Drug Advisory Panel (HDAP) recommendations.
*France, Germany, Italy, Sweden, Switzerland, the United Kingdom, and the United States.

Figure 4.4 Rate of consumption* of biologic DMARDs Canada versus PMPRB7† and OECD countries, 2017



Annual doses per 1 million inhabitants											
PMPRB7	EU minimum	33	6	3	139	3	1	3	1	22	16
	PMPRB7 median	626	717	352	959	157	63	90	7	50	47
	Canada	1,418	1,034	430	829	256	83	64		59	27
	US	1,008	973	494	959	157	131	183	1	50	23
	EU maximum	918	1,663	884	1,368	396	88	118	24	123	110
OECD median		350	652	289	687	145	31	60	5	39	41

*Based on the annual maintenance dose determined by the PMPRB Human Drug Advisory Panel and reported per one million inhabitants per year.
†France, Germany, Italy, Sweden, Switzerland, the United Kingdom, and the United States.

THE NPDUIS INITIATIVE

The National Prescription Drug Utilization Information System (NPDUIS) is a research initiative established by federal, provincial and territorial Ministers of Health in September 2001. It is a partnership between the PMPRB and the Canadian Institute for Health Information (CIHI).

Pursuant to section 90 of the Patent Act, the PMPRB has the mandate to generate analysis that provides policy makers and public drug plan managers with critical information and intelligence on price, utilization and cost trends so that Canada's health care system has more comprehensive and accurate information on how drugs are being used and on sources of cost pressures.

The specific research priorities and methodologies for NPDUIS are established with the guidance of the NPDUIS Advisory Committee and reflect the priorities of the participating jurisdictions. The Advisory Committee is composed of representatives from public drug plans in British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador, Yukon and Health Canada. It also includes observers from CIHI, the Canadian Agency for Drugs and Technologies in Health (CADTH), the Ministère de la Santé et des Services sociaux du Quebec and the pan-Canadian Pharmaceutical Alliance (pCPA) Office.

ABOUT THE PMPRB

The Patented Medicine Prices Review Board (PMPRB) is a respected public agency that makes a unique and valued contribution to sustainable spending on pharmaceuticals in Canada by:

- providing stakeholders with price, cost, and utilization information to help them make timely and knowledgeable pricing, purchasing, and reimbursement decisions; and
- acting as an effective check on the prices of patented medicines through the responsible and efficient use of its consumer protection powers.

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- Jun Yu – Data Systems Analyst
- Carol McKinley – Publications Advisor
- Sarah Parker – Junior Communications Officer