

BACKGROUND

- It is estimated that the global prevalence of C Virus (HCV) is 2.5% (**177.5 million of HCV infected adults**)¹
- An 8-week treatment of Direct Acting Antivirals (DAAs) can cost patients in the United States anywhere from **\$50,000 to \$100,000**²
- HCV treatment is a large cost on payers with Medicare Part D spending almost **\$1.5 billion** on the FDA approved DAAs in the year 2020³

OBJECTIVE

- We assessed how much business competition driven by increased number of pharmaceutical manufacturers predicted **HCV medication price decreases** over time

METHODS

- Analysis was conducted by the authors using **IQVIA MIDAS®** Quarterly Sales data that reflects estimates of marketplace activity and **ex-manufacturer prices** obtained under license from IQVIA*
- MIDAS data used in this analysis was retrieved on February 5, 2020, covering 65 countries** for the period between 2013-2019
- For each country in the data set, World Health Organization (WHO) regional grouping was applied in addition to applying the 2020 World Bank's country-income classifications and gross domestic product (GDP) per capita to each country
- To observe pricing trends, a **multiple linear regression** model was run examining the number of manufacturers for each medication, controlling for country income group, and region

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**Argentina, Australia, Austria, Bangladesh, Belarus, Belgium, Bosnia, Brazil, Bulgaria, Canada, Chile, China, Colombia, Croatia, Czech Republic, Egypt, Estonia, Finland, France, French West Africa, Germany, Greece, Hong Kong, Hungary, India, Indonesia, Ireland, Italy, Japan, Kazakhstan, Korea, Latvia, Lebanon, Lithuania, Malaysia, Mexico, Morocco, Netherlands, New Zealand, Norway, Pakistan, Peru, Philippines, Poland, Portugal, Puerto Rico, Romania, Russia, Saudi Arabia, Serbia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Taiwan, Thailand, Tunisia, Turkey, UAE, UK, Uruguay, Us, Vietnam

RESULTS

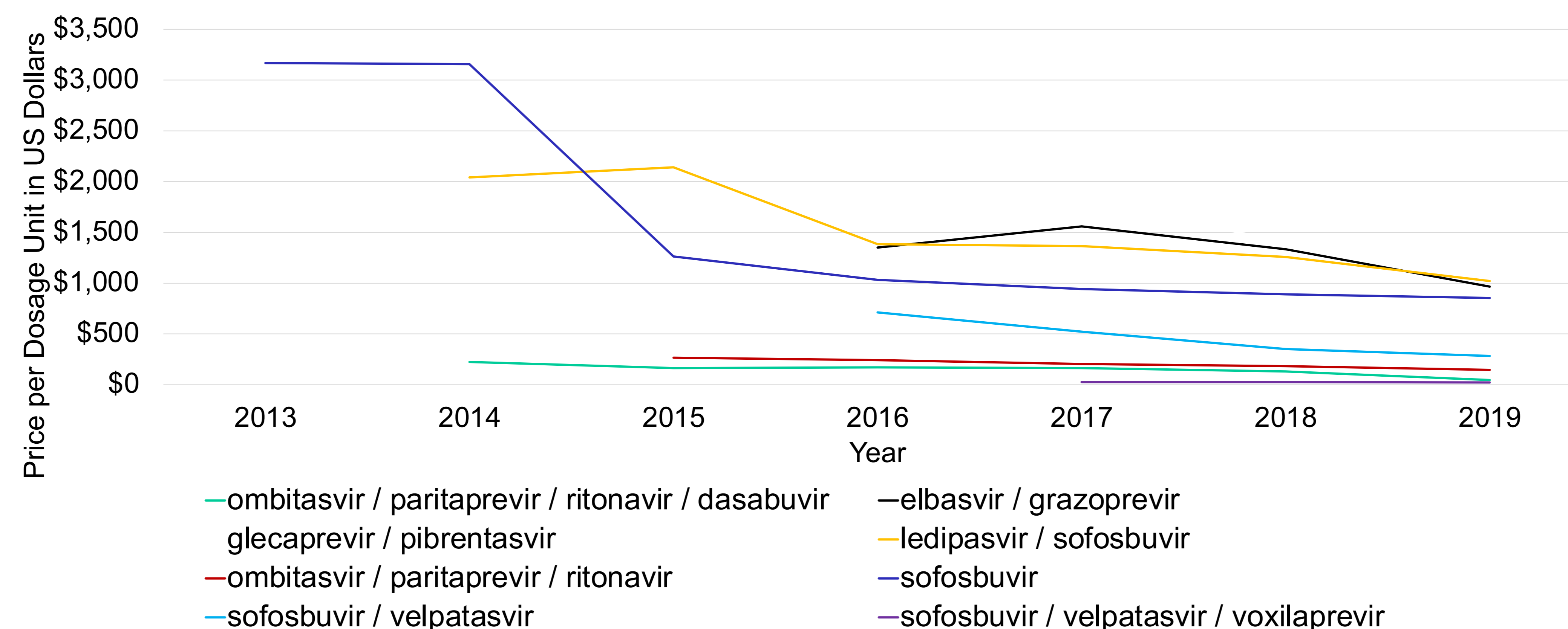
Table 1: Data on Hepatitis C Medications Sold, 2013-2019

HCV Medication	# of Countries Buying HCV Medications N	HCV Medication Orders N (%)			# of Manufacturers of HCV Medications Mean
		Lower-middle income countries	Upper-middle income countries	High income countries	
ombitasvir / paritaprevir / ritonavir / dasabuvir	16	0 (0%)	39 (26%)	133 (74%)	1.00
elbasvir / grazoprevir	43	7 (3%)	32 (13%)	199 (84%)	7.92
glecaprevir / pibrentasvir	41	0(0%)	22 (12%)	159 (88%)	5.27
ledipasvir / sofosbuvir	51	226 (24%)	76 (8%)	626 (67%)	23.81
ombitasvir / paritaprevir / ritonavir	41	6 (2%)	44 (18%)	194 (80%)	3.20
sofosbuvir	57	274 (42%)	71 (11%)	302 (47%)	49.71
sofosbuvir / velpatasvir	46	55 (20%)	16 (6%)	201 (74%)	26.42
sofosbuvir / velpatasvir / voxilaprevir	25	1 (1%)	2 (2%)	95 (97%)	4.14

AMR: Region of the Americas; SEAR: South-East Asian Region; EUR: European Region; EMR: Eastern Mediterranean Region; WPR: Western Pacific Region
This is based on internal analysis by Anthony Hudzik, Hui-Han Chen, Tatenda Yemeke, and Sachiko Ozawa using data from the following source: IQVIA MIDAS Annual Sales for the period 2013-2019 reflecting estimates of real-world activity. Copyright IQVIA. All rights reserved

- In total, 2,862 price points were analyzed across 8 Hepatitis C medications.
- The mean number of manufacturers per medication per year ranged from 1 up to 49.

Figure 2: Average Price per dose of HCV Medications, 2013-2019

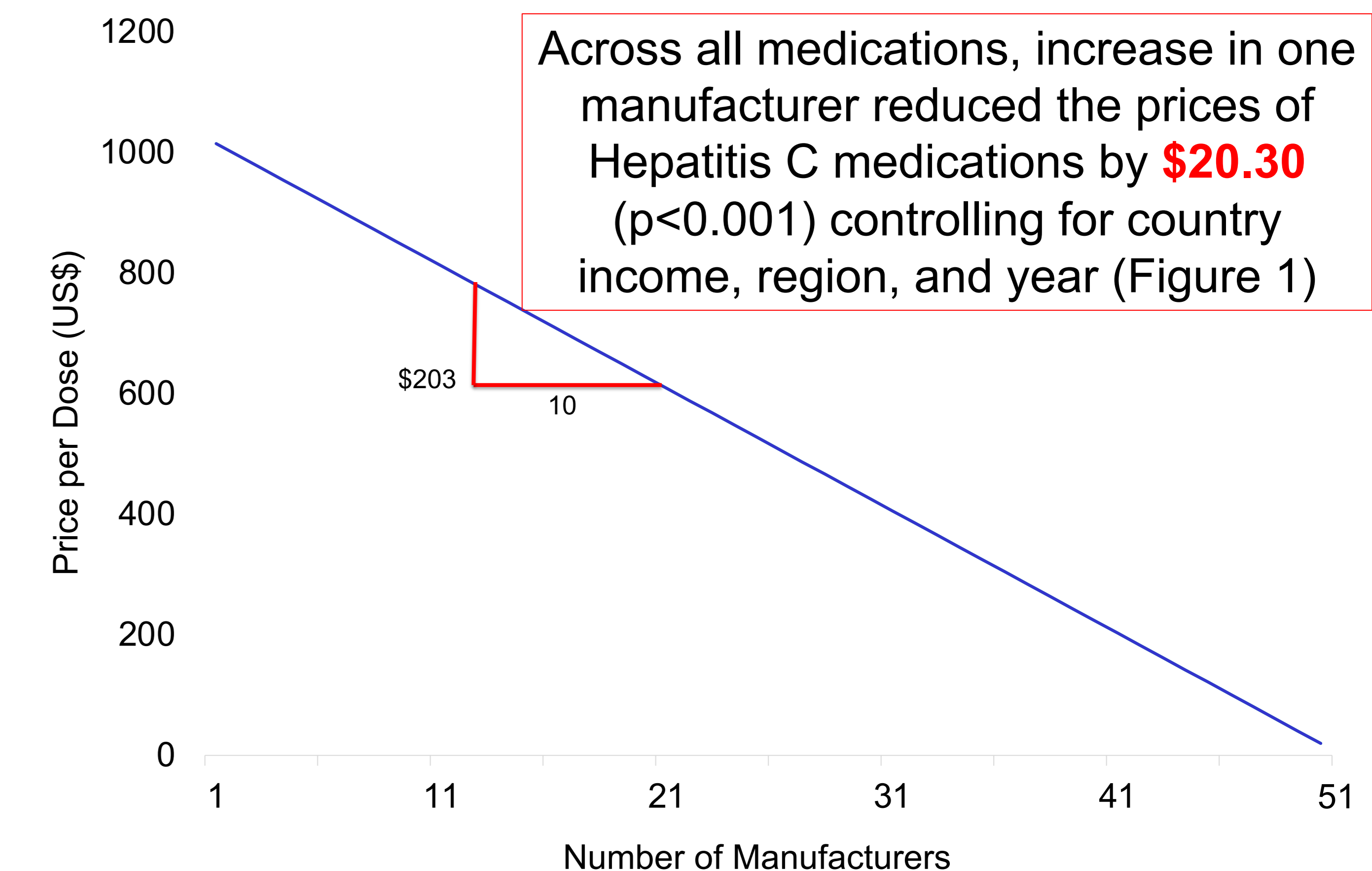


- Between 2013 and 2019, prices of Hepatitis C medications decreased on average by **76%** (range: 15%-79%) across medications with an average decrease of **20% per year** (range: 9%-45%).

CONCLUSION

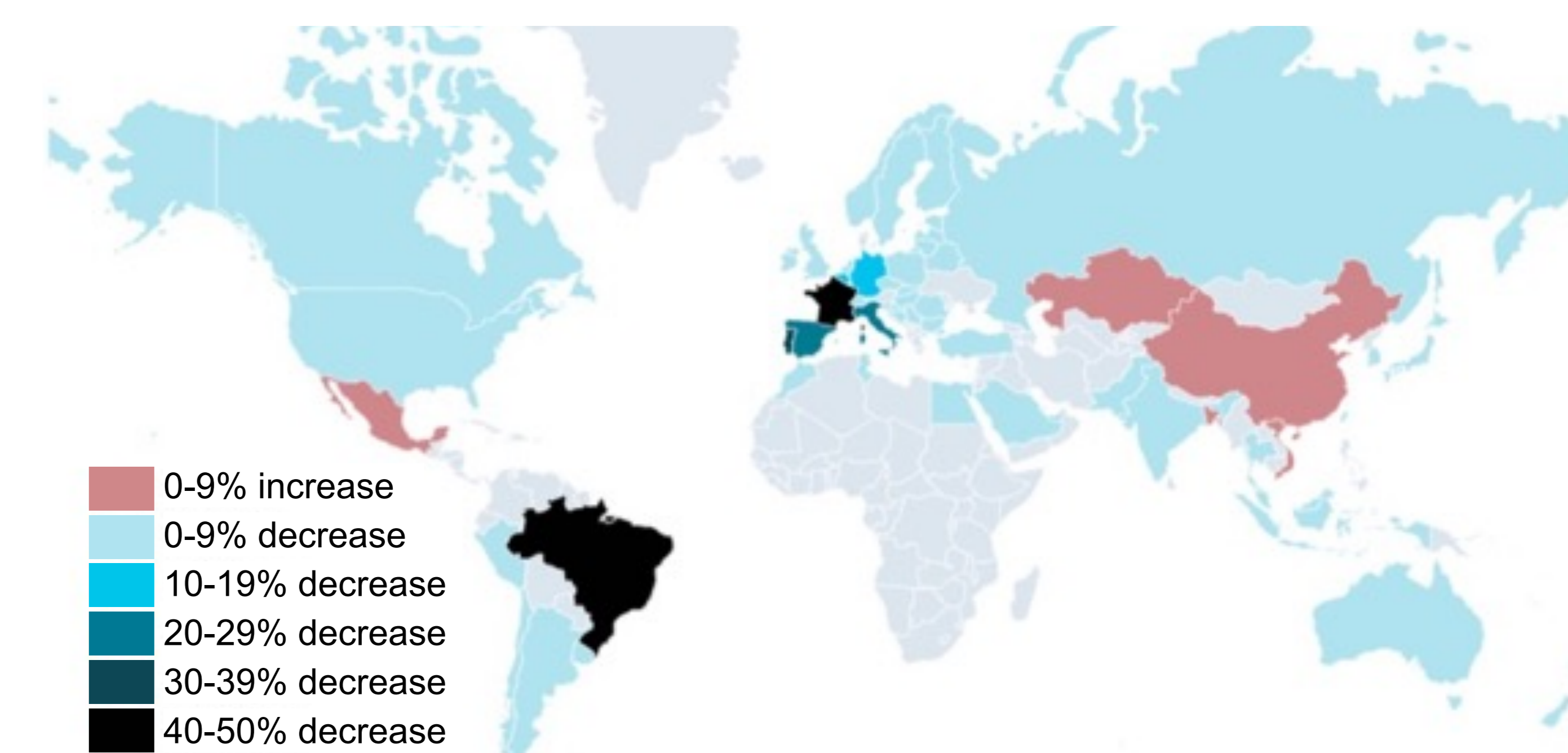
- For every increase in one manufacturer there was a **\$20.30** decrease in price of HCV medications highlighting the importance of ensuring adequate competition to improve medication affordability and accessibility.
- Price reductions were not evenly distributed across regions and countries. Pooled purchasing may aid in price negotiations so more countries could benefit from HCV medication price reductions.

Figure 1: Multiple Linear Regression of Number of Manufacturers on Price of HCV Medications



- Price reductions of Hepatitis C medications were statistically significantly associated with greater numbers of manufacturers.

Figure 3: Percent Change in HCV Medication Prices as a Percentage of GDP per Capita, 2013-2019



- The largest reduction in Hepatitis C medication price per GDP per capita were observed in France (50%), followed by Brazil (48%).

REFERENCES

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- IBM. Redbook.
- CMS. Medicare Part D Spending by Drug. Accessed January 10th 2023.