



Letters to the editor

Reply to Suoh et al



Dear Editor:

We are appreciative of the comments of Suoh and colleagues on our recent manuscript[1,2]. They highlight Japanese data that was inadvertently omitted regarding lamivudine and differences in entecavir (ETV) pricing.

To clarify our data collection methodology for this study, we routinely selected the highest drug price available for G7 countries and Australia and the lowest drug price available for the US to allow for the most conservative price comparison between the US and the other comparator countries. This may bias any price differences between the US and other countries downward but shows that US prices are higher even under the most stringent assumptions. Thus, the original manuscript correctly reports the highest originator price for tenofovir disoproxil fumarate (TDF) in Japan at \$10.51 USD and the highest generic price for ETV in Japan at \$1.57[3].

To ensure that potential language barriers did not affect the data, we reviewed the available formularies as of March 2024 and

identified updated prices for lamivudine in Japan, Germany, and Italy and entecavir for Italy. To allow for a holistic comparison, we have updated the data and figure for hepatitis B virus (HBV) drugs below. The hepatitis C virus (HCV) drug data is unchanged. With the revised numbers, the US average wholesale prices for HBV originator medications were on average 4.62x the average originator prices of comparison countries, ranging between 1.99–6.17x. The average spend per dosage unit for HBV originator medications by Medicare was on average 4.05x (range 2.8–7x) the average HBV originator drug prices of other G7 countries and Australia (Table 1). The estimated annual cost savings is estimated at \$172,316,026 if the average global originator price is adopted as a reference price for Medicare. For the preferred HBV drugs of TDF, tenofovir alafenamide, and ETV, estimated savings would be \$123,605,450. No updates were made to HBV generic medication pricing.

We thank Suoh and colleagues for highlighting the availability of adefovir in Japan and the label for emtricitabine/TDF in Japan and Australia. Although similarly off label for treatment of HBV in the United States, we included it to provide a wholesome assessment of

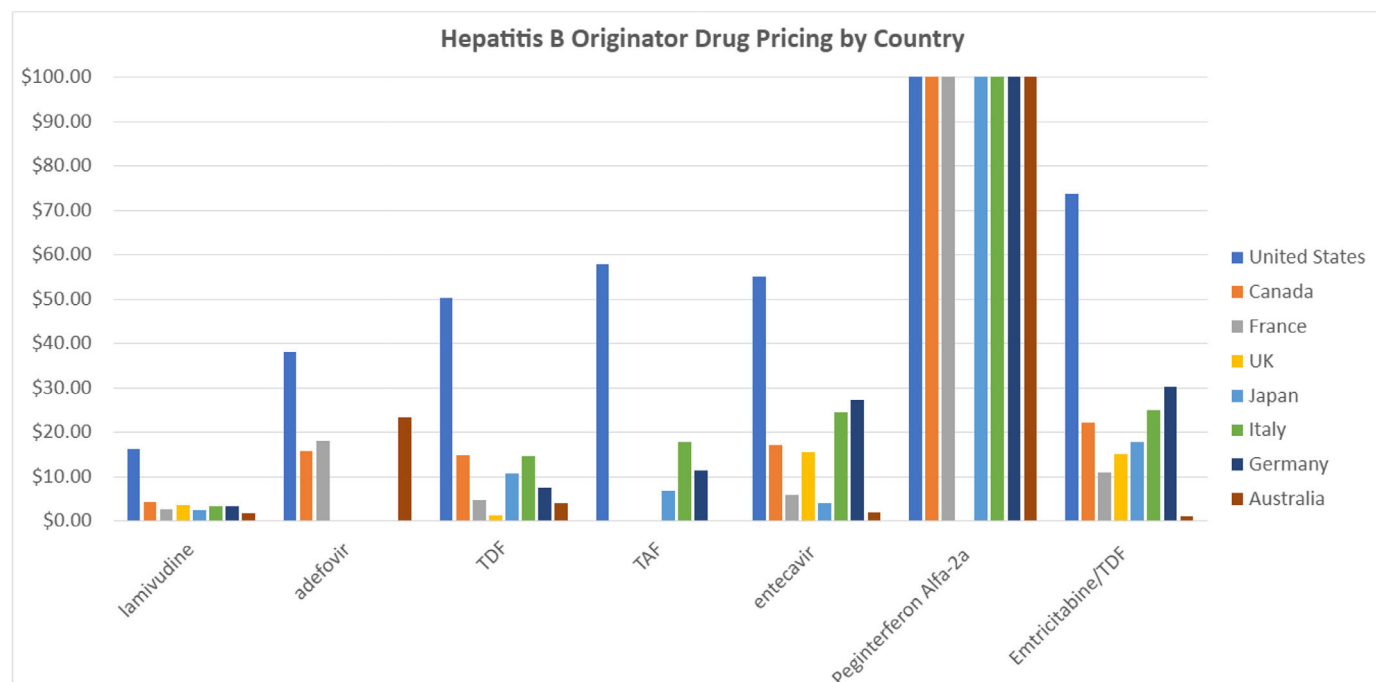


Fig. 1. Prices per medication are listed in USD.

Abbreviations: ETV, Entecavir; HBV, Hepatitis b virus; HCV, Hepatitis c virus; TAF, Tenofovir alafenamide; TDF, Tenofovir disoproxil fumarate; USD, United States dollar

Table 1
Prices per medication are listed in USD. Generic prices are noted in parentheses.

Drug	Unit	US (AWP)	US (Medicare)	Canada	France	UK	Japan	Italy	Germany	Australia	Global Avg Spend
HBV											
Lamivudine	100 mg	16.09	9.62	4.13 (1.97)	2.62 (1.38)	3.55	2.41	3.35	3.33	1.67	3.01
Adefovir	10 mg	37.89	56.72	15.79	18.02	N/A	N/A	N/A	N/A	23.37	19.06
Tenofovir disoproxil fumarate (TDF)	300 mg (245 in Europe)	50.14 (3.65)	41.36 (4.58)	14.76 (3.69)	4.71 (4.71)	1.20	10.51	14.50 (7.25)	7.35 (6.34)	3.85	8.13 (5.50)
Tenofovir alafenamide fumarate	25 mg	57.66	45.42	N/A	N/A	N/A	6.72	17.81	11.38		11.97
Entecavir	0.5 mg	54.90 (2.60)	38.17 (6.93)	17.11 (3.32)	5.71 (5.71)	15.41	3.94 (1.57)	24.47	27.09 (11.24)	1.83	13.65 (5.46)
Peginterferon Alfa-2a (± Ribavirin)	180 mg	1336.10	1480.66	329.22	169.27	N/A	116.76	336.65	316.69	118.50	211.58
Emtricitabine/TDF	200/300 mg	73.69 (2.34)	60.7 (11.44)	22.06 (5.51)	10.90 (5.72)	15.09	17.80	24.91 (4.23)	30.11 (2.41)	1.02	17.41 (4.47)
HCV											
Sofosbuvir/Velpatasvir	400/100 mg	1068.00 (342.86)	907.05	539.27	295.02	N/A	433.91	978.56	394.09	288.90	488.29
Sofosbuvir/Ledipasvir	400/90 mg	1350.00 (514.29)	1178.3	602.19	439.92	N/A	393.71	N/A	591.12	N/A	506.73
Sofosbuvir	400 mg	1200.00	1028.67	494.33	295.02	N/A	N/A	N/A	565.64	N/A	451.67
Ribavirin	200 mg	8.27	1.42	9.24	N/A	N/A	2.31	3.64	5.07	6.47	5.35
Elbasvir/Grazoprevir	50/100 mg	312.00	266.35	503.53	260.14	N/A	N/A	880.72	341.66	N/A	496.51
Glecaprevir/Pibrentasvir	100/40 mg	188.57	164.95	179.76	146.64	N/A	129.42	274.00	197.04	136.62	177.25
Sofosbuvir/Velpatasvir/Voxilaprevir	400/100/100 mg	1068.00	929.68	539.27	439.92	N/A	N/A	1063.63	787.84	288.90	623.91

the medications used given emtricitabine/TDF can be used for coinfection with HIV or HBV resistance[4–6].

Suoh et al. highlight some challenges with formulary research given that formularies, prices, and currency conversion rates are dynamic and so any comparison is a snapshot in time. Further, the same formulation needs to be compared amongst groups otherwise the analysis of pricing can be skewed. Our national formulary data was as of March 2024 and at that time, there were only two generic versions of entecavir available in Japan, which increased to three later in 2024.

We thank Suoh et al. for their critical assessment of our study; we apologize for our error and appreciate the opportunity to correct it. Overall, although there is a slight change in the figures, the overall interpretation and conclusion of the study remains the same (Fig. 1).

Declaration of interests

None.

References

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