

## **SUPPLEMENTARY MATERIALS**

### **Greater uptake, alternative reimbursement methodology needed to realize cost-saving potential of oncology biosimilars in the United States**

Jingyan Yang, DrPH, MHS; Jennifer Carioto, FSA, MAAA; Bruce Pyenson, FSA, MAAA; Rebecca Smith, MBA; Nathaniel Jacobson, FSA, MAAA; Sean Pittinger, ASA, MAAA; and Ahmed Shelbaya, MD, MPH

### **Supplementary Table 1. Illustration of 2021 Alternative Reimbursement Model Calculation (Trastuzumab, Commercial, Outpatient Facility, 2nd Decile Provider) for Baseline Scenario**

### **Supplementary Figure 1. Flowchart of Member Identification**

**SUPPLEMENTARY TABLE 1. ILLUSTRATION OF 2021 ALTERNATIVE REIMBURSEMENT MODEL CALCULATION (TRASTUZUMAB, COMMERCIAL, OUTPATIENT FACILITY, 2ND DECILE PROVIDER) FOR BASELINE SCENARIO**

2021 Per Unit Revenue / Expense:		Trastuzumab Commercial Outpatient Facility				
		Trastuzumab Baseline	Biosimilars Baseline	Status Quo <sup>a</sup>	Alternative Reimbursement <sup>b</sup>	Payer Optimal <sup>c</sup>
<b>Market Share Distribution</b>		35%	65%	100%		
<b>Payer</b>	<u>Spending on reference and/or biosimilar:</u>					
	Paid Amounts (net of member cost sharing)	(\$104.05)	(\$73.05)	(\$83.90)	(\$73.05)	(\$73.05)
	Extra consideration paid to provider	\$0.00	\$0.00	\$0.00	(\$6.32)	(\$6.32)
	Total	(\$104.05)	(\$73.05)	(\$83.90)	(\$79.37)	(\$79.37)
	Savings / (loss) due to program (\$)				\$4.53	\$4.53
	Savings / (loss) due to program (%)				5.40%	5.40%
<b>Provider</b>	<u>Spending at ASP for reference and/or biosimilar:</u>					
	Payment to manufacturer (acquisition cost)	(\$88.32)	(\$62.01)	(\$71.22)	(\$62.01)	(\$62.01)
	Payment from payer	\$104.05	\$73.05	\$83.90	\$73.05	\$73.05
	Payment from patient	\$5.48	\$3.84	\$4.42	\$3.84	\$3.84
	Extra consideration from payer for biosimilar	\$0.00	\$0.00	\$0.00	\$6.32	\$6.32
	Net income from reference/biosimilar	\$21.20	\$14.88	\$17.09	\$21.20	\$21.20
<b>Patient</b>	Drug cost sharing <sup>d</sup>	(\$5.48)	(\$3.84)	(\$4.42)	(\$3.84)	(\$3.84)

a Status Quo: Represents the 2021 units of the biologic (35%) and biosimilar (65%) drugs expected to be administered, absent the introduction of any additional consideration.

b Alternative Reimbursement: The payer offers sufficient extra consideration to providers per unit of the biosimilar administered to make the providers financially indifferent between administering the biosimilar or the reference biologic. This is assumed to be sufficient incentive for providers to replace all administrations of the reference biologic with the biosimilar.

c Payer Optimal: Set equal to either the "Status Quo" or the "Alternative Reimbursement" scenario, whichever produces a lower net cost to the payer.

d Does not apply to extra consideration

SUPPLEMENTARY FIGURE 1. FLOWCHART OF MEMBER IDENTIFICATION

Commercial CHSD + MarketScan Population  
**~66 million members**

Patients with 1+ Script for Trastuzumab, Bevacizumab, or  
Rituximab in 2019 (excl. 'JW' HCPCS Modifier)  
**136,420 members**

Excluding Patients with Claims at a 340B Facility  
**94,155 members**

Excluding Patients with Macular Degeneration or without a  
Cancer Diagnosis  
**25,429 members**

Excluding Outlier Allowed per Unit Amounts  
**21,941 members**

