Pharma and the Pandemic – Lessons for the Future

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Executive Education

What is the “value” of a pharmaceutical?

- There is no question that pharmaceutical innovation has resulted in vast improvements in both the quality and the length of life
- Treatments now exist to both manage a variety of chronic conditions and to cure conditions that were previously death sentences
- That said, these improvements have come at a price

Debate over pharmaceutical pricing

- Prior to the emergence of Covid-19 – the most frequently discussed healthcare topic was pharmaceutical pricing
- The fact that “something” needed to be done about pharmaceutical pricing emerged as a rare point of bi-partisan consensus.

Trump aims to make US drug prices like Europe's

BY PETER SULLIVAN - 07/25/19 06:00 AM EDT

69 COMMENTS

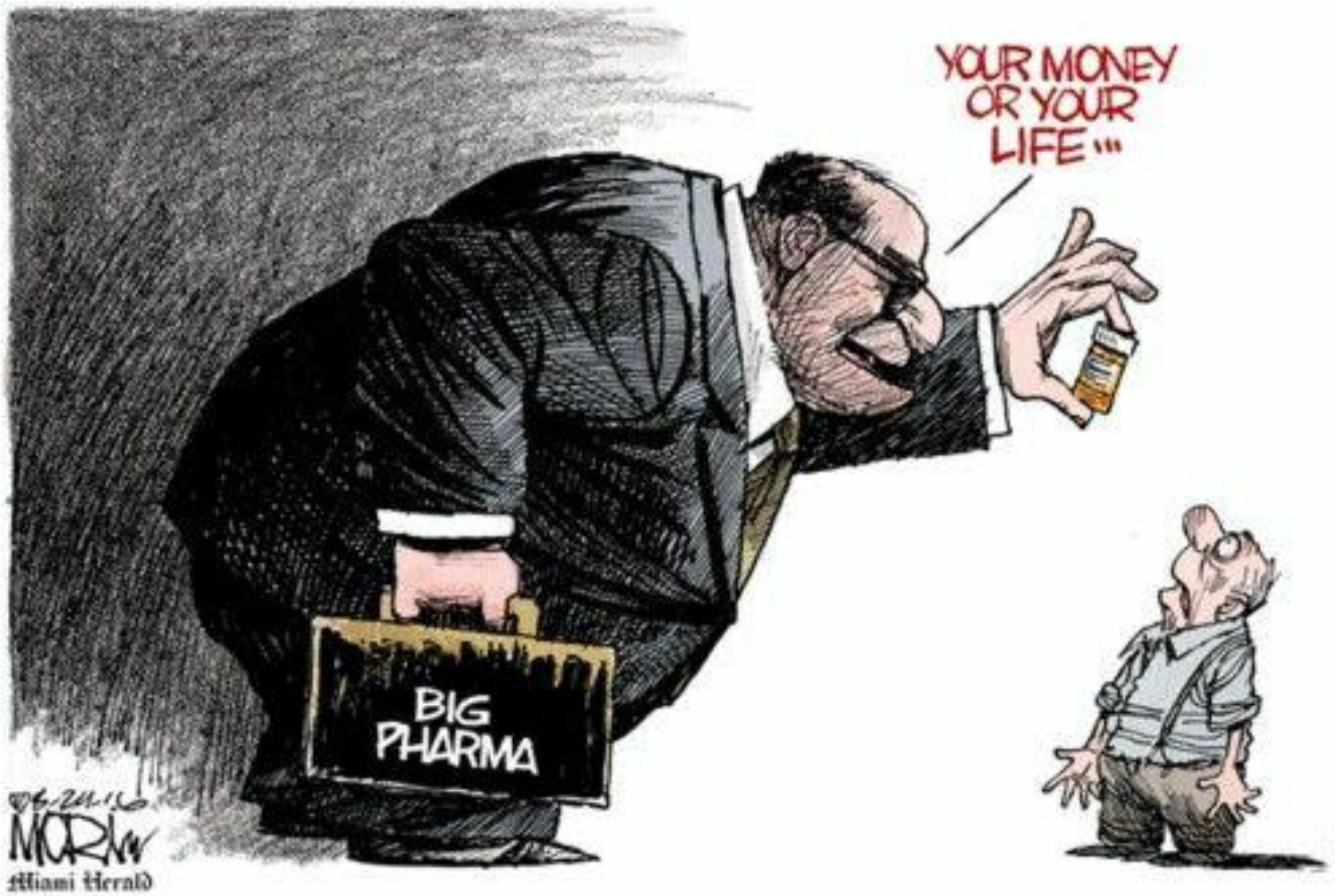
Pelosi offers a plan to negotiate prescription drug prices

By Tami Luhby, CNN

Updated 11:02 AM ET, Fri September 20, 2019

Debate of pharmaceutical pricing

- Prior to the emergence of Covid-19 – the most frequently discussed healthcare topic was pharmaceutical pricing
- The fact that “something” needed to be done about pharmaceutical pricing emerged as a rare point of bi-partisan consensus.
- This is perhaps not surprising:
  1. Prescription drugs are sold at many multiples of marginal cost.
  2. Patients are often exposed to meaningful cost sharing.
  3. The high prices for drugs, in turn, increase premiums beyond the reach of some Americans
- Currently, pharmaceutical firms maintain particularly negative feelings in the market


YOUR MONEY OR YOUR LIFE"
BIG PHARMA
Miami Herald

	Total positive	Neutral	Total Negative	Net positive
	%	%	%	
Restaurant industry	66	25	8	+58
Computer industry	61	28	11	+50
Grocery industry	58	27	15	+43
Farming and agriculture	58	24	17	+41
Travel industry	52	35	13	+39
Accounting	45	45	9	+36
Automobile industry	53	29	18	+35
Retail industry	50	28	19	+31
Real estate industry	49	31	19	+30
Banking	50	25	25	+25
Electric and gas utilities	47	28	24	+23
Sports industry	45	29	25	+20
Airline industry	42	32	23	+19
Telephone industry	42	32	26	+16
Publishing industry	39	36	24	+15
Internet industry	43	26	30	+13
Movie industry	41	31	28	+13
Education	45	18	35	+10
Television and radio industry	40	27	32	+8
The legal field	35	34	30	+5
Oil and gas industry	39	25	36	+3
Advertising and public relations industry	33	32	34	-1
Healthcare industry	38	14	48	-10
The federal government	25	23	52	-27
Pharmaceutical industry	27	15	58	-31

GALLUP, AUG. 1-14, 2019

Pharmaceutical industry ranks at the bottom. Lying below:

1. Airlines
2. Lawyers
3. The Federal Government

The pharmaceutical sector starts with an inherent market failure

- The high prices of pharmaceuticals are not an accident, they stem from patents and other forms of market exclusivity that are **deliberate policy decisions**
- This **exclusivity is meant to address the inherent market failure** central to the pharmaceutical sector
  - To be fair, the failure is actually present in most IP intensive industries
- The scientific knowledge generated by these firms when they develop a new product is largely a public good
- Absent government intervention, there would be a “holdup” problem whereby firms would be unwilling to make value creating investments

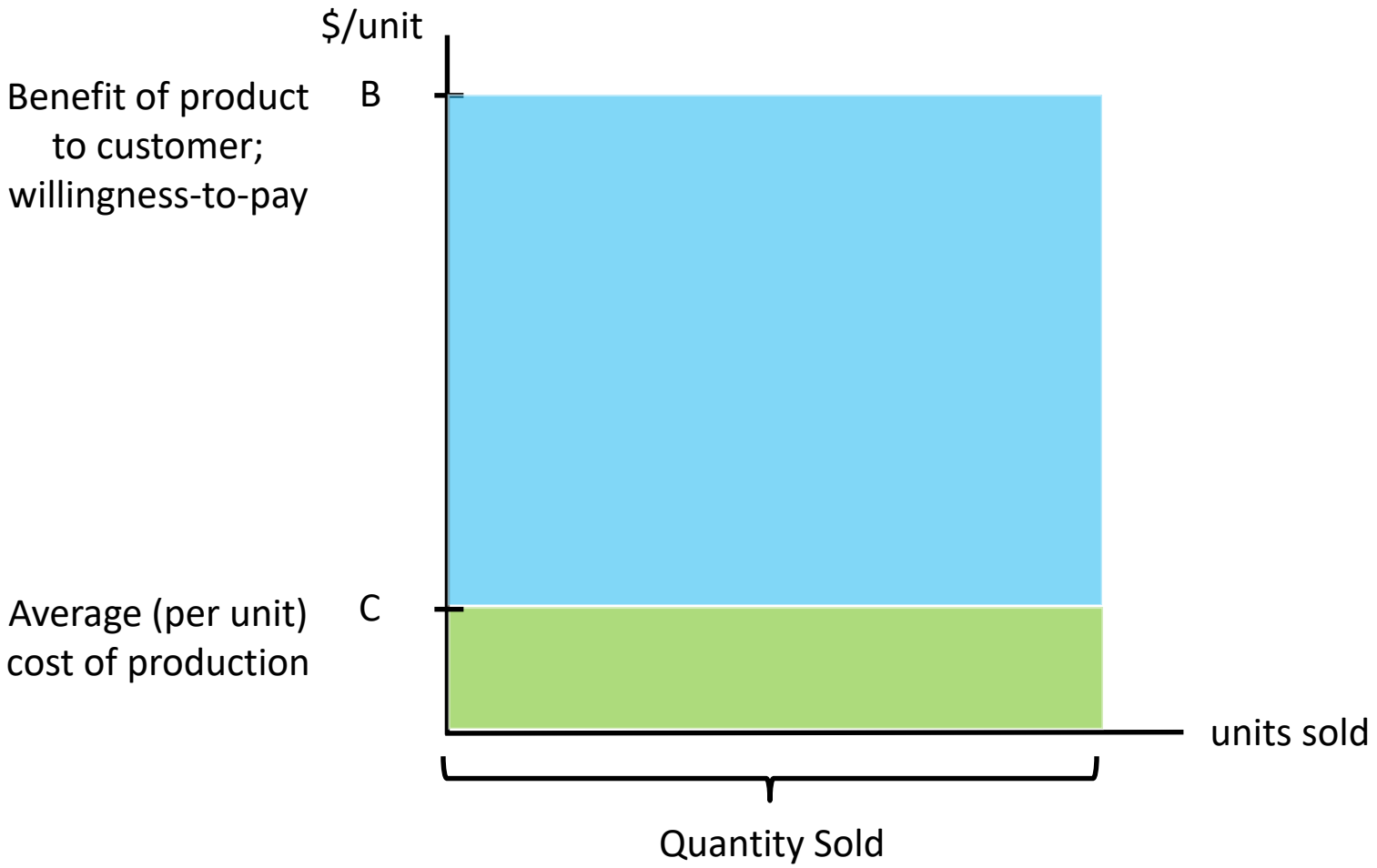
Pharmaceutical prices result from policy decisions

- Optimal innovation policy involves a fundamental tradeoff:
  - We accept reduced access (from high prices today); and
  - In return we generate the necessary incentives for investments in the development of new products in the future.

- To the extent that these future products generate sufficient value, this tradeoff can be welfare enhancing

- This depends on a few variables:
  - How much welfare is lost because of high prices today?
  - What types of new products are developed in response to the potential profits? How much welfare do they generate?

Recall the Value Creation and Capture framework from we use in our Kellogg Strategy classes



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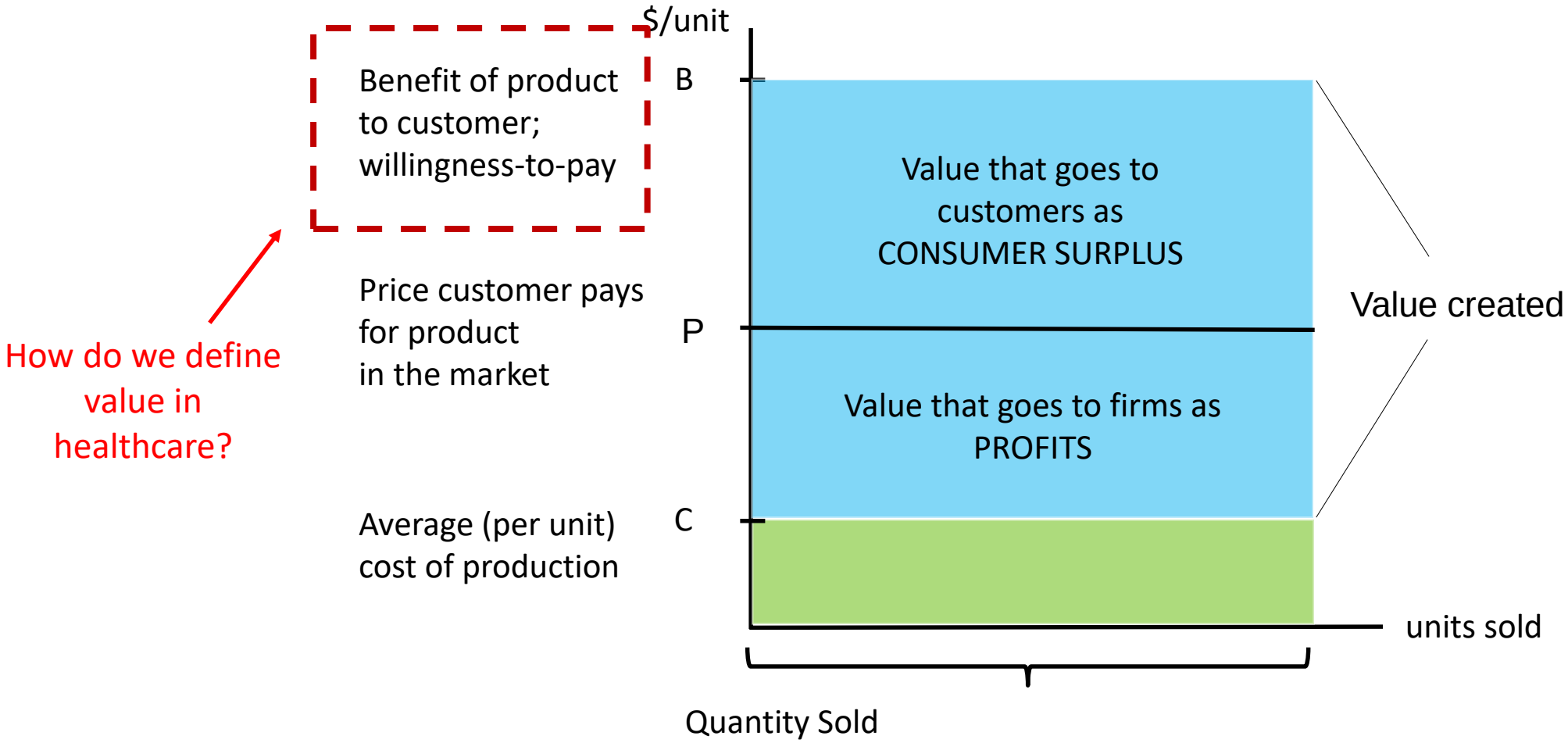

What is the value of a new drug?

- Regardless of the reimbursement system, payers and manufacturers have to figure out a way to quantify the value created by a new pharmaceutical product

- Determining the optimal price for new products requires considering different sources of value:
  - Direct and Indirect Clinical Value

Pharmaceutical products are traditionally valued based on their clinical impact

- The focus of most health technology assessments (HTA) are the direct and indirect health effects of product for the patient taking the product.
- These include both the increase in the length and quality of life. They are most often summarized by a products “quality adjusted life years” (QALYs).
- HTAs also can account for the cost of other medical treatments that could be avoided now that the treatment exists.
- These assessments can also be augmented to account for factors such as a product that treats orphan diseases (i.e. conditions with very few patients).

The Covid-19 pandemic makes other sources of value from pharmaceutical far more clear

- The emergence of the Covid-19 global pandemic makes it clear that the direct clinical value to the patient is an inherently incomplete measure of the willingness to pay of the product

- Pharmaceutical innovations have wide ranging effects beyond the value to the patient that should be accounted for in our measures of willingness to pay

What is the value of a new drug?

- Regardless of the reimbursement system, payers and manufacturers have to figure out a way to quantify the value created by a new pharmaceutical product

- Determining the optimal price for new products requires considering different sources of value:
  - Direct and Indirect Clinical Value
  - Insurance Value

How can an innovation provide insurance?

- Consider the case of Covid-19
- If we think about the effect of this disease in terms of QALYS we could do the following calculation:
  - Assume a severe case of Covid-19 reduces the percentage value one gets from a year from 80% to 40%
  - If we value each life year at $150,000 – Covid-19 creates a health cost of $60,000 ((80% - 40%) x $150k)
- Now consider a firm develops a $20,000 treatment for Covid-19 patients that means patients would only suffer a reduction in value of a life year from 80% to 70%
  - This treatment causes an increase in QALYs for someone from Covid-19 of $45,000 – (70% - 40% x $150k)
- A traditional view would calculate the net value of this treatment at $25,000
- However, this misses the benefits that the product creates by **decreasing the *variance* in the outcomes** for individuals
  - As risk averse people – we don't like variance

How can an innovation provide insurance?

- Remember that insurance is a financial product meant to decrease the risks from suffering a negative health shock
- Once a treatment for Covid-19 exists – the negative health shock of getting the disease decreases from $60,000 to $15,000.
- Given people are largely risk averse – this simple risk reduction has benefits
- Effectively, innovation has transformed some of the **uninsurable health risk** into an **insurable financial risk**
  - Recall that we still need to pay $20,000 for the treatment, but we can purchase health insurance for that financial risk
  - Previously, we **couldn't purchase insurance for the loss of health** from becoming afflicted with Covid-19

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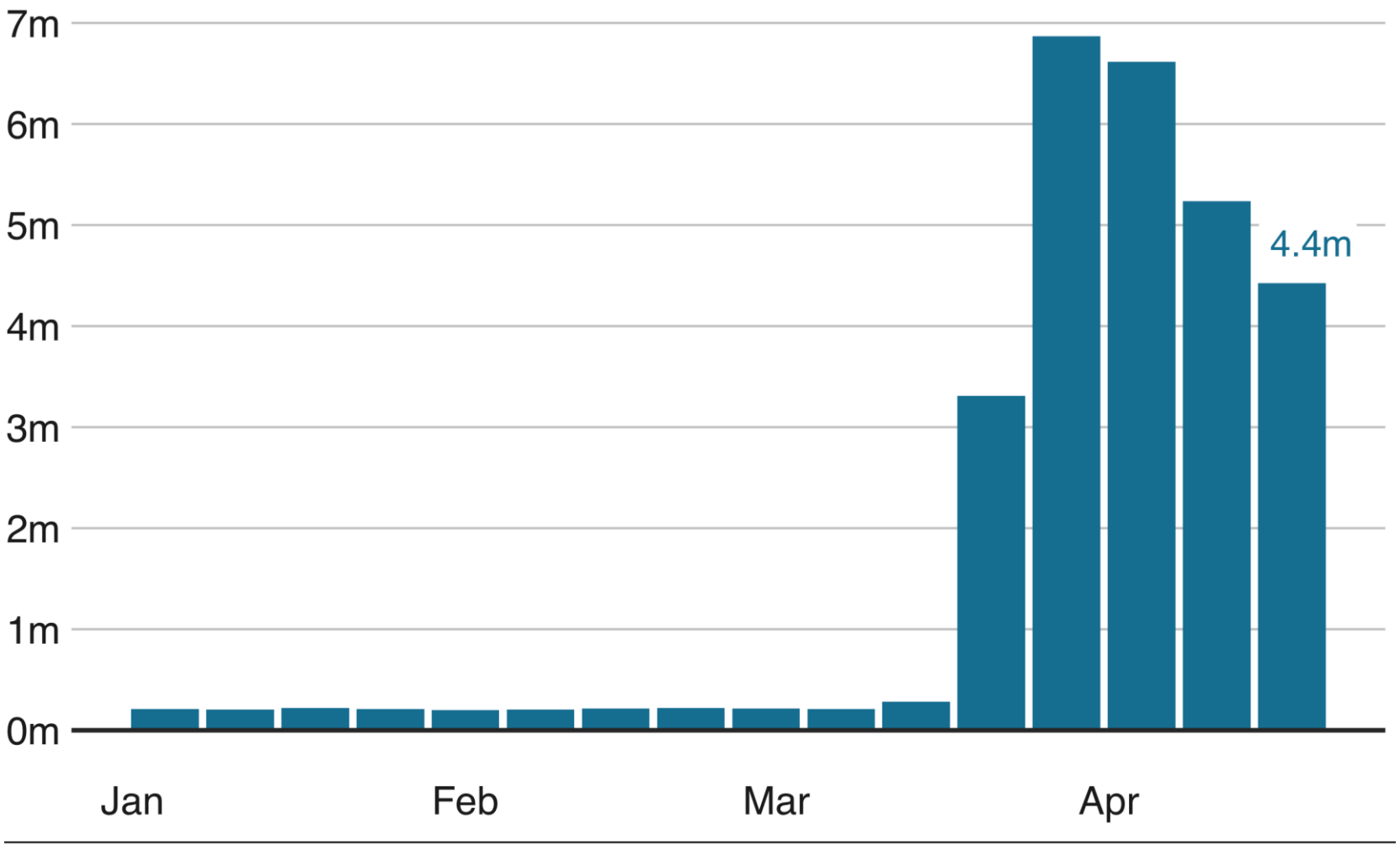
- Determining the optimal price for new products requires considering different sources of value:
  - Direct and Indirect Clinical Value
  - Insurance Value
  - Contagion Value

US jobless claims surge

Weekly total of new unemployment claims in 2020



Source: US Bureau of Labor Statistics

BBC

Trump signs historic $2 trillion stimulus after Congress passes it Friday

By Clare Foran, Manu Raju, Haley Byrd and Ted Barrett, CNN

Updated 7:00 PM ET, Fri March 27, 2020

Capitol Report

Trump, Pelosi see ‘Phase 4’ coronavirus package that includes infrastructure spending

Published: March 31, 2020 at 12:42 p.m. ET

By Victor Reklaitis

House Speaker Nancy Pelosi also calls for additional payments to Americans, more aid for state and local governments and other steps

What is the value of a new drug?

- Regardless of the reimbursement system, payers and manufacturers have to figure out a way to quantify the value created by a new pharmaceutical product

- Determining the optimal price for new products requires considering different sources of value:
  - Direct and Indirect Clinical Value
  - Insurance Value
  - Contagion Value
  - Option Value

Who should pay for this value?

- If pharmaceuticals were purchased solely by those who consumed them – it would seem strange to include some of these other forms of value in the price
- However, the individual patient pays only a fraction of the price. The majority of the cost is paid by the insurance pool – and therefore **willingness to pay should reflect the value that this pool places** on the product

COVID-19 Shifts ICER Pricing Targets, Creating New Hurdles For Drug Developers

04 May 2020 | **NEWS**

by Sarah Karlin-Smith | @sarahkarlin | Sarah.Karlin-Smith@informa.com

With a remdesivir analysis pushing cost-recovery models and lower thresholds for cost-effectiveness, ICER's COVID-19 pricing framework will likely result in lower pricing benchmarks for drugs than the group would have issued under its typical analysis framework. Critics say this is the opposite of what should be incentivized in an emergency.

Why does this matter?

- We will only **get the products that we are willing to pay** for
  - However, there are some obvious coordination questions that arise.
  - Should this be paid by all of society? By each individual pool?
- Beyond these coordination problems, it requires that systems of pricing and reimbursement account for the variety of ways that products can create value
- However, we must acknowledge that the pace of biopharmaceutical innovation is simply not fast … there are rate limiting steps that simply cannot be bypassed or accelerated
  - Our attempts to create an anti-viral treatment or a vaccine for SARS-CoV-2 are a prime example of this point
  - But SARS-CoV-2 will not be the last threat of this nature …


When did Noah build the Ark, Gladys?


Antibiotics