



The High Cost of Insulin: Who's to Blame in the U.S.?

<https://www.cbsnews.com/news/mother-fights-for-lower-insulin-prices-after-sons-tragic-death/>

Who should primarily be held responsible for taking action to reduce the high price of insulin in America?

Pharmaceutical Companies

Insurance Companies

Pharmacy Benefit Managers (PBM)

Clinicians

The Government

Patients

Total Results: 0

Background: Diabetes



- Prevalence: in 2015, 30.3 million Americans (9.4% of the population) have diabetes.
- ~ 1.25 million American children have Type I diabetes
- ~ 7.4 million Americans with diabetes use one or more formulates of insulin

Background: Diabetes



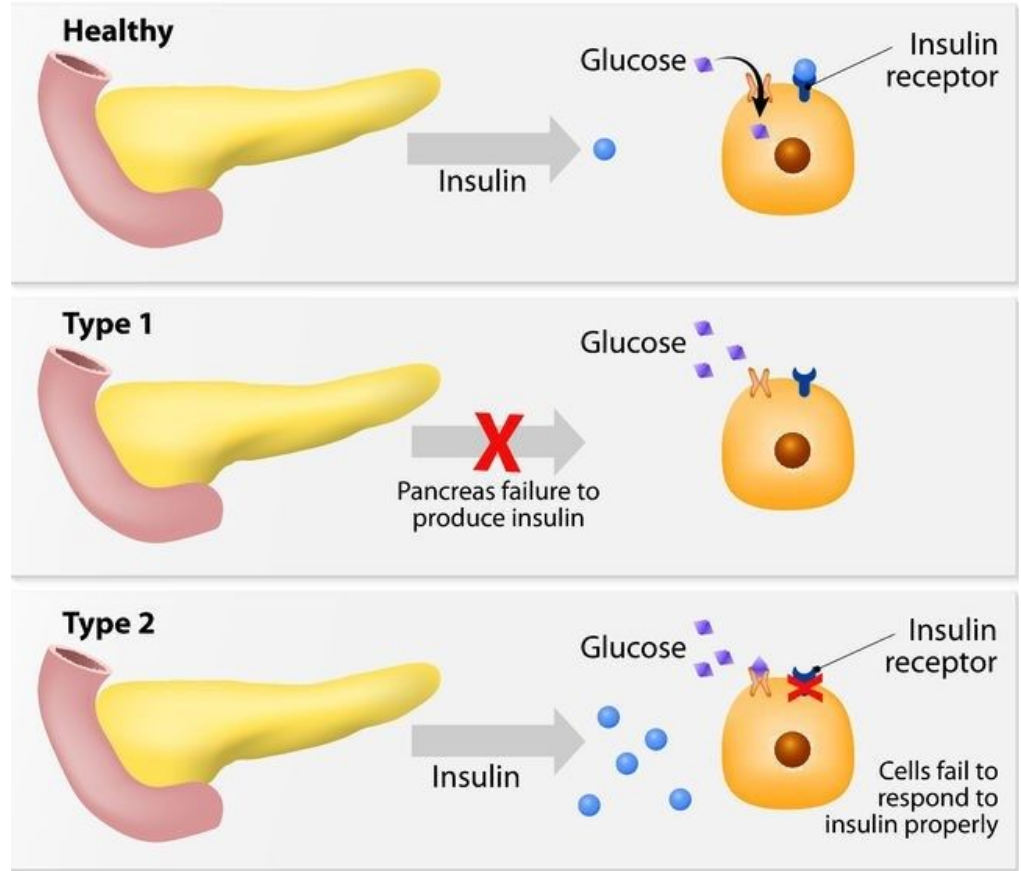
- According to American Diabetes Association (ADA)
 - 27% say that affording insulin has impacted their daily life
 - Disease costs US more than \$327M per year
- Everyone with Type 1 diabetes needs to take insulin; 1/3 of those with Type 2 do
- Access to insulin is a matter of life and death

How many of you know someone
who takes insulin?



How Insulin Works

- Insulin: a natural hormone produced by the pancreas, controlling our blood sugar levels
- Too high → vision loss, confusion, nausea, organ failure
- Too low → heart irregularities, mood swings, seizures, loss of consciousness
- Diabetics inject insulin produced by drug manufacturers either because their pancreas doesn't create its own insulin (Type 1), or because the body has become resistant to the insulin their body produces (Type 2)



History of Insulin



- The researchers honored, Frederick Banting and John J.R. Macleod, were just two in a team of researchers at the University of Toronto that eventually discovered how to use insulin to treat diabetes

History of Insulin



- In 1923, Banting sold the patent for the product to the University of Toronto for just \$1, hoping that the low price would keep the essential treatment available to everyone who needed it

Who makes insulin in the U.S. today?



Mealtime



Basal



How much do they charge wholesale?

\$284/vial



\$275/vial

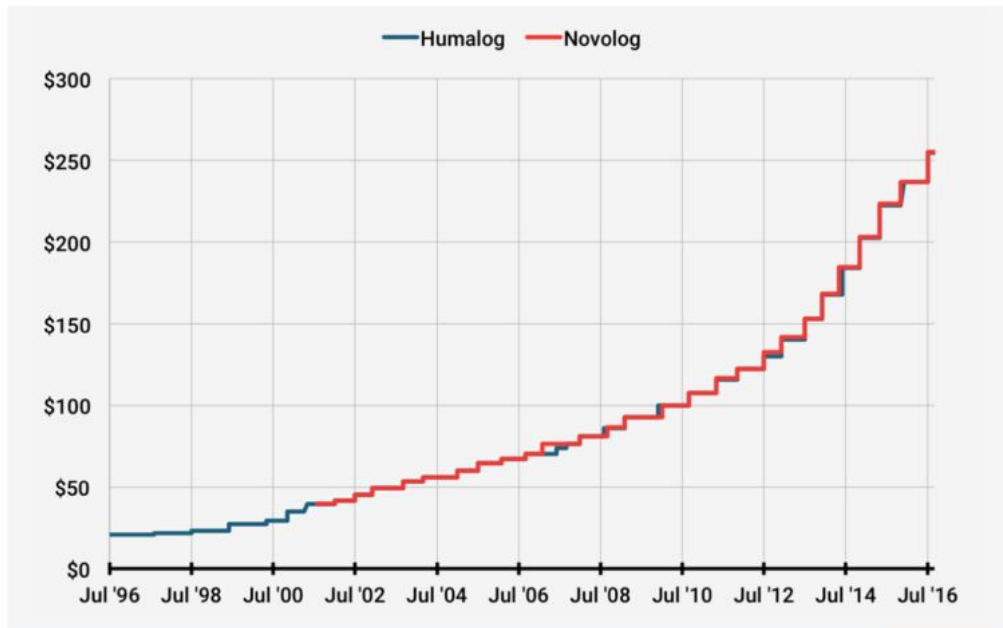


\$289/vial



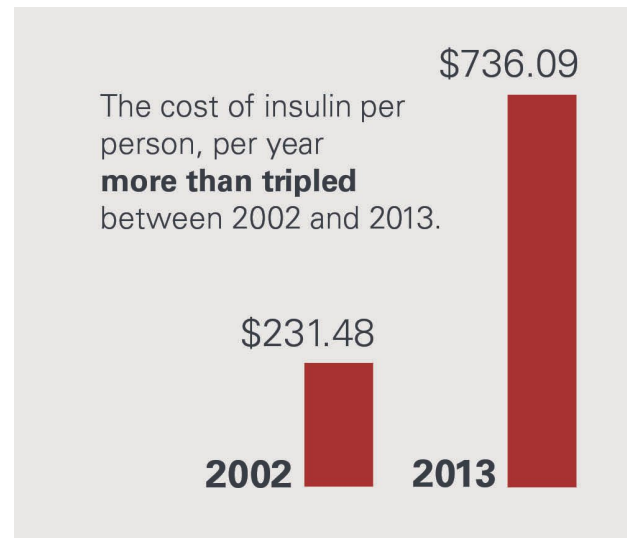
**Diabetics typically use 1-3 vials a month; insulin costs roughly \$5 per vial to produce*

Insulin Prices



List prices of competing insulin formulations have appeared to rise in tandem, a market phenomenon called “shadow pricing.”

- From 2002 to 2013, mean insulin expenditure **more than tripled**, from \$231 a year to \$736 a year, per patient



Drug Pricing: A Lexicon

List price:

Net price:

Rebates:

Co-payments:

Deductible:



Drug Pricing: A Lexicon

List price: set by pharma company, what an uninsured patient pays for a drug

Net price: actual profit pharma company receives for drug

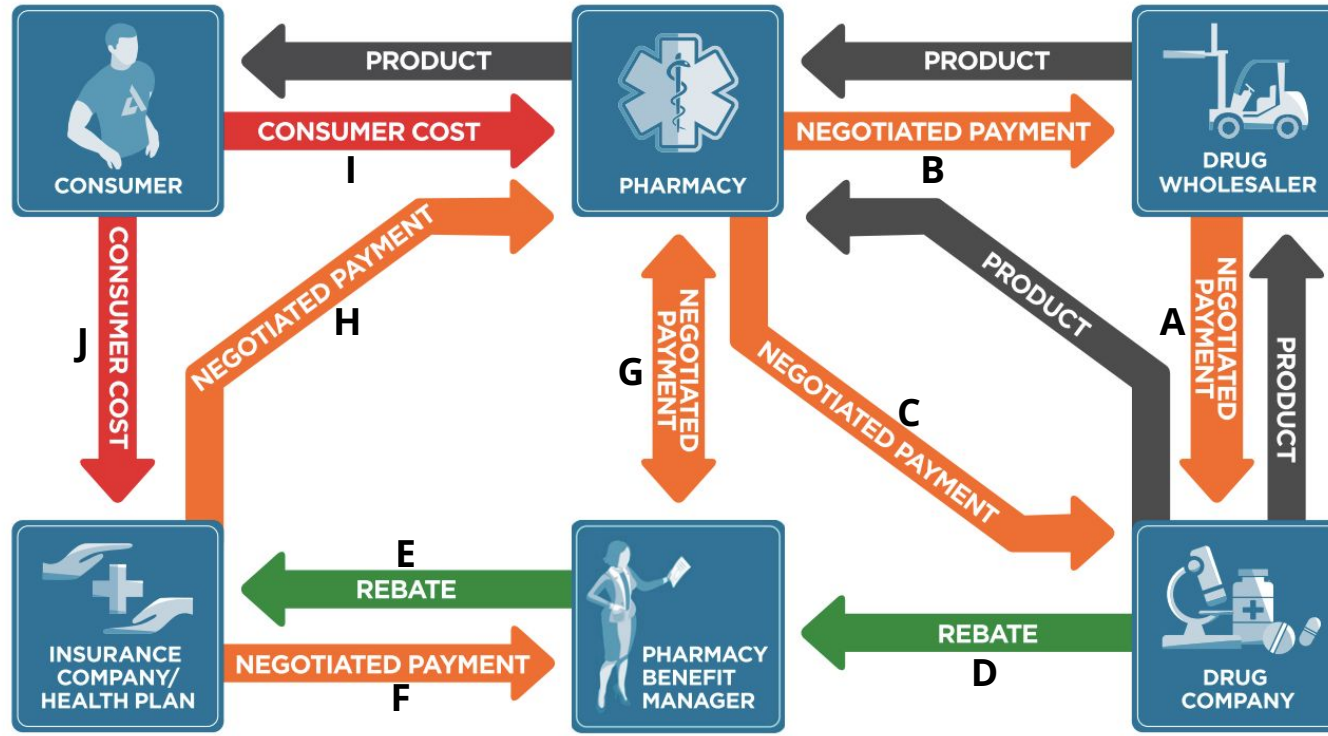
Rebates: discounts on drugs negotiated for insurance companies

Co-payments: what an insured person pays for a prescription, out of pocket

Deductible: what insurance companies say a policyholder must pay before insurer picks up the rest



Insulin Supply Chain: A Complex System



- A** = Fee to acquire drug from manufacturer
- B** = Fee to acquire drug from wholesaler
- C** = Fee to acquire drug directly from manufacturer
- D** = Rebate paid to PBM (to be listed on formulary)
- E** = Portion of rebate passed on to health plan
- F** = Administrative fees
- G** = Payment to pharmacy for dispensing fee + cover part of acquisition costs; discount payment to PBM
- H** = Insurance payment for drug
- I** = Out-of-pocket payment
- J** = Insurance premium

Figure 3—Schematic of insulin supply chain.

Insulin Rationing



The Tragic Case of Alex Smith

- 26 year old died in 2017
- Despite working full time making more than minimum wage, he could not afford to buy new insurance or pay the \$1,000 a month for insulin.
- Rationed insulin

Insulin Rationing Problem



- As with the case of Alex Smith, there are frightening lapses in coverage, especially among the uninsured
- Patients are buying insulin at Canadian pharmacies and in Mexico with cheaper prices

Formula switching

- Insurance companies have forced some diabetics to switch insulin formulas against recommendation of physician, to avoid paying list price
- Different formulas work better for different people
- "Non-medical switching" isn't just an inconvenience; it's potentially dangerous, requiring constant monitoring
- Complications like blindness or kidney disease can arise if a diabetic is put through too many extreme sugar highs and lows



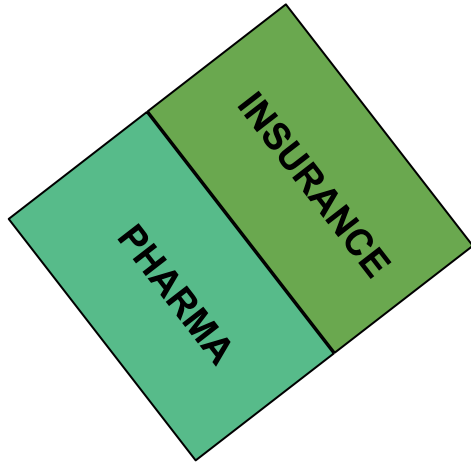
Key Players



Example:

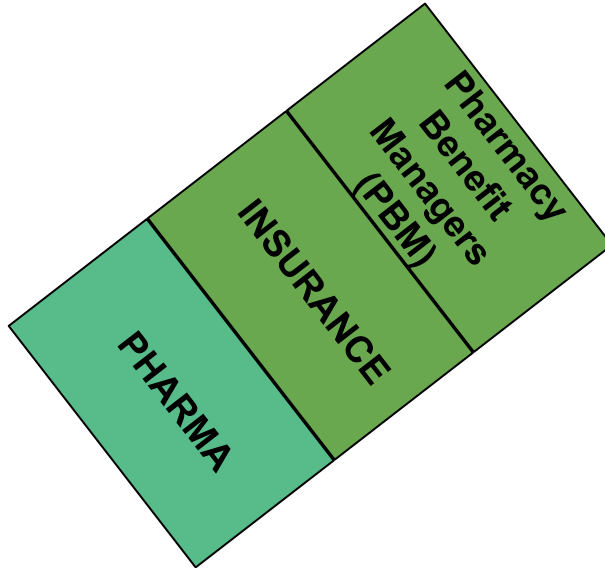
- Sanofi
- Eli Lilly
- Novo Nordisk

Key Players



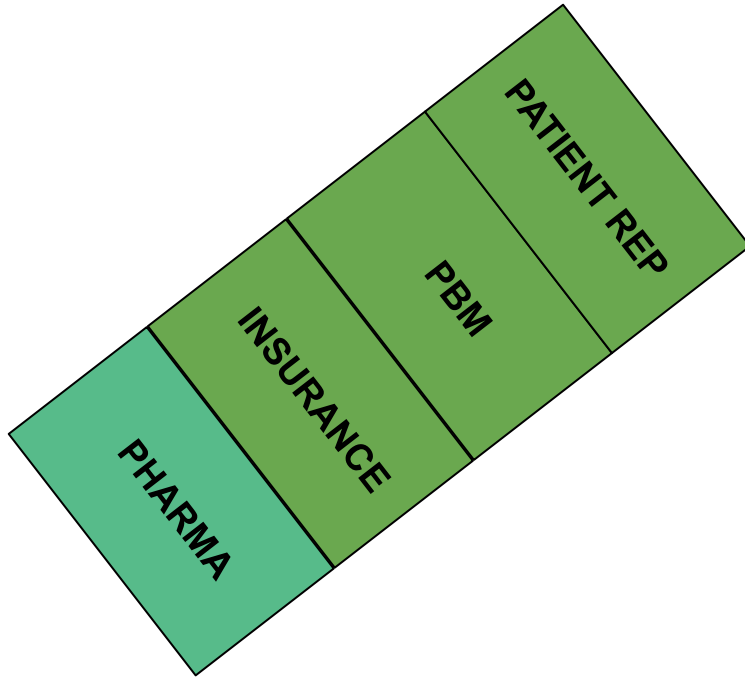
- Private: Unitedhealth, Kaiser Foundation, Aetna, and Cigna.
- Public: Medicare and Medicaid

Key Players

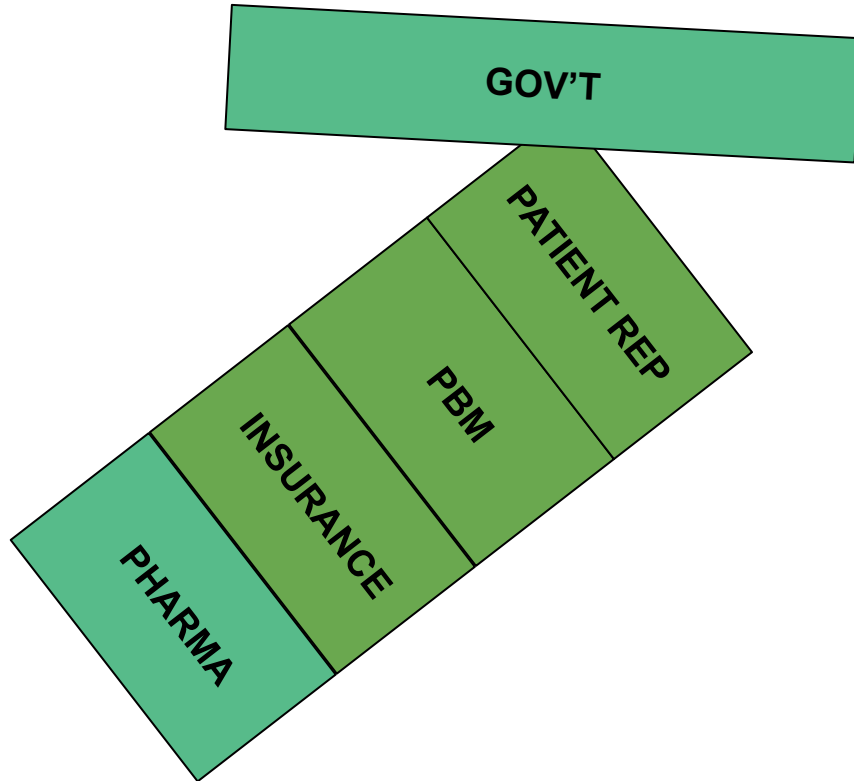


- PBMs directly deal with insulin companies
- **3 Major PBMs**—Express Scripts, CVS Health, OptumRx

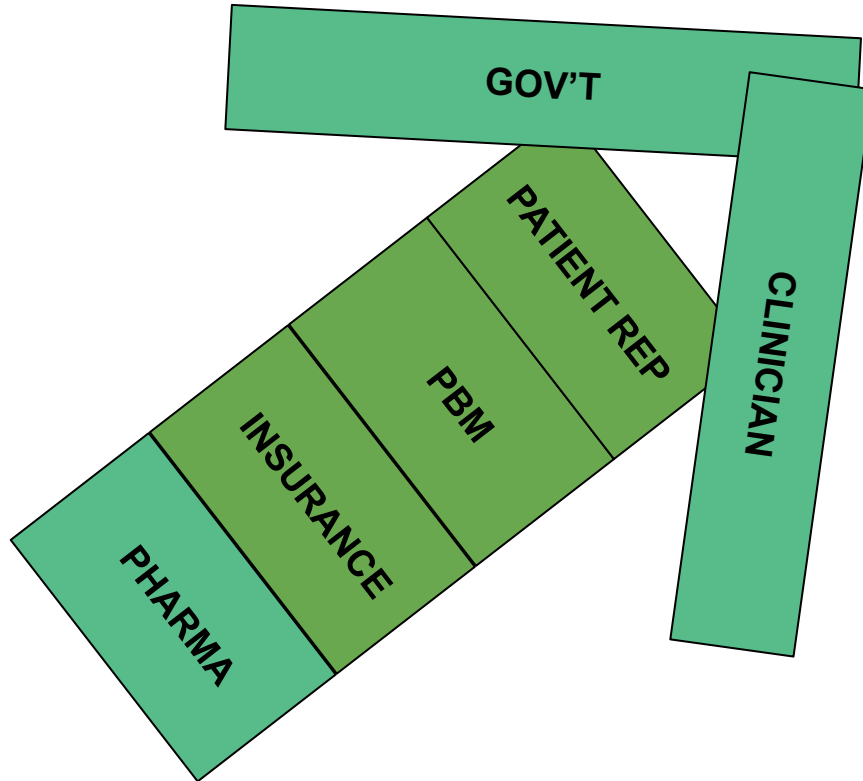
Key Players



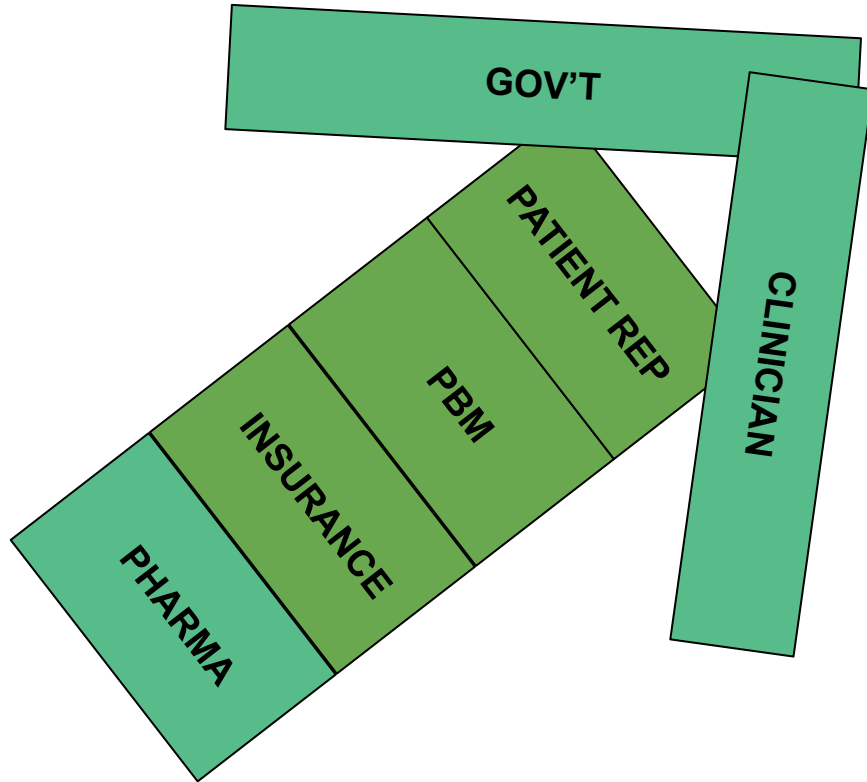
Key Players



Key Players



Key Players



Time to role play...

Keep these questions in mind as you break into groups:

1. What are your interests (personal, business, etc.)?
2. Think about how the interests of other stakeholders affect your own interests.
3. Who do you think holds the greatest responsibility for the rise in insulin prices?
4. Who should be primarily responsible for addressing the problem?
5. What could your role be in reducing insulin prices?

Take 3 minutes to read silently, then 7 minutes to discuss these questions with others in the same role.

Time to role play...

You have 15 minutes to agree upon a set of solutions to the insulin pricing issue in the U.S.

Select one representative to report your solutions back to the class (1.5 mins)



Class Discussion

What kinds of compromises did you have to make?

Which stakeholders tend to have conflict?

Who had the most incentive to keep the prices high?

Are there other stakeholders we should be considering?

How do you personally feel about the solution you came up with?

Who should primarily be held responsible for taking action to reduce the high price of insulin in America?

Pharmaceutical Companies

A

Insurance Companies

B

Pharmacy Benefit Managers (PBM)

C

Clinicians

D

The Government

E

Patients

F

Total Results: 0

“The system is dysfunctional.

There are issues at each level,

at each stakeholder in the insulin supply chain.

We can’t point the finger at one particular entity.”

-Dr. William Cefalu, Chief Scientific Officer, American Diabetes Association

Possible Solutions

- Reclassifying insulin as a “biological product”
- Generics: older, off-patent versions of insulin, new formulas
- Penalties for “pay-for-delay” schemes, delaying generics entering the market
- Medicare for All
- Drug importation
- Transparency in drug pricing: rebates, list prices, patient cost-sharing info
- Value-based pricing system

Did you know...

CVS, Cigna, Humana blame Big Pharma at Senate hearing for skyrocketing US drug prices

- Five of the nation's largest pharmacy benefit managers deny that the so-called backdoor deals with drug manufacturers are responsible for the sticker shock some patients see.
- In written testimony submitted to the Senate Finance Committee, they blasted the drug industry for the rising cost of brand-name drugs.

Berkeley Lovelace Jr. | Ashley Turner

Published 6 Hours Ago | Updated 3 Hours Ago



Susan Walsh | AP

The New York Times

Express Scripts Offers Diabetes Patients a \$25 Cap for Monthly Insulin

Drug makers, insurers and pharmacy benefit managers face mounting pressure from Congress and the public to reduce the high list prices of drugs like insulin.

Conclusions

What do you see as the most important lesson learned from this case?

What connections can you draw between this case and another ISP case or public health issue discussed in the Core?

How might you apply key lessons learned here to a public health issue that you expect to face in your future career as a public health practitioner?