Transmitting good evidence well saves lives.
And the opposite is also true.

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Disclosures

- Neither I nor anyone in my Division at Harvard accepts any personal compensation from any drug company.
- The same is true at Alosa Health, a non-profit organization, and its staff and consultants.
- I receive no payment for any of my academic detailing-related work.

Case study: One city faces the epidemic

- ‘Patient zero’ was a previously healthy man who had been infected in February in another country. He travelled to New York City, was hospitalized, had a rapid downhill course, and died.
- Authorities feared that massive spread of the extremely contagious virus could bring illness and death to New Yorkers on an enormous scale.
- City authorities mounted a massive public communication campaign to encourage vaccination; the Mayor was injected publicly by the city’s Health Commissioner. Volunteers, police, and firefighters went door to door urging people to get the shot.
- The President, passing through the city, was vaccinated; so was Anthony Fauci.

One city faces the epidemic, continued

- Careful contract tracing was used to identify, isolate, and inoculate people who had been exposed to the initial cases.
- Public health officials and politicians immediately educated the city's residents about the threat, and explained that the best way to prevent a tragic epidemic would be to rapidly inoculate as many people as possible with a vaccine that was extremely effective and very safe.
- The Public Health Service and pharmaceutical companies worked together to produce millions of doses of vaccine in an extremely short period of time for use in the public campaign.

One city faces the epidemic, concluded

- Within two weeks, about 5 million New Yorkers came forward to be vaccinated, and another million shortly thereafter.
  - This was the largest vaccination campaign to date in the nation's history.
- Only 12 people were infected, and just 2 died.
- The epidemic threat was declared over just a few weeks later, in late April.

- **This really happened.**

Then vs. now

- The date was 1947.
  - The disease was smallpox.
  - The President was Harry Truman.
  - (Little Tony Fauci got his shot when he was 6 years old.)
- **What was different?** Several things.
  - **The relevant clinical information was transmitted clearly, accurately, and compellingly.**
  - A well-functioning public heath infrastructure responded quickly and appropriately.
  - People were willing to trust political leaders and medical experts.
  - Hardly anyone died.
- What can we learn from this?

Covid-19: a rare opportunity to study the effect of good vs. bad information transmission

- In health services research, we usually don't get to do randomized controlled trials.
- But Covid gave us a natural experiment that showed how **the communication (or not) of accurate clinical evidence** can either save lives or end them.
  - the same virus throughout the country, more or less;
  - the same vaccine and drug treatments, more or less;
  - everything was free.
- What made a huge difference was how well the **information** about them was transmitted, or not, to health care professionals and communities.
  - **Very important disparities in health care access and delivery also played a major role.**

Covid was a museum of what can go well, and what can go wrong

- A totally new vaccine was created in record time.
  - safer and more effective than most existing vaccines
  - built on a decades of publicly supported basic research
    - (though it ended up being owned privately.)
- There was feeble-to-absent communication of accurate clinical information
  - and much communication of totally false information
- Out of control direct-to-consumer promotion, at the highest levels
  - hydroxychloroquine, bleach, ivermectin
- FDA missteps
  - Commissioner issues an EUA for HCQ, and publicly touts wrong numbers to advocate for convalescent plasma, which didn't work.
- The lame public health infrastructure was in disarray.

The result:
Big life-and-death consequences

- **By early 2022, the likelihood of a person getting sick or dying with SARS-CoV-2 was determined more by the transmission and acceptance of accurate information on the virus and its management, than by the properties of the virus itself.**
  - In a cross-national study of 177 countries, citizens' level of trust in government and in others was an independent predictor of Covid death rates.
    - more so than universal health care, income inequality, hospital capacity, etc.
      - Ref: Bollyky T et al, *Lancet, Feb. 1,2022*
  - In the US, the adjusted rate of Covid death varied sharply depending on voting patterns in a given county.
      - Ref: Sehgal NJ, *Health Affairs. June 2022*
- The take-home lesson: The quality of clinical information transmitted can save lives or increase risk.

Big life-and-death consequences, continued

- Communicating actionable medical facts also plays a huge role in the treatment and outcomes of many other diseases – it just isn't always as strikingly obvious:
  - Diabetes
  - Hypertension
  - MI, stroke
  - HIV, other STDs
  - Maternal and child health
  - and on and on….

- [Note the same caveat as before: ***reduced access*** to medications and other kinds of care also heavily drive disparities in outcomes.]

Closing the gap…

- …between actual practice and the best available clinical evidence.
- Evidence is growing that getting this wrong caused hundreds of thousands of pandemic deaths in the US alone.
- The same thing happens every day for less headline-related diseases, on an even larger scale.
- **It's not enough just to have effective and safe drugs, or other treatments, out there.**
  - They have to be projected into the health care system, and into the lives of patients.
  - **This is what we all do.**

Academic detailing is one important way to accomplish that.

- Think of it as a hypodermic needle or transdermal patch for the infusion of clinical knowledge.
- Drugs don’t work if you just show them to people without getting them inside the patient.
- Like medication delivery systems, knowledge delivery systems can be studied and evaluated to make them work better.
  - Randomized controlled trials are ideal, but other evaluation designs can work well too.
  - Rapid-cycle evaluation designs in ‘real world’ settings can be very useful.

What we face now: Fall 2022 developments

- Harvard Medical School October course just given by DoPE: ‘Medications and Evidence’
  - Over 50 years in the making.
  - What the students told us.
  - What this means for you.
- A perfect example in the past few days: new CDC opioid recommendations
  - evidence keeps evolving, recommendations change
  - the limits of formal guidelines
    - …and how they get applied
  - → a strong case for the need for an **interactive** approach:
    - Have you seen the new guidelines?
    - What do you think of them? Is this what you’re doing?
    - How do they fit into your practice?
  - You can’t just (e)mail this stuff out.

Different kinds of toxicity

- NY Times, Nov. 4, 2022: 70 children in Africa are killed by taking a contaminated medicine made in India.
- Health minister said the problem was the result of ‘loose regulation of products in exporting countries, combined with a lack of quality assurance processes in the recipient nations,’ creating “a very dangerous cocktail.”
- A lot of the tainted product is still out there, but it’s hard to recall it all.
  - *Ironic detail:* the toxic component was [di]ethylene glycol, a cousin of the substance that poisoned over 100 children in the US in 1938 in an early tainted-medicine scandal here.

The analogy

- Tainted medicines are a little like tainted drug information.
  - loose regulation on the production side, combined with:
  - inadequate protections for users on the receiving end.
- Intervention is possible on both sides.
  - Make it harder to produce and disseminate tainted information products
  - Ramp up capacity on the receiving end to protect the end-users.
- *Silver lining:* The poisonous medicine scandal in the US in 1938 led to new laws giving FDA the power to ensure that medications are not unsafe.

Conclusion: matters of life and death

- Next time someone asks you why it's important to have programs that disseminate solid information about medical products, here's the answer:
  - Look at what happened with Covid.
  - ….and is still happening for dozens of other acute and chronic or preventable diseases that we could be managing so much better, if only people had the right information.
- If they don't believe you, offer them some tainted cough syrup.

Questions and discussion

Thank you!