

Young Epidemiology Scholars Meeting

Dr. Joshua M. Sharfstein
Secretary, Department of Health and Mental Hygiene
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This morning, I woke up early to come down from Baltimore and speak with you the importance of epidemiology and science in solving the world's great problems.

As I stood brushing my teeth in the bathroom, looking in the mirror, wondering what I might say to you, I asked myself -- what is the added value of brushing my teeth twice a day instead of just once?

I ran to the kitchen and poured myself some cereal and 1% milk. Ok, now to the speech, the speech, the speech.

I looked down at my bran cereal and pondered: What would really happen to me if I ate donuts for breakfast every day?

Stop it, I told myself... Focus on the big picture!

The big picture is that there are so many questions all around us ... And the fun and excitement of epidemiology is knowing that there are answers. Answers to questions like the value of brushing twice or the lack of value in a daily donut.

Also, answers to questions about subjects that matter to our friends families and communities, like sleeping problems, the role of alcohol in adolescent depression, and the impact of meal-skipping by teenagers. You know this, because you have been studying these kinds of topics...and finding answers.

Asking and answering questions -- small, medium, and large -- changes the world.

The first step is just asking.

One night shift as a pediatric resident, I admitted three kids about your age to the hospital. All three had serious mental health problems, and all needed to be treated in a psychiatric hospital. At least one was suicidal. But there were no beds in any such facilities in the region.

We called these kids "boarders," because they were boarding until a transfer could take place. It was common to hear the residents complain about the "boarder" situation. But I asked ... why?

The second step is gathering data.

I chose a random sample of about 10 patients and gathered all the financial data about their admissions -- and I found that the hospital was paid essentially nothing every time a boarder patient was admitted. It turned out that the medical system didn't pay, because it was a psychiatric diagnosis ...and the mental health system didn't pay either, because the treatment was not delivered in a psychiatric setting.

I prepared an abstract with the understated and fair conclusion -- the clinical and financial incentives were not aligned. In other words, the kids were not getting the right treatment, and the systems responsible for their care were hardly being penalized for it.

The third step is putting the data in position to have an impact.

I presented my abstract at a national meeting -- I also spoke to reporters who reported the results in the local paper, and I joined up with some advocates for children who reached out to elected leaders and others. Our work together led to a number of important changes...including a system of tracking bed space to prevent kids from becoming stuck in the system as boarders.

In my career, I've followed these three steps many times.

First, ask the question.

Second, do the analysis.

Third, put the data in position to have an impact.

As an academic researcher, I've studied the impact of poor housing conditions on children's health...showing that certain health conditions are far more prevalent on the waiting list than among people who have made it off the list and have housing assistance.

When I was working for Congressman Waxman, he asked why so many young people were being held in juvenile detention without any charges against them. So we sent out a survey to all of the nation's detention centers, produced a report, and Congressman Waxman then worked with Senator Susan Collins to have a bipartisan hearing to raise concern and begin to address the problem.

As a health commissioner, I heard from pediatric experts in Baltimore about why unproven and potentially dangerous over the counter cough and cold medications were still so routinely given to young children. We reviewed the data and put our analysis into a petition to the Food and Drug Administration.

Within a few months, the manufacturers began to pull such products from the market for kids under age 2 ... And then they did so for kids under age 4.

When I served at the Food and Drug Administration, experts and state attorneys general asked about the health effects of combining the caffeine of five diet pepsis with the alcohol of four beers ... in a colorful can with a heap of sugar. The agency's expert analysis led to the withdrawal of such beverages from the market around the country.

Having looked at your impressive projects, I can see you are well on your way. You have step 1 and step 2 within your grasp. As you work to improve your research skills, you should your energy and interest in the questions should only increase.

But what about step 3...how do you put the data in position to have an impact?

Step three may be the least "scientific" part of the process. You won't find a textbook about how to make people pay attention to data.

But it is also the most important step if your goal is to bring about change. It can also be a lot of fun.

Make sure people who should know about what you've found do know what you've found. Send reprints of your report or article. Write for the general public, in print, online, and in 140- character bursts if necessary.

It's important, as in an academic article, not to overstate the case. But don't be too shy about sharing what you have found. I once called a reporter out of the blue and said I was very disappointed he had not written an article about the data on children being stuck in the mental health system. He said, what data? I said, well, now that you ask, I just finished a review ... And a few weeks later, it was on the front page.

Meet up with people who really care about the problem. Tell them what you've done and what you've found, again making sure they have the limitations as well as the findings. It turned out that housing advocates loved the studies we did on child health...and they used our work around the country to advocate successfully for additional resources.

Use the reaction to your work to develop new projects and have an increasing impact.

Often the reaction to a study points the way to the next study that can resolve questions and pave the way for change...or protect against backsliding.

When we called for changes to the oversight of over-the-counter cough and cold preparations, some argued that our efforts would backfire. If formulations for young children came off the market, they speculated, parents would mistakenly give higher doses of the adult versions to children and more would be injured.

After we were successful, I encouraged some experts to study whether this paradoxical problem happened. And ... it did not. There were major declines in poison control calls,

not increases. Also, major declines in emergency department visits from adverse effects.

There is one final reason why, after asking the right question and doing a great analysis, you should put your data in position to have an impact.

The world needs your answers, your insights, and your talents.

If you all do not look around and study the world's imperfections in order to help change them, who will?

You all have the power to ask questions ... And answer them. Use that power aggressively, wisely and responsibly ... Do not be deterred by people who do not understand and respect what you can do ... You will win them over eventually.

And one last thing.. if you find out about the toothbrushing or the donuts, please let me know.

Thank you.