POLICY PRESCRIPTIONS®

EVIDENCE-BASED HEALTH POLICY

The policy process involves making difficult and sometimes arbitrary decisions about what to allow, what to prohibit, what to tax, and what to spend.

Rarely does policy take an informed or evidence-based approach. This presentation [given to the American Medical Student Association on September 19, 2010] explains the concept of evidenced-base health policy.

Most studies of evidence-based policy are from the public health perspective. Few are from the private health perspective – that is, health insurance, delivery systems, workforce issues, etc. While knowledge and data exist, it is often not known or understandable to policy makers.

Three case studies will help describe the challenges with implementing policy based on science.

Case 1: Scurvy

Scurvy, as we all know today, is a disease caused by Vitamin C deficiency. James Lind determined as far back as 1747 that this disease, common among sailors on long voyages, could be prevented by adding citrus fruit to sailor's rations.

Unfortunately the evidence behind this common sense measure was not implemented for another 42 years. Imagine how many sailors wound up with scurvy as a result of 42 years of political inactivity.

So just how does policy get made? It is surely not just the simple codification of interventions deemed reasonable and efficacious by science. Policy may be manufactured as a reaction to something terrible, like 9/11 and the PATRIOT Act. It may occur by a chance happening like AIDS funding after the death of a young boy named Ryan White. Or it may occur in a visionary process such as what occurs when an agency or interest group develops model laws such as anti-tobacco legislation.

However, research has indicated that few model public health laws are based on readily identifiable evidence. One study found 107 model laws and determined only 6 percent were evidence-based.

So what is evidence-based policy?

Evidence-based policy is the continuous process of using the best available qualitative

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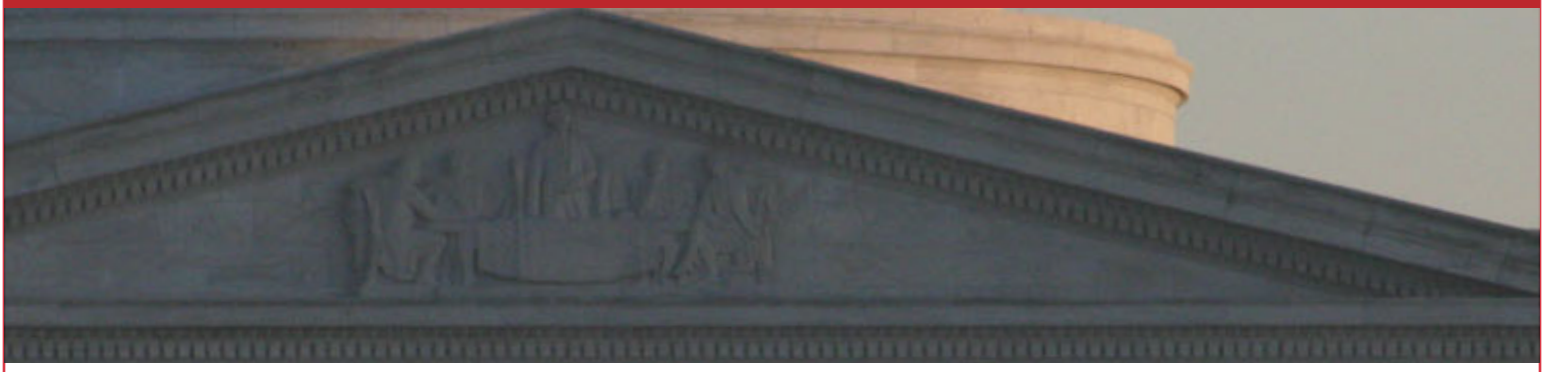

and quantitative evidence to inform policy decisions.

Case 2: Fluoride in drinking water

The fluoridation of drinking water has been hailed by the CDC as one of the greatest achievements in public health during the 20th century. Fluoride's benefit to the oral health of all Americans occurs irrespective of socioeconomic status.

While not common in Europe, the United States began inserting fluoride into drinking water around 1945. Approximately half of all Americans have access to it. It is cheap and effective in reducing tooth decay and tooth loss.

However, something as simple as fluoride in drinking water has been and remains quite controversial. (see TIME Magazine. March 10, 1952. Medicine: Fight over Fluoride.)

Communities in Long Island, the Pacific Northwest, and everywhere in between have often voted against fluoridation of water supplies when up to a vote. It has even been deemed by some to be a communist plot. So why wasn't the evidence about the beneficial effects of fluoride able to outweigh the negative political viewpoint?

What types of evidence exist?

First, let's look critically about the evidence used to inform policy decisions. In terms of policy making, there is qualitative type evidence – stories and narratives – which provide a focus for the target of such evidence. And then there is quantitative evidence – which can offer more objective and substantial "proof" that something works or doesn't work.

One study demonstrated that of 52 laws, only 27 were found to be effective based on evidence. 1 was ineffective. 1 was harmful. And 23 had insufficient evidence.

While qualitative studies help shape an agenda and anchor data, quantitative studies can be manipulated and lose their objective meaning if not interpreted in context or in totality with conflicting data.

That's one reason why systematic reviews are more robust, in the policy world, than solo studies. Multiple studies – aggregated in a systematic review – that all point the policy maker in the same direction offer substantially more influential evidence than a solo study.

While scientists are often expecting randomized controlled studies, these are often impossible for policy research. Often we are limited to natural experiments to compare and contrast the outcomes before and after implementation of a policy or law. Or to compare between different communities with different rules. This is of course open to confounding and bias.

Another type of data comes from modeling. Modeling is limited by the assumptions put into the model. It may be one reason why the politics of our next case study diverges from the science behind it.

Case 3: Mammography and Health Reform

In November 2009, the United States Preventive Services Task Force changed its prior recommendations on mammography (screening for breast cancer). Instead of starting at age 40, it recommended starting at age 50 for most women.

Remember during this time, the health reform debate was raging in the Senate.

And since the USPSTF was about to be empowered with a new authority – any grade "A" or "B" recommendations had to be covered without cost sharing for new insurance plans – this change in policy could have meant that women might have to pay for mammograms if under age 50.

So while the evidence suggested one thing; politics suggested another. An amendment was added to the health reform bill by Maryland Senator Barbara Mikulski explicitly ignoring the recent mammography ruling in lieu of the prior 2002 recommendation. Senator Mikulski, and those voting for her amendment, went ahead and created policy in direct contradiction to the evidence. In the battle of science vs. politics, as with this example, science often loses.

"How do you turn evidence into policy?"

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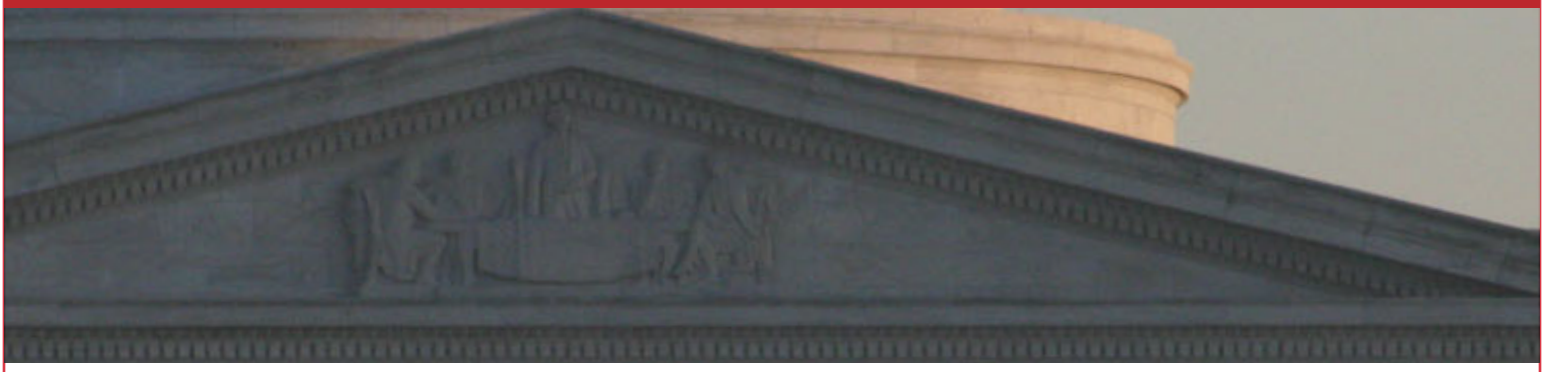

First, let us understand what the role of evidence is. Evidence should demonstrate that a burden exists and demonstrate the priority of one issue over another. Data should explain relevance to local districts. When directed at the level of the voting district it is likely to be most effective.

Evidence should clearly show a benefit or a harm and must personalize the issue for stakeholders. Lastly, evidence must give an estimate of costs. Since health policies must compete against everything else in the budget, it helps to quantify the cost for policy makers.

When preparing evidence, make data easy to understand and distribute. Communicate data in ways most understandable by your target audience. Scientific papers are often not the best medium if policy makers are the target audience.

The active ingredients of good policy must be identified and delivered as easy, broad concepts.

A good evidence base should rely on multiple types of research data: that is, modeling, observations, natural experiments, and rarely narrative approaches. Randomized trials, although rare, are the best.

Once policy is implemented, it is critical to monitor it along multiple outcome measures to ensure effectiveness and make sure it has the intended effects.

Wanting our policy makers to use evidence is not enough; we must do the hard work of finding and translating the evidence for them. Only then can we expect to turn myth into reality and get evidence-based health policy.

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