

## We're measuring opioid strength the wrong way

By DR. JEFFREY SINGER and JOSH BLOOM  
FEB 17, 2022 AT 5:00 AM

Over the past several years, our government has taken control of doctors' prescription pads. In an attempt to reduce opioid overdose deaths, lawmakers placed hard quantitative limits on the maximum daily dose of painkilling drugs doctors can prescribe. These dose limits were calculated from a conversion table that was the crux of the Centers for Disease Control and Prevention (CDC) [2016 opioid prescribing guidelines](#). But a review of the scientific literature shows that the evidence upon which the table is based is either flimsy or non-existent. Even if the CDC recants its 2016 prescribing guidelines when it [updates them later this year](#), the damage has already been done.

The CDC conversion table was intended to help doctors calculate the appropriate dose of a given opioid by comparing its strength relative to morphine. Supposedly, the use of these "morphine milligram equivalents" (MME) would act as a quick reference for physicians. The CDC recommended 90 MME (90 milligrams of morphine) as the maximum daily dose and that the dose of other drugs be adjusted accordingly. For example, the maximum dose of oxycodone, a drug that is twice the strength of morphine, would be given at half the dose of morphine, or 45 milligrams per day.

Although some scientists voiced skepticism, the recommendations became gospel, and later, law. Indeed, by 2022 [38 states](#) enacted laws that restricted the number and dose of opioids doctors may prescribe. Many impose daily limits of 90 MME or less. Medicare requires pharmacists to "[confirm the medical need](#)" for patients prescribed doses exceeding 90 MME. [Health plans](#) impose restrictions on prescriptions exceeding 90 MME.

Although upon first inspection the conversion table appears authoritative, closer scrutiny reveals otherwise. To support it, the CDC cites only one paper — a [2008 study](#) that is inadequate by any measure. This supposedly pivotal piece of research puts forth a conversion table [that is cobbled together](#) from a number of small, [clinically insignificant](#) studies dating back over 60 years. But these studies [never even compared](#) the doses of the various opioids that cause respiratory depression and death. The [types](#) of trials that went into the table would never be conducted today. We call this junk science.

Never mind; this same deeply flawed science has become policy in many hospitals, health plans and pharmacies.

When junk science is enacted into law, innocent people become "guilty." In many cases, innocent physicians have ended up in prison for exceeding the 90 MME law, even though this number was never properly determined. And innocent chronic pain patients fared even worse.

Many of them who had been on long-term high-dose opioid therapy found themselves in unbearable pain after their pain meds were cut, sometimes sharply, because their doctors were afraid of the consequences of exceeding the 90 MME limit — even when medically appropriate. In desperation, an increasing number have turned to street drugs or worse, to suicide.

Realizing the mess it created, the CDC issued an advisory in 2019 stating their 2016 guidelines were “misapplied,” that it never meant the 90 MME benchmark to be a “hard limit.” The CDC admonished doctors for cutting off or abruptly tapering patients whose pain had been well-controlled with doses exceeding 90 MME, even though this practice continues. That same year the American Medical Association officially stated “no entity should use MME (morphine milligram equivalents) thresholds as anything more than guidance.”

Last June, the Food and Drug Administration requested comments from various experts for a workshop it held to investigate the science and “knowledge gaps” surrounding MME benchmarks. One of us commented, explaining why creating morphine equivalent conversion tables is pharmacological folly.

The last two years of the COVID-19 pandemic should have taught us that medical knowledge is constantly being revised and updated, that it is often based on questionable assumptions rather than evidence, and it is never “one size fits all.”

Writing dubious assumptions into law casts junk science in stone. And the junk science remains embedded in the public mindset long after a law is repealed.

As a result, current pain management policy is a house of cards resting on antiquated and unscientific assumptions with no foundation in evidence, just a collection of incorrect (or unproven) numbers. If the CDC seeks to establish meaningful guidelines, it must focus on modern, scientifically rigorous studies, not a patchwork of unreliable research from the past.

*Singer practices general surgery in Phoenix and is a senior fellow at the Cato Institute; Bloom is director of chemical and pharmaceutical science at the American Council on Science and Health.*