

# The Translational Gap: How the Medical System Obstructs Effective Patient Care

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There is something deeply flawed about the modern scientific enterprise. As a result of this problem, millions of people suffer unnecessarily. This phenomenon prevents advances in medicine and psychology from flowing quickly and efficiently from laboratory to clinical practice. This lag between scientific discovery, and the translation of those discoveries into clinical practice, is called the “translational gap.”

How large is the translational gap? Around the turn of the century, the U.S. Congress commissioned the Institute of Medicine to find out. It published a report in 2001 (Committee on Quality of Health Care in America, 2001). The institute found that it takes 17 years for innovations to travel from laboratory to patient. Only 30% of innovations jump the translational gap; the benefits of the remaining 70% are lost to society. Essentially, patients are receiving only 30% of emerging therapies, and they’re getting them 17 years late. The report characterized the size of the translational gap as a “chasm.”

Given the demand for high-quality medical and psychological care, and the obvious benefit to patients and to society, what force is capable of blocking progress so effectively?

There are several factors that contribute to creating the translational gap. A primary one is the suspicion and even ridicule to which new discoveries are subject. Established therapies have large followings and institutional support. New therapies do not. Followers of established therapies attack new ones as they emerge. With the weight of evidence behind an old therapy, and very little evidence for a new therapy, it is easy to contrast the two. These attacks have a chilling effect on the development of promising new therapies.

Second, the way funds are allocated by private and public grant-making agencies discourages innovation. A recent case in point is the U.S. federal government’s new PCORI program. The Patient-Centered Outcomes Research Institute was

supposed to foster patient-centered care. I recently participated in a PCORI application prepared by the California Pacific Medical Center (CPMC), a well-respected research facility. The application was for a novel smartphone-based depression treatment. It was turned down on narrow technical grounds. PCORI went on to fund highly academic endeavors such as discovering whether receiving assistance filling out assessments affected the responses geriatric patients gave, and measuring the difference between individuals within randomized controlled trials and the average results obtained. The PCORI failed to fund exploration of potential benefits to patients of a smartphone-based depression treatment.

The same lack of support for innovation is evident in the peer-review process as well. Little or no attention is given to the strengths of a paper, while the deficiencies, real or supposed, are mercilessly scrutinized. Carl Rogers called this process “finding the blemish.” Even after a paper passes the peer-review gamut and is published, critics often pick it apart, finding some trivial methodological characteristic with which they disagree and then dismissing the results entirely. The baby is thrown out with the bathwater, and promising new treatments are discredited before they can develop.

Third, institutional gatekeepers often exclude therapies with which they are unfamiliar. A case in point is the online list of “empirically validated treatments” maintained by Division 12 of the American Psychological Association. According to the website (<http://www.div12.org/PsychologicalTreatments/faq.html>), the purpose of an online list is to allow “regular updates.” For certain therapies, the list is indeed regularly updated, but for others it is not. Studies of Cognitive Behavioral Therapy and Acceptance and Commitment Therapy dating from 2012 are posted on the website ([http://www.div12.org/PsychologicalTreatments/treatments/anxietymixed\\_act.html](http://www.div12.org/PsychologicalTreatments/treatments/anxietymixed_act.html)). By way of contrast, the list of studies of EMDR has not been updated

for 15 years ([http://www.div12.org/Psychological-Treatments/treatments/ptsd\\_emdr.html](http://www.div12.org/Psychological-Treatments/treatments/ptsd_emdr.html)). The Division 12 criteria for what constitutes an “empirically validated treatment” provide objective standards by which a therapeutic method can be judged (Chambless & Hollon, 1998). Yet rather than leveling the playing field between old and new therapies, the selective reporting espoused by the editors of the website presents a picture of effective therapies skewed by their preferences.

The Division 12 criteria are in themselves very useful. They define seven characteristics that must be present in a study in order for it to validate a treatment method. These characteristics include such reasonable practices as randomization, statistical significance, and the use of a treatment manual. For a technique to be regarded as “efficacious” it must be validated in two such studies conducted by independent research teams. The U.S. Food and Drug Administration (FDA), considering the criteria for drug trials at the same time as the Division 12 standards were being developed, also adopted the standard of two randomized controlled trials (Food and Drug Administration, 1998). When the Division 12 standards were defined in the late 1990s, an initial online list of “empirically validated” therapies was published. That the list has since been updated selectively is unfortunate but is no reflection on the original standards. Standards are essential, even when they are not impartially applied.

Some sources go much further in discouraging the development of novel treatments. A group of self-appointed “skeptics” has appropriated the editing of the Wikipedia entries on alternative medicine. They are organized as Wikiproject Skepticism, and they specialize in vandalizing entries on topics they hold in disfavor. These include acupuncture, chiropractic, energy medicine, and energy psychology. The entry for EFT (Emotional Freedom Techniques) excludes mention of the more than 50 studies and review papers evaluating the technique. Instead it uses old newspaper stories debunking the method, quotes from highly partial sources such as Quackwatch and the Skeptical Enquirer, and reviews critical of EFT. To make sure that readers get the point, the entry as of February 2014 used the word “pseudoscience” three times in its five-paragraph length. The page is locked to outside edits (most Wikipedia entries are open for anyone to edit) and the administrative editors have resisted all attempts to change the entry to a neutral point of view.

Having new breakthroughs accepted is an old problem. Medical history is replete with examples of the translational gap. In 1847, Ignaz Semmelweis discovered that if doctors washed their hands between the morgue and the operating room, infections dropped by 90%. His modest reforms were robustly opposed, and after he was driven out of his job, his successor reversed his hand-washing policy.

The cure for scurvy was discovered in 1747, but the British Admiralty did not start routinely issuing citrus fruit to sailors for another 42 years. In that time frame, Britain fought the American War of Independence, the Napoleonic Wars, and many other conflicts. It desperately needed sailors to maintain its global fleet, but failed to take action on this simple remedy. More sailors died of scurvy than from the guns of all the navies that Britain fought. All the exigencies of national security, public health, and global trade could not overcome the translational gap.

These battles between old ideas and new ones are cloaked in the language of scientific discourse, but they are more like religious or political arguments. If you’ve attempted to reason with a fundamentalist, you quickly realize that when you trespass into the realm of devout belief, rational argument is futile. The mind of the fundamentalist is firmly set, and any facts must fit into that conceptual scheme, or be discarded. The 19th century battle between the theory of evolution and the biblical account of creation was one of the more famous landmark arguments of this type. Another was the battle between Galileo and the Catholic Church over whether the sun revolved around the earth or vice versa.

I admire the skeptics in the same way I admire all people of faith. They have a strong belief that they are right, and they are immune to reason. In the “talk” pages of Wikipedia, where you can read the debates behind the entry on EFT, one of the gatekeepers controlling the content discusses “the best way to demonstrate to the reader that this is bullsh\*t!” ([http://en.wikipedia.org/wiki/Talk:Emotional\\_Freedom\\_Techniques/Archives/2011/May](http://en.wikipedia.org/wiki/Talk:Emotional_Freedom_Techniques/Archives/2011/May)). Their line of thinking goes like this: Energy psychology is bunk; therefore any evidence that it is not must be incorrect.

When you start with this dogma, it becomes necessary to explain away any scientific fact that contradicts your fundamental belief. The creationists faced precisely this dilemma in the 18th and

19th centuries when Britain's system of canals was being dug. The excavations unearthed fossils of extinct species and revealed strata of rock from past epochs. These made it apparent that the age of the earth was much greater than the one suggested by a literal reading of Genesis. One fossil can be explained away. The task becomes harder when more are discovered, and impossible once a coherent theory such as evolution offers a new and more reasonable explanatory paradigm through which to view the evidence.

The skeptics find themselves in this same difficult position, and I admire the tenacity with which they cling to their beliefs. At first there were clinical reports of the efficacy of energy psychology, and these were dismissed by the skeptics as "merely anecdotal." Then there were hundreds, and then thousands of case studies. The skeptics retorted that "the plural of anecdote is not data." Then there were data. The first studies were published. The skeptics shifted their ground, now arguing that there were not enough studies. More studies were published. The skeptics moved the goal posts again, arguing that these used "shoddy methodology" or had other flaws that required them to be dismissed. Higher quality and independent studies then validated the early studies and the anecdotes.

The reason I admire the skeptics is that it takes strong faith to dismiss a mountain of evidence, just as creationists today still dismiss the theory of evolution. I personally do not have such strong faith; when I see the mountain, I am convinced.

Not all new approaches have merit. Some are passionately promoted by adherents, and later turn out to be flawed. From "phrenology" in the 19th century to "conversion therapy" in the 20th, the history of science is littered with concepts that did not stand the test of time. Yet if we don't subject new therapies to microscopic scrutiny, isn't there a danger that quackery, fraud, and even dangerous techniques will flourish?

This is where standards like those of APA's Division 12 and the FDA show themselves to be essential. A therapy must meet such standards in order to cross the threshold of acceptability. The requirement that a method must be validated in not just one randomized controlled trial, but a second one conducted by an independent research team, is a practical standard of proof. At that point, it's possible to proceed with reasonable confidence.

If the battles between old and new approaches were merely an academic debate, it would be amusing. When it results in a translational gap that prevents effective treatments from reaching millions of suffering people, it is a tragedy.

Former Intel CEO Andy Grove has written stinging critiques of the failure of medicine to innovate. He contrasts this with the world of technology, in which innovation is constant. He describes a medical culture that creates "conformity of thoughts and values," which leads to "more sameness and less innovation." (Begley, 2007). Imagine if medicine and psychology innovated as enthusiastically as smartphone manufacturers.

This issue of *Energy Psychology* journal is devoted to exploring some of the problems that lead to the translational gap. It includes two papers that were denied publication in other journals. Those papers were written in response to reviews critical of energy psychology. When the editors of those journals received cogent rebuttals of their reviews, they refused to publish them. We include abstracts of the original reviews, and those authors' responses to the rebuttals. Read both points of view, and decide for yourself whether or not these approaches have merit.

We also feature a guest editorial by Robert Schwarz, PsyD, director of the Association for Comprehensive Energy Psychology, an organization which has given professionals in the field a collective voice.

It's not likely that we will quickly close the translational gap. The old enemies of knowledge—ignorance, fear, superstition, arrogance, intolerance, complacency, and entrenched elites—are alive and well. Almost a century ago, physicist Max Planck famously observed that "Science advances one funeral at a time."

However, the speed with which online journals can publish research means that new disciplines such as epigenetics and psychoneuroimmunology can be advanced quickly. Despite the opposition, EFT is now practiced in many VA (Veterans Administration) hospitals. Over 40% of professionals are using energy psychology with their clients (Gaudiano, Brown, & Miller, 2012). Millions of Google searches are performed each month for terms like "EFT therapy," and millions of people visit EFT websites each month (Church, 2013). As the technologies championed by Andy Grove meet the translational gap embedded in modern medical superstition, our prospects of

getting effective evidence-based practices to the people who need them most may improve markedly in the coming years.

## References

- Begley, S. (2007, November 3). A research revolution. *Newsweek*. Retrieved from <http://www.thedailybeast.com/newsweek/2007/11/03/a-research-revolution.html>
- Chambless, D., & Hollon, S. D. (1998). Defining empirically supported therapies. *Journal of Consulting and Clinical Psychology, 66*, 7–18.
- Committee on Quality of Health Care in America, Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: National Academy Press.
- Food and Drug Administration. (1998). *Guidance for industry: Providing clinical evidence of effectiveness for human drug and biological products*. Rockville, MD: U.S. Department of Health and Human Services.
- Gaudiano, B. A., Brown, L. A., & Miller, I. W. (2012). Tapping their patients' problems away? Characteristics of psychotherapists using energy meridian techniques. *Research on Social Work Practice, 22*, 647–655. doi:10.1177/1049731512448468.