Would a Suicide Barrier on the Golden Gate Bridge Save Lives?

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The Golden Gate Bridge in San Francisco has the regrettable distinction of being the number one spot for suicide in the world. There have been more than 1300 known suicides from the bridge, and in 2007 at least 35 people committed suicide by jumping off the Golden Gate Bridge, more than in any other year.

Phil was an avid cyclist and frequently rode across the bridge from San Francisco into the Marin Headlands. On October 26, 2004, Phil was taking his usual ride across the bridge when he stopped partway across, got off his bicycle, and jumped to his death. He left no note and gave no warning. We have no idea what made that day, or hour, different from any other, but his death left a wake of sadness in many, many lives.

Since Phil’s death, I have worked on the Golden Gate Bridge Suicide Barrier Task Force of the Psychiatric Foundation of Northern California. The task force advocates building a new barrier on the bridge to prevent suicides. Currently, the Golden Gate Bridge Board of Directors is undertaking a multiyear study on a suicide barrier. Phase one of the study examined whether a wind-stable barrier could be built and found that several wind stable designs were possible. The second phase is under way, and it examines the environmental, engineering, and historical impact of any new barrier.

There have been several previous campaigns to build a barrier on the Golden Gate Bridge, but none have been successful. Questions regarding effectiveness, aesthetics, and cost-effectiveness have defeated the previous campaigns. But what is the evidence regarding these questions? Could a suicide barrier on the Golden Gate Bridge save lives at a reasonable cost without sacrificing the beauty of the bridge? I believe that it could and will give you the evidence that convinced me.

A brief look at the evidence

The current barrier on the Golden Gate Bridge is only four and a half feet tall and provides little impedance to a suicidal person. A new barrier that is difficult or impossible to climb would likely reduce suicides at the bridge to nearly zero, just as barriers at other suicide sites (such as the Bloor Street Viaduct in Toronto—which had the world’s second highest rate of suicides until a barrier was constructed in 2004) have done. Even though many people are against a suicide barrier because they believe that people will find another way to commit suicide, the evidence shows that these beliefs are not accurate.

Although it is easy to determine the effect of a barrier in reducing suicides at a particular site, it is much more difficult to determine whether a barrier would prevent suicides or merely divert them to a different location. It is, of course, impossible to do a randomized controlled study of the effectiveness of a bridge barrier. Instead, we must rely on observational data on the effectiveness of reducing access to lethal means, along with some observational reports on the effectiveness of bridge barriers. Although all of the data are observational, they consistently support the hypothesis that bridge barriers are an effective means of preventing suicides.

There is a large body of evidence that shows that reducing access to lethal means reduces suicide rates. The most famous example is the dramatic reduction in England’s suicide rate when the gas in homes was changed from coal gas to natural gas. Coal gas causes lethal asphyxiation whereas inhaled natural gas is not lethal. Before the introduction of natural gas, one-third of suicides in England were caused by coal gas asphyxiation. After natural gas was introduced, the suicide rate in England fell by more than 25%. Kreitman concluded that this drop in suicide was a direct result of the change in the lethality of the gas. While the switch from coal to natural gas was not undertaken as a suicide prevention strategy, it was nevertheless an example of very successful suicide prevention. Another example of a reduction in suicide that resulted from impeding access to lethal...
means was seen when several highly lethal pesticides were banned in Sri Lanka; this led to a 50% reduction in the suicide rate over 10 years.4

There are many other examples of control of lethal means resulting in suicide prevention. These examples (along with data on other strategies of suicide prevention) were analyzed in a systematic review of suicide prevention by Mann and colleagues5 in the Journal of the American Medical Association. The authors found that reducing access to lethal means, including bridge barriers, was an effective way to prevent suicide. Suicide attempts are often misguided or occur during an acute crisis.6,7 It is likely that reducing access to lethal means prevents suicide because without easy access there is time for the impulse to pass and for the person to seek help.

In addition to the data regarding lethal means in general, there are data about bridge barriers specifically. In the 5 years before a barrier was built on the Duke Ellington Memorial Bridge in Washington, DC, 4 people a year committed suicide at the site. In the 5 years after it was built, only 1 person died while the nearby Taft Bridge saw no increase in suicides. Following the construction of the Ellington barrier, the suicide rate in Washington, DC, fell by 4 persons a year in the next 5 years, the same as the previous rate of suicides committed off the Ellington Bridge.8 There is no way to know if this reduction in suicides in Washington was coincidental, but it certainly supports the hypothesis that the barrier on the Ellington Bridge prevented suicides.

In 1983, a suicide barrier was built on the Augusta River bridge in Maine. Before the construction of a barrier, 14 people jumped to their deaths from the bridge; after the barrier was built, there were no further suicides. There was no increase in persons jumping off nearby structures, and the city saw a reduction in its suicide rate greater than in the surrounding area.9

A barrier installed on the Clifton Suspension Bridge in England halved suicides from that site (from 8.2 to 4 a year) even though the barrier did not cover the entire bridge. There was no increase seen in jumps from surrounding structures.10

In 1998, a safety net was placed at the Bern Muenster Terrace, a former suicide hot spot. There were no further suicides at the site, and even though there were 2 other high bridges within a 5-minute walk of the site, there was no increase in jumps off of other high structures in Bern. This resulted in a significant reduction in jumping fatalities in that city.11 An analysis comparing suicide rates throughout Switzerland in areas with and without suicide bridges found that only one-third of people who jumped off of a bridge would be expected to substitute a different method for suicide if no bridge were available.12

In 1978, Seiden13 did a famous study of people who were prevented from jumping off the Golden Gate Bridge. He gathered follow-up data on people who were physically restrained from jumping by the California Highway Patrol or workers on the bridge. There were 515 such people between 1937 and 1971. Seiden found that, in 1978, 94% were still alive or had died of natural causes, and only 6% had committed suicide or died in accidents suspicious for suicide. His study supports the notion that suicide is preventable and that if people are prevented from committing suicide, they are not inevitably going to complete suicide in the future. In fact, most people who survive a suicide attempt do not end up committing suicide later.14

A suicide icon
It is possible that the effect of building a barrier on the Golden Gate Bridge would be even more powerful than building a barrier on a less famous structure. The bridge is known worldwide as a suicide icon, and it is possible that it functions not only as an easily accessible method to end one’s life but also as a suicide magnet.

William Glenn has written about the existence of suicide magnets: easily accessible, romanticized places that become associated with suicide in the public mind.15 Given the suggestible nature of suicide,16,17 it is possible that the Golden Gate Bridge amplifies suicidal feelings in vulnerable people. It may function as more than a “loaded gun” in the hands of suicidal people in its vicinity; it may actually foster or even stir suicidal feelings in people who encounter it. Ending its status as the world’s most famous suicide icon might reduce suicide even more than the barriers on less iconic structures.

Would a barrier be cost-effective?
The main arguments against building a suicide barrier on the Golden Gate Bridge are usually aesthetics and cost-effectiveness. Many wonder whether it is possible to build an effective barrier that does not detract from the beauty of the bridge. However, several attractive (and wind stable) designs have been proposed and can be viewed online.18 Others wonder whether money would be better spent on other transportation safety or health projects. The costs of public works projects are difficult to predict, but the Golden Gate Bridge Board of Directors predicts the cost to be approximately 10 to 25 million dollars. If the barrier prevented
only 15 deaths a year for 15 years, the cost would still only be $100,000 per life saved. The United States Department of Transportation determines a safety measure to be cost-effective if it costs 3 million dollars per life saved which makes a bridge barrier a bargain compared with other transportation projects.

A suicide barrier is also a bargain when compared with other health care costs. Hemodialysis costs Medicare $68,000 per year of life saved. Given that the median age of those who completed suicide from the Golden Gate Bridge between 1995 and 2005 was 40, the cost per year of life saved by a bridge barrier would be a small percentage of the cost per year of life saved by hemodialysis.

Conclusion
The data do not support the common arguments against a bridge barrier. No barrier exists at the Golden Gate Bridge despite its notoriety as the number one spot for suicide in the world; this may reflect our society’s ambivalence about people who struggle with suicidality and about whether to help them. If we do decide to build a barrier, there is strong evidence that it would save lives.

Disclosures: Dr Fleming is assistant clinical professor of psychiatry at the University of California, San Francisco. She reports no conflicts of interest concerning the subject matter of this article.

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