John J Moylan, President
Golden Gate Bridge District
P.O. Box 9000, Presidio Station
San Francisco, CA 94129-0601

October 7, 2008

Dear Mr. Moylan,

Several months ago I sent you my report on the scientific evidence on the effectiveness of suicide barriers. Recently I obtained a response to this report written by Anne Fleming and David Elkin. Unfortunately, this response simply repeats the many of the same misunderstandings common among pro-barrier advocates.

Studies on the effects of suicide barriers on bridges have consistently reproduced the same results. They find that barriers reduce the suicide rate at the bridge, and sometimes reduce the suicide rate by jumping in the surrounding community. However, none of these studies has detected the evidence we need to conclude that barriers save lives – a statistically significant drop in the overall suicide rate after a barrier is installed.

Pro-barrier advocates claim that we do not detect a drop in suicides because suicide by jumping is relatively rare, and we just don't have enough data to detect the small but beneficial effect of suicide barriers. Barrier opponents claim that we do not detect a drop in suicides because there is no drop – barriers simply push suicidal people who would have jumped from the bridge to commit suicide in another place or in another way. The only way to distinguish between these competing theories is to find a statistically significant drop in suicides after a barrier is installed, and so far no study has found this. Thus, at this point we simply don't know if suicide barriers save lives or not.

Fleming and Elkin acknowledge at several points in their response that no study has found a statistically significant drop in the suicide rate after the installation of a barrier. However, they still argue that there is a "large collection of evidence" on the efficacy of bridge barriers. Clearly this is incorrect – the results of all existing studies are consistent *both* with barriers saving lives *and* with barriers having no effect. A collection of studies that cannot distinguish between these two possibilities does not somehow add up to clear evidence that one interpretation is correct.

I should also point out that the analogy that Fleming and Elkin draw between the study of suicide barriers and the study of smoking and disease is misleading. Nearly every study on smoking has found a statistically significant relationship between smoking and disease – there are now literally hundreds of studies that have established this statistical link. The case that could not be proven conclusively with any one of these studies was whether smoking *caused* disease. As more studies were conducted, researchers were able to rule out a variety of competing hypotheses, and conclude that there was in fact a causal link between smoking and disease. It was primarily this assertion of causality that was disputed by the tobacco companies, not the statistical relationship itself. In contrast, we only have a handful of studies on suicide barriers, and not one of these studies has found a statistical link between barriers and a reduction in suicides.

Fleming and Elkin also appear to confuse the effectiveness of barriers at preventing suicides *at a particular location* with saving lives. They state "[a]ll told, there are eight separate studies looking at the question of whether bridge barriers could be effective, and all of the authors feel that their studies support this efficacy." Yes, but effective at what?

A careful read of these studies, and even of the quotes provided by Fleming and Elkin, reveals that the authors of these studies are asserting that suicide barriers are effective at preventing suicides *at particular*

locations, and in some cases preventing suicides *by jumping*. They are *not* asserting that suicide barriers are proven to save lives. For example, in a review of existing studies on suicide barriers Beautrais[1] writes:

> Taken together these studies and reports suggest that barriers reduce suicides by jumping both at the site and in the surrounding area. However, the low base rate of suicide, and particularly of suicide by jumping, makes small changes in total suicide rates difficult to detect. For this reason it is usually not possible to determine if the installation of barriers (or other safety measures) at a particular site reduces the overall suicide rate. (p. 60)

This review of existing research agrees exactly with what I wrote in my report – we have not yet been able to determine if suicide barriers save lives, or just displace suicidal individuals to other locations or methods. Later in the same article Beautrais writes:

> Prevention efforts have now been strengthened by four studies that provide clear evidence for the effectiveness of safety barriers and a safety net at jumping sites [citations omitted]. This evidence now provides the basis for the best practice to prevent suicides by jumping at popular sites, and should be a consideration in designing new structures. (p. 62)

It is clear that by "effectiveness of safety barriers" Beautrais means the effectiveness of barriers at preventing suicides at a particular location. As we have already seen, this is not the same thing as saving lives.

Further, note that many suicide researchers are in the habit of putting a positive spin on their results, which can confuse people trying to interpret their research. In fact, in an editorial published in the *Santa Barbara News-Press* nearly a year ago I warned that this tendency of suicide researchers to mix advocacy and fact would obscure the scientific findings of these studies and confuse many people trying to interpret their results (that editorial is available on my website). This confusion appears at several points in Fleming and Elkin's response.

For instance, Fleming and Elkin accuse me of misrepresenting the conclusions of Reisch et al. (2007) when I summarized that study with the quote: "Barriers on bridges may prevent suicides but also may lead to a substitution of jumping site or method." The quote preferred by Fleming and Elkin is: "The results support the notion that securing bridges may save lives." However, these quotes say the same thing – the only difference is the optimistic tone of the second quote, which leaves unspoken the possibility that securing bridges may not save lives.

Finally, note that the assertion that the theory of means restriction can be applied to bridges is purely conjecture at this point, as I explained in my previous report.

Overall, it appears that Fleming and Elkin's objections to my report are based on their misunderstanding of the scientific evidence related to suicide barriers.

I will conclude with one piece of advice. Rather than relying on unsolicited submissions from activists and concerned citizens, I believe it would be wise for the Golden Gate Bridge Board of Directors to hire a statistical consultant familiar with the standards of social scientific research to advise them on the findings in the scientific literature on suicide barriers. Given the projected $40-50 million dollar cost of the proposed suicide barrier, hiring an impartial expert on this topic with no affiliation with any advocacy group would be well worth the cost.

Thank you, and please do not hesitate to contact me if you have any questions or concerns on this matter.

Sincerely,
Garrett Glasgow

---

[1] Beautrais, Annette. 2007. "Suicide by Jumping: A Review of Research and Prevention Strategies." *Crisis*, 28: 58-63.