



Department of Psychiatry  
School of Medicine

GOLDEN GATE BRIDGE  
HIGHWAY AND  
TRANSPORT DISTRICT

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SECRETARY OF  
THE DISTRICT

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John J Moylan, President  
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August 22, 2008

Dear Mr. Moylan,

We are responding to a report sent to you by Mr. Garrett Glasgow regarding the evidence for the effectiveness of a physical suicide deterrent system on the Golden Gate Bridge. We have significant concerns about this report as we feel it paints an inaccurate picture of the evidence and does not reflect the view of the majority of researchers on this subject. Mr. Glasgow asserts, "To date, every study on the effectiveness of suicide barriers has been inconclusive." However, the authors of these studies would disagree with him. Every author of all published studies on the effectiveness of suicide barriers has concluded that his or her study supports the effectiveness of bridge barriers to save lives. The evidence for the effectiveness of suicide barriers is similar to the evidence for the health dangers of smoking (which were long disputed as not conclusively proven): no single study can conclusively prove the case, but the collected results of study after study point to a clear answer.

The medical literature is clear that reducing access to lethal means (such as building bridge barriers) is an effective method in preventing suicide. In the largest review to date (published in the *Journal of the American Medical Association*), Mann et al. concluded "these studies demonstrate the life-saving potential of restricting lethal means."<sup>1</sup> In addition, the three other scientific reviews, including one that specifically looked at suicide by jumping, concluded that means restriction is an effective method of suicide prevention.<sup>2,3,4</sup> Finally, the Substance Abuse and Mental Health Services Administration (SAMHSA) has concluded that means restriction is effective and includes it as one of its National Goals for Suicide Prevention (Goal 5: Promote Efforts to Reduce Access to Lethal Means and Methods to Self-Harm)<sup>5</sup>

The overwhelming evidence that reducing access to lethal means is an effective method of suicide prevention strongly supports the effectiveness of bridge barriers, particularly one easily accessible and as close to a large population center such as the Golden Gate Bridge. However, there are several studies on bridge barriers in particular, and all authors conclude that



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their study supports the efficacy of suicide prevention barriers. Glasgow quotes these studies out of context or otherwise minimizes their findings. In the end, Glasgow ignores the large collection of evidence and instead focuses on the fact that no single study can prove the case (which would be unusual in such an area of public health research).

A striking example of Glasgow quoting a study out of context comes from the study by Riesch et al. Glasgow writes, "Riesch et al. (2007) test the relationship between suicide by jumping and the accessibility of bridges and conclude '[b]arriers on bridges may prevent suicides but also may lead to a substitution of jumping site or method' (p681.)"<sup>6</sup> However, the sentence is not from the conclusion of the paper. It is on the first page as part of the introduction. In fact, it is the very question that authors are attempting to answer – how many suicides would be prevented and how many suicides would still occur with a substitution of method. The authors report, "Regions with high rates of bridge suicides were identified and compared with regions with low rates, and the analysis revealed that only about one third of the individuals would be expected to jump from building or other structures if no bridge was available."<sup>7</sup> Their report suggests that only one third of people would substitute a new jumping site. The authors' actual conclusion is "The results support the notion that securing bridges may save lives."<sup>8</sup>

In addition, Glasgow minimizes the findings of the other studies on suicide barriers. He states that Pelletier and Bennewith's studies do not support efficacy of bridge barrier, when both authors conclude that their studies do, in fact, support this efficacy. Pelletier's study at the Aurora River bridge in Augusta, Maine did find a 9% decrease in the suicide rate in Augusta after the construction of the barrier (which was greater than the 3% decrease seen in the surrounding area).<sup>9</sup> While this decrease did not achieve statistical significance (i.e. there is still the possibility that the decrease was due to chance), it is another piece of evidence supporting the effectiveness of barriers. Pelletier's reported his conclusion, "On the basis of this study, the safety fence seemed to be effective in preventing suicides."<sup>10</sup> Bennewith et al. found a statistically significant reduction in the rate of male suicide by jumping after the construction of the Clifton River Bridge. In addition, there was an overall reduction in the suicide rate by jumping, though it did not reach statistical significance.<sup>11</sup> Bennewith concludes, "This study provides evidence for the preventive role of barriers on bridges."<sup>12</sup> Reisch and Michel looked at suicides off the Bern Meunster Terrace after the installation of a safety net and found a significant decrease in the number of suicides by jumping. They concluded, "The number of people jumping



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from all high places in Bern was significantly lower compared to the years before, indicating that no immediate shift to other nearby jumping sites took place."<sup>13</sup> They had an additional interesting point, "An installation of a physical barrier has an effect which reaches beyond physical obstruction ... It maybe perceived as a sign of care."<sup>14</sup>

Similarly, Glasgow states that O'Carroll and Silverman's paper does not unequivocally prove that the Ellington suicide barrier saved lives. Of course, no single paper can offer unequivocal proof, and the authors would be imprudent to claim that theirs did. However, the authors did find that constructing a suicide barrier on the Ellington bridge eliminated suicides at that bridge while there was no increase in suicides at the nearby Taft bridge (which is easily visible to from the Ellington bridge). In addition, the suicide rate in the Washington D.C. area fell after construction of the barrier.<sup>15</sup> The authors did not feel that their study could offer unequivocal proof but did again feel that their study supported the effectiveness of suicide barriers.<sup>16</sup>

In addition to the above studies, studies by Beautrais<sup>17</sup>, Rosen<sup>18</sup> and Seiden<sup>19</sup> all looked at the question of preventability and suicide by jumping and concluded that their study supported the efficacy of barriers. All 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. There are no published studies of bridge barriers that do not support this efficacy. This is in addition to the huge body of literature on the efficacy of means reduction in general. Glasgow states "no existing research has been able to rule out the possibility that suicide barriers simply lead people to commit suicide in another place or way."<sup>20</sup> Again, the picture is similar to the case for the health dangers of smoking or the existence of global warming. No single study can prove the case, and it is impossible to completely rule out the possibility of the opposite scenario. However, the collection of a large body of evidence clearly points to the answer that smoking does cause cancer, global warming does exist, and a suicide barrier on the Golden Gate Bridge would save many, many lives.

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- <sup>1</sup> Mann JJ, Apter A, Bertolote J, Beautrais A, Currier D, Haas A, Hegerl U, Lonnqvist J, Malone K, Marusic A, Mehlum L, Patton G, Phillips M, Rutz W, Rihmer Z, Schmidtke A, Shaffer D, Silverman M, Takahashi Y, Varnik A, Wasserman D, Yip P, Hendin H. Suicide prevention strategies: a systematic review. *JAMA*. 2005 Oct 26;294(16):2064-74.
- <sup>2</sup> Gunnell D, Nowers M. Suicide by jumping. *Acta Psychiatr Scand*. 1997 Jul;96(1):1-6.
- <sup>3</sup> Daigle MS. Suicide prevention through means restriction: assessing the risk of substitution. A critical review and synthesis. *Accid Anal Prev*. 2005 Jul;37(4):625-32.
- <sup>4</sup> Hawton K. Restricting access to methods of suicide. *Crisis*. 2007 (Suppl 1): 4-9.
- <sup>5</sup> Summary of National Strategy for Suicide Prevention: Goals and Objectives for Action. SAMHSA  
<http://mentalhealth.samhsa.gov/suicideprevention/strategy.asp>
- <sup>6</sup> Glasgow, G. Report on the proposed Cold Spring Canyon Bridge Suicide Barrier. Feb 5, 2008.
- <sup>7</sup> Reisch T, Schuster U, Michel K. Suicide by jumping and accessibility of bridges: results from a national survey in Switzerland. *Suicide Life Threat Behav*. 2007 Dec;37(6):681-7.
- <sup>8</sup> Reisch et al. 2007
- <sup>9</sup> Pelletier AR. Preventing suicide by jumping: the effect of a bridge safety fence. *Inj Prev*. 2007 Feb;13(1):57-9.
- <sup>10</sup> Pelletier 2007.
- <sup>11</sup> Bennewith O, Nowers M, Gunnell D. Effect of barriers on the Clifton suspension bridge, England, on local patterns of suicide: implications for prevention. *Br J Psychiatry*. 2007 Mar;190:266-7.
- <sup>12</sup> Bennewith 2007.
- <sup>13</sup> Reisch T, Michel K. Securing a suicide hot spot: effects of a safety net at the Bern Muenster Terrace. *Suicide Life Threat Behav*. 2005 Aug;35(4):460-7.
- <sup>14</sup> Reisch and Michel 2005.
- <sup>15</sup> O'Carroll, PW, & Silverman, MM. (1994). Community suicide prevention: the effectiveness of bridge barriers. *Suicide Life Threat Behav*, 24(1), 89-91; discussion 91.
- <sup>16</sup> O'Carroll and Silverman 1994.



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<sup>17</sup> Beautrais AL. Effectiveness of barriers at suicide jumping sites: a case study. *Aust N Z J Psychiatry*. 2001 Oct;35(5):557-62.

<sup>18</sup> Rosen DH. Suicide survivors. A follow-up study of persons who survived jumping from the Golden Gate and San Francisco-Oakland Bay Bridges. *West J Med*. 1975 Apr;122(4):289-94.

<sup>19</sup> Seiden RH. Where are they now? A follow-up study of suicide attempters from the Golden Gate

Bridge. *Suicide Life Threat Behav*. 1978 Winter;8(4):203-16.

<sup>20</sup> Glasgow 2008.