Single Cells, Segregated Housing, and Suicide in the New Jersey Department of Corrections

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Single-cell and segregated housing are established risk factors for suicide in prison. The importance of these factors together may represent a disproportionate risk and are both modifiable. We tallied the housing locations and single- versus double-cell status of the 26 inmates who committed suicide in the New Jersey Department of Corrections (NJDOC) from 2005 through 2011, and compared the suicide rates in these housing arrangements. All single-cell housing in the NJDOC (whether segregated or general population) represented a higher risk of suicide than double-cell housing in the general population. Single-cell detention was the riskiest housing in the NJDOC, with a suicide rate that was more than 400 times the rate of suicide in double-cell general population housing and 23 times the rate of suicide in the prison system overall. The odds ratios of suicide in single-cell detention represent the highest reported in the literature in terms of risk factors for suicide in prisoners. Apprised of this risk, the NJDOC, assisted by its mental health vendor, University Correctional Health Care (UCHC, of Rutgers University, formerly the University of Medicine and Dentistry of New Jersey), adopted in 2012 a practice of default double-celling of inmates placed in detention.

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Suicide is the fifth most frequent cause of death in prisons and is the most frequent cause of death in jails.[1] Minimizing suicide is an important goal of correctional mental health clinicians and administrators. The suicide rates in state prisons and jails fell from the early 1980s through the early 1990s and have remained steady since then,[2] a decrease due in part to reforms in the management of inmates in general and mentally ill offenders in particular. In 2010, the jail and prison suicide rates nationwide stood, respectively, at 42 and 16 per 100,000 inmates per year.[1] The NJDOC's suicide rate from 2005 through 2011 was also 16 per 100,000. By comparison, in 2010, the suicide rate in the United States at large was 12.4 per 100,000 persons per year (5.2 per 100,000 females and 19.9 per 100,000 males).[3]

Despite the decline in prison and jail suicide rates, enormous energies and monies continue to be devoted to minimizing suicides in corrections. Even though research demonstrates that we as yet cannot reliably predict a rare event such as an individual suicide, suicide continues to vex clinicians and administrators alike. Besides the obvious dismay caused by the loss of life, suicide is often followed by litigation.[4–6]

Most efforts at reducing suicide in prison focus on clinicians' identifying, monitoring, and treating individuals at risk of suicide.[7] Yet the suicide rate in prisons in the United States has been unchanged since 1990.[8] Is this rate, as Hanson has asked, as low as we can go? What are we gaining for our efforts?

The literature has established many risk factors for suicide in prison, and most are well known.[9–13] Prior or current diagnosis of mental illness, a history of substance abuse, a history of suicide attempts, a history of violence, white race, being male, detainee/remand status, and a life sentence are all well-known risk factors for suicide in prison. However, these are static factors that, besides accurate diagnosis, are not modifiable by clinical intervention.

Dynamic risk factors for suicide in prison, which ostensibly can be changed, include a recent disciplinary charge, bad news, inmate conflict, psychological distress, and recent thoughts of suicide.[9,11,13] Al-

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though these factors are modifiable, they may change unpredictably, slowly, or not at all, and in any case are not easily subject to control by prison clinicians or administrators.

Single-cell and segregated housing (housing outside of general population, often in a disciplinary setting)[9,14,15] are also dynamic risk factors for suicide in prison. Administrative segregation (disciplinary housing) in particular has been criticized for the purported stress and deterioration it visits on inmates.[16,17] However, a recent study of administrative segregation in a Colorado prison, which showed no psychological deterioration of inmates placed in administrative segregation, calls into question the long-standing presumption of the deleterious effects of administrative segregation.[18] In any case, single cells and segregated housing can readily be changed, at least more readily and predictably than other dynamic risk factors. Based on a review of the literature and our clinical and administrative experience within the NJDOC, we hypothesized that single-cell and segregated housing arrangements are major risk factors for suicide within the NJDOC.

Methods

This study was a continuous quality-improvement initiative that was approved by the NJDOC's Departmental Research Review Board (DRRB). The medical school's Institutional Review Board (IRB) found that this project did not constitute human subjects research and therefore did not require IRB approval.

We tallied the housing locations and single- versus double-cell status of the 26 inmates who committed suicide in the NJDOC from 2005 through 2011. The housing locations included general population (GP, where most inmates reside and where inmates enjoy the greatest number of privileges); detention (a short-term unit, up to 15 days in the NJDOC, where inmates charged with a disciplinary infraction reside as they await disposition of their infraction and which offers the fewest privileges, even fewer than administrative segregation); protective custody (where inmates reside who are at risk of predation by other inmates); infirmary; administrative segregation (AdSeg, where inmates reside who have been found guilty of a disciplinary infraction and which offers fewer privileges than GP, but more than are offered in detention); prison psychiatric units (the correctional analogues to community psychiatric units); and stabilization units (SUs, the prison equivalent of a psychiatric emergency room). For the purposes of this study, all housing locations other than GP were considered segregated housing. Single- versus double-cell status was determined by a review of NJDOC and UCHC reports on the persons who committed suicide. The NJDOC provided a count of single- and double-cell beds at each housing location within each institution.

Given the data retrieved, the authors determined the annual suicide rates per 100,000 inmate beds in the various housing locations, calculated for single- versus double-cell housing status. For ease of comparison, a suicide rate (odds ratio) was calculated relative to the rate in double-cell GP (as this housing status was postulated to be the lowest risk). Binomial analysis was used to test whether there was a significant difference between the suicide rate per bed in double-cell GP over seven years (which was considered the expected probability of suicide) and the rates in the various other housing locations. Statistical significance was set at $\alpha < .01$.

Results

As shown in Table 1, over seven years there was only one suicide of an inmate housed in a double cell. That suicide was in GP (and the inmate actually committed suicide outside the cell). Thus, double-cell GP housing had a suicide rate of .9 inmates per 100,000 beds per year. Every other double-cell housing arrangement had no suicides during the seven years of the study. Conversely, every single-cell housing arrangement other than the stabilization unit (which is explicitly designed to be suicide resistant) had a suicide rate that was higher than in double-cell GP.

Single-cell detention, with 10 suicides over seven years, and an annual suicide rate of 374 per 100,000 beds, had both the highest number of suicides and the highest rate of suicide among housing locations in the NJDOC. This rate was 408 times the rate in the double-cell GP and nearly 23 times the rate of the prison system overall. The risk for other housing locations, in descending order of suicide risk per 100,000 beds per year were single-cell protective custody (315), single-cell infirmary (122), single-cell administrative segregation (93), and single-cell inpatient (60). All of these findings were statistically significant when compared with the rate of suicide in double-cell GP.

Table 1 Suicides, Suicide Rates, and Housing Locations in NJDOC 2005–2011

	Suicides 2005–2011 (*n*)	Beds (*n*)	Suicides Per Bed (*n*)	Odds Ratio Relative to Double-Cell GP	Annual Suicide Rate per 100,000 Beds	*P**
GP double-cell	1	15,606	0.00006	1	0.9	
GP single-cell	5	4,096	0.00122	19.1	17.4	<0.01
Detention double-cell	0	86	0	0	0	
Detention single-cell	10	382	0.02618	408.5	374.0	<0.01
PC double-cell	0	94	0	0	0	
PC single-cell	3	136	0.02206	344.3	315.1	<0.01
Infirmary double-cell	0	6	0	0	0	
Infirmary single-cell	2	234	0.00854	133.4	122.1	<0.01
AdSeg double-cell	0	904	0	0	0	
AdSeg single-cell	4	617	0.00648	101.2	92.6	<0.01
Inpatient double-cell	0	124	0	0	0	
Inpatient single-cell	1	240	0.00417	65.1	59.5	<0.01
SU	0	65	0	0	0	
Overall	26	22,590	0.00115	18.0	16.4	

GP, General population; PC, protective custody; AdSeg, administrative segregation; SU, stabilization unit.
* Relative to double-cell GP.

Although the sex of the inmate was not a focus of this study, 2 of the 26 suicides over the past seven years were females. Suicide rates were not calculated separately for male and female inmates.

Discussion

The more than 20-fold increased risk of suicide among inmates in single-cell detention relative to the overall risk in the NJDOC and the more than 400-fold increased risk relative to double-cell GP housing, represent the highest reported odds ratios in the literature of risk factors for suicide in prisoners. Although other investigators had noted the risk of single-cell housing and segregated housing, they had not looked at the risk of these two factors in combination and had not compared this risk to that in double-cell GP.

Segregated housing in its various manifestations is often stressful. Social isolation is the norm in some of these settings, especially in single-cell detention, but also in protective custody and administrative segregation. Inmates in segregated housing usually have additional risk factors for suicide in prison, including bad news, a disciplinary charge, psychological distress, conflict with other inmates, and medical or psychiatric illness. Stress related to placement in detention is analogous to that of incarceration in a community jail, with a rapid change in environment, an abrupt restriction of familiar privileges, and uncertainty about the future. Poor coping skills (another risk factor for suicide) are often present in inmates receiving disciplinary charges. A distressed inmate in a single cell in detention has little social contact, may get lost in his thoughts, and may lose hope. Thus, the characteristics of an inmate facing a disciplinary hearing, as well as the circumstances surrounding placement in detention, no doubt also contribute to the high suicide rate there. At the very least, a single cell provides the privacy a distressed inmate needs to act on a suicide plan.

On the other hand, few inmates will stand by while a cellmate commits suicide, if for no other reason than to avoid blame should the cell become a crime scene. Double-celling reduces opportunities for acting on suicidal impulses and increases the possibility of interrupting such actions. Double-celling is also attentive to cost, as it requires a smaller physical plant to provide this kind of housing.

This intervention, however, has limitations. Double-celling has not been studied prospectively for its effect on reducing the risk of suicide. The housing arrangement is not a replacement for therapy, and a cellmate cannot be expected to serve as a therapist. Double-celling may also increase opportunities for violence between inmates.[19] Although the NJDOC's experience to date with double-celling in detention does not suggest that such housing is associated with violence, widespread use of double-celling in detention may tell a different story. Double-celling may be inadvisable in higher security areas or for inmates identified as higher risk for violence against other inmates. Some single cells are too small or otherwise are not appropriate to be retrofitted as double-cell housing. The recommendation for double-cell detention is not a recommendation for wholesale, unqualified double-celling. Indeed the U.S. Supreme Court

ruled in *Brown v. Plata*[20] that overcrowding in California's prisons contributed to prisoners' inadequate medical and psychiatric care.[21] Finally, inmates may learn to outwit double-celling by committing suicide in places such as showers and bathrooms.

Having been apprised of our data on the risk of single-cell detention housing, the NJDOC convened a joint NJDOC/UCHC task force of clinicians and administrators to study the matter. The task force toured detention areas within all 13 prisons in the State of New Jersey and issued a report to the Commissioner. The task force recommended that most inmates currently placed in single-cell detention housing be placed by default in double-cell detention housing and that only inmates whom the classification department considers too violent for double-cell housing be placed in single cells. The task force also recommended that detention settings that could not accommodate double-celling receive frequent checks by custody. The Commissioner accepted these recommendations. Thus in 2012, the NJDOC began the practice of housing inmates placed in detention in a double cell by default. UCHC will follow the suicide rate over the next several years to determine whether this new practice lowers the rate of suicide in the NJDOC. Other correctional systems may wish to replicate this study to determine whether single-cell, segregated housing represents a disproportionate risk of suicide within their systems.

Although psychiatrists and their colleagues work to prevent suicide, the elimination of all suicide deaths is a goal no more pragmatic than the prevention of all deaths from cancer or heart disease. Because suicide is a rare occurrence, even when committed by those and in settings known to represent an elevated risk, no tool, actuarial or otherwise, has been developed that usefully predicts individual suicides. The current study intends, as others have encouraged,[22–24] that through mental health's partnering with the NJDOC and going beyond the traditional focus on managing individuals, the already low suicide rates in the NJDOC be lowered even further.

In 2010, Hanson[8] noted that the suicide rate in prisons in the United States remains stubbornly at about 15 per 100,000 per year and opined that more should be done to bring this rate down. Given that about 93 percent of state prisoners are male,[25] the current annual suicide rate for males in prison is below the 2010 rate of 19.9 suicides per 100,000 males in the community in the United States.[3] Furthermore, given evidence that inmates are at high risk for suicide on release,[26,27] prison and even jail may already be a safer place for some of these persons, at least in the matter of suicide. In the authors' opinion, the plateau observed by Hanson[8] suggests that the benefits of individual approaches, such as screening for and treating individual suicide risk factors, may be reaching their limits. Addressing previously under-recognized systemic risk factors may be more helpful. For example, corrections officers can be trained to participate in the identification and management of individuals with mental illness and to recognize potential signs of a future suicide attempt. Although the effect of officer training in reducing suicides has not been established in the scientific literature, UCHC trains officers in these aspects of working with mentally ill inmates. In a similar fashion, the current results suggest that addressing single-cell segregated housing may be a promising strategy for marginally reducing the already well-managed risk of suicide in prison.

References

1. Noonan M: Mortality in local jails and state prisons, 2000–2010: Statistical tables. Washington, DC: US Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, NCJ 239911, June 2009. Available at http://bjs.gov/content/pub/pdf/mljsp0010st.pdf. Accessed April 14, 2013
2. Mumola C: Suicide and homicide in state prisons and local jails. Washington, DC: US Department of Justice, Office of Justice Programs, Bureau of Justice Statistics: Special Report, NCJ 210036, August, 2005. Available at http://bjs.gov/content/pub/pdf/shsplj.pdf. Accessed April 11, 2013
3. Murphy SL, Xu, J, Kochanek KD: Deaths: final data for 2010. National Vital Statistics Report 61(4). Atlanta GA: Centers for Disease Control and Prevention, 2013. Available at http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_04.pdf. Accessed September 6, 2013
4. Cohen F: The Mentally Disordered Inmate and the Law (ed 2). Kingston, NJ: Civic Research Institute, 2008
5. Daniel AE: Suicide-related litigation in jails and prisons: risk management strategies. J Corr Health Care 15:19–27, 2009
6. Metzner JL: Class action litigation in correctional psychiatry. J Am Acad Psychiatry Law 30:19–29, 2002
7. Shea SC: The Practical Art of Suicide Assessment: a Guide for Mental Health Professionals and Substance Abuse Counselors. Hoboken, NJ: John Wiley and Sons, 2002
8. Hanson A: Correctional suicide: has progress ended? J Am Acad Psychiatry Law 38:6–10, 2010
9. Fazel S, Cartwright J, Norman-Nott A, *et al*: Suicide in prisoners: a systematic review of risk factors. J Clin Psych 69:1721–31, 2008
10. Fruehwald S, Matschnig T, Koenig F, *et al*: Suicide in custody: case-control study. Br J Psychiatry 185:494–8, 2004
11. Kovasznay B, Miraglia R, Beer R, *et al*: Reducing suicides in New York state correctional facilities. Psychatr Q 75:61–70, 2004
12. Shaw J, Baker D, Hunt IM, *et al*: Suicide by prisoners: national clinical survey. Br J Psychiatry 184:263–7, 2004

13. Way B, Miraglia R, Sawyer D, *et al*: Factors related to suicide in New York state prisons. Int'l J L & Psychiatry 28:207–21, 2005
14. Patterson R, Hughes K: Review of completed suicides in the California Department of Corrections and Rehabilitation, 1999 to 2004. Psychiatr Serv 59:676–82, 2008
15. Way B, Sawyer D, Barboza S, *et al*: Inmate suicide and time spent in special disciplinary housing in New York State prison. Psychiatr Serv 58:558–60, 2007
16. Haney C: A culture of harm: taming the dynamics of cruelty in supermax prisons. Crim Just & Behav 35:956–84, 2008
17. Kupers T: What to do with the survivors?—coping with the longterm effects of isolated confinement. Crim Just & Behav 35: 1005–16, 2008
18. O'Keefe ML, Klebe KJ, Metzner JL, *et al*: A longitudinal study of administrative segregation. J Am Acad Psychiatry Law 41:49–60, 2013
19. Megaree EI: The association of population density, reduced space, and uncomfortable temperatures with misconduct in a prison community. Am J Community Psychol 5:289–98, 1977
20. Brown v. Plata, 131 S. Ct. 1910 (2011)
21. Newman WJ, Scott CL: Brown v. Plata: prison overcrowding in California. J Am Acad Psychiatry Law 40:547–52, 2012
22. Annasseril ED: Preventing suicide in prison: a collaborative responsibility of administrative, custodial and clinical staff. J Am Acad Psychiatry Law 34:165–75, 2006
23. Hayes LM: Toward a better understanding of suicide prevention, in Handbook of Correctional Mental Health (ed 2). Edited by Scott CL. Arlington, VA: American Psychiatric Publishing, Inc., 2010, pp 231–54
24. Metzner JL, Hayes LM: Suicide prevention in jails and prisons, in The American Psychiatric Publishing Textbook of Suicide Assessment and Management. Edited by Simon RI, Hales RE. Washington, DC: American Psychiatric Publishing, 2006, pp 139–55
25. West HC, Sabol WJ, Greenman SJ: Prisoners in 2009. Washington DC: US Department of Justice, Office of Justice Programs, Bureau of Justice Statistics: Bulletin, NCJ 231675, December, 2010 (revised October 27, 2011). Available at http://bjs.ojp.usdoj.gov/content/pub/pdf/p09.pdf. Accessed April 11, 2013
26. Binswanger IA, Stern MF, Deyo RA, *et al*: Release from prison: a high risk of death for former inmates. N Engl J Med 356:157–65, 2007
27. Pratt D, Appleby L, Piper M, *et al*: Suicide in recently released prisoners: a case-control study. Psychol Med 40:827–35, 2010