Massachusetts Department of Corrections

Carol A. Mici, Commissioner

Associations Between Mental Health and Restrictive Housing[1]

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Research regarding the topic of restrictive housing (RH) in institutional settings has been ongoing, but relatively scant, for a number of decades in an effort to evaluate the efficacy and damage that its use may extend to correctional facilities and inmates. Although restrictive housing exists in correctional facilities across the United States, its practice, and the experience an inmate can have may differ based on local laws and regulations. Different forms of RH including administrative segregation (AS) and disciplinary housing units (DHU) are utilized to address the different needs of correctional facilities and their populations. Administrative segregation is generally used to promote the smooth operation of a facility while providing safer environments to particular inmates. This style of RH is also used to separate inmates who may pose threats to one another. Disciplinary housing units (DHU) also contribute to the safe operation of a facility by separating inmates who commit serious infractions within a facility and placing them in strict and easily manageable conditions. A number of terms used in this literature review address different forms of 'restrictive housing', each correctional department may have varying definitions for each term. In an effort to remain consistent, terms used in this review will match the terms utilized by each respective study and facility discussed.

While there exists a number of forms of RH, proponents of its use highlight the necessity of RH to maintain institutional control and safety for inmates and correction officers. However, those against the use of RH settings tend to believe the practice is outdated and damaging to the mental and physical health of inmates placed in such settings during their incarceration period. A number of studies that have looked into the effects of RH have reported an increase in symptoms of post-traumatic stress disorder (PTSD), a decline in heart health, increases in subsequent healthcare costs, and an increase in morbidity upon release when compared to inmates who did not experience segregation during their most recent incarceration period (Hagan et al., 2017; Williams et al., 2019; Brinkley-Rubinstein et al., 2019). Other researchers who have delved into the effects of RH have found mixed results, often reporting neutral findings while adding to the literature and knowledge of topics surrounding the effects of segregated housing (SH) (O'Keefe, 2011; Astor, Fagan, Shapiro, 2018). Although a majority of peer reviewed studies attempt to identify or negate issues surrounding SH, other studies, such as Parker and Kane (2015), implement a slightly different approach. Arguably one of the more comprehensive studies discussed below, Parker and Kane (2015) not only addressed many of the issues surrounding RH but made an effort to work alongside a number of agencies to develop common ground between proponents and detractors of the use of RH.

[1] This document was prepared to inform the Restrictive Housing Commission as to what existed in the literature and practice outside of Massachusetts, which is why references to Massachusetts Department of Correction initiatives are not included.

Segregated housing has drawn a great deal of attention in regard to the wellbeing of inmates placed in such settings. Hagen et. al. (2017) is one study in which the authors attempted to address the psychological effects of segregated housing by means of assessing the relationship between post-traumatic stress disorder and placement in RH. Out of 119 participants included in their cohort, 43% self-reported that they had spent time in RH settings during their most recent incarceration. Of this group of inmates who reported experiencing RH style confinement, 28% tested positive for having diagnosable PTSD symptoms by their primary care physician (PCP). This was compared to just 16% with diagnosable PTSD in the group who had not spent time in RH style conditions. Overall conclusions of this study found that placement in RH style settings was significantly associated with positive PTSD screenings however, additional studies should attempt to confirm these findings.

Research on this topic is difficult, as there are a multitude of variables that can contribute to an individual's diagnosis of PTSD. By recreating studies on this subject, researchers and correctional departments can gather empirical data to account for the variance among those diagnosed with a disorder upon release from institutional care. This is important not only for the mental wellbeing of released inmates but their physical health as well.

Offering a look into projected costs of healthcare for released inmates who had spent time in RH during their incarceration period was Williams et al. (2019). In this short article, researchers assessed the relationship between RH and cardiovascular issues among released inmates between the ages of 27 and 45. Data used in this study came from a 2015 lawsuit (Todd Ashker, et Al., Plaintiffs, v. Governor of the State of California, et Al., Defendants.; 2015) which outlined the prevalence of hypertension diagnoses among incarcerated males. Results of their analysis showed that individuals included in this study (n= 25,000) who were housed in solitary confinement (SC) type settings, experienced a 31% higher hypertension prevalence when compared to males housed in a supermax prison; facilities where nearly all inmates are housed in a single or double cell unit for up to twenty-two hours a day. Based on their results, the authors of this article cited a $155 million increase in future healthcare cost for individuals placed in RH settings along with a drastic decline in quality of life when compared to inmates housed in general population (GP). Further supplementing the findings of Williams et al. (2019), are studies which address the morbidity of inmates in segregated housing settings upon release from prison. One such study was Brinkley-Rubinstein et al. (2019). Using a cohort of 299,274 inmates released from the North Carolina prison system between 2000 and 2015, this study aimed to assess the health effects associated with placement in solitary confinement (SC). In this form of RH, inmates may spend up to twenty-two hours a day in their cell alone, or with one other inmate. In this 2019 study, incarceration data was matched with death records between January 2000 and December 2016. Results of this study showed that in the first-year post release, inmates held in SC were more likely to die post release from prison. Primary causes of death were found to be suicide and homicide. This study also found that two weeks post release, inmates housed in SC had a higher likelihood to die of an opioid overdose or become incarcerated again. Although Brinkley-Rubinstein et al. (2019) was able to find a more consistent, even significant, relationship between SC and morbidity upon release, it is also important to mention that the methods used in Williams et al. (2019) and Brinkley-Rubinstein et al. (2019) are not methodologically perfect and leave a lot of room for other factors which could impact mortality

rates in addition to solitary confinement that had not been considered. Unhealthy living styles, continued drug and or alcohol abuse, and impulsive behaviors are just a few factors that are also potential contributors to re-incarceration and morbidity levels seen in the previous two studies.

As noted previously, research on the topic of segregated housing and its impact on mental and physical health is difficult to conduct due to a large number of factors that contribute to continued criminality, morbidity, and physical as well a psychological deterioration. It would be extremely difficult, if not impossible, to account for all the variance that may potentially contribute to the long-lasting negative effects of segregated housing in one study alone. Not only would this be costly, but it would also be very time consuming. Because this is a recognized limitation, a number of studies have attempted to produce results by utilizing data gathered from a number of different sources (Astor, Fagan, and Shapiro, 2015; Walters, 2018). This is especially true for studies that have utilized a meta-analysis: Using data from different sources or separate studies with different measures, definitions, and collection methods may increase the chances of producing inaccurate results. While the three studies previously mentioned were able to find positive correlations between segregated housing and adverse impacts on the mental and physical wellbeing of inmates, other researchers have reported mixed results or no correlation at all. One study, O'Keefe, (2011), is a great and commonly cited example of a study on the topic of mental health and segregated housing where the authors were met with mixed findings.

O'Keefe, (2011) was a study conducted within the past decade that focused on the topic of restrictive housing and mental illness. O'Keefe, (2011) focused on 270 male inmates in the Colorado Department of Corrections (CODOC) in administrative segregation (AS) and a comparison group of male inmates in general population. Of these populations, four groups were created; AS inmates with mental illness, AS inmates without mental illness, general population (GP) inmates with mental illness, and GP inmates without mental illness. Researchers hypothesized that inmates in segregation would experience greater psychological deterioration over time in comparison to inmates in GP. While this was proven in the study, it was also noted that comparison groups of GP inmates also saw psychological deterioration and a high degree of psychological disturbances. A second hypothesis of this study was that AS inmates would deteriorate more rapidly than GP inmates, however this was not found to be the case. Finally, researchers in this study were able to find that some inmates in AS showed traits associated with long-term segregation, but these same traits were also found in all other populations the team looked at, making it difficult to attribute these symptoms to isolation and AS alone. O'Keefe, (2011) is just one of many studies which have found it difficult to attribute mental or physical health deterioration to segregated housing settings alone. A number of studies on this subject fall more in line with the style of a literature review.

Astor, Fagan, and Shapiro (2018) provides a generalized understanding of the problems commonly associated with restrictive housing while taking a look into numerous studies which have attempted to evaluate psychological changes in inmates remanded to RH. It begins by tackling a number of cross-sectional studies. The main examples Astor et al. (2015) cited were Hodgins & Côté, (1991), Miller & Young (1997) and O'Keefe, (2011). These studies used at least one comparison group (general population or various forms of restrictive housing) and compared these to traditional restrictive housing groups, finding a high prevalence of psychological symptoms/psychopathology, self-injurious behaviors, and cognition problems as

restriction levels increased. However, two studies (Coid et al., 2003; Suedfeld, Ramirez, Deaton, & Baker-Brown, 1982) reviewed in the beginning section of the 2018 literature review were unable to find any differences between the different populations. Further, Coid et al. (2003), found that inmates in disciplinary segregation (DS) were not necessarily suffering from a mental illness, but rather were career criminals with potential personality disorders coupled with impulsivity or emotional instability. One issue pointed out by Astor, Fagan, and Shapiro (2018), is the inability for a cross sectional study to accurately assess changes in mental health functioning over the course of the studies reviewed for their article.

Astor et al. (2018) continues with their review of literature on RH and mental health by tackling a number of longitudinal studies. The first set of studies tested the effects of extreme sensory deprivation. However, these studies used individuals held in settings far more restrictive than common restrictive housing practices, and not inmates in a typical prison setting, potentially confounding their results in regard to generalizability. The next two longitudinal studies discussed in this section followed inmates learning abilities over the course of four days in restrictive housing settings. Both studies found no change in ability. A study conducted by Walters, Callagan, and Newman (1963) found "segregated inmates experience some increase in anxiety but no mental or psychomotor deterioration, or increased susceptibility to social influence" (Walters, Callagan, and Newman, 1963; Astor, Fagan, and Shapiro, 2018). One of the more recent studies discussed, O'Keefe et al. (2011), reported:

> "*Inmates in general population and segregated inmates without mental illness reported fewer psychological symptoms than mentally ill inmates in segregation… all offenders, regardless of their mental health status reported symptoms that were significantly elevated over normative community samples*" (O'Keefe et al., 2011).

However, researchers reported that over time these issues tended to go away as inmates adjusted to their new setting.

Another study discussed in Astor et al., (2018), is Anderson, Sestoft, Lillebæ, Gabrielsen, and Hemmingsen (2003) which found that inmates in non-segregated housing experienced a reduction in psychopathology over time, but segregated inmates did not have such a reduction. However, segregated inmates did see a reduction in psychopathology when they were again transferred back to general population, suggesting that increases in psychopathology may only be temporary and may be reduced when the environment is less restricting. A final study discussed in this report (Way, Sawyer, Barboza, and Nash; 2007) looked into inmate suicides of New York State prisoners by examining the number of days spent in disciplinary segregation (DS) before committing suicide. Their findings showed that 32 of 132 suicides between 1993 and 2003 occurred in segregation. However, it is not determinable if segregation contributed to their actions as 76% of suicides that occurred during this collection period took place in non-segregated settings. Researchers have suggested that 'the restrictive nature of prison life, in general, may be an overwhelming contributor to inmate suicide regardless of housing conditions' (Way, Sawyer, Barboza, and Nash, 2007). Overall, Astor et al., (2018) provides a great amount of detail into the issues surrounding research regarding restrictive housing, the difficulties with cross-sectional, mixed-model and longitudinal studies on the topic, and the apparent positions

researchers take when conducting studies. They found that “no firm conclusions can be drawn based on the mixed results that have been reported” (Astor et al., 2018).

Astor et al., (2018) offered a number of insightful aspects of segregated housing settings and their effect on long term psychological deterioration. However, a large and relatively undiscussed issue regarding this article was the dates of the studies evaluated in the review. A number of the studies discussed in Astor et al., (2015) were conducted over two decades ago. Although this does not render them irrelevant, it is important to note that segregated housing has changed since this time to address some of the negative effects it may have caused inmates. It is also important to mention that each state or corrections department may have different rules and regulations. Due to these departmental differences, inmates in various forms of segregated housing do not necessarily experience the same level of isolation, out of cell time, lack of programs, and other factors that could potentially harm their long-term wellbeing.

Although the authors of the Astor et al., (2018) article reviewed studies that took place a number of decades ago, they are not alone in doing so as research on this topic is relatively limited when compared to literature on other correctional topics. Walters (2018) was another study in which authors readdressed dated studies in an effort to provide context to the issue being analyzed. However, this study also provided a great benefit in its use of data originating from the O’Keefe, (2011) study, by supporting many of its findings and bringing more modern segregated housing data back into the discussion.

Walters (2018) sought to find whether or not the use of restrictive housing had deleterious effects on an individual’s psychological status. Beginning with a review of previous studies, Walters (2018) discusses the concept of Secure Housing Unit (SHU) Syndrome. “SHU Syndrome; originally defined by Grassian (1983, 2006) as a specific psychiatric syndrome characterized by a unique set of symptom patterns; stupor and delirium, perceptual anomalies and hallucinations, affective difficulties like anxiety and depression, disturbances in memory and concentration, abnormalities in thought content and processes, and problems with impulse control…”. Beyond this definition, Walters (2018) discussed the inconclusive results of previous studies which sought out the effects of administrative segregation in comparison studies of inmates in general population, restrictive housing, and administrative segregation. In particular, Suedfeld, Ramirez, Deaton, and Baker-Brown (1982) failed to show any difference between populations of inmates in restrictive housing, administrative segregation, and general population, while other studies (Hodgins and Côté, 1991) more commonly found observable cases of schizophrenia and bipolar disorder in segregation compared to general population inmates; however depression was more commonly found in general population inmates.

Further, this article addressed the two most well-known longitudinal studies, Zinger, Whichmann, and Anderson (2001); and, Anderson, Sestoft, Lillebæ, Gabrielsen, and Hemmingsen (2003). Both studies were conducted over a period of time, two months and four months respectively, in an attempt to see whether effects of isolation could be seen over time. Both studies reported surprising results. Zinger et al. (2001) reported inmates (n=60) remanded to segregation showed no psychological deterioration after two months in administrative segregation, however inmates found in this setting were reported as having higher risk levels (extenuating circumstances or learned behaviors that correlate with an increased likelihood to

commit crime), poorer mental health functioning and psychological adjustment compared to inmates sampled in general population. In comparison, inmates moved from administrative segregation to general population did show a reduction in psychological distress, giving some credit to the idea that administrative segregation may be associated with elevated psychological distress.

A more recent study addressed in Walters (2018), is the 2011 O'Keefe study which took five groups of inmates housed in a Colorado correctional facility over the course of one year. Two of these groups were housed in segregation, one group with previously diagnosed serious mental health (SMH) disorders and another group of inmates without any signs or diagnosis of SMH disorders. This format was repeated for general population inmates along with a fifth group sampled from a specialized facility which housed seriously mentally ill (SMI) inmates. Over the course of their study, psychological functioning measures were taken at five separate times and showed that all five groups of inmates showed improvement in psychological functioning over time, making it difficult to prove that psychological deterioration is caused by segregation alone. These findings are contrasted by the most recent longitudinal study discussed in Walters (2018), Chadick, Batastini, Levulis, and Morgan (2018). In their 2018 study, researchers examined a group of (n=48) inmates who were housed in the Kansas Department of Corrections where half of the inmates sampled were housed in restrictive housing and the other half housed in general population settings (Chadick, Batastini, Levulis, and Morgan, 2018). After pre and post testing inmates in their sample using the Millon Clinical Multiaxial Inventory - III, results suggested a significant difference between populations. Inmates held in restrictive housing showed higher post-test scores on the anxiety, somatoform, dysthymia, post-traumatic stress disorder, and major depressive scales when compared to general population inmates. While this most recent study shows support for the existence of SHU Syndrome, other studies discussed in Walters (2018) failed to do so. These inconsistent reports have become an ongoing theme that has plagued research on this topic.

To establish more research on SHU syndrome, Chadick, Basatini, Levulis, and Morgan (2018) reviewed data sets used in O'Keefe, (2011) to compare the psychological deterioration of restrictive housing inmates with general population inmates. Results of their analysis showed that

> "*although inmates with mental health needs were significantly more likely to deteriorate psychologically compared to inmates without mental health needs, those housed in AS were no more likely to deteriorate than those housed in general population or a special mental health unit. This indicates that psychological deterioration and SHU syndrome have less to do with AS then they do with prior mental health difficulties and need*" (Walters, 2018).

The authors further went on to mention that, based on their results, 'imprisonment, regardless of whether it occurs in general population or restrictive housing, may have a deleterious psychological effect on those with serious mental health problems' (Walters, 2018).

By bringing into view the issue of mentally ill inmates in segregated settings Walters (2018) brought light to the important issue of placing SMI inmates in isolated settings. As segregated housing policies are revised to improve institutional safety and lessen negative psychological impacts, a critical need for more modern studies has emerged. Research on these

updated policies may provide data driven insights for segregated housing policies across the correctional field. One department which attempted to do so is the South Dakota Department of Corrections (SDDOC) (Parker and Kane, 2015).

Parker and Kane, (2015) was a peer reviewed publication that followed the transition of the SDDOC's response to a growing concern over the use of restrictive housing, their operational changes, and the results of their new system for housing hard to manage inmates. The article began by citing a negative public response to restrictive housing environments, the damaging impact on staff and inmates, and a risk of lessening public safety when releasing inmates directly from restrictive housing to the community (Parker and Kane, 2015). The objective of the new policies was to decrease the restrictive housing population and inmate's length of stay in RH, reduce institutional violence, have fewer direct releases from restrictive housing to the community, and have overall fewer returns to restrictive housing (Parker and Kane, 2015). To tackle these issues, the SDDOC partnered with the Crime and Justice Institute (CJI), in an effort to reform their restrictive housing units, with funding from the Department of Justice's Bureau of Justice Assistance (BJA). When applying these changes to restrictive housing operations, the SDDOC pioneered this new technique at the Sioux Falls State Penitentiary (SFSP). This penitentiary consisted of three facilities: a 904-bed main penitentiary housing medium and high security males along with a special disciplinary detention unit (DDU); a 245 bed medium security facility for males including a community work release center; and the Jameson Annex, a 649 bed facility used for admissions, orientation, maximum security inmates, punitive and non-punitive restrictive housing, and two sections used for inmates with mental illness. While working with the CJI, the SFSP identified a number of problematic practices that had been going on before the time of the study. These issues included a less than objective process for entry and exit from non-punitive restrictive housing, little focus on behavioral change and few program opportunities. Allowable property was not earned by displaying improved behavior but more resembled general population, no reintegration programs existed for preparation to be placed within general population or the community, no specialized staff training (along with limited staff to facilitate these units), and there existed no standard reporting and reviewing process for restrictive housing data.

After reviewing the existing shortcomings of the previous model for restrictive housing, the SFSP created a pilot program to test the new suggestions made by the CJI, beginning with 19 inmates, increasing to 37 and finally to include the entire restrictive housing population. Part of this program included new placement criteria for restrictive housing where inmates must have violated one or more rules which included, but was not limited to: assault, attempted assault, compelling or coercing another inmate by force or threat to assault another individual, led or organized any disturbance, possessed contraband, escaped or attempted to escape, and inflicted harm or threatened any DOC staff. When placing an inmate into restrictive housing, correctional staff was required to submit a referral and supporting documentation regarding an inmate's infraction; this referral was then either approved or denied by the facilities' associate warden or administrator of equal rank. Next, a multidisciplinary staff group was required to review details related to an inmate's mental health, program needs, behavioral history, security risk level, and discharge date. A restrictive housing board would then conduct a review of the placement and provide a recommendation to the warden for a final approval or denial of the placement. The success of this process was predicated on the belief that restrictive housing should have been

‘geared towards improving behavior to increase both institutional and public safety’ (Parker and Kane, 2015).

This newly implemented program followed a level system from most to least restrictive (numbered 1-5) where inmates earned their way to less restrictive settings before release to general population or the community. Each level had different sets of rules, where, for instance, in level one, inmates would spend no more than 15 days, have only three days per week in a recreation enclosure, could only possess mail or hygiene items, and were placed in full restraints when off unit. In contrast, level five inmates could engage in multiple programing opportunities and had a seven-day rotation between a ‘dayroom gym’, outdoor, and yard time. Inmates in this level could also have two visits per week with potential for contact, no restraints, and could participate in work assignments. This level-system was also coupled with daily behavior tracking, programming, in-cell activities, out-of-cell cognitive behavioral intervention, monthly out-of-cell reviews by a case manager, and finally release preparation (from restrictive housing to general population) and support. This preparation included: notification to the unit manager who would then speak with the general population unit manager to place the inmate in an appropriate bed, initial contact with the inmate regarding the upcoming change in housing status, contact with the inmate’s new case manager for general population, and placement of the inmate in a graduate discussion group where the inmate could attend up to six month after release from restrictive housing to discuss topics such as skills learned, challenges, and goals.

The remaining sections of this article then described the results of a one-year trial period of this program. During the review, officials documented an 18% decline in the restrictive housing population and a 65% drop in restrictive housing placement in the number of quarterly admissions. Violent incidents in restrictive housing units began to fall, eventually reaching a point where restrictive housing units had less violent incidents than SDSP’s general population unit, which maintained a normal rate of violent incidents before, during, and after the implementation of the program. Also, by the end of the one-year period, only one inmate was released directly into the community from a restrictive housing setting. The success of the program for SDSP has allowed inmates to be unrestrained and unescorted from cells to recreation areas without staff reports of violations, and inmates commonly locking doors and cells behind themselves. Inmates also received longer out-of-cell times, lasting between two hours and forty-five minutes up to six and a half hours. Overall, this study shows impressive results, less violent incidents, better programming, and more behaved individuals with a lesser burden on staff working in restrictive housing units (Parker and Kane, 2015). However, it is noted that this program took a lot of manpower and funding to begin.

Restrictive housing continues to be a subject of debate. Three of the seven studies discussed above have attempted to link post-traumatic stress disorder, healthcare costs, and morbidity to the use of restrictive housing (Hagan et al., 2017; Williams et al., 2019; Brinkley-Rubinstein et al., 2019). While these studies may be on to something in terms of the effects potentially caused by restrictive housing, unaccounted variances remained in each one. This does not mean their findings should be ignored; rather, future studies should attempt to recreate these findings, accounting for additional contributing factors. O’Keefe et al. (2011) is a great example of comparing different groups and attempting to address outlying factors to present a more reliable set of results that identified a number of factors that contribute to temporary distress. It is

also worth noting that O'Keefe et al. (2011) has the potential to explain why some studies discussed above report high levels of psychological distress in segregated inmates, as many of the studies mentioned above did not take place over a long enough period to accurately assess the adjustment of the inmate being studied or an inmate's transition back to general population. Further, Astor et al., (2015) and Walters (2018) both provide a great deal of insight into the use and history of segregated housing by readdressing a number of studies that took place before major changes to restrictive housing became more common throughout the country. Most impressive were the actions taken by the South Dakota Department of Corrections and the team of researchers which followed the progress the department made in creating a better system of disciplinary and other forms of segregated housing within their facility. This research has a potential to lay the groundwork for other states and departments that feel the need to change their current segregation methods in their facilities. Research on this subject is challenging and many of the studies on the topic took place years ago when conditions were very different from today. While a number of these studies found some connection to adverse side effects of segregated housing, more modern studies tend to find mixed results or adjustment periods begin to emerge in inmates studied. With the many changes and different methods being tested, more research on the mental effects of segregated housing is needed.

References

Andersen, H. S., Sestoft, D., Lillebæk, T., Gabrielsen, G., & Hemmingsen, R. (2003). A longitudinal study of prisoners on remand: Repeated measures of psychopathology in the initial phase of solitary versus non- solitary confinement. International Journal of Law and Psychiatry, 26,165–177. doi:10.1016/S0160- 2527(03)00015-3

Astor JH, Fagan TJ, Shapiro D. The Effects of Restrictive Housing on the Psychological Functioning of Inmates. *Journal of Correctional Health Care*. 2018;24(1):8-20. doi:10.1177/1078345817744795

Brinkley-Rubinstein L, Sivaraman J, Rosen DL, et al. Association of Restrictive Housing During Incarceration With Mortality After Release. *JAMA Netw Open.* 2019;2(10):e1912516. doi:10.1001/jamanetworkopen.2019.12516

Chadick, C. D., Batastini, A. B., Levulis, S. J., & Morgan, R. D. (2018). The psychological impact of solitary: A longitudinal comparison of general population and long-term administratively segregated male inmates. *Legal and Criminological Psychology*. Advance online publication. doi:10.1111/lcrp.12125

Coid, J., Petruckevitch, A., Bebbington, P., Jenkins, R., Brugha, T., Lewis, G., . . . Singleton, N. (2003). Psychiatric morbidity in prisoners and solitary cellular confinement, I: Disciplinary segregation. Journal of Forensic Psychiatry & Psychology, 14, 298–319. doi:10.1080/1478994031000095501

Expert Report of Louise C. Hawkley, Judge: Honorable Claudia Wilken. United States District Court Northern District of California Oakland Division: Todd Ashker, et Al., Plaintiffs, v. Governor of the State of California, et Al., Defendants.; 2015. https://ccrjustice.org/sites/default/files/attach/ 2015/07/Hawkley Expert Report.pdf.

Grassian, S., & Friedman, N. (1986). Effects of sensory deprivation in psychiatric seclusion and solitary confinement. *International Journal of Law and Psychiatry,8,* 49-65.

Hagan, B.O., Wang, E.A., Aminawung, J.A. *et al.* History of Solitary Confinement Is Associated with Post-Traumatic Stress Disorder Symptoms among Individuals Recently Released from Prison. *J Urban Health* 95**,** 141–148 (2018). https://doi.org/10.1007/s11524-017 0138-1

Hodgins, S., Côtè, G. (1991). The mental health of penitentiary inmates in isolation. Canadian Journal of Criminology, 33, 175–182. Retrieved from http://heinonline.org/HOL/LandingPage?handle=hein.journals/cjccj33&div=20&id=&pa e=

Miller, H. A., & Young, G. R. (1997). Prison segregation: Administrative detention remedy or mental health problem? Criminal Behaviour and Mental Health, 7, 85–94. doi:10.1002/cbm.146

O'Keefe, M. L., Klebe, K. J., Stucker, A., Sturm, K., & Leggett, W. (2011). One Year Longitudinal Study of the Psychological Effects of Administrative Segregation. *PsycEXTRA Dataset*. doi:10.1037/e529622011-001

Parker, B. P., & Kane, M. (2015, December). Reshaping Restrictive Housing at South Dakota State Penitentiary. Retrieved April 2, 2020, from https://www.cjinstitute.org/publication/reshaping-restrictive-housing-at-south-dakota-state-penitentiary/

Suedfeld, P., Ramirez, C., Deaton, J., & Baker-Brown, G. (1982). Reactions and attributes of prisoners in solitary confinement. Criminal Justice and Behavior, 9, 303–340. doi:10.1177/0093854882009003004

Walters GD. Checking the Math: Do Restrictive Housing and Mental Health Need Add Up to Psychological Deterioration? *Criminal Justice and Behavior*. 2018;45(9):1347-1362. doi:10.1177/0093854818780177

Walters, R. H., Callagan, J. E., & Newman, A. F. (1963). Effect of solitary confinement on prisoners. American Journal of Psychiatry, 119, 771–773. doi:10.1176/ajp.119.8.771

Way, B. B., Sawyer, D. A., Barboza, S., & Nash, R. (2007). Inmate suicide and time spent in special disciplinary housing in New York State prison. Psychiatric Services, 58, 558560. doi:10.1176/appi.ps.58.4.558

Williams, B.A., Li, A., Ahalt, C. *et al.* The Cardiovascular Health Burdens of Solitary Confinement. *JGEN INTERN MED* **34,** 1977–1980 (2019).https://doi.org/10.1007/s11606-019-05103-6

Zinger, I., Wichmann, C., & Andrews, D. A. (2001). The psychological effect of 60 days in administrative segregation. Canadian Journal of Criminology, 43, 47–83. Retrieved from http://heinonline.org/HOL/LandingPage?handle1⁄4hein.journals/cjccj43&div1⁄47&id1⁄4 page1⁄4

Abbreviations and Terms Used:

Administrative Segregation – (AS)
- A form of housing used to hold inmates that may pose a threat to the security of a facility or to those within the facility.

Bureau of Justice Assistance – (BJA)
- A component of the Office of Justice Programs within the United States Department of Justice that "helps to make American communities safer by strengthening the nation's criminal justice system: Its grants, training and technical assistance, and policy development services provide state, local, and tribal governments with the cutting edge tools and best practices they need to reduce violent and drug-related crime, support law enforcement, and combat victimization"[1].

Criminal Justice Institution – (CJI)
- "The Crime and Justice Institute bridges the gap between research and practice with data-driven solutions that drive bold, transformative improvements in criminal and juvenile justice systems"[2].

Disciplinary Detention Unit – (DDU)
- A unit that facilitates a number of cells dedicated to segregating inmates who have committed a serious violation.

Disciplinary Housing Unit – (DHU)
- A unit that facilitates a number of cells dedicated to segregating inmates who have committed a serious violation.

Disciplinary Segregation – (DS)
- A form of segregation that is used for inmates that violate institutional rules, pose a security threat, or harm another individual within the facility.

General Population – (GP)
- General population units are units that house the average inmate who does not require special housing.

Millon Clinical Multiaxial Inventory III – (MCMI-III)
- "Provides a measure of 24 personality disorders and clinical syndromes for adults undergoing psychological or psychiatric assessment or treatment"[3].

Primary Care Physician – (PCP)
- A physician that is considered the primary healthcare professional for an individual.

Post-Traumatic Stress Disorder – (PTSD)
- A disorder that can develop in an individual who experiences traumatic events.

Restrictive Housing – (RH)
- A form of housing used for inmates who violate institutional rules or pose security threats to an institution.

Secure Housing Unit Syndrome – (SHU Syndrome)
- A definition termed by Grassian (1983, 2006) as a "specific psychiatric syndrome characterized by a unique set of symptom patterns; stupor and delirium, perceptual anomalies and hallucinations, affective difficulties like anxiety and depression, disturbances in memory and concentration, abnormalities in thought content and processes, and problems with impulse control"[4].

Solitary Confinement – (SC)
- A punitive form of housing designed to restrain individuals who pose a serious threat to themselves or others within a facility.

South Dakota Department of Correction – (SDDOC)
- The corrections department for the state of South Dakota

Sioux Falls State Penitentiary – (SFSP)
- A state penitentiary located in Sioux Falls, South Dakota

Segregated Housing – (SH)
- A form of housing that is designed to segregate inmates who violate institutional rules and pose a threat to an institution's security.

Serious Mental Health / Serious Mental Illness – (SMH / SMI)
- "A mental, behavioral, or emotional disorder resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities"[5].

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1. About. (2019, September 5). Retrieved September 18, 2020, from https://bja.ojp.gov/about
2. About. (n.d.). Retrieved September 18, 2020, from https://www.cjinstitute.org/about/
3. Framingham, J. (2018, October 13). Millon Clinical Multiaxial Inventory (MCMI-III). Retrieved September 18, 2020, from https://psychcentral.com/lib/millon-clinical-multiaxial-inventory-mcmi-iii/
4. Grassian, S., & Friedman, N. (1986). Effects of sensory deprivation in psychiatric seclusion and solitary confinement. *International Journal of Law and Psychiatry*, *8*, 49-65.
5. Mental Illness. (2019, February). Retrieved September 18, 2020, from https://www.nimh.nih.gov/health/statistics/mental-illness.shtml

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