AN EVIDENCE BASED PRACTICE FOR MANAGING THE MENTALLY ILL INMATE POPULATION

INSTITUTIONALIZATION VS. INCARCERATION: COMPARING PRACTICE AND ETHICS

A Thesis Prospectus
In STS 4500
Presented to
The Faculty of the
School of Engineering and Applied Science
University of Virginia
In Partial Fulfillment of the Requirements for the Degree
Bachelor of Science in Systems Engineering

By
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December 3, 2019

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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The mass incarceration of the mentally ill American population is a large and still growing problem in today's modern society. This population often enters the prison system undiagnosed or misdiagnosed, and as of now only a portion of these inmates are actually screened for mental illness while even fewer receive treatment. Essentially, only a fraction of those who likely require treatment for mental health disorders ultimately receive it, and the rest are regarded as "healthy" inmates. Once released, the diagnosed inmates are not monitored or advised in any way beyond the treatment they may have received in prison, which leaves them without further treatment, homeless, or back in jail.

This crisis has motivated research seeking both to analyze and characterize the factors that contribute to recidivism in a technical context, and to explore the history of America's treatment of its mentally ill population in an effort to avoid repeating past mistakes while searching for a solution. The STS portion of the project aims to focus on a comparison of the practices seen in both the deinstitutionalization movement and the current state of the American prison system in an effort to highlight the similarities and directly target any malpractices still in place today. The main goal of such a comparison is to analyze the effectiveness and feasibility of several proposed prison alternatives on a national scale in order to determine which, if any, are the optimal solution. The 2 research projects are therefore tightly coupled, as together they seek to analyze and better the criminal justice system's management practices for its mentally ill offenders from both technical and sociotechnical standpoints.

The research team is comprised of Professor Loreto Peter Alonzi from the School of Data Science, Professor Michael Smith from the Systems Engineering Department, Professor Emeritus of Systems Engineering K. Preston White, Neal Goodloe who is the Criminal Justice Planner for the Thomas Jefferson Area Community Criminal Justice Board, and Henry

Bramham, Claire Deaver, Sean Domnick, Emma Hand, Emily Ledwith, Noah O'Neill, and Callie Weiler, all of whom are undergraduate research members from the Department of Systems Engineering.

The timeline for the project is as shown below in Figure 1.

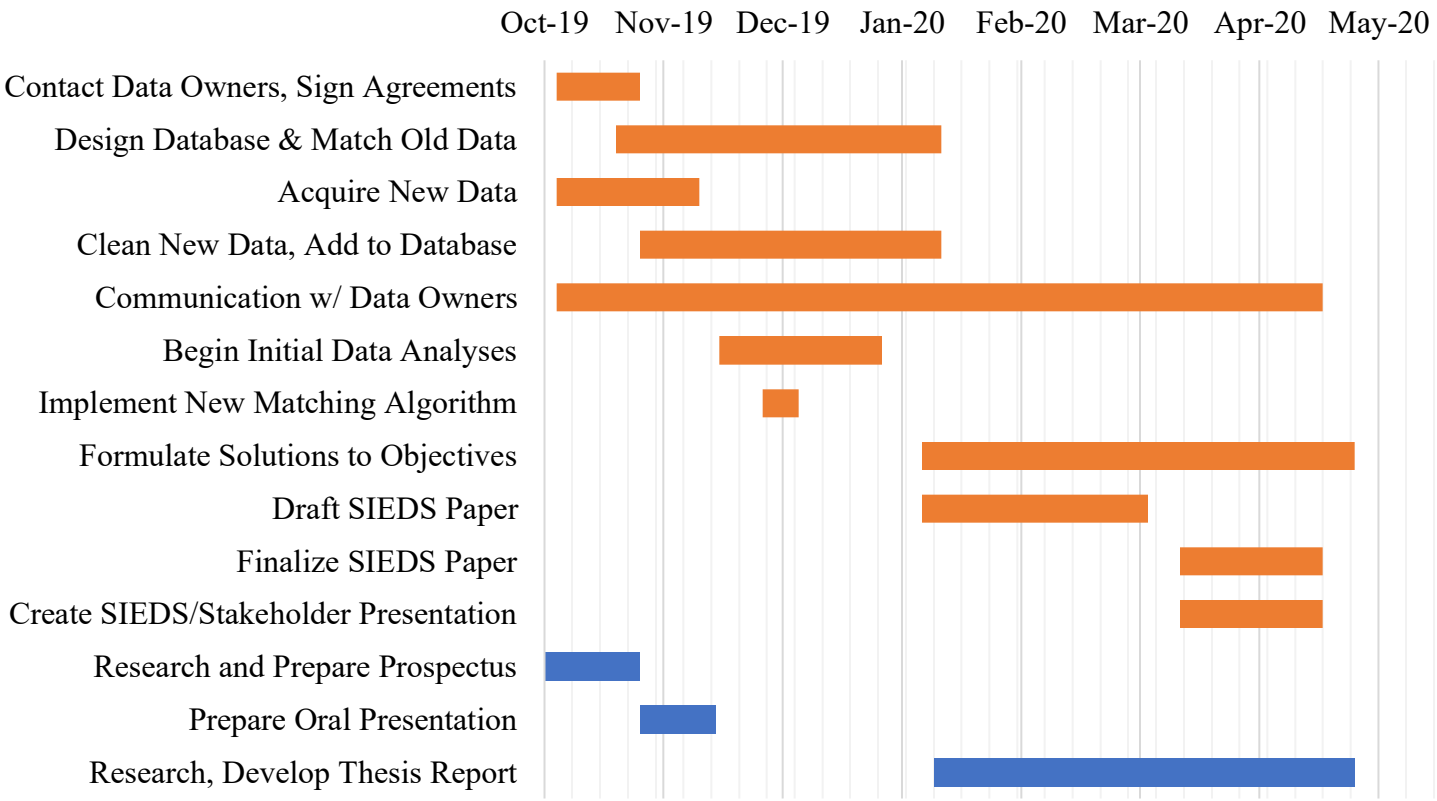

Figure 1: Project Timeline: The plan for the technical project (orange) is to spend the majority of the fall semester obtaining and cleaning the data, and the majority of the spring semester will be spent analyzing the data and synthesizing conclusions. The team will be in communication with the data owners throughout. As for the STS portion (blue), the fall semester will be spent researching and preparing the prospectus and its corresponding oral presentation. The spring semester will be spent researching and developing the thesis report (Weiler, 2019).

AN EVIDENCE BASED PRACTICE FOR MANAGING THE MENTALLY ILL INMATE POPULATION

MASS INCARCERATION & MENTAL ILLNESS IN AMERICA

The mass incarceration of Americans with severe mental illness has been sparking conversation since the mid-nineteenth century when the deinstitutionalization movement began shutting the doors of asylums nationwide, leaving the mentally ill without medical treatment, homes, or people to help them live out their daily lives. Since the 1970s, the population of US inmates has nearly quadrupled, and as of 2012 the United States held about 22% of the world's prisoners, even though the US population makes up only 4.4% of the world (Walmsley, 2013). Clearly the general incarceration rate is a problem on its own, but the incarceration rate of the cohort with severe mental illness remains even more troubling. This population is entering prisons at previously unprecedented rates; according to scientific estimates, one in seven prisoners has major depression or psychosis, a number that has seen little variation since the 1980s (Fazel, Hayes, Bartellas, Clerici, & Trestman, 2016, para. 7). Figure 2 illustrates the fact that nearly one-third of all inmates at Albemarle County Regional Jail who were screened for mental illness between July 2015 and December 2017 were identified as severely mentally ill. Further, once the offenders with

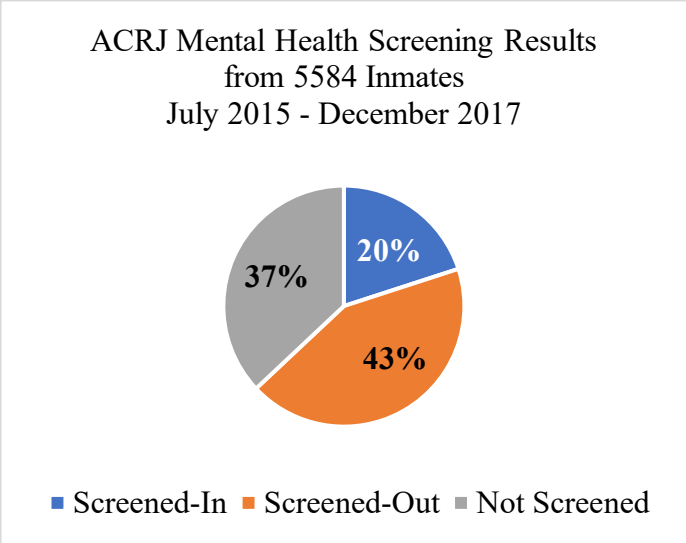

Figure 2: ACRJ Mental Health Screener Results: Out of a sample of 5584 inmates, 63% of them were screened for mental illness. Of that cohort, one-third screened-in as mentally ill, meaning that 20% of the inmates overall were mentally ill (Adapted by Callie Weiler from O'Brien, Oliphant, Williams, & Boland, 2019)

mental illness do get sentenced to prison, their treatment options are limited, offered sparingly, and not designed to serve a population of the current magnitude. In 2011, Skeem, Manchak, and Peterson astutely noted that, ‘‘the nation’s jails and prisons have become, de facto, the nation’s largest psychiatric hospitals’’ (p. 111). This notion has raised significant concern and led to a variety of intervention techniques. Two notable strategies have been developed to focus on improving the clinical outcomes of the prisoners: Forensic Assertive Community Treatment (F-ACT) and Forensic Intensive Case Management (FICM). Both of those two strategies unfortunately have shown only small differences (3-4%), if any, on the recidivism rates of the groups. Mentally ill offenders are not receiving adequate treatment while imprisoned, thus they are exiting the prisons in the same or worse condition than when they were admitted. As offenders are released without further assistance in receiving treatment, the judicial system leaves them on their own in a potentially unfamiliar community where they are likely to continue the behaviors that led to their initial arrests (Skeem, Manchak, & Peterson, 2011).

Additionally, mental illness is linked to both homelessness and substance abuse, both of which further contribute to recidivism. Numerous sources report increased rates of homelessness among mentally ill parolees as compared to their mentally sane counterparts. Once homeless, these individuals are far more likely to engage in crime and are at a much higher risk of becoming victims of crimes such as sexual or physical assault (Polcin, 2016). This population is already in a compromised state of mental health, and homelessness only exacerbates the circumstances. Furthermore, this population is at a dramatically higher risk for substance abuse and overdose post-release. In an unsettling report from Begun, Early, & Hodge (2016), individuals released from jail were at a risk of death 12.7 times that of any other member of their communities, within the first two weeks post-release. The prospects for the individuals released

from prison with severe mental illness only worsen, as a study conducted by the National Institute on Drug Abuse reports that, "people with severe mental illness were about 4 times more likely to be heavy alcohol users (four or more drinks per day); 3.5 times more likely to use marijuana regularly (21 times per year); and 4.6 times more likely to use other drugs at least 10 times in their lives" (para. 6). The correlation between severe mental illness, homelessness, and substance abuse, particularly immediately after release from prison, is undeniable and serves only as fuel for the cycle of recidivism.

DATA ANALYSIS SCOPE & TECHNIQUES

Through this capstone project, the team aims not only to characterize the population of inmates with severe mental illness in the Central Virginia Region, with *severe mental illness* defined explicitly as severe depression, bipolar disorder, or schizophrenia, but further to develop the evidence based practice that will best manage the current crisis of the overwhelming cohort of inmates with severe mental illness in need of treatment. The capstone team has partnered with several resources within the Charlottesville community, such as Region 10 Community Services and the Thomas Jefferson Area Coalition for the Homeless, in a continued effort to gain a more holistic view of the mentally ill population, see what services currently are and are not offered by the community, and understand how these resources can potentially be used to decrease the percentage of citizens with mental illness in jails and prisons. While the team does hope to mitigate the number of people wrongfully detained solely on the basis of mental illness, that is not necessarily the primary objective of this project. This capstone aims chiefly to characterize accurately those who screen positive for a severe mental illness and better link them to appropriate mental health treatment both during and after their time in jail.

In order to achieve these goals, the team plans to obtain, clean, and merge several data sets from various sources specific to the Central Virginia area, including but not limited to the Thomas Jefferson Area Coalition for the Homeless, Region 10 Community Services, Albemarle County Regional Jail, Central Virginia Regional Jail, and Jefferson Area Community Corrections. Over the course of the fourteen-year long project, data matching has been a recurring problem in the sense that names and other identifiers are not necessarily unique to each individual across all of the data sets. The inconsistency between data sets has made it challenging, and sometimes impossible, to aggregate the sets into a single database, which then further compromises the team's ability to analyze the data in general. Therefore, a major task for this year's team is to develop a system for cleaning and merging the data to yield a more comprehensive database.

The merged data sets will contain data that spans several years, from roughly 2014 to present, which will allow the team to apply a variety of big data analysis techniques and statistical testing methods, which include linear modeling to determine which factors such as drug use or homelessness are most correlated to mental illness and incarceration, geospatial analysis to determine the influence of arrest location on recidivism, and regression analysis to assess the relationship between recidivism and the contexts under which an offender is arrested and released from jail. The resources available to the team are strictly digital and are comprised of access to a virtual private network (VPN) containing all of the data files obtained from the aforementioned sources, and a variety of data analysis packages including R, Minitab, Microsoft Excel, and MySQL.

BUILDING FOUNDATIONS & FURTHERING UNDERSTANDING

Through the work on this project, the capstone team hopes foremost to build a comprehensive foundation for future research and analysis. Creating a system to better clean and merge the datasets will hopefully yield a single working database to increase the ease of analysis, which would in turn help move the project along smoother in the future. Additionally, the team hopes to further the community's understanding of the current climate in regard to its mentally ill population, specifically in the contexts of homelessness and drug use and their respective relationships with incarceration and recidivism. Ultimately, the team hopes to further the project's progress toward its ultimate goal, which is to provide the information necessary for the Central Virginia community to make an informed decision about how it plans to manage the mentally ill inmate population. The final paper deliverable will be a conference paper, the contents of which are to be presented at the SIEDS conference in May 2020.

INSTITUTIONALIZATION VS. INCARCERATION: COMPARING PRACTICE AND ETHICS

IS INCARCERATION THE NEW INSTITUTIONALIZATION?

The first psychiatric hospitals opened with a promise of "moral care" and ultimately a cure for the mentally ill patients they admitted. Professor Patricia D'Antonio of Mental Health Nursing from the University of Pennsylvania remarks that the, "moral treatment of the insane was built on the assumption that those suffering from mental illness could find their way to recovery and an eventual cure if treated kindly and in ways that appealed to the parts of their minds that remained rational" (para. 2). Over time, these facilities evolved from treating only the patients whose families could afford it to treating everyone, even the poor. As described by Foerschner, M.A. from Pacific University, this transition led to vast overcrowding of the American psychiatric hospital system, and the economic collapse in the 1930s fueled the fire. Short staffed, underfunded, and overwhelmed, psychiatrists turned to less mainstream methods of care, such as lobotomies, shock therapy, and harmful chemical sedation. These experiments with chemical treatments ultimately led to the successful introduction of psychopharmacology, which many psychiatrists hoped would be a suitable alternative to institutionalization and a formal cure to mental illness. Unfortunately, after the deinstitutionalization movement, thousands of patients were discharged and left entirely on their own. Unable to live without constant care, with neither treatment nor the capacity to seek it out, many were left homeless or imprisoned (Foerschner, 2010).

This scenario draws an unfortunate parallel to the current state of the American prison system, in the sense that the inmates' treatment within the prisons is less than satisfactory and once released, they are left with few to no resources to get themselves back on their feet. Since

the inception of the deinstitutionalization movement, people with mental illness have been incarcerated at rapidly increasing rates, as depicted below in Figure 3.

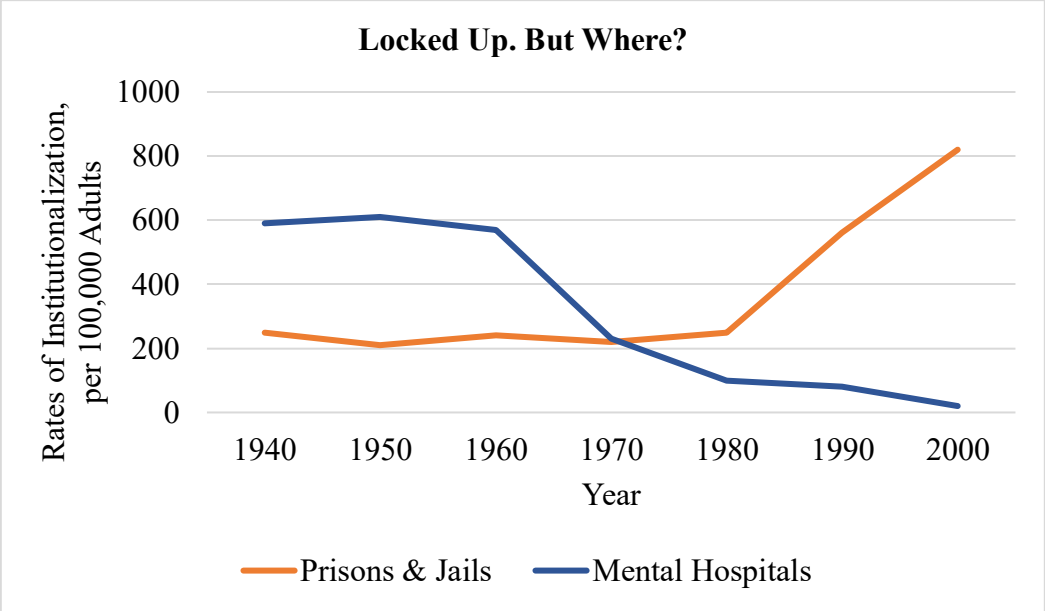

Figure 3: Locked Up. But Where?: Since the deinstitutionalization movement beginning in the 1950s, there has been a sharp rise in the number of mentally ill adults incarcerated, and a steady decline in the number of people from the same demographic admitted to mental hospitals (Adapted by Callie Weiler from Alexander, 2016).

In a particularly striking speech, Liza Long calls attention to the fact that prisons are now seen as the de facto solution to managing Americans with severe mental illness. She shares that at the age of eleven, her son was sent to jail during the aftermath of a severe mental health crisis rather than being hospitalized and treated (National Council for Behavioral Health, 2016). Her young son's arrest speaks volumes to the fact that America's stigma against mental health often bars people with mental illness from receiving treatment; instead, society resorts to incarceration as a means of treatment that only perpetuates the cycle of incarceration.

PRISONS ARE UNSUITABLE FOR OFFENDERS WITH SEVERE MENTAL ILLNESS

Once people with severe mental illness are in jail, their options for treatment are limited. Unfortunately, the insufficiency of treatment plans is due not to lack of funding or resources, but to a power dynamic that is commonly viewed by prison staff as "nearly impossible" to shift. Essentially, where doctors are concerned about diagnoses and medical information, the prison staff, the people directly responsible for the care of these mentally ill inmates, are concerned only about their own power, control, and safety, therefore feeling inclined to withhold proper treatment from the people who need it most in the name of upholding the regime (Adams & Ferrandino, 2008). A 1991 study of New York State's prison system, reanalyzed in 2008 by Schaefer and Stefancic, revealed that of all the inmates with severe mental and psychiatric disorders, only 45% were offered any kind of treatment and little to no change has occurred since. While today's prisons may not be implementing the same unethical techniques as psychiatric wards in the 1950s, the lack of treatment offered to the inmates is nearly just as harmful and serves only to exacerbate their conditions, thus producing a unique and potentially dangerous population upon their release from jail (Schaefer & Stefancic, 2008).

Further, the prisons that are hypothetically diagnosing, treating, and eventually releasing these individuals typically have no connection to the public services available once the offenders are released. Schaefer and Stefancic (2008) draw an intriguing parallel between the current state of America's prison system and deinstitutionalization, noting that:

> Even though the deinstitutionalization era has long passed, the release procedure of the New York City criminal justice system closely resembles parts of that era. All inmates, including the mentally ill ones, are discharged from Riker's Island without money, medications, insurance (insurance is generally lost to those incarcerated), prescriptions or treatment plans. … Without proper care, medication and support, the unavoidable happens: The mentally ill person decompensates, becomes violent and returns to jail again. (p. 45)

Lack of support from prison officials and the community, in combination with lack of medical insurance or medication, homelessness, and/ or substance abuse feed into a vicious cycle of recidivism, where offenders repeatedly find themselves resentenced to jail shortly after being released (Castillo & Fiftal, 2011). Offenders with severe mental illness are not given a fair chance to better themselves in prison, and are released under conditions that set them up to return.

ALTERNATIVES TO INCARCERATION FOR THE MENTALLY ILL

A major objective of this research work is to connect the current state of the prison system to the past practices seen throughout institutionalization. A secondary objective lies in looking at proposed prison alternatives for the severely mentally ill and comparing them to the procedures used in deinstitutionalization. This paper seeks not to suggest that all mentally ill offenders be given a "free pass" to avoid prison or be immediately released, rather it seeks to highlight the dire need for a solution so as to avoid the negative outcomes seen throughout deinstitutionalization. Several prison alternatives exist and are currently in their trial phases now, including mental health courts to determine the state of the defendant's mental health, assigning mental health professionals to assist police officers in assessing situations, assigning each offender a case worker to develop an alternative plan such as vocational rehabilitation or psychiatric treatment, and even programs like Project Release, which remove offenders from the justice system with the same regulations as typical parolees and place them in their own apartments as clients of Pathways to Housing with constant access to a case worker and support team (Schaefer & Stefancic, 2008). As shown on the following page in Figure 4, implementing changes throughout various phases in the justice system has the potential to reduce recidivism, thus contributing to a better and more effective mental health management plan.

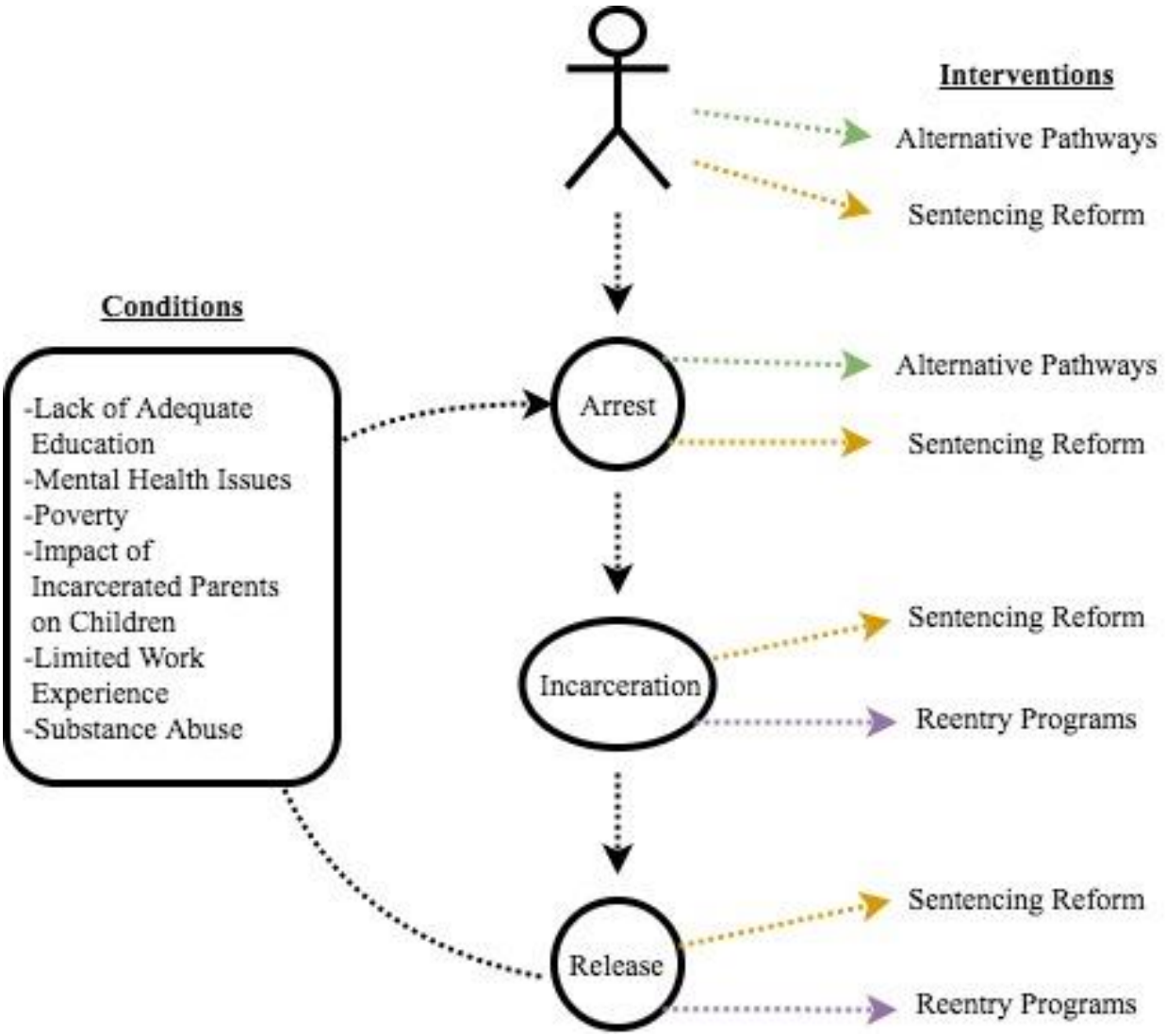

Figure 4: The Cycle of Incarceration: People in California's jails, prisons and juvenile detention centers are connected by more than criminal prosecution. Many have experienced family trauma, poverty, addiction and violence. These circumstances don't predestine a sentence behind bars. But they put people at risk for entering into a persistent cycle that begins with arrest, leads to prosecution and incarceration and, for some, recidivism. (Adapted by Callie Weiler from "California Prison," 2014).

While several potential solutions do exist and are in place in some areas, this paper seeks to evaluate their efficacy and ethical standing in order to determine which are the most feasible to implement nationwide while maximizing positive outcomes.

THE ROLE OF ACTOR NETWORK THEORY IN MASS INCARCERATION

Bruno Latour's Actor Network Theory, which describes how the various social groups interacting with a technology contribute to that technology's diffusion into society, plays a large role throughout the progress of the various prison alternatives (Latour, 2005). The main actor groups for this project in particular include the engineers designing and implementing the solutions, the government bodies regulating their implementation, the taxpayers and general citizens funding the solutions, the prison officials actually diffusing the solutions, and the inmates receiving the treatments and practices.

Naturally, each group has its own unique concerns regarding the diffusion of any prison-related technology or innovation that may be produced by the engineer. The government is particularly concerned with data privacy regulations, the taxpayers with how change may affect the amount of money they must pay, prison officials with potential upsets in the power balance as it stands currently, and of course the inmates themselves who may simply be unwilling to seek or accept treatment. All of these objections to the implementation of prison alternatives have the potential to slow or completely stop their diffusion into society and would therefore effectively nullify the research and analysis put into their development. For example, in this project specifically, the data privacy concerns of the involved government bodies serve as a main inhibitor to the research efforts of the technical team. The relevant government facilities are wary to distribute data due to the consequences of a potential breech, and the bulk of the work for the technical project is therefore comprised of working closely with the organizations to reassure them that the data is handled safely and responsibly so as to build trust and increase the likelihood of receiving the necessary information.

ENHANCING SOCIAL AWARENESS TO INCITE CHANGE

The eventual outcome of this research is anticipated to be an increased understanding of the history of America's treatment of the mentally ill, and how critical it is that past mistakes be avoided in solving the current mass incarceration crisis. With such an understanding, policymakers and society in general can go forward more confidently in making decisions about the wellbeing of the population of Americans living with mental illness.

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