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FEMALE INMATE HEALTH CHALLENGES AND DISPARITIES IN CARE

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Abstract

This integrative literature review focuses on the healthcare challenges and disparities in care of female inmates. The review incorporates all aspects of health including physical, mental, and emotional health issues while females are in prison. Twenty-five studies were examined and synthesized to form a larger picture of the healthcare of female inmates. Over-arching themes found in the studies were in the areas of sexual transmitted diseases which include HIV and AIDS; previous sexual and/or physical abuse; and mental illness. Female-specific healthcare including pregnancy experience while incarcerated was also included.

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Chapter 1: Introduction

The number of women in state and federal prisons grew from 12,300 in 1980 to 107,500 in 2005. This represents an eight-fold increase and a rate of growth that is nearly twice that for men in prison (Bureau of Justice Statistics [BJS], 2006). This trend can be attributed to several factors. From 1980 till the present, the criminal justice system has become more stringent with its laws concerning illegal drugs. More women are being arrested for drug possession and sentenced to jail time compared to twenty years ago (BJS, 2006). Women are more likely to be unemployed than are men. According to the Bureau of Justice statistics, 37% of incarcerated women had a monthly income of less than \$600 dollars in the month immediately prior their arrest (BJS, 2006). This lack of economic stability can lead women to illegal means of survival. Responsibilities related to caring for dependent children are a consideration for an estimated 65% of women in state prisons (BJS, 2006). For some, head of household financial responsibilities and related economic strife may have lead them to engage in illegal activity (e.g., commercial sex work or drug dealing) as a means of obtaining money; actions that eventually lead them into the arms of the criminal justice system.

The common profile of incarcerated women is different from most incarcerated men. In 1994, The Bureau of Justice Statistics (BJS) summarized the characteristics of female state prisoners. Although this study is fifteen years old, the profile of female inmates it paints is still accurate. Among the BJS findings: Most women were over the age of 30 and at least high school graduates or holders of a GED. In 2008, the majority of female inmates were African American (52.2%) followed by non-Hispanic whites (30%), and finally Hispanic females (17.8%) (Sabol, West and Cooper, 2008). With this population breakdown, the concern is of the chronic illnesses and disorders that are prevalent in these different racial groups.

Most were unmarried, mothers of children under the age of 18, and had grown up in homes without both parents present. With regard to criminal history, 28% of the women reported no prior imprisonment or probation compared to 19% of male prisoners (BJS, 1994). Also, female inmates are more likely to have been physically and/or sexually abused than are their male counterparts. In fact, the Bureau of Justice estimates that well over half of female inmates have been previously abused; 47% of whom were physically abused and 39% who were sexually abused (BJS, 2004). This provides evidence of the link between childhood abuse and participation in high risk behaviors which eventually lead to arrests (Balis, 2007). Prior abuse has also been linked to the staggering 60% of incarcerated women who are suffering from a mental illness (BJS, 2006). Finally, women more so than men are stigmatized and shunned from society upon release from prison. Consequently, this situation deters women from achieving employment and likely contributes to high rates of recidivism (Balis, 2007).

As previously mentioned, a contributing factor to the rise of female inmates is increasing arrests for drug-related charges. Sixty percent of women in state and federal prison report having used drugs in the month prior to their arrest and three-quarters admit to regularly using drugs prior to arrest (BJS, 2006). In an era of “get tough on crime” drug laws, more women are being arrested for relatively minor offenses such as drug possession (BJS, 2004). This situation is compounded by the fact that women generally have less information to trade for reduced charges. Many women become involved with drugs and drug dealing through their significant other (e.g., boyfriend or spouse). Being somewhat peripheral to the drug operation, apprehended women may not possess critical information that police are seeking and thus do not have the bargaining power to serve as an informant in order to receive a lesser sentence (BJS, 2004).

As the number of female inmates grows, prison resources for housing and providing medical care are increasingly stretched and often insufficient. There is a need for creative institutional practices and treatment programs that are designed to meet the unique needs of women inmates.

Prison could be an ideal opportunity to detect, treat, and monitor disease as well as manage chronic conditions in female offenders. Over half of female inmates report a condition requiring medical attention yet only 28% get treatment for that condition while incarcerated. Such lack of treatment results in them returning to the community sicker than when they came in (BJS, 2001a). Instead of treating these women in prison in a cost effective manner, Balis (2007) reports that they are being left to wander into hospitals upon release; which is significantly more expensive than preventative or chronic care.

This underserved population could become a healthy, viable part of the broader community upon release from prison with the creation of better health services within the justice system. If this chain of poor health is not broken, more and more women will enter and leave prison ill; a phenomenon that will negatively impact their families, communities, and the broader health care system. In the absence of further research-based programs targeted at this particularly vulnerable population the likelihood for recidivism and poor health upon return to the community is great. An essential first step is to identify the major health issues (mental and physical) experienced by incarcerated women.

Thus, the purposes of this integrative literature review are to (a) identify the major health challenges, both physical and mental health, of incarcerated women and (b) to explore healthcare disparities between male and female inmates in terms of health issues, services offered, and unmet needs. Ultimately this review will shed light upon what healthcare programs

should be implemented in female prisons in order to better meet their needs. Such a front end approach to health services holds high potential for alleviating disease burden for this vulnerable group of women and decreasing cost burden to the tax-paying public.

Chapter 2: Methods

Relevant studies were identified by searching the CINAHL and PubMed databases. Limits put on the search were that both references and abstracts needed to be available. The search for CINAHL included using the key word *Prisoner* as well as *Female* and *Health*. These key words fell under the appropriate CINAHL headings for maximum results. PubMed was searched using the following key words or their combinations: *Female*; *Inmates*; *Health*; *Healthcare*; and *Women's Health*. These key words followed the MeSH terminology to assure accurate results. No limits were set in the PubMed searches. To identify additional studies, the reference lists of those studies found by electronic searches were reviewed; an expert in the field, Dr. Susan Loeb, was asked about additional studies; and a manual search of relevant scientific journals was completed. These journals included the *Journal of Correctional Health Care*; *Public Health Reports*; and *Women's Health Issues*.

The titles and abstracts of retrieved publications were reviewed and relevant articles for possible inclusion in the review were selected. The decision tree for study inclusion is presented in Figure 1. A total of 769 references were identified with a primary focus on health needs, disparities between male and female inmates, and/or healthcare programs offered to female inmates. Inclusion criteria included being a research study; involving female inmates or a combination of female and male inmates; published in English; and published in a peer-reviewed journal. Other studies were excluded due to a very limited focus on a specific subgroup (e.g. characteristics of inmates from Singkawang, West Boreo in 2006). One-hundred and eight articles were then reviewed for inclusion in the integrative review. These articles were then narrowed down to 25 articles to be included in the systematic review. The final studies are presented in Table 1. Studies were eliminated on the basis that (a) they were not conducted in the

United States, (b) they were not conducted exclusively in prison, and (c) they did not deal with mental or physical health. Due to the abundance of search results and the desire to include all areas of female inmate health, only articles that were published during the past five years, that is from January 2003 through December 2008 were included.

Chapter 3: Synthesis

Female inmates' health is complex and the physical, mental, and emotional aspects of healthcare are intertwined. In this synthesis the areas of focus are: the differences in male and female inmate health; female inmate physical health, and finally, female inmate mental health.

Differences in Male and Female Inmates

HIV treatment needs

Two studies focused on HIV treatment needs, risk factors, and prevention in both male and female inmates residing in east coast jails (Lanier & Paoline, 2005; Bryan, Robbins, Ruiz, and O'Neill, 2006). Participants in both studies exhibited a risk for HIV. The ratio of males to females was between 62-90% males to 10-38 % females.

Lanier and Paoline (2005) found that females had a higher incidence of crack cocaine use and 80% reported engaging in prostitution. Males were found to have a higher prevalence of powdered cocaine and heroine use compared to females and 39% reported engaging in prostitution (Lanier & Paoline, 2005). Despite these risk factors, Bryan, Robbins, Ruiz, and O'Neill (2006) reported that women showed a tendency to be more likely to use condoms when having sex than men. According to Bryan and colleagues (2006), only 5% of men assessed were positive of HIV compared to 16% of women.

Neither study revealed significant gender differences for HIV risk behavior or needs. Both genders had histories of drug use and prostitution and a lack of prevention measures against HIV. For both genders their primary concern was immediate survival: sustenance, food, housing, with HIV prevention and treatment emerging later down the list (Lanier & Paoline, 2005). Females were more open to prevention techniques and had more positive attitudes toward being a peer educator than did their male counterparts (Bryan et al., 2006). HIV is a prominent health issue in

the incarcerated population regardless of gender. Risky behaviors performed by inmates which eventually lead to incarceration are also found to be associated with contraction of HIV and other sexually transmitted diseases.

Sexual violence differences

Two survey studies were identified which focused on the differences between male and female experiences with sexual violence and sexual coercion while incarcerated. In one, a mailed questionnaire was sent to each participating jail (Struckman-Johnson & Struckman-Johnson, 2006), while in the other, audio-computer assisted self administered interviews (CASI) in English or Spanish were administered (Wolff, Blitz, Shi, Bachman, & Siegel, 2006). The ratio of males to females was between 88-93% males to 7-12% females.

Nearly 75% of the men and 57% of the women assessed by Struckman-Johnson and Struckman-Johnson (2006) were sexually coerced two or more times while incarcerated. In addition, inmate-on-inmate sexual assault was two times higher for inmates in the female facilities than it was for those in the male facilities (Wolff et al., 2006). Most men and women (91% and 51%) respectively were victimized by male perpetrators and persuasion was the most common pressure tactic used (Struckman-Johnson & Struckman-Johnson, 2006). A discrepancy between Wolff and colleagues (2006) and Struckman-Johnson and Struckman-Johnson (2006) was in the prevalence of staff-on-inmate sexual violence. Struckman-Johnson and Struckman-Johnson (2006) reported more women (41% vs 8%) were victimized by prison staff than men, whereas Wolff and colleagues (2006) found that there were no statistically significant differences between genders.

Cancer in Inmates

Researchers in two studies examined the prevalence of cancer and knowledge of cancer screening methods in male and female inmates. The purpose of the first study (Mathew, Elting, Cooksley, Owen & Lin, 2005) was to identify the demographic profile of inmates with cancer, wherein the second study (Binswagner, White, Perez-Stable, Goldrenson & Tullsey, 2005), researchers examined prisoners' knowledge and willingness to take part in cancer screening tests. The average percentage of males was 38- 89% compared with 11-62% females. Mathew and colleagues (2005) pulled medical records from the cancer registry of the University of Texas Medical Branch and compared the prison population profile with a sample of patients with cancer which was drawn from the general population. In the Binswagner and colleagues (2005) study, inmates were interviewed using a scripted questionnaire inquiring about age- and gender-appropriate cancer screenings.

Mathew and colleagues (2005) found that cervical carcinoma was the most common cancer among female inmates. Female inmates 40 years and younger had the highest prevalence of breast carcinoma. This may be explained by inadequate knowledge levels related to screening options for breast cancer in female inmates. Binswagner and colleagues (2005) found that 78% of the women in their study thought breast cancer screening was done with a breast examination rather than by a mammogram. All female inmates reported having had a Pap test at least once previously, with 83% having received this test while in prison (Binswagner et. al., 2005). Both males and females were more likely to have lung cancer (Mathew et al., 2005) and less likely to have been screened for colon cancer than noninstitutionalized individuals (Binswagner et al., 2005). The median five year cancer survival rate for female inmates was found to be 67% and only 33% for males (Mathews et al., 2005). Management challenges are exacerbated in the

prison setting including issues surrounding: giving pain medication to addicts, misdiagnosis, and the lack of motivation to go get treatment since terminal illness does not guarantee parole (Mathews et al., 2005).

Mental Health of Inmates

Researchers in three studies examined the effectiveness of mental health screening tools to assess incarcerated adults upon entering jail. Two of the studies (Ford, Trestmen, Wiesbrock & Zeng, 2007; Steadmen, Scott, Osher, Agnese & Robbins, 2005) developed and tested brief mental health screens and determined their effectiveness for accurately diagnosing mental health disorders in incarcerated adults. The third study (Harrison & Rogers, 2007) examined the effectiveness of two specialized mental health screens for the identification of suicidal risk among inmates. The ratio of males was 49%-69% to 31%-51% females. All of the studies administered the newly developed screening tools and compared them with established screening tools to test for effectiveness.

Ford and colleagues (2007) created the Correctional Mental Health Screen (CMHS) which was determined to be 70-80% accurate for women and 75-80% for men in identifying undetected current Axis I or II psychiatric disorders (e.g. bipolar mania and antisocial personality disorder). The CMHS-F was less sensitive in identifying mental illness in black females as compared with white females (Ford et al., 2007). The Brief Jail Mental Health Screen (BJMHS) was able to correctly classify 73.5% of men yet only 61.6% of women. There was a false negative rate of 34.7% for women (Steadmen et al., 2005). Steadmen and colleagues (2005) state that one of the problems of the BJMHS, is that it does not measure symptoms of anxiety that are associated with the high incidence of posttraumatic stress disorders experienced by female

inmates. Ford and colleagues (2007) state that racial background is a factor to consider when screening for mental health disorders in incarcerated females and needs to be addressed in future screening tools.

Harrison and Rogers (2007) specifically explored suicide risk among inmates and the effectiveness of two screens, the Referral Decision Scale (RDS) and the Mental Disability/Suicide Intake Screen (MDSIS), in identifying likely cases of major depression. The researchers compared these screens to an established suicide risk screen, the Personality Assessment Screen (PAS). The RDS was found to be ineffective at identifying inmates at risk for suicide; however, was found to be superior to the Personality Assessment Screener (PAS) in the area of sensitivity in not overlooking inmates with a potential for suicide. The MDSIS yielded the most promising results with respect to suicidal potential but was unable to differentiate between major depression and dysphoric moods compared to affective states (Harrison & Rogers, 2007). Both of these screens had assets and shortcomings but overall neither could be recommended as a reliable suicidal risk screen upon entering jail. Harrison and Rogers (2007) identified different combinations of variables from the various screening tools were better at classifying suicidal potential in men versus women. The cluster of key predictor variables for men were: thoughts of suicide, feelings of persecution and negative self perception; this cluster of items correctly classified 97.8% of the male sample with a risk for suicide. The key variables for women were: thoughts of suicide, perception by other as aggressive, beliefs of being poisoned or plotted against, and dysphonia, a group of items which correctly classified 95.5% of the female sample as being at risk for suicide (Harrison & Rogers, 2007).

Physical Health of Inmates

Researchers in four studies investigated the physical health needs of inmates and their willingness to receive treatment while incarcerated. The focus of the first study was on causes of death over a ten year period in a large urban jail in Chicago (Kim et al., 2006). In the next study, researchers analyzed patterns of illegal drug use and treatment utilization among inmates and estimated the need for different types of correctional drug treatment services (Belenko & Peugh, 2005). In the final two studies, the inmates' attitudes towards Hepatitis B and C testing and willingness for treatment while in jail were evaluated (Vallabhaneni, Macalino, Reinert, Schwartzapfel, Wolf & Rich 2004; and Vallabhaneni, Macalino, Reinert, Schwartzapfel, Wolf & Rich, 2006). Three of the studies used interviews or surveys (Vallabhaneni, Macalino, Reinert, Schwartzapfel, Wolf & Rich 2004; Vallabhaneni, Macalino, Reinert, Schwartzapfel, Wolf & Rich, 2006; and Belenko & Peugh, 2005), while one performed a secondary analysis of existing data from a national databases (Kim et al., 2006). The ratio of males to females ranged from 65-90% males compared to 10-35% females.

Kim and colleagues (2006) found major differences in the cause of death between male and female inmates, specifically, non-illness deaths (drug overdose, suicide, etc.) were the most prevalent among females and 63% of female deaths occurred within two days of incarceration. The leading causes of death in male inmates included heart disease, cerebrovascular disease, suicide and HIV/AIDS (Kim et al., 2006). This finding that the major causes of death for male inmates is disease related, is congruent with the results from Belenko and Peugh (2005) finding that 29.6% of male inmates required no drug treatment intervention. Females mortality was mostly due to non-illness deaths including drug overdose and suicide. This can be related to Belenko and Peugh's (2005) findings that 57% of females had a history of physical or sexual

abuse; both were twice as common among those in the most severe drug use category. With the exceptionally high rate of drug use in the prison population comes the risk for Hepatitis.

Vallabhaneni and colleagues examined both Hepatitis B and C testing and treatment attitudes in 153 inmates. Differences were found in the attitudes about the perceived level of risk between Hepatitis B and C. Thirty-three percent of the sample answered “yes” for being at risk for Hepatitis C (Vallabhaneni, 2006) but in the study with Hepatitis B, 29% of participants were determined to be at risk but 61% of these individuals did not perceive themselves to be at risk (Vallabhaneni, 2004). The lack of perceived risk is a hurdle in the treatment and prevention of the incarcerated population although between 93-95% of the participants in both studies reported a willingness to receive treatment for Hepatitis B and C if needed. Vallabhaneni and colleagues (2004 & 2006) found no significant differences between men and women in regard to their willingness to accept Hepatitis testing while incarcerated.

Mental Health Needs of Female Inmates

Researchers conducted five studies that focused on female inmates’ mental health conditions and treatment needs while incarcerated. Abuse patterns in the female inmate population were examined in two of the studies (Loper, Magmoodzadegan, & Warrne, 2008; and Brewer-Smyth & Burgess, 2008). Psychological adjustment (Islam-Zwart, Vik & Rawlins, 2007), post-traumatic stress disorder in HIV-positive inmates (Lewis, 2005), and mental health treatment needs in this population (Blitz, Wolff, & Paap, 2006) were also examined.

Researchers in all five of the studies explored the female inmate population exclusively with the sample size ranging from 62 to 908 female inmates. The participants were recruited from both

the northwestern and northeastern United States. A variety of study methods were used including interviews, questionnaires, physical examinations, and collection of saliva samples.

Both Loper and colleagues (2008) and Brewer-Smyth and Burgess (2008) focused on female inmates' past history of childhood abuse (e.g. physical and/or sexual abuse). One study (Loper, et al., 2008) found a positive relationship between childhood sexual abuse and/or physical abuse with inmates exhibiting “a rigid, pervasive and enduring pattern of dramatic and erratic behavior.” (Cluster B disorder). Brewer-Smyth and Burgess (2008) found that having committed a violent crime was significantly related to having been sexually abused during childhood. Results from both studies revealed a significant relationship between childhood sexual abuse and the co-occurrence of physical abuse (Brewer-Smyth, 2008; Loper et al., 2008).

The researchers in both of these studies found a considerable number of female inmates having previously experienced sexual and/or physical abuse during childhood. Most of the abuse was perpetrated by a family member, with the highest incidence being maternal abuse (Loper et al., 2008). Brewer-Smyth and Burgess (2008) found that 43-60% of the abuse of incarcerated women was committed by a family member. This can be partly explained by the fact that 39% of the female inmates reported being raised by only their mother during their childhood (Loper et al., 2008). Brewer-Smyth & Burgess (2008) findings indicate the repercussions of earlier childhood abuse including a higher incidence of physical abuse, TBIs, violent behaviors, and higher levels of the stress hormone cortisol.

Other researchers explored different aspects of mental health in female inmates, including, the relationship between HIV and post-traumatic stress disorder (PTSD) in female inmates (Lewis, 2005) and the initial psychological presentation of female inmates and their

subsequent process of adjustment to incarceration over a three week period (Islam-Zwart, Vik, and Rawlins, 2007). Though different in focus, the researchers in both of these studies aimed to determine the mental health treatment needs of this vulnerable population.

Results from both studies identified psychological distress in all female inmates, especially in the first week of incarceration (Islam-Zwart et al., 2007). Women with a lifetime history of PTSD were more likely to participate in risky behaviors that were associated with contracting HIV (Lewis, 2005). This provides a link between PTSD and HIV in the female inmate population. In addition to having both HIV and PTSD, these inmates also had a higher occurrence of depression, alcohol and drug abuse/dependence, and childhood sexual abuse by a family member (Lewis, 2005). This finding supports the previously mentioned finding that childhood sexual abuse is linked with future mental health problems. Islam-Zwart and colleagues (2007) found that female inmates do experience psychological distress upon incarceration but there is a decrease in symptoms over a three week period.

In the final study by Blitz, Wolff, and Paap (2006), the researchers determine female inmates' mental health treatment needs both before and during imprisonment. The different treatment needs were categorized as behavioral health, mental health, and substance abuse. Thirty to forty-five percent of the women with needs in each category did not receive any form of treatment in the two years prior to incarceration. A contributing factor to the lack of treatment was that a significant relationship was found between eligibility for health insurance coverage and receiving treatment (Blitz et al., 2006). Fifty-eight percent of the inmates reported needing mental health treatment outside of prison and inmates with mental health needs were most likely to report needing treatment in prison as well (Blitz et al., 2006). Blitz and colleagues (2006) also

found that a majority of inmates in the prison who thought they needed treatment did receive the treatment while incarcerated.

Physical Health Needs of Female Inmates

Researchers conducted seven studies which focused on female inmates' physical health and treatment needs while incarcerated. HIV risk behaviors and treatment options were examined in three of the studies (Paasche-Orlow, Clarke, Hebert, Ray & Stein, 2005; Altice, Marinovich, Khoshnood, Blankenship, Springer & Selwyn, 2005; Ravi, Blakenship & Altice, 2007). Special populations, specifically older female inmates (Reviere & Young, 2004) and pregnant inmates (Clarke, Rosenyard, Rose, Hebert, Phipps & Stein, 2006; Resch, Altice & Paltiel, 2005) were examined as well. Lastly, Hatton, Kleffel and Fisher (2006) explored female prisoners' perspectives of their health problems and healthcare during incarceration. Researchers in all seven of the studies examined the female inmate population exclusively with sample sizes ranging from 65 to 7,015 inmates. The participants were recruited from federal and state prisons across the continental United States. A variety of study methods were used including interviews, questionnaires, physical examinations, focus groups, and HIV testing.

Researchers in three of the seven studies focused on factors contributing to HIV in this population. Paasche-Orlow and colleagues (2005) examined the correlation between levels of education and literacy with HIV risk behaviors in the female inmate population. Ravi and colleagues (2007) explored the association between a history of violence and unprotected sex among HIV negative inmates. Finally, Altice and colleagues (2005) examined the broader profile of contributing factors which are associated with HIV positive inmates. The inmates who were at

the greatest risk for contracting HIV were injection drug users (Altice et al., 2005), those who had a history of violence (Ravi et al, 2007), and women who left school prior to 9th grade (Paasche-Orlow et al., 2005). Altice and colleagues (2005) reported that Hispanics and African Americans were more likely than Caucasians to be HIV infected. In comparison, Ravi and colleagues (2007) determined that white female inmates were significantly more likely to have experienced any form of violence than their peers. Although Paasche-Orlow and colleagues (2005) were not able to find a significant relationship between literacy and HIV risk behavior the findings do suggest that this could be attributed to the increased visibility and promotion of HIV education, which maybe understandable even by those with low literacy.

Researchers explored particularly vulnerable subgroups within the female inmate population when they focused on aging inmates (Reviere & Young, 2004) or pregnancy and health while incarcerated (Clarke et al., 2006; and Resch et al., 2005). Researchers conducting all three studies had the goal of addressing the different health care needs of an even more complex group of inmates. Reviere and Young (2004) explored the older female inmate population (those 50 years or older) to determine if health care specific for the needs of this aging population is available. Although all 65 of the institutions which completed a questionnaire provided basic physical and mental health care to this population, it was revealed that institutions with a larger proportion of older women prisoners were statistically no more likely to provide services related to chronic health problems than institutions with smaller numbers of older female inmates. Reviere and Young's (2004) results also demonstrated that there were varying attitudes towards the future of the aging female inmate population specifically whether or not institutions expected a change in the age of the overall female inmate population with some seeing a future increase in

the average age of female inmates becoming a concern, while others did not see this as a potential problem for health care treatment.

Clarke and colleagues (2006) analyzed pregnancy attitudes and future plans for contraception in a sample of female inmates who had plans not to become pregnant in the next six months. In comparison, Resch and colleagues (2005) examined cost-effectiveness of HIV screening strategies for currently pregnant inmates. Inmates with a negative pregnancy attitude were significantly more likely to have used a birth control method consistently in the past three months (Clarke et al., 2006). Clarke and colleagues (2006) revealed that 87% of the sample reported a main/steady partner although only 58.5% of that sample reported they were in a monogamous relationship. Lack of monogamous relationships could put females at an increased risk for HIV and pregnancy. Resch and colleagues (2005) add to the knowledge base through finding that the combination of voluntary prenatal screening and mandatory neonatal screening averted 80.6% of preventable pediatric HIV infections and was cost-effective in accordance to the state government.

The final study conducted by Hatton and colleagues (2006) explored women prisoners' perspectives of their health problems and health care during incarceration. Focus group participants consisting of current inmates and former inmates discussed general questions about their current health status, healthcare received while incarcerated, and recommendations for making healthcare better for women in jail. The participants generally found healthcare inappropriate for their needs with a significant concern with female-specific healthcare (Hatton et al., 2006). This can be related back to the previously discussed research which noted a need for an increased focus on gender specific conditions (e.g. pregnancy) and a focus on HIV (Clarke et al., 2006; and Resch et al., 2005). In addition to hygiene issues and treatment delays, the

participants attributed other health problems to a feeling of a lack of privacy, dignity, and loss of work opportunities (Hatton et al., 2006).

This synthesis of the literature examined the differences in female and male health needs as well as the mental and physical health needs of female inmates. The twenty five studies explored all aspects of female health available in the literature from January 2003 through December 2008. The synthesis grouped together studies which examined different aspects of health including HIV and cancer. Studies related to the same subject matter were grouped together and their results were synthesized to examine patterns and relationships regarding female inmates and their health needs.

Chapter 4: Discussion

This systematic review explores 25 studies that focus on the healthcare challenges and disparities in care of female inmates. Through this review, a more comprehensive view of female inmate health was formed. Although there are limitations to the review, overall policy recommendations, future research needs, and implications for nursing practice are identified.

Limitations:

One of the major limitations of this review was that only studies from the past five years (January 2003 through December 2008), which were conducted in the United States were analyzed. A total of 769 references were identified with a primary focus on health needs, disparities between male and female inmates, and/or healthcare programs offered to female inmates. Future research to build upon this systematic review would include studies dated earlier than January 2003 and after December 2008 as well as exploring studies conducted outside of the United States.

Another limitation was the use of only two electronic databases: Pubmed and CINHALL. The searches conducted using Pubmed and CINHALL were thorough and comprehensive so as to exhaustively include all research on female inmates and health within our inclusion criteria. To increase the comprehensiveness of the review, ancestral searches were conducted; an expert in the field, Dr. Susan Loeb, was consulted about additional studies; and a manual search of relevant scientific journals was completed. These journals included *The Journal of Correctional Health Care*, *Public Health Reports*, and *Women's Health Issues*.

A limitation of the literature examined was the relatively small amount of research concerning female-specific healthcare in regards to pregnancy and gynecological issues while incarcerated. Only two out of the twenty-five studies reviewed touched on the issue of pregnancy

in female inmates. Both studies called for further research in this area since there is a high rate of dissatisfaction with the healthcare provided to pregnant inmates. A more comprehensive search for research on pregnant inmates, including studies conducted outside of the United States, would be appropriate to build upon this systematic review. Despite these limitations, this study is strong due to its novelty of looking at the comprehensive healthcare picture for female inmates.

Policy Changes:

Throughout the systematic review, many of the findings pointed toward changes in current policies as well as suggested new policies that should be enacted to enhance the healthcare of female inmates. The largest push overall was for the use of screenings and/or improved screening for inmates upon incarceration. The screenings suggested were specific to either mental health or physical health problems.

Changes in Current Policies:

Mental Health

Mental health issues are extremely prevalent within the female inmate population. Changes to current policies to address the need for mental healthcare should first focus on identifying female inmates who exhibit psychological distress upon incarceration. A thorough psychological screening should be conducted upon admission to jail to identify inmates at risk for mental illness as well as those with ongoing mental health needs, so that the treatment process can be implemented promptly (Islam-Zwart et. al. 2007). Ford and colleagues (2007) created the Correctional Mental Health Screen (CMHS) which was determined to be 70-80% accurate in identifying undetected current Axis I or II psychiatric disorders (e.g. bipolar mania and antisocial personality disorder in women). Psychological screenings should focus on the presence of previous physical and/or sexual abuse since this was present in 60% of incarcerated

women who were diagnosed with mental illness (BJS, 2006). Those who have suffered from abuse are at an increased risk for suicide. Harrison and Rogers (2007) identified key predictors of suicidal potential in women, they include: thoughts of suicide, perception by others as aggressive, beliefs of being poisoned or plotted against, and dysphonia.

Along with the presence of previous abuse comes the risk of post-traumatic stress disorder (PTSD). High anxiety from incarceration combined with a history of personal trauma are likely to aggravate PTSD and the clinical presentation of this disorder should be recognized by nursing staff, reported to a mental health professional, and promptly treated. PTSD symptoms to be alert for include insomnia, lack of enjoyment in previously enjoyed activities, flashbacks, and anxiety. Drug screening and toxicology reports should be conducted to eliminate the possibility that the psychotic presentation of a female inmate is not due to illegal substances.

Substance Abuse

The largest initial obstacle for female inmates upon incarceration is the need for drug detoxification. Sixty percent of women in state and federal prison report having used drugs in the month prior to their arrest and 75% admit to regularly using drugs prior to arrest (BJS, 2006). Drug withdrawal and dehydration have led to an increased rate of mortality during the first month of incarceration in female inmates (Kim et. al., 2006). This identifies a need for effective withdrawal protocols and drug rehabilitation to be enacted immediately upon incarceration with a special focus on crack cocaine withdrawal since this was found to be the most frequently used in the female inmate population (Lanier and Paoline, 2005).

HIV

HIV is a major concern for the female inmate population due to the increased presence of HIV-risk behaviors including injection drug use and prostitution. HIV testing is offered in jail but culturally-relevant counseling should be offered to Hispanic and African American female inmates due to their higher likelihood of being HIV-positive (Altice et. al., 2005). Increased education to these two demographic subgroups would be appropriate to help identify at-risk inmates and initiate treatment while incarcerated.

New Policy Initiatives:

Education regarding health promotion and disease prevention and treatment are major areas of neglect within the female incarcerated population. New policies to be enacted within the correctional healthcare system should focus on conducting screenings and providing education to female inmates especially in the areas of cancer screenings, Hepatitis and HIV, and birth control and prenatal care.

Cancer

The incidence of cancer, particularly breast cancer and cervical carcinoma, are prevalent in the female inmate population. This can largely be attributed to the lack of knowledge regarding screenings for these cancers. Binswagner and colleagues (2005) found that 78% of women in her study thought breast cancer screening was done with a breast examination instead of a mammogram. Cervical cancer in this population can also be linked with the participation in commercial sex work, multiple sexual partners, and lack of knowledge about safe sex and transmission of sexually transmitted diseases. New education programs regarding disease prevention and screening options would increase the knowledge of female inmates and promote healthy living and cancer prevention upon release from prison.

HIV and Hepatitis

Injection drug use is disproportionately high in the female inmate population in comparison with the general population. This increases the risk of blood-borne pathogens including HIV and Hepatitis. Educational programs highlighting HIV and Hepatitis risk behaviors can inform HIV and Hepatitis-negative inmates about the possible consequences of injection drug use and hopefully prevent further transmission of these diseases. Education on treatment options should be provided for HIV and Hepatitis-positive inmates to improve individual health and community referrals should be initiated to ensure seamless treatment upon release. Vallabhaneni and colleagues (2004; 2006) found that between 93-95% of the participants in their study regarding Hepatitis B and C were willing to receive treatment. This is encouraging and promotes the need to implement programs to address these health needs of incarcerated females.

Pregnancy

One unique challenge of female inmates is the experience of pregnancy while incarcerated. Although this constitutes a relatively small percentage of the overall population, it is an important consideration for the female inmate population. The usual presentation of pregnant female inmates is that they enter jail pregnant with no prior prenatal care and little support from the father. New policies should first focus on educating female inmates who wish to not become pregnant; then effectively dealing with currently pregnant inmates by keeping them physically healthy, and then education on contraceptives if future pregnancy is not desired. Affording female inmates a resource for different birth control methods will decrease the number of unwanted pregnancies. Education about prenatal and neonatal care will help facilitate pregnant inmates to take better care of themselves and their newborns. Resch and colleagues

(2005) found that a combination of voluntary prenatal screening and mandatory neonatal screening averted 80.6% of the preventable pediatric HIV infections and was cost-effective in accordance to the state government. Instituting prenatal and neonatal care in the incarcerated population holds potential for breaking the cycle of poor health and promoting better self care.

Recommendations for Future Research:

Because little is known about: (a) disparities in healthcare between female and male inmates and (b) specific healthcare needs of female inmates, a greater focus on female inmate research is needed. The gaps in the knowledge base were particularly noteworthy in the areas of gynecological care and mental health. Post traumatic stress disorder (PTSD) was a major problem. These two areas of healthcare were not fully explored in the literature and are major needs of the female inmate population. Few studies explored these areas of healthcare, and the limited number of studies which did address pregnancy and birth control and PTSD produced inconclusive results. So additional research attention is needed in these areas as well.

Overall, female inmates had negative perceptions about the quality of healthcare offered during pregnancy. Further research is needed to explore the healthcare needs of these women as well as to investigate the treatment modalities that are most effective in the correctional environment. Another concern is infant and mother care following birth due to the fact that most often the infant is taken away from the mother until release from prison. In some cases, custody is still not granted to the incarcerated mother upon release.

Mental health disorders are also found to be extremely prevalent in the female inmate population. Though many studies explored appropriateness and effectiveness of mental health screens in female inmates; none were able to correctly diagnose extreme anxiety secondary to

post traumatic stress disorder (PTSD). PTSD is largely attributed to prior abuse that the female inmates have experienced. The Bureau of Justice estimates that well over half of female inmates have been previously abused; 47% of whom were physically abused and 39% who were sexually abused (BJS, 2004). Prior abuse has been linked to a staggering 60% of incarcerated women who are suffering from mental illness (BJS, 2006). Future research in this area should focus on identifying inmates with previous abuse and effectively diagnosing inmates with PTSD. A screening tool should be developed to assess the clinical presentation of PTSD so as to provide treatment while incarcerated.

Future research to build upon this systematic review should focus on the development of more effective healthcare delivery to the female incarcerated population and identification of circumstances that promote or hinder their healthcare access. Findings regarding the need for mental health services and drug and alcohol rehabilitation should be put into practice and research should be conducted to reveal the most effective treatment modality for female inmates.

Implications for Practice:

Effective female inmate healthcare requires an awareness of the complex interrelationship between the mental health and physical health needs. Corrections nurses are in a key position to detect needs and improve the standards of care in the incarcerated population. These areas can be divided up into areas of interest including risk behaviors, chronic disease management, drug and alcohol use, and reproductive health.

Risk Behaviors

Female inmates exhibit a variety of risky behaviors that subject them to an increased occurrence of diseases and disorders. These behaviors include prostitution, injection drug use, and illegal activities such as drug dealing and robbery. These activities predispose incarcerated

females to HIV and other sexually transmitted infections, Hepatitis, alcohol and drug abuse, and physical injury due to altered cognition from substances. Nurses should focus treatment toward decreasing the occurrence of risk behaviors by putting into practice prevention programs and rehabilitation for drug and alcohol dependence. Eradication of risky behaviors is necessary before effective treatment of the diseases and disorders caused by the risk behaviors.

Rehabilitation should be initiated during incarceration and community resources should be identified to continue care upon release.

Chronic Disease Management

Most female inmates enter jail with underlying chronic diseases. African American females make up the majority of the incarcerated population which brings to light the need to focus on race-specific health concerns including hypertension, diabetes, and sickle cell anemia. Coping with chronic health conditions is a major concern for the older inmate population which constitutes about 10% of the total female inmate population. Cancer is in high proportion in the female inmate population due to the lack of participation in prevention activities including screenings. Lack of economic resources leads to female inmates partaking in unhealthy lifestyles which can contribute to other chronic conditions such as high blood pressure, diabetes, and obesity or malnutrition. Nursing actions should focus on promoting more healthy lifestyles; prevention measures including blood pressure, cancer and diabetes screenings; and proper medical treatment for chronic diseases.

Drugs and Alcohol Use

A large number of female inmates are apprehended while under the influence of drugs or alcohol as well as have a history of consistent drug use prior to incarceration, with a large percentage of crack cocaine use. Detoxification is a major concern for nurses taking care of

newly incarcerated female inmates. This is a priority to start the screening process for other physical and mental disorders. It is pertinent to distinguish if the presence of mental illness is substance-related or organic in nature. It was also found that a significant proportion of females die due to drug and alcohol withdrawal that is not treated efficiently in jail (Kim et. al., 2006). Nursing care should focus on detoxification and rehabilitation of female inmates to help increase the quality of life while incarcerated and to deter them from engaging in the same destructive behaviors with drugs and alcohol upon release from jail.

Reproductive Health

Gynecological care is a unique health challenge for the female inmate population. Lack of knowledge regarding breast and cervical cancer, as well as, the risk factors for sexually transmitted disease has placed this population at an increased risk for gynecological problems. Nursing care should focus on educating inmates about screenings such as mammograms and Pap smears as well as birth control options including the use of oral contraceptives, intrauterine devices, and/or condoms. Pregnancy is another concern due to the distinctive environment of prison. Prenatal care is paramount to ensure the safety of the mother and fetus while incarcerated. Nurses should help to facilitate a positive pregnancy experience and make sure that health of both the mother and baby are optimal. This would include proper prenatal medication and regularly scheduled checkups along with psychological support and referrals to support groups if appropriate.

Education

Nurses will play a paramount role in the prevention and treatment of incarcerated females. Education regarding disease prevention and health promotion will be very important in improving the quality of life in the correctional environment. Research has indicated a

willingness on the part of incarcerated females to learn about disease prevention and health screenings. Nurses need to be proactive not only educating the inmates, but also continuing their education on the complex physical and mental health concerns for the population that they are working with.

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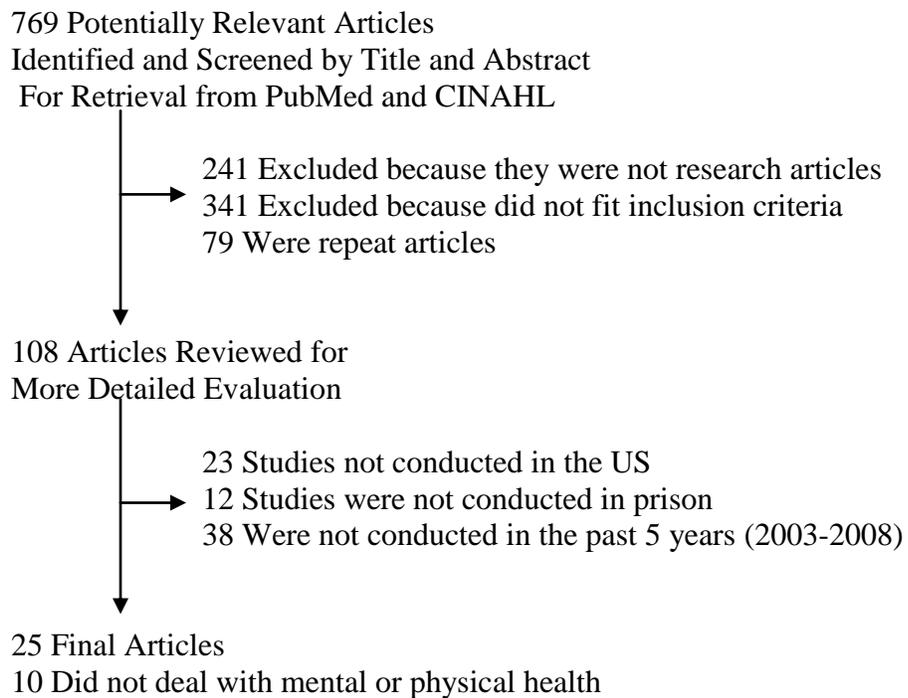
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Figure 1: Decision Diagram for Selection of Articles



Title, Authors, and Publication Date	Research Questions, Objectives or Hypotheses	Sample, Setting, and Methods	Results	Recommendations
Prisoner's attitudes toward Hepatitis B vaccination. Vallabhaneni S, Macalino GE, Reinert SE, Schwartzapfel B & Rich JD. (2004)	The goal of this study was to assess inmates' knowledge about Hepatitis B and their willingness to accept Hepatitis B vaccination while incarcerated	-100 males and 53 females -Conducted at the Rhode Island Department of Corrections -Interviewed using a voluntary, anonymous survey	-68% of the participant had been vaccinated for Hepatitis B at the jail and 80% of those were women -29% of the participants were determined to be at risk yet 61% of these individuals did not perceive themselves to be at risk -93% of the participants said they were willing to accept the Hepatitis B vaccine while incarcerated	-Inmates would welcome a Hepatitis B program in Rhode Island correctional facilities -The lack of perceived risk among those at risk for Hepatitis B is higher in jail than the general population showing an opportunity for educational programs in jails
Aging behind bars: Healthcare for older female inmates. Reviere R & Young VD (2004)	The purpose is to examine health care that is available now as the older female inmate population expands	-A packet was sent to the director of the health facility in 123 state and federal prisons -65 completed questionnaires with information about services offered in prison	-Institutions with a larger number of older inmates were statistically no more likely to provide services related to chronic health problems and mental health services than institutions with smaller numbers of older female inmates	-General training for correctional staff about age-specific development changes is necessary -Training staff to recognize incipient mental health issues and to make appropriate referrals might alleviate the pressure to provide care for serious problems

<p>Cost-effectiveness of HIV screening for incarcerated pregnant women. Resch S, Altice FL & Paltiel AD (Feb 2005)</p>	<p>The purpose of this study was to determine the cost-effectiveness of alternative HIV screening strategies for incarcerated pregnant women</p>	<p>-7015 observations with 202 pregnant inmates and of those women 8 were HIV infected -Used a decision model to predict the impact of 6 alternative HIV screening strategies for incarcerated pregnant women</p>	<p>-The combination of voluntary prenatal screening and mandatory neonatal screening was found to avert 80.6% of the preventable pediatric infections -Switching from voluntary to routine prenatal testing would avert 92.1% of preventable pediatric HIV cases and would cost %21,987 per additional case averted</p>	<p>-Routine prenatal testing ensures that a maximum number of women are offered prenatal care -Several cases of pediatric HIV could be prevented at low cost by implementing routine prenatal screening where no program or voluntary prenatal screening alone is in place</p>
<p>Correlates of HIV infection among incarcerated women: Implications for improving detection of HIV infection. Altice FL, Marinovich A, Khoshnood K, Blankenship KM, Springer SA & Selwyn PA (June 2005)</p>	<p>To determine the seroprevalence of HIV infection, the medical, social and behavioral risk factors for infection, and whether there are clinical laboratory markers predictive of HIV infection</p>	<p>-Discard sera were available from anonymous HIV antibody testing from 3,315 individuals from Niantic, Connecticut -Nurses performed routine clinical duties administered the questionnaire within the first three hours of a woman's admission to the facility</p>	<p>-250 participants tested positive for HIV and were significantly older, less educated, and were more likely to have been reincarcerated during the study period -Both injection drug users and noninjecting drug users were associated with HIV infection -Black and Hispanic women were more likely than white women to be HIV infected</p>	<p>-Lack of identifiable risk factors in this study suggests the need for the expansion of traditional HIV risk factors -The extent to which injection drug user risks and sexually related risks may overlap suggests the need for combined risk-reduction interventions that promote both safer sexual behavior and safer injection practices</p>

<p>Validation of the Brief Jail Mental Health Screen. Streadmen HJ, Scott JE, Osher F, Agnese TK & Robbins PC (July 2005)</p>	<p>-What is the validity of the Brief Jail Mental Health Screen (BJMHS) compared with a standard structured clinical interview? -How much does the use of this screen add to the workload of classification staff, and is this level acceptable to them? -What is the optimal scoring to improve the sensitivity and specificity of the new instrument?</p>	<p>-146 female inmates and 211 male inmates -Participants were from one of four county jails—two in Maryland and two in New York -All participants answered questions on the BJMHS, Suicide Prevention Screening Guidelines (SPSG), and the Structured Clinical Interview for DSM-IV (SCID)</p>	<p>-The BJMHS lists eight questions, takes just under three minutes to administer, requires very limited training of correctional officers and attains 73.5% overall accuracy for men -Among women who were given the SCID, 61.6% were correctly classified but there was a false negative rate of 34.7% -Feedback from the correctional officers included acknowledging the value of the screen and finding that the form reminded them to look for flags and focus on symptoms but expressed concern about needing more training on establishing trust and eliciting information from the detainees</p>	<p>-On the basis of the results, the researchers believe the BJMHS is a powerful tool for screening men booked in US jails -The lower accuracy of the BJMHS among women may be due to the fact that the BJMHS does not measure symptoms of anxiety that are associated with the high incidence of posttraumatic stress disorders experienced by women detainees</p>
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<p>Cancer in an incarcerated population. Mathew P, Elting L, Cooksley C, Owen S & Lin J (October 2005)</p>	<p>To examine the epidemiology of cancer in the incarcerated population of Texas and compare the findings with a general population</p>	<p>-1807 inmates were identified with new primary cancers and two cohorts from the general population were used for comparison -Examined data stored over 2 decades (1980-1999) from the cancer registry of the University of Texas Medical Branch</p>	<p>-Lung carcinomas were the most common cancer among inmates accounting for 24.5% of all diagnoses in the incarcerated population -Survival rates of patients in both cohorts were significantly superior to the survival of the inmates -The median survival for female inmates was 8.4 years with a 5-year survival rate of 67%; for male inmates the median survival was 1.5 years with a 5-year survival rate of 33%</p>	<p>-The epidemiology of cancer in prison differs from that of cancers in the general US population and also have a higher mortality rate - Management challenges often are exacerbated in the prison setting which include controlling cancer pain with opioids in a population in which it is known that drug abuse and misuse are common and diagnosis of a terminal illness does not guarantee parole</p>
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<p>Cancer screening among jail inmates: Frequency, knowledge, and willingness. Binswanger IA, White MC, Perez-Stable EJ, Goldenson J & Tulksy JP (October 2005)</p>	<p>The objectives of this study were to examine whether jail inmates could describe common cancer screening tests, whether they reported having had age-appropriate cancer screening, and whether they were willing to undergo screening while in jail</p>	<p>-82 female inmates and 51 male inmate -Cross-sectional study at the 2 main San Francisco County Jail facilities -Inmates who participated were interviewed using a scripted, pretested Spanish or English questionnaire regarding cancer screening appropriate for their age and gender</p>	<p>-100% of the 82 women interviewed reported having had a Pap test and 83% reported having one while in jail and 93% were willing to have a Pap test while in jail -78% of the 32 women interviewed thought a breast cancer screening was done by a breast examination and not a mammogram -Only 25% of the 55 respondents could identify a test for colon cancer</p>	<p>-The correctional population may be an excellent group to target for screening efforts because the majority of the inmates from this study were willing to be screened in the jail setting -Knowledge about breast cancer screening could be improved as most women eligible for screening identified breast examinations rather than mammography as a means of screening -Financial and logistical concerns related to procedures such as colonoscopy may present a challenge to come correctional systems</p>
<p>Educational attainment but not literacy is associated with HIV risk behaviors among incarcerated women. Paasche-Orlow MK, Clarke JG, Hebery MR, Ray MK & Stein Md (2005)</p>	<p>To examine the relationship between educational factors and HIV risk behavior among women in short-term incarceration</p>	<p>-423 women from the Rhode Island Adult Correctional Institute were interviewed -Four separate educational variables were evaluated: educational attainment, literacy, special education, and having an individualized educational plan</p>	<p>-More education was found to be significantly related to lower HIV risk behavior -Participants with lower literacy had less HIV risk behavior, however, this relationship was not statistically significant -Women with the highest likelihood of HIV risk behavior were those who had left school prior to 9th grade</p>	<p>-Health prevention messages have been relatively successful in reaching across literacy and special education barriers for people who had stayed in school at least into high school -To maximize the impact of correctional education programs to reduce HIV risk behavior it may be beneficial to focus efforts on those with lower educational attainment irrespective of literacy skills</p>

<p>Estimating drug treatment needs among state prison inmates. Belenko S & Peugh (2005)</p>	<p>To analyze patterns of illegal drug use and treatment utilization among inmates and estimate the percentage who are likely to need different types of correctional drug treatment services</p>	<p>-14,285 inmates interviews were conducted -Data was drawn from the most recently available Survey of Inmates in State Correctional Facilities conducted by the US Bureau of the Census</p>	<p>-82% of state prison inmates are involved with drugs or alcohol -48% of inmates had one or more medical problems -30% of state inmates have indications of psychological problems -19% of inmates reported a history of sexual or physical abuse including 57% of female inmates -Only 24% of inmates reported receiving any type of drug treatment since admission to jail</p>	<p>-Our findings suggest that inmates need a range of treatment modalities and that the existing delivery of correctional treatment, especially residential, is highly inadequate relative to need -Correctional treatment should focus on the identified health or social problems in addition to drug abuse or dependence, and should incorporate transitional planning for continued care following release from prison</p>
<p>Expressed needs and behavioral risk factors of HIV-positive inmates. Lanier MM & Paoline EA (2005)</p>	<p>-What are the needs, as identified by the inmates themselves, facing HIV-positive inmates? -Are the needs of male and female HIV-positive inmates similar, or do they vary as much as research suggests?</p>	<p>-91 HIV-positive male inmates and 57 HIV-positive female inmates -Jail located in Jacksonville, FL -Conducted a private interview</p>	<p>-Few differences were found between men and women in their HIV-related needs -The primary need was post-release housing for both genders -HIV treatment and care ranked low on the list of needs</p>	<p>-Since no significant gender differences were found, this may indicate the need for further research on specific interventions concerning HIV risk reduction and prevention -The only major difference in treatment between the genders would entail the different drug treatment methods for the major drugs used by male and female inmates</p>

<p>Post-traumatic Stress Disorder in HIV-positive incarcerated women. Lewis CF (2005)</p>	<p>-Hypothesized that incarcerated women with HIV would have a high prevalence of lifetime PTSD and that this prevalence would be higher than that noted in general samples of incarcerated women in other studies -Hypothesized that incarcerated women with HIV and lifetime PTSD would be more likely than those without lifetime PTSD to have comorbid major depression, Axis II psychopathology, risky behavior and a history of higher health service utilization</p>	<p>-60 inmates were HIV positive with lifetime PTSD and 21 inmates were HIV positive without lifetime PTSD with a total of 81 female inmates -The participants were first interviewed using the Structural Clinical Interview for Diagnosis for DSM-IV (SCID-P) and demographic information -The participants were interviewed a second time with the Clinical Administered Post Traumatic Stress Scale (CAPS) and the Structured Clinical Interview for Diagnosis of DSM-IV Personality Disorders (SCID-II)</p>	<p>-Women with lifetime PTSD were more likely than those without to have lifetime major depression, antisocial personality disorder, and cannabis abuse/dependence -There was the same prevalence of alcohol abuse, heroin abuse, cocaine abuse and anxiety disorders for both groups of inmates -Women with lifetime history of PTSD were more likely to have had severe sexual abuse and assaulted by a first degree relative or second degree relative -Women with lifetime PTSD were likely to be frequent utilizers of psychiatric services and had a history of suicide attempts</p>	<p>-The ideal treatment model for HIV-positive incarcerated women would address trauma symptoms, medical problems, and other psychiatric symptoms while trying to enhance abstinence from substances and reduce high-risk behavior -HIV-positive women in this sample showed substantially more psychopathology than the general population of incarcerated women in both jail and prison settings</p>
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<p>Availability of behavioral health treatment for women in prison. Blitz, Wolff & Paap (March 2006)</p>	<p>Whether women with behavioral health needs are more likely to receive treatment for these problems in prison or in the community and to what extent prison disrupts or establishes involvement in treatment</p>	<p>-908 female inmates from the only state correctional facility in New Jersey completed the survey -Need and use of behavioral health treatment before and during imprisonment was gathered through a series of eight questions</p>	<p>-56% reported needing behavioral health treatment before incarceration with 62% of those inmates reporting receiving treatment some time during the two years prior to incarceration -30-45% of the women in each category (mental, addiction and behavioral health treatment) did not receive any form of treatment in the two years prior to incarceration -Eligibility for health insurance coverage was the only factor with a statistically significant main effect on the likelihood of receiving treatment before incarceration</p>	<p>-The rates of access and the magnitude of the difference between need for and receipt of treatment will depend on the relative availability of behavioral health treatment inside and outside the prison and the methods used to ration access</p>
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<p>Effectiveness of HIV prevention intervention in prison among African Americans, Hispanics, and Caucasians. Bryan, Robbins, Ruiz & O'Neill (April 2006)</p>	<p>The goal was to assess the effectiveness of a prison-based HIV/AIDS intervention to change attitudes toward HIV prevention, norms supporting HIV prevention, perceived behavioral control for HIV prevention behaviors, and intentions to engage in HIV prevention behaviors post-release</p>	<p>-176 males and 20 females from correctional facilities in the Northeastern United States -The inmates were asked about: demographics and risk behavior history, HIV knowledge and perceived HIV risk, theory of planned behavior constructs, and peer education behaviors</p>	<p>-There were no differences in the number of sexual partners, condom use, and sharing needles to inject drugs among the three ethnic groups -The intervention was most successful at influencing beliefs and behaviors related to peer education, only somewhat successful at influencing beliefs and intentions related to condom use, and largely unsuccessful at influencing beliefs and intentions related to needle/tattoo equipment sharing</p>	<p>-Changes in knowledge were unrelated to changes in intentions regarding condom use, needle sharing, or peer education behavior → increase in HIV knowledge alone does not make HIV prevention interventions successful -81% of drug users shared needles in the past → a need to target needle use and needle sharing in this population</p>
<p>A comparison of sexual coercion experiences reported by men and women in prison. Struckman-Johnson & Struckman-Johnson (December 2006)</p>	<p>The purpose of the current study was to compare incarcerated men's and women's sexual coercion experiences</p>	<p>-A questionnaire was mailed to all inmates in each Midwestern jail that agreed to the study -The total number of usable surveys were from 382 men and 51 women</p>	<p>-Nearly 75% of the men and 57% of women were sexually coerced more than once -Most men (91%) and 51% of women were victimized by male perpetrators in their worst case incident -More women (41% vs 8%) were victimized by prison staff only</p>	<p>-Men and women in prison can be victimized by almost any person who can gain access to inmates -Women were more likely than men to be victimized by staff who wielded constant and complete authority over them -Male and female inmates should be provided counseling and therapy to mitigate the onset of long-term emotional effects</p>

<p>Deaths in Cook County jail: 10-year report, 1995-2004. Kim, Ting, Puisis, Roderiguez, Benson, Mennella & Davis (2006)</p>	<p>The aims of this study were to describe causes of death during the 10-year period between 1995 and 2004 in a large urban jail in Chicago</p>	<p>-Reviewed all deaths in Cook County Department of Corrections between 1995 and 2004 and mortality data from the National Vital Statistics System to compare mortality rates for the general population with the rates in jail</p>	<p>-Overall 53.4% of deaths were due to illnesses such as heart disease, CVA, malignant neoplasms, and chronic respiratory disease -the mortality rate for heart disease was significantly higher for inmates than for the general population -A higher percentage of females accounted for non-illness deaths (24.4%) -Over 63% of female deaths occurred within 2 days after incarceration -The leading cause of male death was heart disease</p>	<p>-The all cause mortality rate in the jail was lower than the rate in the general population → protected environment -Increased deaths associated with heart and CVA suspected to be associated with overall aging of jail inmates and substance abuse -Disproportionately higher percentage of deaths due to drug overdose especially females → more vulnerable to dehydration due to drug withdrawal</p>
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<p>Pregnancy attitudes and contraceptive plans among women entering jail. Clarke, Rosengard, Rose, Hebert, Phipps & Stein (2006)</p>	<p>To assess the pregnancy attitudes and future plans for contraceptive use among a sample of incarcerated women in Rhode Island and to identify factors associated with pregnancy attitudes and contraceptive plans</p>	<p>-223 women entering jail who were younger than 36 years old, fertile, sexually active with men, and not planning to become pregnant in the near future -All interviews occurred one-on-one with a research assistant in unmonitored rooms</p>	<p>-A main/steady partner was reported by 87% however, only 58.5% reported that they were in a monogamous relationship with their main sexual partner -Negative pregnancy attitude participants who did not want to start a birth control method were younger, and much more likely to report birth control being a hassle to get than women who wanted to start a birth control method</p>	<p>-Focusing on influencing the specific views of birth control methods that differed between those who did and did not want to start a birth control method may result in assisting women in selecting methods that are consistent with their pregnancy plans -Women with negative or ambivalent attitudes toward pregnancy may be more inclined to start a birth control method if it is conveniently available to them while they are still incarcerated</p>
<p>Prisoners favour Hepatitis C testing and treatment. Vallabhaneni, Macalino, Reinert, Schwartzapfel, Wolf & Rich (2006)</p>	<p>To evaluate the inmates' attitudes towards Hepatitis C testing and treatment at the Rhode Island Department of Corrections (RIDOC)</p>	<p>-100 male inmates and 53 female inmates were included in the study -Data was collected through face-to-face interviewer-administered questionnaire</p>	<p>-33% of the sample perceived themselves as being at risk for Hepatitis C -91% of the participants stated that they would be willing to be tested for Hepatitis C while incarcerated -95% reported being willing to receive treatment for Hepatitis C while incarcerated if they tested positive</p>	<p>-Education and counseling complementary to testing and treatment can further aid in spreading primary and secondary prevention messages to both HCV-positive and HCV-negative inmates</p>

<p>Prisoners' perspectives of health problems and healthcare in a US women's jail. Hatton, Kleffel & Fisher (2006)</p>	<p>To explore women prisoners' perspectives of their health problems and healthcare during incarceration in a county women's detention facility</p>	<p>-Convenience sample of 78 women including 18 former inmates and 60 current inmates -Focus groups of 8-10 inmates</p>	<p>-Women found healthcare inappropriate for their needs and not set up to handle female disease -Complained most about hygiene issues, treatment delays, privacy and dignity issues, and concealing health problems so to participate in work opportunities</p>	<p>-The need for further research into the health and healthcare of this vulnerable population and the myriad circumstances that promote or hinder their healthcare access</p>
<p>Sexual violence inside prisons: Rates of victimization. Wolff, Blitz, Shi, Bachman & Siegel (2006)</p>	<p>What is the prevalence of sexual victimization within a state prison system?</p>	<p>-6,964 male inmates and 564 inmates -Participants were administered a survey using audio-computer-assisted self administered interviews</p>	<p>-The prevalence for inmate-on-inmate sexual assault was two times higher for inmates in female facilities than male facilities -There was no statistically significant differences between males and females in rates of experiencing staff-on-inmate sexual violence</p>	<p>-The percentage of inmate-on-inmate rape is over ten times higher than rape rates of adult women in the total population and the rate for staff perpetrated rape is almost six times higher → need closer monitoring of staff and inmates</p>

<p>Axis I screens and suicide risk in jails. Harrison & Rogers (June 2007)</p>	<p>To examine the effectiveness of two specialized mental health screens (RDS and MDSIS) for the identification of suicidal risk among recently detained inmates</p>	<p>-Participants were recruited from Grayson County Jail with 49 male inmates and 51 female inmates -The participants were administered the different screens by a trained research assistant</p>	<p>-The RDS was inefficient at identifying inmates at high risk for suicide and had a large number of false positives -The MDSIS yielded the most promising results with respect to suicidal potential but could not be recommended for differentiating major depression from dysphoric moods and affective states</p>	<p>-When separated by gender, the classification accuracy of screen items from both the RDS and MDSIS increased from 90.8% overall to 97.8% for males and 95.5% for females</p>
<p>The association between history of violence and HIV risk: A cross-sectional study of HIV negative incarcerated women in Connecticut. Ravi, Blankenship & Altice (July 2007)</p>	<p>To analyze the association between a history of violence and unprotected sex among a sample of HIV-negative inmates -To examine associations between different types of violence, including physical violence and rape, as they relate to unprotected sex by partner type</p>	<p>-4,945 women were selected from Connecticut's only correctional facility for women -Participants were interviewed and asked about partner type, unprotected sex, violence, HIV risk, history of violence and condom use</p>	<p>-White inmates, inmates with a history of sex work and inmates with a history of drug use were significantly more likely to have experienced any form of violence than others -The odds of women who had experienced physical violence only having engaged in unprotected sex with their primary partners was 1.93</p>	<p>-It is critical for prisons to offer women programs in violence prevention and especially for those who have experienced violence, in coping with its physical and mental effects -Importance both of recognizing differences in condom use behaviors by partner type and of analyzing the factors that influence condom use by partner type</p>

<p>Development and validation of a brief mental health screening instrument for newly incarcerated adults. Ford, Trestman, Wiesbrock & Zhang (September 2007)</p>	<p>To develop brief screening tools suitable to accomplish the first stage of the two-stage strategy for selecting high-risk individuals</p>	<p>-1,526 male inmates and 670 female inmates admitted into a Connecticut jail -Participants were administered five questionnaires including the screening tool created by the researchers (CMHS)</p>	<p>-The CMHS was 70-80% accurate at identifying at risk white female inmates but not more accurate than established screening tools for black females -The CMHS was 75-8-% accurate for all male inmates</p>	<p>-The CMHS showed evidence of reliability, validity and predictive utility for identification of incarcerated women and men with undetected current Axis I or Axis II psychiatric disorders, except antisocial personality disorder</p>
<p>Short-term psychological adjustment of female prison inmates on a minimum security unit. Islam-Zwart, Vik & Rawlins (2007)</p>	<p>To examine the initial psychological presentation of female inmates and their subsequent process of adjustment to incarceration over a brief period of time</p>	<p>-Participants were 62 females incarcerated on the minimum security unit of a state prison in the northwestern United States -Participants were administered the Brief Symptom Inventory weekly for three weeks</p>	<p>-On average, female inmate experienced a mild level of psychological distress upon incarceration -There was a significant overall decrease in psychological symptoms over the initial three weeks of incarceration with the exception of hostility which had a slight increase over the three weeks</p>	<p>-The research supports the need for greater monitoring and intervention in the very early stages of incarceration -The findings are beneficial in that it can help to identify women who are not necessarily following the typical adjustment pattern and may be at risk for self-harm or destructive behavior</p>

<p>Childhood sexual abuse by a family member, salivary cortisol, and homicidal behavior of female prison inmates. Brewer-Smyth & Burgess (May/June 2008)</p>	<p>To determine if females sexually abused by a family member as a child also experience more childhood physical abuse, had more neurological histories including traumatic brain injuries (TBI's), displayed more homicidal behaviors, and had abnormal diurnal variation in the stress hormone cortisol compared with females not sexually abused by a family member</p>	<p>-A cross sectional study of 137 female inmates including 9 murders, and 12 non-criminal females, with 60 females who had been sexually abused by a family member and 89 not abused -Participants underwent a physical exam, health history, and salivary cortisol measurements -Childhood physical and sexual abuse were measured with a Childhood Abuse Scale</p>	<p>-Having committed a violent crime were related significantly to having been sexually abused during childhood -Females who experienced childhood sexual abuse by a family member experienced more childhood physical abuse, more TBI's, and were convicted of a more violent crime -Cortisol diurnal variation was related significantly to having been sexually abused by a family member</p>	<p>-These findings support the hypothesis that sexual abuse by a family member could contribute to abnormal production of the stress hormone cortisol and contribute also to increased violent behavior, including homicide by females</p>
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<p>Childhood maltreatment and cluster B personality pathology in female serious offenders. Loper, Magmoodzadegan & Warren (June 2008)</p>	<p>To describe early abuse patterns within a sample of incarcerated women and to determine whether summary measures of abuse histories could distinguish between inmates with and without Cluster B pathology</p>	<p>-Participants were 142 inmates incarcerated at a women's state prison -Participants met privately with the interviewer and had to respond to questions read aloud to them</p>	<p>-Inmates with Cluster B disorder were more likely to report being: yelled at, made to feel guilty, embarrassed and hit with objects by both maternal and paternal caregivers, and more likely to report sexual kissing and hugging from an adult</p>	<p>-High levels of reported abuse in childhood and/or adolescence is in the female inmate population -Inmates with Cluster B pathology suffered even higher levels and a greater variety of expression of physical and psychological abuse → need to screen upon admission to jail to help give treatment</p>
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Academic Vita

Danielle Meade

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Education

The Pennsylvania State University, State College, Pa 2006-present
Anticipated date of graduation: May 2010

Major: Nursing

Schreyer Honors Scholar

Thesis Title: Female Inmate Healthcare Challenges and Disparities in Care

Thesis Supervisor: Dr. Susan Loeb, Assistant Professor of Nursing

Certification

CPR certification by the American Heart Association

Phlebotomy and EKG certification from Georgetown University Hospital

Clinical Experience

Medical/Surgical- 3 semesters

Geriatrics- 2 semesters

Labor and Delivery- 1 semester

Mental Health- 1 semester

Community- 1 semester

Pediatrics- 1 semester

Relevant Experience

Clinical Nurse Technician- Adult Transplant Unit

Georgetown University Hospital June-August 2009

- Performed patient care on up to 9 patients
- Conducted physical assessments, EKGs, intravenous insertion, and venipunctures
- Shadowed in the surgical intensive care unit and the operating room

Osteoporosis Screening Technician

Penn State Health Fair Fall 2009

- Performed heel scans on women 50 years and older
- Interpreted readings for clients and provided information about osteoporosis prevention

Relevant Coursework

Biology Courses:

Biology 141 Physiology

Biology 142	Physiology Lab
Biology 129	Mammalian Anatomy
Microbiology 106	Elementary Microbiology
Microbiology 107	Elementary Microbiology Lab

Research Courses:

Nursing 200W	Introduction to Nursing Research
Nursing 300H	Honors Thesis Seminar
Nursing 496H	Senior Honors Thesis Independent Study

Assessment Courses:

Nursing 225	Health: Introduction to Illness
Nursing 230	Health: Nursing Process

Clinical Care Courses:

Nursing 301	Nursing Care of the Client through the Adult Life Span Requiring Medical Intervention
Nursing 302	Nursing Care of the Client through the Adult Life Span Requiring Surgical Intervention
Nursing 310	Nursing Care of the Elderly
Nursing 405	Nursing Care of the Adult Client with Complex Health Problems
Nursing 420	Mental Health Nursing

Additional Nursing Coursework:

Nursing 205	Introduction to Pharmacology Concepts
Nursing 400	Professional Role Development
Nursing 464	Death and Dying
Nursing 497	Violence and Its Impact on Society

Miscellaneous Courses:

Psychology 002	Psychology
Chemistry 011	Introduction to Chemistry
HDFS 129	Introduction to Human Development and Family Studies
Nutrition 251	Introduction to Principle Nutrition
Statistics 200	Elementary Statistics
Sociology 001	Introduction to Sociology

Honors and Professional Affiliations

- Evan Pugh Freshman Award
- Schreyer Honors Scholar
- Dean's list from 2006-2009
- Member of Student Nurses Association of Pennsylvania
- Member of Sigma Theta Tau

Scholarships and Grants

- Kunkle Bayard D Scholarship

- Blue Cross Nursing Grant
- Academic Competitiveness Grant
- Federal Supplemental Education Opportunity Grant
- Class of 1922 Memorial Scholarship
- Schreyer Honors College Extern Scholarship
- Jordan Eve Willard Trustee Scholarship
- Pre-eminence in Honors Education Fund Scholarship
- Grant of \$500 from Schreyer Honors College for summer 2009 externship