

# HIV+ Inmates and Mental Illness: Description and Implications for Release Planning

**Anna Scheyett, PhD  
Clinical Associate Professor  
School of Social Work  
University of North Carolina at Chapel Hill**

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# Authors

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- Anna Scheyett, MSW, PhD, UNC School of Social Work, UNC Center for AIDS Research
- Sharon Parker, MSW, UNC School of Social Work
- David Wohl, MD, UNC School of Medicine, UNC Center for AIDS Research
- Carol Golin, MD, UNC School of Public Health, UNC Center for AIDS Research
- Becky White, MD, UNC School of Medicine, UNC Center for AIDS Research
- Danielle Haley, MPH, Family Health International
- Carrie Pettus Davis, MSW, UNC School of Social Work

# Background

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- **Two significant epidemics intersect in the U.S.**
  - Incarceration
  - HIV
- **There are high rates of mental health disorders in both populations.**



# Incarceration and Mental Health

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- A BJS report stated that 16% of state prison inmates reported a mental illness or overnight stay in a psychiatric hospital (Ditton, 1999).
- A more recent report found that 56% of state prison inmates had a 12 month history of mental illness or demonstrated symptoms of a mental illness (James & Glaze, 2006).

# Incarceration and HIV

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- The prevalence of HIV among state prison inmates is estimated to be 2.3-3.0%, 8-10 times that of non-incarcerated populations (*Status of soon-to-be-released inmates, 2002*).
- Nearly 20% of people with HIV in the U.S. pass through a jail or prison each year (*Status of soon-to-be-released inmates, 2002*).

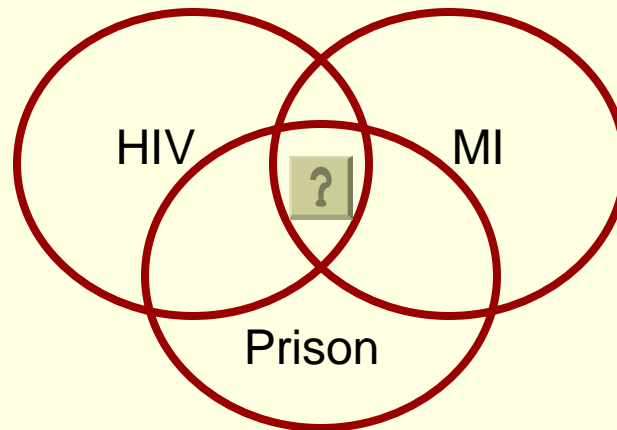
# HIV and Mental Health

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- There are high rates of mental illness in HIV+ persons.
  - In HIV+ persons receiving medical care, 48% had a mental disorder (Burnham, 2001)
  - In HIV+ Medicaid recipients, nearly 6% diagnosed with schizophrenia (Walkup, Crystal, & Sambamorrthi, 1999)
  - Lifetime prevalences of depression in HIV+ persons of 30-50% (Rabkin, Ferrando, Jacobsberg, & Fishman, 1997)
  - Up to 42% of HIV+ individuals have been reported to have posttraumatic stress disorder (Brief, et al, 2004).

# HIV, Prison, and Mental Health

- Little work done in the U.S. on this population
  - Texas study found elevated rates of both mood and psychotic disorders, even after controlling for gender, race, age (Baillargeon, et al, 2003).



# So What?

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1. Recidivism is a significant problem in the US
  - Within 2 years nearly 60% of prison releasees have recidivated (Langan & Levin, 2002)
  - HIV+ releasees with mental health problems are at higher risk of recidivism (Harris, Raffi, Tonge & Uldall, 2002)
2. HIV+ prison releasees have high rates of risky behavior
  - Nearly two thirds of HIV+ releasees report unsafe sex in the year prior to reincarceration (Stephenson, et al, 2006)
3. HIV+ persons with mental illness have high rates risky behavior
  - HIV+ persons with depression have high rates of sexual risk taking and ART non-adherence (Olatunji, et al, 2006)
  - HIV+ persons with trauma histories have high risks of ART non-adherence (Mugavero, et al, 2006)



# Conclusion

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- Understudied population
- High risk of
  - Recidivism
  - Disease progression
  - HIV transmission

# Research Questions

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- What are the rates of mental illness, specifically depression, in HIV+ adults in NC state prisons?
- How are these individuals different?
  - Post-release needs
  - Characteristics influencing post-release success

# The BRIGHT Study

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- **Bridges to Good Health and Treatment:**  
NIDA funded RCT of a bridging case management intervention for HIV+ prison releasees, longitudinal, 1 year
- **Inclusion criteria**
  - 18 or older and HIV+
  - Able to give consent and participate in study
  - English speaking
  - Within 3 months of release
  - Returning to one of 3 regions of the state

# Methods

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- Secondary analysis of baseline data
- Data sources
  - Chart abstraction
  - Structured interview within 3 months of release, with study developed questions:
    - History
    - Unmet needs
    - Access to care
    - Substance use
    - Sexual behavior
  - Standardized instruments
    - Coping self-efficacy (Chesney, et al, 2006)
    - Center for Epidemiologic Studies Depression Scale (CES-D) (Roberts, 1980)

# Methods

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- Definition of Depression: CES-D >16
- Bivariate logistic regression comparing depressed and non- depressed
- Multivariate logistic regression to determine if depression a significant predictor of unmet need pre-incarceration or post-release
- Qualitative interviews on conceptualizations of release and post-release plans

# Results: Sample Characteristics (N=101)

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<b>Age</b>	<b>39.59 (8.08)</b>
<b>Race</b>	
<b>Black</b>	<b>81 (80.2%)</b>
<b>White</b>	<b>9 (8.9%)</b>
<b>Native American</b>	<b>5 (5.0%)</b>
<b>Other</b>	<b>6 (5.9%)</b>
<b>Hispanic</b>	<b>3 (3.0%)</b>
<b>Male</b>	<b>73 (72.3%)</b>
<b>Completed high school, GED, or above</b>	<b>58 (57.4%)</b>
<b>Self-identified heterosexual</b>	<b>80 (79.2%)</b>
<b>Currently married</b>	<b>13 (12.9%)</b>
<b>At release will care for child under age 18</b>	<b>40 (39.6%)</b>
<b>Number of incarcerations</b>	<b>3.20 (1.92)</b>
<b>Number of months incarcerated</b>	<b>26.90 (44.44)</b>

# Results: Health Status

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	Mean (std. dv.)
CD4 count	409.17 (291.39)
CD4 under 200	24 (23.8%)
Undetectable HIV viral load	40 (39.6%)
Receiving ART	67 (66.3%)

# 6 Month Pre-Incarceration Needs

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Did you go without food, clothes, shelter for healthcare?	35 (34.7%)
Did you need income assistance?	64 (63.3%)
Did you need health care benefits?	58 (57.4%)
Did you need housing?	44 (43.6%)
Did you need SA tx?	55 (54.5%)
Were you working pre-incarceration?	45 (44.6%)



# Post-Incarceration Needs

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Income assistance	81 (80.2%)
Health benefits	96 (95.0%)
Finding a place to live	67 (66.3%)
Getting a job	63 (62.4%)
SA tx	44 (43.46%)
Transportation to clinic or job	69 (68.3%)
Getting medicines you need	83 (82.2%)
Taking medicine like you're supposed to	21 (20.8%)
Finding a doctor	57 (56.4%)
Adjusting to being on the outside	34 (33.7%)
Average number of post-release needs	7 (2.97)

# Results: Depression and Substance Abuse, Coping

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CES-D score (S.D.)	18.35 (12.77)
CES-D above 16	51 (50.5%)
CES-D above 16 BUT not in chart or prior diagnosis	26 (25.7%)
In the 3 months pre-incarceration used street drugs	78 (77.2%)
in the 3 months pre-incarceration binge drank or used alcohol daily	67 (66.4%)
In the 3 months pre-incarceration, any substance abuse	91 (90.1%)
Coping Self-Efficacy score (0-260)	199.2 (47.49)

# Comparison of Characteristics

	Not Depressed (CES-D < 17) n=50		Depressed (CES-D ≥ 17) n=51		X <sup>2</sup>	Wilcoxon
	n (%)	Mean (SD)	n (%)	Mean (SD)		
Age		40.5 (8.34)		38.7 (7.82)		2456.0
Black	42 (84.0)		39 (76.5)		2.2705	
Male	38 (76.0)		35 (68.6)		1.4183	
Married	8 (16.0)		5 (9.8)		1.0209	
Employed pre-prison	25 (50.0)		20 (39.2)		1.9238	
GED or higher	35 (70.0)		23 (45.1)		6.4037*	
Months in prison		31.3 (50.01)		21.7 (35.00)		2510.0
Times in prison		3.2 (2.50)		3.7 (2.91)		2293.0
CD4 above 200	37 (74.0)		37 (72.5)			
Viral load						
undetectable	18 (36.0)		22 (43.1)		0.8284	
On ART	33 (66.0)		34 (66.7)		0.0555	
Years HIV+		7.3 (7.08)		8.9 (5.93)		2138.5~
HIV+ test this						
incarceration	16 (32.0)		6 (11.8)		6.7124**	
SA prior to prison	44 (88.0)		47 (92.2)			
Coping Self-Efficacy		215.1 (45.59)		182.3 (44.29)		2851.5***

# Comparison of Characteristics: Needs

	Not Depressed (CES-D < 17) n=50		Depressed (CES-D ≥ 17) n=51		X <sup>2</sup>
	n (%)	Mean (SD)	n (%)	Mean (SD)	
Competing basic needs and healthcare	12 (24.0)		25 (49.0)		6.8083**
Pre-prison needs:					
Income	27 (54.0)		37 (72.5)		3.8671*
Health benefits	27 (54.0)		31 (60.8)		1.0226
Housing	15 (30.0)		29 (56.9)		6.5697*
Anticipated post-prison needs:					
Income	36 (72.0)		45 (88.2)		3.8431*
Health benefits	48 (96.0)		48 (94.1)		0.9604
Housing	24 (48.0)		43 (84.3)		13.3094***
Employment	26 (52.0)		37 (72.5)		3.6108~
Transportation	24 (48.0)		45 (88.2)		18.0037***
Medication access	39 (78.0)		44 (86.3)		0.7909
Adherence help	4 (8.0)		17 (33.3)		9.2473**
Finding a MD	26 (52.0)		31 (60.8)		0.6081
Adjust to “outside”	16 (32.0)		18 (35.3)		0.1229

~ $p < 0.10$  \* $p < 0.05$  \*\* $p < 0.01$  \*\*\* $p < 0.001$

# Multivariate Analyses: Depression as a Predictor

	Depression	Age	Black	Male	Employed pre-prison	Married
	O.R. (95% CI)	O.R. (95% CI)	O.R. (95% CI)	O.R. (95% CI)	O.R. (95% CI)	O.R. (95% CI)
<b>Competing basic needs and healthcare</b> ( $\chi^2$ likelihood ratio=6.2482, df=1, p=0.0124)	<b>2.92 (1.24-6.88)*</b>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
<b>Needed help with income pre-prison</b> ( $\chi^2$ likelihood ratio=11.1523 df=2, p=0.0038)	<i>ns</i>	<i>ns</i>	<i>ns</i>	<b>0.27 (0.08-0.89)*</b>	<b>0.37 (0.15-0.91)*</b>	<i>ns</i>
<b>Needed housing pre-prison</b> ( $\chi^2$ likelihood ratio=11.0574, df=2, p=0.0004)	<b>2.77 (1.17-6.57)*</b>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<b>0.21 (0.04-1.05)~</b>
<b>Needs housing post-prison</b> ( $\chi^2$ likelihood ratio=16.0452 df=2, p=0.0003)	<b>4.69 (1.76-12.49)**</b>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<b>0.24 (0.06-0.88)*</b>

# Multivariate Analyses: Depression as a Predictor

	Depression	Age	Black	Male	Employed pre-prison	Married
	O.R. (95% CI)	O.R. (95% CI)	O.R. (95% CI)	O.R. (95% CI)	O.R. (95% CI)	O.R. (95% CI)
Needs transportation post-prison ( $\chi^2$ likelihood ratio=16.5017, df=1, p<0.0001)	7.03 (2.52-19.62)***	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Needs help with adherence post-prison ( $\chi^2$ likelihood ratio=8.3867 df=1, p=0.0038)	4.94 (1.51-16.16)**	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Total post-prison needs above median of 7 ( $\chi^2$ likelihood ratio=8.7123, df=1, p=0.0082)	3.44 (1.49-7.96)**	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Coping self efficacy score above median 207 ( $\chi^2$ likelihood ratio=12.581 df=1, p=0.004)	0.22 (0.09-0.52)***	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>

~p<0.10 \*p<0.05 \*\*p<0.01 \*\*\*p<0.001

# Qualitative Study

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- Interviewed 24 HIV+ inmates within 3 months of release
- Guiding questions:
  - When you think about release and the time right afterwards, what do you think about?
  - How may your relationships both inside and outside of prison will be affected by release?
  - How does being HIV-infected affect how you think about your release?

■ ?

# Interviewee Characteristics

<b>Variable</b>	<b>Median</b>	<b>Range</b>
<b>Age (years)</b>	40 years	25-58 years
<b>Time Since HIV Diagnosis (months)</b>	103 months	<1-240 months
<b>Total Life Incarcerations (including current incarceration)</b>	4 incarcerations	1-9 incarcerations
<b>Length of Current Sentence (months)</b>	9 months	2-58 months
<b>Time Until Release (days)</b>	38 days	1-189 days



# Comparison of Themes in Groups

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- Themes that Differed between Depressed and Non-Depressed Interviewees
  - Benefits vs Work
  - Helping Others
  - Making Things Right
  - Coping

# Benefits vs Work

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- While depressed (D) inmates focused on getting Medicaid and public assistance as a given and first step upon release, non-depressed (ND) also focused on finding work.

# Benefits vs Work

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- D: “My first game plan is to go to social services and apply for some money, apply for some food. I know I can get food stamps because I got those before I came up here. And some food stamps and apply for Medicaid.”
- ND: “I want to go to work this time when I get out and I am hoping that because I have this disease, right, I have some very expensive medicines and it is how a lot of people get trapped into SSI and stuff like that.”

# Helping Others

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- While ND focus on themes of being a role model and positive example, D seemed more interested in helping because they feel they owe others or because it will help them back.

# Helping Others

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- ND: “Some of them can’t read, can’t write I help them read and write...So I am hoping I can set and example, that I can show them—”You knnow what, I was on drugs, now I’m doing good.”
- D: “I’m all righting, trying to put back what I tore down. I owe something, somewhere, to somebody, and any way I can give back, I’m going to give back.”
- D: “I like to be helpful and then in return I will be helped.”

# Making Things Right

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- Interviewees in the ND group tended to identify things they needed to do to “make it” upon release in terms of tasks and activities, which will show people they have changed. D group interviewees framed “making it” more as a process of making amends for the hurt they had caused.

# Making Things Right

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- ND: “I got a pretty good relationship with my family. The only things they want me to do is stop drinking. Stop doing the drugs. Find somewhere stable to live...”
- D: “That’s my daughter and I should have been there for her. But I told her “I can’t change it, but I can fix it. I can’t change the past but I can fix the future.”
- D: “I hurt everybody in my relationship, I really did. So I have to make it up to them, you know.”

# Coping

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- Individuals in the ND group were more likely to talk about coping as needing to learn new behaviors and stop old patterns such as drinking and drugs. Individuals in the D group were more likely to discuss coping as an emotional process—coping with guilt, regret, and feeling “less than” others.



# Coping

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- ND: “I am thinking about, just like I said, what am I going to do the first day. Am I just going to grab a bunch of beer and go drink or and I going to do some drugs or what?”
- ND: “Nobody knows more than I do about how bad I want to do the right thing...So I know now when I get out that I can't drink or drug.”

# Coping

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- D: “I don’t consider myself normal no more. I want to be normal so bad. But I know I can’t and stuff. So that traumatizes me every now and then...”
- D: “There’s nothing I can do. And still I caused it because of my carelessness. It’s hard.”

# Qualitative Findings

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- Depressed HIV+ inmates were less able to envision themselves as active and less focused on tasks required to cope and succeed.
- Depressed HIV+ inmates were more likely to focus on issue of guilt, regret, and expiation rather than action.

# Summary and Implications for Practice

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- HIV+ inmates have high rates of depression, which is often undetected and unaddressed.
- In HIV+ inmates, depression is significantly associated with greater tension regarding paying for healthcare vs. basic needs, and lack of housing, prior to incarceration.

# Summary and Implications for Practice

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- In HIV+ inmates, depression is significantly associated with anticipated post-release need for
  - Housing
  - Transportation
  - Help with medication adherence
- HIV+ inmates with depression identify higher overall number of post-release needs.

# Summary and Implications for Practice

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- HIV+ inmates with depression have lower coping self-efficacy, and may focus more on feelings and less on actions post-release.
- Thus we have a population that
  - Had fewer resources before entering prison
  - Anticipates more needs upon release
  - Has lower ability to cope with these needs

# Study Limitations

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- Sample
  - Size
  - Convenience
- Self-Report
- Not longitudinal

# Next Steps

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- Practice
  - Screening
  - Tailored release planning
- Research
  - More thorough screening for MI
  - Objective data in addition to self-report
  - Longitudinal tracking of outcomes
  - Differential impact of BRIGHT intervention for releasees with MI



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