

# HIV and Incarceration: *Dual Epidemics*



*David A. Wohl, MD*

*Site Leader. UNC AIDS Clinical Trials Unit at Chapel Hill*

*Co-Director of HIV Services for NC Department of Public Safety*



Photo credit: Sam Kittner '85



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

# Take Homes

- Incarceration in the US is **epidemic** and destructive on multiple levels:
  - Individual
  - Community
  - Societal
- The **epidemics** of HIV and incarceration overlap, promoting:
  - Transmission in communities affected by both
  - Heavy burden of disease among prisoners



THE UNIVERSITY  
*of* NORTH CAROLINA  
at CHAPEL HILL



# Question for you:

*The rate of prison or jail incarceration among adults in the US is:*

- *1 in 100*
- *1 in 500*
- *1 in 1000*



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# Question for you:

*The rate of prison or jail incarceration among adults in the US is:*

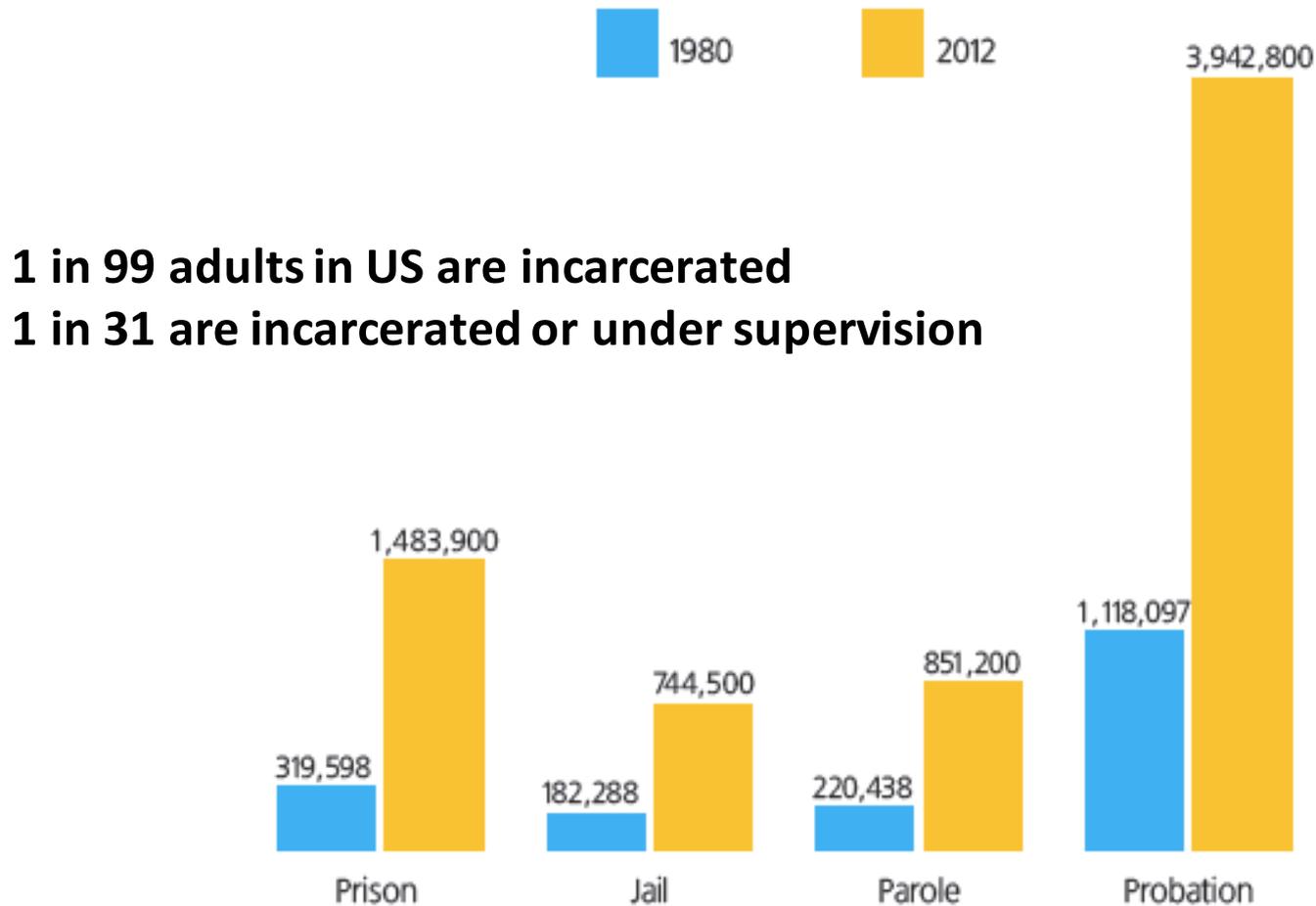
- *1 in 100*
- *1 in 500*
- *1 in 1000*



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



## Population Under Control of the U.S. Corrections System, 1980 & 2012



**1 in 99 adults in US are incarcerated**  
**1 in 31 are incarcerated or under supervision**

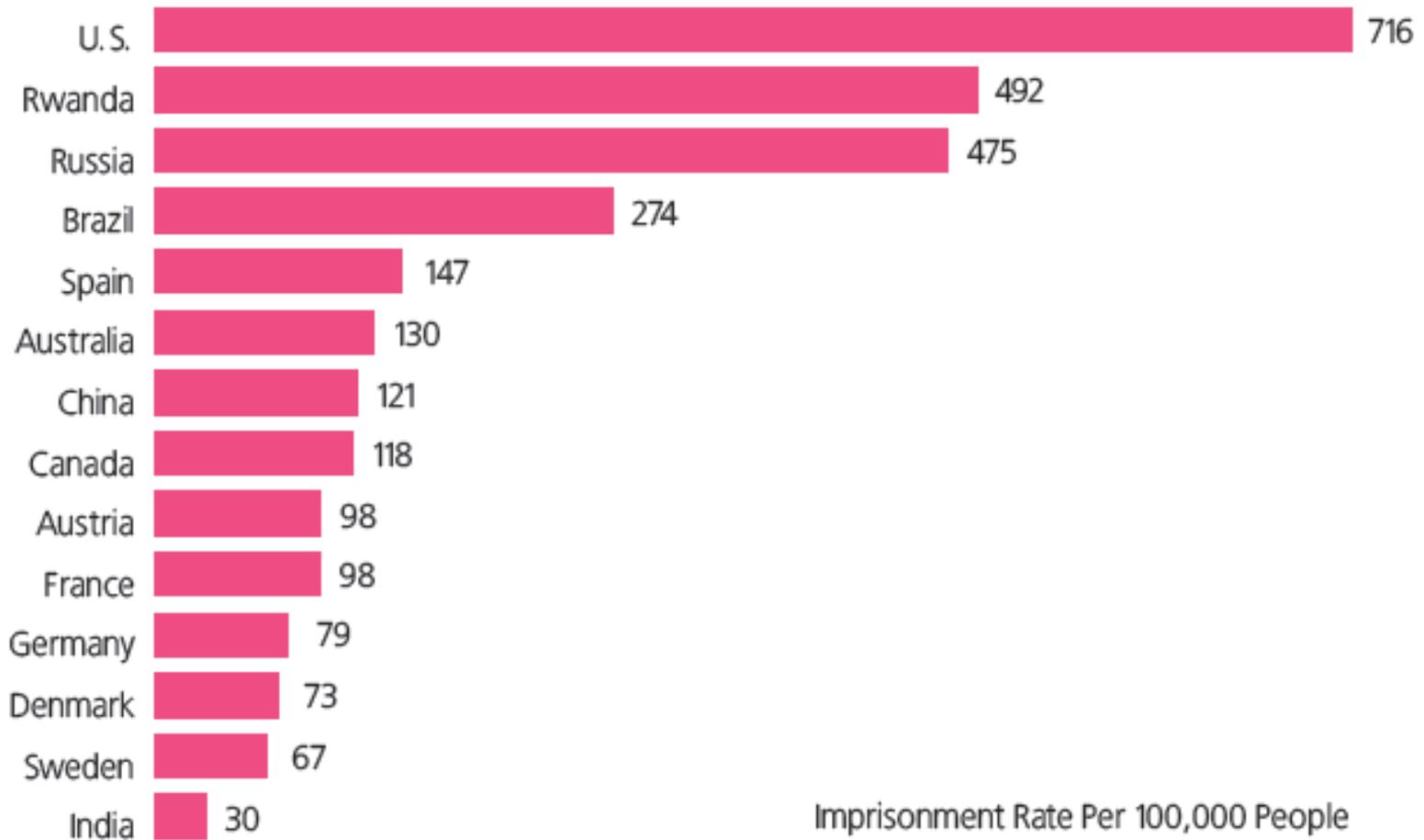
Source: Glaze, L. E. and Herberman, E.J. (2011). Correctional Populations in the United States, 2012. Washington, D.C.: Bureau of Justice Statistics; *Corrections: Key Facts at a Glance*. Washington, D.C.: Bureau of Justice Statistics.



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



## International Rates of Incarceration, 2012/2013



Imprisonment Rate Per 100,000 People

Source: Walmsley, R. (2013). *World Population List, 10th Ed.* Essex: International Centre for Prison Studies.



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



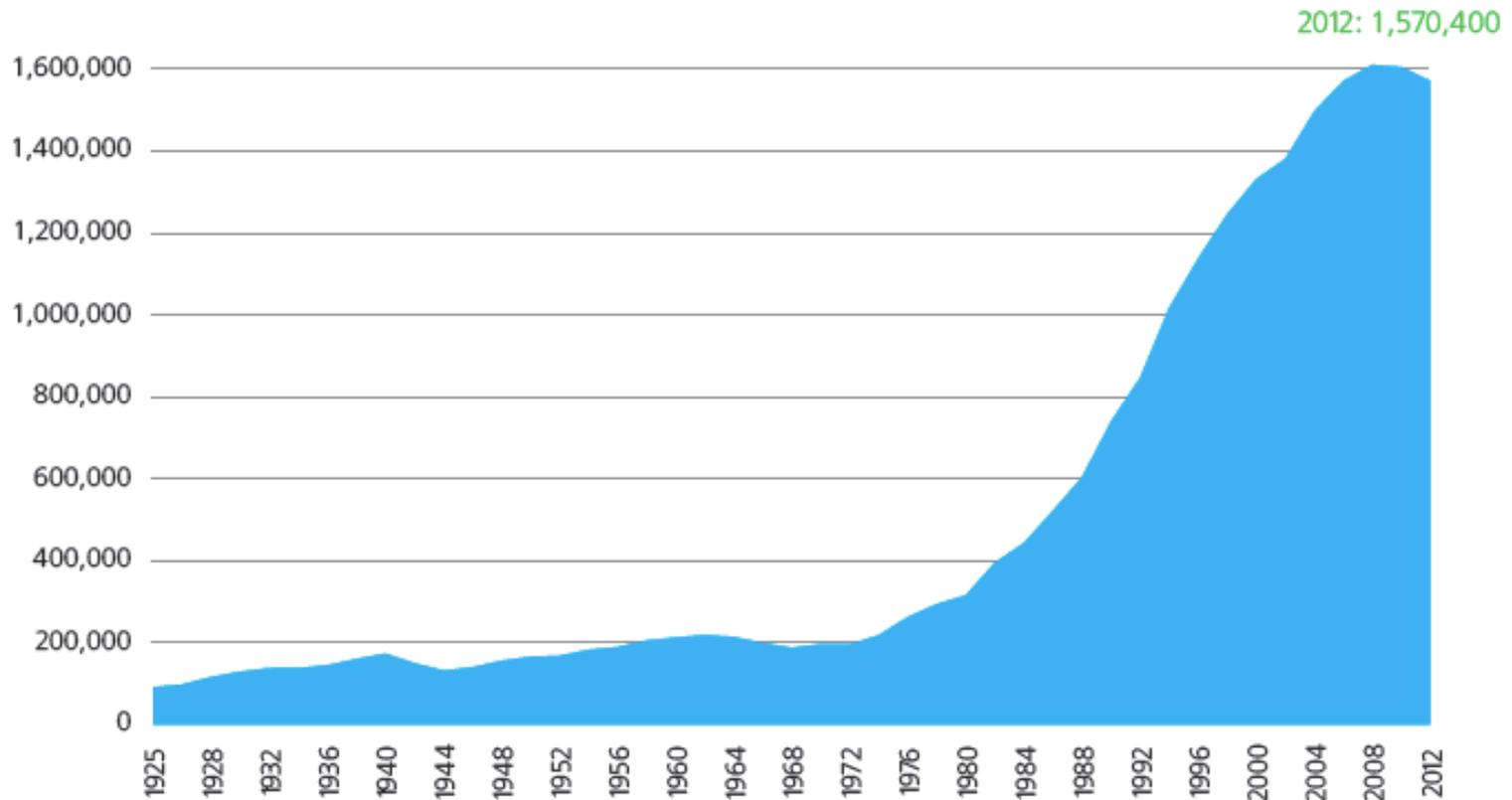


THE UNIVERSITY  
*of* NORTH CAROLINA  
at CHAPEL HILL



# TRENDS IN U.S. CORRECTIONS

U.S. State and Federal Prison Population, 1925-2012



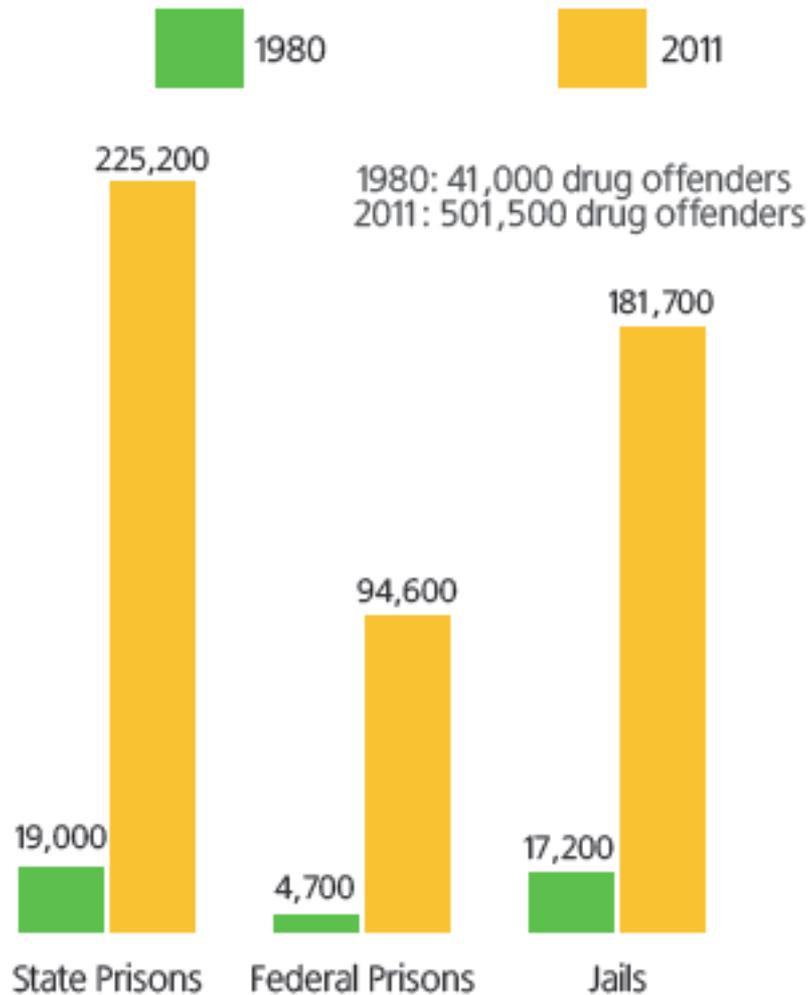
Source: Bureau of Justice Statistics *Prisoners Series*.



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# Number of People in Prisons and Jails for Drug Offenses, 1980 and 2011



Sources: Carson, E.A. and Sabol, W.J. (2012). *Prisoners in 2011*. Washington, D.C.: Bureau of Justice Statistics; Mauer, M. and King, R. (2007). *A 25-Year Quagmire: The War on Drugs and its Impact on American Society*. Washington, D.C.: The Sentencing Project.

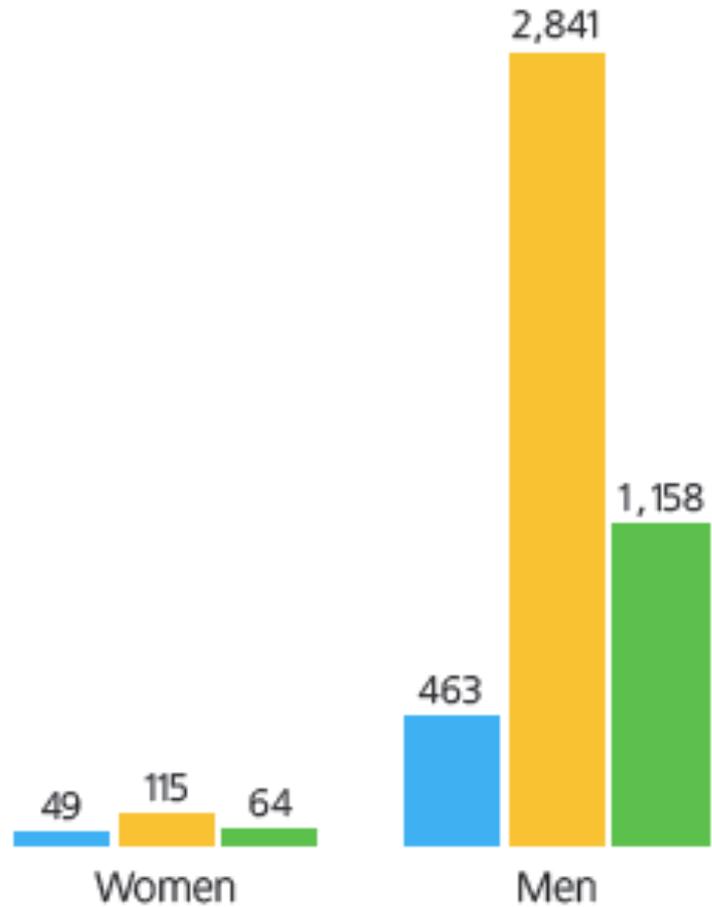


THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# Rate of Incarceration per 100,000, by Gender, Race, & Ethnicity, 2012

White Black Latino



Source: Carson, E.A. and Golinelli, D. (2013). *Prisoners in 2012*. Washington, D.C.: Bureau of Justice Statistics.

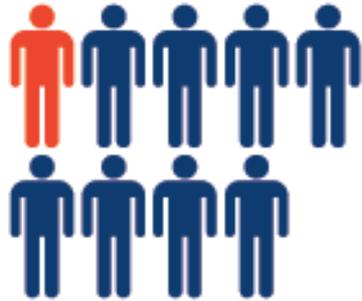


THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



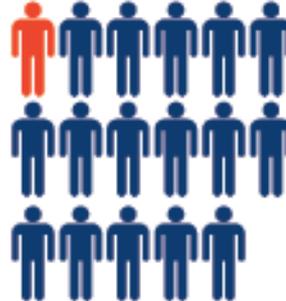
# Lifetime Likelihood of Imprisonment

All Men



1 in 9

White Men



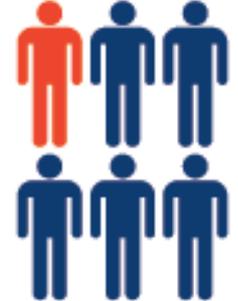
1 in 17

Black Men



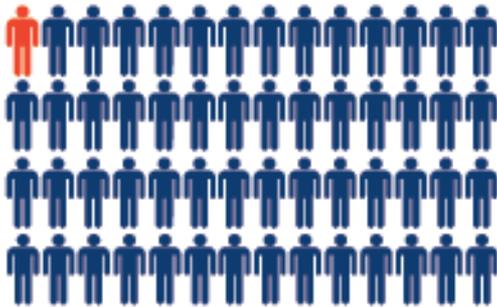
1 in 3

Latino Men



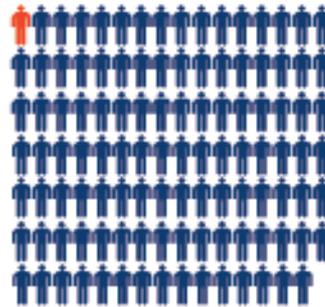
1 in 6

All Women



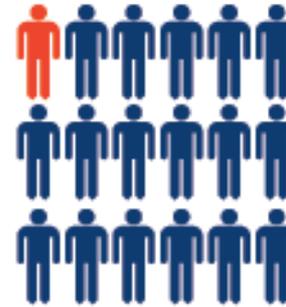
1 in 56

White Women



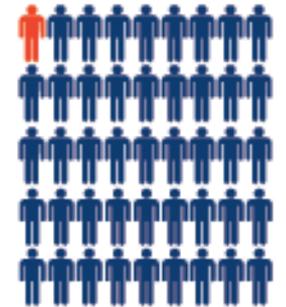
1 in 111

Black Women



1 in 18

Latina Women



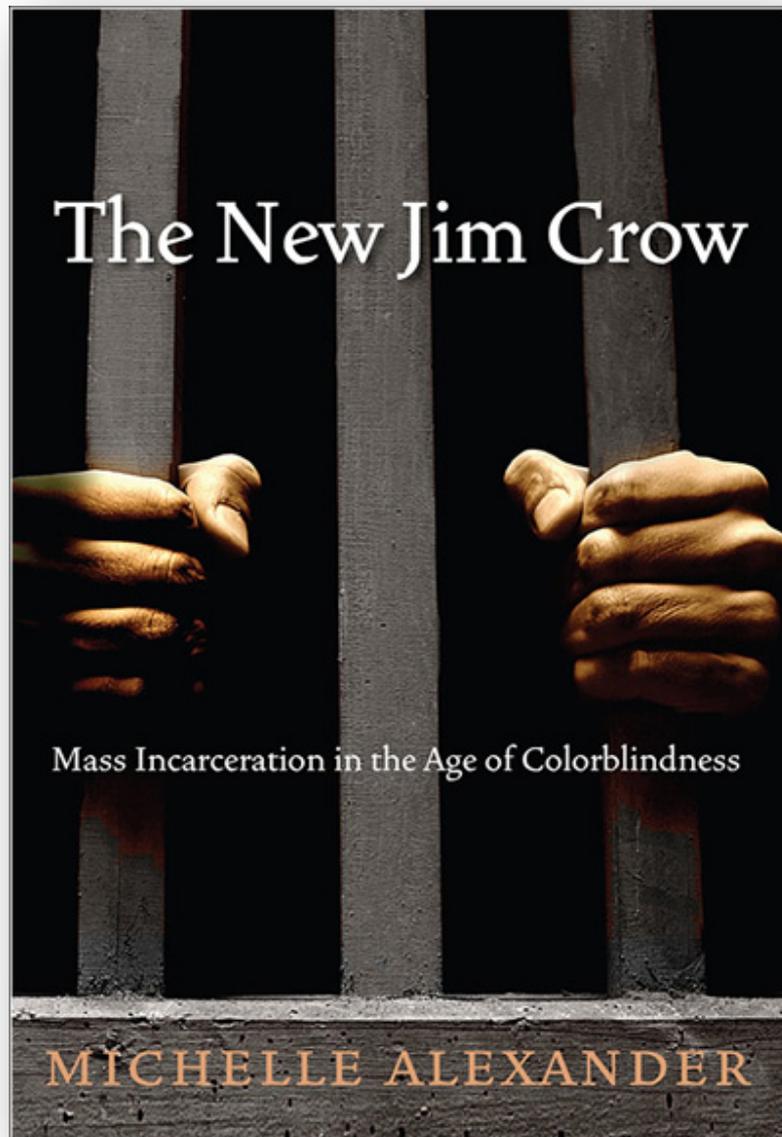
1 in 45

Source: Bonczar, T. (2003). *Prevalence of Imprisonment in the U.S. Population, 1974-2001*. Washington, D.C.: Bureau of Justice Statistics.



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL





THE UNIVERSITY  
*of* NORTH CAROLINA  
*at* CHAPEL HILL



U.S. NEWS | February 14, 2013, 5:36 p.m. ET

# Racial Gap in Men's Sentencing

By JOE PALAZZOLO

Prison sentences of black men were nearly 20% longer than those of white men for similar crimes in recent years, an analysis by the U.S. Sentencing Commission found.

## Stop-and-frisk incidents down, Blacks still targeted

By CYRIL JOSH B... ER Amsterdam News Staff | Posted: Thursday, February 14, 2013 12:09 pm

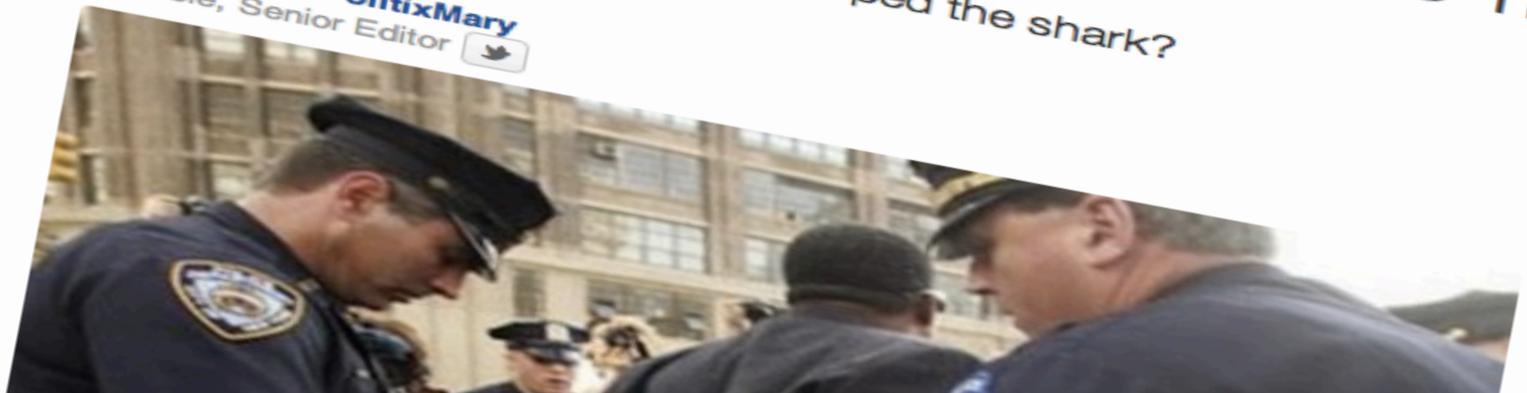
A report released... incidents of the... The NYPD con... were Black m... that the controversial stop-and-frisk practice saw a 22 percent reduction between 2011 to 2012. While the department states that there were fewer... in top targets.

### More Young Black Men Frisked in NYC Than Live in NYC

Has NYPD's stop and search program jumped the shark?

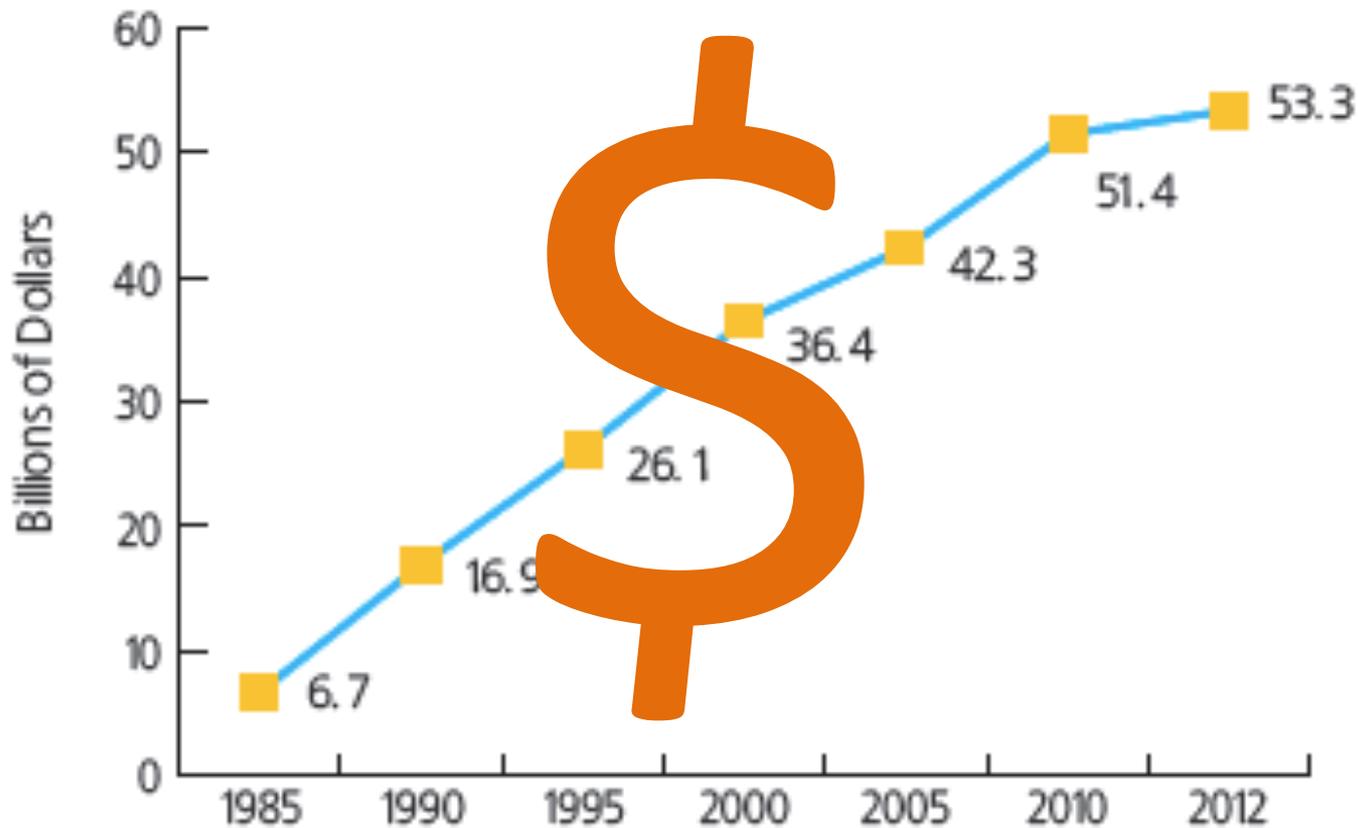
Like 0 Tweet 2

May 10, 2012 by **PolitixMary**  
Mary Noble, Senior Editor



Next

# State Expenditures on Corrections, 1985-2012



Source: National Association of State Budget Officers (1985-2012). *State Expenditure Report Series*. Washington, D.C.: National Association of State Budget Officers.



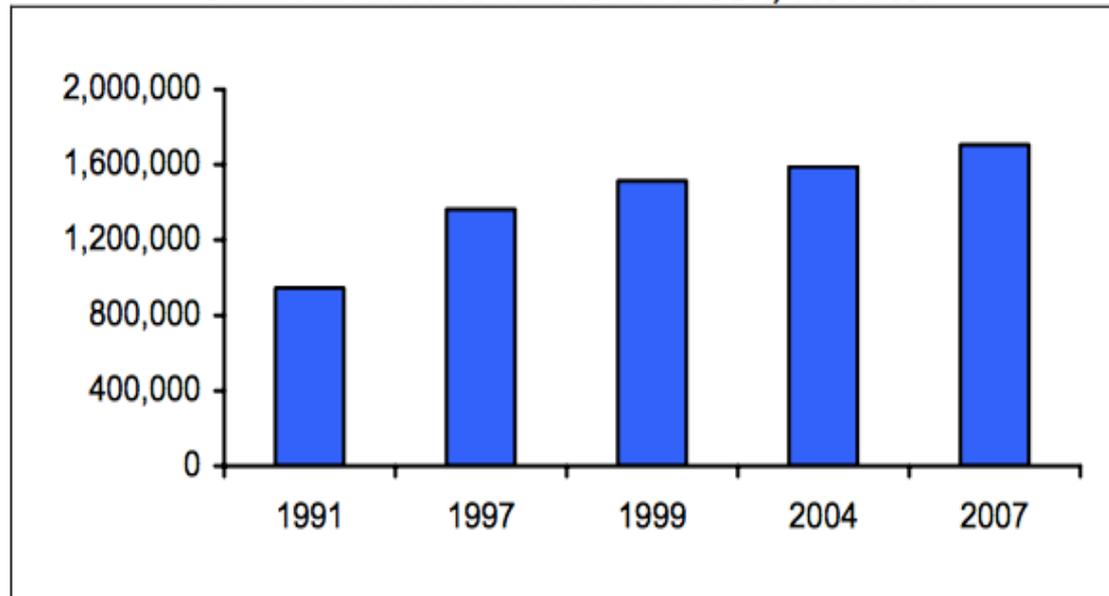
THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



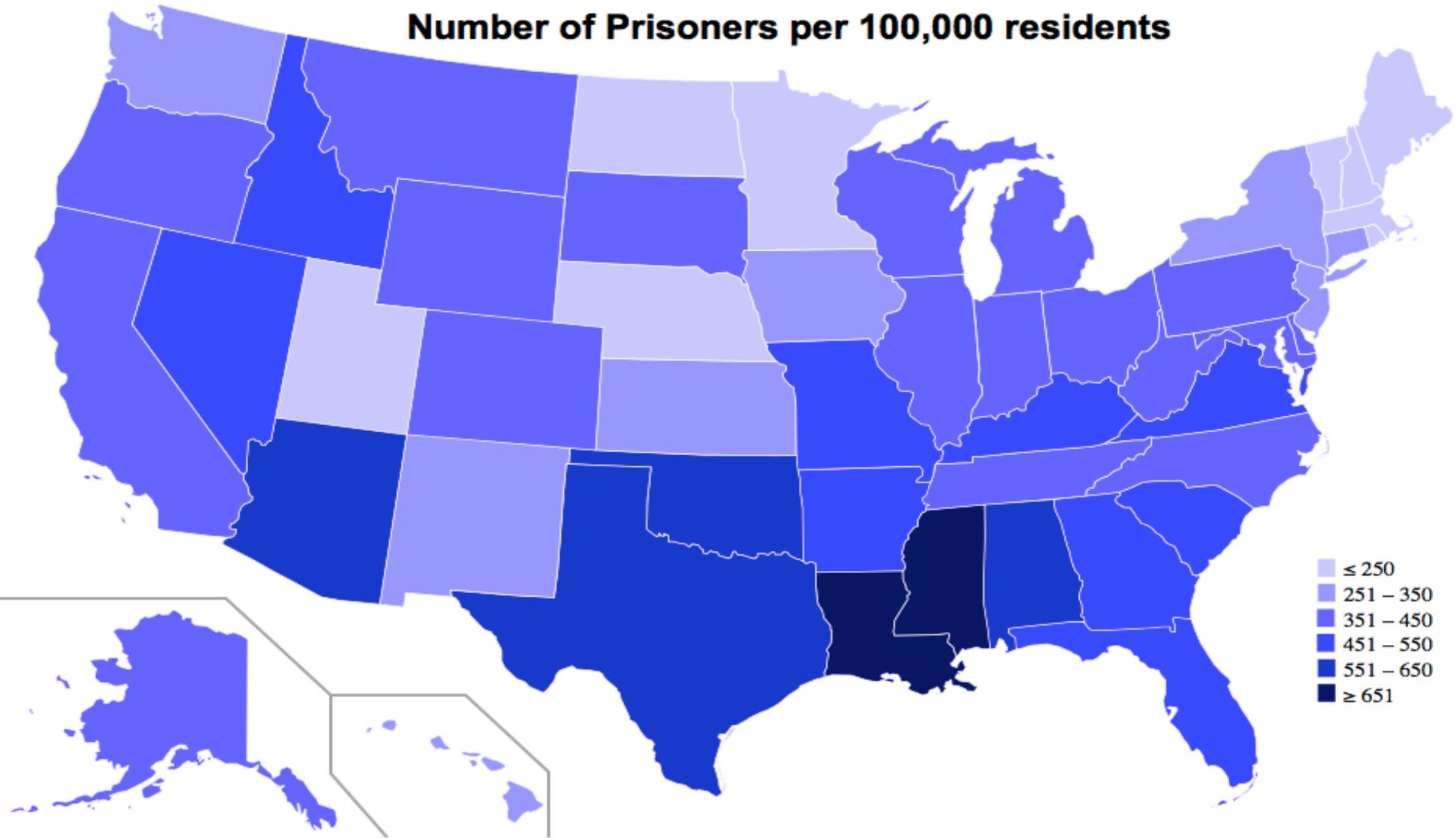
## CHILDREN WITH PARENTS IN PRISON

- In 2007, 1.7 million children had a parent in prison on any given day.
- The number of children with parents in prison increased 80% between 1991 and 2007.
- 1 in 15 black children, 1 in 42 Latino children, and 1 in 111 white children had a parent in prison in 2007.
  - Black children are 7.5 times more likely and Hispanic children are 2.6 times more likely than are white children to have a parent in prison.

CHILDREN WITH PARENTS IN PRISON, 1991-2007



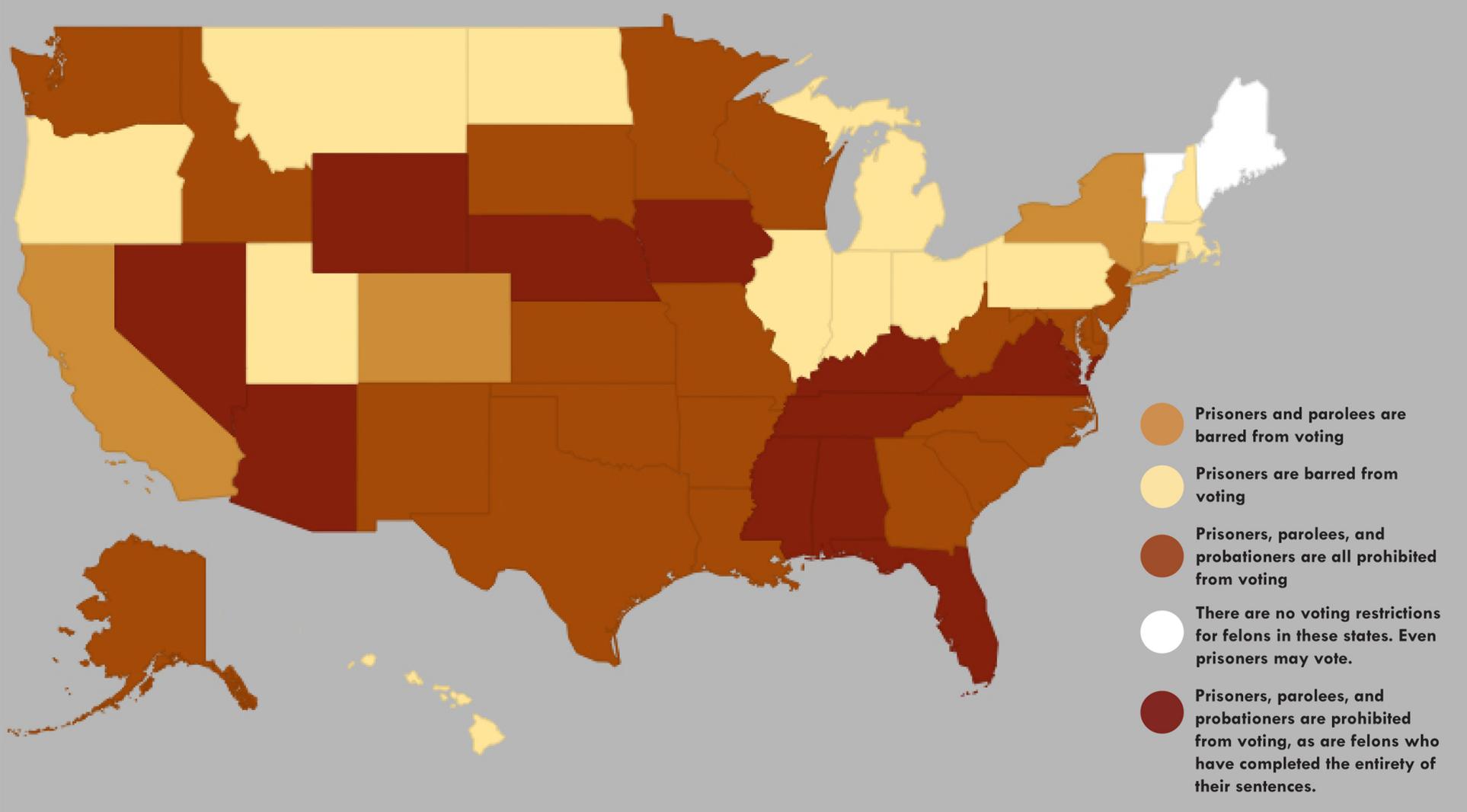
## Number of Prisoners per 100,000 residents



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



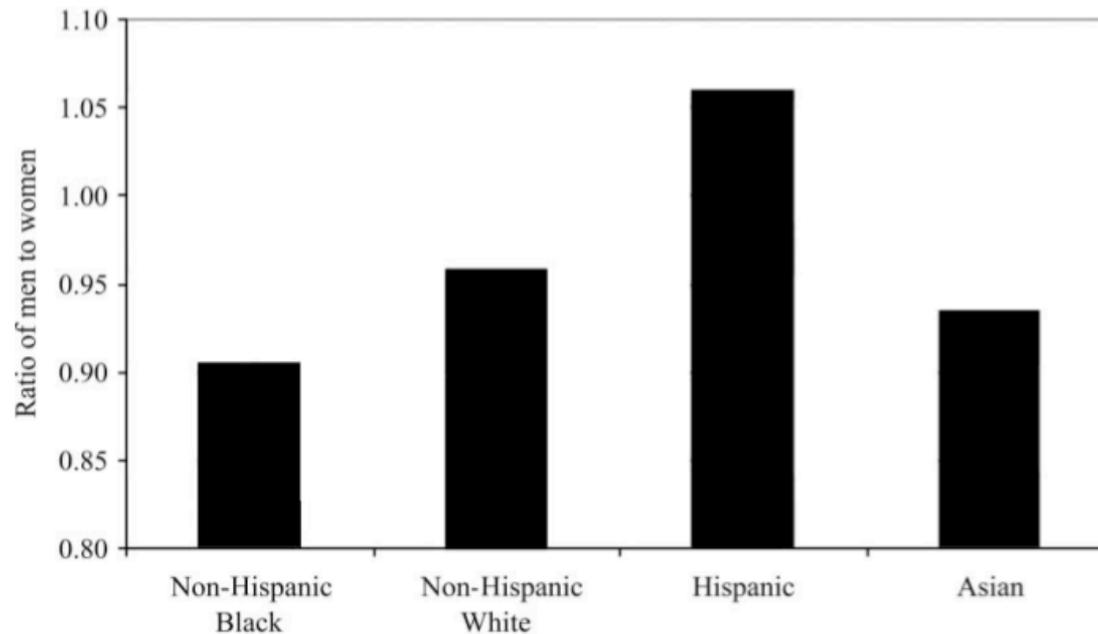
# States with restrictions on voting based on criminal justice record



THE UNIVERSITY  
*of* NORTH CAROLINA  
*at* CHAPEL HILL



# Gender ratios by race/ethnicity



**Figure 1.** Ratio of men to women among selected racial and ethnic groups, United States, 2000. Source: Census 2000 Summary File 1 [53].



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



TheUpshot

EDITED BY DAVID LEONHARDT  
FOLLOW US: [Facebook] [Twitter] [RSS]  
GET THE UPSHOT IN YOUR INBOX

SHARE

# 1.5 Million Missing Black Men

By JUSTIN WOLFERS, DAVID LEONHARDT and KEVIN QUEALY APRIL 20, 2015

For every 100 black women not in jail, there are only 83 black men. The remaining men – 1.5 million of them – are, in a sense, **missing**.



Among cities with sizable black populations, the largest single gap is in **Ferguson, Mo.**



**North Charleston, S.C.**, has a gap larger than 75 percent of cities.



This gap – driven mostly by incarceration and early deaths – **barely exists among whites**.



Figures are for non-incarcerated adults who are 25 to 54.

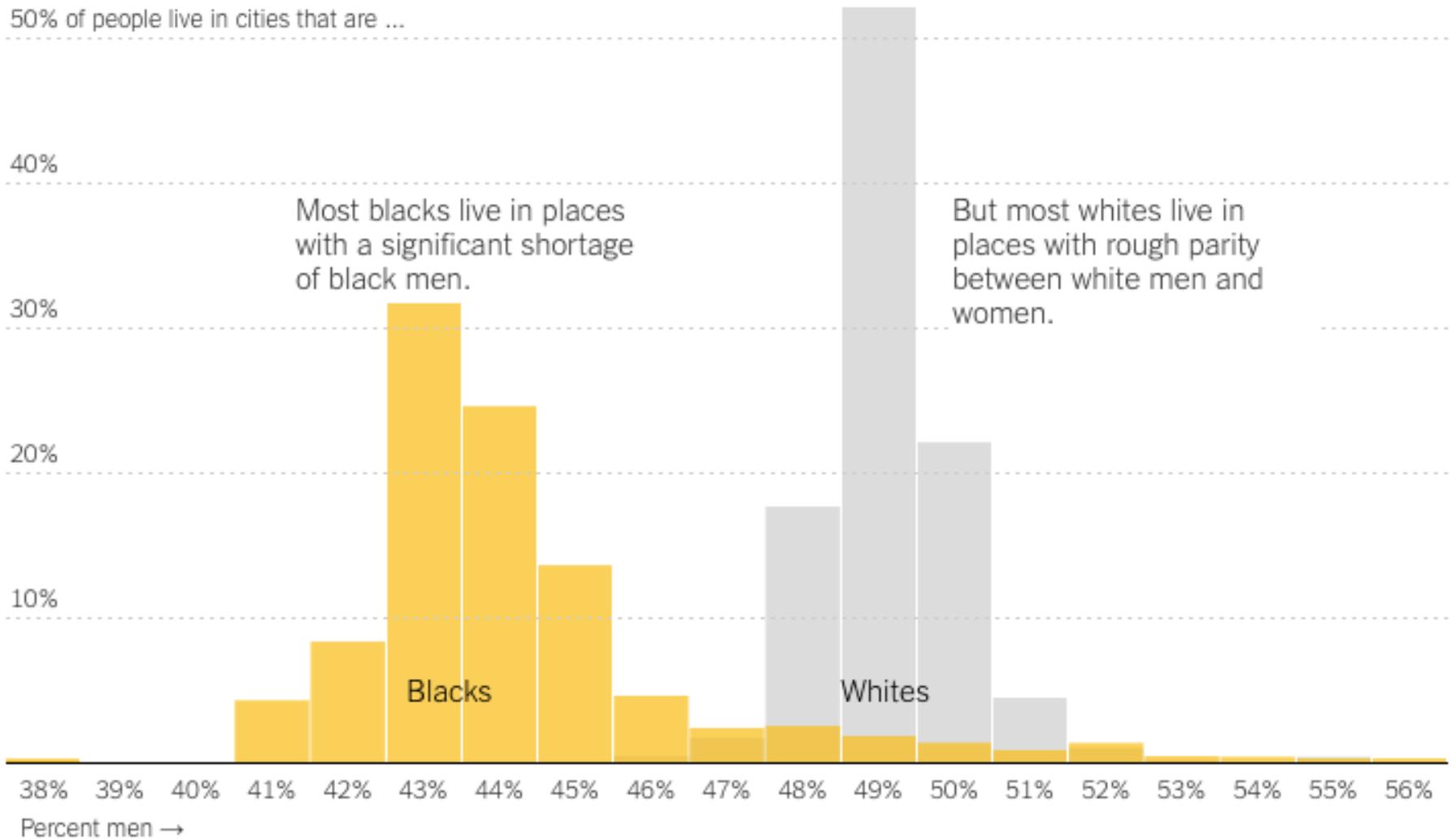


THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# The distributions of whites and blacks

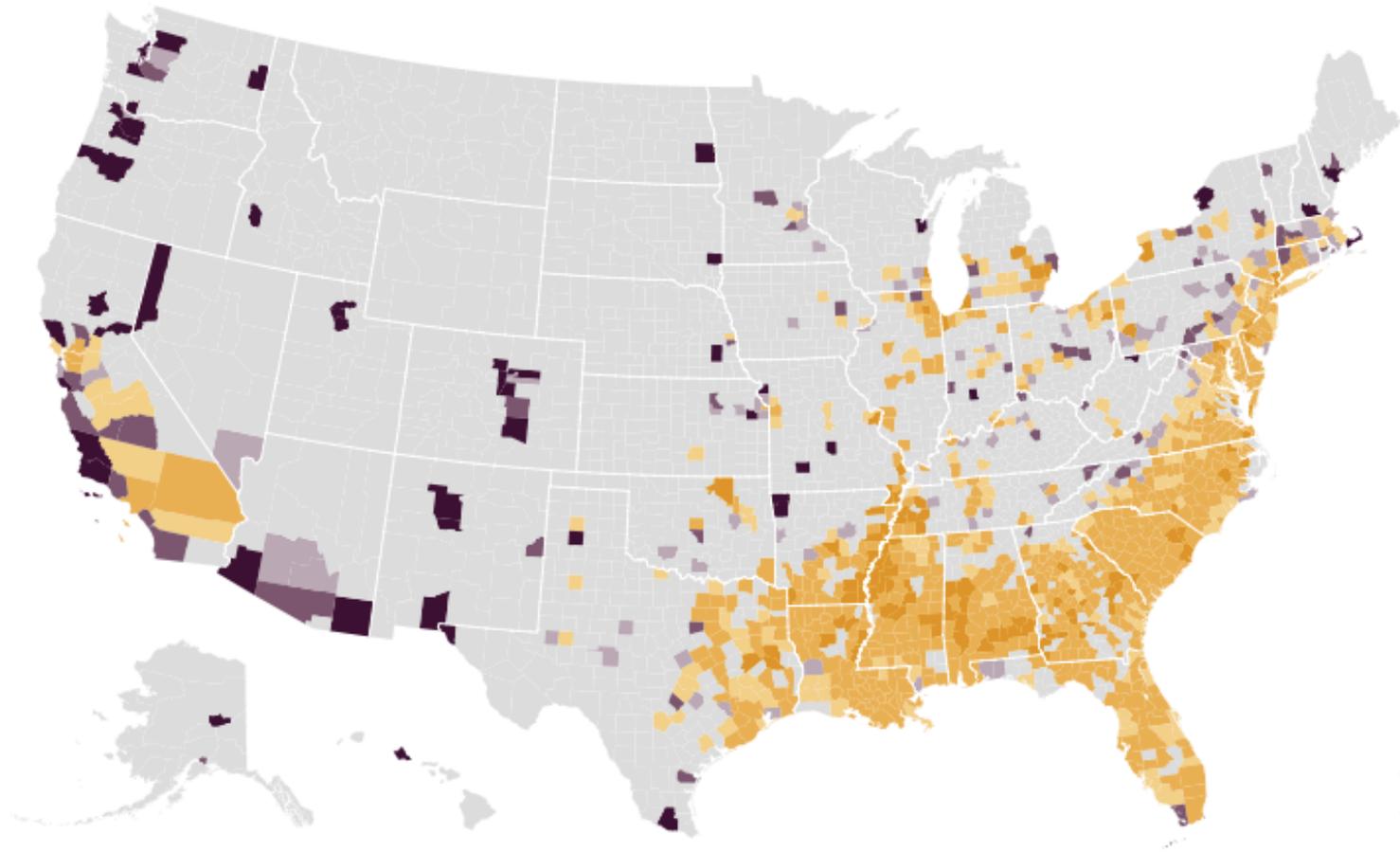
50% of people live in cities that are ...



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

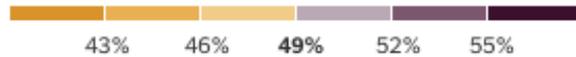


# Where black men are missing



Rates are shown in counties with at least 1,000 prime-age black men and women.

Black men, as a pct. of all black adults



▲  
National average, all races



THE UNIVERSITY  
*of* NORTH CAROLINA  
*at* CHAPEL HILL



# The New York Times

Monday, February 18, 2013 Last Update: 6:44 PM ET



Follow Us | Subscribe to Home Delivery | Personalize Your Weather



Mary F. Calvert for The New York Times

## The Opinion Pages

### The Stone: The Problem of Ethnocentricity

Our tendency to view our own culture as superior to others need not lead us down the path of skepticism or moral relativism.

### Government's Holy Days

Should the United States stop recognizing Christmas, or add days like the lunar new year

- OP-ED COLUMNISTS
- Krugman: Raise That Wage
  - Keller: Catholicism Inc.

- MORE IN OPINION
- Editorial: About Those Black Sites
  - Stiglitz: Equal Opportunity, Our National Myth
  - Op-Ed: To Practice Law, Apprentice First
  - Anxiety: Face It
  - Dis...



TIME AND PUNISHMENT

## Seeing Fuel for Poverty in Long S...

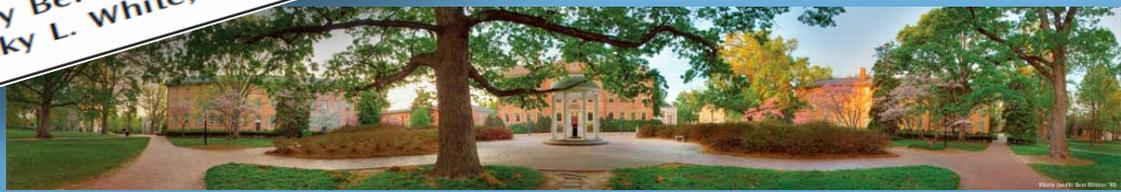
By JOHN TIERNEY 5:31 PM ET

Tougher penal policies were... poor neighborhood... benefits. Carl Har...

Journal of Urban Health: Bulletin of the New York Academy of Medicine  
doi:10.1007/s11524-010-9538-1  
© 2011 The New York Academy of Medicine

# Dissolution of Primary Intimate Relationships during Incarceration and Implications for Post-release HIV Transmission

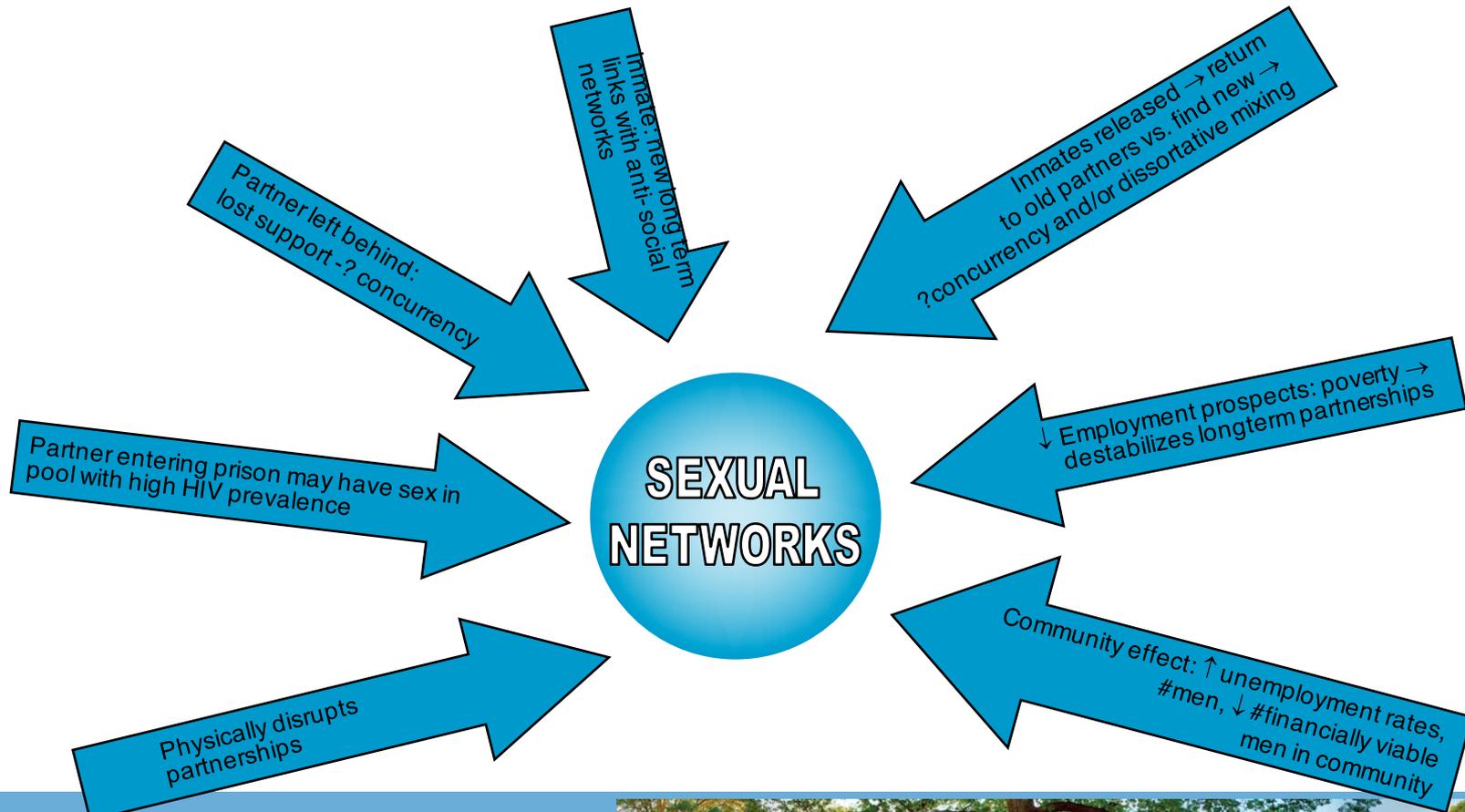
Maria R. Khan, Lindy Behrend, Adaora A. Adimora, Sharon S. Weir, Becky L. White, and David A. Wohl



THE... of NOR... at CHA...

# CONTEXT-NETWORK RELATIONSHIPS

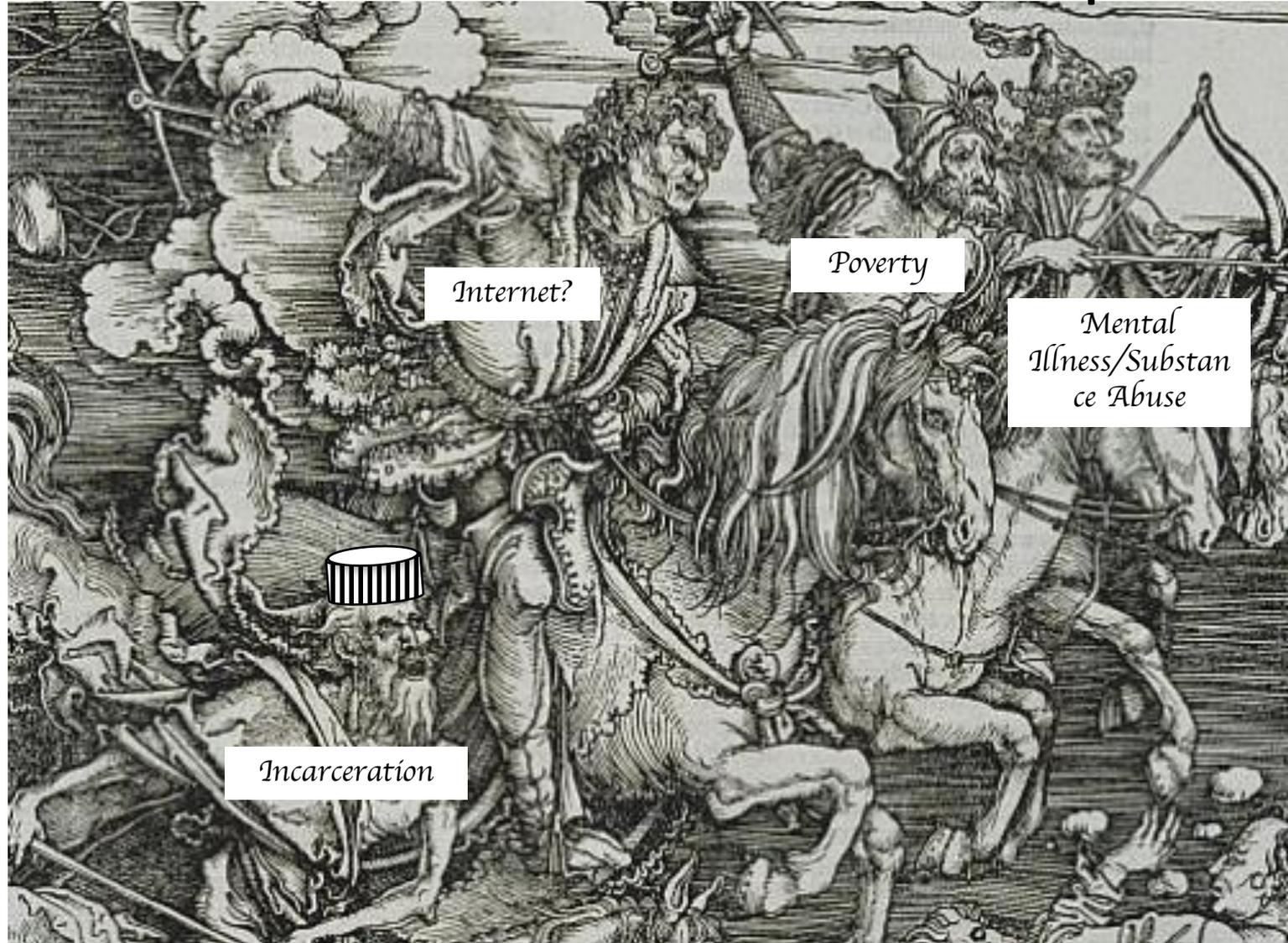
## INCARCERATION



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



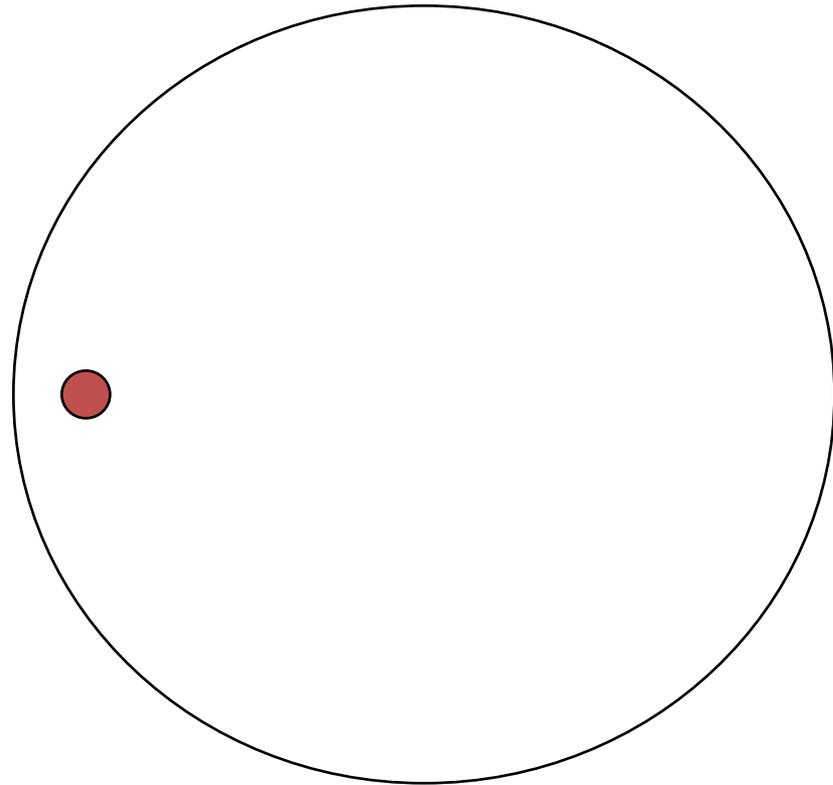
# The Four Horsemen of the Modern Domestic HIV Epidemic



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



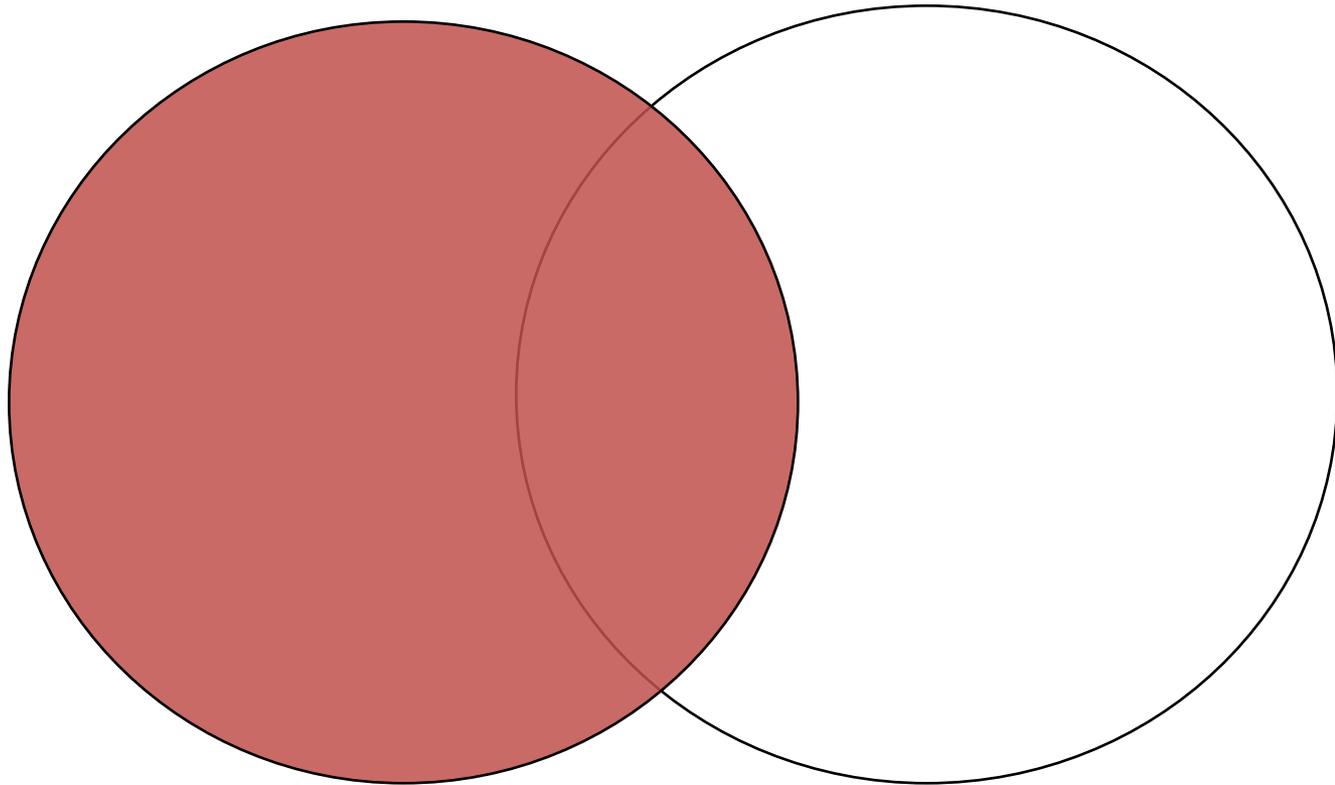
# Rethinking the Role of Incarceration in the HIV Epidemic



THE UNIVERSITY  
*of* NORTH CAROLINA  
*at* CHAPEL HILL



# Rethinking the Role of Incarceration in the HIV Epidemic

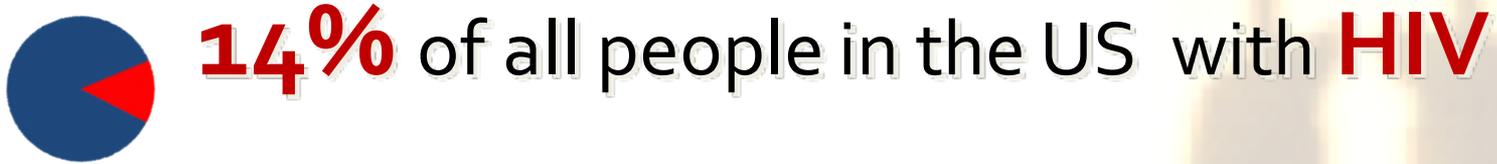


THE UNIVERSITY  
*of* NORTH CAROLINA  
*at* CHAPEL HILL



# Infectious Diseases in the Correctional System

Each year:



pass through correctional facilities.

Source: Spaulding et al. (2009); Hammett, Harmon, & Rhodes (2002). *AJPH*, 92 (11), 1789-1794.



# BJS Report 2015

At end of 2010:

- Over 20,000 people in federal and state prisons were known to be HIV+ (146 per 10,000)
- Number of inmates with HIV infection trending down.
- Rates of death among prisoners declining.

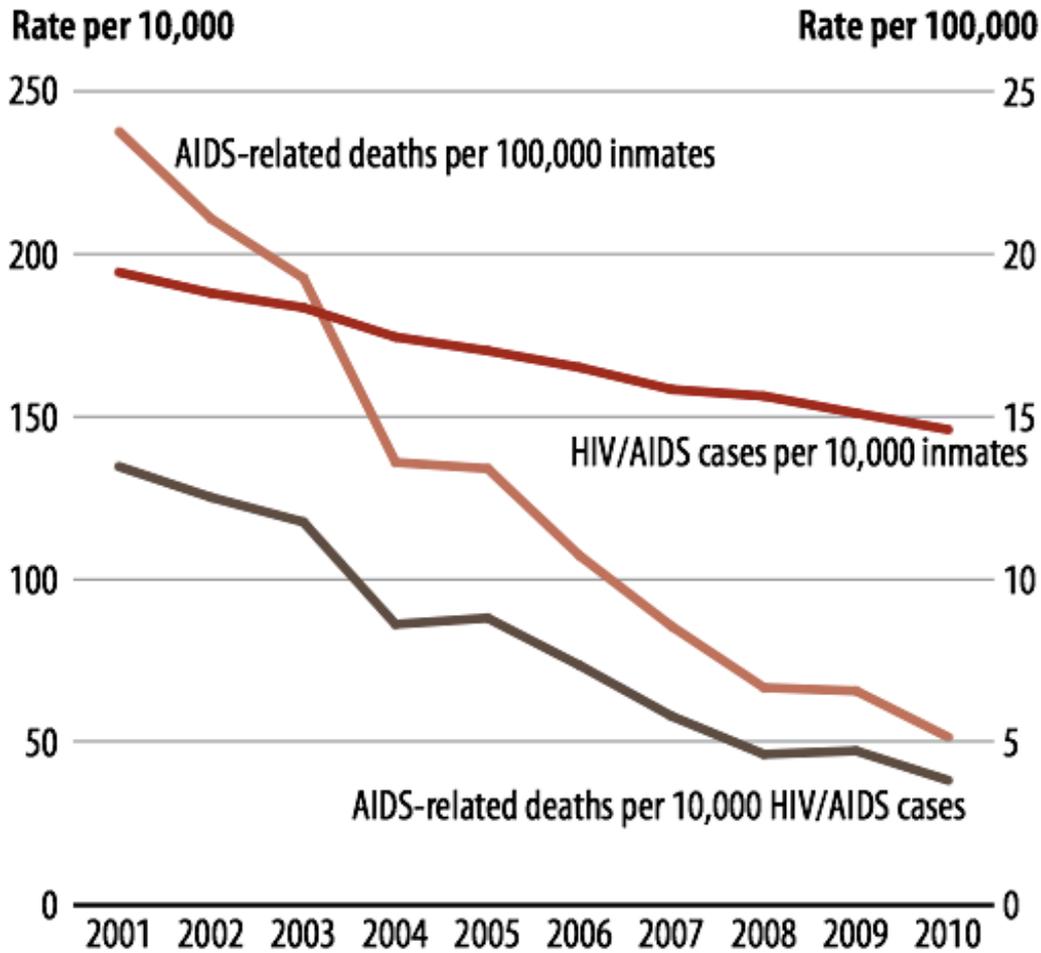
<http://www.bjs.gov/index.cfm?ty=pbdetail&iid=4452>



THE UNIVERSITY  
*of* NORTH CAROLINA  
at CHAPEL HILL



# Rate of HIV/AIDS cases and AIDS-related deaths among state and federal prison inmates, 2001–2010



Source: Bureau of Justice Statistics, National Prisoner Statistics Program (NPS-1) and Deaths in Custody Reporting Program (DCRP).



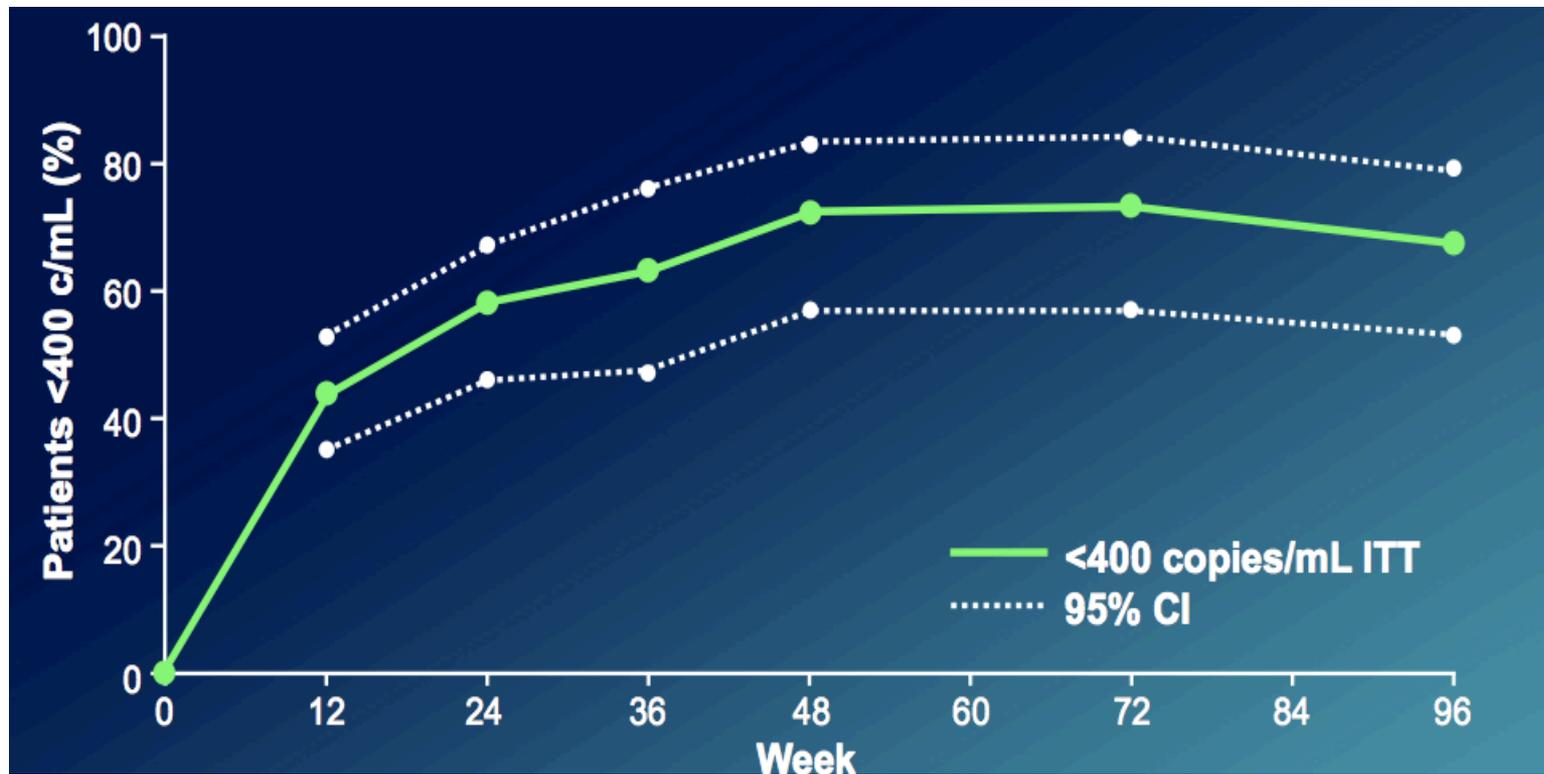
THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# ART SUCCESS IN PRISON

Results: < 400 c/mL (ITT)

Median time observed on therapy 26 weeks (IQR: 12, 70)



- **Virologic failure (HIV RNA >400 c/mL) at 6 - 12 months: 25.5%**

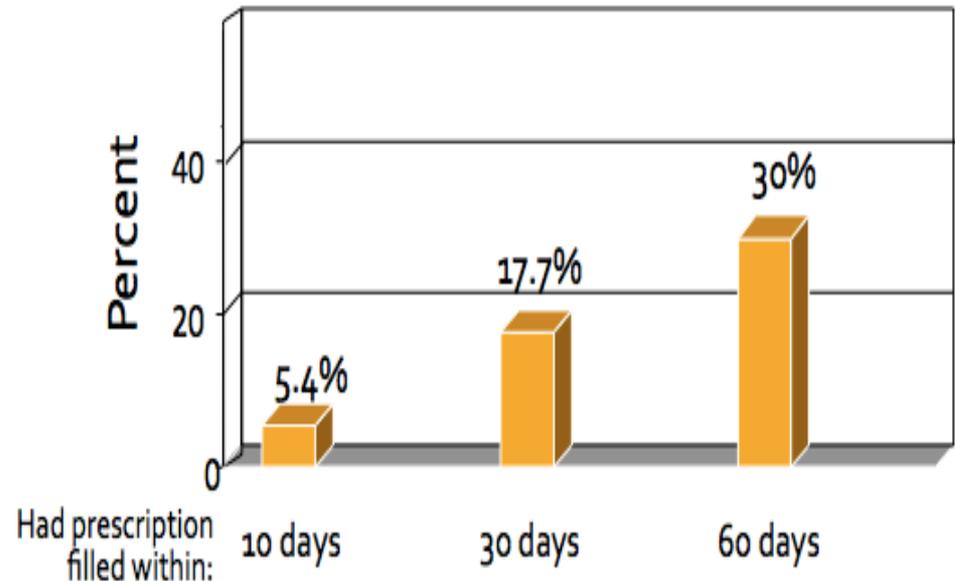


THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# Accessing HIV Meds after Prison Release

- Review of ADAP Rx record: in Texas 2004-2007
- N=2115 receiving ART at release
  - 83% male
  - 60% African-American
  - 18% with mental health d/o
  - 53% incarcerated >1 year
  - 95% released to metro areas



- Associated with filling RX: Non-white, undetectable VL, parole, received pre-release assistance with ADAP application

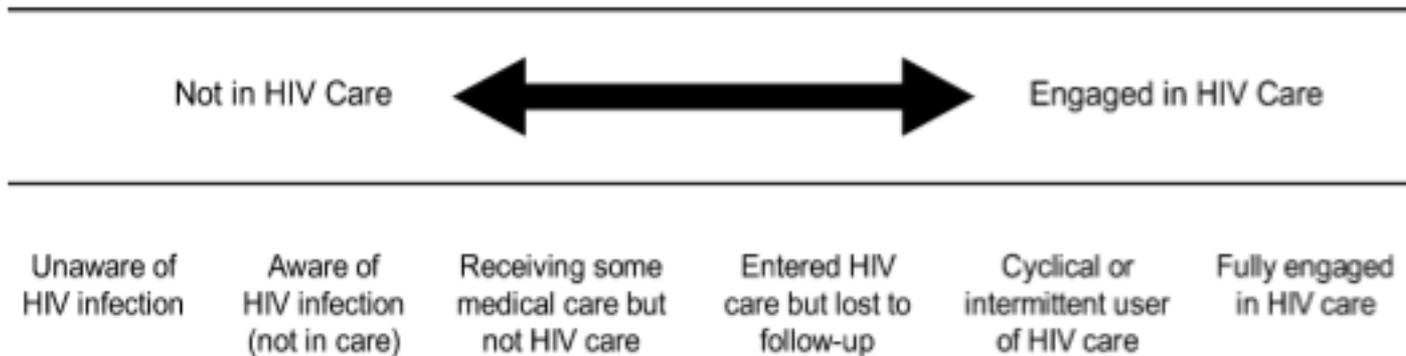
Baillargeon J, et al. JAMA 2009



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# SPECTRUM OF CARE ENGAGEMENT



Is incarceration an opportunity to detect HIV?

What is the HIV cascade in prison?

How can suppression of HIV be maintained after release?

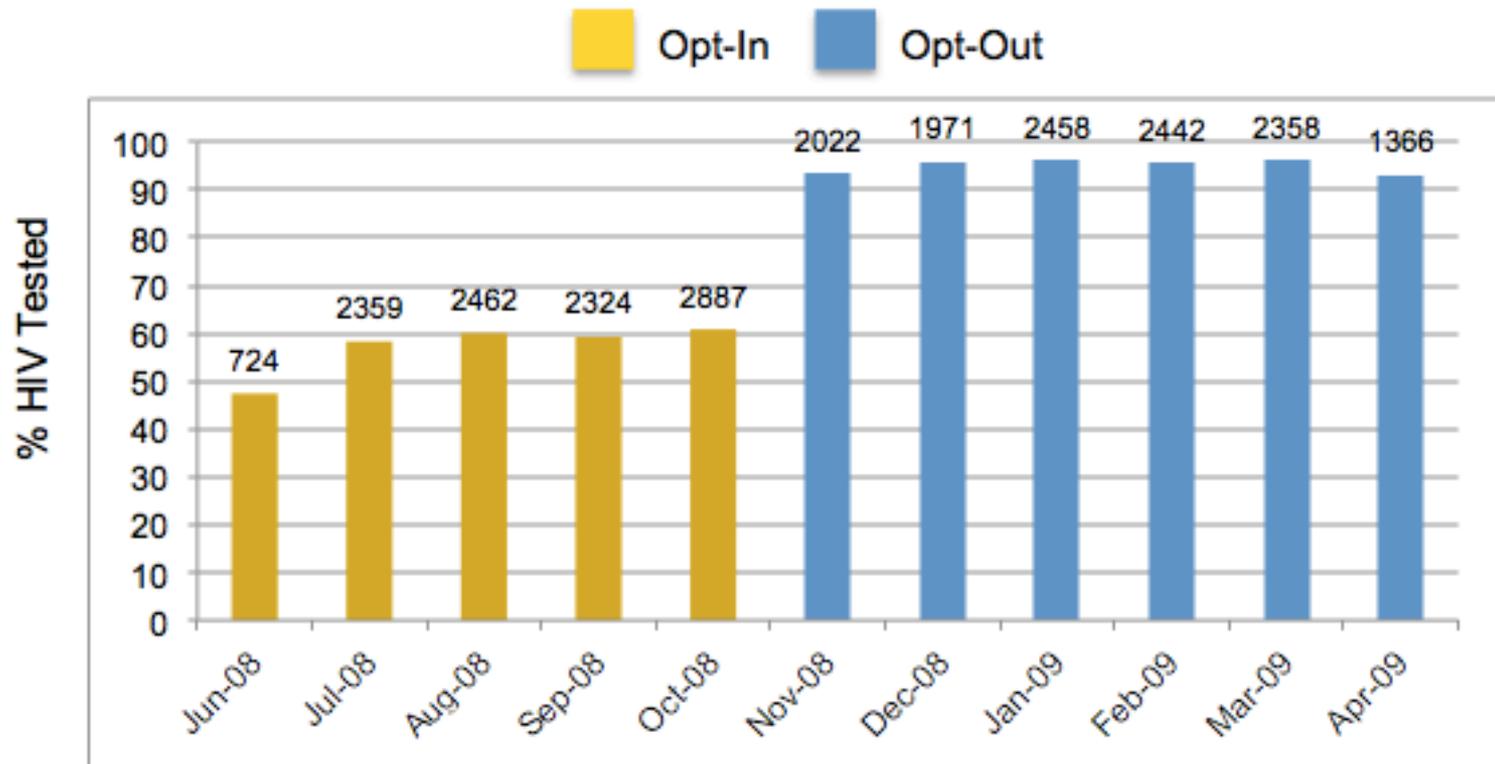


THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# SCREEN Study (NIMH R01 MH079720)

Figure 2. Proportion of incoming prison inmates in NC receiving a routine HIV test under opt-in and opt-out screening policies (N=23,373)



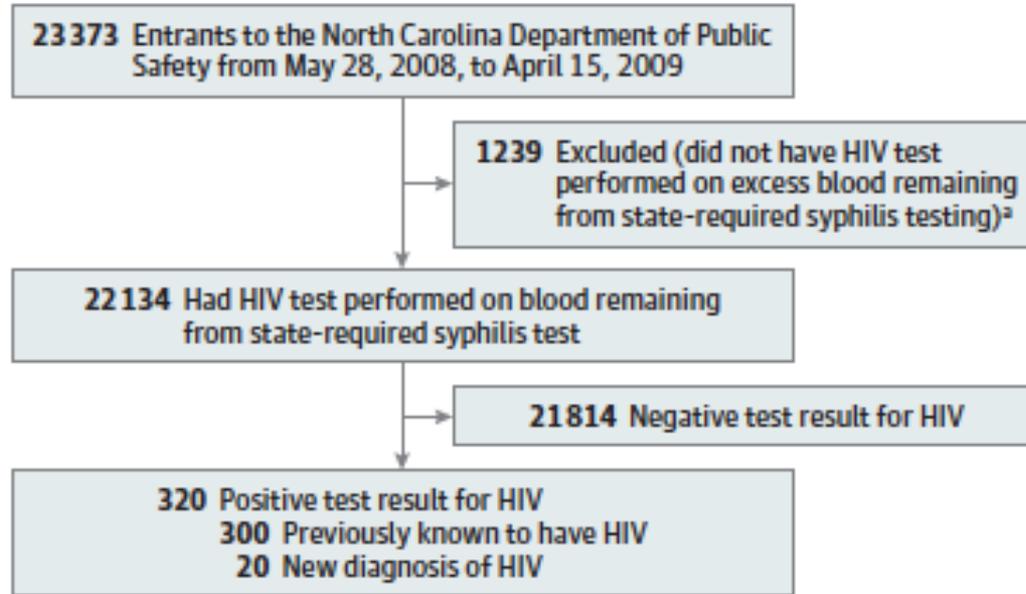
Wohl D, Golin C, Rosen D, et al CROI 2013



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



## Figure. Testing of Inmates Entering the North Carolina Prison System for Human Immunodeficiency Virus (HIV)



<sup>a</sup> There were 1066 inmates who did not have HIV test performed on excess blood remaining from state-required syphilis testing but who were tested for HIV by the prison system. Of these, 36 tested positive for HIV and all were previously known by the North Carolina Department of Health and Human Services to be infected with HIV.

Wohl D, Golin C, Rosen D, et al. JAMA 2013

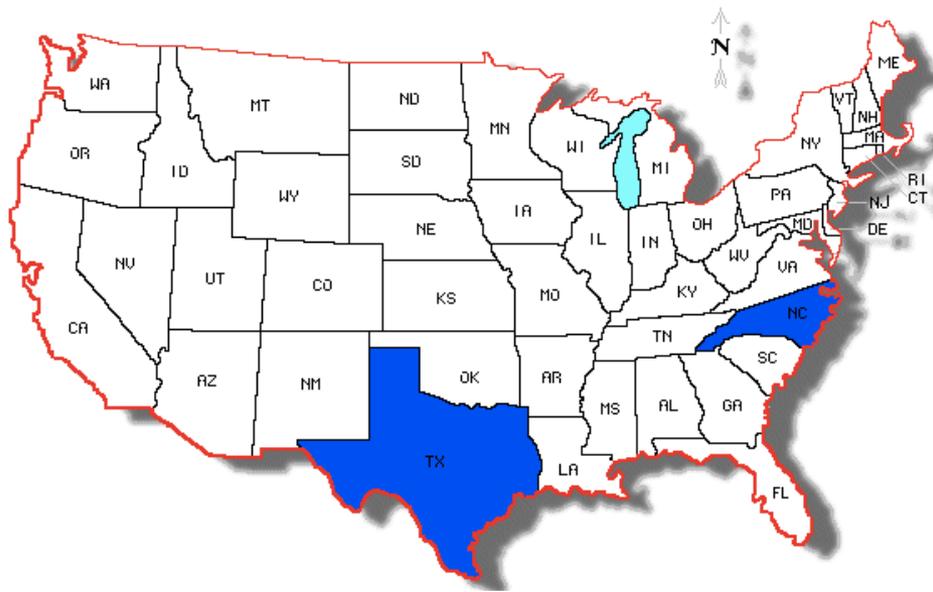


THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# An RCT of an augmented test, treat, link, & retain model for NC and TX HIV+ prisoners (NIDA R01DA030793)

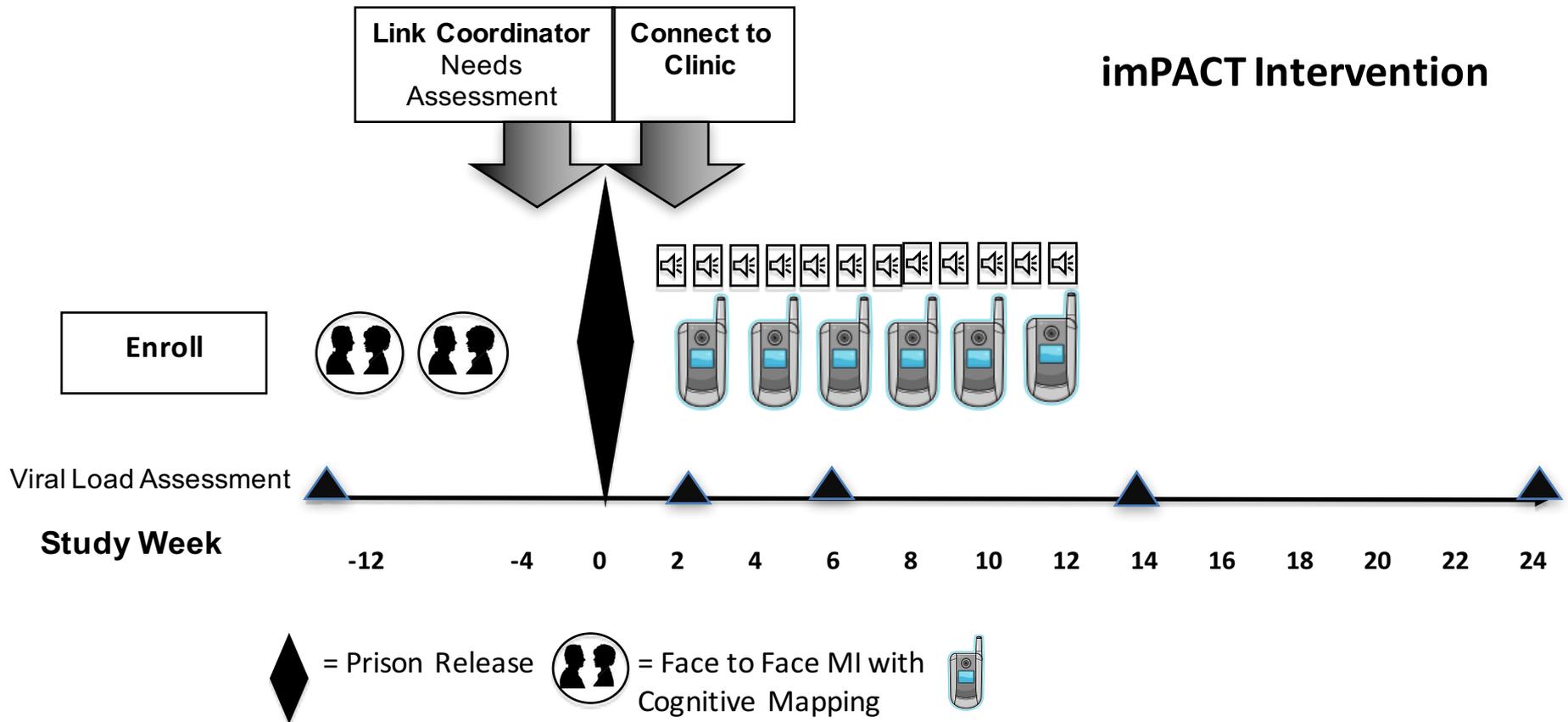
- Sites – Two State Prison Systems:
  - Texas Department of Criminal Justice (TDCJ)
  - North Carolina Department of Public Safety (NCDPS)



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# 1:1 Randomization to standard of care vs imPACT



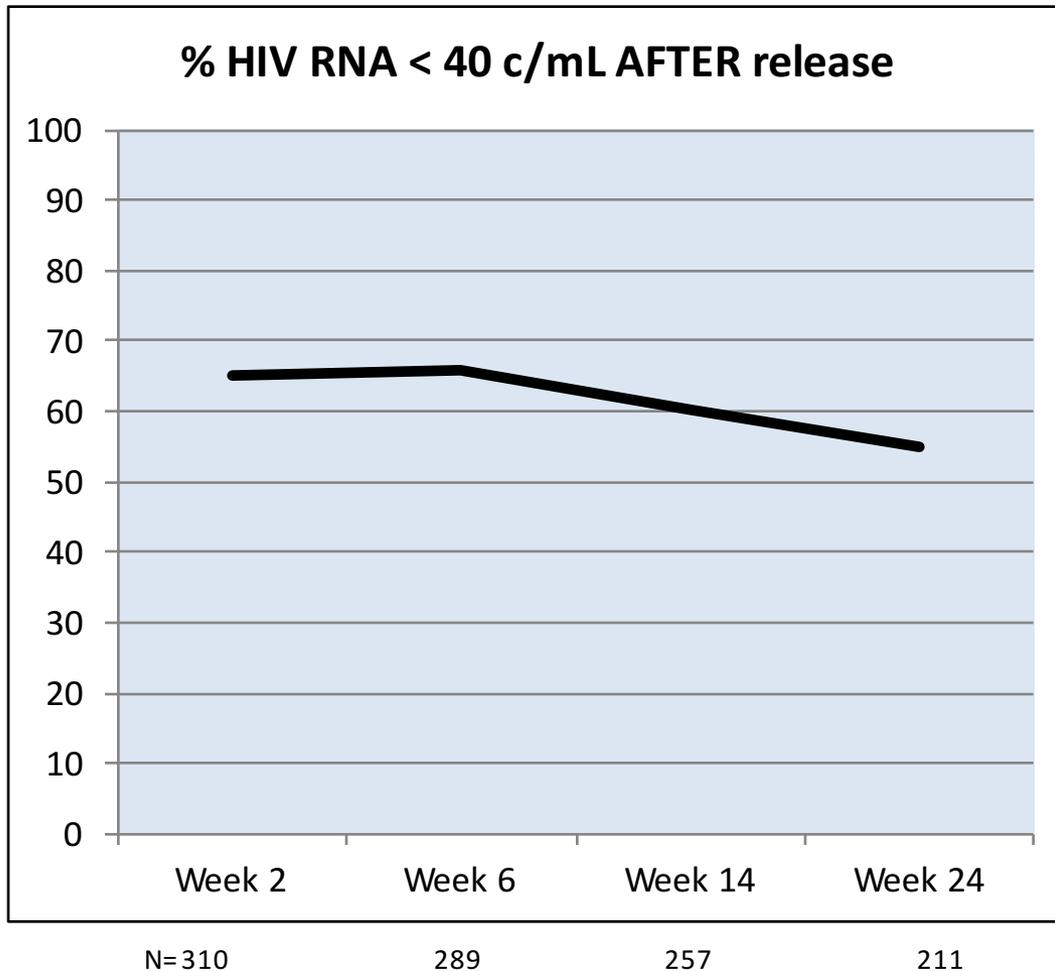
THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



= Telephone MI

📱 = daily text reminders before ART dosing

# Percent with Suppressed HIV RNA Post-Release— Combined Study Arms



74% Non-white  
21% Female  
7% Hispanic

<b>Median HIV RNA level among those with detectable level*</b>	
Week 2	5,363 c/mL
Week 6	19,467 c/mL
Week 14	24,859 c/mL
Week 24	22,641 c/mL

\* >20 c/mL

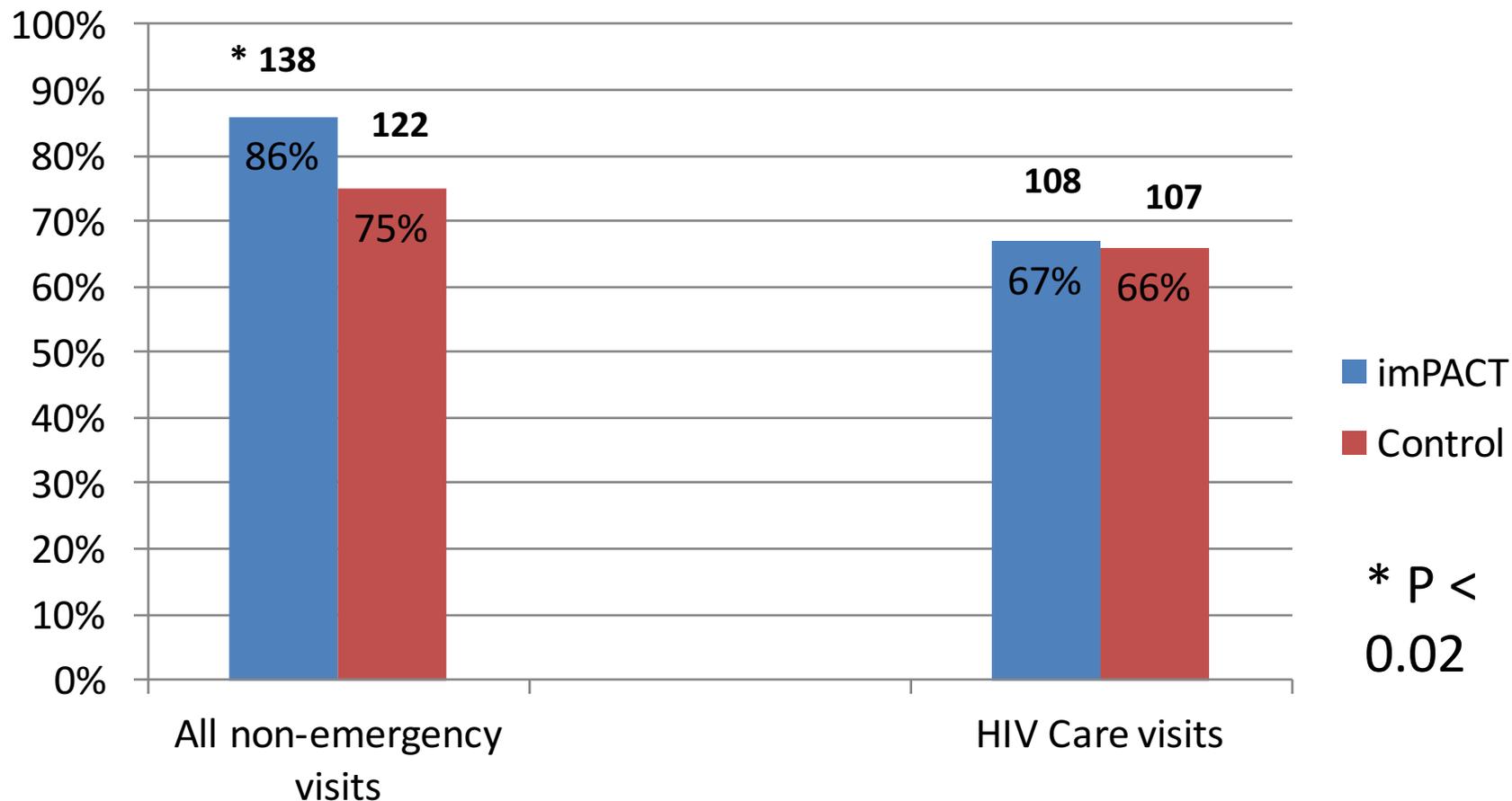


THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



Data are preliminary and subject to change with further analysis

# Results: Effect on Week 6 Clinic Visits

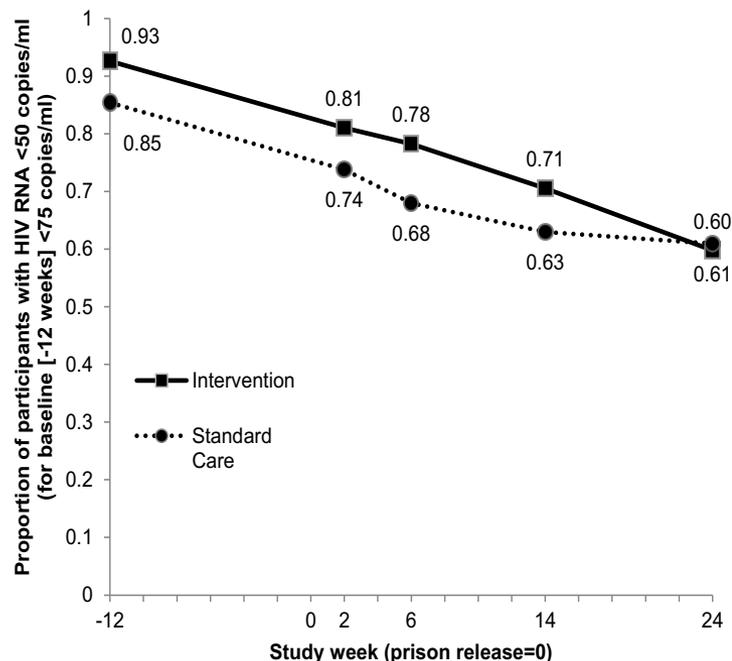


The median time to first medical clinic appointment following release was 10 days for imPACT versus 13 days for controls (P = 0.02)

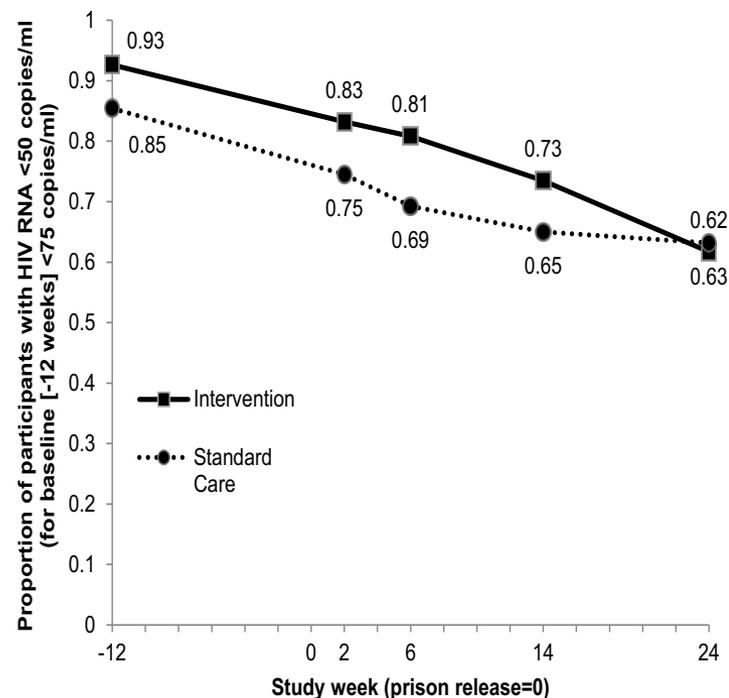


# Results: Effect on Viral Suppression

A) Multiple Imputation



B) Complete Case



Number of participants contributing data

Intervention	195	195	195	195
Control	186	186	186	186
P-value	0.21	0.12	0.05	0.18

THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

Number of participants contributing data

Intervention	195	155	146	132	128
Control	186	153	143	140	125
P-value	0.21	0.06	0.02	0.13	0.81

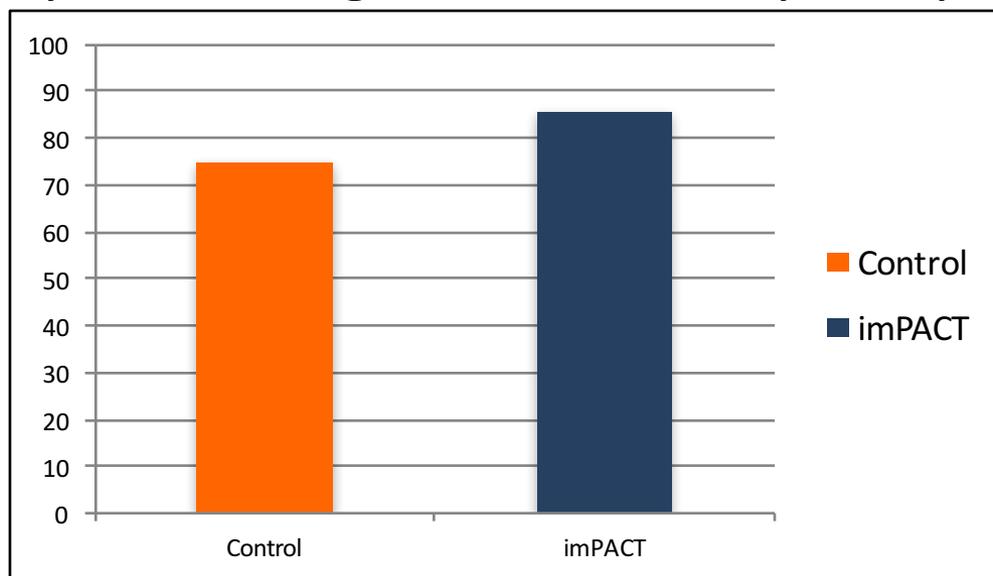


# 80% of participants (n =321) had non-emergent clinic visit by week 6 Post-Release

% Self-Reporting <b>HIV</b> community clinic visit	% Self-Reporting <b>other</b> community clinic visit*
66%	24%

\* Excludes emergent care

## Any non-emergent clinic visit by study arm



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# HPTN 061 – Deserves Mention

## HPTN 061 STUDY DESIGN



- HPTN 061 is a multi-site longitudinal study among BMSM in the United States
- Conducted to determine the feasibility and acceptability of a multi-component intervention
- Participants were non-randomly enrolled from the community and by referral from a sexual partner
- Study was conducted from July 2009 – December 2011
- **Eligibility criteria:**
  - Self-identify as a male at birth
  - Black, African American, Caribbean Black, or multi-ethnic Black
  - At least 18 years of age
  - At least one instance of unprotected anal intercourse with a man in the past 6 months
  - Lived in the metropolitan area and did not plan to move during the study
  - Provided informed consent

Brewer R, et al AIDS 2012



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# Study population

---

- 1,553 men were enrolled
  - 252 reported a prior HIV diagnosis
- 1,301 without a prior HIV diagnosis
  - 38 refused testing and/or a baseline specimen was not available for confirmatory testing at the HPTN
- 1,263 underwent HIV testing
- 96 were newly diagnosed, including 3 with acute infection (identified by the HPTN)
  - 1,167 uninfected at baseline
  - 1,009 tested for HIV during study follow-up
    - 28 (3%) became HIV infected

# The High Risk Men Who Associatio

Russell A. Brewer,

**TABLE 2—Associations Between Demographic and Psychosocial Characteristics and Incarceration History: HIV Prevention Trials Network 061, July 2009–December 2011**

Characteristics	Had Been Incarcerated, No. (%)	Univariate OR (95% CI)	Multivariate AOR (95% CI)
<b>Enrollment city</b>			
Washington, DC	64/216 (30)	1.00 (Ref)	1.00 (Ref)
New York, NY	174/304 (57)	3.18 (2.20, 4.60)	2.67 (1.76, 4.06)
San Francisco, CA	130/199 (65)	4.47 (2.96, 6.76)	2.89 (1.82, 4.60)
Boston, MA	155/232 (67)	4.78 (3.20, 7.13)	3.33 (2.12, 5.23)
Atlanta, GA	194/288 (67)	4.90 (3.35, 7.18)	4.00 (2.61, 6.13)
Los Angeles, CA	197/282 (70)	5.50 (3.74, 8.11)	4.93 (3.21, 7.56)
Age, 10-y increment		1.54 (1.40, 1.69)	1.50 (1.35, 1.67)
<b>Country of birth</b>			
United States	881/1452 (61)	1.00 (Ref)	1.00 (Ref)
Outside United States	33/69 (48)	0.59 (0.37, 0.96)	0.66 (0.38, 1.15)
<b>Childhood violence</b>			
No	447/833 (54)	1.00 (Ref)	1.00 (Ref)
Yes	397/564 (70)	2.05 (1.64, 2.57)	1.90 (1.46, 2.46)
<b>Childhood sexual experience</b>			
No	317/590 (54)	1.00 (Ref)	1.00 (Ref)
Yes	528/822 (64)	1.55 (1.25, 1.92)	1.47 (1.15, 1.89)
<b>Gender</b>			
Male	890/1491 (60)	1.00 (Ref)	
Transgender	24/30 (80)	2.70 (1.10, 6.65)	3.26 (1.17, 9.13)
<b>Sexual identity</b>			
Gay, homosexual, bisexual, or other MSM	813/1385 (59)	1.00 (Ref)	1.00 (Ref)
Straight or heterosexual	100/135 (74)	2.00 (1.35, 3.03)	1.61 (1.01, 2.56)

Note. AOR = adjusted odds ratio; CI = confidence interval; MSM = men who have sex with men; OR = odds ratio.

neth H. Mayer, MD



THE  
of  
at



# Disclosure of Sexual Preference During Incarceration

**TABLE 1—Characteristics of Adult Prisoners Entering the North Carolina State Prison System: January 2004–May 2006**

Total	Women, %	Men, %
	6804	47 212
Drug-related conviction ever	40.4	37.5
Sex-related conviction ever	1.3	6.2
Cocaine or crack use ever	63.0	32.7
Heroin use ever	5.8	1.9
MSM <sup>c</sup>	...	0.7
Multiple sexual partners <sup>c</sup>	26.4	21.2
Prostitution <sup>c</sup>	16.1	5.9
Share needles <sup>c</sup>	9.0	3.0
Blood transfusion <sup>c</sup>	2.8	0.7
Sex with needle sharer <sup>d</sup>	15.6	...
Sex with MSM <sup>d</sup>	2.9	...
Mental health <sup>e</sup>		
Axis I	6.5	2.3
Axis II	4.5	2.7

Rosen DL, Schoenbach VJ, Wohl DA, White BL, Stewart PW, Golin CE. *Am J Public Health*. Oct 2009



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# LGBT by State, 2012

Gallup

Do you, personally, identify as lesbian, gay, bisexual, or transgender?

	<b>Yes, do</b>	<b>No, do not</b>	<b>Number of interviews</b>
District of Columbia	10.0%	88.0%	493
Hawaii	5.1%	91.7%	643
Vermont	4.9%	93.3%	664
Oregon	4.9%	92.1%	3655
Maine	4.8%	91.1%	1286
Rhode Island	4.5%	89.2%	735
<hr/>			
Utah	2.7%	94.1%	2726
Tennessee	2.6%	93.0%	4889
Mississippi	2.6%	92.5%	1961
Montana	2.6%	94.8%	1329
North Dakota	1.7%	93.7%	615



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# What we should do



- *Recognize the toxic effects of massive incarceration*
- *Take advantage of the opportunity presented by incarceration/supervision to apply seek-test-counsel-support-treat-engage in durable care*
- *Demonstrate and advocate for implementation of evidence based interventions in CJ settings*
- *Explore further the collateral damage of incarceration on communities*
- *Examine the impact of changes in epidemiology of HIV and US health care policy on HIV and HCV in CJ settings*
- *Advocate for change to rein in this socially disruptive force*



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# The Continuum Challenge



Are we doing the best we can?

- Diagnosis
  - Infectious diseases (HIV, STI, TB, HCV, HBV)
  - Mental Illness
  - Substance abuse
- Treatment
- Linkage to community care



How do we maintain the benefits of care experienced during incarceration?

- Linkage to care and services
- Adequate community resources
  - Treatment (HIV, mental health, substance abuse)

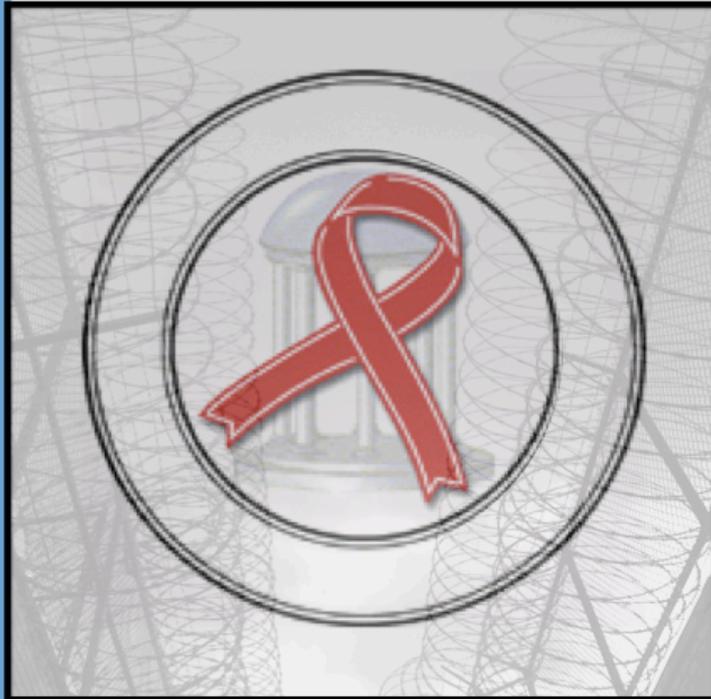


**How to break the cycle?**

- Societal challenge (Poverty, discrimination, sentencing laws)
- Policy



The University of North Carolina  
Center for AIDS Research

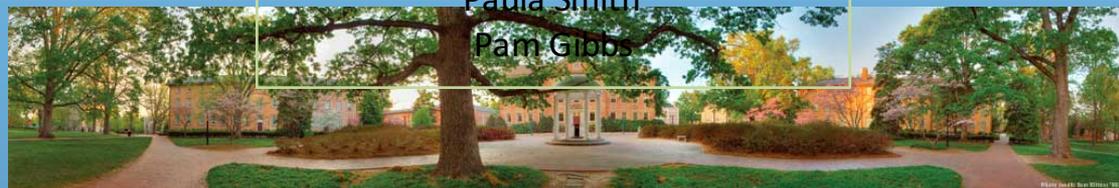


Criminal Justice Working Group

Cathie Fogel  
Carol Golin  
Becky White  
David Rosen  
Maria Khan  
Claire Farel  
Jessica Carda  
Catherine Grodensky  
Sharon Parker  
Michael Bowling  
Robert DeVellis  
Meheret Mamo  
Lynn Tillery  
Makisha Ruffin  
Genda Dockery  
Shirley Brown  
Karishma Oza  
Kathryn Muessig  
Chaunetta Jones  
Steve Bradley-Bull  
Kemi Amola  
Lisa McKeithan  
Neeve Neevel  
Madeline McCrary  
Kim Powers  
Paula Smith  
Pam Gibbs



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



# Discussion



Photo credit: Sam Kittner '85