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Drug Policy, Incarceration and Black-White Disparities in HIV/AIDS

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OBJECTIVE:

Connecting Two Trends

- **Black-White Disparities in HIV/AIDS**
- **Disproportionately High Rates of Incarceration among Blacks**



Black-White Disparities in HIV/AIDS

- **In 2001, Blacks made up 50% of new HIV cases in the US but were 12% of the population (CDC 2001)**
- **Blacks make up 35% of all reported AIDS cases in the US (CDC 2001)**
- **In 2001, Blacks made up 49% of all new reported AIDS cases in the US (CDC 2001)**



Incarceration among Blacks

- **Since 1990, Blacks comprise over 50% of all prisoners (Beck and Karburg 2001; Curry 1998)**
- **The rate of current incarceration among Black men went from 1 in 30 to 1 in 15 between 1984 and 1997 (Pastore and Maguire 2000)**
- **As of 1997, Black male has 1 in 4 chance of being incarcerated vs. white male 1 in 23 chance (Bonczar and Beck 2000)**
- **Between 1985 and 1995, white state prison inmates on drug offenses increased 306%; for Blacks the increase was 707% (Mumola and Beck 1997)**



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Why Connect Incarceration and HIV/AIDS?

- **Black-white disparities in HIV/AIDS do not seem to be a function of condom use**
- **Black-white disparities in HIV/AIDS do not seem to be a function of syringe sharing**
- **Disproportionately high incarceration rates in Blacks do not seem to be a function of drug use**



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Multi-level Influences of Incarceration on HIV

Individual Level:

- Drug use in prison
- Sex in prison
- Interruption of drug treatment
- Loss of benefits

Family Level:

- Disruption of sexual partnerships
- Economic vulnerability of families
- Children in foster care
- Homelessness



Multi-level Influences of Incarceration on HIV, continued

Network Level:

- Disruption of sexual networks
- Disruption of drug use networks

Neighborhood/Community Level:

- Imbalance in ratio of males/females
- Destabilization
- Loss of legal productive/economic base

Societal Level:

- Racism
- Stigmatization



Dependent Variable

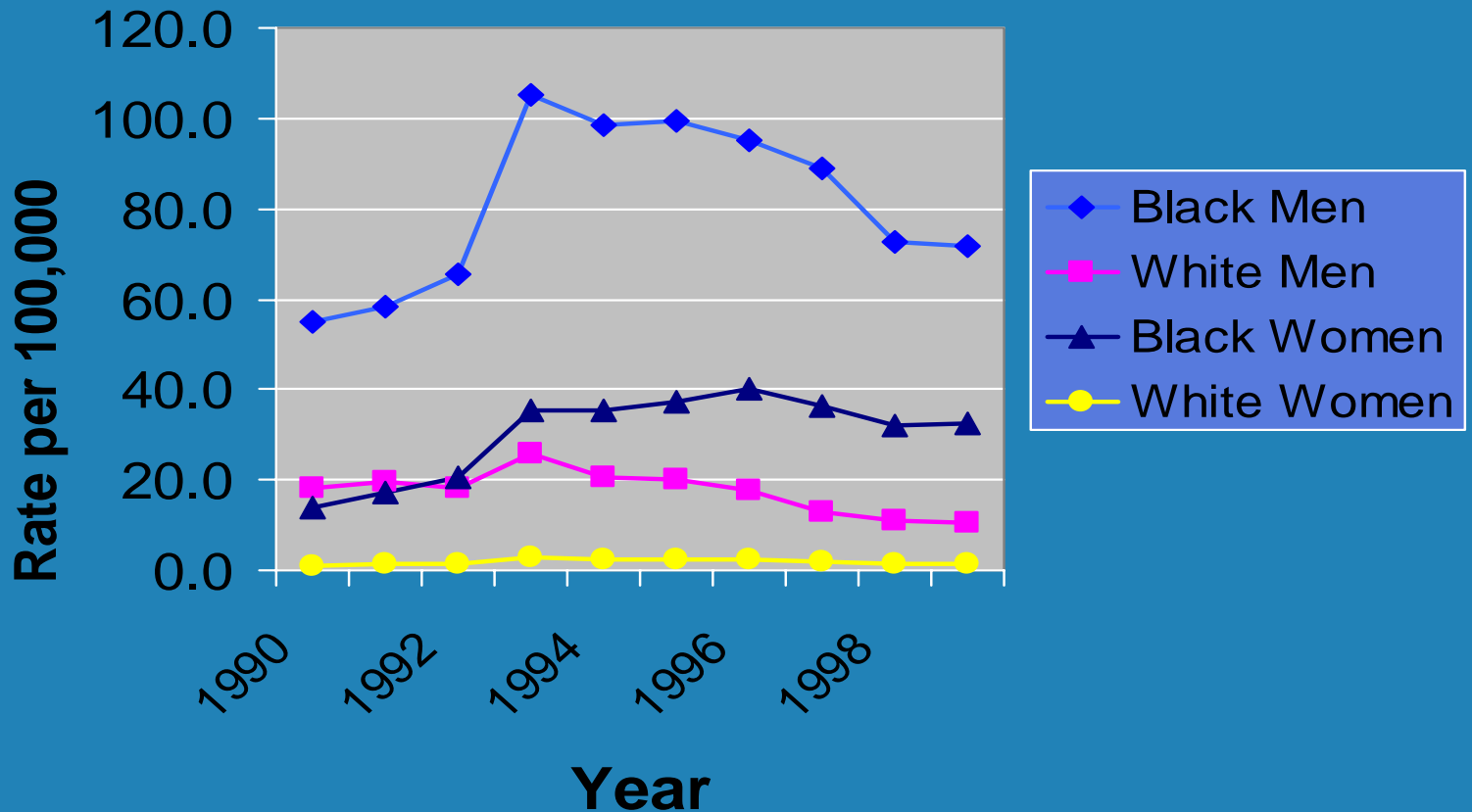
New AIDS Cases, 1999

•By MSA



U.S. New AIDS Case Rates, by Gender and Race ('90-'99)

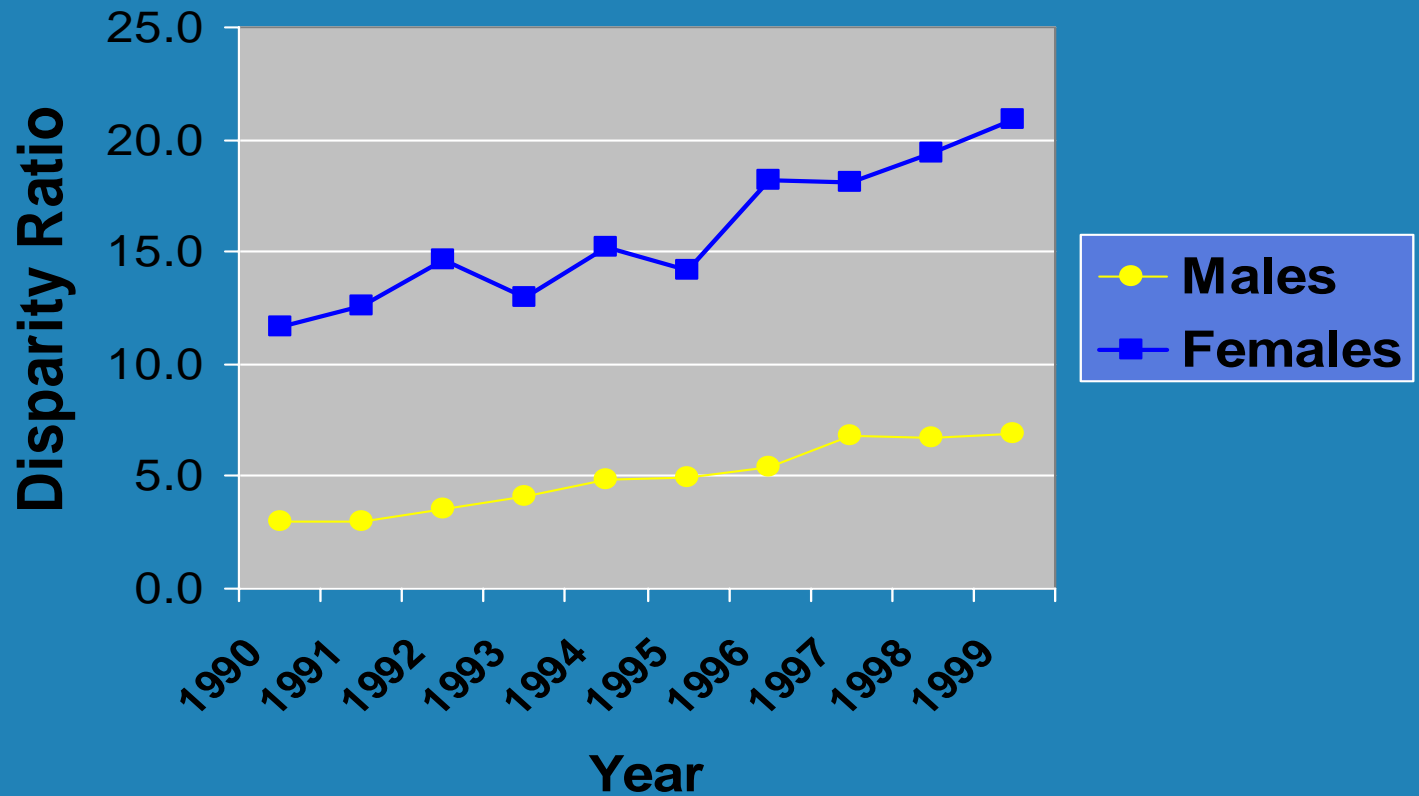
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Black White Disparities in New AIDS Cases, by Gender ('90-'99)





Independent Variables

- **Black-White Incarceration Ratios, 1996** (state)
- **Black-White Ratios of “Missing due to Incarceration,” 2000** (MSA)
- **Presence of Needle Exchange Program** (state)
- **Crack Differentials** (state)
- **Black-White Poverty Ratios, 2000** (MSA)
- **Index of Dissimilarity, 2000** (MSA)



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Summary Statistics: Incarceration

State	Black Inc Rate	White Inc Rate	Inc Disparity
MN	1383	59	23
IO	2818	159	18
WI	2210	131	17
TN	1270	171	5
AL	1261	236	5
SC	961	235	4
Range:	764-2818	59-441	4-23



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Summary Statistics: “Missingness”

State	% Black Missing	% White Missing	Missing Disparity
MN	4.2	0.24	17.9
NJ	3.3	0.19	17.7
NM	3.9	0.23	17.5
AR	3.0	0.51	5.9
AL	2.4	0.42	5.7
OK	3.1	0.59	5.3
Range:	2.1-6.7	0.19 – 0.76	5.3-17.9



Model for Estimating Effects of Structural Factors on Rate Ratios

Multi-level Poisson Regression

$$\log(\text{Count}_{hk}/\text{Total}_{hk}) = B_{0k} + B_{1k}\text{Race}_{hk}$$

$$\log(\text{Count}_{hk}) = B_{0k} + B_{1k}\text{Race}_{hk} + \log(\text{Total}_{hk})$$

B_{0k} = log rate for whites in MSA=k

B_{1k} = differential log rate for blacks in MSA=k

$e^{B_{1k}}$ = rate ratio of blacks:whites

$e^{B_{10} + B_{11}V_k (+...)}$ = rate ratio of blacks to whites

with contextual variables

h=race group (white=0); k=MSA or state



% Change in Black/White Disparity in New AIDS Cases

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Variable	MSA Median	% Change in Disparity	Rate Differential	P-value of coeff.
Race			15.7	<.0001
Missing ratio	7.86	10.2%	17.3	.0005
B-W inc ratio	8.0	17%	18.5	.006
Poverty ratio	2.38	-44%	8.9	<.0001
Segregation	.072 .088	17% 19%	18.5 22	<.0001
NEP		-36%	10.2	.03
Crack Dif		23%	19.4	N.S.

Note: Percentages and differentials for ratios calculated at median value; for dissimilarity index at 25th and 75th percentile



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Limitations

- **New AIDS Cases as measure of HIV risk**
- **Level of aggregation of variables**
- **Unmeasured contextual factors**



Conclusions

- **There are large disparities between Blacks and whites in risk for HIV**
- **HIV disparities appear to be associated with race disparities in incarceration**
- **Incarceration may produce HIV risk by increasing the “missingness” of Blacks from their communities**
- **NEPs and crack differentials appear to be important components of drug policy influencing race disparities in HIV**