

# Vulnerable Populations: Care of the Patient Involved with the Criminal Justice System

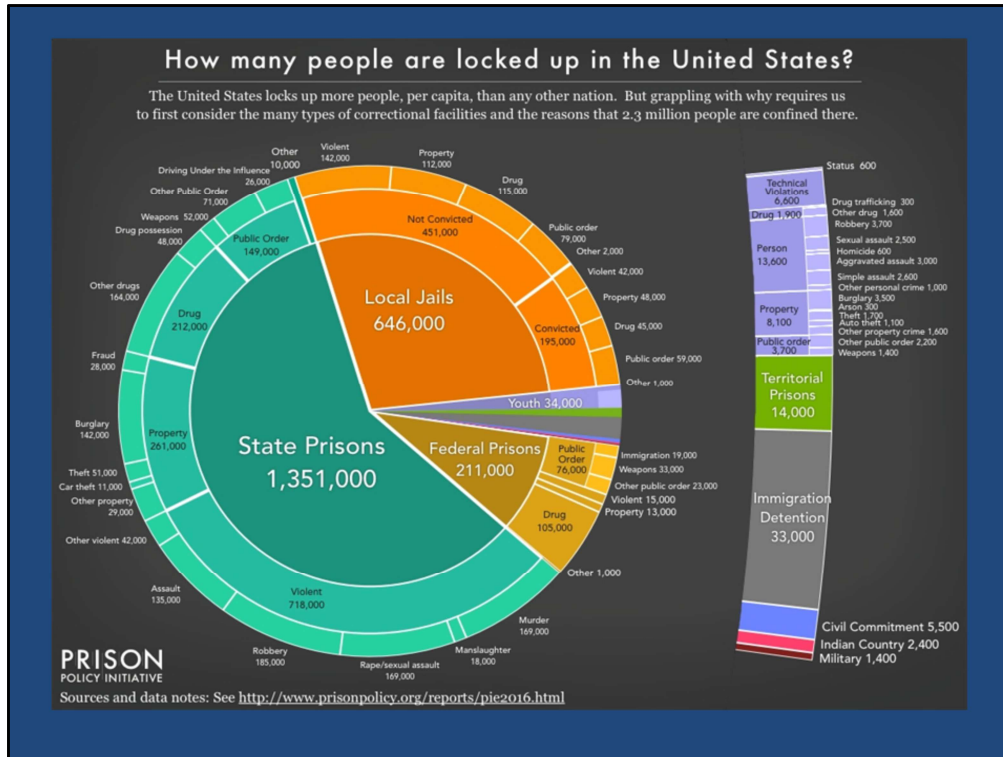
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February 26, 2017

## Disclosures

- None

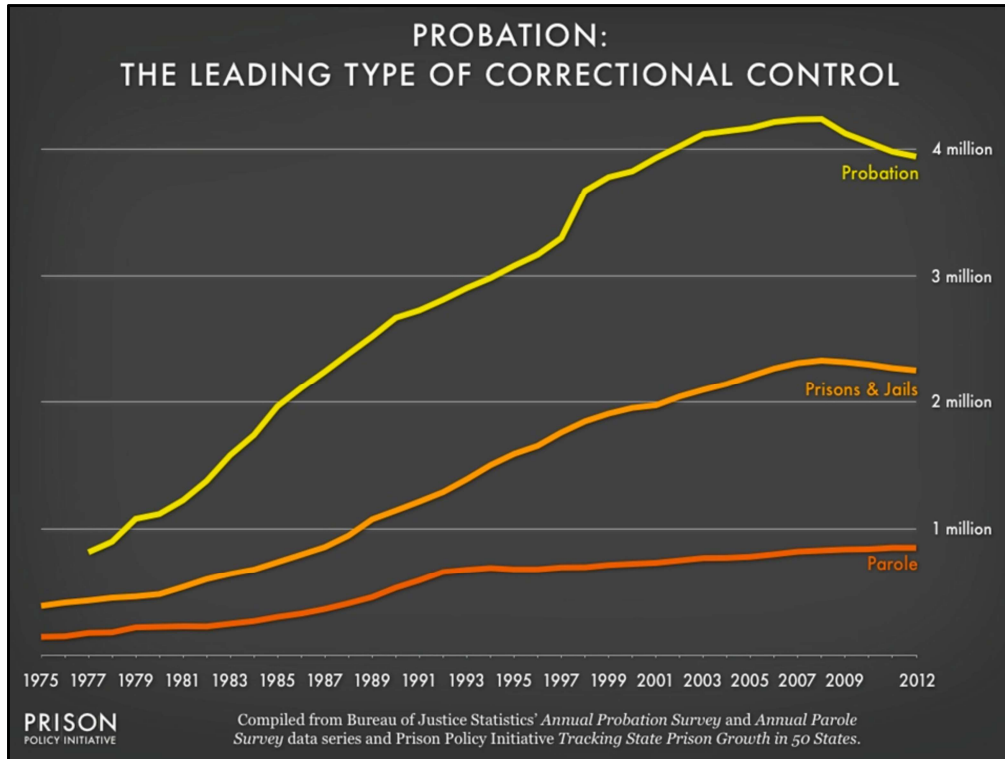
# Objectives

1. Gain a basic understanding of statistics involving individuals affected by the criminal justice system.
2. Identify common health problems of patients involved with the criminal justice system.
3. Review unique characteristics of providing medical care in an incarcerated setting.
4. Appreciate the immediate post-release period as having an increased risk for mortality.
5. Describe the role of the family physician in providing care for formerly incarcerated patients.

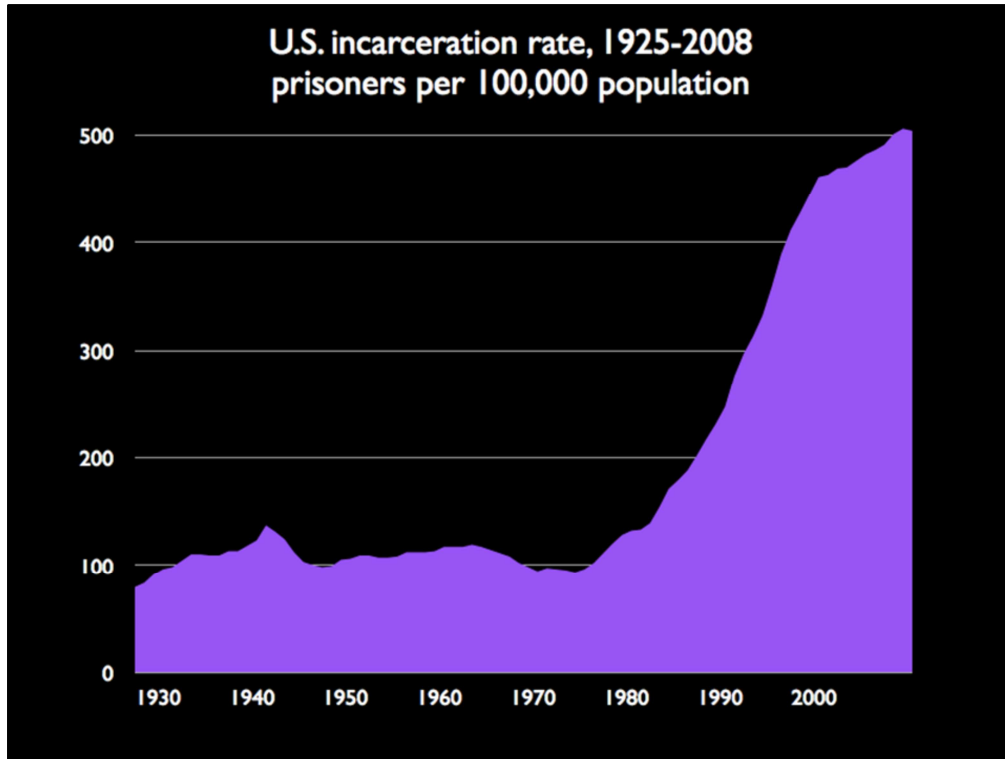


As of last year, there were 2.3 million people incarcerated in the United States. Most are held in state prisons but a significant proportion are held in local jails and about 200,000 are incarcerated in federal prisons. As this chart shows, over half of state prisoners are convicted of violent crimes (assault, robbery, rape, murder) but the majority of federal inmates are incarcerated for drug-related crimes. Of all convicted inmates, about 20% are convicted related to drug crimes. (This last statistic actually surprised me, as we blame the war on drugs a lot for the rise in incarceration. However, it is probably very complicated and although the War on Drugs is probably the main driver (black markets lead to drug deals gone bad turning to violent crimes, etc.), it cannot account for all of the increase.)

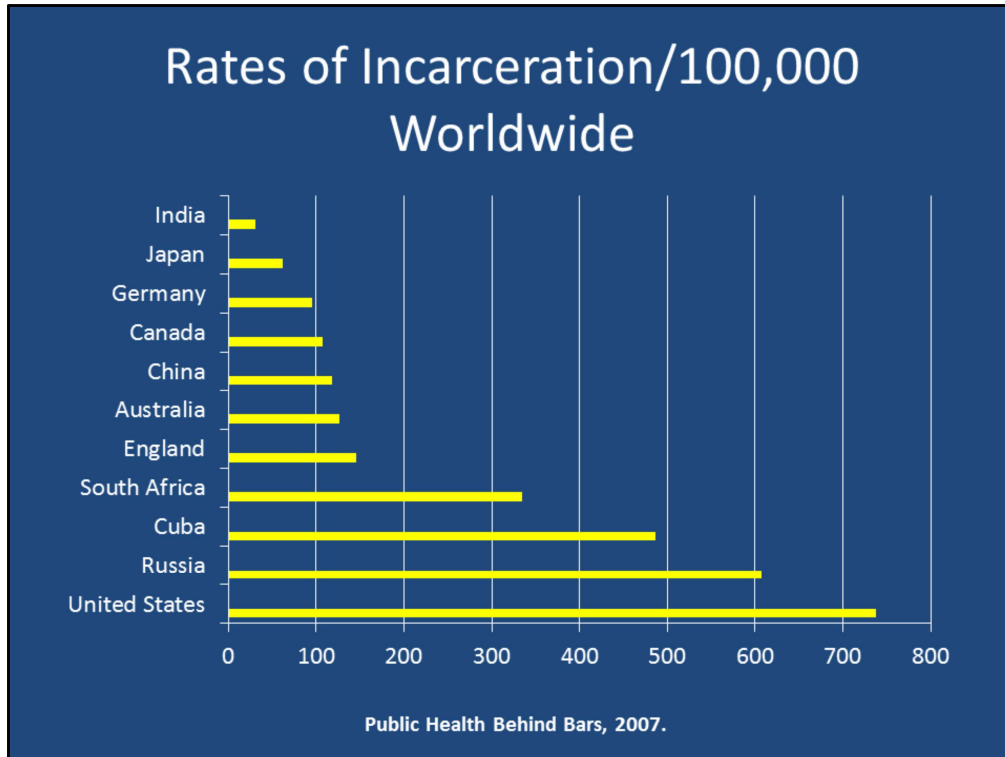




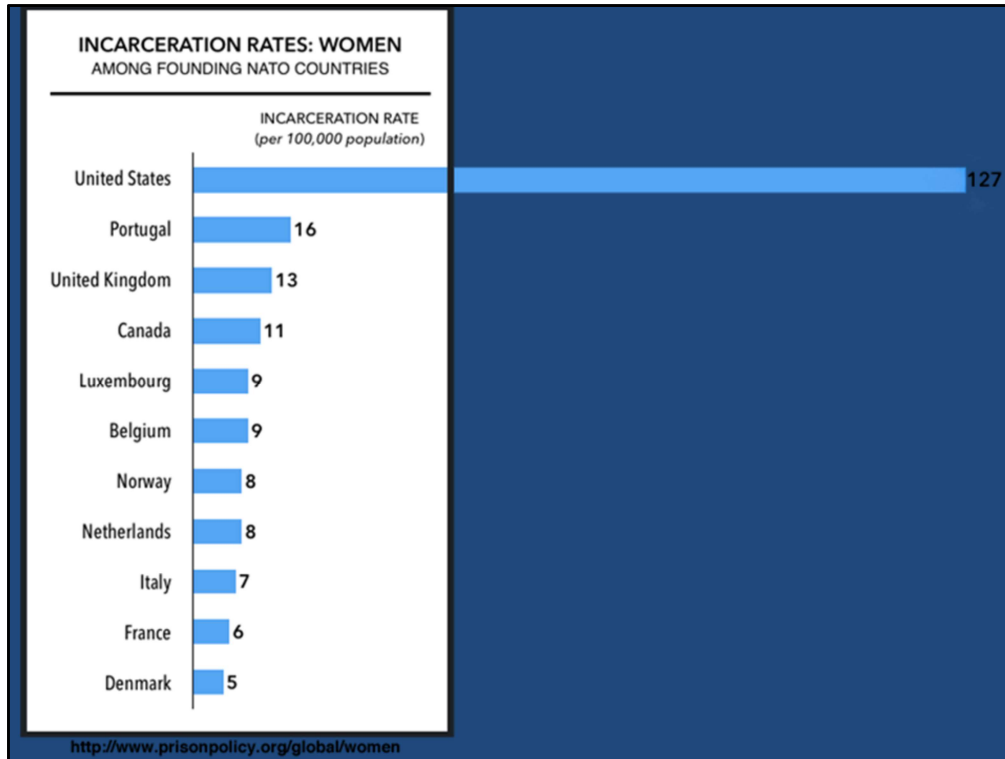
Not everyone under criminal justice surveillance is incarcerated, however. About 4 million people convicted of crimes never reach jail or prison and instead go on probation. And just less than 1 million people in the US are still being supervised by the criminal justice system after release in the form of parole.



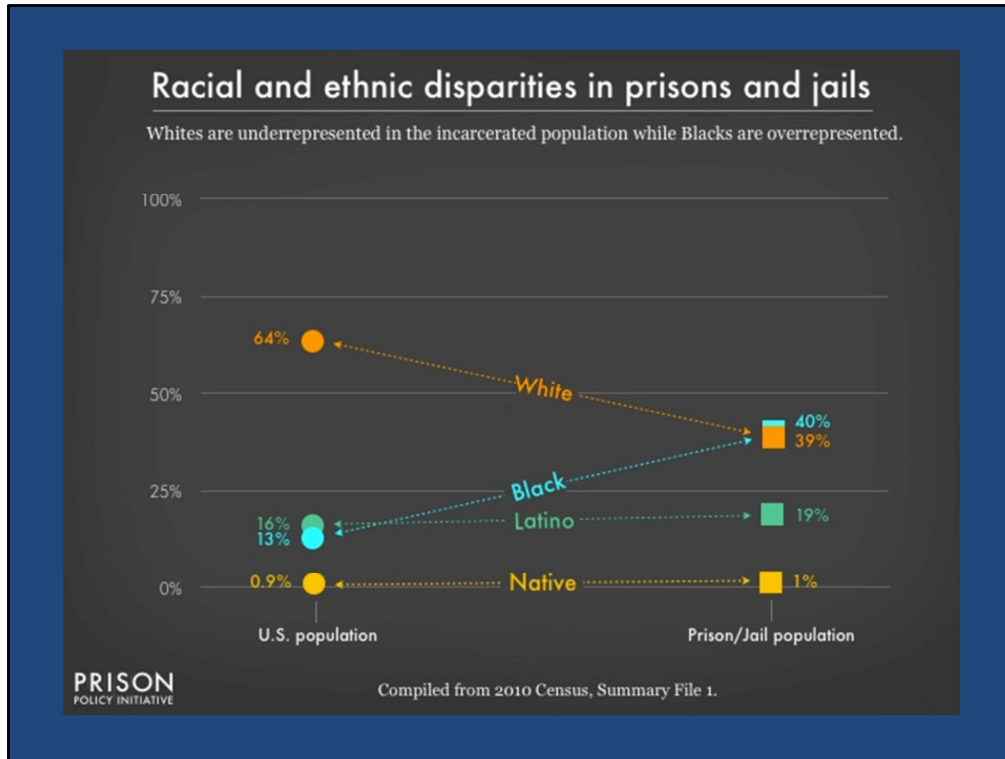
This shows the incredible increase in the US incarcerated population since the 1980s that is often attributed to the War on Drugs, which was initiated by Nixon in the 1970s and strengthened by Reagan in the 80s. As we discussed, it is likely more complicated than this, though bipartisan political pressure certainly seems to have played a big role. In response to rising crime rates in the early 90s, Bill Clinton passed a crime bill implementing mandatory minimum sentencing and three strikes laws.



We are world leaders at incarceration in the United States. U.S. accounts for 5% of the world's population but 22% of the incarcerated population. Next greatest NATO organization is England.



We also incarcerate more women than any other county in NATO.



Hopefully everyone is aware of the disproportionate representation of African Americans in the criminal justice system. As this graph shows whereas African Americans make up 13% of the US population, they make up 40% of the US incarcerated population. On the other hand, Caucasians make up 64% of the US population but only 39% of the US incarcerated population.

# Drug Crimes and Ethnicity

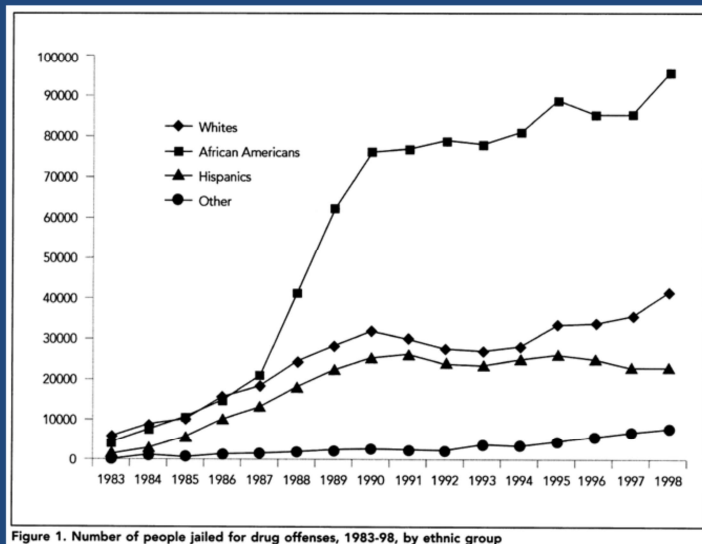
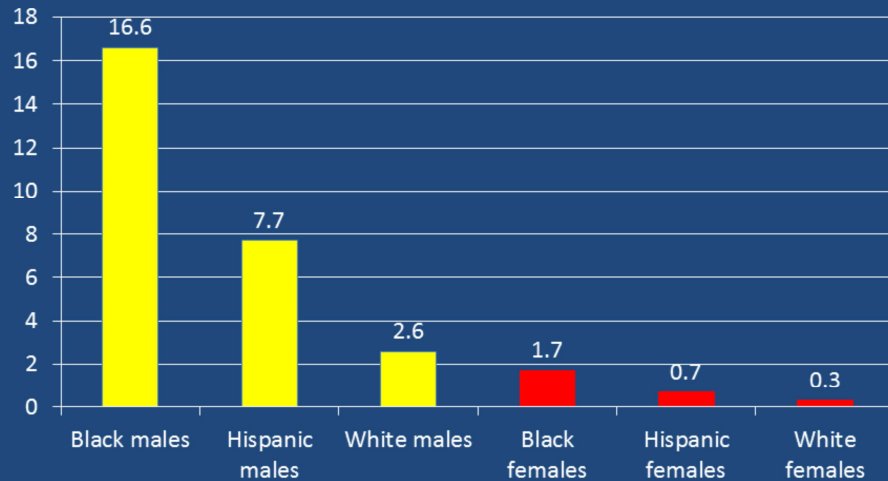


Figure 1. Number of people jailed for drug offenses, 1983-98, by ethnic group

Public Health Rep. 2002;117 Suppl 1:S146-50.

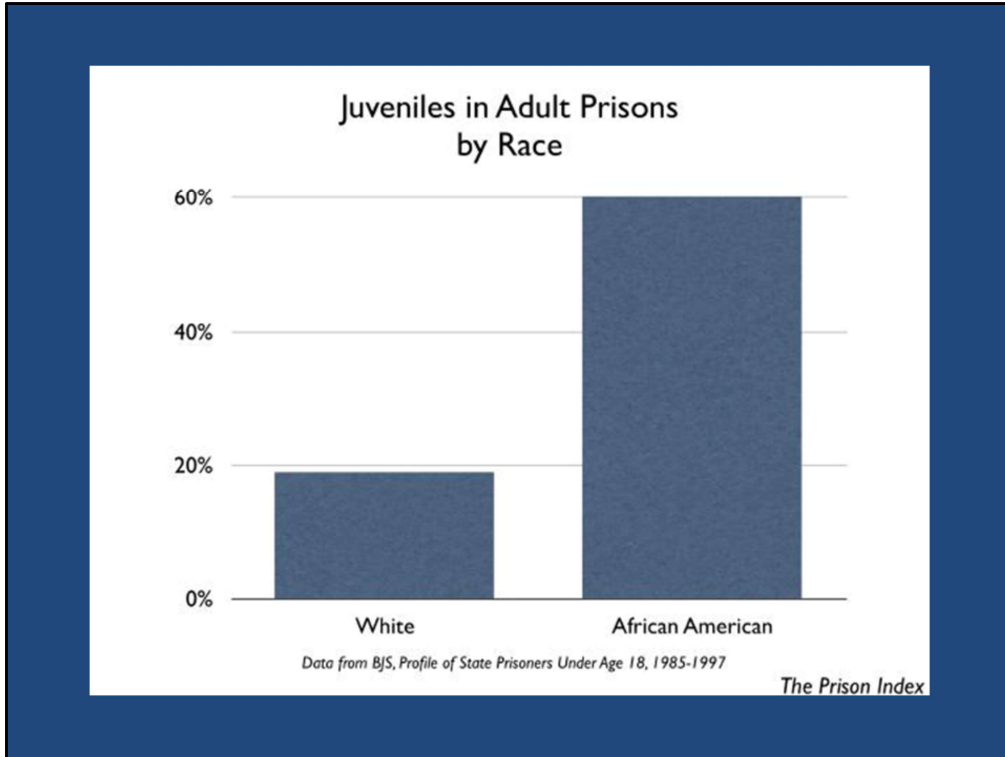
This graph shows the disproportionate effect the War on Drugs has had on minorities, particularly African-Americans. While the number of white prisoners incarcerated for drug offenses rose by a factor of 7 between 1983 and 1998, Hispanic drug admissions increased 18-fold and African-American admissions increased more than 26-fold.

## Lifetime Prevalence of Imprisonment by Race and Gender, 2001



Bureau of Justice Statistics, 2009.

This graph shows the lifetime prevalence of imprisonment by race and gender as of 2001. As you can see, 1 in 6 AA men are incarcerated at some point during their lifetimes; what this graph does not show is that 1 in 3 AA men are involved with the criminal justice system on some level (incarceration, probation, parole). 1 in 12 Hispanic men are incarcerated and about 1 in 40 Caucasian men. The lifetime incarceration rate for women is much lower, approximately 10 percent lower but still with disproportionate representation.



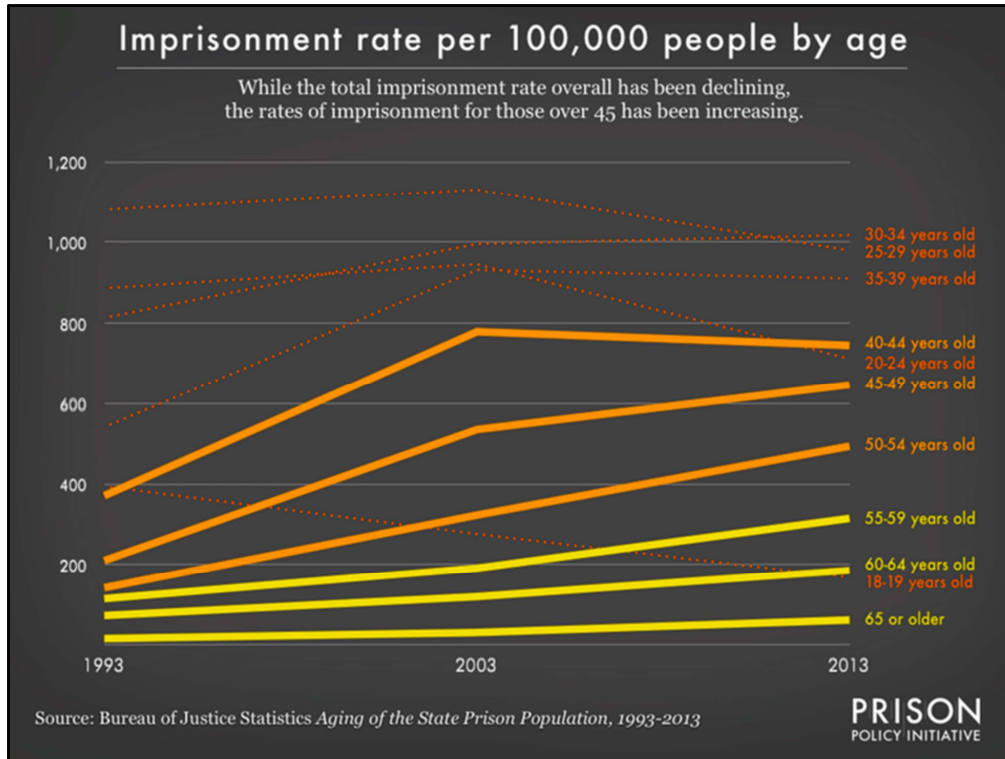
Juveniles are also affected disproportionately with about 60% of those less than 18 being of African American race.



## Pre-arrest Employment/ Housing Status

|  | Percent of jail inmates |         |
|--|-------------------------|---------|
|  | 2002                    | 1996    |
| <b>Pre-arrest employment*</b>          |                         |         |
| Employed                               | 71.0%                   | 64.0%   |
| Full time                              | 57.4                    | 49.3    |
| Part time                              | 10.9                    | 10.4    |
| Occasional                             | 18.4                    | 4.5     |
| Not employed                           | 29.0                    | 35.6    |
| Looking                                | 15.1                    | 19.6    |
| Not looking                            | 13.8                    | 16.2    |
| <b>Pre-arrest personal*<br/>income</b> |                         |         |
| None                                   | 19.3%                   | 14.4%   |
| Less than \$300                        | 10.6                    | 16.7    |
| \$300-599                              | 15.0                    | 18.9    |
| \$600-999                              | 14.2                    | 17.2    |
| \$1,000-1,999                          | 24.4                    | 20.4    |
| \$2,000 or more                        | 16.4                    | 12.4    |
| <b>Sources of income**</b>             |                         |         |
| Wages or salary                        | 63.2%                   | 74.7%   |
| Family/friends                         | 15.8                    | 16.2    |
| Illegal sources                        | 11.8                    | 15.2    |
| Welfare                                | 6.3                     | 13.8    |
| Compensation*                          | 9.1                     | 7.4     |
| Other*                                 | 4.7                     | 5.6     |
| Homeless in past year                  | 14.3%                   | 19.2%   |
| Number of jail inmates                 | 631,241                 | 507,026 |

What may be surprising is that over half of those who are incarcerated have full time jobs prior to getting arrested. However, wages are very low, with about 60% of those incarcerated making less than \$1000/month. 14% of those incarcerated were homeless. Again, the poor and destitute are overrepresented in the incarcerated population.



This graph shows the age distribution of the incarcerated since 1993. As you can see, most of the inmates are in their 20s to early 40s, but down at the bottom, you'll see that those over 55, while they represent a lower proportion of incarcerated individuals, their representation is increasing. This has made an impact on medical care in jails and prisons, which we'll get to later.

## Impact on Children and Families

- 3-13% of US children have a parent who has been or is currently incarcerated  
OH 10%, KY 13%, IN 11%
- Multitude of effects:<sup>b</sup>
  - Loss of family income
  - Unstable living situations
  - Poor attachment to parents
  - PTSD (20% of children of incarcerated mothers witness the arrest)
  - Anxiety, withdrawal, hypervigilance, depression, shame, guilt, eating disorders, anger, aggression, poor school performance

Annie E. Casey Foundation, April 2016  
Parke and Clarke-Stewart, 2002

Given that the majority of those incarcerated are in their 20s and 30s, the impact of incarceration on children and families is an area of concern. It varies by state, but 3-13% of US children have a parent who has been or is currently incarcerated. Think about your average classroom of about 25 students. 1-3 of these students will be a child of a currently or formerly incarcerated adult. When you take into consideration the fact that incarceration disproportionately affects minorities, a similar-sized classroom in the inner city might have a third of children affected by adult incarceration.

Incarceration results in a multitude of effects which not only affect socioeconomic issues, but can certainly impact a child's health and development.

## Medical Care in Jails and Prisons



# Substance Use Disorders

| Disorder                 | Incarcerated Population <sup>a</sup> |            | General Population <sup>b</sup> |       |
|--------------------------|--------------------------------------|------------|---------------------------------|-------|
|                          | Men                                  | Women      | Men                             | Women |
| Alcohol abuse/dependence | 17.7-30%                             | 10-23.9%   | 20.1%                           | 8.2%  |
| Drug abuse/dependence    | 10-48%                               | 30.3-60.4% | 9.2%                            | 5.9%  |

<sup>a</sup>Addiction 2006, 101:181-191. <sup>b</sup>Arch Gen Psychiatry 1994;51:8-19.

The true prevalence of substance use disorders is difficult to due to significant heterogeneity of studies ( $I^2$  of 84-98%) that makes it difficult to combine results. Studies conducted by psychiatrists tended to give lower prevalence rates than studies where the interviewer was not a psychiatrist. General population estimates taken from a National Comorbidity Survey in 1994. If you take the lower estimates of prevalence, the prevalence of alcohol use disorder does not appear to be much different between incarcerated and non-incarcerated individuals. When looking at other drug use disorders, however, you'll see a significant over-representation in the incarcerated population, particularly among women.

# Substance Use Disorders

| Disorder                 | Incarcerated Population <sup>a</sup> |                   | General Population <sup>b</sup> |             |
|--------------------------|--------------------------------------|-------------------|---------------------------------|-------------|
|                          | Men                                  | Women             | Men                             | Women       |
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# Mental Illness

| Disorder              | Incarcerated Population <sup>a</sup> |       | General Population <sup>b,c,d</sup> |          |
|-----------------------|--------------------------------------|-------|-------------------------------------|----------|
|                       | Men                                  | Women | Men                                 | Women    |
| Schizophrenia         | 3.8%                                 | 2.5%  | 1.1%                                | 1.1%     |
| Major depression      | 5.1%                                 | 16.9% | 2.5-12.0%                           | 7-25.0%  |
| Bipolar disorder      | 2.2%                                 | 2.6%  | 1.0-3.9%                            | 1.0-3.9% |
| Post-traumatic stress | ----                                 | 33.5% | 1-3.5%                              | 1-3.5%   |
| Severe disorder       | 8.9%                                 | 17.2% | 3.0%                                | 5.5%     |

<sup>a</sup>Am J Public Health 84(2)(1994): 290-293. <sup>b</sup>Cohen, 2005. <sup>c</sup>Arch Gen Psychiatry, 2005;62:617-627. <sup>d</sup>National Survey on Drug Use and Health, 2008.

Mental illness is known to be very prevalent among the incarcerated, and certain illnesses are known to be over-represented in comparison to the general population. The trouble with determining the prevalence of mental illness not only in prisons, but in the community, is that there are various ways to define, classify, and measure mental illness. Some studies measure “any mental health symptom” while others measure psychiatric disease in a more standardized fashion. In addition, some studies are self-report while the best surveys are conducted by psychiatrists using standardized diagnostic instruments. Estimating the prevalence in jails and prisons is even harder given the same difficulties plus difficulties obtaining IRB approval. Inmates are therefore often excluded from epidemiological studies. The best data in terms of prevalence of mental illness in those involved in the criminal justice system is from a study of 728 male and 1272 Cook County jail female inmates who were randomly selected and stratified by crime severity and were interviewed using standardized diagnostic tools. The general population data in this chart was provided by national surveys using standardized methods as well as a general psychiatry textbook.

As you can see, this suggests that the prevalence of schizophrenia is about 3x higher in those involved with the criminal justice system as opposed to those in the general population. Depression is potentially twice as high, as is bipolar disorder, though this is less clear. As you can see, PTSD (and other mental illnesses) are likely vastly overrepresented among incarcerated women as compared to women in the general population. A severe disorder is defined as schiz, bipolar, or MDD.

## Chronic Medical Illness

| Condition                             | Crude Prevalence | Prevalence in Inmates<br>≥55 |
|---------------------------------------|------------------|------------------------------|
| Hypertension                          | 18.8%            | 57.4%                        |
| Asthma                                | 5.4%             | 4.8%                         |
| Diabetes                              | 4.2%             | 17.4%                        |
| Ischemic heart disease                | 1.7%             | 13.2%                        |
| Chronic obstructive pulmonary disease | 0.96%            | 7.5%                         |
| Cerebrovascular disease               | 0.23%            | 1.5%                         |

J Urban Health. 2010 May;87(3):486-503.

With the aging of the prison population, chronic diseases are becoming more prevalent. This chart comes from a study of all inmates incarcerated in the TX Dept of Criminal Justice for any duration from 9/1/06-8/31/07 (N = 234,031). Medical diagnosis obtained from EMR system. The overall crude prevalence of disease may seem low, though this reflects the median age of about 35 in the state prison population. However, the prevalence of diseases for the “geriatric” incarcerated population, was similar to US general population statistics, with over half having HTN, 17% with diabetes, and 13% with IHD.



## Chronic Medical Illness

| Condition             | Odds Ratio (95% CI)     | Condition              | Odds ratio (95% CI)     |
|-----------------------|-------------------------|------------------------|-------------------------|
| <b>Hypertension</b>   | <b>1.17 (1.09-1.27)</b> | <b>Asthma</b>          | <b>1.34 (1.22-1.46)</b> |
| Diabetes              | 1.12 (0.98-1.26)        | <b>Arthritis</b>       | <b>1.66 (1.54-1.80)</b> |
| <b>Obesity</b>        | <b>0.80 (0.72-0.88)</b> | <b>Cancer</b>          | <b>1.22 (1.03-1.44)</b> |
| Angina                | 1.01 (0.80-1.28)        | <b>Cervical cancer</b> | <b>4.82 (3.74-6.22)</b> |
| Myocardial infarction | 1.07 (0.86-1.32)        | <b>Hepatitis</b>       | <b>4.23 (3.71-4.82)</b> |

J Epidemiol Community Health 2009;63:912-919.

However, according to one study, certain chronic diseases actually may be more prevalent in the incarcerated population than in the general population. The data from this slide is from a 2004 national survey of 14,373 prison inmates and 76,597 non-institutionalized adults. Chronic diseases were self-reported, but the investigators did find an increase in odds of HTN, asthma, arthritis, and cancer. Not surprisingly, the greatest odds were found for cervical cancer and hepatitis. Obesity (reported by BMI) was actually lower. Adjusted for age, sex, race, education, USA as birthplace, marital status, work, and alcohol consumption. Self-report, so interpret with caution.

## Infectious Diseases

| Condition   | Prevalence of Inmates (Jail and Prison) | Number of Inmates with Condition | Number of Releasees with Condition | US Population Total with Condition | Releasees/US Population with Condition |
|-------------|---|----------------------------------|------------------------------------|------------------------------------|--|
| HIV         | 1.45-2.03%                              | 35,093-45,522                    | 150,000-196,000                    | 750,000                            | 20.1-26.2%                             |
| AIDS        | 0.5%                                    | 9212                             | 38,894                             | 247,032                            | 15.7%                                  |
| Hepatitis C | 17-25%                                  | 303,507-446,338                  | 1.3-1.9 million                    | 4.5 million                        | 29.4-43.2%                             |
| Active TB   | 0.04% (P)<br>0.17% (J)                  | 1451                             | 12,531                             | 31,660                             | 39.5%                                  |

Am J Pub Health. 2002;92:1789-94.

The largest burden of medical illness among incarcerated populations comes from communicable diseases. This table was derived from a study in 1997 that estimated the prevalence of HIV/AIDS, Hepatitis C, and active tuberculosis in jails and prisons. For HIV, disease prevalence was taken from BJS stats and general populations statistics were taken from CDC. For HCV, exact prevalence is actually not known, but these are the best estimates we have. HCV prevalence for inmates was estimated by multiplying the rate of HCV among IVDU (estimated by CDC to be 72-86%) by the estimated 24% of state prison inmates that use IV drugs. The US prevalence was obtained from a population-based serologic survey. TB data was obtained from the National Survey of HIV/AIDS, Sexually Transmitted Diseases (STDs), and TB in Correctional Facilities; US data obtained from CDC. The number of inmates and releasees with each condition was estimated by multiplying prevalence rates x BJS statistics on population and release data.

In 1997, it was estimated that up to a quarter of people with HIV in the US have passed through a correctional facility, 15% of people with AIDS, 1/3 of those with HCV, and about 40% of those with active TB had passed through a correctional facility. This has obvious implications for infection control in correctional facilities, but also has tremendous implications for detection and treatment of these infectious diseases by the community provider.

## General Medical Screening in Jails and Prisons

- All facilities are required to screen for mental illness, specifically suicide
- All facilities place PPDs and/or obtain CXRs for new intakes and annually
- Screening for HIV and hepatitis: opt-in vs. opt-out
  - Most inmates want to be tested but do not understand they can refuse testing (Rosen, 2015)

## Medical Care in Jails and Prisons

- In *Estelle v. Gamble* (1976), the Supreme Court ruled that “deliberate indifference to serious medical needs” was “unnecessary and wanton infliction of pain” and a violation of the Eighth Amendment
- The Court ruled that prisoners were entitled to:
  - Access to and care for diagnosis and treatment
  - A professional medical judgment
  - Administration of the treatment prescribed by the physician

It is well known that inmates are the only population that have a constitutionally defined right to health care. This came from the 1976 Supreme Court ruling, *Estelle v. Gamble*. Gamble was a Texas state prisoner who had a bale of cotton fall on him and he suffered a back injury. He complained of back pain and refused to work as a result but was subject to administrative segregation rather than given a medical evaluation. The Court actually ruled in favor of the defendant, saying the lack of medical care was “inadvertent,” but the decision established the standard needed for inmates to claim malpractice – they had to prove that there was “deliberate indifference to serious medical needs” that caused “unnecessary and wanton infliction of pain” to constitute cruel and unusual punishment.

In addition, the Court ruled that...

## Nuances of Medical Care in Jails and Prisons

- Security concerns
  - Preferential detainment of inmates within prison walls
    - Medical care is often considered secondary
    - Medical symptoms often questioned as manipulative
  - Insulin administration
  - Pill lines (e.g., controlled substances, mental health)
- Dual role of health care providers – “correctional officer first”

Estelle v. Gamble actually sets the bar pretty high for claiming cruel and unusual punishment, and although inmates are the only US population who are constitutionally backed to have access to health care, the actual delivery of health care has its own unique nuances and challenges.

There is something inherently different about performing the healing arts in a place where security is the primary concern. I have countless stories of trying to manage health conditions in a prison due to pressure to keep the inmates within the prison walls (chest pain with no telemetry or troponins, managing sepsis with delirium, etc.) It is often considered that inmates are malingering symptoms simply to get out of prison (while this definitely occurs, most of the inmates I spoke to said they actually hated going to the hospital because they had to be chained to a bed the whole time).

Because of security concerns, inmate-patients do not inject their own insulin and must go to pill lines to get many of their medications. This may become relevant later in your primary care clinic when a newly diagnosed diabetic is released from prison never having learned to inject insulin himself or never learning why he takes certain medications or the importance of taking them at certain times of day.

Another nuance of practicing medicine in a prison is the inherent control piece that occurs between staff and inmates. Health care professionals are supposed to be immune from this correctional responsibility but the BOP emphasizes that all staff, including doctors and chaplains, are “correctional officers first.” This can create a confusion of roles if a health

care provider, who is supposed to be acting in the best interest of their patient, is asked to participate in certain tasks that may emphasize power over the inmates. Examples are nurses participating in counts, I declined to participate in “forced cell moves” initially but reconciled the fact by acting in the role of ensuring the inmate was not harmed.

## Aging Population

- Security accommodations (e.g., exceptions to sit down for count, lower bunk pass, more time to get chow)
- Increased medical costs
- Hospice care
- Compassionate release



As the proportion of older inmates rises, the criminal justice system has been forced to make accommodations to meet their specific needs, including...

As you would expect, older inmates leads to more health problems and increased medical costs. Many prisons have instituted hospice units as well. The increased medical costs as well as pressure regarding overpopulation has led to the concept of compassionate release, where aging and frail inmates will be considered for early release if they meet certain criteria. (BOP policy recently lowered the minimum age criteria from 70 to 65. Also requires that their medical condition “substantially diminishes their ability to function in a correctional facility”) BOP has come under scrutiny because only about 20-30 inmates are released/year.

## Incarceration Length

### Distribution of time served by prisoners released from state prisons, 2000 and 2008

| Time served on current admission | 2000   | 2008   |
|----------------------------------|--------|--------|
| All releases*                    | 100.0% | 100.0% |
| 1 year or less                   | 49.8   | 56.0   |
| 1-2 years                        | 21.5   | 20.0   |
| 2-3 years                        | 10.2   | 8.7    |
| 3-5 years                        | 8.6    | 7.0    |
| More than 5 years                | 9.8    | 8.4    |

Bureau of Justice Statistics, 2009.

Compassionate release contributes only a small amount to the number of inmates who are released from prison. An important point to remember is that the incarcerated population is generally a transient population. It is estimated that about 650,000 state and federal inmates are released in the US in a given year. About half of state prisoners are released within one year, and about  $\frac{3}{4}$  stay no longer than 2 years. The trend has been moving in recent years for shorter sentences and pressure to release inmates to make room for overcrowding.



## Slide 27

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Suanna Naggie, 12/1/2011

The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL ARTICLE

## Release from Prison — A High Risk of Death for Former Inmates

Ingrid A. Binswanger, M.D., Marc F. Stern, M.D., Richard A. Deyo, M.D.,  
Patrick J. Heagerty, Ph.D., Allen Cheadle, Ph.D., Joann G. Elmore, M.D.,  
and Thomas D. Koepsell, M.D.

A landmark correctional medicine study was published in NEJM in 2007 related to the increased risk of mortality in the post-release period. Binswanger et al studied the risk of death among former inmates soon after their release from WA state prison. Retrospective cohort study of 30,237 released inmates from WA state prison from 1/99-12/03, comparing mortality rates against non-incarcerated WA state residents. Used the National Death Index for inmates and death certificate data for WA state residents (CDC WONDER (Wide-ranging OnLine Data for Epidemiologic Research)). Relative risk of death was calculated with the use of indirect standardization (used age-specific mortality rates from the general population to derive expected deaths in the inmate population) and were adjusted for age, sex, and race.

## Slide 28

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Suanna Naggie, 12/1/2011

## Results

- Mean age at release: 33
- Mean incarceration length: 22.9 months
- Mean follow-up: 1.9 years
- 443/30,237 died (1.5%), >50% in the first year
- Mortality rates 777/100,000 person years for released inmates; 266/100,000 person years for age-, sex-, and race-matched WA state residents

N Engl J Med 2007;356:157-65.

**Table 2. Deaths and the Relative Risk (RR) of Death among Former Inmates of the Washington State Department of Corrections, as Compared with Other State Residents, Adjusted for Age, Sex, and Race.**

| Variable               | Deaths   |          | RR (95% CI)      |
|------------------------|----------|----------|------------------|
|                        | Observed | Expected |                  |
| Overall deaths         | 443      | 127      | 3.5 (3.2–3.8)    |
| Deaths since release   |          |          |                  |
| 0–2 wk                 | 38       | 3        | 12.7 (9.2–17.4)  |
| 3–4 wk                 | 12       | 3        | 4.4 (2.6–7.6)    |
| ≥5 wk                  | 392      | 121      | 3.2 (2.9–3.6)    |
| Age*                   |          |          |                  |
| 18–24 yr               | 37       | 11       | 3.4 (2.5–4.7)    |
| 25–34 yr               | 106      | 22       | 4.8 (4.0–5.8)    |
| 35–44 yr               | 135      | 33       | 4.0 (3.4–4.7)    |
| ≥45 yr                 | 165      | 61       | 2.7 (2.3–3.2)    |
| Sex*                   |          |          |                  |
| Male                   | 390      | 117      | 3.3 (3.0–3.7)    |
| Female                 | 53       | 10       | 5.5 (4.2–7.3)    |
| Race*                  |          |          |                  |
| White                  | 301      | 86       | 3.8 (3.4–4.3)    |
| Black                  | 82       | 35       | 2.3 (1.9–2.9)    |
| Other                  | 60       | 6        | 5.5 (3.9–7.9)    |
| Cause of death         |          |          |                  |
| Overdose               | 103      | 9        | 12.2 (10.2–14.9) |
| Cardiovascular disease | 57       | 27       | 2.1 (1.6–2.7)    |
| Homicide               | 55       | 5        | 10.4 (8.0–13.6)  |
| Suicide                | 40       | 12       | 3.4 (2.5–4.7)    |
| Cancer                 | 39       | 24       | 1.67 (1.2–2.2)   |
| Motor vehicle accident | 35       | 10       | 3.4 (2.4–4.8)    |
| Liver disease          | 23       | 5        | 4.7 (3.2–7.2)    |

They calculated RR of death, and what they found was quite striking.

Click – The RR of overall death was 3.5 overall for inmates as compared to WA state residents

Click -- In the first two weeks after release, the mortality rate was 12.7 times that among state residents.

Leading cause of death among former inmates was drug overdose, representing nearly a quarter of all deaths (103/443 deaths; followed by cardiovascular disease.

Click – the RR of overdosing was 12.2 in the first two weeks, compared to other state residents. The risk remained high throughout the follow-up period, with a RR of 12.2. One explanation for the elevated risk is that a period of relative abstinence during incarceration may have led to diminished physiological tolerance to drugs, increasing the risk of overdose.

Click – Homicide was the second leading cause of excess deaths with a RR of 10.4.

Suicide, cancer, and MVAs were also important causes of death.

Click – And although the absolute number of deaths due to liver disease was relatively low, liver disease was the third-leading cause of excess death, with a RR of 4.7.

Click – Of note, the risk of death varied with age, with a peak RR of 4.8 for ages 25-34 and then a decline. This is likely attributable to fewer accident- and homicide-related deaths, as it is well-known that the prevalence of mortality due to these causes decreases in the general population as well.

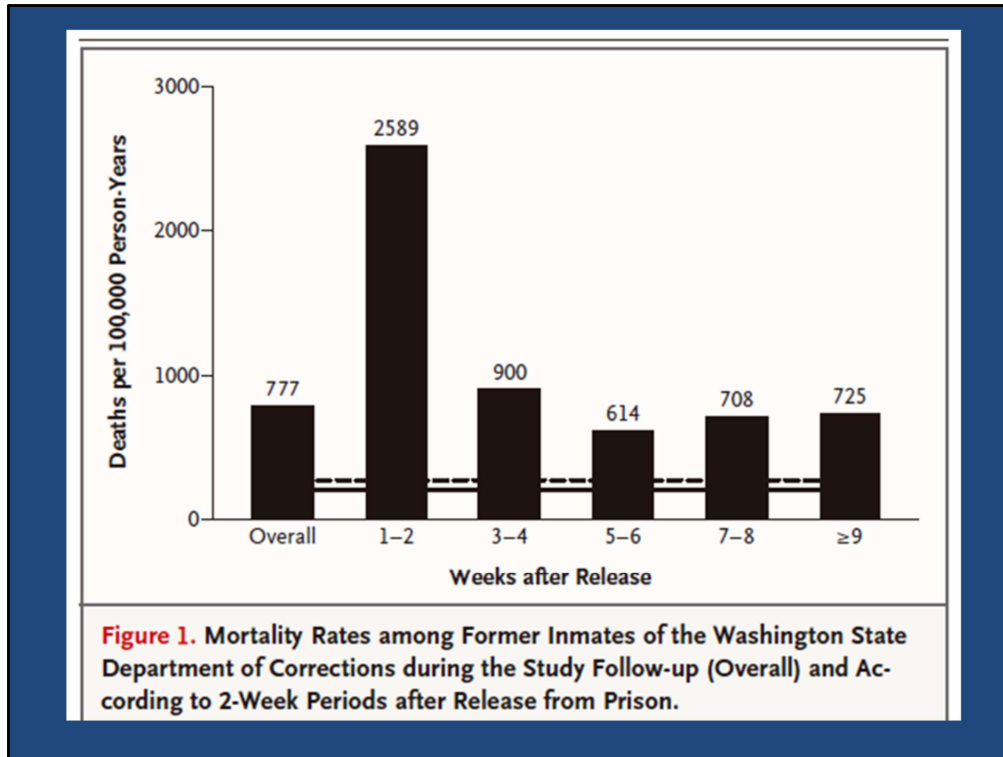
Click – The mortality rate was significantly higher among women than among men, suggesting that women are actually more vulnerable than men in terms of mortality,

perhaps related to higher proportions of drug dependence and mental illness in women inmates.

The study investigators did not control for socioeconomic factors, so these certainly are playing a large role in these numbers.

Factors such as level of education, employment status, income level, neighborhood of residence, and health insurance status all may account in part for the difference between mortality rates of former inmates and those of other state residents.

RR may actually underestimate risk, due to the frequency with which former inmates settle out of state, etc.



This is another representation showing that the risk of death is greatest in the first two weeks following release. In the first week alone, the mortality rate was even higher: 3661/100,000 person-years. As you can see, the risk declines but remains more than three times the risk for the general population beyond 9 weeks. Unfortunately, even though the mean follow-up was 1.9 years, they did not further divide the mortality rates beyond 9 weeks.

**Table 5. Mortality Rates among Former Inmates of Washington State Prisons and Crude Mortality Rates among Current Prison Inmates during the Study Period.**

| Cause of Death                        | Former Inmates                            | Current Inmates |
|---------------------------------------|---|-----------------|
|                                       | <i>no. of deaths/100,000 person-years</i> |                 |
| All causes                            | 777                                       | 201             |
| Cardiovascular disease                | 98  | 68              |
| Atherosclerotic heart disease         | 23  | 26              |
| Acute myocardial infarction           | 18  | 10              |
| Cerebrovascular disease               | 16  | 7               |
| Hypertensive diseases                 | 16  | 3               |
| Cancer                                | 68  | 42              |
| Bronchial and tracheal                | 33  | 20              |
| Pancreatic                            | 7   | 6               |
| Liver                                 | 5   | 4               |
| Colon                                 | 0   | 3               |
| Liver disease                         | 40  | 23              |
| Suicide                               | 70  | 16              |
| Chronic obstructive pulmonary disease | 9   | 9               |
| Homicide                              | 95  | 6               |
| Human immunodeficiency virus          | 12  | 3               |
| Diabetes mellitus                     | 11  | 3               |
| Legal intervention involving firearms | 9   | 3               |
| Overdose                              | 181                                       | 1               |
| Motor vehicle accidents               | 61  | 1               |
| Other accidents                       | 30  | 1               |
| Other causes                          | 93  | 25              |

For nearly all causes of death, the rates among former inmates were substantially higher than those among current inmates, lending support that the re-entry process contributes to excess mortality in this population. As you might expect, the most significant increases in mortality occurred as suicide, homicide, overdoses, and accidents.

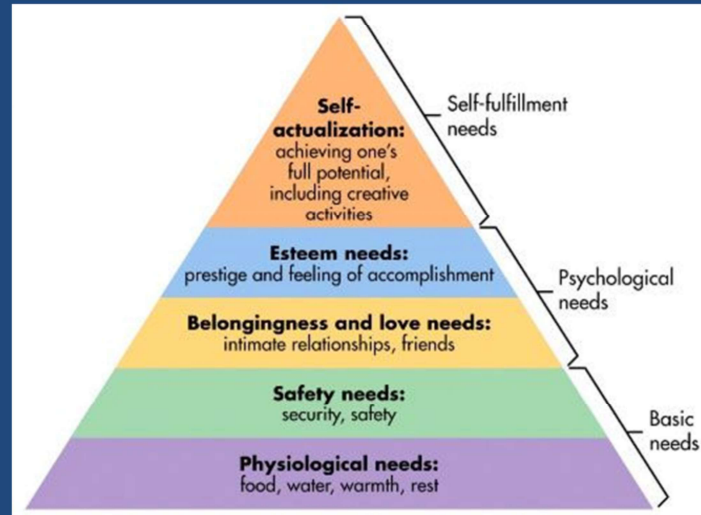


## Caring for the Post-Release Patient



Now we're going to talk about the role of the family physician in caring for patients who have recently been released from jail or prison. As we just reviewed, the burden of infectious disease and mental illness is significant in the incarcerated population, and the post-release period is associated with a high-risk period from a mortality perspective.

# Maslow's Hierarchy of Needs



It is important to realize that when inmates are released from jail or prison, they may not have a place to stay. They may have no social support. They may have been given three days' worth of medications – at best maybe two weeks. I think it's easy to see why the post-release period is such a high risk period.

I like to think about Maslow's hierarchy of needs when treating patients who have been recently incarcerated. I start by asking them about their basic needs – are you eating? Do you have a place to stay? If the answer to either of these questions is “no,” the chances they'll want to have a conversation about their blood pressure or diabetes is virtually nil. If they are getting basic needs met, I move up the pyramid to cover security, then support. Esteem and self-actualization may come later but is rarely present in the post-release period.

## Tips for the Family Physician Caring for Formerly Incarcerated Individuals

- First visit assessment:
  - Meeting basic needs? (Food, housing, etc.)
  - Safety/security
  - Family support?
  - Medications (considering cost) and health literacy
  - Screening: substance use, mental illness, infectious disease
  - **Ensure case management and mental health involvement, as indicated**
  - Release of information?
- Recurring visits
  - Frequent, particularly in early post-release period (q2-4 weeks initially, consider RN visits) readdressing all of the above
  - Be aware of issues of patient's trust in providers as well as your own countertransference
  - Issues of disenfranchisement: lack of family support, difficulties obtaining jobs, loss of right to vote

May need education on reasons for medications and how to administer (e.g., insulin)

Release of information may be helpful, particularly for those patients with low health literacy and little to no support. Consider developing a relationship with the local justice center.

## Resources

- Hamilton County Office of Reentry
  - 138 E. Court St. Rm 101
  - Cincinnati, OH 45202
  - 513-946-4304
  - M-F 9-4
- Case Management
  - Mental Health Access Point (MHAP)
    - (513) 558-8888 (for uninsured individuals)
    - [www.mentalhealthaccesspoint.org](http://www.mentalhealthaccesspoint.org)
  - Greater Cincinnati Behavioral Health Services (GCBHS)
    - (513)354-5200 (for Medicaid insured individuals)
    - Walk-in intakes Mon-Fri 8a-12p @ 1501 Madison Rd.

## Summary

- Incarceration rates have increased significantly and have disproportionately affected the marginalized and vulnerable
- Majority of incarcerated released back into the community within a year
- Common health afflictions: cancer, heart disease, mental illness, substance use disorders, and communicable diseases
- Mortality increases following release
  - First 2 weeks highest risk, particularly for drug overdose
  - Risk for women>men
- Attention to health issues of incarcerated and formerly incarcerated could have a significant impact on individual and community health

## Questions?

“Prisoners are the community. They come from the community, and they return to it. Protection of prisoners is protection of our community.”

Joint United Nations Program on HIV/AIDS, 1996

“The physicians are the natural attorneys of the poor, and social problems fall to a large extent within their jurisdiction.”

-Rudolph Virchow

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