Emerging from the Drug War
Thank you for not killing us

Kevin McCauley, MD
Senior Fellow
The Meadows of Wickenburg

“Sola dosis facit venenum”
(only the dose makes the poison)

Paracelsus (1493 – 1541)
Swiss physician, alchemist, and “Father of Toxicology”

Environmental Toxicology

- Adverse effects (harm) of chemical, biological and physical agents on living organisms
- Fentanyl is a toxins and fentanyl deaths are “poisonings”
- Harm occurs on the individual level and at the population level (ecotoxicology)
- Exposure: drug, potency, dose, timing, frequency, duration, route of administration, age, synergistic effects
- Uses a Disease perspective but also a Life Course and even Epigenetic perspective: harm may not be seen until late in life or even in future generations
The Criminal Justice System (and the structural values that drive it) are an environmental toxin exposure to which has negative health consequences

Aspects of the Criminal Punishment System can now be considered a threat to the nation’s public health

Deaths of Despair (Case & Deaton)

- Called attention to a marked increase in all-cause mortality of middle-aged (45 to 54 years-old) white Non-Hispanic American men and women between 1999 & 2013
- Those with no more than a high-school education had the highest increase in mortality
- Not seen in other racial/ethnic groups of Americans or other affluent nations
- Reversed progress of increasing life expectancy
- Mortality increase due to
  - drug overdoses
  - suicide
  - alcoholic liver disease

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Deaths of Despair (Case & Deaton)

Fig. 1. All-cause mortality, ages 45-54 for US White non-Hispanics (USW), US Hispanics (USH), and six comparison countries: France (FRA), Germany (GER), the United Kingdom (UK), Canada (CAN), Australia (AUS), and Sweden (SWE).


Fig. 2. Mortality by cause, white non-Hispanics ages 45-54.

Gelman & Auerbach: DoD is an example of aggregation bias

• After adjusting for age the steady increase in mortality for middle-aged whites disappears
• Increased mortality trend from 1999 to 2005, stable to 2015
• Stratification, which accounts for the changing composition of the group over time, showed that mortality declined for white middle-aged men but increased for white middle-aged women without a college degree


Presented by: Kevin McCauley, MD
The “Weathering” Hypothesis (Geronimus)

- A framework to explain racial and ethnic health disparities in persons of similar age
- Early health deterioration in African-American men & women at all socioeconomic levels due to repeated exposure to social, economic, and political exclusion
- **High-effort coping** in unsupportive environments – the work done to survive is the storm itself – accelerates normal aging
- The toll of living in an environment where you’re not really wanted
- Continuous, repeated activation of stress response that damages the body at the cellular level
- Starts young, happens in degrees, accumulates with age
- Leads to earlier onset of chronic disease


Possible biological/physiological mechanisms by which “weathering” impacts health outcomes

- Chronic stress
- Allostatic Load
  - pathologic gene expression
- Epigenetics
- Telomere attrition
- Inflammation

Incarceration Epidemiology

First Step Act (2018)
Bipartisan sponsorship: Sen.s Grassley, Lee, Durbin, Booker

- Signed into law by President Trump on Dec 21, 2018
- First year: 2000 sentence reductions and 3000 prisoners released
  - Title VI – Prisoners housed 500 miles from home, terminally ill or elderly inmates eligible for home confinement, compassionate release, free period products to women inmates, data collection - National Prisoner Statistics Program
- DOJ initially tried to reincarcerate released prisoners
- Booker introduced New Step Act – as of Oct 2021, no committee vote
- RWJ Foundation: FSA does not address primary drivers of incarceration

https://www.bop.gov/inmates/fsa/overview.jsp
National Prisoner Statistics Program

- Year-end 2020: 151,283 federal prisoners
- Year-end 2021: 156,542 federal prisoners (3% increase)
- 49% of inmates had at least one child under 20 years of age
- 74 pregnant females (49 delivered while incarcerated)
- 378 prisoners received Medication for Opioid Use Disorder
- 17,252 prisoners in non-residential SUD Tx
- 10,919 prisoners in residential SUD Tx
- 1,111 instances of assault on BOP staff (with 10 serious injuries)


Current Incarceration: The Numbers

- 2 million confined to jails and prisons in US ¹
- 5 million under supervision ¹
- 2017: 3% of the US population has been to prison (15% of Black men)²
- 2017: 8% of the US population has a felony conviction (33% of Black men)²
- Over 17 million felons or ex-felons (6 times larger than it was in 1970)
- Impact felt most by disadvantaged minorities and minority communities (8x higher incarceration rates than Whites)
- Annually, as many men graduate college as are released from prison³
- The incarcerated population is the same as the enrollment at all US academic universities³

U.S. Incarceration Numbers (2021)

- Local Jails: 636,000 persons @ mid-year 2021 (16% increase over 2020)
  - 49% White - 71% unconvicted or awaiting court action
  - 35% Black
  - 14% Hispanic
- Prisons: 1,204,300 persons @ year-end 2021 (1.4% decrease over 2020)
  - Incarceration rates:
    - Black: 1,186 / 100,000
    - American Indian/Alaska Native: 1,004 / 100,000
    - Hispanic: 619 / 100,000
    - White: 222 / 100,000
    - Asian: 90 / 100,000

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Confinement is just one slice of the correctional control pie
The U.S. justice system controls more than 7 million people. More than half are on probation.

Correctional control extends far beyond prisons and jails

Correctional control of women

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Historical Context of the War on Drugs

Context of the Drug War: 1970s

- “Generation Gap”
- Intense political conflict
- Period of rapid social change
- Transformation of race relations (leading to a backlash)
- Rise in crime
- Racist beliefs about crime


1970s: “A National Emergency”

- Surge in heroin deaths, especially in young people
- Troops returning from war developing drug problems
- Veteran’s Administration hospital using restrictive treatment policies and not serving service-members
- Judicial discretion constrained by mandatory minimum sentences
- Need for more lenient, humane approach to drug users
- Particular medication well supported by research but underused
“You want to know what this was really all about?
The Nixon campaign in 1968, and the Nixon White House after that, had two enemies: the antiwar left and black people.
You understand what I’m saying?

We knew we couldn’t make it illegal to be either against the war or black, but by getting the public to associate the hippies with marijuana and blacks with heroin, and then criminalizing both heavily, we could disrupt those communities.
We could arrest their leaders, raid their homes, break up their meetings, and vilify them night after night on the evening news.

Did we know we were lying about the drugs?
Of course we did.”

John Ehrlichman
White House Council & Assistant to the President
Nelson Rockefeller (1908-1979)

- Governor of New York (1959 – 1973)
- Republican presidential candidate in 1972
- Perceived as liberal by many conservatives
- Increase in narcotics use and crime in NYC
- Took “tough on crime” stance

Rockefeller Laws (1973)

- Rockefeller originally supported voluntary treatment over incarceration in 1963 (most addicts chose jail)
- Political pressure to “get tough” – Rockefeller signed law that dramatically increased penalties for possession and sale of Schedule I drugs
- Possessing (4oz) or selling (2oz) of heroin, cocaine, or cannabis brought a mandatory minimum sentence of 15 years and a possible maximum sentence of 25 years to life
- Inordinately applied to black/Latino defendants
- Granddaughter Meile Rockefeller arrested in 2002 for protesting the “Rockefeller Laws”
**Broken Windows Theory (Wilson)**

- Linked petty “quality of life” crimes to serious crimes
- Social disorder is a driver of criminality
- Leaving the little laws unenforced (broken windows) leads to larger laws broken (property crimes)
- Forerunner of “zero tolerance”


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**1980s “Tough-on-crime” Legislation**

- Following death of Len Bias and onset of the crack cocaine crisis
- Policy choices made to greatly increase the use of imprisonment as a response to crime
“The reason why we went to mandatory minimums is because of these soft-on-crime judges that we have in this society – judges who just will not get tough on crime, get tough especially on pushers of drugs that are killing our youth. And so that’s why the mandatory minimums, so that we set some reasonable standards within which judges have to rule, rather than allowing them to just put people out on probation who otherwise are killing our kids.”

- Senator Orrin Hatch (R-Utah)

1980’s Drug War Legislation

   abolished federal parole
   inmates must do 85% of their sentence
   passed by large majorities in both Houses
1980’s Drug War Legislation

   - changed supervised release in federal system from rehabilitative to punitive
   - established mandatory minimum sentences
   - mandatory 5 years for 5 grams crack cocaine (later reduced by the 2010 Fair Sentencing Act)
Enforcement of the Volstead Act
during prohibition (1929 – 1933)

Longer sentences ...

- “Three-strikes” Laws, more felony charges, removal of educational programs
- Mandatory minimum sentences gave more discretion to prosecutors > judges
- Use of plea bargains over trials and informants
- Elimination of parole in the Federal Prison system
National Research Council

“Powerful institutional, cultural, political, economic, and racial forces... helped propel the United States down a more punitive path.

“Yet the unprecedented rise in incarceration rates in the United States over this period was not an inevitable outcome of these forces.

“Rather, it was the result of the particular ways in which the political system chose to respond to the major postwar changes in U.S. society.”


Rate of rise of incarcerated Americans is:
- Historically unprecedented
- Internationally unique
- Not related to rising crime rates
- Has had no clear impact on crime rates or recidivism
NRC: Causes of increased incarceration rates

1. Prison time required for lesser offenses
2. Increase in time served
3. Drug crimes more severely policed and punished

Proximate drivers of increased incarceration

1. Mandatory minimum sentences
designed to remove role of judge in sentencing
2. “Three strikes” laws
   mandatory 25 years-to-life sentences for “career criminals”
3. “Truth in sentencing” laws
   elimination of parole/probation in federal system
Markers of Social Disadvantage

Prison admission and return are now common in neighborhoods with:

- Crime
- Poverty
- Family instability
- Poor health
- Residential segregation

In communities of concentrated disadvantage, the United States embarked on a massive and unique intensification of criminal punishment.
Health Impact of Incarceration

- Each year spent in prison corresponds with a two-year reduction in life expectancy\(^1\)
- Incarceration is associated with adverse health effects that last beyond the period of confinement\(^2,3\)
- Strong links between incarceration and multiple adverse health indicators across the lifespan\(^2\)
- Prisoners leave incarceration with more health problems than they had when they entered\(^2\)

Incarceration as a Toxic Exposure

- Incarceration represents an exposure to stress and infectious disease
- Stress of prison life damages the body and worsens health outcomes
- Incarceration exposes inmates to infectious diseases and conditions of confinement are favorable to spread of communicable disease
  - communal hygiene facilities
  - crowded living conditions
  - drug use
  - unsafe sexual practices
- Incarceration exerts negative effects on health

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Health Impact of Incarceration

- Incarcerated people have more chronic health conditions after incarceration than they did before incarceration.
- Those who began incarceration with chronic health conditions got worse (incarceration is associated with a negative change in health status).
- The health impact of the length of incarceration was less important than the fact of incarceration itself.


Health Consequences of Incarceration

- Infectious Diseases
  - Tuberculosis
  - STDs (28% of women in jails, 10% of men)
  - HIV/AIDS: declining but likely underrepresented, high risk behaviors, 17% of all Americans with HIV pass through a correctional facility annually
  - Hepatitis B
  - Hepatitis C
  - Methicillin-resistant Staphylococcus aureus
Infectious Disease

- HIV/AIDS
- Hepatitis B
- Hepatitis C (Hep C infection is 8.7x higher in incarcerated: 17.4%)
  (general population: 2.0%)
- Tuberculosis
- Methacillin-resistant Staph aureus
- STDs


Health consequences of incarceration

- Hypertension
  11% of young persons in jail/prison have HTN
- Asthma
- Diabetes
- Dental Problems
- Injuries
Health consequences of incarceration

- **Substance Use Disorders**
  - inadequate community treatment of SUDs
  - deinstitutionalization of mentally ill
  - syndemic of addiction and mental illness
  - criminalization of problem due to illegality of drugs and behaviors attracting police attention
  - mercy bookings: incarceration in jail when no other mental health resources are available

Collateral Health Consequences of Incarceration

- Poor health across the lifespan
- Mental health challenges
- Risk of Suicide
- Early mortality
- Economic hardship
- Housing instability
- Impaired access to health care
Reinforcing Loop One – Lifelong Effects of Incarceration

- Incarceration is a traumatic event in and of itself that has lifelong negative health consequences beyond the period of confinement
- Sets off a chain reaction of events that …
  - increase exposure to other health risks: cumulative trauma, disease, chronic social stress, social exclusion
  - limit or close off opportunities to obtain badly needed social, economic & other kinds of support
  - increasingly ensnare individuals, families and communities

*National Research Council: “Formerly incarcerated people bear a disproportionate burden of many diseases”*


Reinforcing Loop Two – Incarceration & Parental Separation

- Health impacts of incarceration occur beyond the defendant and become intergenerational
  - Parental incarceration extends the trauma to the children of the incarcerated person
  - Parental incarceration links to negative physical and mental health outcomes throughout the remainder of a child’s life
  - Parental separation damages family and social bonds
  - Parental separation decreases economic and social stability
  - Parental separation disrupts a child’s education, potentially continuing the cycle

*National Research Council: “The close correlation between having a partner or parent who has been incarcerated and poor outcomes among families and children is unmistakable”*

Reinforcing Loop Three: Impaired Community Health

- High rates of incarceration impair community health
- A significant percentage of the adult population has been removed, thus
  - diminishing economic opportunity
  - reducing household incomes
  - damaging social and family cohesion
- Depression and anxiety levels increase in these communities
- Disinvestment in these communities occurs, decreasing
  - affordable housing
  - employment
- National Research Council: “Incarceration and community health are strongly connected for some of the most vulnerable communities.”

Incarceration comes with a Mortality Penalty

- **Pridemore (2014): Ishevsk (Russia) Family Study**
- Men who had been incarcerated were more than twice as likely as those who had not been incarcerated to experience premature mortality (OR = 2.2)
- Four key reasons
  - infectious disease
  - respiratory disease
  - drug overdoses
  - homicide


Post-release Overdose Mortality

- **Bird & Hutchinson (2003): 15-35 year old males released from Scottish jails & prisons after 14+ days of confinement**
  - Risk of death was 7x greater in the first two weeks after release than any other time after release
  - In the first two weeks after release, risk of death in former NC inmates from opioid overdose was 40 times greater than the general NC population
  - In the first year after release, the risk of death in former NC inmates from opioid overdose was 11 times greater than the general NC population


Why Certain Communities Suffer Disproportionately

- Institutionalized and systemic racism
- Differential policing
- Lack of services and treatment
- Disinvestment and wealth extraction from vulnerable communities
- Devaluing the lives of American Indians, African Americans and other people of color
- “Community conversations are needed to expose the values and assumptions that drive the current system design.”

Effects of Incarceration on Families

- Adjusting for confounders such as stressful life experiences and individual & family characteristics, parental incarceration was associated with increased BMI in female children (not male children)\(^1\)
- Having a family member incarcerated increased likelihood in women (but not men) of heart attack, stroke, obesity, having fair to poor health\(^2\)


Effects of Parental Incarceration on Children

- Harmful effects of parental incarceration on children’s health operate indirectly through other mechanisms (educational performance, changes in economic stability)
- Parental incarceration affects child health through detrimental impact on family and attainment processes (education, labor market, residential factors) important to children’s health
- Parental incarceration is associated with behavior problems in children including aggression and criminal justice involvement
- Parental incarceration is associated with drug and alcohol use
- Maternal incarceration may have stronger negative effects than parental incarceration

Legalization: Cannabis Use & Cannabis Use Disorder
Marijuana Use: Health Concerns

- Use during pregnancy may be associated with fetal growth restriction, stillbirth, preterm birth, and neonatal intensive care unit admission (Metz and Borget, 2018; Stickrath, 2019).
- Use linked to depression/suicide: adolescents (Roberts BA, 2019), veterans (Kimbel et al., 2018)
- Use in adolescence is associated with increased risk for psychotic disorders in adulthood and is linked with suicidal ideation or behavior (D'Souza et al, 2016; McHugh et al, 2017).
- The risk for psychotic disorders increases with frequency of use, potency of the marijuana product, and as the age at first use decreases (NASEM, 2017).
- Use among adolescents is linked to a decline in IQ and is associated with educational drop out (Meier, 2012).
- Use has been linked to the development of drug use disorders including alcohol, tobacco, and other illicit drugs (NASEM, 2017).
- Marijuana intoxication is an important cause of MVAs associated with injury and death—it is wrong to say that marijuana use never killed anyone (NASEM, 2017).
- Risk of subsequent prescription opioid misuse and use disorder was increased among people who reported marijuana use 5 years earlier (Giffen et al., 2017)

Cannabis legalization is not without public health risk

<table>
<thead>
<tr>
<th>Pregnancy</th>
<th>fetal growth retardation</th>
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<tr>
<td></td>
<td>pre-term birth</td>
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<td>NICU admission</td>
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<tr>
<td>Adolescents</td>
<td>depression, suicide</td>
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<td></td>
<td>psychosis</td>
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<td></td>
<td>decline in IQ, increased risk of dropping out of high school</td>
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<tr>
<td>Adult Use</td>
<td>increased risk of Nicotine UD, Alcohol UD, SUD</td>
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<tr>
<td>Driving</td>
<td>associated with greater risk of MVAs and fatalities</td>
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<tr>
<td>Opioid Use Disorder</td>
<td>in states with legalized Medical Marijuana</td>
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<tr>
<td></td>
<td>1999 – 2000: 21% decrease in opioid overdose deaths</td>
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<td>1999 – 2017: 23% increase in opioid overdose deaths</td>
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</table>
Cannabis Use and Psychiatric Disorders

- **National Epidemiologic Survey on Alcoholism and Related Conditions (NESARC), 2001-2002**: Strong associations between DSM-IV CUD and SUD (AUD, NUD) and psychiatric disorders (mood disorders, anxiety disorders, PTSD)

- **ICD-9 CM (2017)**: CUD associated with schizoaffective and disorder as well as AUD in military veterans: CUD associated with PTSD

<table>
<thead>
<tr>
<th>Researchers</th>
<th>Exposure to CJS, police violence, incarceration</th>
<th>Public Health consequences</th>
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<tbody>
<tr>
<td>Duarte, et. al.</td>
<td>Young people inequitably exposed to criminal justice system in schools, home, and community</td>
<td>Preterm birth, anxiety, PTSD, non-fatal injury and death (2015: 57,375 YLL due to police violence)</td>
</tr>
<tr>
<td>Kajepeeta, et. al.</td>
<td>Increase in within-county jail incarceration rates Community-level contextual exposure</td>
<td>Increase in jail incarceration associated with a 2.5% increase in mortality rate for that county; multiple pathways link incarceration to negative health operating at the community level</td>
</tr>
<tr>
<td>Sundaresh, et. al.</td>
<td>Relationship of CJS exposure (“stop-and-frisk” police stops, arrests, incarcerations) to well-being measured across 5 domains</td>
<td>Each form of CJS exposure was associated with a lower well-being in every domain (physical, mental, social, spiritual, overall life satisfaction) in a dose-dependent manner longer and multiple incarcerations = progressively lower well-being “stop-and-frisk” exposure equal to multiple incarcerations</td>
</tr>
<tr>
<td>Bowleg, et. al.</td>
<td>Negative police encounters and police avoidance “Full spectrum” of incarceration (including stop-and-frisk and hyper-policing); racial profiling</td>
<td>Associated with depressive symptoms in Black Men Racial profiling precedes instances of stop-and-frisk, assault, and killing of Black Men by police</td>
</tr>
<tr>
<td>Purtle, et. al.</td>
<td>Restrictive housing policies for persons with history of CJS involvement/incarceration (drug conviction or eviction lookback policies)</td>
<td>Stable housing is a critical determinant of health and housing policies more restrictive than federal law requires contribute to health inequities of people with CJS histories</td>
</tr>
<tr>
<td>Connors, et. al.</td>
<td>Women with an incarcerated family member: hair cortisol levels, carotid intima-media thickness</td>
<td>Women with an incarcerated family member had 41% higher odds of carotid atherosclerosis and cardiovascular disease</td>
</tr>
</tbody>
</table>

2020 Supplement to the American Journal of Public Health:
Exposure to Criminal Justice System, Police Violence, or Incarceration as a driver of health inequity
NSDUH (2019): Cannabis Use, CUD, and Cannabis-related problems are increasing in youth

Illicit Drug Use: Major Concerns: Opioids, Marijuana, Methamphetamine

Past Month Marijuana Use for All Age Groups

Marijuana Use Disorder: Significant Increase for 12-17 y.o.

Marijuana Use Related to Other Substance Use, MDE and SMI

NSDUH (2019): Cannabis Use is increasing among African-Americans but Cannabis-Use Disorder and Cannabis-related problems are NOT

Illicit Drug Use among African Americans: Major Concerns: Opioids, Marijuana, Methamphetamine

Past Month Marijuana Use for All Age Groups among African Americans

Marijuana Use Disorder among African Americans

Marijuana Use Related to Other Substance Use, MDE and SMI among African Americans

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04/17/23

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• From 2000-2010 there were 8 million marijuana-related arrests in the U.S.
• 88% were for possession of marijuana
• In 2013, 52% of all drug arrests in the U.S. were for marijuana possession

ACLU (2013): The War on Marijuana in Black and White

- Marijuana arrests still widespread across the U.S.
- Extreme racial disparities in marijuana arrests persist and have not improved since 2010
- Marijuana arrests decreased in states after legalization and decriminalization but racial disparities persist even in states that legalized/decriminalized marijuana

ACLU (2020): A Tale of Two Countries

Racially Targeted Arrests in the Era of Marijuana Reform

- Marijuana arrests still widespread across the U.S.
- Extreme racial disparities in marijuana arrests persist and have not improved since 2010
- Marijuana arrests decreased in states after legalization and decriminalization but racial disparities persist even in states that legalized/decriminalized marijuana
ACLU (2013): The War on Marijuana in Black and White

- A Black person was 3.73 times more likely to be arrested for marijuana possession
- Blacks and Whites use marijuana at similar rates

What are the mechanisms by which incarceration affects health?

All of these pathways pass through and are affected by ...

- Genetics / Epigenetics (e.g., Taq1A1 allele)
- Depression / Anxiety / Other Mental Illness
- Early Use / Peer Use / Parental Use
- Trauma / P.T.S.D.
- Adverse Childhood Experiences
- Chronic Pain
- Prescribed Medication
- Cortical Dysfunction

A.D.H.D.

Reward Deficiency Syndrome
Presented by: Kevin McCauley, MD

Psycho-neuro-immunology

- A way to understand how stress and trauma cause mental illness through the immune system
- The Immune-Brain Loop: immune system is in constant communication with the brain; the immune system is a stress receptor for the brain
- CNS neurons terminate in thymus and spleen near clusters of lymphocytes and macrophages
- Adler & Cohen (1975): conditioned rats to drink saccharin water & Cytoxan (an immunosuppressant drug that tastes bad); later when they drank saccharin water the rats died of infection (immunosuppression in the absence of Cytoxan)
- Visintainer (1983): inescapable tail shock associated with decreased lymphocyte proliferation and decreased tumor rejection

The Immune System is the sensory organ for stress for the Brain
(and severe, repeated stressors injure both of them)

but in addiction & trauma, what actually gets injured?
Glial Cells

- Caretaker cells of the CNS & PNS
- Half the total volume of the brain
- Roughly equal number of glial cells as neurons
- Can divide as adult cells

Microglia

- Predominant immune cells of the CNS
- Cover a specific territory
- Usually in resting (ramified) state
- Secrete Brain-Derived Neurotrophic Factor (BDNF)
- Assist neuronal circuit remodeling across development (synaptic pruning)
- Responsible for CNS homeostasis and plasticity
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Reactive Microgliosis: response to pathogen/injury

- Resting microglia: injury to brain > Reactive Microgliosis
- Microglia respond rapidly to stress and trauma
- Shift from ramified (resting) state to ameboid (activated) state
- Microglia are very fast-moving cells (fastest in the brain: entire brain parenchyma scanned by microglia every few hours)
- Become macrophages > phagocytize pathogens and debris
- Antigen-presenting cell to T lymphocytes

Social Determinants of Health:
conditions in the environment in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning and quality of life outcomes and risks

Health Disparities:
- systemic, avoidable health differences adversely affecting socially disadvantaged groups; different from health differences

Health Equity:
- a commitment to reduce/eliminate health disparities; social justice with respect to health; equal opportunity to be healthy

Healthy People 2020 Approach to SDHs

https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health
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Social Determinants of Health

<table>
<thead>
<tr>
<th>Social Determinant of Health</th>
<th>Health Disparity</th>
<th>Health Inequity</th>
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<tbody>
<tr>
<td>1. Safety</td>
<td>early life adversity (ACEs)</td>
<td>chronic disease, shorter lifespan</td>
</tr>
<tr>
<td>2. Healthy Food</td>
<td>low availability, food deserts</td>
<td>higher diabetes, obesity</td>
</tr>
<tr>
<td>3. Income Security</td>
<td>poverty, lack of social safety net</td>
<td>chronic disease, shorter lifespan</td>
</tr>
<tr>
<td>4. Housing</td>
<td>housing insecurity / rent as % of income</td>
<td>higher asthma, lead exposure</td>
</tr>
<tr>
<td>5. Education, Job Training</td>
<td>lower HS graduation rates</td>
<td>unhealthy behaviors (smoking)</td>
</tr>
<tr>
<td>6. Social / Family Support</td>
<td>isolation, intimate partner violence (IPV)</td>
<td>greater depression &amp; suicide</td>
</tr>
<tr>
<td>7. Community</td>
<td>stigma, racism, discrimination</td>
<td>inaccessible services &gt; chron dis.</td>
</tr>
<tr>
<td>8. Employment</td>
<td>unemployment, lack of opportunity</td>
<td>chronic disease, suicide, SUD</td>
</tr>
<tr>
<td>9. Access to Health Care</td>
<td>ineligibility / work requirements</td>
<td>ex. less cancer screening</td>
</tr>
<tr>
<td>10. Justice</td>
<td>disprop. policing / mass incarceration</td>
<td>chronic disease, shorter lifespan</td>
</tr>
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http://thenationshealth.aphapublications.org/content/infographics-social-determinants-health

GENES: Genetic / Epigenetic Pathways into Addiction

Social Determinants of Health
- Economic Stability & Opportunity
- Education
- Access to Health Care
- Transportation
- Physical Environment & Neighborhood
- Food Quality
- Community & Social Context
- Housing
- Structural Racism
- Structural Inequity
- Injustice
- Structural Violence

ADDICTION

Genetics / Epigenetics (ex Taq1A1 allele)

Reward Deficiency Syndrome
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Epigenetics

- Overkalix study: Starvation during adolescence increased the prevalence of diabetes in grandchildren
- Holocaust survivors with PTSD: their children also had PTSD without having been exposed to trauma
- A mechanism exists to transmit environmental exposure information from one generation to the next to the next

Epigenetic Mechanisms are affected by these factors and processes:
- Development (in utero, childhood)
- Environmental chemicals
- Drugs/Pharmacueticals
- Aging
- Diet

DNA methylation
Methyl group (an epigenetic factor found in some dietary sources) can tag DNA and activate or repress genes.

Histones are proteins around which DNA can wind for compaction and gene regulation.

Histone modification: The binding of epigenetic histones to histone “tails” alters the extent to which DNA is wrapped around histones and the availability of genes in the DNA to be activated.

Health Endpoints
- Cancer
- Autoimmune disease
- Mental disorders
- Diabetes
Civil Death

- Medieval Europe: killing a civilly dead person was not murder
- United States (19th Century): Civil Death was a punishment
  - extinguished most civil rights of a person convicted of a crime
  - put the person outside of the law’s protection
- Faded out in the middle of the 20th Century
- Has re-emerged
  - a permanent change in legal status

Civil Death

- Loss of civil rights by virtue of court action: conviction of a crime, mental incapacity
- Disenfranchisement: a collateral consequence of sentencing
- Suspension of right to vote, free speech, assembly, search & seizure, hold office or position, property; Registration
- Lifetime disenfranchisement for felony conviction: 9 states
  - VA, TN, DE, FL, IA, KY, MS, NE, WY
- Not being able to fully integrate into one’s community has health implications
- Civic participation is an avenue for reintegration

Social Death

- A person is not accepted as fully human and is discounted in social terms
- Removal of one’s social roles & consequently all significant components of one’s identity
- The loss of essential personhood – personhood tied to social value ...
- ... such that the biologic death of a socially dead person is not considered a loss to society
- A ritualized process: reception & release, incarceration, solitary confinement, count, searches
- Prisons & jails, psychiatric facilities, Emergency Departments, military, schools & colleges


Collateral Consequences of Criminal Conviction

punishment that extends beyond the term of the sentence

- Disenfranchisement
  - voting
  - ineligibility for jury duty
  - ineligibility to hold public office: elected or appointed
- Disentitlement
  - education loans
  - public housing, private housing, rental properties
  - disability assistance
  - Temporary Assistance to Needy Families (TANF)
  - employment
  - Veterans status & benefits
- Forfeiture
  - property
- Personal
  - DNA sample mandatory
  - prohibition of presence in certain areas
  - Revocation of/Eligibility for occupational licensure
  - Revocation of driver’s license
  - Probate exclusion
  - Deportation or removal
    - loss of permanent resident status
  - Refusal of entry to other countries
  - Loss of appellate rights
  - Termination of parental rights
  - Ineligibility for adoption & foster care
  - Criminal registration & community notification
  - Prohibition on purchase & possession of firearms
    - includes the wearing of bullet-proof vests

Economic Marginalization

- Stratifying impact of incarceration economically (Wildeman)
- Human capital deficits
  - lack of work experience
  - skill deficits
- Financial hardships caused by monetary sanctions
  - court costs, fees, fines, restitution
- Laws that restrict economic opportunity for persons convicted of a felony (collateral consequences)

Transformative justice
Emerging from the Drug War: Thank you for not killing us (Handout Version)

Is the War on Drugs really “over?”

Police make over a million drug possession arrests each year. That’s 4 times as many arrests for drug possession as for drug sales. Arrests in millions, 1980 – 2020.

Some states have largely ended the War on Drugs. Other states, not so much.

NEW YORK

SOUTH DAKOTA

Share of New York prison population serving a sentence for a drug offense

Share of South Dakota prison population serving a sentence for a drug offense

Despite reforms, drug offenses are still a defining characteristic of the federal system.

Federal

209,000

Drug

69,000

Public

Order

61,000

Bureau of Prisons (convention)

148,000

U.S. Marshals

60,000

Immigration

14,000

Weapons, 9,100

Drugs

21,600

Other public order

Other 9,000

Inmates, 11,000

Violent crimes 3,000

Other violent offenses 1,000

Other offenses 3,000

Property

6,000

Fraud 900

Other property 1,000

Presented by: Kevin McCauley, MD
De-carceration Strategies (Acker)

- Reduce excessively long & disproportionate sentences
- Eliminate mandatory minimum sentences
- Increase investment in alternatives to incarceration
- Stop incarcerating people for inability to pay cash bail, fines & fees
- Address discriminatory policing
- Eliminate private prisons
- Invest in inmate rehabilitation and community reintegration
- Ensure access to healthcare, SUD treatment & education while incarcerated
- Address overuse of solitary confinement
- Invest in programs and services for children with incarcerated parents

Kevin McCauley, MD
kevin.mccauley@meadowsbh.com

The Meadows of Wickenburg
Meadows Behavioral Healthcare

www.protectingsobriety.com
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Additional References:


