



Determinants and Consequences of Food and Nutrition Insecurity in Justice-Impacted Populations

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Abstract

Purpose of Review The purpose of this paper is to provide an overview of the state of the science of food and nutrition security among justice-impacted populations, identify who might be most at-risk and health consequences, and to highlight areas for continued research and policy implications.

Recent Findings This population is at-risk for experiencing food and nutrition insecurity due to high rates of unemployment, parental history of incarceration, housing instability, depressive symptoms, and social isolation, which result from involvement with the corrections system. Health consequences associated with food insecurity include depressive symptoms, self-reporting lower health status, and engaging in HIV-risk behaviors.

Summary The justice-impacted population has a disproportionately higher risk of chronic and infectious diseases compared to the general population. Compounding this with food and nutrition insecurity can exacerbate these outcomes and further contribute to poor health. Structural issues related to nutrition safety net programs and employment create barriers to healthy food access. More research related to food, employment, and corrections system policies are critical to improve the well-being of this population.

Keywords Food insecurity · Nutrition insecurity · Food access · Criminal justice · Prison · Probation

Introduction

Food and nutrition insecurity are determinants of health that impact people across the globe. Although food insecurity, defined as the “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways,” [1] includes nutritional adequacy in the definition, much of the focus and how it has been measured has been on access to food to alleviate hunger, while negating the nutritional quality and equity aspects. Therefore, the term nutrition security is a term that has been recently gaining attention due to the emphasis

on “having consistent access, availability, and affordability of foods and beverages that promote well-being and prevent (and if needed, treat) disease” [2]. The field of food and nutrition insecurity has been expanding over the past two decades; however, this critical issue in the context of justice-impacted populations is less well understood.

Much research has studied the adverse physical, psychological, and social outcomes associated with food insecurity. Food insecurity can increase the risk of severe health outcomes, including chronic diseases, such as diabetes, cardiovascular disease, hypertension, asthma, chronic obstructive pulmonary disease (COPD), and kidney disease [3, 4]; infectious diseases, such as HIV and HIV-hepatitis C (HCV) co-infection [5–7]; and mental health conditions, such as depression and anxiety [8, 9]. Food insecurity has also been associated with lower medication adherence in people with diabetes [10, 11] and HIV [5, 12] due to tradeoffs with limited resources.

The prevalence of food insecurity in the USA has remained relatively stable over the past few decades, with the exception of the recession in the mid-2000s [1]. The National Commission on Hunger identified several root

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causes of food insecurity and hunger, such as underemployment, unstable family environments, low education levels, exposure to violence, a history of racial or ethnic discrimination, and combination of these factors [13]. Americans most at risk of being food insecure are households with children (both single and dual-headed households); Black, non-Hispanic households; and households in the South [1]. In 2015, the National Commission on Hunger also identified seven populations at high risk for experiencing food insecurity: older adults, single parent families with young children, veterans and active duty military, people with disabilities, Native Americans, people who immigrated to the USA, and people impacted by high incarceration rates [13]. The purpose of this paper is to provide an overview of the state of the science of food and nutrition security among justice-impacted populations, identify who might be most at-risk and health consequences, and to highlight areas for continued research and policy implications.

US Corrections System

The US corrections system is comprised of the carceral system and community corrections. Of adults under corrections supervision, approximately one-third are in the carceral system and two-thirds are in community corrections [14].

Carceral System

The US carceral system is inclusive of jails and prisons and houses 25% of the people imprisoned globally. Jails house people who are pre-trial or pre-plea deal, awaiting sentencing, or people sentenced to be incarcerated for a short period, usually for 1 year or less. Prisons house people who are sentenced for a longer term, generally over 1 year. As of 2019 one in every 123 American adults were incarcerated [14]. At midyear 2020, 549,100 people were incarcerated in local jails while 1,215,821 people were incarcerated in state or federal prisons [14, 15]. More than 650,000 adults are released from prison back into the community each year. [16].

The prison system disproportionately houses people of color with Black adults 5.6 times more likely and Hispanic adults 3 times more likely to be incarcerated compared to White adults [17]. For males ages 18 to 19 years of age, Black males were 12.7 times as likely to be incarcerated and Hispanic males 3.3 times as likely compared to White males in 2018 [17]. Females comprise 7.6% of the people incarcerated in US prisons. For those 18 to 19 years, Black females were 3.6 times as likely and Hispanic females 1.7 times as likely compared to White females to be incarcerated in 2018 [17]. Black adults are convicted of drug felonies at a higher rate compared to White adults even though drug use

is comparable between both groups [18], indicating racial disparities with arrests and prosecutions.

Sixty-five percent of incarcerated US adults have alcohol or substance use disorder [19]. Because the carceral system incarcerates individuals with high rates of drug misuse, predominantly injection drug use, the system houses a substantial number of individuals with higher rates of HCV [20] and HIV. The HIV prevalence is five times higher among the US prison population compared to the general population [21].

Community Corrections

Community corrections include both probation and parole. Probation is serving a sentence while living in the community [22], while parole refers to the early release of individuals who spend the remainder of their sentence under community supervision [22, 23]. Under both probation and parole supervision, if the conditions imposed by a judge are not met, the result is possible incarceration. Most forms of probation and parole require the person under supervision to regularly meet with a probation or parole officer. About 1 in 59 US adults are under some sort of community supervision [24]. As of 2019, 1 in every 73 US adults were on probation and 1 in every 291 were on parole [24].

Risk Factors for Food Insecurity

Although data are limited, food insecurity among correctional populations seems to be among the highest of any population, at an estimated 70–91% [25, 26]. Prior research on people impacted by the correctional system have highlighted the social inequities related to securing employment [27–29] and housing instability [30, 31] that can impact risk for food and nutrition insecurity. Challenges in finding stable employment [32], federal bans for accessing the Supplemental Nutrition Assistance Program (SNAP) and Temporary Assistance for Needy Families (TANF) program [30, 31], as well as residing in communities in which the built environment makes accessing healthy food difficult [33], create disparities that impact formerly incarcerated people. Table 1 summarizes some identified risk factors for experiencing food insecurity among justice-impacted populations.

Criminal justice-impacted individuals are at particular risk for experiencing food insecurity, though few studies have directly examined the links between incarceration and risk for future food insecurity [34]. Incarceration acts as a stressor contributing to food insecurity in a number of ways following release from jails or prisons, due to economic instability, adverse effects on physical and mental health, and isolating people from social communities [35]. Formerly incarcerated individuals are less likely to be employed in positions that provide sufficient economic stability or social

Table 1 Studies demonstrating impact of incarceration on level of food insecurity or who is most at-risk of experiencing food insecurity among justice-involved populations

Author	Year	Population	Food insecurity measurement	Prevalence of food insecurity	Findings
Cox [40]	2016	Fragile Families and Child Well Being Cohort	18-Item USDA Core Food Security Module	Food insecurity is 1.5 times the incarceration compared to those with no parental incarceration. Households with parental incarceration have an expected FI prevalence of 12.5%	Incarceration leads to a 4% increase in risk of food insecurity among households with children
Dong [25]	2018	304 adults on probation in Rhode Island	USDA 10-item Adult Food Security Module	70% of participants experienced food insecurity; 48% experienced very low food security	Experiencing homelessness and depressive symptoms were both independently associated with a greater odds of food insecurity
Jackson [39]	2017	Early Childhood Longitudinal Study-Birth Cohort (nationally representative of US Children and their caregivers)	18-Item USDA Core Food Security Module	22.1% of households with parental history of criminal justice involvement were food insecure	Adjusted odds of food insecurity increased 80% for parental history of criminal justice involvement relative to households with no history of disruptive life events
Testa [35]	2019	Adults 24–34 years old living in urban census tracts in the USA	1-item USDA Food Security Module: In the past 12 months was there a time when you were worried whether food would run out before you could get money to buy more?	Formerly incarcerated individuals have 2.07 times the odds of experiencing food insecurity than those without history of incarceration (95% CI: 1.714–2.489). Regression predicts that 19.5% of formerly incarcerated people experience food insecurity compared to 10.4% who were not incarcerated	A history of incarceration is associated with an increased likelihood of experiencing food insecurity partially mediated via negative associations with household income and marital status and positive associations with depressive symptoms and social isolation
Testa [34]	2020	Noninstitutionalized New York City residents 18+ with cell or landline phone (2018 New York City Health Survey)	Single Item question to measure household food insufficiency: In the past 6 months which of the following best describes the food eaten in your household? Categorical: (1) no (had enough of the kinds of food you wanted to eat), (2) mild (had enough but not always the kinds of food you wanted to eat), or (3) moderate-to-severe (sometimes there was not enough to eat or often there was not enough to eat) food insufficiency	24.1% of participants with personal criminal justice involvement experienced mild food insufficiency, 17.2% experienced moderate-to-severe food insufficiency	After adjustment, all three forms of criminal justice involvement were associated with moderate-to-severe food insufficiency. Three forms of criminal justice involvement: (1) personal involvement, (2) family involvement, and (3) both personal and family involvement

support to prevent future criminal justice contact [32, 36]. Social stigma surrounding incarceration can contribute to food insecurity by damaging social networks for incarcerated people, alienating them from potential support systems.

Incarceration has long-term impacts on income and wages, which are considered the main predictors for food insecurity [37]. Applicants with criminal records experience callbacks for jobs at a lower rate than those without criminal records. There is evidence of racial discrimination influencing loss of adult wages following incarceration [37]. While White and Latino respondents see no significant changes in adult wages with criminal justice contact, formerly incarcerated Black respondents earn significantly lower wages [35, 37], and having a criminal record has been estimated to have a 40% greater impact on job applications for Black applicants compared to White applicants [27]. Additionally, young Black men with a history of incarceration attain lower levels of education and have more difficulty securing stable employment and established households compared to White peers [38].

Intergenerational Impacts

Parental incarceration is defined as a disruptive life event for both the incarcerated adult as well as the family they leave at home. A parental history of criminal justice involvement significantly increases odds of persistent household food insecurity by 2.28 times, as well as other factors, such as parental history of school suspension or expulsion (2.46 times odds), parental history of job termination (1.89 times odds), and parental history of institutionalization for mental health (3.49 times odds) [39]. In households with one or both parents who experienced all of these adverse life events, the odds of persistent household food insecurity increase by a factor 13.52 compared to households with parents who experience none of these events [39].

Families and children of incarcerated people experience financial difficulties and disadvantages leaving them more likely to utilize government aid programs [28]. Using data from the Fragile Families and Child Wellbeing Study, fathers with a history of incarceration were found to provide less cash child support to their families compared to fathers with no history of incarceration while also owing \$2130 more in child support debts on average [28]. Child support laws rely on incarceration as a penalty for nonpayment and can lead to vulnerable noncustodial fathers working more hours at lower wages, compared to custodial fathers [29].

The era of mass incarceration resulted in a 79% increase in incarcerated parents between 1991 and 2007, leaving 1.7 million children with a parent in a state or federal correctional facility [40, 41]. Black individuals born in 1990 were 6.8 times more likely to have an incarcerated parent compared to White individuals [42]. Policies that penalize

those at risk of incarceration, such as minimum sentencing, prison without parole, and three-strike laws, disproportionately impact Black families [29, 43].

Nutrition Insecurity

There is a dearth of information about the dietary intake and nutrition security of people formerly incarcerated or under community supervision. In our previous research of adults on probation in Rhode Island, we found that most had dietary intakes that did not meet the current Dietary Guidelines for Americans [44]. Foods that were consumed were often processed and high in added sugars, saturated fat, and sodium, indicating nutrition insecurity. Our study also found that most adults on probation purchased foods from grocery stores and prepared meals at home and additionally relied upon government assistance with the SNAP and the Special Supplemental Nutrition Program for Women, Infants, and Children. Even with participation in these government food assistance programs, a majority of our participants on probation experienced food insecurity. Many reported practicing strategies to make food last longer such as reducing consumption and grocery shopping on a budget, which included buying items in bulk, comparison shopping, and going to multiple stores to purchase foods on sale.

Although dietary intakes were suboptimal for health, people on probation reported liking the tastes of healthy foods and understood the connection between dietary intake and health. The constraints of the probation system led to challenges with food affordability and the types of foods available for purchase and consumption.

Health Consequences Related to Food Insecurity

Justice-impacted populations have increased risks for medical conditions with reports showing that half of adults in the carceral system have at least one chronic disease and almost one-fifth have an infectious disease [45]. Weight gain leading to obesity has been documented among adults while incarcerated in prisons [46, 47] and findings also suggest that people who have been recently released from incarceration have a higher risk of being hospitalized and dying from cardiovascular disease [48]. Correctional supervision involvement and food insecurity can increase perceived stress and may contribute to a higher BMI and obesity [49]. Stress can increase overall consumption of food, but also increases consumption of higher calories via foods rich in sugar and fat, which can displace consumption of healthier foods [50]. As a majority of incarcerated individuals will be released from the carceral system, they will need care

for their medical conditions in the community. Improving food and nutrition security among this population is critical to help treat and prevent exacerbation of these medical conditions.

Limited studies demonstrate that adults on probation have a high prevalence of chronic diseases, including hypertension, high blood glucose, and low HDL cholesterol [51], and mortality [52]. Our study about providing wellness screenings at a probation office identified individuals on probation that had elevated blood pressure and blood pressures categorized as stage 1 and stage 2 hypertension that reported no history of high blood pressure [53]. Additionally, in this study, we found that many people on probation with a history of hypertension had elevated blood pressure during the wellness screening indicating that their blood pressure was not well controlled. These findings indicate that this population may not access healthcare regularly and that many risk factors for cardiometabolic disease may go unnoticed. In another qualitative study we conducted among adults on probation, individuals ranked healthcare as their last priority due to the competing importance of other priorities, such

as recovery from substance use disorder, obtaining gainful employment, securing safe housing, and accessing food [54]. This highlights an inability to engage in healthcare due to inequities with social determinants of health. Among this probation population, we found that being food insecure was associated with an increased odds of experiencing symptoms of depression and self-reporting of a lower health status [51]. Table 2 lists studies that found associated health outcomes related to experiencing food insecurity among justice-impacted individuals.

People recently released from prison or jail who experience food insecurity and were unable to eat for an entire day were at higher risk of engaging in HIV-risk behaviors, including using alcohol, heroin, and cocaine before sex, and to exchange sex for money [26]. Food insecurity among people with HIV has also been associated with poor HIV treatment adherence, insufficient viral load suppression, and lower CD4 counts [55]. Justice-impacted individuals are more likely to have HIV compared to the general population [45] so these factors continue to compound in an already vulnerable population [45].

Table 2 Studies demonstrating outcomes associated with food insecurity among justice-involved populations

Author	Year	Population	Food Insecurity measurement	Prevalence of food insecurity	Findings
Dong [51]	2018	304 adults on probation in Rhode Island	USDA 10-item Adult Food Security Module	70% of participants experienced food insecurity; 48% experienced very low food security	There were no statistically significant associations between experiencing food insecurity and obesity, high blood pressure, or current drug use. Food insecurity was independently associated with more than three times greater odds of being depressed (AOR 3.33, 95% CI 1.89, 5.86) and almost twofold greater odds of self-reporting a lower health status (AOR 1.91, 95% CI: 1.18, 3.10)
Wang [26]	2013	110 men and women recently released from prison in California, Connecticut, and Texas	15-item USDA Food Security Module modified for low-income populations	90% of individuals experienced food insecurity; 9.1% experienced very low food security; 37% had not eaten a meal for an entire day	There was no association between food insecurity and HIV risk behaviors. Not eating for an entire day was associated with engaging in HIV-risk behaviors, such as use of alcohol, heroin, and cocaine prior to sex and to exchange sex for money compared to eating at least one meal each day. Formerly incarcerated individuals who did not eat for an entire day were more likely to live in a state with the SNAP ban compared to a state without the SNAP ban

Healthcare Access

The poor health outcomes among justice-impacted populations are of even greater public health importance because of the disparities in access to healthcare with this population. Previously incarcerated men were more likely to be uninsured than those without a history of incarceration [56]. Previously incarcerated men are also less likely to have access to primary care, often due to their lack of health insurance [57], which contributes to decremental health outcomes. However, a recent study demonstrated that formerly incarcerated individuals that received enhanced primary care that focused on patients' behavioral health needs, their chronic health conditions, and utilized community health workers had significantly lower odds (AOR: 0.38; 95% CI 0.16 to 0.93) of returning to prison compared to those who did not have access to enhanced primary care [58]. While 26% of men included in the National Survey of Family Growth had been previously incarcerated, of the uninsured in that survey, 38.6% were formerly incarcerated [59]. The Affordable Care Act (ACA) has increased insurance coverage for people on community supervision, leading to a nearly six percent decline of uninsured formerly incarcerated men after the implementation of the ACA [59]. For example, in Hennepin county, MN, 65.9% of people on probation that were enrolled in Medicaid were eligible because of the Medicaid expansion due to the ACA [60]. Medicaid expansion has reduced recidivism and overall arrests. A 2020 study demonstrated that Midwestern counties with Medicaid expansion reduced rearrests by up to 5.8% and Southwestern counties with Medicaid expansion reduced rearrests by up to 13.3% [61]. These studies suggest that better healthcare coverage could both improve health and reduce recidivism.

SNAP Policies

In 1996 the Personal Responsibility and Work Opportunity Reconciliation Act produced a ban that prevented anyone with felony convictions for certain crimes including evading arrest, violating the terms of probation or parole, committing welfare fraud by applying for benefits in multiple states, and those with drug violations from accessing SNAP and TANF benefits [31, 62]. As of 2020, 22 states as well as Washington DC have opted out of the SNAP ban. An additional 27 states have modified bans, allowing those with drug felony convictions to receive SNAP benefits with completion of regular drug tests, work requirements, and complying with parole. South Carolina is the only state with a full ban in place.

SNAP is designed to support individuals and households who cannot presently afford food, yet evidence shows that many justice-impacted individuals participating in SNAP remain food insecure [25]. SNAP is meant to be supplemental; however, our study found that most people on probation use SNAP benefits to meet all of their food and nutrition needs [44, 54]. Despite massive growth in the number of people who receive SNAP, the number of those who are considered food insecure continues to rise. A study that examined the "resource gap," the additional income and support that a household would require to be considered food secure, found that an additional weekly income of \$41.62 would make households food secure [63]. For households which have zero net income and therefore receive the maximum amount of benefits, this would result in an average increase of benefits of 42%, but lead to a 62% decline in food insecurity among SNAP participants—an endeavor that was estimated to cost about \$27 billion [63].

Under present SNAP regulations, those seeking benefits who are considered Able Bodied Adults Without Dependents (ABAWDs) must fulfill work requirements to qualify. This requirement may be fulfilled by paid labor, unpaid labor, or volunteering for a minimum of 80 hours a month [64]. Those who do not meet this work requirement only maintain their SNAP benefits for 3 months and are not eligible to re-apply for SNAP benefits for another 3 years. These work requirements may pose a challenge for justice-impacted individuals given the difficulties with securing gainful employment. In a sample of adults on probation in Rhode Island, we found that 86% of unemployed individuals without dependents were participating in SNAP and among this group, 52% had gone at least one day in the past month without eating any food [65], highlighting the difficulties with securing food even with SNAP benefits for the justice-impacted ABAWD population. At the time of this study, the work requirement was not enforced but if it were instituted, these individuals would have a worsening of food security. Additionally, many reported seeking employment but had challenges due to limited opportunities and stigma associated with their involvement with the corrections system.

Present SNAP policies ban people with certain felony convictions from accessing food benefits, but this does not prevent these individuals from being counted as household members. This becomes problematic for families and applicants seeking SNAP benefits [66]. Under 21 US Code 862a, "Denial of Assistance and Benefits for Certain Drug-Related Convictions," members of households with felony drug convictions on their records are excluded from the "household" used to define eligibility and allocation of funds [66]. Despite this, the income and resources that these individuals contribute to the household are still

counted as part of the household [66]. This in essence means that households will receive fewer funds, for more people, forcing recipients to stretch their monthly benefits to purchase sufficient amounts of food. Such discriminatory policies disproportionately impact Black, low-income men and their families, contributing to intergenerational instability and food insecurity [39, 40]. These policies which restrict access to aid have no real basis other than to be punitive, presenting another barrier to reintegration into communities and contributing to the high rates of recidivism.

Policy Recommendations

Current SNAP and employment policies create significant barriers to food and nutrition security for justice-impacted individuals and continue collateral consequences of punishment. We summarize some future areas for discussion and research to improve the access to healthy, high quality, and affordable foods among this population.

End the SNAP Ban Existing SNAP policies do not adequately support the food security needs of justice-impacted communities. Bans on accessing nutrition aid and benefits that go beyond income-based criteria harm justice-impacted people as well as their families. Additionally, programming to assist this population with applying for SNAP benefits is needed.

End the Work Requirement for SNAP Economic challenges, including difficulties in finding a stable job with livable wages, have ripple effects on the food security of families. With federal law including work requirements for SNAP benefits, many justice-impacted people are put at a severe disadvantage because of the difficulty finding employment.

Increase the Amount of SNAP Benefits Increasing the monthly benefit amount would alleviate justice-impacted individuals from experiencing food insecurity [63]. More research is warranted to study whether this increase in benefits would lead to increased purchasing power for healthier food options.

Keep SNAP Funding as Entitlement Grants Pandemic Electronic Benefit Transfer (P-EBT) has had profound impacts on reducing food insecurity during the pandemic and poses a unique opportunity for policy makers to improve the accessibility and efficiency of SNAP programs. The prevalence of food insecurity did not increase after 2019, even with the presence of COVID-19, likely due to the Emergency Supplemental Nutrition Assistance Program, although some disenfranchised populations did experience higher rates of food

insecurity during this period [1, 67]. Changes to funding in response to increased needs from emergencies are made possible by the entitlement grant model, which is the type of funding SNAP currently functions under. The impending threat of moving to block-granting for SNAP would restrict the ability of officials to adapt programming in real time to respond to economic shocks, such as the COVID-19 pandemic, and force states to rely on a fixed annual budget which would threaten eligibility and decrease benefits, leaving more families unable to access food. Block grants are a set amount of federal funding to states, that are usually based upon an annual expenditure, where states can divert money to other programs. Even in non-pandemic times, lack of resources could challenge money budgeted for SNAP and shift to other programs.

Remove Restrictions on Applicants' Criminal Backgrounds Activist campaigns such as the ban-the-box movement advocate for policies barring employers from asking about conviction histories, reforms which have been implemented in nine states and more than 50 local governments.

Offer More Training Programs for Justice-Impacted Populations A majority of people released from prison or jail will be arrested again in the following 10 years (82%) [68]. The limited resources to aid in the integration back into the community contributes to high recidivism rates in the USA [69]. Reincarceration disrupts income and housing for those working to rebuild a life [27].

Criminal Justice Reform Efforts to decriminalize drug use and promote decarceration for individuals with minor offenses should be considered to improve outcomes for this population.

Conclusions

This paper summarizes current research that indicates how imperative it is to improve food and nutrition security among justice-impacted individuals. Studies show that the prevalence of food insecurity is extremely high in this sector of the population. Being food and nutrition insecure has been associated with increased risk for depression symptoms, self-reporting a lower health status, and engaging in HIV-risk behaviors following release from prison or during community supervision. The justice-impacted population also experiences health and racial disparities which adversely affects their ability to access healthy and nutritious foods. Policy recommendations to revise nutrition safety net programs and improve employment opportunities for justice-impacted individuals are provided.

Declarations

Research Involving Human and Animal Participants This article does not contain any studies with human or animal subjects performed by any of the authors.

Conflict of Interest The authors declare no conflicts of interest.

References

Papers of particular interest, published recently, have been highlighted as:

- Of importance
- Of major importance

1. Coleman-Jensen A, Rabbitt MP, Gregory CA, Singh A. Household food security in the United States in 2020. U.S. Department of Agriculture 2021;ERR-298.
2. Mozaffarian D, Fleischhacker S, Andrés JR. Prioritizing Nutrition Security in the US. *JAMA*. 2021;325(16):1605–6.
3. Gregory CA, Coleman-Jensen A. Food Insecurity, Chronic disease and health among working-age adults. USDA, Economic Research Service 2017;ERR-235.
4. Palakshappa D, Speiser JL, Rosenthal GE, Vitolins MZ. Food insecurity is associated with an increased prevalence of comorbid medical conditions in obese adults: NHANES 2007–2014. *J Gen Intern Med*. 2019;34(8):1486–93.
5. Weiser SD, Young SL, Cohen CR, et al. Conceptual framework for understanding the bidirectional links between food insecurity and HIV/AIDS. *Am J Clin Nutr*. 2011;94 (supp):1729S–1739S.
6. Aibibula W, Cox J, Hamelin AM, et al. Food insecurity may lead to incomplete HIV viral suppression and less immune reconstitution among HIV/hepatitis C virus-coinfected people. *HIV Med*. 2018;19(2):123–31.
7. Anema A, Vogenthaler N, Frongillo EA, Kadiyala S, Weiser SD. Food insecurity and HIV/AIDS: current knowledge, gaps, and research priorities. *Curr HIV/AIDS Rep*. 2009;6(4):224–31.
8. Arenas DJ, Thomas A, Wang J, DeLisser HM. A systematic review and meta-analysis of depression, anxiety, and sleep disorders in US adults with food insecurity. *J Gen Intern Med*. 2019;34(12):2874–82.
9. Maynard M, Andrade L, Packull-McCormick S, Perlman CM, Leos-Toro C, Kirkpatrick SI. Food insecurity and mental health among females in high-income countries. *Int J Environ Res Public Health*. 2018;15(7).
10. Silverman J, Krieger J, Kiefer M, Hebert P, Robinson J, Nelson K. The relationship between food insecurity and depression, diabetes distress and medication adherence among low-income patients with poorly-controlled diabetes. *J Gen Intern Med*. 2015;30(10):1476–80.
11. Flint KL, Davis GM, Umpierrez GE. Emerging trends and the clinical impact of food insecurity in patients with diabetes. *J Diabetes*. 2020;12(3):187–96.
12. Pellowski JA, Kalichman SC, Cherry S, et al. The daily relationship between aspects of food insecurity and medication adherence among people living with HIV with recent experiences of hunger. *Ann Behav Med*. 2016;50(6):844–53.
13. National Commission on Hunger. Freedom from hunger: an achievable goal for the United States of America. https://cybercemetery.unt.edu/archive/hungercommission/20151216222324/https://hungercommission.rti.org/Portals/0/SiteHtml/Activities/FinalReport/Hunger_Commission_Final_Report.pdf. Published 2015. Accessed 10 Feb 2022.
14. Minton TD, Beatty LG, Zeng Z. Correctional populations in the United States, 2019 – Statistical Tables. Washington, D.C.: Bureau of Justice Statistics. 2021;NCJ 300655.
15. Carson EA. Prisoners in 2020-statistical tables. Bureau of Justice Statistics; December 2021;NCJ 302776.
16. United States Department of Justice. Prisoners and Prisoner Re-Entry. https://www.justice.gov/archive/fbci/progmenu_reentry.html. Accessed 10 Feb 2022.
17. Carson EA. Prisoners in Bureau of Justice Statistics. 2020;NCJ 253516.
18. Rosenberg A, Groves AK, Blankenship KM. Comparing black and white drug offenders: implications for racial disparities in criminal justice and reentry policy and programming. *J Drug Issues*. 2017;47(1):132–42.
19. Calcifano JJ. Behind Bars II: Substance abuse and America's Prison Population. New York, NY: National Center on Addiction and Substance Abuse at Columbia University; 2010.
20. Akiyama MJ, Kronfli N, Cabezas J, et al. Hepatitis C elimination among people incarcerated in prisons: challenges and recommendations for action within a health systems framework. *Lancet Gastroenterol Hepatol*. 2021;6(5):391–400.
21. Maruschak LM. HIV in Prisons, 2001–2010. Bureau of Justice Statistics. 2015; 24 Mar 2015.
22. National Institute of Corrections. Probation and Parole. The United States Department of Justice, <https://nicic.gov/projects/probation-and-parole>. Accessed 10 Feb 2022.
23. Probation and Parole Systems Marked by High Stakes, Missed Opportunities. Pew Research Center. <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2018/09/probation-and-parole-systems-marked-by-high-stakes-missed-opportunities>. Published 2018. Updated 25 Sept 2018. Accessed 2020.
24. Oudekerk B. Probation and Parole in the United States, 2019. Washington, D.C.: Bureau of Justice Statistics; 2021. p. 2021.
25. Dong KR, Tang AM, Stopka TJ, Beckwith CG, Must A. Food acquisition methods and correlates of food insecurity in adults on probation in Rhode Island. *PLoS ONE*. 2018;13(6): e0198598.
26. Wang EA, Zhu GA, Evans L, Carroll-Scott A, Desai R, Fiellin LE. A pilot study examining food insecurity and HIV risk behaviors among individuals recently released from prison. *AIDS education and prevention : official publication of the International Society for AIDS Education*. 2013;25(2):112–23.
27. Pager D. The mark of a criminal record. *Am J Sociol* 2003;108:937–75.
28. Emory AD, Nepomnyaschy L, Waller MR, Miller DP, Haralampoudis A. Providing after prison: nonresident fathers' formal and informal contributions to children. *RSF: The Russell Sage Foundation J Soc Sci*. 2020;6(1):84.
29. Zatz ND, Stoll MA. Working to avoid incarceration: jail threat and labor market outcomes for noncustodial fathers facing child support enforcement. *RSF: The Russell Sage Foundation J Soc Sci*. 2020;6(1):55.
30. No more double punishments: lifting the ban on SNAP and TANF for people with prior felony drug convictions. CLASP. 2014.
- 31.● Golembeski CA, Irfan A, Dong KR. Food insecurity and collateral consequences of punishment amidst the COVID-19 pandemic. *World Med Health Policy*. 2020;12(4):357–373. **Recent review of food insecurity for justice impacted populations during COVID-19.**
32. Harding DJ, Wyse JJB, Dobson C, Morenoff JD. Making ends meet after prison. *J Policy Anal Manage*. 2014;33(2):440–70.
- 33.●● Testa AM. Access to healthy food retailers among formerly incarcerated individuals. *Public Health Nutr*. 2019;22(4):672–680. **Recent study measuring access to healthy food retailers among formerly incarcerated individuals.**
- 34.●● Testa A, Jackson DB. Criminal justice system involvement and food insufficiency: findings from the, 2018 New York City

- Community Health Survey Ann Epidemiol 2020;52:42-45. **Recent study to assess the association between personal and family history of justice involvement and food insufficiency.**
35. ●● Testa A, Jackson DB. Food insecurity among formerly incarcerated adults. *Crim Justice Behav.* 2019;46(10):1493–1511. **Recent study about the association of incarceration on post-release food insecurity.**
 36. LaBriola J. Post-prison employment quality and future criminal justice contact. *RSF: The Russell Sage Foundation Journal of the Social Sciences.* 2020;6(1):154.
 37. Apel R, Powell K. Level of criminal justice contact and early adult wage inequality. *RSF: The Russell Sage Foundation Journal of the Social Sciences.* 2019;5(1):198.
 38. Harris HM, Harding DJ. Racial inequality in the transition to adulthood after prison. *RSF: The Russell Sage Foundation Journal of the Social Sciences.* 2019;5(1):223.
 39. Jackson DB, Vaughn MG. Parental history of disruptive life events and household food insecurity. *J Nutr Educ Behav.* 2017;49(7):554-560.e551.
 40. Cox R, Wallace S. Identifying the link between food security and incarceration. *South Econ J.* 2016;82(4):1062–77.
 41. Pfaff JF. The micro and macro causes of prison growth. *Georgia State University Law Review.* 2012;28(4).
 42. Wildeman C. Parental imprisonment, the prison boom, and the concentration of childhood disadvantage. *Demography.* 2009;46(2):265–80.
 43. Hagan J, Foster H. Mass incarceration, parental imprisonment, and the great recession: Intergenerational sources of severe deprivation in America. *RSF: The Russell Sage Foundation Journal of the Social Sciences.* 2015;1(2):80–107.
 44. ●● Dong KR, Chen X, Stopka TJ, Must A, Beckwith CG, Tang AM. Food access, dietary intake, and nutrition knowledge of adults on probation. *JNEB.* 2022 (Accepted November 29, 2021). **Recent study exploring food access, dietary quality and nutrition knowledge among adults on probation.**
 45. Maruschak LM, Berzofsky M, Unangst J. Medical problems of state and federal prisoners and jail inmates, 2011–12. US Department of Justice, Bureau of Justice Statistics Special Report. 2015;NCJ 248491:1–22.
 46. Houle B. Obesity disparities among disadvantaged men: national adult male inmate prevalence pooled with non-incarcerated estimates, United States, 2002–2004. *Soc Sci Med.* 2011;72(10):1667–73.
 47. Binswanger IA, Krueger PM, Steiner JF. Prevalence of chronic medical conditions among jail and prison inmates in the USA compared with the general population. *J Epidemiol Community Health.* 2009;63:912–9.
 48. Wang EA, Redmond N, Dennison Himmelfarb CR, et al. Cardiovascular disease in incarcerated populations. *J Am Coll Cardiol.* 2017;69(24):2967–76.
 49. Archibald PC, Parker L, Thorpe R Jr. Criminal justice contact, stressors, and obesity-related health problems among Black adults in the USA. *J Racial Ethn Health Disparities.* 2018;5(2):387–97.
 50. Zellner DA, Loaiza S, Gonzalez Z, et al. Food selection changes under stress. *Physiol Behav.* 2006;87(4):789–93.
 51. Dong KR, Must A, Tang AM, Stopka TJ, Beckwith CG. Food insecurity, morbidities, and substance use in adults on probation in Rhode Island. *Journal of urban health : bulletin of the New York Academy of Medicine.* 2018;95(4):564–75.
 52. ●● Wildeman C, Goldman AW, Wang EA. Age-standardized mortality of persons on probation, in jail, or in state prison and the general population, 2001–2012. *Public Health Rep.* 2019;134(6):660–666. **Recent study assessing the mortality of individuals involved with the corrections system.**
 53. ● Dong KR, Beckwith CG, Grossman A, Weiner DE, Lichtenstein AH. Utilizing the probation office as an opportunity to screen for cardiometabolic outcomes: a feasibility study. *J Correctional Health Care.* 2022;28(4). **Recent study that measured cardio-metabolic risk factors among adults on probation.**
 54. Dong KR, Must A, Tang AM, Beckwith CG, Stopka TJ. Competing priorities that rival health in adults on probation in Rhode Island: substance use recovery, employment, housing, and food intake. *BMC Public Health.* 2018;18(1):289.
 55. McLinden T, Moodie EEM, Hamelin A-M, et al. Methadone treatment, severe food insecurity, and HIV-HCV co-infection: a propensity score matching analysis. *Drug Alcohol Depend.* 2018;185:374–80.
 56. Rich JD, Chandler R, Williams BA, et al. How health care reform can transform the health of criminal justice-involved individuals. *Health Aff (Millwood).* 2014;33(3):462–7.
 57. Fahmy N, Kouyoumdjian FG, Berkowitz J, et al. Access to primary care for persons recently released from prison. *The Annals of Family Medicine.* 2018;16(6):549.
 58. Wang EA, Lin HJ, Aminawung JA, et al. Propensity-matched study of enhanced primary care on contact with the criminal justice system among individuals recently released from prison to New Haven. *BMJ Open.* 2019;9(5): e028097.
 59. Winkelman TN, Choi H, Davis MM. The Affordable Care Act, insurance coverage, and health care utilization of previously incarcerated young men: 2008–2015. *Am J Public Health.* 2017;107(5):807–11.
 60. Olson M, Shlafer RJ, Bodurtha P, Watkins J, Hougham C, Winkelman TNA. Health profiles and racial disparities among individuals on probation in Hennepin County, Minnesota, 2016: a cross-sectional study. *BMJ Open.* 2021;11(9): e047930.
 61. Fry CE, McGuire TG, Frank RG. Medicaid expansion's spillover to the criminal justice system: evidence from six urban counties. *RSF: The Russell Sage Foundation Journal of the Social Sciences.* 2020;6(2):244.
 62. ● Payne H, Morrow M-C, Gbemudu A, Horine D, Swinburne M. Effect of the denial of SNAP benefits on convicted drug felons The Network for Public Health Law. 2020. **Recent information about the SNAP ban and impact on justice impacted individuals.**
 63. Gundersen C, Kreider B, Pepper JV. Reconstructing the supplemental nutrition assistance program to more effectively alleviate food insecurity in the United States. *RSF: The Russell Sage Found J Soc Sci.* 2018;4(2):113.
 64. U.S. Department of Agriculture Food and Nutrition Service. SNAP Work Requirements. Supplemental Nutrition Assistance Program (SNAP) Web site. <https://www.fns.usda.gov/snap/work-requirements>. Published 2019. Updated 05/29/2019. Accessed 11 Feb 2022.
 65. ● Dong KR, Feng W. SNAP restrictions that punish people formerly and currently under correctional supervision. *J Health Care for the Poor and Underserved.* 2021;32(2):654 **Recent study to explore the potential impact of the SNAP work requirement among adults on probation**
 66. U.S. Government Publishing Office. Food and Nutrition Act 2008. <https://www.govinfo.gov/app/details/USCODE-2015-title21/USCODE-2015-title21-chap13-subchapI-partD-sec862a/summary>. Accessed 11 Feb 2022.
 67. Coleman-Jensen A, Rabbitt MP, Gregory CA, Singh A. Household food security in the United States in 2019. U.S. Department of Agriculture;2020. ERR-275.
 68. Antenangeli L, Durose MR. Recidivism of prisoners released in 24 States in 2008: a 10-year follow-up period (2008–2018). Bureau of Justice Statistics; September 2021 2021.
 69. Cullen FT, Jonson CL, Nagin DS. Prisons do not reduce recidivism: the high cost of ignoring science. *The Prison Journal.* 2011;91(3_suppl):48S-65S.