

# Executive Summary: Health Impact Review of SB 6189

## Changing Driving a Motor Vehicle with a Suspended or Revoked Driver's License Provisions

(2017-2018 Legislative Sessions)

The associations between the requirements in SB 6189 and reduced criminal justice contact and financial impact are not well researched. However, if SB 6189 does result in reduced criminal justice contact and reduced financial impact (as suggested by available research), then SB 6189 may have potential to improve health outcomes and decrease health disparities by income, race/ethnicity, and age.

### BILL INFORMATION

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**Sponsors:** Senators Fain, Frockt, Pedersen, Palumbo, Hasegawa, Darneille, Rivers, Mullet, and Saldaña

#### Summary of Bill:

- Reclassifies driving while license suspended or revoked in the third degree (DWLS 3) from a misdemeanor to a traffic infraction.
- Establishes a penalty of \$250 that the court shall reduce to \$50 if the individual appears in-person before the court or submits by mail written proof that the license has been reinstated since being cited.
- Amends “relicensing diversion programs” to “relicensing programs” to eliminate any link between DWLS 3 and criminal proceedings.

### HEALTH IMPACT REVIEW

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#### Summary of Findings:

This Health Impact Review found the following evidence regarding the provisions in SB 6189:

- The associations between the requirements in SB 6189 and reduced criminal justice contact and financial impact from fees and legal financial obligations (LFOs) are not well researched. The limited available research suggests decriminalizing DWLS 3 may reduce criminal justice contact (e.g., arrest, conviction, and incarceration) and reduce the financial impact from fees and LFOs for cited individuals. However, variations in how jurisdictions apply the provisions could potentially lead to unintended consequences. More information is provided in the full Health Impact Review
- Very strong evidence that reducing criminal justice contact for individuals cited for DWLS 3 would likely lead to improved health outcomes.
- Very strong evidence that reducing the financial impact from fees and LFOs for individuals cited for DWLS 3 would likely lead to improved health outcomes.
- Very strong evidence that improving health outcomes for individuals cited for DWLS 3 would likely decrease health disparities by income, race/ethnicity, and age.

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# **Health Impact Review of SB 6189**

**Changing Driving a Motor Vehicle with a Suspended or Revoked Driver’s License Provisions**

**January 23, 2018**

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## Introduction and Methods

A Health Impact Review is an analysis of how a proposed legislative or budgetary change will likely impact health and health disparities in Washington State (RCW 43.20.285). For the purpose of this review ‘health disparities’ have been defined as the differences in disease, death, and other adverse health conditions that exist between populations (RCW 43.20.270). This document provides summaries of the evidence analyzed by State Board of Health staff during the Health Impact Review of Senate Bill 6189 ([SB 6189](#)) from the 2017-2018 legislative sessions.

Staff analyzed the content of SB 6189 and created a logic model depicting possible pathways leading from the provisions of the bill to health outcomes. We consulted with experts and contacted stakeholders with diverse perspectives on the bill. State Board of Health staff can be contacted for more information on which stakeholders were consulted on this review. We conducted objective reviews of the literature for each pathway using databases including PubMed and Google Scholar.

The following pages provide a detailed analysis of the bill including the logic model, summaries of evidence, and annotated references. The logic model is presented both in text and through a flowchart (Figure 1). The logic model includes information on the strength of the evidence for each relationship. The strength-of-evidence has been defined using the following criteria:

- **Not well researched:** the literature review yielded few if any studies or only yielded studies that were poorly designed or executed or had high risk of bias.
- **A fair amount of evidence:** the literature review yielded several studies supporting the association, but a large body of evidence was not established; or the review yielded a large body of evidence but findings were inconsistent with only a slightly larger percent of the studies supporting the association; or the research did not incorporate the most robust study designs or execution or had a higher than average risk of bias.
- **Strong evidence:** the literature review yielded a large body of evidence on the relationship (a vast majority of which supported the association) but the body of evidence did contain some contradictory findings or studies that did not incorporate the most robust study designs or execution or had a higher than average risk of bias; or there were too few studies to reach the rigor of ‘very strong evidence’; or some combination of these.
- **Very strong evidence:** the literature review yielded a very large body of robust evidence supporting the association with few if any contradictory findings. The evidence indicates that the scientific community largely accepts the existence of the association.

The annotated references are only a representation of the evidence and provide examples of current research. In some cases only a few review articles or meta-analyses are referenced. One article may cite or provide analysis of dozens of other articles. Therefore the number of references included in the bibliography does not necessarily reflect the strength-of-evidence. In addition, some articles provide evidence for more than one research question so they are referenced multiple times.

## Analysis of SB 6189 and the Scientific Evidence

### *Summary of relevant background information*

- In 1993, the Washington State Legislature amended RCW [46.20.289](#) to include failure to pay and failure to appear as grounds for driver's license suspension. Changes were incorporated into RCW [46.20.342](#) which made driving with a suspended license in the third degree a misdemeanor (DWLS 3).<sup>1</sup>
- When an individual is convicted of a crime in Washington, the court has the authority to order the payment of legal financial obligations (LFOs), which may include fines, fees, and costs associated with an individual's conviction.<sup>2</sup>
- In 2005, the Washington Supreme Court ruled in the case of *City of Redmond v. Moore* that RCW 46.20.289 was unconstitutional for lack of due process, resulting in a drop in the number of licenses suspended and the number of DWLS 3 charges filed.<sup>3</sup>
- In 2006, changes were made to RCW 46.20.289 that addressed the issue identified by the Washington Supreme Court and enforcement of DWLS 3 returned to previous levels, approximately 70,000 filings.<sup>3</sup>
- In 2012, the Washington State Legislature passed [SB 6284](#) which amended 46.20.289 by eliminating failure to pay "non-moving violations" from the list of offenses for license suspension.<sup>4</sup>

### *Summary of SB 6189*

- Reclassifies driving while license suspended or revoked in the third degree (DWLS 3) from a misdemeanor to a traffic infraction.
- Establishes a penalty of \$250 that the court shall reduce to \$50 if the individual appears in person before the court or submits by mail written proof that the license has been reinstated since being cited.
- Amends "relicensing diversion programs" to "relicensing programs" to eliminate any link between DWLS 3 and criminal proceedings.

### *Health impact of SB 6189*

The associations between the requirements in SB 6189 and reduced criminal justice contact and financial impact are not well researched. However, if SB 6189 does result in reduced criminal justice contact and reduced financial impact (as suggested by available research), then SB 6189 may have potential to improve health outcomes and decrease health disparities by income, race/ethnicity, and age.

### *Pathways to health impacts*

The potential pathways leading from the provisions of SB 6189 to decreased health disparities are depicted in Figure 1. The associations between the provisions required by SB 6189 and reduced criminal justice contact and reduced fees and Legal Financial Obligations (LFOs) are not well researched. The limited available research suggests that whether individuals cited for DWLS 3 experience increased or reduced criminal justice contact and financial impact from associated fees is dependent on how jurisdictions apply new provisions. There is a very strong evidence that reducing criminal justice contact would likely improve health outcomes for a number of individual and intergenerational health indicators including depression, life dissatisfaction, heavy drinking status, and smoking status.<sup>5-7</sup> There is very

strong evidence that reducing the financial burden of fees and LFOs would likely improve health outcomes for a number of indicators including overall self-rated health, depression, anxiety, asthma, obesity, and high blood pressure.<sup>8-17</sup> There is very strong evidence that improving health outcomes for individuals cited for DWLS 3 would likely reduce health disparities by income,<sup>8-20</sup> race/ethnicity<sup>9,11,14,18,21-26</sup>, and age.<sup>14,27,28</sup>

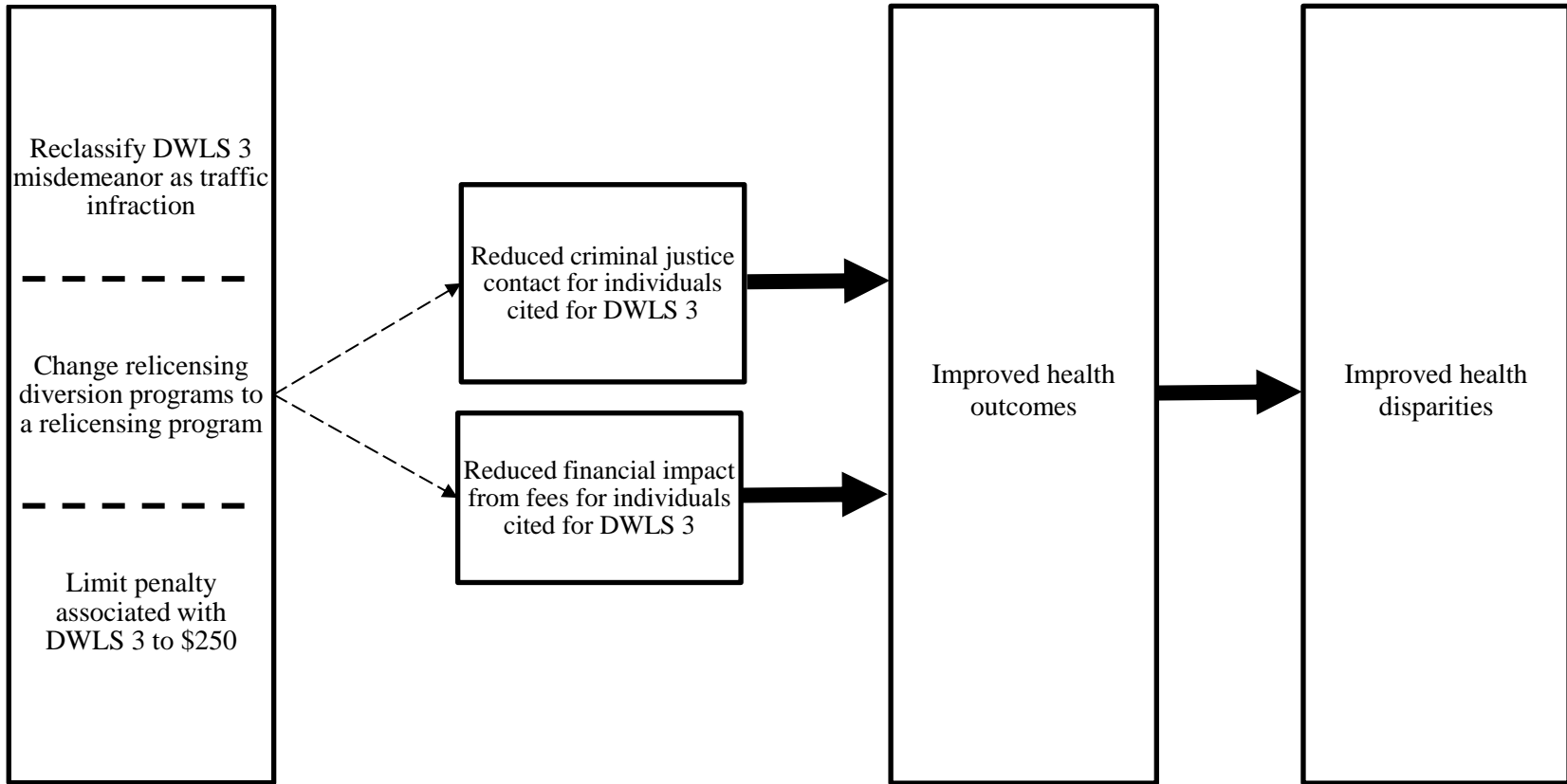
Due to time limitations we only researched the most direct connections between the provisions of the bill and decreased health disparities and did not explore the evidence for all possible pathways. For example, potential pathways that were not researched include:

- Evidence for how reducing contact with the criminal justice system impacts one's ability to secure employment and housing.

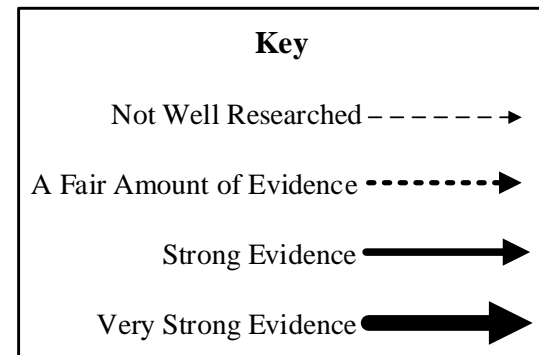
### *Magnitude of impact*

Data from the Administrative Office of the Courts in Washington show that from 1994 to 2015 the DWLS 3 misdemeanor classification resulted in: 1,441,097 filings; 860,445 convictions; and 3,768,120 jail days sentenced.<sup>3</sup> In 2007, Washington reported DWLS 3 filings accounted for one-third of its 300,000 misdemeanor cases and amounted for more than 60% of filings in some courts.<sup>29,30</sup> The American Civil Liberties Union (ACLU) of Washington estimated that the cost of enforcing DWLS 3 in the state between 1994 and 2015 was more than \$1.3 billion.<sup>3</sup>

# Logic Model



**Figure 1**  
**Senate Bill 6189**  
**Concerning Driving While License**  
**Suspended in the Third Degree**



## Summaries of Findings

### **Will the provisions of SB 6189 reduce criminal justice contact for individuals cited with DWLS 3?**

The association between the provisions specified in SB 6189 and criminal justice contact (e.g., arrest, conviction, and incarceration) for those cited with DWLS 3 is not well researched. Of the limited peer-reviewed analyses that exist, authors note that the impact likely depends upon how jurisdictions implement the infraction citations and whether other criminal justice means are used to collect outstanding fines. As a whole, the provisions specified in SB 6189 reclassify DWLS 3 as a civil infraction—removing the offense from the criminal system entirely and applying a financial penalty. Researchers refer to this as ‘full decriminalization’.<sup>30</sup> While the underlying conduct remains punishable, full decriminalization can spare defenders many of the collateral consequences of the criminal process.<sup>30</sup> Decriminalizing non-violent offenses has been proposed as one way to reduce criminal court costs (associated with prosecution, defense, and jail time). Available research suggests that full decriminalization of non-violent offenses may reduce the number of associated arrests, days of incarceration, and legal financial obligations (LFOs)<sup>29-31</sup>. Under a fine-only model, defendants with available resources can quickly terminate contact with the criminal justice system by either paying the \$250 fine applied by SB 6189 or completing necessary actions to reinstate their driver’s license and paying a \$50 fine. The provisions allow those who have the time and financial means necessary to avoid lasting consequences of criminal records.<sup>30</sup>

Conversely, a fine-only model may still unintentionally result in criminal justice contact (arrests and incarceration) for individuals cited for DWLS 3 in Washington State. The majority of DWLS 3 cases in the state result from an unpaid traffic ticket.<sup>29,31</sup> Establishing DWLS 3 as a civil infraction eliminates arrest and incarceration at the point the citation is written, and relicensing programs may reduce criminal justice contact by offering payment plans or community service options to individuals cited with DWLS 3.<sup>29</sup> However, under SB 6189 provisions, individuals are responsible for paying the original fines/LFOs and the additional DWLS 3 penalty. A missed payment could prompt use of contempt proceedings (failure to pay or to appear) to collect fines, which in Washington State may result in additional criminal justice contact including arrest and jail time.<sup>30</sup>

Natapoff’s review cautions that variable application of DWLS 3 infraction citations across jurisdictions will likely affect whether criminal justice contact increases or decreases. An analysis of criminal court caseloads in Washington State from 2010-2015 found that enforcement of DWLS 3 varies by jurisdiction (low of 3.9% of criminal caseload, high of 61.3%).<sup>3</sup> In response to rising costs and overburdened public defender’s offices, some jurisdictions have effectively decriminalized DWLS 3 through the use of relicensing programs or by not pursuing charges.<sup>3</sup> Changing DWLS 3 to a civil infraction could result in law enforcement departments writing more citations to demonstrate performance improvement and generate revenue<sup>30</sup>, which could inadvertently increase criminal justice contact.

### **Will the provisions of SB 6189 reduce the financial impact from fees/LFOs for individuals cited with DWLS 3?**

The association between the provisions specified in SB 6189 and the financial impact from fees/LFOs for those cited in Washington is not well researched. Initial analysis suggests the \$250 fine (to be reduced to \$50 with proof that the license has been reinstated) is likely less than the LFOs associated with current misdemeanor charges.<sup>32</sup> When an individual is convicted of a crime in Washington, the court has the authority to order the payment of LFOs, which may include fines, fees, and costs associated with an individual's conviction.<sup>2</sup> LFOs from district and municipal courts are subject to 12% interest if the case is sent to a collection agency and placed in collection status.<sup>19</sup>

Yakima County, Washington, previously implemented a DWLS charge reduction and re-licensing program. The program offered offenders a resolution for \$350 in fines and diverted approximately 900 cases per year from the public defender's office. However, a high percentage of those cited had low-incomes and were unable to pay the original and new fines<sup>29</sup>, creating a cycle of additional citations and fines. A few jurisdictions in Washington State have attempted to limit the financial burden of fines on indigent individuals by establishing reasonable payment plans and opportunities to convert fines into community service hours (to be paid no less than state or local minimum wage).<sup>29</sup> Natapoff notes that while some jurisdictions across the country work to limit the burden of fees on indigent individuals, other localities fund the criminal justice system and general budget using user fees. How local jurisdictions enforce provisions of SB 6189 will likely determine whether decriminalization increases or decreases the financial burden of fines associated with DWLS 3 and potential LFOs associated with failure to pay outstanding penalties.

### **Will reducing criminal justice contact for individuals cited with DWLS 3 lead to improved health outcomes?**

There is very strong evidence indicating that involvement in the justice system is linked to poor health outcomes.<sup>33-38</sup> Criminal justice contact can be measured by a number of indicators including, but not limited to, arrest, conviction, and incarceration.<sup>6,30</sup> There is a large body of evidence that supports the association between incarceration and poor health outcomes. Although individuals who are incarcerated may see some health benefits during incarceration, they also experience chronic medical conditions, infectious diseases, lower self-rated health, increased psychiatric disorders, and a greater risk of mortality upon release.<sup>5,30,39</sup> Research shows that those with a history of incarceration have a significantly greater likelihood of major depression, life dissatisfaction, and mood disorders when compared to individuals who do not have a history of incarceration<sup>5,6</sup> and that effects persist after release. Analysis of a contemporary cohort's criminal justice contact and mental health over time found arrest and incarceration—but not conviction—are independently associated with poor mental health.<sup>6</sup> Fear of and stigma associated with arrest also present health consequences.<sup>30</sup>

DWLS 3 misdemeanor charges disproportionately affect young drivers in Washington State. Administrative Office of the Courts data show people ages 16-29 account for more than 51% of all DWLS 3 filings from 1994 to 2015. Since 1994, more than 160,000 DWLS 3 charges have been brought against persons under 21 years of age. Psychosocial development is disrupted by factors such as involvement in the justice system, traumatic incidents, parental incarceration,



poverty, foster care, substance abuse, mental health needs, and learning disabilities.<sup>27</sup> Preventing young adults from experiencing incarceration would likely improve mental health outcomes for these individuals.

In addition to the literature that demonstrates an association between criminal justice involvement and physical and mental health outcomes, a growing body of research examines the intergenerational effects of incarceration and criminal justice contact. Multivariate analyses (adjusted for demographic, socioeconomic, and familial characteristics) found parental incarceration is independently associated with five children's health indicators: learning disabilities, Attention Deficit Disorder/Attention Deficit Hyperactivity Disorder, behavior or conduct problems, developmental delays, and speech or language problems.<sup>39</sup> An analysis of adverse childhood experiences (ACEs) found having a household member incarcerated may have health consequences that persist into adulthood. Controlling for age, sex, education, race/ethnicity, and other ACEs, Gjelsvik et al. found people who had a household member incarcerated during their childhood had higher odds of being a current smoker (AOR=1.5) and higher odds of heavy drinking (AOR=1.39). Therefore, reducing criminal justice contact for individuals cited for DWLS 3 has the potential to lead to improved health outcomes.

### **Will reducing the financial impact from fees/LFOs for individuals cited for DWLS 3 lead to improved health outcomes?**

There is very strong evidence that reducing the financial impact from LFOs for individuals cited for DWLS 3 will lead to improved health outcomes. Financial impact can be measured by a number of indicators including household income, socioeconomic position, relative deprivation, poverty rates, and personal indebtedness.<sup>12,13,15-18</sup> There is a large body of robust evidence that supports the association between income and health. Significant correlations exist between lower income and a number of health indicators including worse overall self-reported health, depression, stress, asthma, arthritis, stroke, oral health, tobacco use, women's health indicators, health screening rates, physical activity, and diabetes.<sup>8-10,12,15,16</sup> Further, 2015 data indicate that age-adjusted death rates were higher in Washington census tracts with higher poverty rates.<sup>11</sup> Household income was also the strongest predictor of self-reported health status in Washington in 2016, even after accounting for age, education, and race/ethnicity.<sup>14</sup>

In addition to the literature that demonstrates an association between income and health, another body of evidence also indicates an association between debt, or indebtedness, and health. Evidence from two large peer-reviewed systematic reviews show that unpaid debt is associated with poorer self-reported physical health and health-related behaviors such as physical activity, alcohol and tobacco use, and diet quality.<sup>13,17</sup> Further, evidence shows that personal debt negatively impacts mental health and is associated with an increased rate of depression and depression-related symptoms such as anxiety and anger as well as suicidal ideation.<sup>13,17</sup> The results from a pooled meta-analysis demonstrate significant associations between debt and mental disorders, depression, suicide completion or attempt, problem drinking, drug dependence, neurotic disorder, and psychotic disorders.<sup>13</sup> Therefore, reducing the financial burden from LFOs associated with misdemeanors, and thereby reducing legal debt, would improve mental and physical health outcomes for this population.

### **Will improved health outcomes lead to decreased health disparities among individuals cited with DWLS 3?**

There is very strong evidence that improving health outcomes for individuals cited for DWLS 3 would decrease health disparities. Evidence indicates that communities of color, young adults, and individuals with low-income are disproportionately represented among those cited for DWLS 3.<sup>3,29-31</sup> Evidence indicates that this disproportionality also exists in Washington. For example, in 2015, black and American Indian/Alaska Native individuals made up 12.6% and 3.5% of persons in Washington cited for DWLS 3 although they made up only 4% and 2% of the total Washington population, respectively.<sup>3</sup> Data was not available for other populations. Additionally, an examination of 1999 Seattle impound program data found, "...more than 40% of the approximately 5,000 cars impounded for DWLS violations were driven or owned by African-Americans," who comprised 11% of the city's population.<sup>31</sup> Young adults are also disproportionately charged with DWLS 3. According to the Administrative Office of the Courts data, individuals ages 18-29 comprised 51.6% of DWLS 3 filings from 1994 to 2015.<sup>3</sup> Additionally, evidence indicates that DWLS 3 cases disproportionately affect people with low-incomes across the state.<sup>3,29-31</sup> A 1999 study in Seattle found that of 184 people with suspended licenses, the average person had \$2,095 in unpaid fines and a monthly income of \$810.<sup>29</sup>

Data has shown that communities of color experience worse health outcomes than their counterparts for many health measures. In Washington, data indicate that American Indian/Alaska Natives and black residents had some of the highest age-adjusted death rates and shortest life expectancies at birth compared to other groups in the state.<sup>11</sup> Further, compared to white communities in Washington, communities of color also have higher rates of current tobacco use, diabetes, obesity, and poorer self-reported overall health and mental health.<sup>8,9,14,21,25</sup> Since communities of color are disproportionately represented among those cited for DWLS 3, by improving health outcomes for these populations, SB 6189 would have the potential to decrease health disparities by race/ethnicity.

Studies show that young people who have experienced incarceration are more likely to experience poor physical and mental health outcomes than those who have not experienced incarceration.<sup>14,27,28</sup> Limiting criminal consequences for those cited for DWLS 3 (criminal justice contact and LFOs/fees) has the potential to improve health outcomes for young adults, which would in turn help decrease health disparities among cited individuals.

Because income has such a large impact on health, as discussed above, low income populations face disparities in many health measures.<sup>8-20</sup> Data indicate that this correlation between low income and poor health exists in Washington State as well.<sup>8-11,14,25</sup> Improving health outcomes for individuals with low-incomes by decriminalizing DWLS 3 would, therefore, likely reduce health disparities.

## Annotated References

**1. Driving while license invalidated—Penalties—Extension of invalidation., RCW 46.20.342 (1993).**

Final Bill Report, Washington State Legislature HB 1741, 1993 Leg. 53rd Session (1993). Amended RCW 46.20.342(1)(c)(iv) to include failure to pay and failure to appear as grounds for driver's license suspension in the third degree, a misdemeanor.

**2. Beckett Katherine, Harris Alexes, Evans Heather. The Assessment and Consequences of Legal Financial Obligations in Washington State. Washington State Minority and Justice Commission;2008.**

In this report, Beckett et al. examine the assessment and consequences of legal financial obligations (LFOs) assessed by the Washington State Superior Court. The authors use two sources of data including 3,366 Washington State Superior Court cases from January and February 2004 as well as qualitative interviews with fifty Washington residents who were assessed LFOs in one of four selected counties. Data from court records indicate that Hispanic defendants, male defendants, and persons convicted of drug crimes have significantly higher fees and fines than their counterparts, including those convicted for violent crimes. Further, there is significant variation of median LFO by county, even among cases where the charges and prior criminal histories are identical. The authors found that counties with, "...smaller populations, higher drug arrest and violent crime rates, and/or comparatively small proportions of their budgets devoted to law and justice assess significantly higher fees and fines." Findings from interview data demonstrate that LFOs exacerbate many difficulties that individuals face when trying to reintegrate into their community following a criminal conviction. Examples of some of these added difficulties due to LFOs include reducing income and worsening credit scores, hindering efforts to pursue education, training, and employment, and reducing eligibility for federal benefits. The authors conclude by presenting a number of recommendations that would reform the current LFO practices in Washington.

**3. Washington American Civil Liberties Union of. Driven to Fail: The High Cost of Washington's Most Ineffective Crime - DWLS III. ACLU of Washington;2017.**

The ACLU of Washington conducted an analysis of DWLS 3 cases from the years 1994 to 2015. While the costs incurred for each DWLS 3 case vary (by jurisdiction, the defendant's previous record, presence or absence of a trial, etc.), the cost of enforcement was approximated using state agency estimates (Fiscal Notes) produced in 2012. At that time, the agencies estimated a single DWLS 3 case cost \$328 for prosecution (SB 6284 Local Government Fiscal Note), \$328 for defense, \$176 in court costs (SB 6284 Judicial Impact Fiscal Note), and \$264 in jail costs for cases resulting in a conviction. These costs were offset by an average of \$91 in government revenue per conviction. After adjusting for inflation, filing a DWLS 3 case costs between \$568 and \$925, depending on the year and if it results in a conviction between \$112 and \$182.24. An analysis of criminal court caseloads from 2010-2015 found that enforcement of DWLS 3 varies in Washington State by jurisdiction. Only courts with at least 200+ filings during the time period were included, and all superior courts were excluded. Data also showed that DWLS 3 cases disproportionately impact people of color, individuals with low-incomes, and young adults (ages

18-29). In 2015, White people accounted for 80.3% of the state population and 81% DWLS 3 filings in Washington; Native Americans were 1.9% of the population and 3.5% of DWLS 3 filings; and Black individuals comprised 4.1% of the population and 12.6% of DWLS 3 filings.

**4. Final Bill Report Enrogssed Second Substitute Senate Bill 6284, (2012).**

Reforming Washington's approach to certain nonsafety civil traffic infractions by authorizing a civil collection process for unpaid traffic fines and removing the requirement for law enforcement intervention for the failure to appear and pay a traffic ticket. Amended RCW by eliminating failure to pay non-moving violations from list of DWLS 3 offenses.

**5. Yi Youngmin, Turney Kristin, Wildeman Christopher. Mental Health Among Jail and Prison Inmates. *American Journal of Men's Health*. 2017;11(4):900-910.**

Yi et al. analyzed a sample (n = 3,139) from the Fragile Families and Child Wellbeing Study (FFCWS), a longitudinal survey commonly used to study the individual and spillover consequences of incarceration, to assess how the relationship between current incarceration and self-reported mental health varies across jail incarceration and prison incarceration. Researchers found fathers incarcerated in jails "...have higher odds of depression (OR=5.06), life dissatisfaction (OR = 3.59), and recent illicit drug use (OR=4.03)" compared to those not incarcerated. While fathers incarcerated in prisons "...have higher odds of life dissatisfaction (OR=3.88) and lower odds of heavy drinking (OR=0.32) compared with those not incarcerated." Results confirm the negative associations between incarceration and mental health and provide new insight into between-facility differences in mental health of currently incarcerated fathers. Authors conclude that further research is needed to better understand the effects of incarceration in jails and the implications for the well-being of current and former inmates' children and families.

**6. Sugie Naomi F., Turney Kristin. Beyond Incarceration: Criminal Justice Contact and Mental Health. *American Sociological Review*. 2017;82(4):719-743.**

The authors examined associations between criminal justice contact and mental health using data from the National Longitudinal Survey of Youth (NLSY97). The nationally representative survey of a contemporary cohort includes information about criminal justice contact (including arrest, conviction, and incarceration) and mental health over time. Analysis showed arrest and incarceration—but not conviction—are independently associated with poor mental health. Arrests accounted for nearly half of the association between incarceration and mental health. Authors propose uncertainty and anticipatory stress are primary mechanisms that worsen mental health and deserve further study. Researchers document that criminal justice contact is socially patterned and is more common among non-Hispanic blacks than non-Hispanic whites and Hispanics. However, the associations between criminal justice contact and mental health are similar across racial/ethnic groups. Researchers found respondents' previous exposure to disadvantaged ecological contexts (i.e. counties with high proportions of residents with incomes below the poverty, unemployed civilians, female-headed households, and households receiving public assistance income) had negative consequences for mental health. The authors asserts the importance of mental health for other life course outcomes (e.g. physical health, socioeconomic status, children's wellbeing) and conclude that the consequences of criminal justice contact may extend beyond mental health and have broad intra- and inter-generational consequences.

**7. Gjelsvik Annie, Dumont Dora, Nunn Amy. Incarceration of a Household Member and Hispanic Health Disparities: Childhood Exposure and Adult Chronic Disease Risk Behaviors. *Preventing Chronic Disease*. 2013;10(May).**

Researchers analyzed data collected as part of the 2009-2010 Behavioral Risk Factor Surveillance System (BRFSS) survey and optional adverse childhood events (ACEs) model to identify associations between the childhood experience of having a household member incarcerated and adult health risks (i.e., smoking status, weight status, physical activity, and drinking patterns). Of respondents (n=81,910) 6.5% had lived with an incarcerated household member during childhood. Those who did were more likely to have experienced other ACEs (68% had 3-7 other ACEs) compared to those who did not live with an incarcerated household member as a child (19% 3-7 ACEs). Consistent with other research, "in all age groups, black and Hispanic adults had a higher prevalence of exposure to an incarcerated household member, although the largest differences were seen in the younger age groups." Controlling for age, sex, education, race/ethnicity, and other ACEs, people who had a household member incarcerated during their childhood had higher odds of being a current smoker (AOR = 1.5) and higher odds of heavy drinking (AOR=1.39). Odds of physical inactivity and being overweight or obese were null. When stratified by race/ethnicity, no significant associations were seen among non-Hispanic black adults. Hispanic adults who had lived with an incarcerated household member as a child has higher odds of being a current smoker (AOR=1.71) and heavy drinking (AOR=3.01). However, Hispanic adults who did not report living with an incarcerated household member had less than half the odds of heavy drinking compared with their similarly unexposed white counterparts (AOR=0.44).

**8. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System Prevalence And Trends Data: Washington-2014. 2014; Available at: <http://apps.nccd.cdc.gov/brfss/page.asp?cat=XX&yr=2014&state=WA#XX>. Accessed August 16, 2016.**

Behavioral Risk Factor Surveillance System (BRFSS) 2014 data from Washington state show significant correlations between lower income and a number of health indicators including: worse overall self-reported health, depression, asthma, arthritis, stroke, oral health, tobacco use, women's health indicators, health screening rates, physical activity, and diabetes. Data also show that as educational attainment increases income level also increases.

**9. Boysun Mike, Wasserman Cathy. Health of Washington State Report: Tobacco Use. Washington State Department of Health;2012.**

Boysun et al. report Washington state Behavioral Risk Factor Surveillance System (BRFSS) data from 2008-2010, which indicate that adults with lower incomes are significantly more likely to report smoking cigarettes than their counterparts. Further, American Indians and Alaska Natives (AI/AN) and black populations have significantly higher smoking rates than white, Hispanic, and Asian populations. There is also significant geographic variation among counties with southwest and northeast counties in the state reporting higher rates of smoking. These counties are also more likely to have high levels of poverty and lower proportions of the population with college degrees.

**10. Ellings Amy. Health of Washington State Report: Obesity and Overweight. Washington State Department of Health;2015.**

Ellings reports Washington state Behavioral Risk Factor Surveillance System (BRFSS) data from 2002-2014, which shows that obesity rates are the highest among low income families and that as income increase, rates of obesity decrease. Further, individuals that graduated college or attended some college had lower rates of obesity than those who had a high school education or less. Black, American Indian and Alaska Native, and Hispanic Washington residents had higher rates of obesity even after accounting for gender, income, education, and age.

**11. Poel A. Health of Washington State Report: Mortality and Life Expectancy. Data Update 2015. Washington State Department of Health;2015.**

Poel presents Washington state data on mortality and life expectancy. The data show that age-adjusted death rates were higher in Washington census tracts with higher poverty rates. The state data also show that American Indian/Alaska Natives, Native Hawaiian/Other Pacific Islanders, and black residents had the highest age-adjusted death rate and shortest life expectancy at birth compared to other groups in the state.

**12. Prause J., Dooley D., Huh J. Income volatility and psychological depression. American journal of community psychology. 2009;43(1-2):57-70.**

Prause et al. analyzed a sample (n = 4,493) from the National Longitudinal Survey of Youth. Researchers found that income volatility was significantly associated with depression; and downward volatility (frequent losses in income) was significantly associated with depression even after controlling for baseline depression. High income appeared to act as a buffer, so those with lower incomes were more vulnerable to the adverse effects of downward volatility.

**13. Richardson Thomas, Elliott Peter, Roberts Ronald. The relationship between personal unsecured debt and mental and physical health: a systematic review and meta-analysis. Clinical Psychology Review. 2013;33(8):1148-1162.**

Richardson et al. present a synthesis of the literature from 1984 to 2013 regarding the relationship between personal unsecured debt and health, and then further present a meta-analysis or pooled odds ratios (OR). In total, the authors included 65 articles from 12 different countries with the vast majority from either the United States or the United Kingdom. Evidence from the systematic review shows that 78.5% of included articles (n=51) report that being in debt was associated with worse health. The majority of the studies examined the relationship between debt and mental health with a smaller number assessing debt and self-reported physical health. Results from the pooled meta-analysis found significant associations between "...debt and mental disorder (OR = 3.24), depression (OR = 2.77), suicide completion (OR = 7.9), suicide completion or attempt (OR = 5.76), problem drinking (OR = 2.68), drug dependence (OR = 8.57), neurotic disorder (OR = 3.21) and psychotic disorders (OR = 4.03)". The authors conclude that future research is needed to better understand the specific mechanisms by which debt is associated with health and the potential impact that debt repayment may have on improving outcomes.

**14. Serafin M. Health of Washington State Report: Self-reported Health Status. Data Update 2016. Washington State Department of Health;2016.**

Serafin presents data from Washington state on self-reported health status. The data show that after accounting for age, education, race and ethnicity, household income was a strong predictor of self-reported health status. Health status varied by race and ethnicity, with close to 35% of Hispanics, 30% of American Indian/Alaska Natives, and 20% of Native Hawaiian/Other Pacific Islander reporting fair or poor health. Washington Behavioral Risk Factor Surveillance System (BRFSS) data from 2012-2014 also show that education was a strong predictor of self-reported fair or poor health after adjusting for age.

**15. Subramanyam M., Kawachi I., Berkman L., et al. Relative deprivation in income and self-rated health in the United States. *Social science & medicine*. 2009;69(3):327-334.**

Subramanyam et al. analyzed data from the 2002, 2004, and 2006 Current Population Surveys conducted by the United States Census Bureau. Researchers found that individuals from the lowest income category were over five times more likely to report being in poor health than participants from the highest income category. In addition, they found that relative deprivation (the differences in incomes between an individual and others who have higher incomes than that individual [one measure of income inequality]) appeared to explain a large part of this association.

**16. Sweet Elizabeth, Nandi Arijit, Adam Emma K., et al. The high price of debt: household financial debt and its impact on mental and physical health. *Social Science & Medicine*. 2013;91:94-100.**

Sweet et al. analyzed data from the National Longitudinal Study of Adolescent Health (Add Health) to investigate the association between financial debt and health outcomes (n=8400). Data collection for Add Health began with Wave I in 1994/1995 with a cohort of adolescents grades 7-12. For this study, data from Waves I through Wave IV (collected in 2007/2008 at ages 24-32) were included in the analysis. The authors found that reporting high financial household debt is significantly associated with high perceived stress and depression, higher blood pressure, and worse self-reported general health. These associations remained significant after controlled for factors such as the number of people in the household, race/ethnicity, education, income, smoking, physical activity, diet, BMI, marital status, health insurance, job loss, and home ownership. The authors conclude that household debts relative to assets is a robust predictor of health outcomes and should be explored further as a socioeconomic determinant of health in future research.

**17. Turunen Elina, Hiilamo Heikki. Health effects of indebtedness: a systematic review. *BMC Public Health*. 2014;14(489).**

Turunen et al. systematically reviewed the literature from 1994 to 2013 to assess the relationship between indebtedness and mental and physical health (n=33 articles). About half of the included studies were conducted in the United States and measures for indebtedness varied widely. Evidence shows that personal debt negatively impacts mental health and is associated with an increased rate of depression and depression-related symptoms such as anxiety and anger as well as suicidal ideation. Unpaid debt was also associated with poorer subjective health and health-

related behaviors such as physical activity, alcohol and tobacco use, and diet quality. The authors conclude that indebtedness is associated with a number of serious health outcomes but that future research is needed to better understand the causal link and the role of other influences such as employment status and the type of debt.

**18. VanEenwyk J. Health of Washington State Report: Socioeconomic Position in Washington. Washington State Department of Health;2014.**

VanEenwyk presents data about socioeconomic position in Washington State including differences within the state as well as statewide differences compared to national data. Data indicate that compared to the United States as a whole, fewer Washington residents are living in poverty and a higher percentage of residents ages 25 and older have college degrees. However, these economic resources are not evenly distributed among all Washington residents. Females in Washington were more likely to be living in poverty than males and were also more likely to have lower wages. Further, American Indian and Alaska Native, Hispanic, and black residents had higher percentages of living in poverty and lower median household incomes compared to other groups. Data also indicated that counties in eastern Washington were more likely to have high poverty rates and high rates of unemployment than counties in western Washington.

**19. Modern-Day Debtors Prisons: The Ways Court-Imposed Debts Punish People for Being Poor. American Civil Liberties Union of Washington, and Columbia Legal Services;2014.**

This report focuses on four counties in Washington state to highlight the legal financial obligation (LFO) practices used in the courts with the goal that this information will drive the legislature to reexamine and reform current policies. The authors observed court proceedings; reviewed court records; and interviewed debtors, attorneys, and community members in each of the four selected counties, which were Benton, Clark, Clallam, and Thurston counties. The findings show that many courts are not properly considering a defendant's ability to pay when imposing discretionary LFOs and this often then requires people to choose between buying basic necessities and paying off their debt. Further, the state's 12% interest rate continues to create insurmountable debt for individuals who are already living in poverty. In this way, LFOs are a barrier for successful re-entry into communities upon release from custody. The authors conclude by presenting a number of recommendations that will help relieve the burden of LFOs on indigent persons as well as save resources for counties who put tremendous effort into collecting debts.

**20. Beckett Katherine, Harris Alexes. On cash and conviction: Monetary sanctions as misguided policy. *Criminology & Public Policy*. 2011;10(3):509-537.**

Becket. et al present a summary of the use of monetary sanctions in the United States and contrasts these with the model of "day fines" used throughout Europe. Evidence shows that instead of being used as an alternative, monetary sanctions are regularly used to supplement other criminal penalties, which creates substantial debt for many. Debt created through these kinds of sanctions is different from consumer debt in that it cannot be relieved through bankruptcy and is not offset by the value of goods and services. Overall, the authors conclude that the widespread use of monetary sanctions in the criminal justice system is at odds with the overarching goal of reintegration for former offenders. The authors argue that without



considering a defendant's current and future ability to pay, the use of monetary sanctions is "misguided and counterproductive" and that the use of these kinds of nongraduated sanctions should be discontinued in the U.S.

**21. Health of Washington State: Mental Health. Washington State Department of Health;2008.**

Washington Behavioral Risk Factor Surveillance System (BRFSS) data from 2004-2006 indicate that American Indians and Alaska Natives and non-Hispanic black individuals reported significantly higher rates of poor mental health compared to other groups. These relationships persisted after adjusting for additional factors such as age, income, and education. Washington BRFSS data also show an association between lower annual household income and poor mental health, a relationship that was also shown with education. It is well understood that mental health is also closely related to other areas such as employment opportunities, physical health, substance abuse. This report also highlights a Washington state study from 2002 that reveal that 16% of individuals in the state who were receiving publicly funded mental health services had at least one felony conviction, a rate over twice that of the general population.

**22. Dumont Dora M., Allen Scott A., Brockmann Bradley W., et al. Incarceration, community health, and racial disparities. *Journal of Health Care for the Poor and Underserved*. 2013;24:78-88.**

Dumont et al. present an evidence-based commentary about the social determinants of incarceration and inmate morbidity and mortality within the context of health disparities in the United States. Data indicates that over half of inmates in the U.S. have a mental health issue and between 16-24% experience serious mental illness, a percentage much higher than the 5-7% estimate nationally. Further, many inmates experience co-morbidities in addition to mental illness such as untreated substance dependence and addiction. The authors also discuss potential mechanisms for the ways in which incarceration perpetuates health disparities, particularly among black, Hispanic, and low-income populations who are disproportionately represented in the criminal justice system compared to their counterparts. Upon release from prison, data shows that former prisoners experience homelessness at a rate higher than the general population. Former prisoners also experience challenges with gaining education, employment, public assistance, and health insurance. These challenges all threaten an individuals ability to regain stability following incarceration and can have lasting impacts on their mental and physical health.

**23. Fredericksen Allyson, Lassiter Linnea. Disenfranchised by Debt: Millions Impoverished by Prison, Blocked from Voting. Alliance for a Just Society;2016.**

In this report, Fredericksen et al. examined state-by-state requirements for the payment of legal financial obligations (LFOs) in order for persons with felony convictions to regain their right to vote. These laws are referred to as criminal disenfranchisement laws and the authors find that disenfranchisement laws requiring payment of LFOs have a disparate impact on people of color. The report indicates that Washington state does not have a direct disenfranchisement law that is based on financial stipulations because it was found to be unconstitutional in a 2007 case. However, if an individual in Washington state misses three or more LFO payments within a twelve month period their voting rights may be revoked. The authors also note the disparities in

arrest and conviction rates on a national level. For example, black men in the United States are six times as likely to be incarcerated as white men are and American Indians/Alaskan Natives have the second highest rate of incarceration behind blacks. The authors conclude that poverty, and an inability to pay LFOs, should not bar people from the right to vote, particularly when the laws are disproportionately impacting those who are low-income and persons of color.

**24. Harris Alexes. A Pound of Flesh: Monetary Sanctions as Punishment for the Poor. New York: Russell Sage Foundation; 2016.**

The focus of this book, written by sociologist Alexes Harris, is the rise of monetary sanctions as a tool of the criminal justice system and the ways in which these sanctions marginalize and penalize the poor. While Harris presents data from across the United States, she focuses her analysis on the court practices of five counties in Washington State. In order to illustrate how these monetary sanctions are perpetuating inequality, Harris draws conclusions from quantitative and qualitative data including sentencing data, legal documents, court hearing observations, and eighty-nine interviews with judges, clerks, attorneys, and defendants. Harris further uses this evidence to support two main arguments throughout the book: "(1) monetary sanctions imposed by the criminal justice system create and sustain inequality in the United States and, (2) the system of monetary sanctions is enforced by criminal justice bureaucrats whose discretion is shaped by a culture of accountability."

**25. Kemple Angela. Health of Washington State Report: Diabetes. Washington State Department of Health;2016.**

Kemple presents data from Washington regarding diabetes in the state. Washington data from the Behavioral Risk Factor Surveillance System (BRFSS) from 2012-2014 show that among adults, the percentage of persons with diabetes increased as household income decreased. This relationship was also true for education. Further, BRFSS data also show that age-adjusted diabetes prevalence is highest among those who are Hispanic, American Indian/Alaska Native, and black.

**26. Prison Policy Initiative. Washington Profile. 2010; Available at: <http://www.prisonpolicy.org/profiles/WA.html>. Accessed September 13, 2016.**

This webpage provides data on incarceration in Washington from 2010. Data show that the rate of incarceration in the state has been growing since the late 1970's and in 2010, there were approximately 139,000 people behind bars of under criminal justice supervision in the state. Racial disparities are present in the Washington criminal justice system as well. In 2010, black, American Indian/Alaska Native, and Hispanic individuals made up 18%, 5%, and 14% of persons in Washington prisons and jails although they made up only 4%, 2% and 11% of the total Washington population, respectively.

**27. Schiraldi V, Western B, Bradner K. Community-Based Responses to Justice-Involved Young Adults. Harvard Kennedy School and National Institute of Justice;2015.**

This report aimed to present research in the area of criminal justice and young adult development as well as to present recommendations that focus on making the criminal justice system more developmentally appropriate for young adults. The authors refer to "young adults" as those ages

18-24. A robust body of evidence has suggest that the human brain continues to develop well into a person's 20's and that "adult-quality" decision-making ability continues to develop into adulthood. Researchers discuss what is known as the "maturity gap" where cognitive functioning develops faster than psychosocial capacities and because of this, young adults are more likely to, "...engage in risk-seeking behavior, have difficulty moderating their responses to emotionally charged situations, or have not developed a future-oriented method of decision-making." The authors further discuss that psychosocial development is further disrupted by additional factors such as involvement in the justice system, traumatic incidents, parental incarceration, poverty, foster care, substance abuse, mental health needs, and learning disabilities. Next, the authors present data regarding the current landscape in the United States for young adults in the justice system. In 2012, about 130,000 young adults were admitted to a state or federal prison (21% of all admissions) and another 97,500 were released back to their communities (15% of all releases). Among this population of young adults released from prison, rates of recidivism were significantly higher than the total prison releasee population and researchers estimate that 78% of young adults released will be rearrested within 3 years.

**28. Esposito Michael, Lee Hedwig, Hicken Margart, et al. The Consequences of Contact with the Criminal Justice System for Health in the Transition to Adulthood. *Longit Life Course Stud.* 2017;8(1):57-74.**

Esposito et al. examine the association between incarceration and health in the United State during the transition to adulthood. They applied the Bayesian Additive Regression Trees (BART) to data from The National Longitudinal Study of Adolescent to Adult Health dataset (n=10,785) to model incarceration's affect on health controlling for confounding variables (93 variables, and 36 covariates categorized as: demographic characteristics, prior health status behaviors, engagement in risky behavior, social connectedness, disposition characteristics, parental characteristics, and contextual residential characteristics). Authors examined three health outcomes: 1) an indicator for cardiovascular health (i.e. hypertension or raised blood pressure), 2) a measure of general health stauts (i.e. excellent/very good self-reported status), and 3) a measure of mental health status (i.e. depression). The analysis of two separate samples found individuals who had been incarcerated were more likely to suffer from depression, less likely to report being in excellent or very good health, and more likely to have hypertension than their peers with no history of incarceration. To examine if the health inequalities between previously incarcerated and never incarcerated individuals was a product of incarceration rather than a product of features that occurred prior to incarceration, they used the BART methodology to estimate how different the health of individuals who had experienced incarceration would be had they actually never experienced incarceration. Results suggest that elevated risk of depression among incarcerated individuals is largely a consequence of their incarceration (~5% both before and after accounting for confounders). Similarly, a prior history of incarceration appears decrease the probability of reporting excellent/very good health (~10%), roughly hald of the decrease in probability before accounting for confounders. Results show no adverse effects of incarceration on hypertension.

**29. Boruchowitz Robert. Diverting and Reclassifying Misdemeanors Could Save \$1 Billion per Year: Reducing the Need For and Cost of Appointed Counsel. *American Constitution Society for Law and Policy*. 2010(December):1-17.**

In this issue brief, Boruchowitz explores the potential procedural and financial benefits of reclassifying non-violent misdemeanors as civil infractions. Washington State's driving while license suspended in the third degree (DWLS 3) serves as a case study to examine the financial costs and disparate burden of non-violent misdemeanor enforcement. The author provides examples of relicensing diversion programs employed by various jurisdictions in Washington State and brief analysis of the programs' effects. For example, An evaluation of King County's voluntary Re-licensing Program in its early years found participants had a relicensing rate of 63% compared to a rate of 25% for those who did not participate in the program. The program allows individuals to establish a monthly payment plan or participate in community service. Available data indicate that enforcement of DWLS 3 disproportionately affects people of color and individuals with low-incomes. A study in 2000 showed that African-American drivers in Seattle were nearly twice as likely as whites to be ticketed for traffic violations. A 1999 analysis of found that of 184 people in Seattle with suspended licenses, the average person had \$2,095 in unpaid fines and a monthly income of \$810. A National Association of Criminal Defense Lawyers report that suggests reclassifying DWLS 3 as a non-criminal offense could lessen burdens on defendants by allowing them to work and meet their obligations and reduce unfairness related to racial disparity.

**30. Natapoff Alexandra. Misdemeanor Decriminalization. *Vanderbilt Law Review*. 2015;68(4):63.**

This law review found that full decriminalization, defined as reclassification of misdemeanors as civil infractions, of non-violent offences may reduce arrests, days of incarceration, and fines associated with offenses like driving while license suspended in the third degree (DWLS 3). However, Natapoff noted outcomes may vary dependent on how local jurisdictions apply the provisions. Defendants with the resources to pay fines can terminate contact with criminal justice system quickly and without the lasting effects of a criminal record. However, because Washington State incarcerates defendants for failure to pay fines, a fine-only model may translate into jail time for indigent individuals through the use of contempt proceedings (pay or appear). Incarceration due to failure to appear may exacerbate disparities in incarceration rates by disproportionately affecting people with low-incomes and people of color who may be less likely to find the time and transportation required to appear than offenders with more time and resources. Failure to pay may also negatively impact an individual's credit rating and their ability to rent an apartment, buy a car, or secure employment. An individual's records (arrest and criminal) and/or inability to reinstate their driver's license may also negatively affect employment (current and future prospects). Jurisdictional use of citations to measure performance or fines to fund the criminal justice systems and general budgets could exacerbate disparities by further racializing enforcement and serving as a regressive tax.

**31. Mitchell John B., Kunsch Kelly. Of Driver's Licenses and Debtor's Prison. *Seattle Journal for Social Justice*. 2005;4(1):439-493.**

Authors analyzed DWLS 3 policies using as an example courts in the State of Washington charged with adjudicating misdemeanors. Authors draw comparisons between DWLS 3 policies

and historical debtor's prison, as policies use criminal law to punish poverty. Researchers determine DWLS3 is a significant issue for the State of Washington as approximately 186,500 driver's licenses suspended each year—most for nonpayment. These cases constitute roughly one-third of the calendars of the courts of limited jurisdiction in Washington and frequently affect low-income individuals and communities of color. Authors conclude that historical and legal cases do not support the underlying assumption that license suspension or revocation will increase fine payments. They assert that decriminalizing DWLS3 for nonpayment of fines would benefit indigent individuals and their families and save local jurisdictions the costs associated with enforcement by police, the large expense of criminal court resources, and the cost of incarceration.

**32. Smith Elisabeth. Legislative Director, American Civil Liberties Union of Washington. In: Lang C, ed2017.**

The interview discussed the historical context of RCW 46.20, previous changes to provisions (HB 1741 in 1993; SB 6284 in 2012), as well as the intent of SB 6189 (and SB 6189) to reduce the burden of criminal justice contact (arrests and incarcerations) and fines levied against those cited with DWLS 3.

**33. London A, Myers N. Race, incarceration, and health. *Research on Aging*. 2006;28(3):409-422.**

London and Myers conducted a review of the literature around health and other outcomes for incarcerated individuals. They highlighted research that indicates that black Americans have worse health outcomes than other racial/ethnic groups, and also are disproportionately represented in the justice system. The authors also outlined data indicating the high rates of injury in jails and prison as well as the high rates of communicable disease among incarcerated and formerly incarcerated individuals. In addition, they highlight research that indicates that incarceration is associated with lower educational attainment, lower income, higher rates of unemployment, and higher involvement in jobs with high risk of injury or exposure to hazardous working conditions. Evidence also indicates that incarceration is associated with divorce and separation of families.

**34. Murray J, Farrington DP, Sekol I. Children's antisocial behavior, mental health, drug use, and educational performance after parental incarceration: A systematic review and meta-analysis. *Psychological Bulletin*. 2012;138(2):175-210.**

Murray et al. conducted a systematic review and meta-analysis of the literature on parental incarceration and impacts on children's later mental, emotional, and social health. They identified 40 studies that met their strict inclusion criteria. The researchers pooled the odds ratios across all samples in order to determine if children with incarcerated parents had a greater risk of each outcome than children in the control group who did not have an incarcerated parent or parents. These pooled odds ratios indicated that parental incarceration was significantly associated with antisocial behavior among their children even after controlling for covariates. In some subpopulations parental incarceration was significantly associated with children's poor academic performance, poor mental health, and drug use, but this association was not significant for every subpopulation and did not always remain significant after controlling for covariates.

35. **Roettger ME, Boardman JD. Parental incarceration and gender-based risks for increased body mass index: Evidence from the national longitudinal study of adolescent health in the United States. *American Journal of Epidemiology*. 2012;175(7):636-644.**

Roettger et al. analyzed data from the National Longitudinal Study of Adolescent Health (1994–2008). The dataset included 15,558 individuals who had completed interviews for all waves of the study, including 1,205 males and 1,472 females who reported that their biologic mother or father was incarcerated. The researchers found that females who had experienced a parent being incarcerated saw greater increase in Body Mass Index (BMI) over time for than did females whose parents had not been incarcerated. This trend remained significant even after controlling for stressful life events, internalizing behaviors, and a range of individual, familial, and neighborhood characteristics.

36. **Swisher RR, Roettger ME. Father's incarceration and youth delinquency and depression: Examining differences by race and ethnicity. *Journal of Research on Adolescence*. 2012;22(4):597-603.**

Swisher and Roettger analyzed data from the in-home portion of the National Longitudinal Study of Adolescent Health. Due to insufficient sample size for other racial/ethnic groups, only white, black, and Hispanic respondents were included in this study. The researchers found that among all racial/ethnic groups father's incarceration is associated with increased depression and delinquency for the children, even after controlling for other variables such as demographics and family background measures. In addition, when considering these results by race/ethnicity, the data indicate that among Hispanic respondents, having their father incarcerated is associated with a higher propensity for delinquency than among white and black respondents.

37. **Turney K, Wildeman C, Schnittker J. As fathers and felons: Explaining the effects of current and recent incarceration on major depression *Journal of Health and Social Behavior*. 2012;53(4):465-481.**

Turney et al. analyzed data from the longitudinal Fragile Families and Child Wellbeing study. The researchers found that currently and recently incarcerated fathers are more likely to report a change in employment status, separation from a child's mother, a change in relationship quality, and depression. The association between incarceration and depression remained significant even after controlling for variables such as demographic characteristics and history of depression.

38. **Wu E, El-Bassel N, Gilbert L. Prior incarceration and barriers to receipt of services among entrants to alternative incarceration programs: A gender-based disparity. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*. 2012;89(2):384-395.**

Wu et al. collected data from a random sample of adults (N=322; 83 women and 239 men) entering alternative to incarceration programs in New York City. Researchers collected data through structured interviews including information on sociodemographics, substance use, prior incarcerations, and barriers that had prevented a participant from visiting or returning to a service provider. Less than half of the participants had earned a high school diploma or GED. When analyzing collapsed data for male and female participants, they found that a greater number of prior incarcerations were significantly associated with a greater number of barriers that prevented

accessing a service provider. When they analyzed the data disaggregated by sex and controlling for sociodemographic and substance use indicators, researchers found that the relationship between a greater number of prior incarcerations and greater number of service barriers experienced remained significant only for men.

**39. Turney Kristin. Stress Proliferation across Generations? Examining the Relationship between Parental Incarceration and Childhood Health. *Journal of Health and Social Behavior*. 2014;55(3):302-319.**

Turney conducted a multivariate analysis that incorporates children into the stress process paradigm to examine the relationship between parental incarceration and children's health. The author used data collected through the 2011-2012 National Survey of Children's Health (NSCH), a cross-sectional probability sample of non-institutionalized children ages 0-17 years in the U.S. Adjusted for demographic, socioeconomic, and familial characteristics, the analyses show parental incarceration is independently associated with 5 of 19 health conditions considered: learning disabilities, Attention Deficit Disorder/Attention Deficit Hyperactivity Disorder, behavioral or conduct problems, developmental delays, and speech or language problems. Results suggest parental incarceration is more detrimental to behavioral or conduct problems and developmental delays than parental divorce or separations. Findings add to the literature that children's health disadvantages may be an unintended consequence of mass incarceration. In addition, household member mental health problems are associated with 15 of 19 indicators of children's health. The use of a cross-sectional dataset made it impossible to determine whether the association is due to shared genetics, shared environments, or some combination of the two. Further research is needed to determine how mental health, incarceration, and children's mental health are associated.