

Executive Summary: Health Impact Review of 2SSB 5774

Relieving student debt (2019 Legislative Session)

Evidence indicates that 2SSB 5774 has the potential to result in some students participating in the Student Loan Refinancing Program, which can decrease participants' student loan debt burden, leading to improved health outcomes. It is not well researched whether participation in the Income Share Agreement Pilot Program would lead to reduced student loan debt. It is unclear how the bill would impact health inequities.

BILL INFORMATION

Sponsors: Liias, Palumbo, Mullet, Randall, Wellman, Darneille, Conway, Keiser, Kuderer, Nguyen, Wilson, C.

Summary of Bill:

- Enacts the Student Loan Relief and Reform Act.
- Creates an income share agreement pilot program.
- Establishes a student loan refinancing program.
- Specifies required disclosures and borrower protections for each program.
- Stipulates both programs expire July 1, 2029.

HEALTH IMPACT REVIEW

Summary of Findings:

This Health Impact Review found the following evidence regarding the provisions in 2SSB 5774:

Pathway 1: Income Share Agreement Pilot Program

This review makes the **informed assumption** that creating and implementing an Income Share Agreement (ISA) Pilot Program for higher education students in Washington State would result in some students applying for, receiving, and using ISAs to fund a portion of their higher education. This informed assumption is based on discussions with staff at Purdue University's ISA Fund and the Washington Student Achievement Council.

- **It is not well researched** whether participation in the ISA program will reduce student loan debt burdens.

Pathway 2: Student Loan Refinancing Program

This review makes the **informed assumption** that creating and implementing a Washington Student Loan Refinancing Program for higher education students in the state would result in some eligible borrowers refinancing their student loans. This informed assumption is based on discussions with staff at Washington Student Achievement Council and a researcher in the field of economics.

- **A fair amount of evidence** that refinancing student loan debt through a state refinancing program would likely reduce the burden of student loan debt to varying degrees for at least some portion of participating borrowers.
- **Strong evidence** that reducing student loan debt burdens would likely result in improved health outcomes for those impacted.

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Executive Summary: Health Impact Review of 2SSB 5774 **Relieving student debt (2019 Legislative Session)**

Unclear evidence of the bill's impacts on health inequities. Provisions in the bill allow the Washington Student Achievement Council flexibility to determine program eligibility criteria and to negotiate specific program details (i.e., with ISA Pilot Program investors and Student Loan Refinancing Program partner financial institutions). Programmatic factors like eligibility criteria and applicant prioritization will likely influence how this bill impacts inequities. Therefore, analysts were unable to determine who would likely benefit from each program.

Available evidence indicates that certain groups have particularly large amounts of outstanding student loan debt (e.g., graduate and professional students) and some groups face greater challenges to paying off their student loan debt (i.e., students who did not complete their degree, students who attended for-profit institutions, borrowers of color, and women). Some evidence also indicates that student loan refinancing programs disproportionately benefit high-income, high-debt graduate and professional borrowers compared to those who borrowed smaller balances for less advanced degrees and those who did not complete their degree. Finally, evidence shows that people of color, women, and students with low-incomes are disproportionately burdened by their student loan debt. Each of these factors is analyzed in more detail in the full Health Impact Review.

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**Health Impact Review of 2SSB 5774
Relieving student debt (2019 Legislative Session)**

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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 Second Substitute Senate Bill 5774 ([2SSB 5774](#)).

Staff analyzed the content of 2SSB 5774 and created a logic model depicting possible pathways leading from the provisions of the bill to health outcomes. We consulted with experts and contacted key informants about the provisions and potential impacts of the bill. We conducted an objective review of published literature for each pathway using databases including PubMed, Google Scholar, and University of Washington Libraries. More information about key informants and detailed methods are available upon request.

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-evidence for each relationship. The strength-of-evidence has been defined using the following criteria:

- **Not well researched:** the review of literature 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 review of literature 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 percentage 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 review of literature 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 review of literature 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.

This review was subject to time constraints, which influenced the scope of work for this review. 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 are referenced multiple times.

Analysis of 2SSB 5774 and the Scientific Evidence

Summary of relevant background information

- In the U.S., 44 million borrowers hold about \$1.3 trillion in outstanding student loans.¹
- In the past 20 years, total student loan debt in the United States has more than doubled. This increase “stems from both a greater number of students receiving loans and a larger average loan amount.”²
- Washington State ranks 23rd in the level of total student loan debt for college graduates.²
- According to the Washington Student Achievement Council (WSAC), of 2015-2016 graduates in Washington State the mean debt owed was: \$14,353 among 2-year undergraduate students (n=19,771); \$22,195 among 4-year undergraduate students (n=28,711); \$54,347 among graduate students (n=6,694); and \$117,486 among professional students (n=2,911).² These data excluded private student loans.
- Student loans are categorized as either federal loans (provided by the federal government) or private loans (provided by states, private banks, credit unions, or higher education institutions).² Generally, “federal loans offer the most generous terms, followed by state loans. Private banks and credit unions offer the least favorable loan terms for most students.”²
- Washington State does not currently offer a general student loan program to higher education students.² It does offer specialized loan programs for entry-level aerospace workers and a loan repayment program for health professionals working in underserved areas.²
- Income Share Agreements (ISA) are contractual agreements in which a student receives education funding in exchange for an agreed upon percentage of post-graduation income over a defined number of years.³

Summary of 2SSB 5774

- Enacts the Student Loan Relief and Reform Act.
- Creates an ISA pilot program administered by WSAC. The pilot would require ISA contract terms and disclosures to: specify the future income a borrower must pay; include a maximum duration; exempt a person’s income up to the federal poverty level (FPL), adjusted for family size; allow for discharge of obligation if they become permanently disabled; specify how an individual can extinguish their obligation; limit the maximum future income obligation to 15%; and allow payment timeline to be extended for the amount of time the person is exempt from payments due to insufficient income.
- Establishes a student loan refinancing program. The program allows WSAC to contract with up to five private financial institutions (i.e., bank, trust company, mutual savings bank, savings and loan association, or credit union) to provide more favorable terms for refinancing student loans. A loan may only be refinanced if the financial institution under the terms of the program can offer better terms including: lower interest rates (i.e., at least 0.25% lower than current interest rate), shorter payment periods, or overall lower costs of debt service. The financial institution must disclose to the borrower if a federal student

loan is being refinanced that the borrower may lose certain protections including loan forgiveness or income-based repayment (IBR) options.

- Specifies required disclosures and borrower protections for each program.
- Stipulates both programs expire July 1, 2029.

Health impact of 2SSB 5774

Evidence indicates that 2SSB 5774 has the potential to result in some students participating in the Student Loan Refinancing Program, which can decrease participants' student loan debt burden, leading to improved health outcomes. It is not well researched whether participation in the Income Share Agreement Pilot Program would lead to reduced student loan debt. It is unclear how the bill would impact health inequities.

Pathway to health impacts

The potential pathways leading from the provisions of 2SSB 5774 to decreased health inequities are depicted in Figure 1.

Pathway 1 represents the most direct pathway between the provisions in the bill, ISAs, and health outcomes. This review makes the informed assumption that creating and implementing an Income Share Agreement (ISA) Pilot Program for higher education students in Washington State would result in some of these students applying for, receiving, and using ISAs to fund a portion of their higher education. This informed assumption is based on discussions with staff at Purdue University's ISA Fund and the Washington Student Achievement Council. It is not well researched whether participation in the ISA program will reduce student loan debt burdens.

Pathway 2 represents the most direct pathway between the provisions in the bill, student loan refinancing programs, and health outcomes. This review makes the informed assumption that creating and implementing a Washington Student Loan Refinancing Program for higher education students in the state would result in some of these eligible borrowers refinancing their student loans. This informed assumption is based on discussions with staff at Washington Student Achievement Council and a researcher in the field of economics. There is a fair amount of evidence that refinancing student loan debt through a state refinancing program would likely reduce the burden of student loan debt to varying degrees for at least some portion of participating borrowers.^{2,4} There is strong evidence that reducing student loan debt burdens would likely result in improved health outcomes for those affected.⁵⁻¹⁰

It is unclear from available evidence how the bill would impact health inequities. Provisions in the bill allow the WSAC flexibility to determine program eligibility criteria and to negotiate specific program details. Programmatic factors like eligibility criteria and applicant prioritization will likely influence how this bill impacts inequities. Therefore, analysts were unable to determine who would likely benefit from each program.

Available evidence indicates that certain groups have particularly large amounts of outstanding student loan debt (e.g., graduate and professional students) and some groups face greater challenges to paying off their student loan debt (i.e., students who did not complete their degree, students who attended for-profit institutions, borrowers of color, and women). Some evidence also indicates that student loan refinancing programs disproportionately benefit high-income,

high-debt graduate and professional borrowers compared to those who borrowed smaller balances for less advanced degrees and those who did not complete their degree. Finally, evidence shows that people of color, women, and students with low-incomes are disproportionately burdened by their student loan debt. Each of these factors is analyzed starting on page 13.

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

- Whether reducing student loan debt influences a person's decision to further their educational attainment. For example, 26% of students from low-income backgrounds do not apply for federal aid, even though they would qualify.¹¹ One discussion paper found these inequities are due in part to debt aversion.¹¹ However, another study found that student loans did not impact educational attainment.⁷

Magnitude of impact

In the face of increasing college costs, a Federal Reserve Report found that: “American students do not forgo education, but instead amass more debt.”¹² Student loans are the most common form of debt used to finance education, held by 94% of those with their own education debt outstanding.¹³ A 2017 report on student loan debt in Washington State from the State Attorney General's Office estimated more than 800,000 Washingtonians have outstanding student loan debt.¹² At the end of 2016, Washingtonians collectively owed \$24.4 billion in student loan debt.¹⁴ As of 2014, nationally only 37% of student loan balances were actually being paid down; 13% of loan balances were constant; 33% were increasing; and 17% were delinquent (i.e., missed a payment) or in default (i.e., no payment made in more than 270 days).¹² In Washington, 2012 data show that nearly 112,000 Washingtonians (14.7%) with federal and private student loans were significantly (90+ days) past due on their payments.¹²

Moreover, “in 2016, 436 for-profit career colleges and degree-granting institutions operated in Washington, enrolling 48,600 students. These schools accounted for 12% of postsecondary enrollment in the state.”¹² For-profit college students are more likely to be from low-income areas, disadvantaged backgrounds, and struggle with unemployment after leaving school than their peers in the private nonprofit and public sectors.¹² Evidence cited in a 2012 report by the U.S. Senate Health, Education, Labor and Pensions Committee showed: “96 percent of students attending for-profit colleges took out student loans, compared to 13 percent at community colleges, 48 percent at 4-year public, and 57 percent at 4-year private non-profit colleges.”¹² Furthermore, a report notes that students at for-profit schools generally borrow more: “the average independent student, who represents most of the for-profit student body, graduated with a median debt of \$32,700, compared to a median debt of \$20,000 of independent students at public colleges, and \$24,600 at private non-profit colleges.”¹²

Pathway 1: Income Share Agreement Pilot Program

Analysts were unable to determine the potential magnitude of impact of the proposed ISA pilot program (i.e., the number of students who will participate and whether any groups of students might disproportionately benefit from the program). According to WSAC's fiscal note, “expenditures for the [ISA] Pilot Program are dependent on available funding for the program,

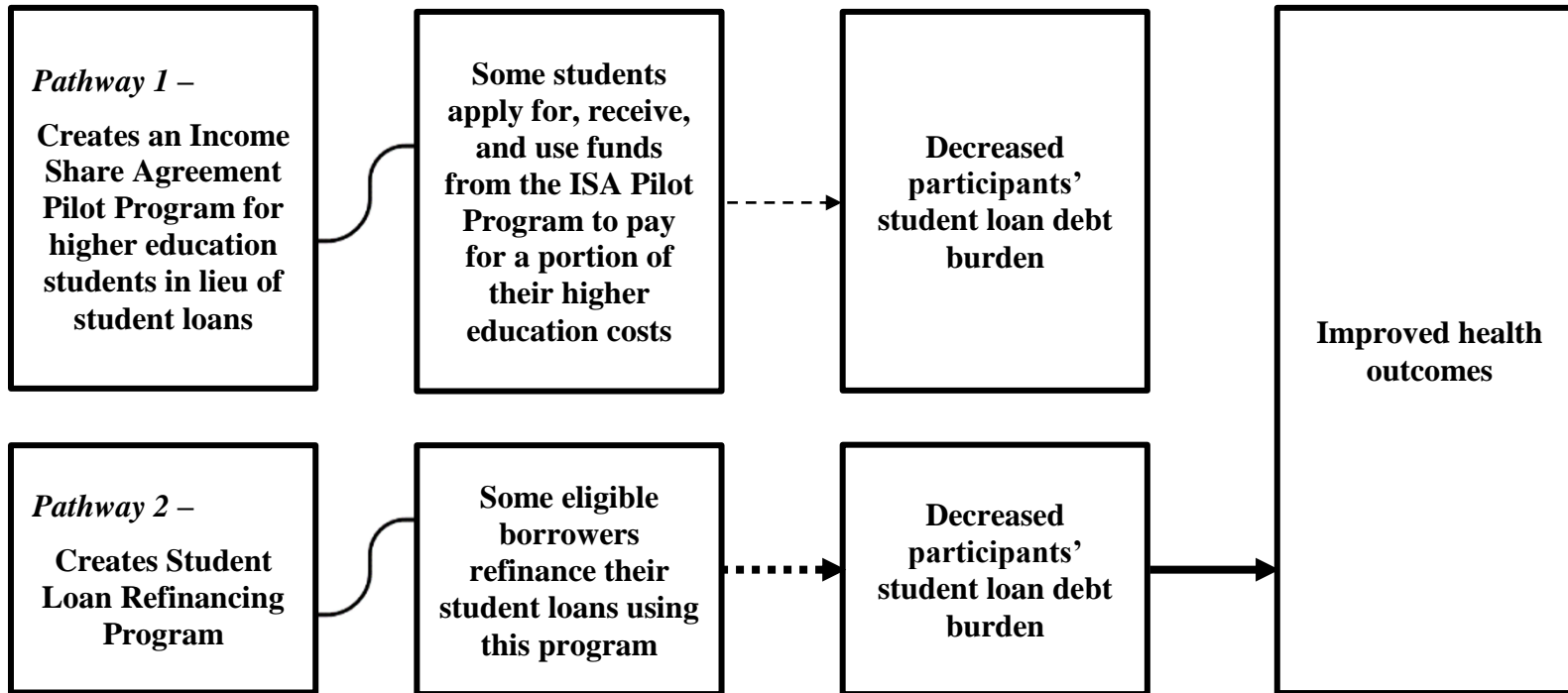
number of participants, amounts initially awarded, contract terms, including percentage of future income that is obligated, future income of participants, number of deferments or cancellations, and total years of payment to program by participants.”¹⁵

Evidence from Purdue University’s Back a Boiler – ISA Fund indicates that all of the University’s colleges and over 120 majors are represented among students participating in the program.³ Post-funding surveys have shown that when categorized by major and sorted into University Colleges (e.g., Engineering, Health and Human Sciences, Liberal Arts, Polytechnic Institute, Krannert School of Management and Agriculture, etc.) students participating in the ISA Fund are generally proportional to the undergraduate population (Purdue Research Foundation [PRF], personal communication, March 2019).

Pathway 2: Student Loan Refinancing Program

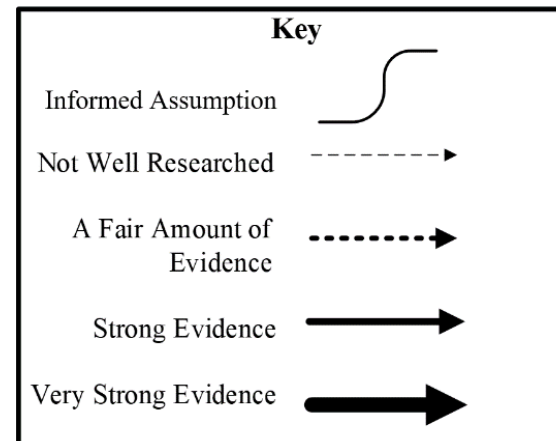
Analysts were unable to determine the potential magnitude of impact of the proposed Student Loan Refinancing Program (i.e., the number of students who will participate). However, evidence suggests that students with greater outstanding loan balances would likely disproportionately benefit from the program.^{2,4,16} According to the WSAC’s fiscal note, “expenditures for the Washington Student Loan Refinancing Program are dependent on available funding for the program, number of participants, average loan indebtedness, interest rates on loans being refinanced, terms of the refinanced loans, and number of defaults.”¹⁵

Logic Model



**See page 13 for a detailed analysis of potential impacts of 2SSB 5774 on health inequities*

Figure 1
Relieving student debt
2SSB 5774



Summaries of Findings

Pathway 1: Income Share Agreement Pilot Program

Will creating and implementing an Income Share Agreement Pilot Program result in some students using the program to fund a portion of their higher education?

We have made the informed assumption that creating and implementing an Income Share Agreement (ISA) Pilot Program for higher education students in Washington State would result in some of these students applying for, receiving, and using ISAs to fund a portion of their higher education costs. This informed assumption is based on discussions with staff at Purdue University's ISA Fund and the Washington Student Achievement Council (WSAC).

Purdue University launched its Back a Boiler - ISA Fund in the fall of 2016 as a funding alternative to private loans and Federal Parent PLUS Loans for students who needed additional funding, often referred to as gap funding, to pay for their education (Purdue Research Fund [PRF], personal communication, March 2019). An ISA is a contractual agreement in which a student receives education funding in exchange for an agreed upon percentage of post-graduation income over a defined number of years.³ Once a recipient makes successful payments over the specified term, no additional payments are required “even if they have paid less than the amount of the funding they received.”³ However, “most individuals in the program will pay more than the amount funded.”³ Unlike traditional loans, with ISAs, students are not accruing interest on the total amount funded.³ Instead, the Income Share percentage remains constant over the course of the ISA, and the amount required to pay (Income Share multiplied by earned income) only grows due to the growth rate of the individual's earnings. Conversely, the monthly payment may reduce or can be zero depending on the person's employment situation (PRF, personal communication, March 2019). Payment terms vary by student (e.g., major, anticipated graduation year), but are set to be competitive with current education finance options. Graduates who earn high incomes may pay more than they would have with a conventional loan.³ However, Purdue caps the total amount paid at 2.5 times the initial amount received. If a recipient prepays, or repayments equal 2.5 times the amount of the initial funding, then no additional payments are required.³ To facilitate transparency and ensure that students understand their various education funding options, PRF offers an online comparison tool for students to view how the ISA compares to private loans or Federal Parent PLUS loan options. To date, there are 820 contracts with Purdue students enrolled in the ISA Fund, totaling \$9.8 million in funding (an average of nearly \$12,000 per contract) (PRF, personal communication, March 2019).

The ISA pilot program outlined in 2SSB 5774 is modeled on Purdue's ISA Fund. While specific programmatic elements are stipulated in the bill language (see summary on page 2), the legislation provides flexibility for WSAC to make programmatic decisions. Analysts contacted WSAC Director of Student Financial Assistance, Becky Thompson, to learn more about how the program might be implemented. Although ISAs would constitute a new book of business, WSAC would draw on experience administering state aid programs which include traditional student loan repayment programs. In addition, WSAC would contact staff at PRF to learn more about how the University established its ISA Fund (e.g., calculating Income Share percentages) and their lessons learned and anticipates contracting with an outside administrator. Additionally, WSAC would seek legal advice related to investors' rights. For example, Thompson noted,

“having not done this yet, it is unclear if repayment calculations would need to take into consideration other types of debt (e.g., student loan monthly payments) or how that might affect investor’s decisions” (WSAC, personal communication, March 2019). She also anticipates WSAC would gather a stakeholder group, including Washington investors and students, to provide input during program development. For example, stakeholders might be asked to weigh in on the type of educational funding made available through the ISA pilot program: a) gap funding to supplement other financial assistance (i.e., Purdue’s model) or b) funding to cover the full cost of tuition in lieu of student loans. In addition to protections detailed in the legislation (e.g., paused payments for households with incomes at or below 100 FPL, and forgiven balances for those experiencing permanent disability or death), WSAC would be interested in what types of protections applicants might value for unforeseen life events that Federal student loan programs provide (e.g., forbearance, military deferment).

Like Purdue’s ISA Fund, Thompson anticipates the pilot would adopt a cumulative Income Share model in which students who sign ISAs for multiple terms/years would pay the sum of their individual Income Share percentages for the specified number of years (WSAC, personal communication March 2019). For example, a student who signed an ISA for their junior year (e.g., 4% for 7 years) and a second ISA their senior year (4.2% for 7 years) would be responsible for paying 8.2% (i.e., 4% + 4.2%) of their post-graduation income for 7 years. This follows the model of other conditional scholarship programs in which students receive 1-year of educational funding for X number of years of service in the designated field post-graduation. Thompson notes that it would be important for WSAC to carefully develop communication tools to transparently communicate how ISAs compare to the other education funding options available (e.g., Parent PLUS loans, Graduate PLUS loans, private loans) (WSAC, personal communication, March 2019).

In regard to securing funds for the pilot program, Thompson shared that WSAC has not traditionally been responsible for fundraising, and it is unknown what private sources may be interested in investing in the ISA account (WSAC, personal communication, March 2019). While funding sources and potential amounts are uncertain, WSAC would want to launch the program as quickly as possible, even with limited funding, to test student demand for ISAs. This might involve piloting with specific higher education institutions or program interested in partnering with the State (WSAC, personal communication, March 2019).

Based on discussions with key informants and the example from Purdue, we would expect that creating and implementing an ISA Pilot Program for higher education students would result in some number of eligible students applying for, receiving, and using ISAs to fund some portion of their higher education costs.

Will using the ISA Pilot Program to fund a portion of their higher education costs reduce participants’ student loan debt burden?

There is insufficient evidence to determine whether participation in the ISA program will reduce student loan debt burdens, therefore, we have classified this association as not well researched.

Because Purdue’s Back a Boiler - ISA Fund has only been in effect since Fall 2016, none of the ISA contracts have been paid in full and only a small portion of ISA contracts have entered

repayment (170 contracts) (PRF, personal communication, March 2019). An additional 30 contracts are considered in flux and have not entered repayment as students are currently seeking employment post-graduation (PRF, personal communication, March 2019). Therefore, it is uncertain how much the average graduate will pay on their ISA contract (i.e., X times the original amount funded). However, the program models that most students will end up paying 1.5 or 1.6 times their funding amount. Program staff shared anecdotal information that at least some students who applied or received funding used ISA funds to avoid taking out private loans, Federal Parent PLUS loans, or dropping out of school due to lack of tuition (PRF, personal communication, March 2019). For those students, it is possible that ISAs provided necessary access to funds to complete their degree, thereby increasing their earning capacity, without taking on additional educational debt. However, without knowing their other funding alternatives or how the average amount repaid on an ISA contract compares with traditional student loans, we cannot determine how use of ISAs affects student loan debt burden.

In theory, ISAs have the potential to be less burdensome than additional student loan debt (e.g., variable interest rates, payment periods, portion of income) for some individuals. Specifically, the set terms and protections known to students before they sign the ISA include: a) fixed portion of the individual's future income (i.e., Income Share); b) set number of payment months (e.g., 80-116 months); c) maximum repayment amount of 2.5 times the original funding received; and d) no accrued interest. Analysts were unable to find estimates of the total amount repaid by typical borrowers compared to the initial loan amount, but we would expect variation related to repayment plan (e.g., income sensitive vs. standard vs. extended). Alternatively, the amount repaid for an ISA only grows with an individual's income rather than due to the length of time necessary to repay a traditional loan in which the total amount repaid grows with accrued interest.² However, Federal loans have additional benefits including the potential for public service loan forgiveness, deferment, and forbearance. Purdue's ISA Fund includes some built-in downside protections for students, including no payment if unemployed, making less than the minimum salary (\$20,000), working part-time, back in school, or not in the workforce. Moreover, unlike traditional loans, when an ISA is in deferment, no interest is accruing, nor is the balance building.

When developing the program, it will be important for WSAC to consider those students who use both ISAs and traditional student loans to fund their education. The federal loan program offers income-driven repayment plans, which generally limits payments to 10-20% of a borrower's discretionary income, adjusted for family size, depending on plan.¹⁷ If a student is using both forms of funding they may still pay more than 15% of their monthly income to cover education costs.

Overall, additional information, including ISA program details and participating students' other debt, is necessary to determine how the ISA Pilot Program would likely affect student loan debt burdens generally.

Pathway 2: Student Loan Refinancing Program

Will creating and implementing a Washington Student Loan Refinancing Program for borrowers with higher education debt result in some eligible borrowers using the program to refinance their student loan debt?

We have made the informed assumption that creating and implementing a Washington Student Loan Refinancing Program for borrowers with higher education debt in the state would result in some of these eligible borrowers refinancing their student loans through this program. This informed assumption is based on discussions with staff at WSAC and a researcher in the field of economics.

Broadly, borrowers are likely to refinance their loans when: 1) the available interest rate is lower than their current rate and/or 2) they want lower monthly payments.² Those with disposable income may prefer the first option, while those with limited discretionary income who struggle to make monthly payments may prefer the second.²

In particular, the first condition often appeals to borrowers with private, Federal Grad PLUS, and Federal Parent PLUS loans because these loans have higher interest rates than the rates typically offered through refinancing.² Those with Federal undergraduate loans are less likely to refinance because the low federal interest rate of these loans is typically difficult to undercut (Natalie Bachas, Assistant Professor of Economics, Princeton University, personal communication, March 2019). By refinancing high-interest loans, borrowers can reduce the overall cost of their loan with lower interest rates paid back over a shorter period.²

Conversely, borrowers who struggle to make their monthly payment typically prefer lower monthly payments. These borrowers tend to refinance to secure lower monthly payments paid over an extended repayment period (i.e., maturity, the final payment date of a loan, at which point the principal and all remaining interest is due to be paid). Because the size of the monthly payment and the total cost of the loan are inversely related, “loans paid back over a longer period of time tend to have lower monthly payments but a higher total cost (due to more paid interest).”² Lower monthly payments allow borrowers with lower incomes and/or cash flow issues more flexibility to respond to unforeseen financial costs like medical bills or car repairs.

Borrowers have several options through the Federal student loan program to consolidate (i.e., bundle multiple loans with variable interest rates to lock in one interest rate) their Federal student loans. However, the Federal program does not allow borrowers to refinance or consolidate their private student loans the way private companies do. Borrowers may choose to refinance through the Federal program to maintain Federal protections (e.g., forbearance, deferment) and other potential benefits, including the Public Service Loan Forgiveness Program and Income-Based Repayment [IBR] plan (WSAC, personal communication, March 2019).

Alternatively, borrowers who are considered low-risk may be able to decrease both their total and monthly costs by refinancing to a lower interest rate with private companies.¹⁸ Private banks and credit unions generally target relatively recent graduates from professional programs who have a high amount of debt and a high income or earning potential.² These private programs allow individuals to refinance both Federal and private student loans. However, if borrowers

refinance with private companies they lose student loan protections and benefits (described above) offered by the Federal student loan program. For example, a 2017 analysis found that graduate students value the availability of IBR as insurance against future low wages or unemployment, and these benefits are not offered by private loans.¹⁹ The analysis indicates that while interest rates are an important factor in student loan decisions, flexible repayment plans are equally if not more important a consideration.¹⁹

Provisions in 2SSB 5774 stipulate that Washington residents who have completed their associate's, bachelor's, graduate, or professional degree and those who have received their certificate, diploma, or degree from a trade, career, or technical school are eligible to refinance their qualified education loans under the proposed program. Becky Thompson shared there are many unknown variables that would affect which borrowers might benefit from a refinancing program, and stated "ideally, WSAC would want to create a program with protections and benefits very similar to, or better than, the Federal student loan program. We would also want to keep the entry barrier as low as possible and would only establish additional eligibility criteria, beyond what is in statute, if absolutely necessary" (WSAC, personal communication, March 2019).

Based on discussions with key informants and an understanding of what conditions generally prompt borrowers to refinance student loans, we would expect that creating and implementing a Washington Student Loan Refinancing Program for borrowers with higher education debt would result in some number of eligible borrowers refinancing their student loans through this program. The number and characteristics of those borrowers who would benefit from the program would depend on currently uncertain program factors (interested borrowers, eligibility criteria, loan terms negotiated with the five participating financial institutions, protections and benefits, etc.).

Will refinancing student loan debt through the Washington Student Loan Refinancing Program reduce participants' student loan debt burden?

There is a fair amount of evidence that refinancing student loan debt through a state student loan refinancing program would likely reduce the burden of student loan debt for at least some portion of participating borrowers.

Provisions in 2SSB 5774 require that a qualified loan made to a qualified borrower to refinance an existing student loan "carry a contractual interest rate at least one-quarter of one percentage point lower than the loan being refinanced."²⁰ While WSAC would negotiate the best terms possible for program participants, it is uncertain to what extent the program may reduce the average interest rate or monthly loan payment paid by participating borrowers. In the absence of specific program details, this section discusses evidence from two analyses estimating the potential financial benefits for borrowers refinancing student loans under various conditions.

A 2017 analysis of 2013 Survey of Consumer Finances data estimated: 1) the portion of U.S. borrowers in good standing (i.e., no delinquencies) with both federal and private student debt who would be able to lower their interest rates under refinancing; 2) their average monthly savings; 3) the average total amount saved over the life of the loan; and 4) the share of borrowers who would benefit from enrolling in IBR plans instead of refinancing.⁴ The analysis found "52.8% of households with student debt could potentially lower their interest rate through

refinancing.”⁴ In 2013, the average interest rate across all student loans was 5.8% before refinancing and dropped to 4.2% if all eligible borrowers refinanced.⁴ This amounted to an average household saving of \$8.17 per month.⁴ Over the total life of the loan, the average household would save \$941 in nominal dollars for the total amount paid—\$30,988 total paid (principal plus accrued interest) without refinancing compared to \$30,057 total with refinancing.⁴ Potential monthly savings and total savings over the course of the lifetime of the loan varied by level of education attained, household income, race/ethnicity, and amount of debt.⁴

Researchers found the strongest predictor of the amount saved is a borrower’s outstanding balance.⁴ “For [high-debt] households which owe more than \$44,000, total savings average \$1,929, nearly 20 times greater than those for [low-debt] households with balances below \$5,000, which save an average of \$100 over the entire course of the loan.”⁴ Because borrowers with higher levels of educational attainment typically have higher amounts of debt, lower interest rates are more valuable to these borrowers.⁴ Results of the analysis show that high-debt households made up 20% of the student loan borrower population, yet they received 39.2% of the financial benefits from refinancing.⁴ Meanwhile, low-debt households also made up about 20% of the population with any student debt, yet received only 2% of the savings from refinancing.⁴ Overall, authors concluded that of the total costs of refinancing “over half (50.8 percent) of the total benefits would go to households in the highest two income quintiles.”⁴

In 2018, WSIPP analyzed how Washington State students could benefit from a hypothetical state refinancing program, compared to federal standard repayment plans.² The analysis considered students in the 2012 and 2016 higher education cohorts who completed their degrees. Findings show that high-debt professional students and graduate students have the most to gain from a state refinancing program (Table 1).² Specifically, over 90% of graduate students would be able to benefit from refinancing, even in some of the earlier cohorts.² If given the most favorable refinancing terms (APR of 4% and 5-year repayment length), professional students in the 2016 cohort could save nearly \$20,000 and graduate students could save over \$7,500 over the life of their loan.²

Table 1. Maximum estimated savings from refinancing under the most favorable conditions (APR: 4%; repayment term length: 5 years) for a representative Washington State student by education and cohort²

	Maximum estimated total savings over remaining life of loan under the most favorable refinancing loan conditions	
	2012 Cohort	2016 Cohort
Representative WA Student		
2-Year Undergraduate	\$117	\$1,067
4-Year Undergraduate	\$208	\$1,477
Graduate Student	\$1,276	\$7,654*
Professional Student	\$2,207	\$19,061*

** Denotes student type / cohort that could benefit under a standard 10-year term length*

However, to achieve these savings over the lifetime of the loan borrowers would need to pay higher monthly payments over the 5-year payment period: a representative professional student’s

payments would increase by \$562 to \$2,028 per month and a representative graduate would pay an additional \$278 for a monthly payment of \$953.² Meanwhile, 2-year undergraduate and 4-year undergraduate borrowers are “unlikely to benefit from the 10-year and 15-year refinanced loan term lengths.”²

Therefore, overall, it is likely that refinancing student loan debt through a state program would reduce the burden of student loan debt to varying degrees for at least some portion of participating borrowers. Evidence suggests minimal, if any, benefit to 2-year and 4-year undergraduate students. High-debt, high-income professional and graduate students have the most to gain from a refinancing program.

Will reducing student loan debt burden improve health outcomes among participants?

There is strong evidence that reducing student loan debt burden may improve health outcomes among participants. Student loans and student loan debt have been associated with poorer self-rated health, increased depressive symptoms, lower life satisfaction, poor mental health outcomes, high psychological distress, and poor psychological well-being.⁵⁻⁸ One study found that annual student loans among currently enrolled college students as well as cumulative student loans over time were significantly and inversely associated with psychological functioning, such that psychological functioning decreased as the amount of student loans increased.⁷ These relationships held true even after controlling for other economic and demographic factors, including income, educational attainment, occupation, and parental net worth.⁷ In addition, data from the national Transition into Adulthood Study showed that a \$1,000 increase in student loan debt resulted in a 6% higher odds of psychological distress and “student loans are shown as a factor explaining disparities in psychological well-being over time, with higher outstanding student loan balance linked to higher [psychological] distress.”⁸ A separate national longitudinal study following youth and young adults from 1997 to 2010 found that for every \$5,000 in student loans, survey respondents slept 1.9 fewer minutes each weeknight.¹⁰

More generally, the link between stress and physical and mental health is well established and financial stress and debt have been associated with poorer self-rated health, shorter sleep duration, obesity, substance use, general illness symptoms (e.g., headaches), depressive symptoms, anxiety, suicide ideation, lower psychological well-being (e.g., low life satisfaction), lower psychological functioning, and other psychiatric and mental health concerns.^{5,7,9,10} For example, data from the National Longitudinal Study of Adolescent Health have shown that, among respondents aged 24 to 32 years, total household debt was a significant and independent predictor of health outcomes and was associated with higher perceived stress and depression, worse general health, and clinically significantly higher diastolic blood pressure.⁹

Will improving health outcomes for participants of each program impact health inequities?

It is unclear from the available evidence how establishing an ISA Pilot Program and a Washington Student Loan Refinancing Program would likely impact health inequities for program participants. Provisions in the bill allow the Washington Student Achievement Council flexibility to determine program eligibility criteria and to negotiate specific program details (i.e., with ISA Pilot Program investors and Student Loan Refinancing Program partner financial institutions). Programmatic factors like eligibility criteria and applicant prioritization will likely

influence how this bill impacts inequities. Therefore, analysts were unable to determine who would be most likely to benefit from each program.

Available evidence indicates that certain groups have particularly large amounts of outstanding student loan debt (e.g., graduate and professional students) and some groups face greater challenges to paying off their student loan debt (i.e., students who did not complete their degree, students who attended for-profit institutions, borrowers of color, and women). Some evidence also indicates that student loan refinancing programs disproportionately benefit high-income, high-debt graduate and professional borrowers compared to those who borrowed smaller balances for less advanced degrees and those who did not complete their degree. Finally, evidence shows that people of color, women, and students with low-incomes are disproportionately burdened by their student loan debt.

Pathway 1: Income Share Agreement Pilot Program

Purdue does not ask demographic questions (e.g., sex, race/ethnicity) of ISA applicants. Instead, the program has conducted surveys of participants post-funding (PRF, personal communication, March 2019). Results of these surveys show a higher proportion of students who receive ISA funding self-identify as Hispanic, more than one race, or African American compared to the student population generally (PRF, personal communication, March 2019). However, the split by sex has been proportionate to the undergraduate population (PRF, personal communication, March 2019).

Pathway 2: Student Loan Refinancing Program

When establishing new student loan refinancing programs, states must consider borrowing criteria to determine which individuals are eligible to refinance their loans. As stated in the WSIPP report, “[h]aving more stringent criteria for borrowers results in less risk of delinquency or default. However, the stricter the borrower requirements, the fewer individuals are able to qualify for the programs.” Moreover, “[t]he riskiness of the loans affects the cost of the program to the state, either directly by requiring the program to absorb the cost of defaults or indirectly by making it more costly to raise funds.”

A review of 14 other state student loan refinancing programs found common borrower requirements include: a minimum FICO score of 670-720 for borrowers to refinance without a cosigner; a debt-to-income ratio (combined monthly debt [e.g., mortgage debt, auto loan debt, other personal debt, and rental payments] divided by gross monthly income) equal to or less than 40%; employment; minimum income (e.g., \$18,000-\$50,000 annual income, depending on the amount of debt being refinanced); and others.² All but two states reviewed allow parents to refinance their children’s student loans if they are in the parent’s name.² Massachusetts requires borrowers to have made their last 12 loan payments on time.²

Specific to the Student Loan Refinancing program, the definition of a qualified borrower detailed in the legislation (see Summary of 2SSB 5774 on page 2) excludes students who took out loans for their education but did not complete their degree from participating in the program and refinancing their loans. Without more specific program criteria, analysts considered: 1) which populations would benefit most if all borrowers with outstanding student debt were eligible to refinance; 2) which populations are disproportionately overrepresented among those borrowers

specifically excluded from refinancing; and 3) which populations face additional challenges in repaying outstanding student loan debt.

Based on national outstanding student loan data, if all borrowers were allowed to refinance their outstanding student loans at lower interest rates, those borrowers with large amounts of outstanding student debt, who tend to be borrowers with graduate and professional degrees and high-incomes, would disproportionately benefit.¹⁶ Similarly, in its 2018 study of student loan refinancing WSIPP concluded, “that high-income, high-debt professional and graduate students would benefit the most from refinancing when considering both standard and alternative federal loan repayment options; 4-year undergraduates would benefit only under some loan terms; and 2-year undergraduates would rarely benefit.”²

Evidence also shows that education debt is disproportionately concentrated among more educated, high-income earners.^{2,16} Evidence from the 2016 Survey of Consumer Finances, a triennial survey developed by the Federal Reserve Board, showed that U.S. households with incomes above \$81,140 (i.e., top 25% of household incomes) held about half of all outstanding education debt.¹⁶ Meanwhile, households with incomes below \$22,590 (i.e., lowest 25% of household incomes) held only 10% of outstanding education debt in 2016.¹⁶ However, as the level of education rises with debt levels, those with more debt often have less difficulty repaying their student loans due to the increased earning capacity associated with their education.^{2,13} For example, just 13% of those with \$100,000 or more in outstanding debt are behind on payments compared to 27% of borrowers with less than \$10,000 and 20% of those with between \$10,000 and \$25,000 of debt.¹³ Furthermore, more than half of student debt defaults are on loan amounts of less than \$10,000.¹

People who did not complete their degree are the most likely borrowers to be behind on student loan payments.^{12,13} More than one-third of borrowers with outstanding student loans and less than an associate degree are behind on payments compared to those with outstanding debt and an associate degree (25%), bachelor’s degree (11%), or graduate degree (5%).¹³ Students who leave college without completing their academic program are also “more than twice as likely as graduates to default on their student loans.”¹ Although these borrowers’ student loan debt may be small in absolute terms, particularly compared to the average amount owed by graduate or professional students, they may be less like to repay their loans without a degree or certificate to improve their prospects in the labor market.¹

Additionally, students who attended for-profit schools are more likely to have lower average earnings, experience stagnant wages, and be unemployed when compared to those who attended selective four-year public and private institutions.¹² They also have significantly lower completion rates than borrowers who attended four-year public and private schools.¹² These students also have the highest default rates.¹² Students enrolled in for-profit schools are disproportionately women, people of color, students with low-incomes, and members and former members of the U.S. military.¹² Moreover, half of students attending for-profit colleges have dependent children and just over half work full-time while enrolled.¹

Women, people of color, and those with low-incomes who have outstanding student loan debt are disproportionately burdened by this debt and also experience mental health disparities, which may exacerbate negative health outcomes experienced by individuals with student loans.

Inequities by sex

The American Association of University Women (AAUW) conservatively estimates that women hold 64% of student loan debt due to women's "higher enrollment, their larger initial loans, and their slower rate of repayment,"¹ That amounts to \$833 billion in student debt held by women and \$477 billion held by men.¹ Women are overrepresented among student loan borrowers in part because of their high participation in higher education, representing 56% of college and university enrollment in 2016.¹ However, a 2017 AAUW analysis of federal government data found that women are also more likely to take on debt (44% of undergraduate women take on debt in a year compare to 39% of undergraduate men).¹ Additionally, "on average across degree levels women in college take on initial student loan balances that are about [14%] greater than men's in a given year."¹ Women's average accrued student debt is about \$1,500 greater than men's upon completing a bachelor's degree.¹ Furthermore, the gender pay gap contributes to women taking longer to pay of their debt. The gender pay gap and the difference between what men and women are paid, is estimated to be 18% one year after graduation, 20% four years after graduation, and 26% among women with college degrees working full-time.¹ Difficulty repaying student debt also effects borrowers' ability to afford other essential expenses. For example, 34% of all women and 57% of black women who were repaying student loans reported that they had been unable to meet essential expenses within the past year.¹

Women also experience multiple mental health disorders at higher levels than men, including depression, anxiety, trauma-related disorders, stress-related disorders, and gender-based violence.²¹ In a study examining the association between student loan debt and self-reported health, psychological problems, and perceived life satisfaction, women were more likely than men to report life satisfaction, but also more likely to report worse health status and higher levels of psychological problems.⁶ Another study found that women reported more debt stress than men.⁵

Inequities by race/ethnicity

Previous research has shown that students of color are more likely to default on student loan debt compared to white students and "racial/ethnic wealth gaps imply that even similar levels of student loan debt may differentially burden families based on race/ethnicity."⁵ In addition, a nationally-representative survey found that Black respondents were more likely to take out loans and report student debt at age 25 compared to white and Latino individuals.¹⁰ Among Black women who graduated with a bachelor's degree in 2011-2012, 34% had more than \$40,000 in student debt compared to 16% of Hispanic women, 10% of white women, and 8% of Asian women.¹ An analysis of 2013 Survey of Consumer Finance data, which includes both Federal and private student loans, found that Hispanic borrowers were more likely to refinance their student loans than white or Black/African American borrowers because they typically had higher interest rates (average 6.5% among Hispanic households compared to all [5.7%], white [5.7%], Black/African American [6.0%], and other [6.3%] student loan borrowers).⁴

In addition, one study found that debt stress among Black/African American students was significantly higher than white students.⁵ Debt stress was linked to worse general health and more depressive symptoms for Black/African American, Hispanic/Latino American, and white youth, but not Asian American youth.⁵ In a national longitudinal study evaluating the impact of student loans on sleep, student loans and student debt were associated with less sleep among black individuals, but not among white individuals or Latino individuals.¹⁰ The study found that, for every \$5,000 in loans, black individuals lost an additional 5.4 minutes of sleep each night compared to white individuals.¹⁰ While one nationally representative longitudinal study found that student loan debt was not generally associated with health status, student loan debt was negatively associated with health status for Hispanic respondents.⁶

Overall, it is well-documented that communities of color experience worse health outcomes than their counterparts for many health measures. A report by University of California Berkeley's Henderson Center for Social Justice stated that "overall, people of color rate their health status lower than [non-Hispanic] Whites."²² In Washington, data indicate that communities of color also have poorer self-reported health and mental health.²³ Specifically, American Indian/Alaska Native people in Washington experience poorer mental health than other racial and ethnic groups.²⁴

Inequities by socioeconomic status

Higher household income has been associated with lower levels of debt stress.⁵ In addition, parental net worth has been shown to moderate the association between student loans and psychological functioning.⁷ One study found that "among individuals whose parents had negative net worth, psychological functioning improved with increasing amounts of student loans...in comparison, students from the wealthiest families experienced poorer psychological functioning with greater amounts of student loans."⁷ These findings suggest that student loans may improve educational access and attainment for some families of low socioeconomic status, which may lead to positive rather than negative mental health outcomes.⁷ Alternatively, if borrowers with low- to moderate-incomes cannot afford to pay their monthly student loan payments this may have negative financial and health consequences. A study of low- to moderate-income individuals found that "participants making monthly student debt payments have lower odds of [material and health care] hardships and financial difficulty and are better off financially compared to participants with student debt who are not making loan payments [e.g. borrowers who may be in loan default, deferment, or forbearance]."²⁵

Overall, "a significant body of research documents that greater socioeconomic advantage is associated with better mental health."⁷ A report by the U.S. Agency for Healthcare Research and Quality stated, "more than half of measures show that [low-income] households have worse care than high-income households" and that "significant disparities continue for people [with low-incomes] compared with high-income people who report they were unable to get or were delayed in getting needed medical care due to financial or insurance reasons."²⁶ Significant correlations exist between lower income and a number of health indicators including worse overall self-reported health and depression.²⁷ Further, household income was the strongest predictor of self-reported health status in Washington in 2016, even after accounting for age, education, and race/ethnicity.²⁸ There is strong consensus in the scientific literature that improving health outcomes for low income populations would help decrease health inequities by income.

Annotated References

Uncategorized References

1. **Miller Kevin. Deeper in Debt: Women and Student Loans. Washington, DC: American Association of University Women 2017.**

This report from the American Association of University Women documents rising student debt as a women's issue. "The analysis examines the experiences of women as a diverse population and presents statistics by race and ethnicity as well as other demographics. The report relies heavily on publicly available federal government survey data as well as published studies undertaken by academics and organizations researching the issue of student debt." The first chapter focuses on changes in how higher education is financed and the implications of student debt. Chapter two details the impact of gender and the debt accrued by women and men of different race/ethnicity groups. Chapter three discusses the difficulty women face in repaying student loans. Finally, chapter 4 summarizes findings and policy recommendations to address student debt and the struggles faced by women.

2. **Barch M., Hoagland C., Hansen J., et al. Student Loan Bill of Rights: *Student Loan Refinancing*. Olympia, Washington: Washington State Institute for Public Policy; November 2018 2018.**

The Washington State Legislature passed Engrossed Second Substitute Senate Bill 6029, Chapter 62, Laws of 2018, which directed the Washington State Institute for Public Policy (WSIPP) to "conduct a study on student loan authorities that refinance existing federal and private undergraduate and graduate student loans from the proceeds of tax-exempt bonds." This report summarizes learning about establishing a student loan refinancing program and estimates what Washington borrowers would likely gain or lose if they could refinance with a state program.

3. **Purdue University. FAQ About Back A Boiler - ISA Fund. Available at: <https://www.purdue.edu/backaboiler/FAQ/index.html>. Accessed March, 2019.**

This Purdue University webpage provides answers to frequently asked questions regarding the university's Income Share Agreements (ISA) fund. For example, it explains that ISA recipients are "required to pay the agreed upon percentage of post-graduation income for the prescribed term of the contract. After making successful payments over that term, no additional payments are required even if they have paid less than the amount of the funding they received." At any point, the ISA may be prepaid at 2.5 times the amount of the initial funding. "One of the ways that an ISA differs from a traditional loan is that students aren't accruing interest on the total amount funded, however most individuals in the program will pay more than the principal borrowed." Specifically, the amount required to pay (Income Share multiplied by earned income) grows due to the growth rate of the amount being earned, "but the income share level percentage will not change over the course of the ISA." Graduates who earn a high income after graduation may pay more to the fund than with conventional debt. However, Purdue Research Foundation caps the total amount paid at 2.5 times the amount received. No more payments are required once a graduate either 1) reaches the total number of payments required or 2) repays 2.5 times the initial amount received. Payment terms vary by student, but are set to be competitive with current education finance options (e.g., private student loans and Federal Parent PLUS Loans).

4. **Dancy Kim, Holt Alexander. In the Interest of a Few: The Regressive Benefits of Federal Student Loan Refinancing. Washington, DC: New America 2017.**

In this policy paper from New America's Education Policy program funded by the Bill & Melinda Gates Foundation, Dancy and Holt evaluate the distribution of potential benefits of refinancing outstanding student debt (federal and private loans). Private loan (e.g., mortgages and other personal loans) interest rates are determined by: 1) the dollar amount of the loan, 2) time horizon of the loan, and 3) an assessment of the risk involved in lending to a particular individual. Interest rates for federal student loans are set by the U.S. Congress, are not differentiated for individual borrowers, and do not account for the individual's risk of default. However, 2013 Survey of Consumer Finances data show significant variation in student loan interest rates, with higher interest rates accruing for borrowers with low-incomes, borrowers with less educational attainment, those with high loan balances, and borrowers of color. "This is likely the result of combining federal with private student loans. Since private lenders underwrite their loans, those with low incomes and low credit scores tend to receive loans with higher interest rates." Private lenders who refinance student loans determine which borrowers they offer refinancing services to and at which rates. These lenders generally only want to refinance borrowers with high, stable incomes. Meanwhile, borrowers may choose not to refinance on the private market because "doing so eliminates the generous protections, including income-based repayment (IBR) plans and loan forgiveness, that come with federal student loans." Authors use 2013 Survey of Consumer Finances (SCF), "to estimate the portion of borrowers who would be able to lower their interest rates under refinancing, their average monthly savings, the total amount saved over the life of the loan, and the share of borrowers who would benefit from enrolling in [IBR] plans instead of refinancing." The analysis found "52.8% of households with student debt [federal and private student loans] could potentially lower their interest rate through refinancing." Specifically, in 2013, the average interest rate across all student loans was 5.8% before refinancing, and dropped to 4.2% if all eligible borrowers refinanced. This amounted to an average household saving of \$8 per month. "Borrowers with higher levels of educational attainment typically have higher amounts of debt, making a lower interest rate more valuable to these borrowers." The average household would save \$941 in nominal dollars for the total amount paid over the life of the loan (i.e., \$30,988 total paid [principal and accrued interest] without refinancing vs. \$30,057 total with refinancing). Borrowers with bachelor's degrees save slightly more (\$1,111 in nominal dollars). Additionally, those in the highest income quintile would save nearly two as much (\$10) per month as those households in the lowest quintile (\$6). This is a result of those with higher incomes tending to have greater degree attainment and larger sums of debt related to their degrees. "For households which owe more than \$44,000, total savings average \$1,929, nearly 20 times greater than those for households with balances below \$5,000, which save an average of \$100 over the entire course of the loan." Although high-debt households make up a fifth of student loan borrowers, they receive 39.2% of the financial benefits from refinancing. Meanwhile, low-debt households make up about 20% of the population with any student debt, yet receive only 2% of the savings from refinancing. The analysis also found that Hispanic households, which report much larger interest rates before refinancing (i.e., 6.5% average), would save more in monthly payments and total payments than white households. However, "black households would save less than either white or Hispanic households." Hispanic households realize greater total savings (\$1,429) than white households (\$892) or black households (\$1,014). Authors hypothesize that this is likely because Hispanic households report higher average student loan interest rates (6.5%) than other racial/ethnic groups (5.7% for white households, 6.0% among Black/African American households, and 6.3% among other races/ethnicities), which indicates they may use private student loans to supplement

Federal student loans. Authors conclude, "of the total costs of refinancing [...] over half (50.8 percent) of the total benefits would go to households in the highest two income quintiles."

5. **Tran A.G.T.T., Mintert J. S., Llamas J. D., et al. At what costs? Student loan debt, debt stress, and racially/ethnically diverse college students' perceived health. *Cultural Diversity and Ethnic Minority Psychology*. 2018;24(4):459-469.**

Tran et al. used data from the National Longitudinal Survey of Freshman to evaluate whether viewing debt as stressful or concerning serves as a mediating factor in the relationship between student loan debt and self-rated general health and depressive symptoms. Based on the transactional stress model, the authors hypothesized that having student loan debt in itself does not impact health outcomes, but how an individual perceives their student loan debt impacts their health. This relationship suggests that "students' concern about their debt is a better predictor of mental health outcomes than their actual amount of student loan debt." The authors noted that, "student loan debt has the potential to pose significant health risks, yet there has been little research on the direct and indirect connections between student loan debt, debt stress appraisals, and health." In addition, approximately 7 out of 10 college graduates are impacted by student loan debt and student loan debt "ranks among the top financial concerns for many American millennials." The authors noted that the link between stress and physical and mental health is well established, and financial stress and debt have been associated with poorer self-rated health, obesity, substance use, general illness symptoms (e.g. headaches), depressive symptoms, suicide ideation, lower psychological well-being (e.g. low life satisfaction), and other psychiatric concerns. They used data collected from 1,412 incoming college students at 28 colleges and universities and surveyed this cohort annually from 1999 to 2003. Only the spring 2003 survey (during students' fourth year) asked about student loan debt. Participants self-reported the amount of student loan debt, concern about debt, general health, and depressive symptoms using validated measures. Participants also reported household income, parental education, sex, and citizenship status. Fourth year students reported median student debt of \$15,000 (\$19,637.25 adjusted for inflation in 2016) and 75% of students were somewhat, very, or extremely concerned about their student loan debt. They found significant associations ($p < 0.001$) such that, "debt stress was positively related to depressive symptomology and negatively related to general health, suggesting that greater stress about student loan debt was tied to worse general health and depressive symptomology." In general, higher household income, higher parental education, and reporting sex as male were associated with lower levels of debt stress. Females in the report expressed more debt stress. There was no association between citizenship status and study variables. They also examined differences by race/ethnicity. Previous research has found disparities in stress and health across racial/ethnic groups. In addition, students of color were more likely to default on student loan debt compared to white students and "racial/ethnic wealth gaps imply that even similar levels of student loan debt may differentially burden families based on race/ethnicity." In their analysis, the authors found that debt stress among Black/African American students was significantly higher white students. Stress was also linked to worse general health and more depressive symptoms for Black/African American, Hispanic/Latino American, and White youth. The association was not significant for Asian American youth.

6. **Kim J., Chatterjee S. Student Loans, Health, and Life Satisfaction of US Households: Evidence from a Panel Study. *Journal of Family and Economic Issues*. 2018;40(1):36-50.**

Kim and Chatterjee examined the association between student loan debt and self-reported health, psychological problems, and perceived life satisfaction. In 2017, student loan debt in the U.S. was estimated at \$1.3 trillion. They authors used data from the 2011, 2013, and 2015 Panel Study of Income Dynamics (PSID), a nationally representative longitudinal study of American households. The 2011-2015 waves included questions about debt, including student loan debt. Their sample included 17,474 U.S. adults aged 18 to 54 years of age. Respondents self-reported general health, life satisfaction, psychological problems, debt, and other sociodemographic variables (e.g. age, sex, race/ethnicity, marital status, number of children, employment status, and educational attainment). Average and median student loan debt increased over time and, overall for the study period respondents indicated a median student loan debt of \$19,000 (average \$35,261). Students with higher levels of educational attainment had higher levels of debt. Overall, student loan debt was not associated with health status. However, student loan debt was negatively associated with health status for Hispanic respondents. The authors found that “student loan debt was negatively associated with the life satisfaction [$p < 0.01$] and psychological well-being [$p < 0.01$] of respondents after controlling for other types of debt, such as medical and credit card debt, assets and income, and a number of other sociodemographic factors.” Women were more likely than men to report life satisfaction, but also more likely to report worse health status and higher levels of psychological problems.

7. Walsemann K. M., Gee G. C., Gentile D. Sick of our loans: Student borrowing and the mental health of young adults in the United States. *Soc Sci Med.* 2015;124:85-93.

Walsemann et al. evaluated data from the 1997 National Longitudinal Survey of Youth, which was a national sample of 8,984 individuals living in the U.S. in 1997. The cohort was followed over time, with the most recent data collected in 2010. Walsemann et al. included 4,643 individuals who had enrolled in college for at least one semester by 2010 in their analysis. The authors evaluated: 1) the association between cumulative student loans and psychological functioning among individuals aged 25 to 31 years old; 2) the association between annual student loan borrowing and psychological functioning among currently enrolled college students; 3) the impact of family wealth as a moderator; 4) the impact of student loans on psychological functioning by enrollment type (i.e. 2-year versus 4-year institution); and 5) the impact of student loans on educational attainment. They noted that, “a significant body of research documents that greater socioeconomic advantage is associated with better mental health” and cited previous research finding that debt, generally, is associated with poor psychological functioning, anxiety, and mental disorders. In this study, the authors found that, overall, student loans were associated with poorer mental health outcomes after adjusting for socioeconomic variables. Psychological functioning was measured using a 5-item, validated and reliable scale. Educational loans, enrollment history, educational attainment, and other sociodemographic factors were self-reported (e.g. income, occupation, parents’ net worth, race/ethnicity, citizenship status, gender, marital status, geography). For cumulative student loans, average loan amount varied by enrollment type with an average of \$1,751 for students in 2-year colleges, \$7,002 for students in 4-year colleges, and \$7,279 for transfer students (those who attended both a 2-year and a 4-year institution). Students in 2-year colleges were the most socioeconomically disadvantaged (30.4% compared to 20.6% in 4-year colleges) and had the lowest psychological functioning score (15.5 compared to 15.9 in 4-year colleges). Overall, “cumulative student loans were significantly and inversely associated with better psychological functioning,” such that the higher the cumulative student loan amount the worse the psychological functioning. Parental net worth did moderate

the association such that, “among individuals whose parents had negative net worth, psychological functioning improved with increasing amounts of student loans...in comparison, students from the wealthiest families experienced poorer psychological functioning with greater amounts of student loans.” The authors note that, “among poor students, student loans provide a vehicle for upward mobility and improved psychological functioning.” Enrollment history and educational attainment did not moderate the relationship between student loans and psychological functioning. Lastly, the annual amount of student loans among currently enrolled college students was inversely associated with psychological functioning; this relationship was not moderated by parental net worth or college enrollment. The authors also evaluated whether the relationship was moderated by occupation or gender; neither relationship was statistically significant. Overall, the authors noted that, “although the size of the effect of student loans on psychological functioning may seem modest, our results remained in cross-sectional analyses even after accounting for other economic and demographic factors, including income, educational attainment, occupation, and parental net worth, as well as in the within-person fixed effects models that accounted for all observed and unobserved time-invariant characteristics.”

8. Zhang Qun, Kim Hyungsoo. American Young Adults' Debt and Psychological Distress. *Journal of Family and Economic Issues*. 2019;40(1):22-35.

Zhang et al. evaluated the impact of student loan debt and credit card debt on psychological distress of young adults aged 18-28 in the U.S. They used data from the 2005, 2007, 2009, 2011, and 2013 Transition into Adulthood Study, which is a nationally-representative survey examining young adults' well-being and development outcomes. Their analysis included 7,125 observations from 2,570 individuals and included demographic questions, questions related to student loan debt, questions related to credit card debt, a 6-point scale used to measure psychological distress, other questions about personal and parental finances, and self-reported health. Student loan debt and amount was self-reported, and then compared with national and institutional records. Based on national data, student loan debt accounts for the largest portion of debt holdings among 18-28 year olds. Among young adults under 29, 66% of bachelor degree seekers and 55% of graduate students used federal or private loans to finance their education. In addition, "between 2005 and 2013, aggregate student loan debt tripled to \$1.2 trillion in the U.S., which could be attributable to the increased number of borrowers and growth in the average amount borrowed." From 2005 to 2013, the authors found that the percentage of respondents with student loan debt increased from 17.3% to 36.8% and the average debt increased from \$9,906 to \$23,157. The authors found that a \$1,000.00 increase in student loan debt resulted in a 6% higher odds of distress. While both forms of debt led to increased odds of distress, credit card debt led to higher odds of distress than student loan debt overall. The authors note that, "student loans are shown as a factor explaining disparities in psychological well-being over time, with higher outstanding student loan balance linked to higher distress."

9. Sweet E., Nandi A., Adam E. 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.

Past research has found that financial debt is associated with psychological wellbeing. Sweet et al. used longitudinal cohort data from the National Longitudinal Study of Adolescent Health (Add Health) to examine the impact of personal debt on perceived stress, depressive symptoms, self-reported general health, and systolic and diastolic blood pressure. Student loan debt was not

specifically called-out or evaluated. Add Health is a nationally-representative cohort study that began in 1994-1995 (Wave I) with 20,000 students in grades 7-12 from 80 schools in a clustered study design and followed the cohort until 2007-2008 (Wave IV) with 15,701 original respondents between 24-32 years of age. Data was collected through in-home interviews, and debt and health outcomes were collected at each survey period. Blood pressure measures were collected during the final survey period. This analysis included data from 8,400 respondents. Respondents self-reported sociodemographic variables (e.g. race/ethnicity, age, sex, marital status), health behaviors (e.g. smoking status, frequency of medical exam), general health, total debt, and net status (i.e. if you turned all investments and assets into cash, would you be able to pay off all your debts). Perceived stress and depressive symptoms were self-reported using validated measures. Overall, the authors found that absolute debt was associated with better self-reported general health in unadjusted models. They noted that, “high absolute levels of debt may reflect student loans or other education-related debts, which while high represent a beneficial personal socioeconomic investment.” However, after adjusting for other socioeconomic factors, total household debt was a significant and independent predictor of health outcomes and was associated with higher perceived stress and depression, worse general health, and higher diastolic blood pressure. Respondents with high subjective relative debt (compared to those with low subjective relative debt) reported 0.55 (11.7%) higher symptoms of perceived stress and 0.33 (13.2%) higher depressive symptom. Higher subjective debt was statistically and clinically associated with higher diastolic blood pressure (1.3% increase). The authors note that, “these findings indicate that high relative debt is associated with worse psychological and general health, but that with respect to blood pressure the psychological feeling of being indebted may be more salient than actual financial standing.” Overall, the authors concluded that, “in testing multiple indices of debt, we found high household debts relative to assets to be the most consistent and robust predictor of health outcomes. We also found that a high subjective assessment of indebtedness was the strongest predictor of blood pressure.”

10. **Walsemann K. M., Ailshire J. A., Gee G. C. Student loans and racial disparities in self-reported sleep duration: evidence from a nationally representative sample of US young adults. *J Epidemiol Community Health*. 2016;70(1):42-48.**

Walsemann et al. examined the relationship between cumulative student loan and debt and sleep duration. The authors evaluated data from the 1997 National Longitudinal Survey of Youth, which was a national sample of 8,984 individuals living in the U.S. in 1997. The cohort was followed over time, with the most recent data collected in 2010. Walsemann et al. included 4,714 individuals who were ever enrolled in college and who reported on sleep duration in 2010. They examined both the impact of cumulative student loans on sleep and overall debt at age 25 on sleep. They cited previous research that, “individuals experiencing persistent financial strain and economic difficulties are more likely to lie awake at night, either due to difficulty falling asleep or because they wake in the night and cannot fall back to sleep, and thus, have shorter sleep.” Prior research has also shown that Blacks are more likely than whites to report shorter sleep. None of these previous studies have looked specifically at the impact of student loan debt on sleep, and the authors hypothesize that higher student loan debt may be associated with shorter sleep duration. Respondents self-reported average, weeknight sleep duration, student loans (i.e. how much they borrowed), and student debt (i.e. the amount they owed at age 25). Respondents also reported enrollment type, last year enrolled in college, educational attainment, parental net worth, number of hours worked, total number of jobs, occupational status, household income,

other financial debt, marital status, number of children, geography, race/ethnicity, citizenship status, gender, age, and pregnancy status. In general, 50% of respondents had a student loan with an average loan amount of \$10,176 and 36.2% of respondents had student debt with an average debt amount of \$17,765. Respondents slept an average of 6.8 hours per weeknight. While the authors found no differences by race/ethnicity for the amount of student debt, Black respondents were more likely to take out loans and report student debt at age 25 compared to white and Latino individuals. The authors note that, “among those with student loans, black individuals borrowed about \$1,000 less in student loans by the 2010 interview, but by age 25, reported equivalent amounts of student debt. Latino young adults were the least likely to acquire student loans or have student debt, and also carried the lowest burden of student debt.” Black individuals also reported sleeping 21.5 fewer minutes than white individuals. In addition, lower socioeconomic status, lower parental net worth, and having less educational attainment were also associated with less sleep. Overall, the authors found that for every \$5,000 in student loans, respondents slept 1.9 fewer minutes. Results differed by race/ethnicity (i.e. Non-Hispanic White, Non-Hispanic Black, Latino, and Other) such that for every \$5,000 dollars in student loans black individuals lost an additional 5.4 minutes of sleep than white individuals. For example, “black individuals slept 15.5 fewer minutes than white individuals if they did not borrow student loans and 42.3 fewer minutes than white individuals if they borrowed around \$25,000 in student loans.” There was no association between student debt and sleep duration except for black individuals. Black individuals “slept 19 fewer minutes than white individuals if they held no student debt at age 25 and 32 fewer minutes than white individuals if they held \$35,000 in student debt at age 25.” Overall, “student loans and student debt were associated with less sleep among black individuals, but not among white individuals or [L]atino individuals, suggesting that black individuals lose more sleep over their student borrowing compared with white individuals.”

11. Burdman Pamela. The Student Debt Dilemma: Debt Aversion as a Barrier to College Access. The Institute for College Access and Success, University of California, Berkeley; 2005.

Much of student financial aid has shifted from need-based grants to loans, increasing the amount of student debt. College graduates who receive loans borrow on average 60 percent more than students in the early 1990s. The impact of this increase of debt has reportedly made some borrowers put off other large financial decisions such as purchasing a car, a home, or having children. In this discussion paper, Burdman theorizes that the possibility of debt may also alter the decisions of students considering college. They may decide to pursue a two-year degree, attend part-time in order to work, or forgo college altogether. Burdman reviewed the existing research and conducted a series of interviews with students, educators and other stakeholders to demonstrate how the move from grants to loans may be increasing inequity in educational attainment. Inequitable access to financial aid creates disparities in college attendance. Twenty-six percent of low income students don't apply for federal aid, even though they would qualify. These inequities are due in part to debt aversion. Debt aversion appears to be more common in certain populations, including students from low-income families who can't rely on their parents to support with repayment. There is a lack of evidence on how many students choose not to attend college in order to avoid taking on debt. Beyond debt aversion, other barriers are preventing students from accessing loans. These include family language barriers and documentation status; students with “special” family situations such as a parent in prison; ability

to access digital tools; and a lack of one-on-one guidance from school support counselors. These barriers all combine to keep students from low-income families from accessing aid. The author identifies four possible methods to increase equitable access to college: Increase the amount of grant money available; make loan programs more attractive and efficient; integrate financial counseling into all steps of college counseling process; and provide more options for students who prefer to work and study part-time.

12. Borrowers in Crisis Student Debt in Washington. Olympia, Washington: Washington State Attorney General's Office; December 2017 2017.

This student loan report from the Washington State Attorney General's Office presents an overview of the state's student loan borrowers and provides comparisons to national trends. The report notes that, while student loans affect every demographic, "the effect is more acute for some, such as those who attended for-profit schools, those who did not complete their programs, and borrowers of color." At the end of 2016, Washingtonians collectively owed \$24.4 billion in student loan debt. The most recent estimates available (2012 data) show there were 761,000 student loan borrowers in Washington. This number has likely surpassed 800,000 borrowers. As the state reduced higher education spending per student by 37.5% between Fiscal Year 2008 and FY 2013, tuition at Washington's public four-year colleges increased 63.6%. "According to a 2011 study by Pew, among student loan borrowers, 48% said that paying off student debt made it harder to pay other bills, 25% said it has made it harder to buy a home, and 24% said it has had an impact on their career choices." Those who attend for-profit schools have significantly lower completion rates than those who attend four-year public and private schools. Moreover, borrowers who did not complete their program of study have significantly higher default rates. The report also presents evidence from the Council of Economic Advisors (2016) that shows that student loan default rates are highest for borrowers with the lowest balances. While borrowers with greater amounts of debt typically have higher levels of education and greater earning capacity to afford payments. Students from families with low-incomes are more likely to need student loans to pay for education than students from families with higher-incomes. Default rates are significantly higher for borrowers from lower-income areas than wealthier areas. Evidence indicates that borrowers over age 60 years comprise the fastest growing age group of student loan borrowers. Data from the Consumer Financial Protection Bureau show that between 2012 and 2017 the number of borrowers age 60 and older increased (50,448 to 68,544, respectively) as did this age group's median student debt (\$11,915 to \$18,149, respectively), and the proportion of these borrowers in delinquency (7% [3,696 borrowers] to 12% [8,352 borrowers], respectively). Additionally, significant racial/ethnic disparities exist in student loan borrowing and repayment. As of 2012, national data show 86% of Black college graduates, 73% of Hispanic college graduates, 68% of white college graduates, and 57% of Asian college graduates had student debt upon graduation. Furthermore, there are significant disparities in the amount of debt accrued by borrowers. For example, more than 30% of Black bachelor's degree recipients in 2011-2012 had \$40,000 or more in student loan debt, compared to less than 20% among Hispanic and white peers and less than 10% among Asian graduates. The report states, "[s]uch disparities worsen in repayment. According to a report by the Brookings Institution, on average black graduates leave school with about \$7,400 more debt than white graduates, and four years later have nearly \$25,000 more student loan debt." Disparities in student loan debt also exist by sex: nationally in 2017, two-thirds of outstanding student loan debt is held by women (\$833 billion among women compared to \$477 billion among men) . Contributing factors may include

that "women attend college in greater number than men and the gender pay gap, which reduces disposable income and lengthens repayment time." This contributes to difficulty repaying student loan debt, default rates, and women's ability to meet other living expenses. "Women--especially women of color--are most likely to experience difficulties, 34 percent of all women and 57 percent of black women who were repaying student loans reported that they had been unable to meet essential expenses within the past year." Furthermore, single mothers are overrepresented at for-profit schools [26% of student body, compared to 11% of all undergraduate students], and attending these institutions increases their financial risk of defaulting on their loans. The report also discussed predatory schools and the negative impact of student debt on homeownership (an important means of wealth accumulation). It made recommendations to address the crisis: ensure that student loan services abide by the rules; establish a student loan advocate to assist borrowers in need; limit the amount of income that can be garnished to repay student loan debt; address college affordability to reduce student loan borrowing in the long-term; and ensure students attending for-profit schools are adequately protected.

13. Board of Governors of the Federal Reserve System. Report on the Economic Well-Being of U.S. Households in 2017- May 2018 | Student Loans. May 2018: Available at: <https://www.federalreserve.gov/publications/2018-economic-well-being-of-us-households-in-2017-student-loans.htm>. Accessed March, 2019.

This webpage on Board of Governors of the Federal Reserve System posts the Report on the Economic Well-Being of U.S. Households in 2017 - May 2018. The subsection on student loans reports that over 50% of young adults who went to college took on some debt, including student loans for their education. Among those with any outstanding education debt in 2017, the typical amount was between \$20,000 and \$25,000 and typical monthly payments are \$200-300. Nearly 3 in 10 adults with outstanding education debt are not currently required to make payments on their loans (e.g., deferred while in school). In 2017, 20% of those with educational debt were behind on their payments. "Individuals who did not complete their degree or who attended a for-profit institution are more likely to struggle with repayment than those who took on large amounts of debt but completed a degree from a public or not-for-profit institution." Over one-third of those with student loans outstanding and who did not complete their associate's degree are behind on payments, compared to on-quarter of borrowers with an associate degree. The delinquency rate is even lower among borrowers with a bachelor's degree (11%) or graduate degree (5%). As level of education rises with debt levels, "those with more debt often have less difficulty with repayments." For example, 27% of borrowers with less than \$10,000 of outstanding debt, and 20% of those with between \$10,000-\$25,000 of debt, are behind on their payments. "Among those with \$100,000 of debt or more, the fraction who are behind is 13 percent." The report notes that "[b]orrowers who were first-generation college students are more likely to be behind on their payments than those with a parent who completed college." Moreover, first-generation college students under age 30 are 4 times more likely to be behind on their payments as those with a parent who completed a bachelor's degree. Data also show racial/ethnic disparities. Black and Hispanic education borrowers are much more likely than white borrowers to be behind on their loan repayment (Black: 20% all, 26% ages 18-29; Hispanic: 21% all, 24% ages 18-29; and white: 6% all, 9% ages 18-29) and are less likely to have repaid their loans (Black: 32% all, 7% ages 18-29; Hispanic: 32% all, 7% ages 18-29; and white: 55% all, 22% ages 18-29). Additionally, repayment status differs by type of institution attended. Nearly 25% of borrowers who attended for-profit institutions are behind on student

loan repayments, compared to 9% of those who attended public institutions and 6% who attended nonprofit institutions. The report notes that difficulty with loan repayment among attendees of for-profit institutions may partly reflect the lower returns on such degrees. Differences could also be related to the educational backgrounds of students; however, when selective schools are excluded, a gap in repayment remains.

14. 50 State Snapshot of Student Debt | A nationwide look at complaints about student loans. Washington, DC: Consumer Financial Protection Bureau; October 2017 2017.

This report discusses complaints filed by consumers with the Consumer Financial Protection Bureau related to repaying student loans. The report cites a CFPB analysis of State Level Household Data Statistics from the Federal Reserve Bank of New York that as of 2016, Washingtonians owed a total outstanding loan debt balance of \$24.4 billion.

15. Thompson Becky. Individual State Agency Fiscal Note | Bill Number 5774 P S SB. Olympia, Washington: Washington Student Achievement Council 2019.

This fiscal note from the Washington Student Achievement Council identifies unknown variables that will affect how each of the proposed programs (i.e., Income Share Agreement Pilot Program and Washington Student Loan Refinancing Program) may be implemented and associated costs of the programs.

16. Baum Sandy, Lee Victoria. Affluent households owe the most student debt. Urban Wire :: Education and Training. Vol 2019. Washington, DC: Urban Institute; 2018.

Baum and Lee describe the characteristics of the U.S. population that hold the majority of student loan debt. Evidence from the Survey of Consumer Finances (2016) shows that "households in the top quartile of the income distribution, with incomes above \$81,140 in 2016, held about half of all outstanding education debt." Those in the top income quartile often have at least a bachelor's degree. Moreover, "the top 10 percent of households, with incomes over \$144,720 or higher, held 24 percent of the debt." Meanwhile, "households in the lowest income quartile (with household incomes below \$22,590) hold only 10 percent of outstanding education debt." People in the lowest income quartile tend to be those with little or no college education. Thus, education debt is disproportionately concentrated among those with more education, because more education often results in more debt. However, authors point out that average earnings also increase with education level (2016 median earnings: \$23,740 less than high school degree; \$52,780 bachelor's degree; and \$100,120 professional degree). Households with graduate degrees represent 35% of borrowers with outstanding student loan debt and hold 57% of outstanding student debt. Meanwhile, households with an associate's degree or less own 18% of total outstanding student debt but comprise a greater share of borrowers with outstanding student loan debt (33%). As a result, "even lower-than-average-debt levels can cause financial strain" on these households due to limited earning capacity. Authors state that because education debt is concentrated among higher-income earners policies designed to reduce the burden of education debt are actually regressive. For example, "lowering the interest rate on all outstanding student debt" or "forgiving large amounts of that debt" disproportionately benefits higher-income people.

17. **U.S. Department of Education. Federal Student Aid | Income-Driven Plans. 2019;** Available at: <https://studentaid.ed.gov/sa/repay-loans/understand/plans/income-driven>. Accessed March, 2019.

This U.S. Department of Education's Federal Student Aid Office webpage provides detailed overviews of the various forms of income-driven repayment plans available to federal student loan borrowers. Specifically, programs include the Revised Pay As You Earn Repayment Plan (REPAYE), Pay As You Earn Repayment Plan (PAYE), Income-Based Repayment Plan (IBR Plan), and Income-Contingent Repayment Plan (ICR).

18. **Cox Natalie. Pricing, Selection, and Welfare in the Student Loan Market: Evidence from Borrower Repayment Decisions. 2017.**

In this unpublished dissertation, Cox measures the overall gains in consumer surplus from risk-based interest rate pricing, used by private lenders, and quantifies the redistributive consequences of low-risk borrowers refinancing out of the government pool into the private market. This causes the average risk of remaining federal borrowers to rise, "forcing the government to either raise its uniform rate or subsidize the remaining pool." The analysis is based on unique applicant-level dataset from an online refinancing firm including information (i.e., loan terms, household balance sheets, and risk-based interest rates) for 12,000 borrowers who fully refinanced their student loans and a more representative sample of 200,000 borrowers who were shown an interest rate but may or may not fully refinance their loans. Her analysis showed that "comprehensive risk-based pricing generates large absolute gains in welfare of \$480 per borrower relative to a break-even uniform price, and \$400 relative to a coarser method of FICO-based pricing." She concluded, "[i]f the federal pool conducts breakeven pricing, these efficiency gains come at a direct equity cost - low risk surplus will increase on average by \$2,300, while high risk surplus will fall by \$2,100." Moreover, to maintain access to current uniform interest rates, "the government would have to transition from break-even pricing to an average net subsidy of \$2,080 per borrower."

19. **Bhole Monica. Why do Federal Loans Crowd out the Private Market? Evidence from Graduate PLUS Loans. Palo Alto, California: Stanford University; 2017.**

In this dissertation, Bhole analyzed survey data on graduate students and found that the introduction of PLUS loans did not increase total borrowing amounts at the graduate level, suggesting "that graduate PLUS loans did not address a pre-existing market failure in which students lacked access to credit." Rather, students replaced private loans with PLUS loans. Graduate PLUS loans were introduced in 2006 and relaxed the federal borrowing limit for qualifying graduate students so that graduate students could borrow up to the total cost of school attendance from the federal government. Prior to PLUS, there were limits on federal loan borrowing, varying by degree program; and some students would meet their total need by supplementing federal loans with private loans. Previous studies on graduate borrowers theorized that "credit rationing", or a limited availability of loans offered on the private market, was a barrier to graduate studies; and that raising the limit on loans would increase borrowing. Choosing federal loans at higher interest rates could be a rational choice if the private market loans offered higher interest rates; however, Bhole finds the opposite to be true: "nearly 60% of graduate loan borrowers could have received private loans with lower interest rates than any federal rate, and over 80% could have received a rate below the PLUS rate." The availability of income-based repayment (IBR) provides one rational reason why borrowers would prefer federal

loans to private. IBR sets monthly payments to 15% of qualifying income; and any remaining amount after 25 years is forgiven. Salaries below 150% of federal poverty line are exempt from repayment. IBR is insurance against future low wages or unemployment; an insurance that most private loans don't offer. Federal loans offer other benefits, including the option of the Public Student Loan Forgiveness program and the ease of applying for federal loans. These aspects might be driving the demand for federal loans over private loans. Historically, private lenders may have found income-driven repayment too unprofitable; but some companies have started offering lower monthly payments or flexibility for lenders facing financial hardship. Bhole's article shows that interest rates are an important factor in student loan decisions, but flexible repayment plans are equally if not more important a consideration.

20. Relieving student debt. Liias SM, trans. *Revised Code of Washington*. Vol Chapter 19.52. 2019-2020 ed2019.

Second Substitute Senate Bill 5774 creates an Income Share Agreement Pilot program and Washington State Student Loan Refinancing Program. The bill details specific program requirements.

21. Riecher-Rossler A. Sex and gender differences in mental disorders, comment. *The Lancet*. 2017;4:8-9.

In this commentary, Riecher-Rossler discusses research related to sex and gender differences in mental health disorders. She states that, "it is well known that women have a higher lifetime prevalence of mood or anxiety disorders than men." She also discusses studies showing gender gaps and that women experience higher levels of depression, anxiety, trauma-related disorders, stress-related disorders, and gender-based violence.

22. The Henderson Center for Social Justice Berkeley Law. Equal opportunity: The Evidence- a summary of key ideas , current research, and relevant information for those who aim to promote and protect equal opportunity. University of California Berkeley; 2012.

University of California Berkeley's Henderson Center for Social Justice provided an overview and history of equal opportunity efforts in the U.S. They use the term "equal opportunity" to include both affirmative action and equal opportunity efforts. Affirmative action and equal opportunity programs began as a result of the Kennedy Administration's Executive Order 10925, which required government contractors to "take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin." This report summarizes information related to contracting, education, wealth, homeownership, and other factors. It stated that "overall, people of color rate their health status lower than Whites ([non-Hispanic]). The life expectancy at birth for African Americans is five years less than for Whites...In general, people of color report less access to health care and poorer quality health care than Whites ([non-Hispanic])." The report found that, "although the effect of [state affirmative action] bans are complicated to assess, there is a recurring pattern of decreased diversity." The report presents some research on Washington State. For contracting, transportation contracts awarded to minority-owned and women-owned businesses increased under affirmative action and decreased sharply after I-200 passed in 1998. Similarly, applications and enrollment by people of color decreased at University of Washington, and to a lesser degree at other public universities. For public employment, the authors note that,

"in Washington, the diversity of state employees before and after the passage of the anti-equal opportunity Initiative 200 in 1998 has not been tracked." They noted that Washington State began tracking this information in 2006, and that the current state workforce is similar in diversity to the private sector, though people of color were slightly less represented.

23. 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/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, and 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.

24. Health of Washington State Report: Mental Health. Tumwater, Washington: Washington State Department of Health; 2007.

This document presents data from Washington regarding poor mental health in the state. Washington data from the Behavioral Risk Factor Surveillance System (BRFSS) 2004-2006 show that among adults, the percentage of adults who report 14 or more days of poor mental health in the previous month increased as household income decreased. The relationship of mental health and education is similar to that of mental health and income. American Indians and Alaska Natives reported significantly higher rates of poor mental health (19% ±4%) than other racial and ethnic groups.

25. Despard Mathieu R., Perantie Dana, Taylor Samuel, et al. Student debt and hardship: Evidence from a large sample of low- and moderate-income households. *Children and Youth Services Review*. 2016;70:8-18.

Despard et al. conducted this observational study to examine the association between student debt and material, health, and financial hardship among low- and moderate-income (LMI) borrowers. The study sample consisted of 5,558 participants who submitted their tax returns through an online tax-preparation software program, expected to receive a tax refund, completed 2 household financial surveys (i.e., time of filing and 6 months later), were aged 18 years or older, indicated more than a high school education, and had complete data for student debt. The sample was 65% female; 76% white; 70% employed; 61% single tax filing status; and 65% claimed no tax dependents. The average age and income were 36 years and nearly \$19,000, respectively. Nearly one-third had were currently enrolled in post-secondary education, and most (76%) had student loans. Black participants were more likely to have student debt than other racial/ethnic groups, and women were more likely to have student debt than men. Participants with student debt were younger and more highly educated than participants without student debt. When asked if they had experienced a health hardship, defined as not being able to afford to see a doctor or go to a hospital for medical care, to see a dentist, or to fill a prescription in the six months after filing taxes 51% responded in the affirmative. Similarly, the study 60% reported

one or more material and 31% reported one or more financial hardships. "The mean amount of household student debt among borrowers in the sample (n=3399) was \$37,896 (SD = \$39,376) and the median amount was \$25,000. Among participants currently making student loan payments (n=1822), the average household monthly payment was \$226 (SD=\$205)." Additionally, "participants with student debt had \$1199 more in unsecured debt $t(5556) = 3.54$, $p < 0.001$ and \$1957 less in liquid financial assets $t(5556) = 8.31$, $p < 0.001$ than participants without student debt." Overall, hardship and financial difficulty were common in the entire sample. For example, "more than half experienced one or more hardships in the six months after filing their taxes, such as skipping a rent payment." However, results indicate that hardship and financial difficulty is worse for participants with student debt than for those without. "Participants with student debt had 51%, 19%, and 27% greater odds of experiencing material hardship ($p < 0.001$), health care hardship ($p < 0.05$), and financial difficulty ($p < 0.01$), respectively, compared to participants with no student debt." Additionally, women had statistically significantly greater odds than men of experiencing material hardship (59%), health care hardship (31%), and financial difficulty (31%). Furthermore, "every additional financial shock – such as a major car repair – was associated with 66%, 74%, and 36% greater odds of material hardship, health care hardship, and financial difficulty (all $p < 0.001$)." While higher levels of educational attainment were associated with lesser odds of material hardship, this association did not hold true for health care hardship or financial difficulty. Specifically, "borrowers in the third (\$25,001-\$50,000) and fourth (\$51,000-\$200,000) quartiles had greater odds of health care hardship (both $p < 0.05$)." Additionally, "participants making monthly student debt payments have lower odds of hardship and financial difficulty and are better off financially compared to participants with student debt who are not making loan payments [e.g., borrowers who may be in loan default, deferment, or forbearance]." Those repaying their student loans were younger, less likely to be Black, less likely to be supporting dependents, more likely to be employed full-time, and more likely to have health insurance than those currently not repaying their loans. Study limitations include, that the study sample of LMI online tax filers may not be generalizable to the LMI population in the U.S.; data only indicates participants' income at time of filing and does not provide information on their economic backgrounds (e.g., LMI households of origin); potential for unobserved differences between participants with and without student debt and among participants with varying levels of student debt that contribute to variations in outcomes; and measurement limitations with the Household Financial Survey. Authors conclude, "the main implication of our study is that LMI students need support paying for college as dependence on loans to finance higher education may be burdensome for this population."

26. Quality Agency for Healthcare Research and. 2016 National Healthcare Quality and Disparities Report. Rockville, MD: U.S. Department of Health and Human Services; 2017.

The National Healthcare Quality and Disparities Report is mandated by Congress and has been published every year since 2003. The intent of the report is to summarize the quality of healthcare received by people in the United States, and to identify disparities in care and access to care by priority populations. It evaluates quality of healthcare in six core areas: person-centered care, patient safety, healthy living, effective treatment, care coordination, and care affordability. The report uses four main measures for access to care: having health insurance, having a usual source of care, encountering difficulties when seeking care, and receiving care as soon as wanted. Over time, the report has found disparities in access to care based on race and

ethnicity, socioeconomic status, age, sex, disability status, sexual orientation, gender identity, and residential location. The 2016 report concluded that, while disparities in health insurance status decreased since 2014, about 70% of care affordability measures have not changed since 2010 and disparities in care persisted for poor and uninsured populations in all priority areas. The report stated, "poor people experienced worse access to care compared with high income people for all access measures except one" and "more than half of measures show that poor and low-income households have worse care than high-income households." Further, the report concluded that "significant disparities continue for poor people compared with high-income people who report they were unable to get or were delayed in getting need medical care due to financial or insurance reasons."

27. 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.

28. 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 20% of Native Hawaiian/Other Pacific Islander reporting fair or poor health.