

The Effect of Attorney and Non-Attorney Representation on the Initial Disability Determination Process

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Abstract

Attorneys and non-attorney representatives play a large and increasing role in the SSDI application process, assisting applicants in developing their cases and representing them in disability hearings. Yet little is known about how representatives affect outcomes for claimants. In this paper, we comprehensively investigate the impact of claimants' representatives on case outcomes. Our analysis is made possible by new administrative data tracking representation in the SSDI application process. We focus on initial level representation owing to its rising importance and because most cases are finally decided at this level. We examine impacts of representation on case outcomes and explore the mutual selection of claimants and representatives. Our results show that representatives are more likely to be involved in cases with older and English speaking claimants who have impairments in less easy-to-document diagnoses groups. Cases involving representatives spend more time at the Field Office and have a lower predicted probability of a quick decision based on the information provided at this stage. Although they are more likely to be allowed, they are also more likely to be denied for insufficient evidence or failure to submit to a medical examination.

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1. Introduction

The process of applying for Social Security disability benefits can be complicated and lengthy, requiring completion of a long application documenting the applicant's employment history and medical conditions, assembly of medical records from multiple health care providers, understanding of complex administrative rules and requirements, and, for those who are initially denied benefits, navigation of an appellate process that includes a formal hearing before an administrative law judge. Disability representatives have long played an important role in this process, guiding applicants through administrative complexities, helping them develop their cases, and arguing on their behalf at the administrative hearing and, when necessary, in federal court. An effective representative can help the applicant construct the strongest possible case, ensure that relevant supporting evidence is provided in a timely fashion, help the applicant avoid costly mistakes, and increase the applicant's odds of receiving a disability award in less time. Better developed cases enable more efficient processing of applications by Social Security Administration (SSA) and Disability Determination Service (DDS) staff, can facilitate clearly justified disability determinations and, by delivering decisive information about an applicants' prospects sooner, may discourage some claimants from pursuing fruitless appeals. Appeals are costly to the Social Security system, and to applicants who delay their possible return to the labor market.

Most of what is known about claimants' representatives is anecdotal, informed by prominent journalistic investigations that have raised questions about fraudulent behavior by disability attorneys in some jurisdictions (e.g., Paletta, 2011). More broadly, attorneys have been accused of aggressive marketing practices and of placing their own financial interests ahead of the applicant's interest (Social Security Advisory Board (SSAB), 2012).

Aggregated data from the SSA website does indeed suggest an expanding role for claimants' representatives. Figure 1 shows an increase of 183% in annual fees paid to representatives in SSDI cases between fiscal year 2001 and 2010—from \$543 million to \$1.5 billion (in 2015 dollars)—

followed by a pronounced decline between 2011-2015. The figure shows how the decline in fee payments coincides with a decline in appellate hearing allowance rates. In most cases, representatives are compensated only if they win, and so a decline in allowance rates at the hearing level implies a direct loss in compensation to representatives. Even so, fee payments to representatives in fiscal year 2015 totaled \$1.1 billion. While representation was once thought to be present only at the appellate hearings level, the Social Security Advisory Board (2012) noted a pronounced increase in representation at the initial level since 2009. The timing of the increase in representation at the initial level—following the retrenchment at the hearings level—suggests some representation firms may have sought new markets in order to recoup losses at the hearing level.

In this paper, we investigate the impact of claimants' representatives on case outcomes. Our analysis is made possible by new administrative data measuring attorney and non-attorney representation in the application process.¹ We use data covering 2010 through 2014 and focus on initial level representation owing to its rising importance and because most cases are finally decided at this level. We begin, in Section 2, by discussing the application process and the role that representatives play in this process. In Section 3 we discuss the potential benefits and costs, for claimants and SSA, of representation. We pay particular attention to attorney incentives and the likely implications for case outcomes. In Section 4 we describe our administrative data. In Sections 5 and 6 we present the main results and we examine impacts of representation on case outcomes and explore the mutual selection of claimants and representatives. About 19 percent of claims have representation by the end of the period, with a 40 percent rise in representation between 2010 and 2104. Our analysis shows that representation is not only increasing over time, but exhibits significant geographic variation. Additionally, we find that representatives are more likely to be involved in cases with older and English speaking claimants who have impairments in less easy-to-document diagnoses groups. Cases involving representatives spend more time at the Field Office and have a

¹ We are currently unable to distinguish between attorney and non-attorney representatives in our administrative data.

lower predicted probability of a quick decision based on the information provided at this stage. Although they are more likely to be allowed, they are also more likely to be denied for insufficient evidence or failure to submit to a medical examination.

2. Social Security Disability Programs and the Process of Application for Benefits

The U.S. Social Security Disability Insurance (SSDI) program is a contributory social insurance program that pays monthly cash benefits to individuals who become disabled, provided they are insured for benefits and meet the program's medical-vocational criteria. Supplemental Security Income (SSI) is a federal welfare program that pays cash benefits to individuals who are disabled (in addition to elderly adults), provided they have low income and assets and meet the same medical-vocational criteria as SSDI. As of May 2016, the SSDI program provided cash benefits to 8.9 million disabled workers and 1.9 million dependent spouses and children, for an expected annual expenditure of \$132.3 billion in 2016. The SSI program provided support to 4.9 million non-elderly disabled adults and 1.3 million disabled children, for an expected annual expenditure of \$46.0 billion in 2016 (Social Security Administration, 2016a). Applications for SSDI and SSI benefits are processed by the same administrative review structure and are evaluated concurrently for both programs when the non-medical eligibility criteria are met for both.²

Individuals are insured for SSDI benefits if they have earned at least one work credit (and made corresponding payroll tax contributions) for every calendar year elapsing between age 21 and the year they became disabled, and if half of the work credits were earned recently.³ Because of the recency requirement, people can lose their insured status if too much time lapses between their last employment spell and the time they apply for benefits. SSDI benefits are a function of average career earnings, similar to Social Security retirement benefits (but without actuarial reduction for early claiming), and in May 2016 the average monthly benefit was \$1,166. There is no analogous

² Note caseload figures include 1.5 million people who receive benefits from both SSDI and SSI (Social Security Administration, 2016a).

³ In 2016, one work credit is earned for every \$1,260 in annual earnings, up to a maximum of four work credits per year.

contribution requirement for SSI, which is financed from general fund revenues. SSI payments are based on the federal benefit rate, and in May 2016, the average SSI payment was \$560.53. In addition to cash benefits, both disability programs confer eligibility for health insurance—Medicare in the case of SSDI and Medicaid in the case of SSI.

Unlike other federal benefit programs administered by the Social Security Administration (e.g., retirement benefits), the process of claiming disability benefits can be long and complicated, and a favorable outcome is not assured—even for people who have made the required payroll tax contributions to become insured for SSDI. This is because insured status is necessary but not sufficient. SSA must also determine that the applicant is “*unable to engage in any substantial gainful activity (SGA) because of a medically-determinable physical or mental impairment(s) that is expected to result in death or that has lasted or is expected to last for a continuous period of at least 12 months.*” The practical application of this standard to modern disability cases requires complex judgments, and results in substantial variation in outcomes across disability adjudicators (Maestas, Mullen and Strand, 2013).

To apply for SSDI or SSI benefits, Form 3368 Adult Disability Report can be filed online, or in person at a local Social Security Field Office.⁴ Field office staff first verify that the applicant is not currently engaging in substantial gainful activity—defined as earning \$1,130 per month or more in 2016. Next field office staff assist applicants in developing their applications. This can involve interviewing the applicant in order to complete items on Form 3368. Form 3368 collects personal information about the applicant, including English language proficiency, a report of medical conditions, current work activity, job history (over the last 15 years), a list of medications, and a description of medical treatments received from each medical provider. Medical records from all relevant providers can be submitted with the application, or they will be requested by SSA. Importantly, applications can be “filed” before they are complete. This serves to notify SSA of an

⁴ Applicants can also call SSA’s toll-free telephone number, which provides them with an appointment at their local field office.

individual's intent to file and establishes their filing date (technically, a Protective Filing Date). The date an applicant files for benefits defines the amount of time between then and the initial decision which, in many cases, can be paid as a back payment. In addition, this can be a useful strategy for people whose insured status is likely to expire before their application is complete.

Once the application is complete, the field office forwards it electronically to the state office of the Disability Determination Service (DDS), where the application is assigned to a disability examiner. The examiner will request the applicant's medical records if not already included in the application. If the application is not sufficiently developed or if there is conflicting medical evidence or for other reasons, he or she can request that the applicant undergo a consultative medical exam by an SSA medical consultant. If the applicant refuses, the examiner can issue a denial for refusal to submit to the consultative medical exam. If the application is not adequately documented and the applicant does not provide additional information as requested, the examiner can issue a denial for insufficient evidence.

Once requested documentation is received, the examiner uses a five-step sequential decision process to decide whether the applicant meets SSA's disability standard. The first step is to verify that the applicant is not earning above the SGA level and, as noted above, this step is done by field office staff. In Step 2, the examiner screens the application for short-duration and non-severe impairments, and denies those cases. In Step 3, the examiner checks the applicant's medical diagnoses against SSA's Listing of Impairments (conditions deemed severe enough to qualify the applicant on that basis alone) and allows those cases. The remaining cases proceed to Steps 4 and 5, where the examiner uses vocational information—such as education, training, work history, and age—in combination with detailed assessments of the claimant's physical and/or mental residual functional capacities. In Step 4, the examiner considers the applicants' work history and assesses whether the applicant has the functional capacity to perform any of his or her past jobs. If yes, the application is denied. If no, then the examiner proceeds to Step 5, in which the applicant's education,

training, work experience, age and residual functional capacity are used to determine if the applicant has the capacities to perform *any* job in the national economy. If so, the applicant is denied. If not, the applicant is allowed.

Applicants who are denied benefits in their initial review have the option of appealing. The first level of appeal is called Reconsideration. This entails a second review of the application by another examiner in the same DDS office. If the application is denied on Reconsideration, the applicant can request a hearing before an Administrative Law Judge (ALJ). Most hearings are conducted at the nearest Social Security regional hearing office in the presence of the claimant—and any representative enlisted by the claimant. When applicants cannot travel, hearings can be done by video or before traveling judges. If an applicant is denied by an ALJ, a further appeal can be pursued with the SSA Appeals Council, and then Federal Court. At all levels of appeal, the same five-step decision process is used; that said, appeals often involve the submission of updated medical evidence, which if the applicant's condition has worsened, can increase the likelihood of an award.⁵

While initial determinations are rendered in just over three months' time (including slightly more than one week at the field office), pursuit of an appeal at the hearing level extends total processing time to nearly three years on average (Autor et al., 2015). Practically, long processing times result in most allowed applicants being owed some amount of back pay for 1) past due benefits payable from the date of application filing until the date of approval, and potentially 2) retroactive benefits paid from the established disability onset date until the date of application. Retroactive benefits are only available for SSDI awardees and cover a maximum of 12 months.⁶

3. Fees, Incentives and the Costs and Benefits of Representation

⁵ To address allegations that representatives often suppressed unfavorable evidence, new regulations took effect in 2015 that require claimants to submit all known evidence relating to their disability. Accordingly, SSA revised its rules of professional conduct to state that representatives have a responsibility to help claimants comply with this requirement; those who do not comply can be referred for investigation, sanctions, and penalties.

⁶ The maximum in retroactive benefits is paid when the disability onset date is determined to be at least 17 months before the applicant's filing date. SSA then withholds five months' worth of benefits to account for the SSDI waiting period, for a maximum retroactive period of 12 months. For SSI, the applicant's filing date is the disability onset date, so there is no allowable retroactive period of disability extending prior to application (nor is there a waiting period).

According to the Social Security website, "Every person has the right to be represented by an attorney or other representative while pursuing a claim or other rights under titles II [SSDI], XVI [SSI], and XVIII [Medicare] of the Social Security Act."⁷ If an applicant would like to enlist the services of a representative, he or she must file a statement with SSA appointing the representative prior to the first favorable decision, and the representative must in turn be registered with SSA and eligible to receive direct payment of fees. Under SSA's fee policy, the representative agrees to receive payment on contingency—that is, only if the claim results in an allowance, and only if there is back pay owed. The maximum fee payment is the lesser of 25 percent of the claimant's back pay or \$6,000.⁸ SSA pays authorized fees directly to the representative by direct deposit. In unusual cases in which the representation agreement was not filed before a favorable decision, the representative was fired by the claimant, or a denial was issued but substantial work was done on the client's behalf, the representative can file a Fee Petition with SSA *without* the applicant's consent within 60 days after the decision. If the petition is authorized, SSA will issue no more than the lesser of 25% of the back pay or \$6,000 to the petitioner, but in special circumstances may authorize the representative to recover additional fees from the claimant on their own. Importantly, representatives are forbidden from collecting fees from applicants outside of an SSA-authorized Fee Agreement or Fee Petition, and doing so can result in disbarment from SSA hearings as well as other sanctions.

It is estimated that 64% of appointed representatives in SSDI cases are attorneys, while the rest are non-attorneys (Social Security Advisory Board, 2012). Representation is less common in SSI cases, and among those with an appointed representative only 12% are attorneys. Since 2010, non-attorney advocates have been granted compensation under the same fee structure as attorneys on a permanent basis. Non-attorneys must meet education standards and undergo training by SSA. They include non-profit entities (e.g. social service organizations, health care entities, and legal aid

⁷ See <https://www.ssa.gov/representation/index.htm>

⁸ The average fee payment in 2015 was \$2,939 (authors' tabulations of data in Social Security Administration (2016b)).

agencies), for-profit eligibility services, as well as individuals who have some prior experience with the disability programs but who are not themselves attorneys (Social Security Advisory Board, 2012).

Given the immense complexities of the application process, there are many ways in which a claimant's representative can beneficially assist applicants. An experienced representative can discourage clients who have little chance of ever being allowed; this can facilitate a quicker return to the labor market and less human capital decay (Autor et al., 2015). They can help the applicant understand unfamiliar concepts, such as what it means to be insured for disability benefits, and craft sophisticated strategies for achieving the best possible outcome given limitations in the applicant's case. They may help the applicant avoid costly mistakes. They can expedite the process of obtaining medical records (reducing the workload of the DDS examiner) and see that the applicant keeps appointments for consultative medical exams. Their involvement should enhance the completeness and quality of the application, and this should result in cases that are more fully developed. Ultimately, diligent and effective representation should lead to faster processing times, cases that are more likely to be allowed, and for those that are denied—a more decisive signal about the applicant's ultimate prospects. This in turn reduces unnecessary appeals and case backlogs, which are costly to the Social Security system.

Despite these potential advantages to claimants and to the Social Security system, the way in which representatives are compensated for their services may create perverse incentives on the margin, particularly among representatives who operate in for-profit settings. The structure of SSA's fee policy implies that the fee payment is maximized when cases move slowly, but ultimately result in a favorable decision. In extensive interviews with a variety of stakeholders and participants in the determination process, including field office and DDS office staff, the SSAB (2012) heard a number of troubling allegations about representatives, usually attorneys. Among these were that some representatives appear to deliberately slow down cases, filing incomplete and less fully developed

applications and failing to respond to requests, all for the apparent purpose of delaying the case long enough to maximize the applicant's back pay—and their fee. Further allegations include withholding relevant information and introducing new evidence at disability hearings that could have been presented earlier.

In the next sections, we undertake a series of analyses designed to assess these allegations using newly assembled SSA administrative data. We examine how representation affects allowance rates, administrative processing time—at both the field office and the DDS—as well as other case outcomes that shed light on the responsiveness of representatives and the content of claims when they are filed.

4. Data

We use administrative data from the electronic disability folder (eDIB). Claims are tracked in the Management Information Electronic Disability Folder (MEDIB), which we accessed via the Structured Data Repository (SDR). We extracted all initial SSDI claims that were filed from 2010 through 2014 and received a subsequent medical determination, for a total of 8.4 million claims.

The MEDIB contains information from multiple sources including the intake disability forms, Form 3368, Form i3368 and others. These forms contain information about disability allegations and supporting information about personal characteristics and work history. Thus, this information is self-reported and not modified by SSA staff or corrected to conform to statutory definitions. As a result, the data fields are applicable to all claimants and have low rates of item non-response. By comparison, other administrative data sets may contain information only for beneficiaries or may contain individual data items that are only recorded if the information is relevant to the determination (see Panis et al. 2000 for a review of other available administrative data sets). Available demographic information includes age, sex, years of education, vocational training, measures of literacy, an indicator of pain, height and weight (used to calculate BMI).

We observe further information that is modified by the judgment of the DDS examiner, such

as diagnosis. Although some claims allege a specific condition in the listings, others allege multiple conditions or symptoms and examiner judgment is required to establish body system and (primary and secondary) diagnosis.

We observe information about the claim including whether it is concurrent with SSI, whether there was a prior SSDI claim, whether it was filed online, whether it contains paper forms, and whether the claimant provided an email address on the application form.

The key measurement issue for this study is whether the claimant had an appointed representative at the time of the initial claim. In a prior investigation of the effect of representation on initial determination outcomes, data availability limited the analysis:

The available data were insufficient to allow the...in-depth, statistical analysis needed to fully assess the impact of representation...we strongly urge SSA to develop the comprehensive data needed to provide a more complete picture of who these representatives are and how they affect the disability process.

—SSAB, 2012

There is an indicator of representation in the MEDIB; however, it has three limitations that affect this study. First, it is not comprehensive. Second, it does not indicate whether the representative was appointed at the time of the processing of the claim at the initial level. And, third, it does not distinguish between attorney and other kinds of representatives.

We employ an indicator that draws from three available data elements and evaluates whether the representative was appointed before the initial determination.⁹ Concerning the third limitation, SSA does record the type of representation in the Master Representative Payee File; however, we do not have access to this file at this time.

We developed measures of processing outcomes using information that is recorded about the claim. Using time stamps, we calculate the number of days that a claim was processed by the field office and the DDS. Using the recorded Regulation Basis Code, we classify determination outcomes. We highlight outcomes that could be considered to be negative procedural outcomes, including

⁹ We thank Chris Earles of SSA for developing this indicator.

denials on the basis of insufficient evidence and refusal to submit to a consultative medical examination.

When claims are transferred from the field office to the DDS, they may be flagged for expedited handling. We utilize the flags for Quick Disability Determination (QDD), Compassionate Allowance (CAL), Terminal Illness (TERI) and Wounded Warrior.¹⁰ We also use the flag denoting whether the claim was randomly selected for Quality Assurance (QA) review by SSA. The expedited handling flags are associated with faster processing times at the DDS, while QA review is associated with longer processing times.¹¹

The flag for QDD is created automatically by a propensity scoring algorithm that is applied at the moment a claim is transferred to the DDS. For part of our analysis period (starting in August 2012), claims were scored separately on the basis of likelihood to be allowed and likelihood to be processed quickly.

The advantage of using the component scores for research purposes is that they are calculated before the claim is observed by the DDS examiner. Thus, analysis of the scores gives insight into whether representatives affect the content of the claim while at the field office (reflected in the scores) or after it reaches the DDS (not reflected). The disadvantage of using the component scores for research purposes is that they were designed to distinguish between claims on the margin of being quickly allowed. It is not known whether the scores contain meaningful content away from this margin.

5. Facts about Representation at Initial Determination

To begin, we use our MEDIB data to document the role representatives play in initial determinations. As described above, our sample includes about 8.4 million observations spanning the

¹⁰ See Rajnes (2012) for descriptions of these programs.

¹¹ In our data, for claims filed in 2014, when controlling for the set of covariates described here and later, the QDD flag is associated with a reduction in processing time of 45.4 days on the basis of a mean of 92.1 days. The CAL flag is associated with 20.5 fewer days, TERI with 11.7 fewer days, and wounded warrior with 9.0 fewer days. By contrast, when a claim is randomly selected for QA review, processing time increases by 7.5 days.

years 2010 through 2014 and consists of all SSDI claims that received a medical determination. The first column of Tables 1A and 1B provides some summary statistics about this file. In terms of demographics, Table 1A shows that almost 60 percent of applicants have a high school degree or less and another 11 percent have a GED. Twenty-six percent are under 40, almost half are age 50 or above, and 49 percent are female. The vast majority read (speak, write) English and 31 percent provided an email address. Turning to claim characteristics, more than half are SSI concurrent claims and 7 percent have a prior claim. The most common primary diagnoses are back disorders (19%), other musculoskeletal disorders (16%), major affective disorders (12%), impairments affecting the circulatory system (9%), and disorders of the nervous system (6%). Table 1B shows that at the initial stage about 32 percent of cases are allowed and 68 percent are denied, and very few (2 percent or less) are wounded warriors or have a terminal illness (both of which are to receive faster review).

Our focus is on representation at the initial determination stage. And, as described above, a major contribution of our project is in developing the capacity to study representation by exploring and combining the available administrative data. Figure 2 shows the percent of cases with representatives at initial determination, by year. There is a clear rise over the period, from about 13 percent in 2010 to 19 percent in 2014, an increase of more than 40 percent over this four year period. Pooling the five years in our sample, 16 percent of claimants use representatives at initial determination (Table 1A).

Our analysis shows that representation is not only increasing over time, but exhibits significant variation both across different groups of claimants, as well as across place. Figure 3 plots the share of representation at initial determination for 2010 (Panel A) and 2014 (Panel B) by 3-digit zip code. These maps show tremendous spatial variation in the extent of representation at initial determination. In 2010, there are relatively higher rates of representation in Utah, Nevada, Southern Texas, Minnesota, as well as SSDI hotspot locations in the Appalachian region. These representation rates get very high – up to more than a quarter in the highest utilization areas. Notably, by 2014 many

more areas exhibit these high rates of representation. Figure 4 summarizes the geographic variation for 2014 and shows that in 20% of the zip codes no one uses a representative at the initial level, while in 50% of zip codes more than 20% use a representative. We conclude from this that the aggregate tabulations in Figure 2 mask a great deal of variation across space in terms of the level and rate of change in representation.

We can also explore the variation in representation across subgroups using demographic characteristics, claiming information, and processing and outcome information. Returning to Tables 1A and 1B, column 2 reports the share of group with representation at the initial stage. Beginning with demographics, we see that representation rises slightly with education level, from 15 percent for those with less than a high school degree to 18 percent for those with a college education. More striking is the pattern by age, where only 10 percent of those under 30 have representation compared to 18 to 19% for those age 40 or more. Rates of representation do not exhibit variation across gender and English language. Turning to claiming information, those with prior claims and those filing form i3368 online have significantly higher rates of representation, at 22% and 33% respectively. In terms of primary diagnosis, there are above average rates of representation for those with major affective, back and musculoskeletal diagnoses and below average rates for those with anxiety, other mental, and intellectual diagnoses.

At the bottom of Table 1B, which we also display in Figure 5, we examine variation in representation across categories of determination outcomes. Figure 5 shows higher rates of representation among cases that are allowed at initial determination, particularly those meeting medical-vocational requirements. However, representation is also higher among those denied for insufficient evidence, and the capacity for previous or other work. This provides our first result for how the payment structure affects representative incentives and claimant outcomes.

6. Regression Analysis of Representation and Case Outcomes

Building on our initial findings in the previous section, here we estimate simple descriptive

regressions to explore the role of representatives in the initial review. In the first set of results we examine the relationship between claim characteristics and the propensity to have a representative at the initial review. This provides insight, and quantification, of the incentives for representatives discussed above. In essence this first set of results allow us to illustrate the nature and extent of selection into representation. In the second set of results, we estimate the effect of representation on outcomes including initial allowance, DDS processing time, field processing time, and various reasons for denial.

Table 2 presents the results for the effect of claimant characteristics on the propensity to have representation at the initial level. In the model we control for demographics (age, gender, education, English language), severity (pain, body mass index), claim characteristics, processing characteristics, and indicators for 3-digit zip code, month of filing, and DDS office. We estimate the regressions separately by year and all coefficients along with their standard errors (except the time and geography fixed effects) are presented in Table 2. These results show that claimants who are older, English speakers, with higher education levels, and without vocational training are more likely to have representation at the initial review. These effects are fairly large; for example in 2010 being a college graduate (compared to less than high school, the omitted group) increases the probability of representation by 2.3 percentage points off a base of 13 percent, for an increase of 18 percent. Women are less likely to have representation, but the effects are relatively small, between 0.6 and 0.9 percentage points. In terms of claim characteristics, claimants that have been previously denied are 5-7 percentage points more likely to have representation, with the effect decreasing somewhat over the 2010-2014 period. In 2010-2013, SSI concurrent claims are less likely to have representation (by 2-3 percentage points) but by 2014 this reverses sign and SSI concurrent claims are 2.6 percentage points more likely to have representation. Those with a terminal illness, wounded warriors, and compassionate allowances all have lower rates of representation. This is consistent with these conditions being well documented implying less scope for benefits from representation. For example,

wounded warriors have very well-documented medical histories and they are supported by the Veterans Administration. Also, Compassionate Allowances identify conditions that invariably qualify based on objective medical evidence. The second page of Table 2 provides the estimates for primary diagnosis and categories of claimant body mass index (omitted category is normal weight). Relative to circulatory condition (the omitted group), cases with easier to document diagnoses (visual, hearing) are less likely to have representation while those that are more difficult to document (major affective, back) are more likely to have representation. Interestingly, looking across the columns, the differences in the propensity for representation across primary diagnosis narrows over time.

Figure 6 provides a summary of the results on the determinants of representation at the initial review. The figure plots the estimated coefficients and 95 percent confidence intervals for the regression for 2014 in Table 2. Panel A plots the coefficients on demographics and claim characteristics and Panel B plots the coefficients on primary diagnosis. We sort the covariates by the magnitude of the estimated coefficients, to highlight the important determinants of representation. The figures illustrate clearly the findings discussed above. Prior denials, pain, more difficult to document diagnoses are associated with higher levels of representation while less difficult to document diagnoses and claims that qualify for expedited handling are associated with lower rates of representation.

In our second set of results, we present descriptive findings on the effect of representation on the initial review outcomes. The outcomes we analyze are initial allowance (=1 if yes), processing time at the field office (in days), processing time at DDS (in days), denial for insufficient evidence (=1 if yes), denial for failure/refusal of medical exam (=1 if yes) and “quick” component of the QDD Propensity Score (continuous score between 0 and 1). These outcome variables are well suited for testing the theory of attorney behavior that we discuss above in Section 3. They allow us to explore the effect on delays in the case, reason for delays, as well as the ultimate success of the case.

The results are presented in Tables 3-8. For each outcome, we estimate the model separately by year (2010-2014) and include controls for demographics, diagnosis, severity, claim characteristics, processing characteristics, and indicators for 3-digit zip code, month of filing, and DDS office (essentially everything included as controls in Table 2, plus diagnosis).

Table 3 shows the results for initial allowance. The results show that representation increases the chances of allowance by 3.9 percentage points in 2010. Relative to the mean of 35 percent success rate, this implies an 11 percent effect of representation on initial allowance. This modest “advantage” declines over time and by 2014 representation increases initial allowances by 1.2 percentage points or 4 percent.

Tables 4 and 5 address the allegation that representatives intentionally delay cases to maximize the amount of their fee payment (and, along the way, increase agency costs). The number of days in the field office averages 7-9 days (bottom row of Table 4). In 2010, representation leads to 2 additional days in field office processing time—a 27 percent increase. These delays increased significantly over time, and by 2014 cases with representation were 9 days slower, a more than doubling of field office processing time. Cases with representation also exhibit longer DDS processing times, though at 2-3 days on a mean of 90-100 days the effects are much smaller.

Throughout the 2010-2014 period, cases with representation were more likely to result in denials for “insufficient evidence.” Table 6 shows that the effect of representation on denial for insufficient evidence rose steeply over time, from 0.2 percentage points in 2010 to 1.4 percentage points in 2014. Given the very low rate of denial for insufficient evidence (4-5 percent over this period), these estimates amount to large percentage effects; for example in 2014 representatives raise the risk of a denial for insufficient evidence by 28 percent. The results for denial for failure or refusal to have a medical exam (Table 7) are less consistent over time. Between 2012 and 2014, representation leads to a higher rate of denial for failure/ refusal of medical exam (e.g., 3% in 2012, 11% in 2014). But in 2010 representation led to a lower rate of denial for failure/refusal to have a

medical exam and in 2011 the effect of representation on denials of this sort was not statistically different from zero.

Finally, in Table 8 we explore the effect of representation on the “quick” propensity score. Since 2008, SSA has used QDD to identify claims where an allowance is highly likely and medical evidence is readily available. The QDD process estimates a propensity-score type predictive model (using allegation content and claim characteristics) and identifies two components: “quick” and “allow”. The ALLOW score identifies cases where a favorable disability determination is highly likely and QUICK identifies cases with a high probability of being decided quickly.¹² Thus, differences in the “quick” scores reflect differences in the content of the claims before they are examined by DDS examiners and before these examiners may request further medical documentation or consultative medical examinations. Both the QUICK and ALLOW components are continuous and range from 0 to 1.

In Table 8, we estimate the effect of representation on the QUICK score and the model includes the same control variables as the previous outcome regressions (demographics, case characteristics, fixed effects for month, DDS and 3-digit zip code). Our analysis here is restricted to data from 8/11/12 through the end of 2014 due to the availability of the scores. The bottom of the table shows the mean of the QUICK score is 0.32 and the estimation sample consists of 3.8 million observations. The SSA QDD propensity score model is estimated separately for SSDI-only and SSDI/SSI concurrent applicants, thus in Table 8 we also report the coefficient on the *concurrent* indicator. Additionally, an updated QDD model was rolled out on 1/11/14 so we also include and report the coefficient on the indicator for *period1* which is equal to one for the period 8/11/12-1/10/14. The main results, in column 1, show that cases with representation have a lower predicted probability of being decided quickly upon receipt at DDS (a 1.1 percentage point effect). In the second column we add the ALLOW score as an additional control leading to a larger effect of

¹² Social Security Administration (2008) indicates that claims that are allowed and flagged as QDD are processed in 6 to 8 days, on average.

representation -- 1.7 percentage points.¹³ These results suggest a 3.4 to 5 percent reduction in the probability of a quick decision; however, we deemphasize the magnitude of the estimate and emphasize its sign and statistical significance because it is not known whether the QDD propensity score components provide meaningful information away from the allowance margins that the score was designed to measure. Nevertheless, within the context of these caveats, these results indicate that there are meaningful differences in the content of the claims that do and do not have a representative before the claim reaches the DDS. That is, representatives may have an effect on the content of the claim before filing and/or while the claim is at the field office.

7. Conclusion

Applying for SSDI is complicated and lengthy, and attorney and non-attorney representatives have long played a role in assisting with the preparation of these claims. While representation was once thought to be present only in appellate hearings, the Social Security Advisory Board (2012) noted a pronounced increase in representation at the initial level since 2009. However, much of the existing evidence on the role that representatives play in the process is anecdotal owing to data limitations. While there are many potential benefits of representation to both claimants and the disability system, representatives can receive larger payments for allowed claims that take longer to process. Related to these incentives, SSAB (2012) reports allegations that some attorneys deliberately slow down cases, file incomplete and less fully developed applications, and fail to respond to requests. However, little systematic evidence has been available to evaluate these contentions.

In this paper, we comprehensively investigate the impact of claimants' representatives on case outcomes. In addition to exploring the validity of these allegations, we are interested in learning about the objectives of representatives and the extent to which they are or are not aligned with the objectives of claimants. Our analysis is made possible by new administrative data measuring

¹³ To be more specific, the model in column 2 includes ALLOW score, as well as ALLOW interacted with *concurrent*, ALLOW interacted with *period1*, and the three way interaction of ALLOW, *concurrent* and *period1*.

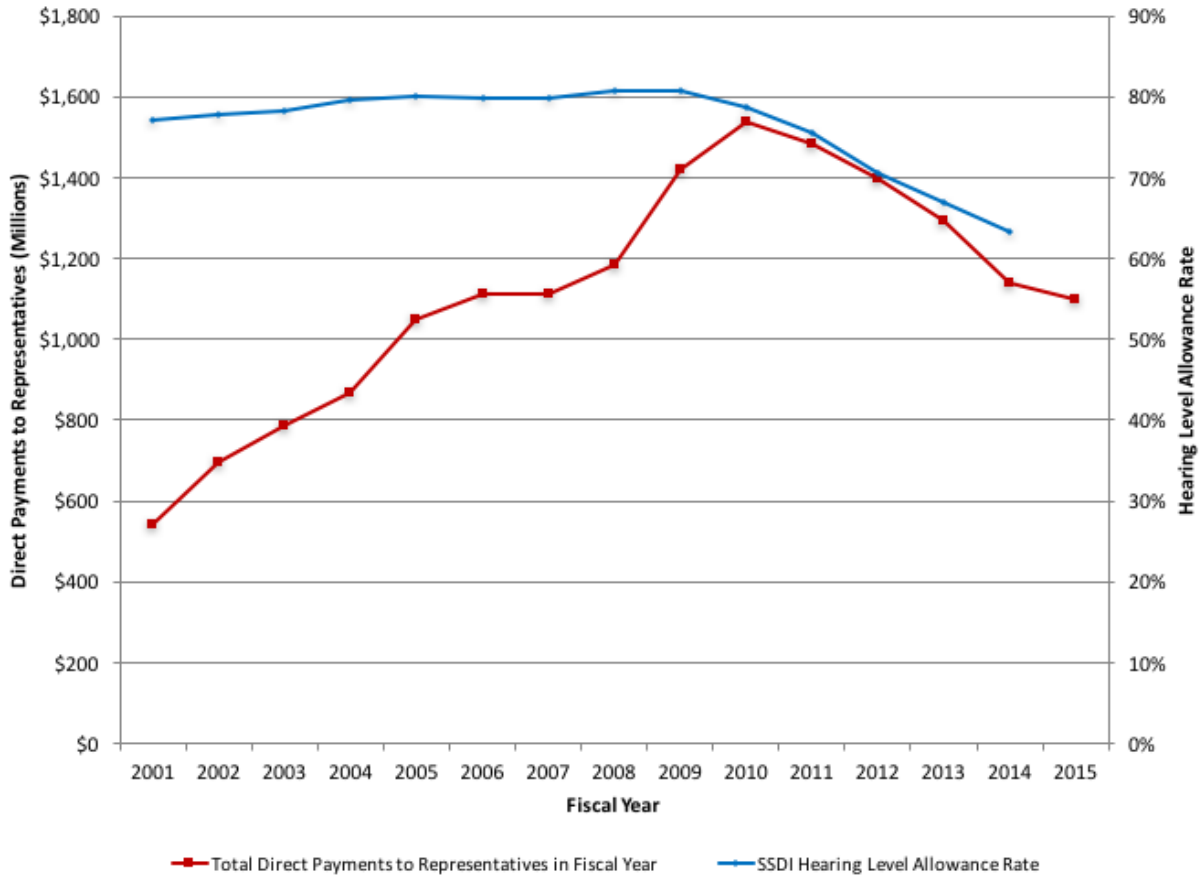
representation in the application process. We use data covering 2010 through 2014 and focus on initial level representation owing to its rising importance and because most cases are finally decided at this level.

During this period, on average, 16 percent of claimants use representatives at initial determination. The pattern of representation varies significantly across different parts of the country, with rates of 25% or more in Utah, Nevada, Southern Texas, Minnesota, as well as SSDI hotspot locations in the Appalachian region. Additionally, representatives are more likely to be involved in cases with older and English speaking claimants, with harder to document diagnoses and with a prior denial. The administrative data shows patterns consistent with the allegations discussed above: cases involving representatives spend more time at the Field Office and have a lower predicted probability of a quick decision based on the information provided at this stage. Although they are more likely to be allowed, they are also more likely to be denied for insufficient evidence or failure to submit to a medical examination. These results are important in light of the rising role of representatives in the application process.

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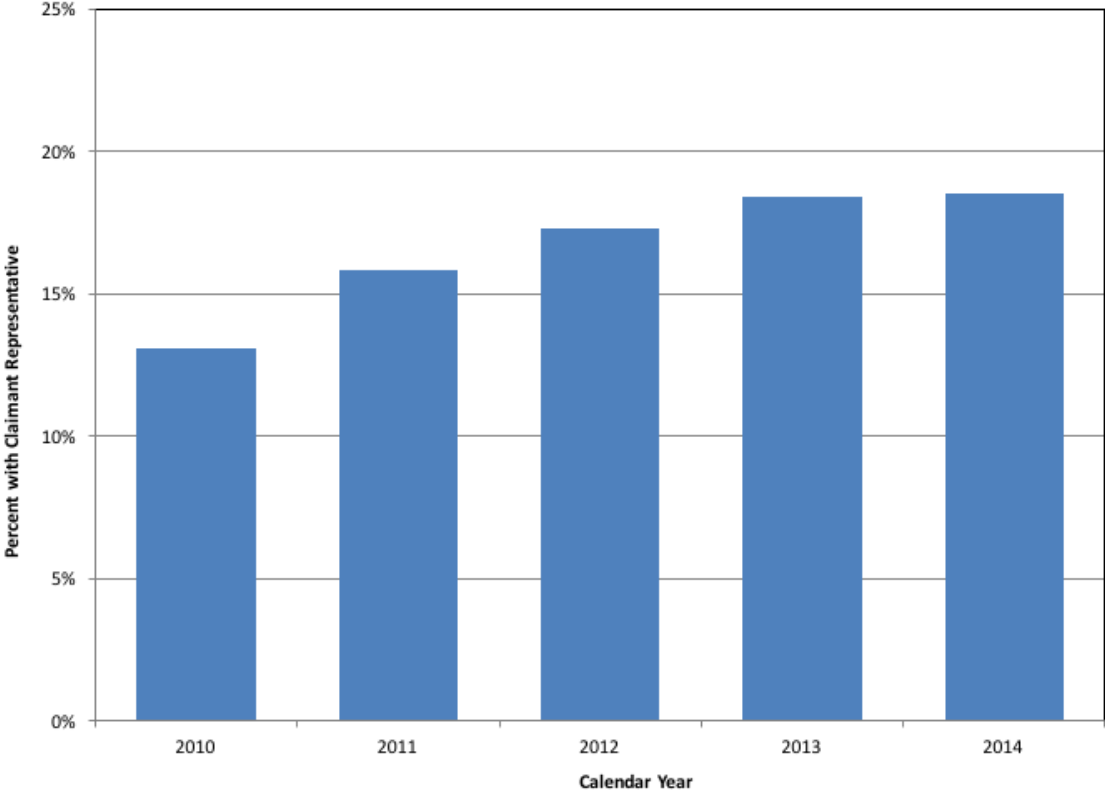
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Figure 1: SSDI Direct Fee Payments to Claimant Representatives and the Hearing Level Allowance Rate by Fiscal Year (2015 dollars)



Notes: Fiscal year totals are aggregated monthly totals from Social Security Administration (2016b) and consist of Title II Direct Payments to Claimant Representatives. Beginning July 28, 2005, Title II fee payments also include payments made to eligible non-attorneys participating in the demonstration project authorized by section 303 of the Social Security Protection Act of 2004 (Pub. L. 108-203). SSDI hearing level allowance rates are from Social Security Administration (2015).

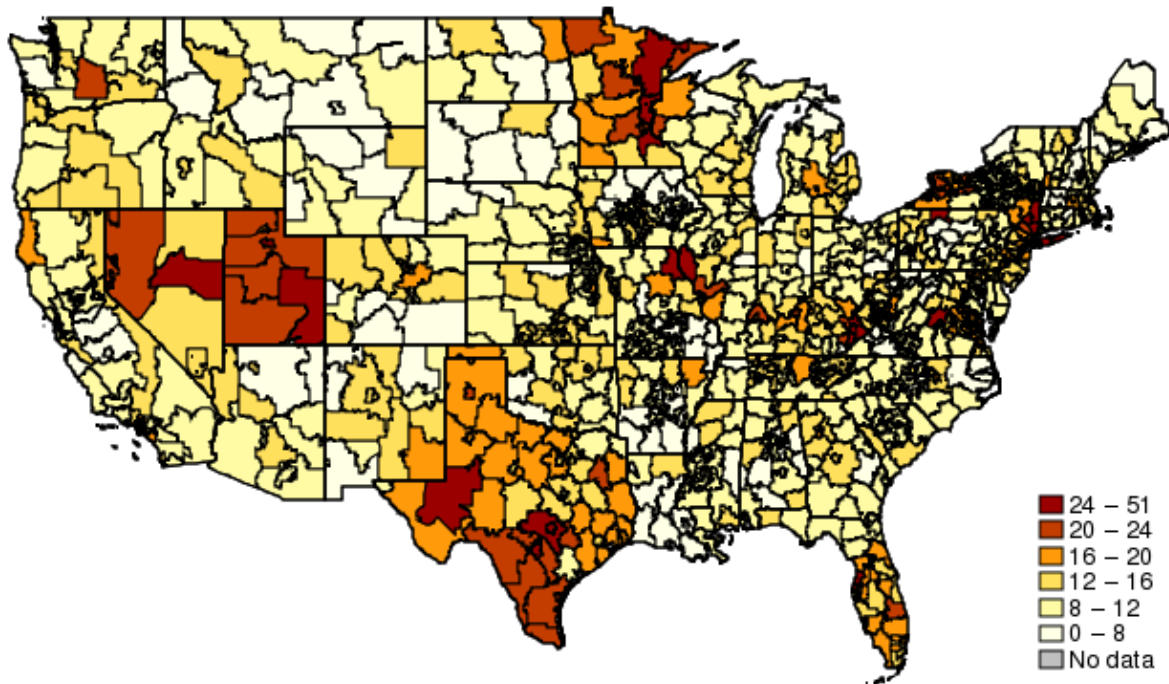
Figure 2: Percent of Initial Claims with Representation, 2010-2014



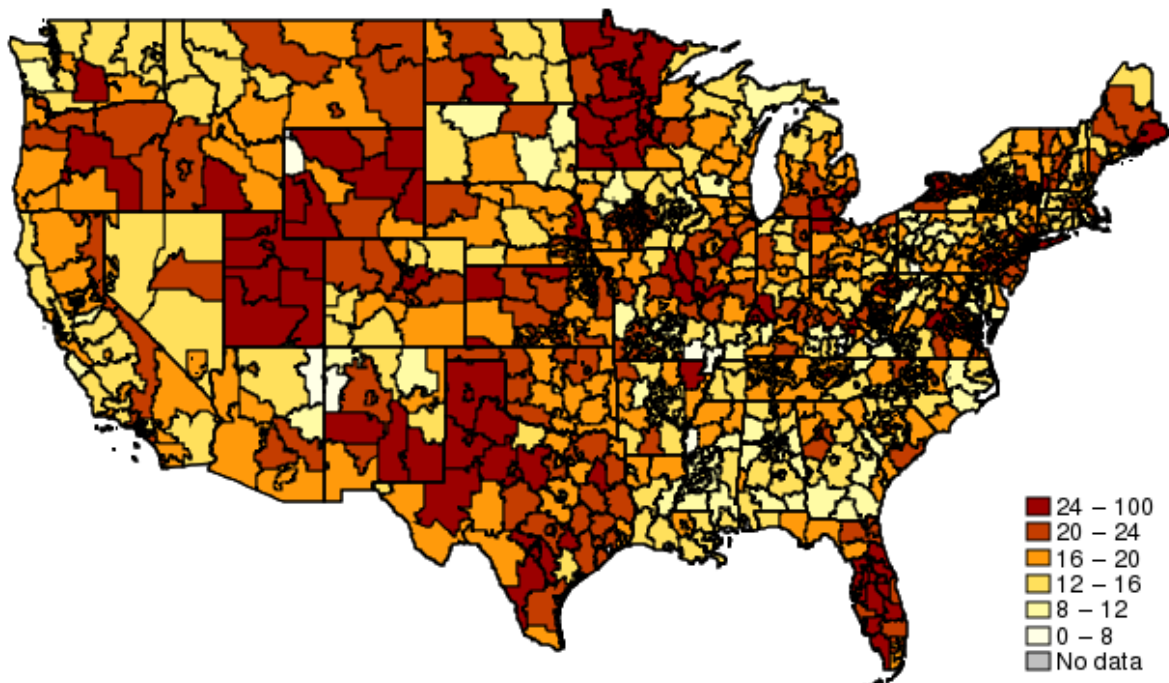
Notes: Authors' tabulations of SSA MEDIB data. Years correspond to calendar year of claim filing.

Figure 3: Representation at Initial Level by 3-Digit Zip Code 2010 & 2014

(A) 2010

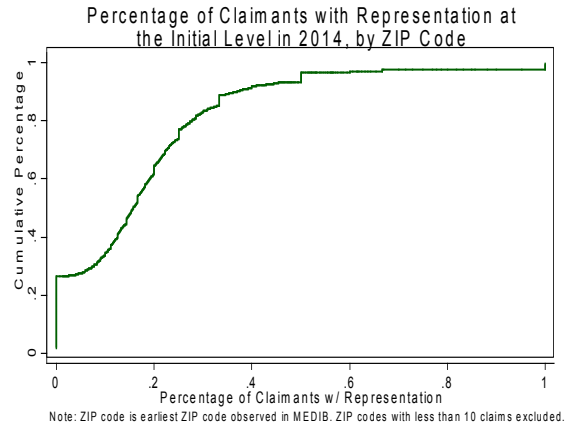
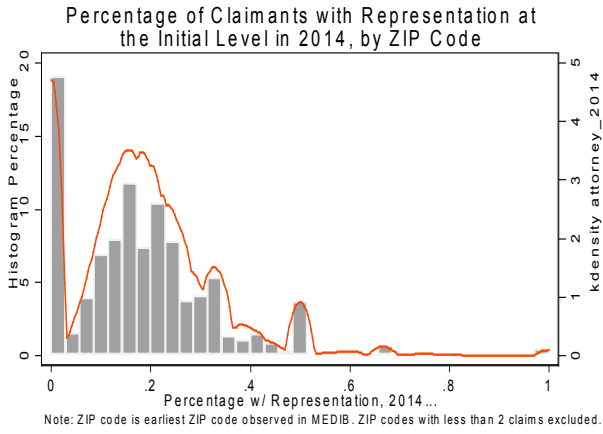


(B) 2014



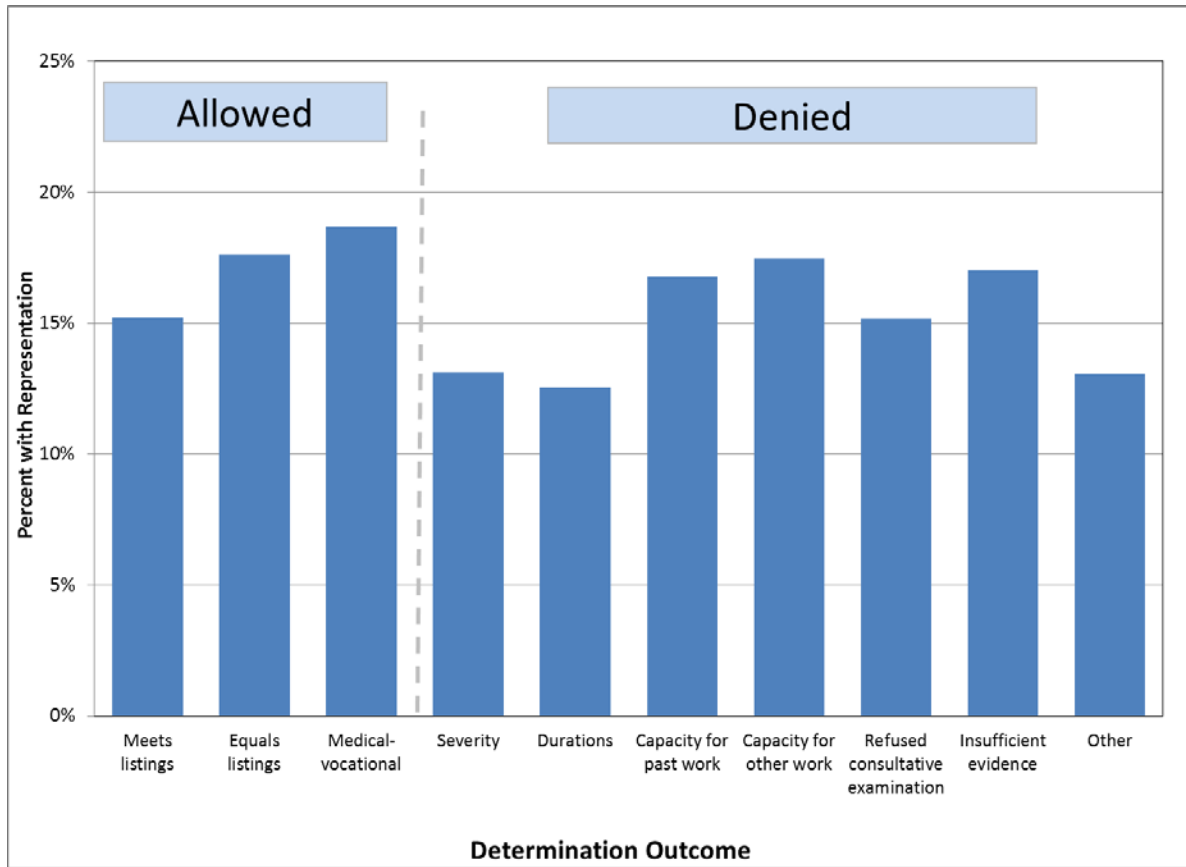
Notes: Authors' tabulations of SSA MEDIB file. Years correspond to calendar year of filing.

Figure 4: Summarizing the Geographic Variation in 2014



Notes: Authors' tabulations of SSA MEDIB data.

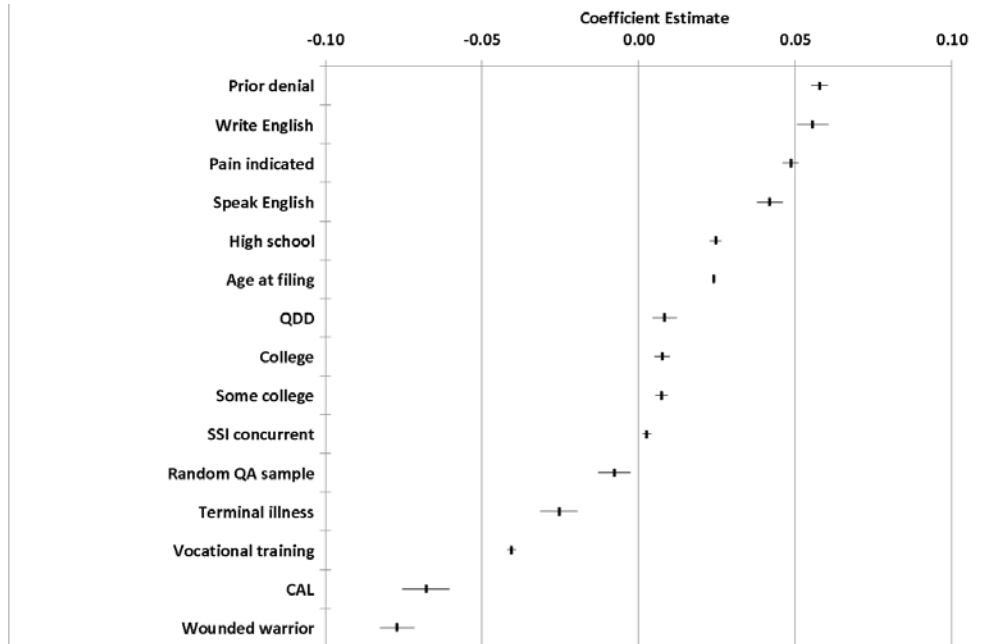
Figure 5: Rate of Representation by Determination Outcome, 2010-2014



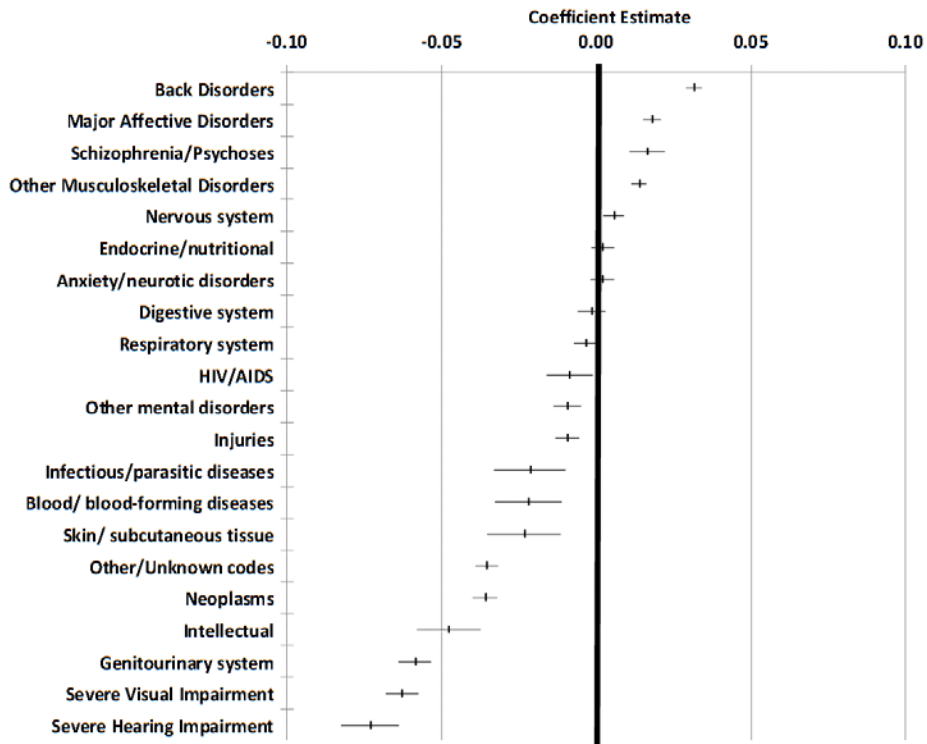
Notes: Authors' tabulations of SSA MEDIB data, 2010-2014.

Figure 6: Correlates of Representation, 2014 [Dep Var Mean = 0.185]

(A) Demographics and Claim Characteristics



(B) Primary Diagnosis



Notes: These are estimated coefficients and 95% confidence intervals for the estimates in column 5 of Table 2.

Table 1A: Summary Statistics: Demographics and Case Characteristics

	Category Share of Sample	Share of Sample Category with Representation
	(1)	(2)
All	100.0%	16.5%
Gender		
Female	49.2%	16.4%
Educational Attainment		
Less than high school	21.7%	14.8%
High school	37.3%	17.3%
GED	10.7%	15.8%
Some college	20.9%	16.4%
College	9.5%	18.0%
Age Group		
18-29	10.1%	9.6%
30-39	15.8%	15.0%
40-49	24.8%	18.1%
50-59	36.1%	19.4%
60-65	13.4%	12.7%
English Language Ability		
Read English	94.4%	16.5%
Speak English	95.0%	16.4%
Write English	94.0%	16.5%
Claim Information		
Concurrent claim	52.4%	15.0%
Prior claim	6.9%	22.0%
Filed online i3368	36.5%	32.8%
Primary Diagnosis		
Major Affective	11.9%	18.1%
Schizophrenia/ Psychoses	1.4%	16.5%
Anxiety/ neurotic	3.3%	14.4%
Other mental	3.0%	12.9%
Retardation	0.4%	8.1%
Back	19.2%	19.8%
Musculoskeletal	16.4%	17.2%
Nervous	5.6%	16.6%
Circulatory	9.4%	16.4%
Other	29.4%	13.9%

Notes: Authors' tabulations of SSA MEDIB data and includes 8,374,958 observations between years 2010-2014.

Table 1B: Summary Statistics: Processing and Outcome Characteristics

	Category Share of Sample	Share of Sample Category with Representation
	(1)	(2)
All	100.0%	16.5%
Processing and Outcome Information		
Quality assurance sample	1.2%	16.3%
Quick Disability Determination (QDD) Flag	3.7%	15.3%
Compassionate Allowance (CAL)	1.5%	12.9%
Terminal Illness (TERI)	1.7%	14.4%
Wounded warrior	1.1%	7.8%
Determination Outcome		
Allowed		
Meets listings	10.3%	15.2%
Equals listings	2.4%	17.6%
Medical-vocational	19.2%	18.7%
Denied		
Severity	13.3%	13.1%
Durations	3.5%	12.6%
Capacity for past work	15.9%	16.8%
Capacity for other work	27.7%	17.5%
Refused consultative examination	2.5%	15.2%
Insufficient evidence	4.4%	17.0%
Other	0.8%	13.0%

Notes: Authors' tabulations of SSA MEDIB data and includes 8,374,958 observations between years 2010-2014.

Table 2: Estimates of Claimant Characteristics on Representation at Initial Determination

	2010 (1)	2011 (2)	2012 (3)	2013 (4)	2014 (5)
Demographics					
Female	-0.00693*** (0.001)	-0.00818*** (0.001)	-0.00719*** (0.001)	-0.00918*** (0.001)	-0.00556*** (0.001)
Age at filing	0.0133*** (0.000)	0.0157*** (0.000)	0.0187*** (0.000)	0.0223*** (0.000)	0.0240*** (0.000)
Age squared	-0.000147*** (0.000)	-0.000174*** (0.000)	-0.000205*** (0.000)	-0.000237*** (0.000)	-0.000248*** (0.000)
High school	0.0220*** (0.001)	0.0220*** (0.001)	0.0235*** (0.001)	0.0260*** (0.001)	0.0246*** (0.001)
Some college	0.0175*** (0.001)	0.0130*** (0.001)	0.00825*** (0.001)	0.00896*** (0.001)	0.00731*** (0.001)
College	0.0228*** (0.001)	0.0182*** (0.001)	0.0116*** (0.001)	0.00897*** (0.001)	0.00760*** (0.001)
GED	0.00746*** (0.001)	0.00663*** (0.001)	0.00504*** (0.001)	0.00546*** (0.001)	0.00257** (0.001)
Vocational	-0.0429*** (0.001)	-0.0409*** (0.001)	-0.0393*** (0.001)	-0.0432*** (0.001)	-0.0406*** (0.001)
Read English	-0.00803*** (0.002)	-0.003 (0.003)	0.001 (0.003)	-0.00535* (0.003)	0.0111*** (0.003)
Speak English	0.0341*** (0.002)	0.0363*** (0.002)	0.0310*** (0.002)	0.0449*** (0.002)	0.0419*** (0.002)
Write English	0.0206*** (0.002)	0.0299*** (0.002)	0.0413*** (0.002)	0.0543*** (0.003)	0.0556*** (0.003)
Claim characteristics					
SSI concurrent claim	-0.0248*** (0.001)	-0.0306*** (0.001)	-0.0307*** (0.001)	-0.0160*** (0.001)	0.00259*** (0.001)
Pain indicated	0.0447*** (0.001)	0.0529*** (0.001)	0.0653*** (0.001)	0.0626*** (0.001)	0.0486*** (0.001)
Random QA sample	0.002 (0.002)	0.00525** (0.003)	-0.003 (0.003)	0.002 (0.003)	-0.00780*** (0.003)
Quick Disability Determination (QDD) Flag	0.0126*** (0.002)	0.0154*** (0.002)	0.0254*** (0.002)	0.0177*** (0.002)	0.00834*** (0.002)
Compassionate allowance	-0.00696*** (0.002)	-0.0124*** (0.002)	-0.0372*** (0.004)	-0.0450*** (0.004)	-0.0679*** (0.004)
Terminal illness	0.001 (0.002)	-0.00446** (0.002)	-0.00641** (0.003)	-0.00794*** (0.003)	-0.0254*** (0.003)
Wounded warrior	-0.0925*** (0.003)	-0.0967*** (0.003)	-0.0934*** (0.003)	-0.0903*** (0.003)	-0.0771*** (0.003)
Prior denial	0.0689*** (0.001)	0.0665*** (0.001)	0.0603*** (0.001)	0.0541*** (0.001)	0.0577*** (0.001)
Observations	1,809,968	1,763,122	1,693,425	1,583,722	1,524,721
R-squared	0.05	0.05	0.04	0.05	0.04

Notes: Authors' tabulations of SSA MEDIB data. Covariates that are not shown include month, DDS office, and 3-digit zip code. Standard errors in parentheses. *p<0.10 ** p<0.05 *** p<0.01.

Table 2: Estimates of Claimant Characteristics on Representation at Initial Determination (Cont.)

	2010 (1)	2011 (2)	2012 (3)	2013 (4)	2014 (5)
Primary Diagnosis (circulatory system omitted)					
Major Affective Disorders	0.0296*** (0.001)	0.0303*** (0.001)	0.0255*** (0.001)	0.0214*** (0.001)	0.0180*** (0.001)
Schizophrenia/Psychoses	0.0344*** (0.002)	0.0359*** (0.002)	0.0304*** (0.003)	0.0239*** (0.003)	0.0165*** (0.003)
Anxiety/neurotic disorders	0.00770*** (0.002)	0.00866*** (0.002)	0.00599*** (0.002)	0.001 (0.002)	0.002 (0.002)
Other mental disorders	0.00459*** (0.002)	0.001 (0.002)	-0.00769*** (0.002)	-0.0114*** (0.002)	-0.00929*** (0.002)
Mental Retardation	-0.0167*** (0.003)	-0.0279*** (0.004)	-0.0357*** (0.005)	-0.0365*** (0.005)	-0.0477*** (0.005)
Back Disorders	0.0212*** (0.001)	0.0258*** (0.001)	0.0290*** (0.001)	0.0280*** (0.001)	0.0316*** (0.001)
Other Musculoskeletal Disorders	0.00295*** (0.001)	0.00482*** (0.001)	0.00587*** (0.001)	0.00808*** (0.001)	0.0138*** (0.001)
Infectious/parasitic diseases	-0.002 (0.005)	-0.0132** (0.005)	-0.0105* (0.005)	-0.0223*** (0.006)	-0.0215*** (0.006)
HIV/AIDS	-0.003 (0.003)	-0.00626** (0.003)	-0.00844** (0.003)	-0.00986*** (0.004)	-0.00866** (0.004)
Neoplasms	-0.0101*** (0.002)	-0.0205*** (0.002)	-0.0310*** (0.002)	-0.0347*** (0.002)	-0.0359*** (0.002)
Endocrine/nutritional	-0.00642*** (0.001)	0.000 (0.002)	0.002 (0.002)	0.00286* (0.002)	0.002 (0.002)
Blood/ blood-forming diseases	-0.00870** (0.004)	-0.0169*** (0.005)	-0.0203*** (0.005)	-0.0295*** (0.005)	-0.0221*** (0.005)
Severe visual impairment	-0.0463*** (0.002)	-0.0555*** (0.002)	-0.0585*** (0.002)	-0.0673*** (0.003)	-0.0629*** (0.003)
Severe hearing impairment	-0.0527*** (0.004)	-0.0599*** (0.004)	-0.0678*** (0.004)	-0.0704*** (0.005)	-0.0731*** (0.005)
Severe speech impairment	-0.009 (0.013)	0.015 (0.013)	-0.009 (0.014)	-0.017 (0.015)	-0.0266* (0.015)
Nervous system	0.00570*** (0.001)	0.00553*** (0.001)	0.00402*** (0.002)	0.002 (0.002)	0.00559*** (0.002)
Respiratory system	-0.00641*** (0.002)	-0.001 (0.002)	-0.00652*** (0.002)	-0.00429** (0.002)	-0.00336* (0.002)
Digestive system	0.00302* (0.002)	0.00427** (0.002)	0.000 (0.002)	-0.002 (0.002)	-0.002 (0.002)
Genitourinary system	-0.0401*** (0.002)	-0.0498*** (0.002)	-0.0596*** (0.003)	-0.0576*** (0.003)	-0.0586*** (0.003)
Skin/ subcutaneous tissue	-0.0297*** (0.005)	-0.0269*** (0.005)	-0.0325*** (0.005)	-0.0217*** (0.006)	-0.0234*** (0.006)
Congenital anomalies	-0.0138** (0.007)	-0.0228*** (0.008)	-0.0196** (0.009)	-0.0262*** (0.009)	-0.015 (0.009)
Injuries	-0.0108*** (0.001)	-0.0128*** (0.002)	-0.0134*** (0.002)	-0.0146*** (0.002)	-0.00939*** (0.002)
Other/Unknown codes	-0.0159*** (0.001)	-0.0182*** (0.002)	-0.0278*** (0.002)	-0.0308*** (0.002)	-0.0355*** (0.002)
Weight variables (normal weight omitted)					
Underweight	0.00722*** (0.002)	0.00853*** (0.002)	0.00689*** (0.002)	0.00777*** (0.002)	-0.001 (0.002)
Overweight	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.00268*** (0.001)	0.00352*** (0.001)
Obese	0.001 (0.001)	0.00120* (0.001)	-0.00133* (0.001)	0.000 (0.001)	0.00430*** (0.001)
Observations	1,809,968	1,763,122	1,693,425	1,583,722	1,524,721
R-squared	0.05	0.05	0.04	0.05	0.04

Notes: Authors' tabulations of SSA MEDIB data. Covariates that are not shown include month, DDS office, and 3-digit zip code. Standard errors in parentheses. *p<0.10 ** p<0.05 *** p<0.01..

Table 3: Estimates of Representation on Initial Allowance

	2010 (1)	2011 (2)	2012 (3)	2013 (4)	2014 (5)
Representation	0.0386*** (0.001)	0.0271*** (0.001)	0.0250*** (0.001)	0.0169*** (0.001)	0.0123*** (0.001)
Observations	1,809,968	1,763,122	1,693,425	1,583,722	1,524,721
R-squared	0.27	0.26	0.25	0.24	0.25
Mean Y	0.35	0.33	0.31	0.31	0.30

Notes: Authors' tabulations of SSA MEDIB data. Covariates include age-squared and indicators for education attainment, vocational training, SSI concurrent claim, sex, BMI, pain indicated at application, English language ability, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, prior denial, major diagnosis class and fixed effects for month, DDS office, and 3 digit zip code. Standard errors in parentheses. *p<0.10 ** p<0.05 *** p<0.01.

Table 4: Estimates of Representation on Field Office Processing Time

	2010 (1)	2011 (2)	2012 (3)	2013 (4)	2014 (5)
Representation	2.133*** (0.046)	3.166*** (0.044)	5.632*** (0.044)	8.449*** (0.044)	9.035*** (0.047)
Observations	1,809,967	1,763,122	1,693,425	1,583,722	1,524,721
R-squared	0.03	0.03	0.04	0.05	0.05
MeanY	7.95	8.48	8.58	7.26	8.36

Notes: Authors' tabulations of SSA MEDIB data. Covariates include age-squared and indicators for education attainment, vocational training, SSI concurrent claim, sex, BMI, pain indicated at application, English language ability, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, prior denial, major diagnosis class and fixed effects for month, DDS office, and 3 digit zip code. Standard errors in parentheses. *p<0.10 ** p<0.05 *** p<0.01.

Table 5: Estimates of Representation on DDS Processing Time

	2010 (1)	2011 (2)	2012 (3)	2013 (4)	2014 (5)
Representation	2.542*** (0.120)	2.416*** (0.102)	1.947*** (0.099)	2.315*** (0.099)	2.874*** (0.102)
Observations	1,809,968	1,763,122	1,693,425	1,583,722	1,524,721
R-squared	0.28	0.24	0.28	0.29	0.23
MeanY	97.68	88.69	92.26	92.89	92.14

Notes: Authors' tabulations of SSA MEDIB data. Covariates include age-squared and indicators for education attainment, vocational training, SSI concurrent claim, sex, BMI, pain indicated at application, English language ability, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, prior denial, major diagnosis class and fixed effects for month, DDS office, and 3 digit zip code. Standard errors in parentheses. *p<0.10 ** p<0.05 *** p<0.01.

Table 6: Estimates of Representation on Denial for Insufficient Evidence

	2010 (1)	2011 (2)	2012 (3)	2013 (4)	2014 (5)
Representation	0.00213*** (0.000)	0.00490*** (0.000)	0.00728*** (0.000)	0.0101*** (0.000)	0.0138*** (0.000)
Observations	1,809,968	1,763,122	1,693,425	1,583,722	1,524,721
R-squared	0.06	0.05	0.05	0.06	0.07
MeanY	0.04	0.04	0.04	0.05	0.05

Notes: Authors' tabulations of SSA MEDIB data. Covariates include age-squared and indicators for education attainment, vocational training, SSI concurrent claim, sex, BMI, pain indicated at application, English language ability, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, prior denial, major diagnosis class and fixed effects for month, DDS office, and 3 digit zip code. Standard errors in parentheses. *p<0.10 ** p<0.05 *** p<0.01.

Table 7: Estimates of Representation on Denial for Failure/Refusal of Medical Exam

	2010 (1)	2011 (2)	2012 (3)	2013 (4)	2014 (5)
Representation	-0.00136*** (0.000)	0.000309 (0.000)	0.000902*** (0.000)	0.00246*** (0.000)	0.00220*** (0.000)
Observations	1,809,968	1,763,122	1,693,425	1,583,722	1,524,721
R-squared	0.06	0.04	0.04	0.04	0.03
MeanY	0.03	0.03	0.03	0.02	0.02

Notes: Authors' tabulations of SSA MEDIB data. Covariates include age-squared and indicators for education attainment, vocational training, SSI concurrent claim, sex, BMI, pain indicated at application, English language ability, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, prior denial, major diagnosis class and fixed effects for month, DDS office, and 3 digit zip code. Standard errors in parentheses. *p<0.10 ** p<0.05 *** p<0.01.

Table 8: Estimates of Representation on QDD QUICK Score

Variables	Standard Covariates	Incl. ALLOW score
Representation	-0.0110*** (0.0002)	-0.0167*** (0.0002)
<u>QDD propensity score model indicators</u>		
Concurrent	-0.0751 (0.0001)	-0.0846 (0.0002)
Period 1	0.0085 (0.0004)	-0.0042 (0.0004)
Observations	3,842,920	3,842,920
R-squared	0.60	0.61
Mean Y	0.32	0.32

Notes: Authors' tabulations of SSA MEDIB data using data for 8/11/12-12/31/14. Covariates include age-squared and indicators for education attainment, vocational training, SSI concurrent claim, sex, BMI, pain indicated at application, English language ability, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, prior denial, major diagnosis class, dummy for period 8/11/12-1/10/14, and fixed effects for month, DDS office, and 3 digit zip code. Standard errors in parentheses. *p<0.10 ** p<0.05 *** p<0.01.