NICS Improvement Amendments Act
State Records Estimates Development and Validation Project

Abstract

The National Instant Criminal Background Check System (NICS) Improvement Amendments Act of 2007 (NIAA) requires states to report reasonable estimates of the number of records available to the NICS. The National Center for State Courts (NCSC), in partnership with SEARCH, was awarded the NICS State Records Estimates Development and Validation Project to assist the Bureau of Justice Statistics (BJS) in determining the reasonableness of state estimates and in creating estimates for non-reporting states. This report discusses the NCSC's and SEARCH's analysis of state record estimates submitted in 2010, the statistical models developed to determine the reasonableness of estimates reported to BJS and the feasibility of creating estimates for non-responding states and recommendations for future efforts at improving record estimates provided for NICS.

Disclaimer

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NICS Improvement Amendments Act

State Records Estimates Development and Validation Project

Year Two Report

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Executive Summary

The National Instant Criminal Background Check System Improvement Amendments Act of 2007 (NIAA) requires states to report reasonable estimates of the number of records available to the National Instant Criminal Background Check System (NICS). The Bureau of Justice Statistics (BJS) contracted with the National Center for State Courts (NCSC), in partnership with SEARCH, the National Consortium for Justice Information and Statistics, to evaluate the reasonableness of the estimates provided and to develop a statistical model to validate those estimates and determine the feasibility of providing model-based estimates for states that did not report estimates to BJS. This report presents the Year 2 analyses of the NIAA state records estimates survey.

Findings

- 44 of the 56 states and territories surveyed provided records estimates, a response rate of 79 percent, compared to 75 percent for the Year 1 NIAA survey.

- State record repository estimates appear to be reasonable estimates of the seven categories of records, based on expected quantitative information and qualitative information provided by the 44 responding states. State originating agency estimates appear reasonable in light of the challenges documented that inhibit the ability to make more precise estimates.

- State record repositories contain 74 percent of the records housed by originating agencies.

- The Year 2 statistical model validated the reasonableness of the overall estimates at the repository and the originating agencies. Additionally, the category specific model validated the reasonableness of estimates provided for Category 1 (Felony convictions). However, the models for the remaining categories were limited by a lack of data and were unable to validate additional category-specific estimates.

- The statistical model could not be used to develop reasonable estimates of data from non-responding states and territories, due to 1) the dissimilarities between responding and non-responding states and 2) the survey's unavoidable small sample size (at most, there are 44 responses for each variable within the model).

- Due to the technical assistance provided by BJS and its federal partners, along with the NCSC and SEARCH, several states noted that definitions were clarified and counting/estimation methods were improved in their Year 2 estimates.

- After three cycles of data collection are complete, work should be done to assess the value and use of the state estimates and to plan for the future of improving NICS reporting. Specific recommendations are provided in the Recommendations section of this report.

Introduction

The Bureau of Justice Statistics (BJS) is charged with collecting the records estimates defined by The National Instant Criminal Background Check System Improvement Amendments Act of 2007 (NIAA), signed into law on January 8, 2008. The Act requested estimates of records that affect eligibility to purchase a firearm from a federal firearms licensee (FFL) under the Gun Control Act of 1968 (Pub. L. 90-618) as amended, in order to allow an assessment of how effectively those data are being reported, or in some instances being made available, to the Federal Bureau of Investigation (FBI). In October 2009 the National Center for State Courts (NCSC), in partnership with SEARCH, was awarded the NICS State Records Estimates Development and Validation Project with the specific goals of assisting BJS in determining the reasonableness of state estimates and in creating reasonable estimates for those states that did not report such on their own. At the time of this report, two years of records estimates have been collected from states. This report includes discussion of the analysis of Year 2 estimates, the improvements made to the data collection process in Year 2, the statistical models developed to determine the reasonableness of estimates reported to BJS, the feasibility of creating estimates for non-responding states, and recommendations for future efforts at improving records estimates provided for NICS.

The NICS Improvement Amendments Act (NIAA)

The NIAA amends the Brady Handgun Violence Prevention Act of 1993, Pub. L. 103-159 (the Brady Act), under which the Attorney General established the National Instant Criminal Background Check System (NICS). The Brady Act requires FFLs to contact the NICS before transferring a firearm to an unlicensed person to ascertain whether the proposed transferee is prohibited from receiving or possessing a firearm under state or federal law.

The NIAA was enacted in the wake of the April 2007 shooting tragedy at Virginia Tech. The Virginia Tech shooter was able to purchase firearms from an FFL because records pertaining to his prohibiting mental health history were not available to the NICS; and, as a consequence, the system was unable to deny the transfer of the firearms used in the shootings. The primary purpose of the NIAA, therefore, is to ensure that all such firearms-prohibiting records are available to the NICS. Filling these record gaps will better enable the system to operate as intended to keep guns out of the hands of persons prohibited by federal or state law from receiving or possessing firearms.

NIAA Implementation

The NIAA has provisions that pertain to both federal agencies and states. For federal agencies, the NIAA mandates the reporting of firearms-prohibiting records and requires that any agency making mental health adjudications or commitments create a relief from disabilities program. Such a program permits persons who have been adjudicated a mental defective or committed to a mental institution to obtain relief from the firearms disabilities imposed by law as a result of such adjudication or commitment. For states, the NIAA requests that state record repositories, court systems, and other original source record holders provide the Attorney General with reasonable estimates of firearms-prohibiting records that cover the past twenty years. These estimates are to include two numbers, one from the originating agency and one from the state record repository, for each of the seven categories of records sought: felony convictions, active

indictments/informations/verified complaints, active wants/warrants, unlawful drug use records, mental health adjudications or commitments, protection or restraining orders, and convictions for potential misdemeanors crimes of domestic violence. Funding for improving records reporting is made available to states that create a relief from disabilities program, provided they have submitted the required estimates. Fourteen states have been awarded grants since 2009.[1]

State Records Estimates Data Collection (NIAA Survey)

Survey Methodology

To begin the second year of NIAA data collection in the states, BJS sent a letter to state court administrators and state NCHIP contacts announcing the upcoming data collection effort (see Appendix A). This letter outlined the reporting requirements of the Act as well as the two conditions that each state must satisfy before being deemed eligible to receive grant funding for improving records reporting. These two conditions are 1) that a state provides to the Attorney General a "reasonable estimate" based on methodology established by the Attorney General or actual counts of such records subject to the NIAA's completeness requirements and 2) that a state create and implement a relief from disability program certified by the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF). In February 2010, BJS disseminated NIAA–related packets to the National Criminal History Improvement Program (NCHIP) contacts and state court administrators for each of the 50 states, the District of Columbia, and five territories: American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and the Virgin Islands. Each packet included a copy of the NIAA reporting form and set forth the method to be used by the states for submitting records estimate data. The reporting form requested the number of records available both at originating agencies (i.e., the agencies that make the arrests; issue the warrants, indictments, or informations; and enter the convictions or orders) and in the state record repositories (i.e., the central record repositories for criminal justice information, mental health adjudications or commitments, protection orders, warrants, etc.) for the following seven categories:

- Category 1 – Felony convictions: records that identify a person who has been convicted in any court of a crime punishable by imprisonment for a term exceeding one year (e.g. state 'felonies') and of any state misdemeanors punishable by imprisonment for more than 2 years.

- Category 2 – Active indictments/informations/verified complaints: records that identify a person who is under an indictment or information returned or filed with a court, or a criminal complaint issued or verified by a prosecutor, for the crimes described in Category 1.

- Category 3 – Active wants/warrants: records that identify a person who is a fugitive from justice, as demonstrated by an active felony or misdemeanor want or warrant.

- Category 4 – Unlawful drug use records: records that identify a person who is an unlawful user of or addicted to any controlled substance, as demonstrated by specified

[1] These states are: Arizona, Connecticut, Florida, Idaho, Illinois, Kentucky, Nevada, New Jersey, New York, North Dakota, Oregon, Texas, Virginia, and Wisconsin.

arrests, convictions and adjudications, not protected from disclosure to the Attorney General by federal or state law.

- Category 5 – Mental health adjudications or commitments: records not protected from disclosure to the Attorney General by federal or state law that identify persons who have been adjudicated mentally defective, meaning that a court, board, commission or other lawful authority has determined that the person, as a result of marked subnormal intelligence or mental illness, incompetency, condition or disease, (a) is a danger to himself or others or (b) lacks the mental capacity to contract or manage his own affairs. This category also includes records not protected from disclosure to the Attorney General by federal or state law of persons found incompetent to stand trial or found insane by a court in a criminal case, and records not protected from disclosure to the Attorney General by federal or state law that identify persons who have been formally and involuntarily committed to a mental institution. This category of records does not include persons committed to a mental institution voluntarily or merely for observation or evaluation.

- Category 6 – Protection or restraining orders: records that are electronically available and identify a person subject to an active court order (from criminal or civil court) which restrains a person from committing acts of violence against another person. Both temporary and permanent protection or restraining orders are included.

- Category 7 – Convictions for potential misdemeanor crimes of domestic violence (MCDV): records that are electronically available and that may identify a person convicted of misdemeanor offenses such as battery, assault, disorderly conduct, breach of peace, family violence/domestic violence, family assault or battery/domestic assault or battery, stalking, harassment, etc.

In addition to providing estimates, the reporting form requested that respondents provide, for each category, a description of record availability, including information on the type and number of state/local agencies that originally created the records, the typical "lifecycle" of original records, any difficulties or impediments to accessing and submitting the records, and any factors that affect the availability of records for state and national files. Furthermore, the respondents were asked, for each category, to provide a detailed description of how they determined the estimate and to document all research, analysis, and survey work that they conducted in order to derive the estimate. Lastly, respondents were asked to provide an explanation for any missing data.

State executive and judicial branch agency representatives were expected to collaborate in developing the requested estimates. This was due to the fact that firearm-prohibiting records could be housed in more than one location and in more than one format; thus, collaboration between the agencies would result in better, more complete estimates. Collaboration was deemed so important to this process that the NIAA reporting form required the signatures of both the state court administrator and the NCHIP grant administrator as a means of certifying that the desired collaboration had taken place. The reporting forms that BJS received from the states were forwarded to NCSC and SEARCH in September 2010.

Improvements to the NIAA Survey Reporting Form in Year 2

As a result of feedback from the 2009 national meeting of NIAA reporting teams, BJS, SEARCH, and NCSC collaborated on a number of improvements for the 2010 (Year 2) data collection cycle, including the creation of an electronic data collection instrument, improved survey instructions, revised definitions of technical terms used in the survey, and materials to support respondents for Year 2 (e.g., a Frequently Asked Questions [FAQ] document).

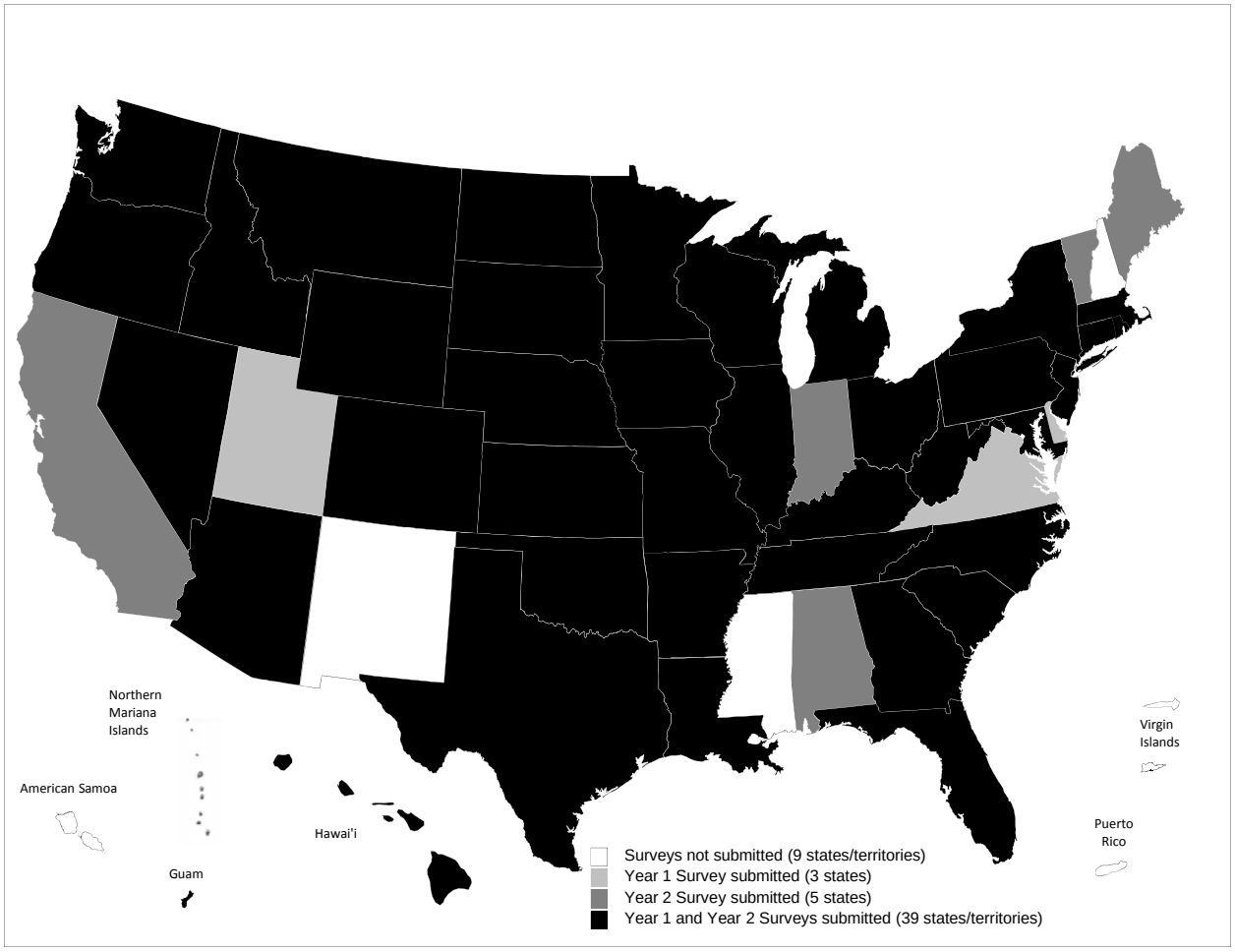
At the request of BJS, project staff developed a reporting spreadsheet. This reporting tool automated the calculation of totals and constrained, via cell parameters, the type and amount of data that could be inserted into the cells. The spreadsheet also contained the definitions and counting rules for each category of data. In these ways, the tool served to standardize the content of what was being reported, thus assisting respondent states in providing consistent data across all categories of data being requested.

In Year 2, many states reported in their narratives that they had refined their counting methods, had a clearer understanding of what they were being asked to report in the estimates forms, and explained that variations between their Year 1 and Year 2 data were due to this improved understanding. They specifically cited the improved definitions, FAQ document, and communication with project staff as reasons for these clarifications.

Response Rates

Of the 56 states and territories that received the NIAA packet, 44 jurisdictions completed the reporting form, resulting in a 79 percent response rate for Year 2, an increase compared to the Year 1 response rate of 75 percent. Those states and territories that did not provide estimates for Year 2 are: Alaska, American Samoa, Delaware, District of Columbia, Mississippi, New Hampshire, New Mexico, Northern Mariana Islands, Puerto Rico, Utah, Virginia, and the Virgin Islands.

Figure 1: States Responding to the NIAA Record Estimates Survey



Although there were 44 respondents to the reporting form, there were some originating agencies and/or state record repositories that did not or could not provide estimates for each of the seven categories of records; thus, the sample size varies by category. Table 1 below summarizes the response rates by record category for Year 1 and Year 2 estimates.

Table 1: Response Rates per Record Category

Category	Reporting Entity	Sample Size (N)		Percent of Respondents		Reports of Missing Data	
		Year1	Year2	Year1	Year2	Year1	Year2
(1) Felony Convictions	State Record Repository						
	Linked Records	42	42	100	95	0	2
	Not Linked Records	33	27	79	61	9	17
	Courts	37	41	88	93	5	3
(2) Active Indictments/ Informations/Verified Complaints	State Record Repository	25	21	60	48	17	23
	Courts or Prosecutors' Offices	34	38	81	86	8	6
(3) Active Wants/ Warrants	State Record Repository	38	39	90	89	4	5
	Courts	31	36	74	82	11	8
(4) Unlawful Drug Use Records	State Record Repository	37	37	88	84	5	7
	Originating Agencies	33	36	79	82	9	8
(5) Mental Health Adjudications	State Record Repository	32	32	76	73	10	12
	Originating Agencies	32	37	76	82	10	8
6) Protection or Restraining Orders	State Record Repository	36	39	86	89	6	5
	Courts	30	33	71	75	12	11
(7) Convictions for potential MCDV	State Record Repository	37	36	88	82	5	8
	Courts	30	34	71	77	12	10

Evaluation of NIAA Surveys

Evaluation Methodology

Project staff conducted a thorough evaluation of each state's records estimates. Staff carefully reviewed each state's reporting form, focusing on the same evaluative elements established in the Year 1 estimates review:

A. *Calculations*: Since mathematical errors are common on survey instruments that do not include formulas, project staff recalculated survey totals to ensure that the respondents provided the correct results. When discrepancies were found, the state's documentation was consulted to determine if the respondents had explained the anomaly. Staff also checked the transcription of data from the category cells to the summary cells since typographical errors are often common when data is not automatically populated from one cell to another. Any errors in calculations or transcriptions were corrected both on the survey copy and in the electronic data files.

B. *Missing values*: During the preliminary review of the data in Year 1, project staff created a series of missing values to help categorize the reasons for why data was not provided. The missing values represent three primary categories: true zero, where the state has done a count and found that there were no records for a category; not available, where the state knows that it has records for a category, but is not able to provide a count or an estimate; and not applicable, where the state does not have an entity or record type referred to by the survey. Missing values were assigned based on the documentation provided by the state. Project staff did not guess at the reason for missing data. In instances where there was no explanation for missing data, the missing value code indicated that the reason was unknown.

   These reasons and the number of times the missing codes were assigned are summarized in Table 2 below. There is one missing data code – included in category total, but no data provided – for which there are no occurrences when the survey data are aggregated, but this reason did appear within the details of the categories. For instance, in Mental Health Adjudications and Commitments (Category 5) a state may have reported that their mental health board does not have the ability to report data by a breakdown of the mental health subcategories (e.g., guilty by reason of insanity, incompetent to stand trial, etc.), but the courts in that state were able to provide estimates for that detail; thus, at the aggregate level, the estimate would appear as opposed to the missing value code. Two additional codes—pending, to be provided at a later date and just beginning to collect, no historic record—were not assigned during the analysis of the Year 2 records estimates as no states reported these as reasons for not providing data.

Table 2: Missing Data: Reasons and Frequency

Reason for Missing Data	Originating Agencies	Repositories
True zero	0	1
Not collected	16	39
Legally prohibited from NICS reporting	2	1
Records might be available at other agency(ies)	24	0
Pending, to be provided at a later date	0	0
Included in category total, but no data provided	0	0
Just beginning to collect data, no historic record	0	0
Not available electronically	3	1
Not applicable	3	1
Unknown; true missing	6	19

C. *Sufficiency of documentation*: Project staff carefully read all state documentation. If the state provided the detailed descriptions that were requested, it was considered to have submitted "sufficient" documentation. If some description of record availability was provided and/or some discussion of how estimates were determined was given, the state was considered to have provided "some" description. If no additional documentation was given, the state was considered to have provided "no" documentation. The difference between "some" documentation and "sufficient" documentation rests in the detail provided by the state. To assess the level of detail, each state's documentation was reviewed with these questions in mind: 1) Did the documentation address record availability, to include the life cycle of all original records as well as any impediments to accessing or submitting records?; 2) Did the respondent accurately describe the court's/repository's records estimation process?; and 3) Did an explanation exist for each missing data element?

D. *Completeness of category estimates*: Using the documentation provided by the state, project staff made a determination of whether or not the provided estimate was complete. In other words, staff notated all instances in which a state reported that data were missing from an estimate (incomplete), that an estimate included records other than those requested (over-inclusive), or that an estimate was both incomplete and over-inclusive. The completeness of a category was notated only when the state provided specific information. For instance, if the narrative was not explicit, staff did not comment on the completeness of the estimate for that category.

E. *Challenges:* In the Year 1 analysis, project staff created seven categorical variables that described limitations or challenges states reported as they attempted to create their estimates. These variables were revisited during the analysis of Year 2 data, resulting in a determination of their continued applicability as well as the creation of an additional challenge variable. State-reported challenges were then coded, allowing for the fact that a

state could have faced some, none, or all of the difficulties. The number of states reporting each challenge, by originating agency and repository, are shown in Table 3 below.

Table 3: Challenges in Reporting Records: Types and Frequency

Challenge	Originating Agencies	Repositories
Automation or technology – the state does not have the technology to query the data or their system is not automated.	18	25
Tracking (or recording/reporting of data) – the state does not have the ability to track the data separately to identify case types. For instance, a state may be unable to distinguish drug-related adjudications from all other adjudications or may not be able to tell from their database which cases are active or inactive.	28	16
Resources – the state does not have the resources (lack of staff, programming costs, etc.) to provide estimates.	8	14
Statutory requirements or limitations – the state does not have the ability to report estimates due to statutory constraints.	9	12
Retention schedules – the state does not have consistent records retention schedules. In other words, there is inconsistency in the length of time each document or record is retained.	3	4
Records accessibility – the state does not have the ability to report estimates because the records were lost in a flood, fire, hurricane, etc., there is no centralized file within the state, records are in a legacy system that is no longer available for making inquiries, or information is contained in paper files that are not stored in a manner that allows for practical searching or automating.	4	14
Procedural requirements or limitations – the state does not have the ability to report estimates, e.g. there is no process to establish offender/victim relationships or there are no fingerprints to support the record.	0	23
Disconnect in system collaboration – the state does not have the ability to provide estimates because there is a lack of communication or a gap in the processes between the entities within the criminal justice system. For example, law enforcement agencies and the courts. This challenge does not apply to the communication between the originating agencies and the repository.	2	0

Court and Repository Narratives

While evaluating each state's survey, project staff created two narratives, one that discussed the data submitted by the courts and one that discussed the data submitted by the state criminal records repository. These narratives, which provided respondents with initial feedback regarding project staff's understanding of the availability of records, their estimation process, and the challenges that arose during completion of the reporting form, were forwarded to representatives from each of the responding states for review. Additionally, the narratives listed any missing data from the reporting form and posed questions regarding the reported data and documentation. See Appendix C for an example of a state narrative.

Assessment of Category Estimates

It was apparent in the analysis of the Year 1 estimates that definitions in the reporting forms were sometimes ignored or misunderstood, that some states failed to apply the counting rules outlined in the reporting form, and that some states were not familiar with the notion of creating estimates (as opposed to actual counts of records) or with the estimating methodologies used to produce them. Despite improved definitions and instructions, technical assistance, and a year of experience with the reporting form, these issues were still evident to some extent during the Year 2 review. In addition to the estimating issues, project staff found that many of the same category-specific obstacles noted in the Year 1 surveys were again present in those for Year 2.

Category 1: Felony convictions

Most states were able to provide these data and there was notable improvement compared to Year 1 in using the correct counting methods for multiple charges/convictions. There were a few states that could only provide case level data and not charge/conviction-level data, but in most cases where this happened it was noted in the narrative.

State record repositories also noted that they are constrained from having conviction records because 1) repository records need to be supported by fingerprint records, which may have been initially rejected as illegible then not resubmitted, and/or 2) the failure of some local contributing agencies to submit all arrest records and/or to submit disposition information associated with the arrest records.

Category 2: Active indictments/informations/verified complaints

Some state courts noted that their case management system did not make the kind of distinctions contemplated in the reporting form. In some cases, the courts reported one number in the total column for this category and documented that this included more than one subcategory. States also noted that these records may not be reported to the state record repository due to the way they are processed; e.g., if the defendant is not formally arrested and booked, there are no fingerprints with which to associate the record or, as in some states, there is no electronic transfer of information between the originating agency and the state record repository to indicate that the record is no longer active.

Category 3: Active wants/warrants

In some courts, there was an inability to separately identify disqualifying circumstances from non-disqualifying circumstances (e.g., failure to pay, failure to comply with a court order).

There are some states that do not maintain wanted person files. In these states local agencies enter wants/warrants into the FBI/NCIC directly; consequently, the state record repository in these states does not retain want/warrant information. Alternatively, agencies may opt to enter only those wants/warrants that are for violent offenses or for offenses that are extraditable. Again, the records may be received by the state record repository or may be entered directly into the FBI/NCIC.

Category 4: Unlawful drug use records

States often could not separate the data by the subcategories of arrests, adjudications, and convictions so they provided one estimate. Additionally, some states could not distinguish between the felony convictions requested in Category 1 and the felony adjudications requested in Category 4, resulting in an over-inclusive estimate for Category 1 and no estimate in Category 4. Similarly, state record repositories, while able to tell that a charge has been disposed, may not be able to distinguish between an adjudication and a conviction since both are viewed as final dispositions.

Category 5: Mental health adjudications or commitments

As expected, the states had a difficult time reporting estimates on mental health adjudications or commitments. The reasons for this difficulty are many. For example, some courts could not distinguish between voluntary and involuntary commitments while some states lack the capacity to share information across the various agencies responsible for original mental health records. Additionally, in some states, statutory constraints regarding the privacy of mental health records currently limit reporting of these records either at the state or at the national level. Lastly, mental health-related information is generally absent from records reported to and retained by state record repositories with the exception of disposition information that references mental incompetency.

Category 6: Protection or restraining orders

The most common challenge noted by the courts is their inability to determine which protection or restraining orders are active and to distinguish those records from inactive records. Similar to the way wants/warrants are handled, some state record repositories do not maintain protection or restraining order files. Those states enter their protection or restraining orders into FBI/NCIC directly.

Category 7: Convictions for potential misdemeanor crimes of domestic violence (MCDV)

The courts often noted their inability to identify potential misdemeanor crimes of domestic violence due to the lack of specific codes for these cases. Court records retention guidelines also result in the destruction of older records. The federal requirements for domestic violence reporting are poorly understood in some states, despite previous attempts at disseminating this information and providing training to judicial officers. While some states have passed legislation to clearly identify these offenses, some remain unclear on the importance of victim-offender relationships in misdemeanor offenses (e.g., assault) for federal firearms prohibition.

Similar to the courts, the extrapolation of records involving domestic violence represented significant challenges to state record repositories that do not maintain domestic violence codes and victim-offender relationship data. In fact, many states had to rely upon manual and labor intensive review of individual case files against domestic violence statues to produce the records estimates. Additionally, there are few state statutes across the country whose elements represent automatic disqualification for NICS purposes. This lack of specific statutes causes convictions for a wide range of laws to be potentially disqualifying based on relationship and other criteria that is often not readily available and requires additional research for a true determination.

Technical Assistance

NIAA Regional Meetings

NCSC and SEARCH project staff attended the NIAA Regional Meetings held by the FBI's NICS Section. The three meetings were for the Northeast Region (held in Middletown, CT in February 2011), the Mid-Eastern Region (held in Charleston, WV in April 2011), and the Southeast Region (held in Nashville, TN in July 2011). The agenda for each meeting included:

- an overview of how the background check system (NICS) works and how records are entered into the NICS Index,
- a discussion of the federal prohibitors for gun ownership,
- a review of the NICS Improvement Amendments Act (NIAA) and the grant funds that are available as part of the Act,
- a summary of the requirements for a qualified ATF Relief from Disabilities program, and
- a presentation on the results of the NIAA surveys.

Each meeting also involved question and answer sessions so that the participants could address issues specific to their states, and NCSC and SEARCH project staff led the question and answer sessions regarding the NIAA Records Estimates Survey. During these sessions, project staff discussed the types of issues that were common to each of the seven records categories in the survey, provided a synopsis of solutions that different states had utilized to overcome those issues, and answered questions regarding the data collection instrument, various estimation methods, and the analysis of the survey data. In many instances, project staff were able to address state-specific questions, and feedback received from the participants indicated that these survey-related sessions were helpful.

Ohio Site Visit

At the Mid-Eastern Regional meeting staff from the state of Ohio requested a site visit for technical assistance from NCSC and SEARCH on preparing record estimates. Since Ohio has a decentralized court system that does not have a central data collection mechanism at the state level, the staff of the Administrative Division of the Supreme Court have been unsuccessful in providing accurate estimates for originating agencies. Thus, in September 2011, NCSC and SEARCH staff met with staff of the Judicial and Court Services Division of the Ohio Supreme Court, the Ohio Office of Criminal Justice Services, the Ohio Bureau of Criminal Investigation

and Identification, the Office of the Ohio Attorney General, the Cuyahoga County Court of Common Pleas, the Middletown Municipal Court, and the Montgomery County Probate Court. The purpose of this site visit was to review Ohio's process for submitting NICS-related records and to determine appropriate estimation methodologies that could be used to produce originating agency estimates of records for the NIAA survey. As such, the majority of the agenda focused the participants on discussing how records were being submitted to state repositories and federal databases, what technologies were being used for those submissions, and where gaps in the process existed. The discussion revealed that there is a process in place for submitting NICS-related records to the state criminal records repository, and the Bureau of Criminal Investigation and Identification (BCI & I), the agency responsible for the state records repository, estimated that approximately 90 percent of Ohio's courts provide BCI & I disposition data. Ohio's survey methodology was also discussed, resulting in a listing of the advantages and disadvantages of sending the NIAA Survey to each court, and the estimation methodologies used by other decentralized states were offered as examples of how Ohio might create record estimates in the future. Ohio staff realized that there are a number of methodologies that the state could use and a different methodology can be used for the different record categories, allowing for the estimation process to match the means by which the records are already captured and submitted.

NCSC and SEARCH project staff found that there is a good relationship and open communication between the agencies involved in submitting the survey, but participants lacked understanding regarding the respective agency processes. This site visit reinforced staff's view that an effective practice recommendation is for each state to create a NICS Task Force. Such a group, with representation from throughout the justice system, would facilitate communication between the state record repository and the courts as well as other executive branch agencies. In addition, a task force would provide a forum for exploring the range of possible options for improving the quality, completeness, and availability of records in the state.

Development of the Estimating Model

What is the Model?

In the first year of the NIAA survey, preliminary analysis was conducted to understand the basic features of the data. These analyses were then used to construct models that facilitated explanation of cross-state variations in the estimates of the number of records reported by originating agencies and those reported as existing in state record repositories. Models were developed to study variation in overall estimates reported by states as well as category-specific estimates/counts. The Year 2 modeling effort was different from Year 1 in several meaningful ways. These include: (a) efforts to model category specific estimates reported by states, (b) enhancements to the modeling methodology in an attempt to reduce excess variation in estimates developed, and (c) inclusion of additional external data sources in an effort to capture variations in originating agency and repository estimates. This section describes these enhancements and discusses findings. Importantly, data from Year 1 and Year 2 were not combined. This is because the Year 2 NIAA survey administered to the states had several important changes that clarified terminology and, therefore, potentially resulted in non-comparable quantities to Year 1 estimates.

Table 4 provides the summary statistics on the reported estimates—the dependent variables of the models. Figure 2 shows the overall distribution of reported records. States varied considerably in their reporting completeness. For example, a total of 44 states provided

repository estimates and a total of 43 provided originating agency estimates. However, only 21 states provided repository estimates for Category 2 (Active Indictments) whereas 38 states provided the originating agency estimates for this category. In general, more states provided category-specific repository estimates than category-specific originating agency estimates. The exceptions were Category 2 (Active Indictments) and Category 5 (Mental Health Adjudications).

With one exception—Category 5 (Mental Health Adjudications)—responding states typically reported some non-zero estimate of the number of records at the state repositories and originating agencies for each of the categories. This excludes states that provided missing information or did not respond.

Looking at the estimates across states, typically larger category-specific estimates were reported by originating agencies than by repositories. Category 2 (Active Indictments) was the lone exception, where at the aggregate level, more records were reported in the repositories than at the originating agencies. However, this trend does not appear to hold for other descriptive statistics.

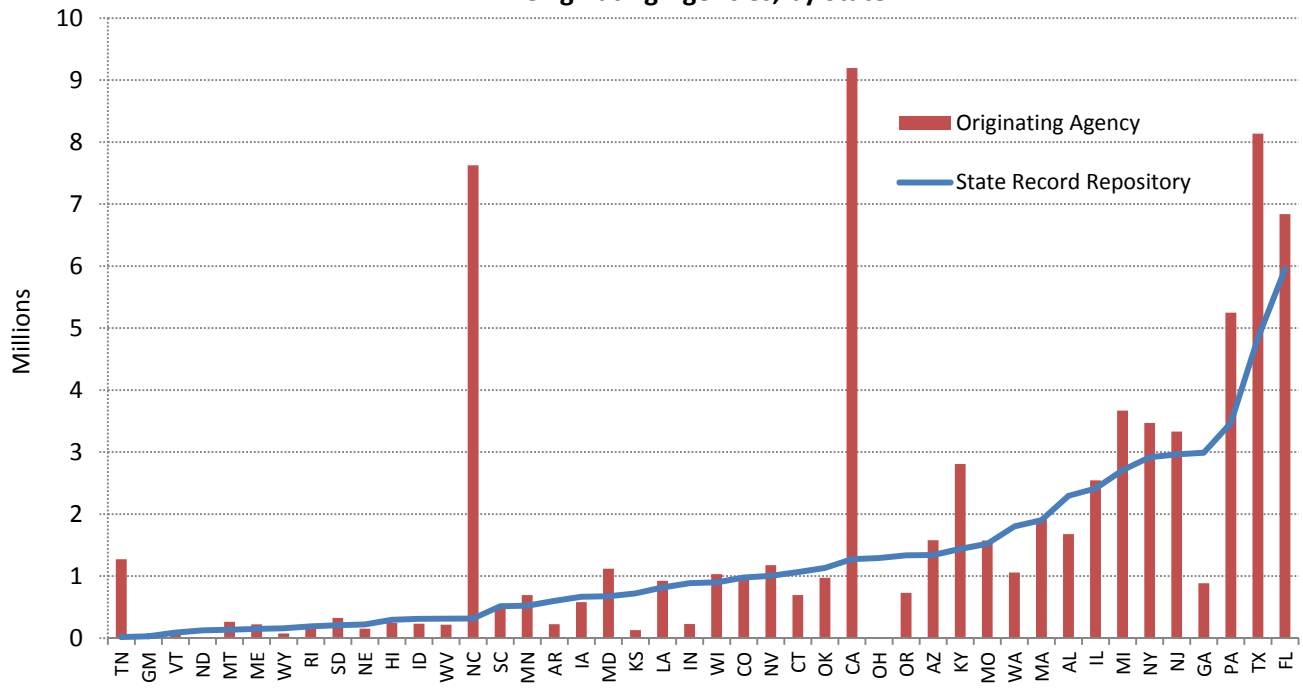
The median (50th percentile) is another statistic that provides useful information about the overall level of estimates across categories. The aggregate median for estimates from originating agencies were lower than repository estimates for Category 3 (Active Wants/Warrants), Category 4 (Unlawful Drug Use), and Category 6 (Active Restraining Orders).

In an attempt to study these variations in the reported estimates as well as to use them to draw inferences about the reasonableness and accuracy of the estimates, statistical models were developed.

Table 4: Distributional characteristics of the record estimates in state repositories and at originating agencies

	Reporting States	Average	Minimum	25th Percentile	50th Percentile	75th Percentile	Maximum
Repository Estimates							
Total	44	1,263,942	15,141	301,702	893,310	1,659,925	5,950,894
1 Felony Convictions	42	408,804	1,692	73,556	335,817	582,410	2,266,921
2 Active Indictments	21	163,846	1,387	10,840	30,181	106,640	1,063,455
3 Active Wants/Warrants	39	190,628	2,351	25,888	91,764	266,794	1,016,961
4 Unlawful Drug Use	37	594,025	4,185	116,965	332,094	641,945	3,334,418
5 Mental Health Adjudications	32	23,666	0	244	1,077	5,189	549,032
6 Active Restraining Orders	39	40,122	344	6,422	15,141	31,010	266,799
7 Misdemeanor Domestic Violence	36	90,764	4,103	23,838	67,498	107,984	403,054
Originating Agency Estimates							
Total	43	1,779,347	22,508	232,010	930,262	1,910,170	9,194,951
1 Felony Convictions	41	589,502	1,692	77,561	347,344	743,678	4,198,522
2 Active Indictments	38	93,585	2,349	9,667	35,343	94,534	900,486
3 Active Wants/Warrants	36	372,211	2,351	34,581	83,345	389,603	3,572,158
4 Unlawful Drug Use	36	646,971	3,099	83,295	256,175	757,357	4,249,947
5 Mental Health Adjudications	37	116,158	13	2,454	13,920	49,051	1,733,791
6 Active Restraining Orders	33	45,394	148	4,798	14,903	39,895	276,867
7 Misdemeanor Domestic Violence	34	136,369	1,300	28,414	72,038	190,324	910,276

Figure 2: Distribution of Counts of Total Number of Records in State Repositories and Originating Agencies, by State



How Were the Models Developed?

Because the reported estimates—originating agency or repository—are count outcomes with potentially 0 reported counts, two popular count outcome models were tried. These included the Poisson and the Negative Binomial models. Ultimately, the Negative Binomial model was selected because it is less restrictive in terms of its assumptions.

In addition, because the models included a large number of predictors (described in the next section) as well as the potential for very small samples for some of the categories, there was the possibility that these models might produce very large confidence bounds on the estimates. One solution to reduce the estimated confidence bounds of the models is to simplify the model (i.e., to fix the contribution of some variables). In earlier versions of the models, it was found that the natural log of adult population measure always predicted the reported estimates (in all of the category specific models) typically with a coefficient near 1. This suggests that a model can be developed in rates (rather than levels) without losing much accuracy, but greatly shrinking confidence bounds. As a result, the final set of models were estimated by fixing the coefficient on the log of the state adult population to one—thereby converting the modeling exercise into one predicting the number in each category per capita (per adult in the state). These models proved more useful in drawing inference about the reported estimates because the confidence bounds on the predictions were much narrower than produced by treating the log of the state adult population as another predictor.

A final enhancement included the selection of variables from an initial set. A stepwise approach was used to select the final set of predictors using the entry criteria of $p <= 0.4$. This is lower than the typical criteria of statistical significance (typically of 0.05) because of the extremely small sample sizes that were available.

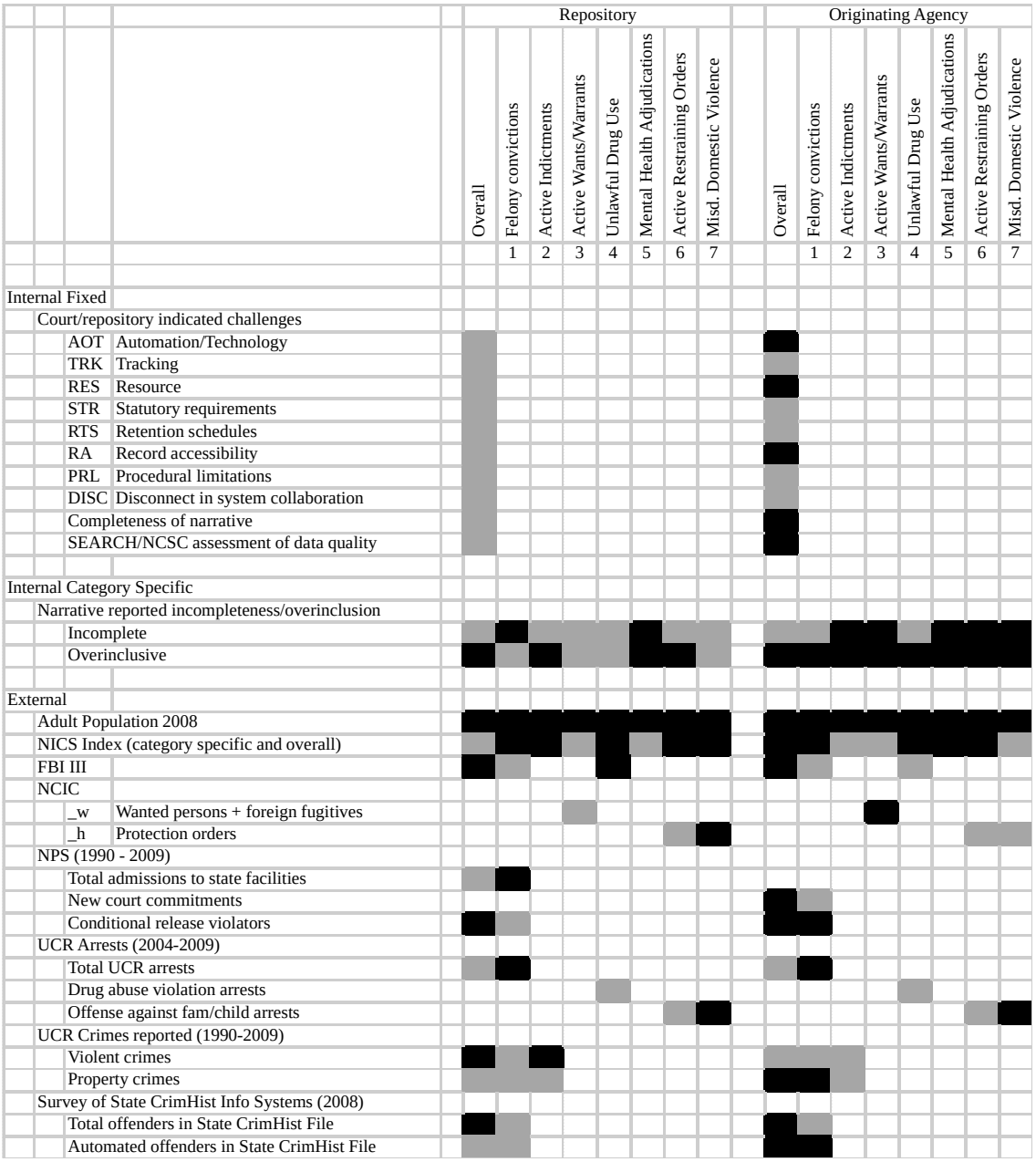
What Data are Included in the Models?

As noted above, an enhanced set of predictors were utilized in the Year 2 modeling effort (see Table 5). The enhanced set of predictors was based largely on comments received from SEARCH and NCSC staff on the Year 1 modeling effort. Specifically, the predictors included the following:

- Survey data (fixed) – Several variables were used to flag whether or not the repository or court representatives indicated challenges in providing/developing the needed estimates.
- Survey data (category specific) – The narrative was used to develop flags for whether the category specific response was deemed incomplete, over-inclusive, both, or neither.
- External data sources:
    - Census (ACS): Adult Population (2008)
    - NICS Index (as of Dec 31, 2009) total and category specific counts
    - FBI III (as of Jan 1, 2010)
    - NCIC (as of Jan 1, 2010)
        - Wanted Persons + foreign fugitives
        - Protection orders

- National Prisoner Statistics: (1990-2009)
  - Total admissions to state facilities
  - New court commitments
  - Conditional release violators
- Uniform Crime Reports: Arrests (2004-2009)
  - Total UCR arrests
  - Drug abuse violations arrests
  - Offenses against family/child related arrests
- Uniform Crime Reports: Crimes reported (1990-2009)
  - Violent crimes
  - Property crimes
- Survey of state criminal history information systems (2008)
  - Total offenders in state criminal history files
  - Automated offenders in state criminal history files

Table 5: **Variables used in the statistical models: final set of variables included in the models (black cells) and tried but ultimately not retained variables (gray cells)**



Model Findings and Predictions

Detailed parameter estimates from the models are presented in the technical appendix to this report. A few significant findings are highlighted here:

- Several of the challenges identified in the narrative were related to the originating agency estimates but none were related to the repository estimates.
- Reported incompleteness and over-inclusiveness of the estimates seems to be related to several of the category-specific estimates—reported by originating agencies as well as repositories.
- One or more variables from each of the external sources considered played some role in explaining cross-state variations in the estimated repository and/or originating agency estimates. The only exception was Drug Abuse Violation arrests from UCR that was hypothesized to be related to the estimated records under Category 4 (Unlawful Drug Use), but was not.

The relationship between the state's 2008 adult population and the various counts is *fixed* and not estimated. Specifically, the estimation is done in such a way that all the predictors are used to explain variation in the per-capita rate (number of reported counts per 2008 adult population). Therefore, the relationships between the predictors and the outcomes are really between the predictors and the per capita rates. Nonetheless, because these predictors are related to the rates they can be used to develop state estimate predictions (by multiplying the predicted rate by the 2008 population). These predictions—along with their 95% confidence bounds—are produced in Figures 2 through 17. Note that in several cases predictions are not produced for some states and U.S. territories because of missing data on one or more of the predictors. Findings from these figures are summarized below.

- Figure 3 presents model predictions and the actual repository estimates provided by the states. The total repository predictions suggest that the provided estimates are generally in agreement with other similar states providing these counts. With the exception of a few of the very large states (e.g., Florida, Texas, and New York) the predicted confidence bounds around the estimates are fairly narrow. Also, estimates provided by the states are generally in line with the predictions with few exceptions. Alabama is an exception where model predictions could not be generated because it was missing information from the Survey of State Criminal History Information Systems that were part of the final predictive model. On the other hand, North Carolina is a state that provided an estimate much lower than other states with similar attributes and size. The category-specific predictions also provide some interesting insights.

    - Felony Convictions estimates generally seem within the 95% confidence bounds of model expectations, with a few exceptions. However, for some of the larger states (New York, Texas, Florida), the confidence bounds are very large and credible information is not provided by the models.

    - In general, with the exception of Felony Convictions, the category-specific estimates seem lower than expected in most of the categories. In particular, several states report very low estimates for Active Indictments, Active

Wants/Warrants, Mental Health Adjudications, Active Restraining Orders, and Potential Misdemeanor Crimes of Domestic Violence. The prediction in each of these low-reporting states is typically higher. For the Unlawful Drug Use category, despite most states reporting a non-zero estimate, the modeled estimates were significantly different from the estimates provided by most states. Moreover, as with the other categories, the confidence bounds on the predictions for several of the larger states were very large, providing little opportunity to gauge the reasonableness of the estimates.

- Figure 4 provides similar comparisons of the estimated originating agency records provided by the states and those predicted by the models. As with the repository estimates, the total number of records at originating agencies seems to be well within the bounds implied by the models. There are a few extreme exceptions (e.g., North Carolina), but in most cases, when the estimated counts are outside the 95% confidence bounds of the model predictions, they are not extremely divergent from the predictions. As with the repository estimates, the category-specific predictions provide some insights worth highlighting.

    - The Felony Convictions category estimates provided by the states seem to be very consistent with model predictions, which support their reasonableness. The few state estimates that are outside the bounds are still very close and believable. The only anomaly seems to be Alabama, for which model predictions could not be generated due to missing values on one or more of the predictors included.

    - As with the repository estimates, the originating agency record estimates provided by the states for the remaining categories seem to either be under-estimated or have very wide confidence bounds. Several of them reported estimates of 0.

Figure 3: **Estimates and predictions (with 95% confidence bounds): Overall number in repository**

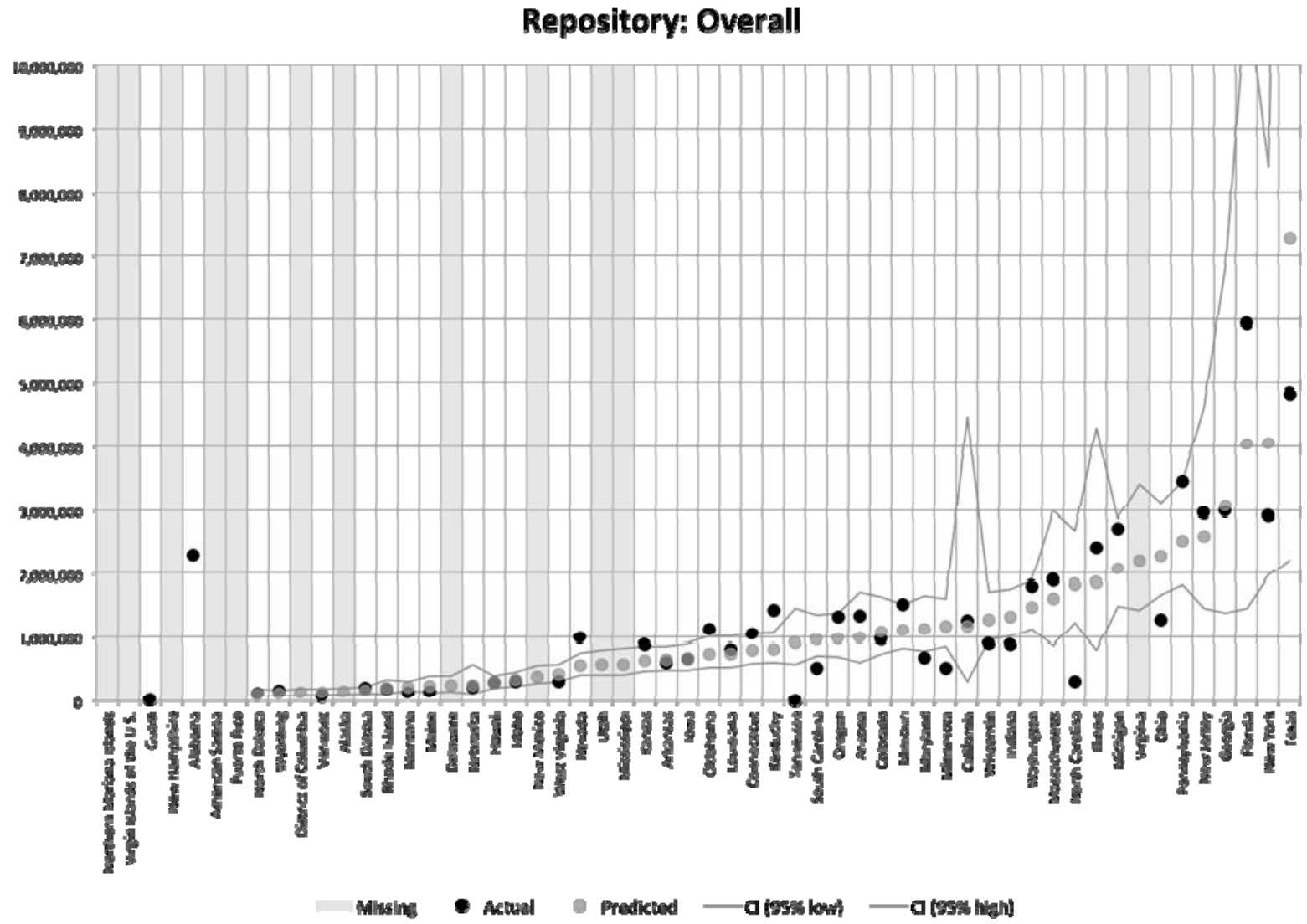
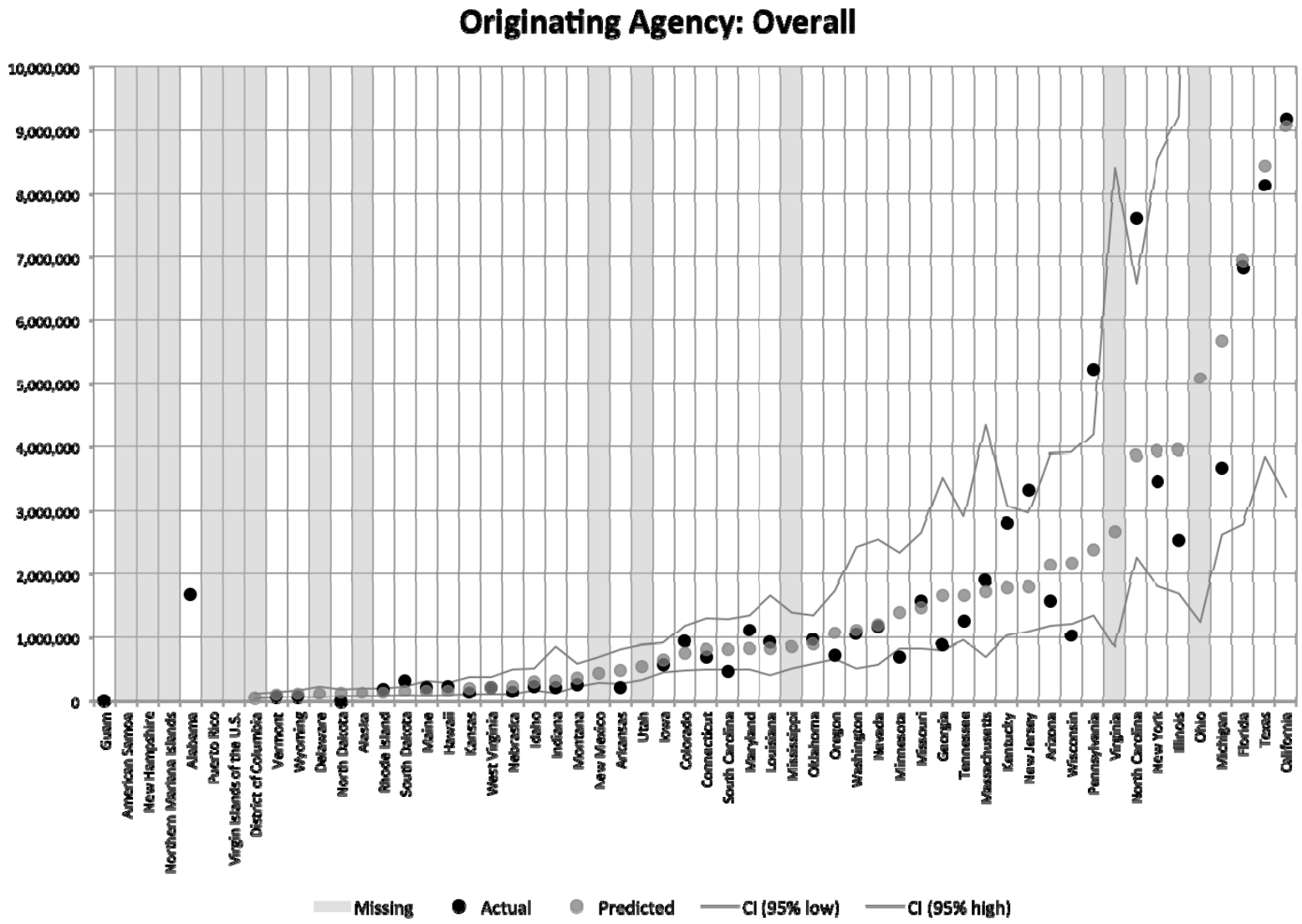


Figure 4: Estimates and predictions (with 95% confidence bounds): Overall number at originating agency



What Do the Models Say About Reasonableness?

In general, the modeling exercise suggests that the overall estimates provided by states for the number of records in their repositories and at the originating agencies seem to be reasonable. These estimates are deemed reasonable in a modeling sense—they are close to the values reported by other similar states (in terms of size and the included attributes). Specifically, Felony Convictions estimates (Category 1) provided by states—either from repositories or from originating agencies—also seem to be reasonable at least among those states where the models provide credible confidence bounds to make that claim. The category-specific estimates provided for Category 2 through Category 7, in general, seem to either be under-reported or the models do not provide enough information about them (because of very wide confidence bounds around the predictions).

Finally, the models provide less conclusive evidence about the estimates provided by some of the larger states because the model confidence bounds are very wide. This suggests that these states are outside the norm (of the smaller states) and making credible assessments about the reasonableness of these estimates might be difficult with the limited data available.

What Do the Models Suggest About Estimating Values for Non-reporting States?

The last point noted above also highlights the difficulty of deriving model-based estimates for the larger states, if they do not report them. Among the small-and medium-sized states, the models perform somewhat better—at least for the total and Felony Conviction categories—both for the repository as well as originating agency estimates. In general, however, the models are very weak and, given the small sample sizes, provide a poor foundation with which to develop estimates. Ultimately, larger samples and more data are the only way that a model-based strategy can provide defensible estimates.

Assessing the Reasonableness of Records Estimates

The reasonableness of records estimates must be evaluated in terms of both the quantitative and qualitative information provided by each state, as well as by model-based validation. The NCSC and SEARCH, based upon review of the reported records estimates and the documentation provided by states, believes that each of the 44 responding states has provided a reasonable set of records estimates. The quantitative component of this assessment takes into account the factors discussed above. As was the case with Year 1 estimates, for most states, the number of records reported in Year 2 is within the expected bounds. Where that is not the case, it is due to the inability of the model to generate bounds that can be meaningfully interpreted. At the highest aggregate level, all but one category of estimates (Category 6: Protection or Restraining Orders) had fewer records at the state repository than at the originating agencies (See Table 6).

Table 6: Reported Estimates for State Record Repositories and Originating Agencies, per NIAA Survey Category

Category	Repository	Originating Agencies	% of Records at the Repository
(1) Felony Convictions	17,169,768	24,169,586	71
(2) Active Indictments/Informations/ Verified Complaints	3,440,764	3,556,225	97
(3) Active Wants/Warrants	7,434,471	13,399,591	55
(4) Unlawful Drug Use Records	21,978,907	23,290,951	94
(5) Mental Health Adjudications	757,324	4,182,033	18
(6) Protection or Restraining Orders	1,564,740	1,498,015	104
(7) Convictions for MCDV	3,267,491	4,636,534	70
Total	**55,613,465**	**74,732,935**	**74**

However, the NCSC and SEARCH have learned over the past two years that this expected relationship (that there will be an equal or greater number of records at originating agencies than at state record repositories) is not always true. Table 7 lists the percentage of states that did not conform to the expected relationship in each category.

Table 7: States with More Repository Records than Originating Agency Records, per NIAA Survey Category (percentage)

Record Category	Year 1	Year 2
1) Felony Convictions	22%	26%
2) Active Indictments/Information's/Verified Complaints	45%	40%
3) Active Wants/Warrants	29%	32%
4) Unlawful Drug Use Records	34%	56%
5) Mental Health Adjudications	17%	14%
6) Protection or Restraining Orders	27%	33%
7) Convictions for Potential MCDV	24%	34%

There are a number of reasonable explanations for records estimates not to fall into the expected pattern of fewer records at the state repository than at the originating agencies, some of the common reasons are:

- Court records retention policies dictate that certain types of records be destroyed after a designated number of years, while those same records will still exist electronically in the state record repository;
- Natural disasters destroy records at the courthouse that have already been transmitted to the state record repository;
- For categories that ask for active records, the state record repository at times does not receive word that warrants or protection orders are no longer active and they remain counted as active records even though they have been removed at the local level;
- For categories that request electronic records, originating agencies may have a combination of paper and electronic records to make up their total, but only report the proportion that were electronically available to comply with the reporting form request.

Since the states provided many of these reasons in their survey documentation, NCSC and SEARCH were able to determine on a case-by-case basis that the estimates seemed reasonable, despite not falling into the expected pattern.

We conclude that viewed quantitatively, the estimates provided have face validity, that is, they appear to be reasonably accurate estimates of the numbers of records they are supposed to be estimating. The qualitative component of this assessment is based on the evaluation of the narrative documentation provided by each responding state. In those narratives, states explained the challenges they faced in developing estimates. Where the quantitative estimates are anomalous and are thus indicative of problems in providing a better estimate, the narratives are intended to allow states to explain the basis for the limits or deficiencies of the estimates. NCSC and SEARCH, having reviewed these narratives in detail, believe that responding states provided logical explanations of their challenges and the reasons for their estimates. The incorporation of the challenge variables in the model allow a simulation of what the records estimates might be, were it not for the challenges encountered. This modeling provides further support for the conclusion that the estimates are reasonable.

Recommendations

After analyzing two years of NIAA state estimates and completing a third cycle of estimates collection, NCSC and SEARCH have evaluated the data collection process and goals of the NIAA and make the following recommendations for moving forward.

State-specific Technical Assistance

After three cycles of data collection, a broader picture for technical assistance is available. While assistance in prior years has been focused on estimate calculations, after the third year, the focus should be on problems and challenges identified consistently through the review of all three estimates cycles. The goal of the technical assistance should be to create and implement technology solutions to resolve defined reporting problems, not simply estimates calculation issues.

Recommendation: NCSC and SEARCH, in consultation with BJS and the FBI, should provide technical assistance for up to two states selected from those who have provided estimates in prior years. The team should utilize previously developed standards-based tools where possible.

The team should work with appropriate justice partners in each state, including two visits to each state for on-site assessment, interviews, observation, and presentation of findings and recommendation. In addition to addressing previously defined problem areas, the team should assess the status of current reporting and readiness of affected agencies to adequately report all categories of NICS records. The team should assess information sharing architectures and develop a standards-based roadmap for improved reporting, including any recommendations relating to policy, processes, and/or the technology environment.

Evaluate Usefulness of NIAA Estimates

To date, the state estimates have been collected for three cycles, and the Department of Justice is currently evaluating if or how this information will be useful for reporting improvements.

Recommendation: NCSC and SEARCH should convene a meeting with the FBI NICS unit and BJS to discuss how the FBI is utilizing the NICS records estimates produced through the three data collection cycles of the records estimates project.

Coordination of Currently Funded Initiatives on Warrant and Disposition Reporting

Several initiatives centered on improving the availability of case disposition information are underway. While the agencies and entities engaged in these efforts are generally aware of what others are doing there has been no attempt to coordinate current activities or develop a process for minimizing duplication of strategies and resource expenditures going forward. Collectively these groups have inadvertently created an environment of competition rather than coordination with the cooperation of state repositories and courts being sought by multiple entities while at the same time repositories and courts are being encouraged to take meaningful steps on their own.

Recommendation: SEARCH and the NCSC recommend improving information sharing between the various actors in the national disposition realm and moving toward a cohesive alignment of efforts by hosting a coordination meeting. Invitees would be drawn from Federal agencies (e.g., BJA, BJS, DOJ, FBI) as well as non-Federal entities (i.e., SEARCH, NCSC) in consultation with BJS. Discussion at this meeting should address current and planned initiatives, strategies for making current efforts complementary, and the prospects for ongoing coordination among attendees.

Analysis of States' Benefits from NIAA Estimates

Courts and state record repositories have been highly responsive to BJS since the first year of soliciting record estimates under the NIAA. The FAQs developed by the NCSC, FBI hosted regional meetings, and on-site TA provided jointly by the NCSC and SEARCH have all helped to clarify issues surrounding the estimates process. Yet much remains unknown about whether this data collection exercise has spawned benefits such as heightened cooperation and tangible improvements in the number of various records available for NICS determinations within and across record categories.

Recommendation: SEARCH and the NCSC propose bringing together two-person teams from up to five states to participate in focus groups. In these groups, participants would review lessons learned about reporting problems from the records estimates work completed in these states. States should be selected based on assessment by BJS, SEARCH, and NCSC of their level of engagement in the reporting issue and the descriptions of their challenges and responses to those challenges documented in the narrative reports submitted over the past two years. The NICS Act Record Improvement Program (NARIP) grant recipients are likely candidates for inclusion. The goals of this focus group should be to:

- Discuss the common challenges faced by the states in NICS reporting,
- Discuss lessons learned by states in solving reporting problems,
- Identify ongoing reporting problems and technical assistance required to resolve them.

Work with NARIP Grantee States to Garner Best Practices for Improving NICS Reporting

States that received NARIP grants from BJS represent a small group of states that have established ATF approved "relief from disabilities" programs and engaged the process of improving NICS records reporting as a result of having worked on providing estimates of those records. As described by BJS, "NARIP is intended to improve the completeness, automation, and transmittal of records used by the NICS to state and federal systems."[2] For FY 2010, these grants pertained to improving NICS records reporting generally, while in 2011 a priority for mental health records was indicated as a criterion for awards. The NARIP grants for FY 2010 and FY 2011 require recipients to establish a NICS Record Improvement Task Force "to guide the development and implementation of an ongoing long-range records improvement plan."[3] As defined in the grant application documentation, these task forces will typically include representatives from the central record repository and originating agencies. Originating agencies include state, local, and tribal law enforcement, prosecutors, courts, jails, state correctional facilities, probation and parole agencies, and state mental health program agencies.

Recommendation: NCSC and SEARCH staff should serve as liaisons to NICS Record Improvement Task Forces for two purposes. First, to serve as resources for the work of the state task forces, and second, to observe and document the work of these bodies and seek to identify effective practices for solving reporting problems. NCSC and SEARCH will seek to identify state NARIP grant recipients whose activities suggest the functioning of a particularly effective task force. BJS, NCSC, and SEARCH should reach out to agencies that have received NARIP grants to establish a liaison with them for technical support. From this pool, NCSC and SEARCH would seek to obtain permission to document the work of these task forces and identify effective practices.

Comparative Analysis of State Estimates

The 2009 NICS data collection instrument was sufficiently improved upon for the 2010 NICS data collection cycle. This newer instrument remained largely unaltered during the 2011 data

[2] http://bjs.ojp.usdoj.gov/content/pub/pdf/narip11_sol.pdf accessed June 1, 2011.
[3] Op. cit.

collection cycle. As a result, the opportunity will exist to study the two years of data (2010 and 2011) together to conduct a more thorough analysis.

Recommendation: The aim of this analysis would be to determine the consistency and integrity of the new estimates provided in the NIAA survey and to evaluate those estimates against the estimates previously submitted and the estimates predicted by the statistical model developed in the 2009/2010 NICS estimates development and validation project. Following the methodology developed in that earlier work, each state's estimates should be evaluated in the context of that state's other data, as well as an evaluation looking across states to determine if patterns can be established in the data among states by region, size, caseload, and other characteristics. This will allow an initial look at possible outliers in the group of 2011 respondents. On the basis of these analyses, it will be possible to assess both the internal and external validity of each state's survey responses. These augmented analyses could include:

- Combining the two years data into a panel to develop more robust models and more reliable estimates for non-reporting states.
- Comparing estimates provided by states across the two years to identify states with excess variation. If data vary substantially between the two years, this might suggest a potential need for technical assistance.
- Comparing the variation in estimates provided by states, across the two years, with the types and consistency of problems identified by these states in their respective narratives. These comparisons would allow further analysis of the possible reasons why some state estimates may be more reliable than others.

Develop a Set of Standards-based Tools for Improved Reporting

Many states identified technological challenges in their state estimates narratives. Assessing states' particular challenges and matching them with available existing technological solutions such as Reference Service Specification Packages (SSPs), concepts from the Global Reference Architecture (GRA), Information Exchange Package Documentation (IEPDs), and guidelines for leveraging other Global products such as technical privacy metadata to ensure privacy and public access to data, would help states decide what solutions would improve their reporting of records.

Recommendation: NCSC and SEARCH should develop a set of standards-based tools that may be used by states to improve reporting. Key issues identified in the meeting of Federal partners and lessons learned and ongoing problems raised by state focus groups would be assessed. The effective practices for solving reporting problems documented by states would also be reviewed. From this assessment, specific tools would be identified, followed by a plan of action to develop and package those tools.

The team would convene a group of practitioners as subject matter experts from agencies responsible for NICS reporting to assist with this discovery phase. The work of this group could then be used to develop the technical artifacts for the exchange and service specifications. Where viable, existing IEPDs and SSPs (such as those already developed for reporting court dispositions and tracking warrants) would be leveraged and included in the tool set to compliment new tools developed for additional categories of NICS records.

Appendix A: Introductory Letter from BJS Associate Director Announcing the NIAA

U.S. Department of Justice

Office of Justice Programs
Bureau of Justice Statistics
Office of the Director *Washington, D.C. 20531*

February 21, 2010

Dear Respondent,

As you know, the National Instant Criminal Background Check System (NICS) Improvement Amendments Act of 2007 (P.L. 110-180, known informally as the NICS Improvement Act) was signed into law on January 8, 2008. The Act was enacted in the wake of the April 2007 shooting tragedy at Virginia Tech. Information about the Virginia Tech perpetrator's prohibiting mental health history was not available to the NICS to deny the transfer of the firearms used in the shootings. The NICS Improvement Act seeks to address the gap in information about such prohibiting mental health adjudications and commitments, as well as in other prohibiting records currently missing from NICS. Closing these information gaps will enable the system to operate more effectively to keep guns out of the hands of those prohibited by federal or state law from receiving or possessing them.

In order to identify these information gaps, the Act requires states to provide the Attorney General with reasonable estimates of certain categories of available state records over a 20-year timeframe. In addition to satisfying one of the two eligibility criteria for grants authorized under the NICS Improvement Act, the estimates also serve to evaluate whether the state has met the record completeness goals outlined in the Act. The Act allows for a potential reward to be granted to states that have reported records at certain levels of completeness and for a potential penalty to be imposed on states that fail to report records at certain minimum levels of completeness. The reward consists of a waiver of matching NCHIP grant funds and may be granted on a basis outlined in the Act. The penalty consists of the withholding of a percentage of formula grant funds under the Byrne Justice Assistance Grant program and may be imposed as early as 2011. Please note that the reward and penalty are enforceable regardless of whether a state applies for any grant funds authorized under the Act and regardless of whether a state supplies estimates of available records. If a state chooses not to submit an estimate, the Attorney General has the authority to develop an independent estimate of the state's available records.

During the initial round of estimate collection, BJS received estimates from 41 states and one territory. With the assistance of an independent contractor, BJS is currently reviewing the estimates received in 2009 for validity and is developing estimates for the states that did not submit any in the first round. The collection of estimates is a requirement of the NICS Improvement Act, and BJS is requesting your continued participation in this second round of data collection. In an effort to alleviate some of the burden associated with this request, the data collection form is now available electronically, and estimates to the first round of the collection will be included in the online form as a reference. Additionally, we have developed a Frequently Asked Questions document at: http://bjs.ojp.usdoj.gov/index.cfm?ty=tp&tid=49#calculate to assist respondents when filling out the form.

The reporting form requests two estimates for each of seven record categories: the number of records available at originating agencies in the state and the number of such records maintained by the state's criminal record repository. These numbers will be converted to a percentage (repository records as a percentage of all available records) to determine the completeness of a state's reporting of required records. To reiterate, if a state does *not* provide estimates of available records according to the instructions set forth in the reporting form, the Attorney General may specify, for the purposes of calculating the percentage of available records reported by that state and for determining whether the potential penalty may be imposed, the method according to which an estimate of the state's available records will be formulated.

The reporting form also requests that the state provide (a) a general description of factors that may affect the availability of records or impede their reporting to state or national files, and (b) an explanation of the methods employed to develop the requested estimates.

Finally, the form requires a certification that the estimates submitted were derived from a collaborative statewide assessment process coordinated by the NCHIP administering agency and involving representatives of the state courts, state criminal record repository, state statistical analysis center, firearm licensing or permit program, state mental health program, and/or other appropriate entities with relevant information. BJS views such collaboration as critical to the successful implementation of the Act. Further, such partnerships can serve as a springboard for the development of a NICS record improvement plan for states which, in turn, can form the basis for future NICS grant applications under the Act. For these reasons, the reporting form must be certified by both the state's NCHIP administering agency and the State Court Administrator.

Please note that the reporting form must be returned to the Bureau of Justice Statistics by 5 p.m. (ET) on: May 1, 2010.

In the meantime, feel free to contact Ms. Devon Adams (202-514-9157 or Devon.Adams@usdoj.gov) with questions regarding the Act or the reporting form. Technical assistance is available to assist states with determining estimates. Please contact Ms. Adams for further information. Also, please be advised that additional information about the NICS Improvement Act and DOJ efforts to implement it can be found on the BJS website at http://bjs.ojp.usdoj.gov/index.cfm?ty=tp&tid=49#q_and_a. We look forward to working with states in achieving the Act's goal of improving the effectiveness of the NICS.

Sincerely,

Gerard F. Ramker, Ph.D.
Associate Director
Enclosure
cc: Devon Adams

Appendix B: Record Estimates

Aggregate Number of Estimated Records Reported by State Record Repositories and Originating Agencies in Year 2, per NIAA Survey Category

Category	Repository	Originating Agencies	% of Records at the Repository
(1) Felony Convictions	17,169,768	24,169,586	71
(2) Active Indictments/Informations/ Verified Complaints	3,440,764	3,556,225	97
(3) Active Wants/Warrants	7,434,471	13,399,591	55
(4) Unlawful Drug Use Records	21,978,907	23,290,951	94
(5) Mental Health Adjudications	757,324	4,182,033	18
(6) Protection or Restraining Orders	1,564,740	1,498,015	104
(7) Convictions for MCDV	3,267,491	4,636,534	70
Total	**55,613,465**	**74,732,935**	**74**

Total Number of Estimated Records Reported by State Record Repositories and Originating Agencies, per NIAA Survey Category, per State

Category		Repository	Originating Agencies	% of Records at the Repository
(1) Felony Convictions				
	Alabama	1,474,685	890,376	166
	Alaska			
	Arizona	488,764	730,251	67
	Arkansas	148,949	32,229	462
	California		4,198,522	0
	Colorado	549,346	342,057	161
	Connecticut	363,063	158,429	229
	Delaware			
	District of Columbia			
	Florida	2,266,921	2,717,058	83
	Georgia	827,787	827,787	100
	Guam	1,692	1,692	100
	Hawaii	30,397	50,999	60
	Idaho	79,076	77,561	102
	Illinois	923,854	1,197,608	77
	Indiana	408,099		
	Iowa	101,203	108,947	93
	Kansas	166,914	127,488	131
	Kentucky	356,253	356,253	100
	Louisiana	135,768	159,343	85
	Maine	23,639	54,000	44
	Maryland	374,747	514,057	73

Category	Repository	Originating Agencies	% of Records at the Repository
(1) Felony Convictions (cont'd)			
Massachusetts	374,460	374,460	100
Michigan	919,343	1,049,117	88
Minnesota	243,345	276,137	88
Mississippi			
Missouri	361,978	409,252	88
Montana	33,056	37,482	88
Nebraska	73,556	63,904	115
Nevada	33,945	164,477	21
New Hampshire			
New Jersey	580,689	743,678	78
New Mexico			
New York	859,414	877,476	98
North Carolina	315,380	848,350	37
North Dakota	33,216		
Ohio	625,788		
Oklahoma	432,207	439,807	98
Oregon	582,410	520,316	112
Pennsylvania	882,188	1,237,390	71
Rhode Island	39,643	44,048	90
South Carolina	251,605	347,344	72
South Dakota	42,392	45,395	93
Tennessee		714,284	0
Texas	583,951	2,445,003	24
Utah			
Vermont	30,605	30,726	100
Virginia			
Washington	724,699	505,896	143
West Virginia	191,229	97,853	196
Wisconsin	190,382	309,404	62
Wyoming	43,130	43,130	100
(2) Active Indictments/Informations/ Verified Complaints			
Alabama		51,511	0
Alaska			
Arizona		59,208	0
Arkansas		64,295	0
California			
Colorado		8,929	0
Connecticut	30,181	39,826	76
Delaware			
District of Columbia			
Florida	104,836	242,444	43
Georgia	8,198		
Guam	7,421	7,421	100
Hawaii	165,781	4,944	3,353
Idaho		10,385	0
Illinois	106,640	64,239	166
Indiana		171,900	0
Iowa	12,620	11,649	108

Category	Repository	Originating Agencies	% of Records at the Repository
(2) Active Indictments/Informations/ Verified Complaints (cont'd)			
Kansas			
Kentucky		114,061	0
Louisiana		103,996	0
Maine		2,400	0
Maryland		21,356	0
Massachusetts	900,486	900,486	100
Michigan	90,655	599,893	15
Minnesota		26,203	0
Mississippi			
Missouri	63,349	55,050	115
Montana	10,840	3,643	298
Nebraska	1,387	7,925	18
Nevada		13,227	0
New Hampshire			
New Jersey	36,495	94,534	39
New Mexico			
New York	24,813	25,013	99
North Carolina		73,112	0
North Dakota	7,488		
Ohio			
Oklahoma	23,711	191,635	12
Oregon		32,001	0
Pennsylvania	1,063,455	29,464	3,609
Rhode Island		9,667	0
South Carolina	189,836	117,794	161
South Dakota		4,937	0
Tennessee		67,906	0
Texas	570,538	247,334	231
Utah			
Vermont	2,304	4,803	48
Virginia			
Washington		37,784	0
West Virginia			
Wisconsin	19,730	32,901	60
Wyoming		2,349	0
(3) Active Wants/Warrants			
Alabama	191,192	163,114	117
Alaska			
Arizona	370,982	416,154	89
Arkansas	136,862	14,647	934
California	1,004,909	1,004,909	100
Colorado	260,134	222,033	117
Connecticut	19,946	26,088	76
Delaware			
District of Columbia			
Florida	307,724	755,847	41
Georgia	266,794	13,122	2,033
Guam	2,351	2,351	100

Category	Repository	Originating Agencies	% of Records at the Repository
(3) Active Wants/Warrants (cont'd)			
Hawaii		81,780	0
Idaho	5,425	54,211	10
Illinois	352,853		
Indiana	449,332		
Iowa	48,505	48,279	100
Kansas	396,148		
Kentucky	85,797	31,646	271
Louisiana	10,529		
Maine	30,591	40,300	76
Maryland	72,936	187,267	39
Massachusetts	385,264	385,264	100
Michigan	1,016,961	1,031,560	99
Minnesota	78,337	76,585	102
Mississippi			
Missouri	208,100	727,442	29
Montana	19,475	37,515	52
Nebraska	25,888	57,430	45
Nevada	434,734	376,416	115
New Hampshire			
New Jersey	28,989	831,978	3
New Mexico			
New York	237,833	393,942	60
North Carolina		2,066,088	0
North Dakota	22,612		
Ohio	91,764		
Oklahoma		177,524	0
Oregon	80,491	84,910	95
Pennsylvania	102,967	21,527	478
Rhode Island	49,290	49,589	99
South Carolina	53,385		
South Dakota		57,173	0
Tennessee		22,546	0
Texas	218,444	3,572,158	6
Utah			
Vermont	6,862	5,883	117
Virginia			
Washington	213,852	235,975	91
West Virginia	19,875		
Wisconsin	111,301	111,301	100
Wyoming	15,037	15,037	100
(4) Unlawful Drug Use Records			
Alabama	624,243	462,403	135
Alaska			
Arizona	381,221	263,781	145
Arkansas	231,275	111,728	207
California		1,080,654	0
Colorado			
Connecticut	443,014	337,605	131

Category	Repository	Originating Agencies	% of Records at the Repository
(4) Unlawful Drug Use Records (cont'd)			
Delaware			
District of Columbia			
Florida	2,937,535	2,780,469	106
Georgia	1,475,212	35,931	4,106
Guam	5,863		
Hawaii	62,280	80,074	78
Idaho	182,781	63,851	286
Illinois	776,727	872,768	89
Indiana			
Iowa	331,145	144,866	229
Kansas	295,928		
Kentucky	898,284	2,114,298	42
Louisiana	641,945	641,945	100
Maine	46,558	22,648	206
Maryland	216,557	375,273	58
Massachusetts	185,497	185,497	100
Michigan	332,094	580,419	57
Minnesota	122,932	191,231	64
Mississippi			
Missouri	807,653	270,452	299
Montana	44,168	113,541	39
Nebraska	96,503		
Nevada	459,149	426,153	108
New Hampshire			
New Jersey	2,035,395	1,223,090	166
New Mexico			
New York	1,635,765	1,502,413	109
North Carolina		4,249,947	0
North Dakota	45,757		
Ohio	459,114		
Oklahoma	663,112	86,515	766
Oregon	555,941	8,035	6,919
Pennsylvania	619,716	3,167,064	20
Rhode Island	4,185	23,900	18
South Carolina			
South Dakota	116,965	135,699	86
Tennessee		380,020	0
Texas	3,334,418	967,461	345
Utah			
Vermont	19,032	24,441	78
Virginia			
Washington	553,433	28,127	1,968
West Virginia		86,984	0
Wisconsin	248,569	248,569	100
Wyoming	88,941	3,099	2,870
(5) Mental Health Adjudications or Commitments			
Alabama	343	1,379	25
Alaska			

Category	Repository	Originating Agencies	% of Records at the Repository
(5) Mental Health Adjudications or Commitments (cont'd)			
Arizona	458	12,816	4
Arkansas	1,168	1,047	112
California		1,733,791	0
Colorado	1,267	44,145	3
Connecticut	89	6,303	1
Delaware			
District of Columbia			
Florida	42,321	53,957	78
Georgia	350		
Guam	495	495	100
Hawaii	1,156	877	132
Idaho		20,076	0
Illinois	5,672	22,014	26
Indiana	521		
Iowa	8	11,190	Less than 1
Kansas	6,067		
Kentucky			
Louisiana		6,102	0
Maine	145	1,558	9
Maryland	2,672	6,854	39
Massachusetts		10,940	0
Michigan	89,073	146,926	61
Minnesota	636	34,369	2
Mississippi			
Missouri	1,002	24,593	4
Montana	28	20,322	Less than 1
Nebraska	10,645	10,645	100
Nevada		38,106	0
New Hampshire			
New Jersey	1,152	212,138	1
New Mexico			
New York	9,981	394,408	3
North Carolina		343,522	0
North Dakota		361	0
Ohio	24,304		
Oklahoma	0	38,745	0
Oregon	1,952	57,842	3
Pennsylvania	549,032	458,179	120
Rhode Island		13	0
South Carolina	12	2,594	0
South Dakota	74	7,737	1
Tennessee			
Texas	1	437,605	0
Utah			
Vermont		1,430	0
Virginia			
Washington	4,705	2,313	203
West Virginia		15,024	0

Category	Repository	Originating Agencies	% of Records at the Repository
(5) Mental Health Adjudications or Commitments (cont'd)			
Wisconsin	1,617	1,617	100
Wyoming	378		
(6) Protection or Restraining Orders			
Alabama	4,181	4,067	103
Alaska			
Arizona	1,667	12,968	13
Arkansas	6,817		0
California	266,799	266,799	100
Colorado	154,322	139,727	110
Connecticut	15,619	22,625	69
Delaware			
District of Columbia			
Florida	190,441	190,441	100
Georgia	8,109	8,109	100
Guam	344	344	100
Hawaii	9,807		
Idaho	6,333	5,926	107
Illinois	85,091		
Indiana	28,348	55,067	51
Iowa	85,572	57,625	148
Kansas			
Kentucky	21,444		
Louisiana	10,151	10,151	100
Maine	6,422	6,725	95
Maryland	7,692	13,286	58
Massachusetts	23,603	23,603	100
Michigan	31,010	39,264	79
Minnesota	14,722	23,713	62
Mississippi			
Missouri	16,092	11,045	146
Montana	4,117	3,824	108
Nebraska	7,766	4,798	162
Nevada	3,467	2,090	166
New Hampshire			
New Jersey	157,731	162,169	97
New Mexico			
New York	149,655	276,867	54
North Carolina		14,903	0
North Dakota	992		
Ohio			
Oklahoma		4,756	0
Oregon	10,657	148	7,201
Pennsylvania	29,329		
Rhode Island	39,008		
South Carolina	19,919		
South Dakota		2,662	0
Tennessee	15,141	39,895	38

Category	Repository	Originating Agencies	% of Records at the Repository
(6) Protection or Restraining Orders (cont'd)			
Texas	14,813	17,000	87
Utah			
Vermont	2,281		
Virginia			
Washington	80,298	41,007	196
West Virginia	15,673	17,104	92
Wisconsin	17,925	17,925	100
Wyoming	1,382	1,382	100
(7) Convictions of Potential Misdemeanor Crimes of Domestic Violence (MCDV)			
Alabama		103,698	0
Alaska			
Arizona	96,033	82,202	117
Arkansas	74,203		
California		910,276	0
Colorado	10,370	180,796	6
Connecticut	192,616	101,651	189
Delaware			
District of Columbia			
Florida	101,116	98,401	103
Georgia	403,054		
Guam	10,205	10,205	100
Hawaii	24,313	24,508	99
Idaho	36,055		
Illinois	162,107	387,820	42
Indiana			
Iowa	86,844	197,415	44
Kansas	21,976		
Kentucky	74,775	190,324	39
Louisiana	17,596	1,300	1,354
Maine	41,064	93,018	44
Maryland			
Massachusetts	29,920	29,920	100
Michigan	228,276	221,004	103
Minnesota	61,451	65,642	94
Mississippi			
Missouri	62,225	74,270	84
Montana	23,363	46,770	50
Nebraska	4,103	5,450	75
Nevada	72,771	156,117	47
New Hampshire			
New Jersey	122,010	64,299	190
New Mexico			
New York			
North Carolina		28,414	0
North Dakota	14,955		
Ohio	89,569		
Oklahoma	11,960	33,052	36
Oregon	104,032	25,227	412

Category	Repository	Originating Agencies	% of Records at the Repository
(7) Convictions of Potential Misdemeanor Crimes of Domestic Violence (MCDV) (cont'd)			
Pennsylvania	221,025	333,498	66
Rhode Island	56,946	63,273	90
South Carolina		11,966	0
South Dakota	48,573	69,806	70
Tennessee		46,220	0
Texas	111,935	448,794	25
Utah			
Vermont	26,082	7,531	346
Virginia			
Washington	222,463	205,897	108
West Virginia	84,917		
Wisconsin	310,063	310,063	100
Wyoming	8,525	7,707	111

Note: Although the percentage of records at the repository far exceeds 100 percent in some categories for some states, the numbers appear accurate and can be explained by the issues and challenges outlined in the main report.

Appendix C: Example of State Narrative Distributed by NCSC and SEARCH

State Name

Narrative for the NICS Improvement Amendments Act State Estimates Survey

General:
• State provided documentation for record availability and their estimation process • It seems that all available resources were used in an effort to provide accurate counts (for example, local reports were utilized when data not available in the state data warehouse) • Missing information and challenges were well explained, but estimation process could be elaborated on (for example, a description explaining how filings data were used to create the estimates)
Missing Data:
• Category 4: arrests (felony and other) and adjudications (other) • Category 5: breakdown for incompetency to stand trial and involuntary commitments
Record Availability:
• 145 out of 176 courts use the "statewide" case management system, the remainder use in-house systems • The statewide system has been used since 1996; prior year records should be stored in paper and/or microfiche format
Estimation Process:
• Counts taken from AOC annual data reports, state data warehouse, and the Centralized Protective Order Repository • When counts not available, estimates based on filing trends (for some courts for Categories 3, 4, and 7)
Challenges:
• Lack of standard codes for indictments/informations/verified complaints, wants/warrants, and mental health cases • Data may include non-disqualifying cases due to inability to separately identify disqualifying circumstance • Manual process of reporting to the repository
Plans to improve records availability:
• The state recently contracted with a vendor to deploy a new case management system in the majority of general jurisdiction courts, and all limited jurisdiction courts will be brought on board over the next five years • The Disposition Reporting Initiative is a collaborative project between prosecutors, law enforcement, and the courts that will automate transmitting records to the state repository
Reasonableness:
• The Bureau of Justice Statistics, in collaboration with the National Center for State Courts and SEARCH, is still in the process of determining how to evaluate the reasonableness of the estimates provided by each state. Once such determination has been made you will receive comments regarding the reasonableness of the estimates provided for the 2010 survey.
Questions:
1. The retention schedule is referenced as the basis for when records are ultimately disposed of, deleted, or otherwise made unavailable. Please cite specific information from that schedule in order to give an idea of how long records are supposed to be kept.

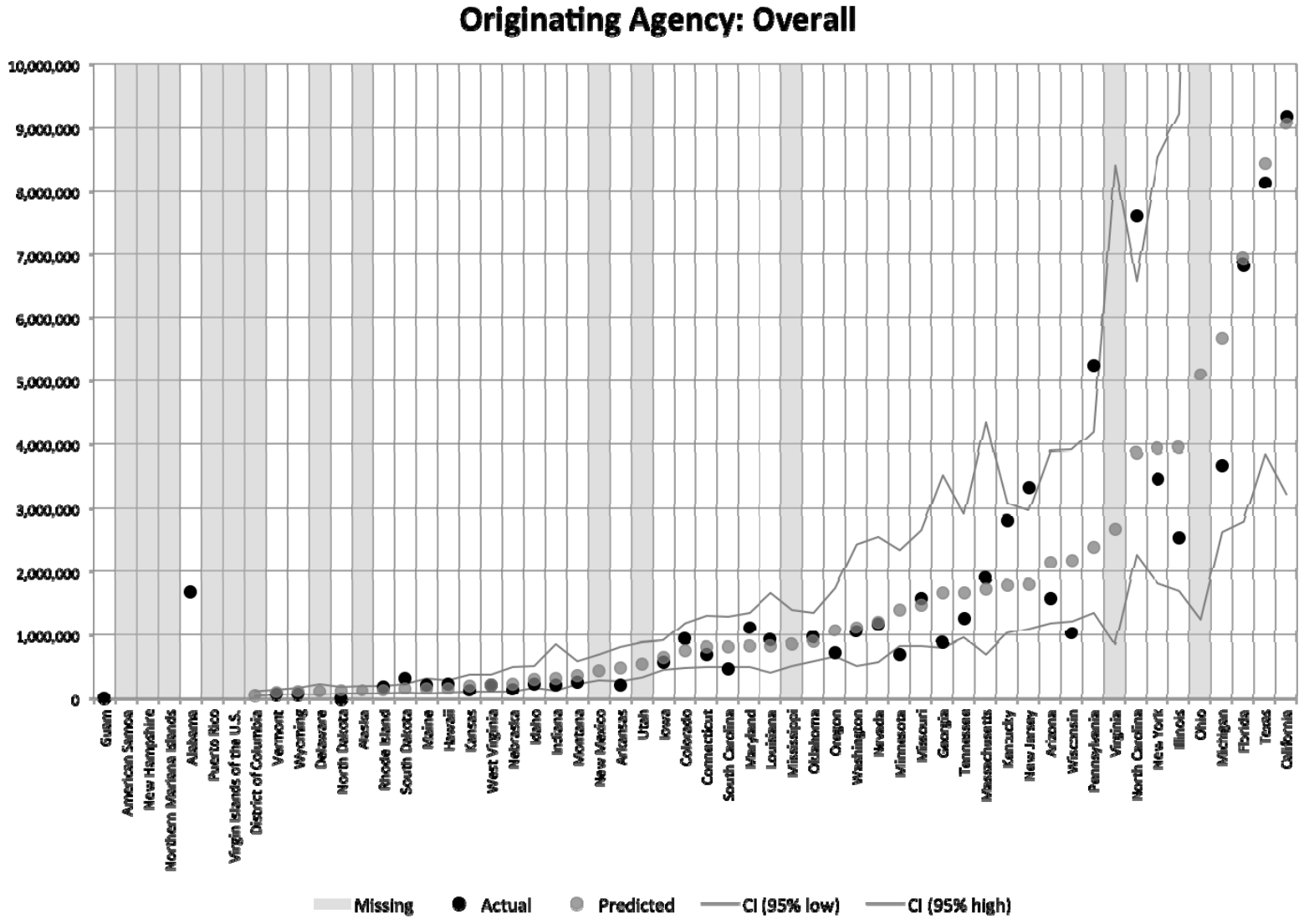
Appendix D: Technical Appendix

This appendix provides charts, parameter estimates, and diagnostic output from the models developed and used in the Year 2 NICS modeling exercise. The originating agency models are presented first, followed by the repository models.

Originating Agency Model: Overall

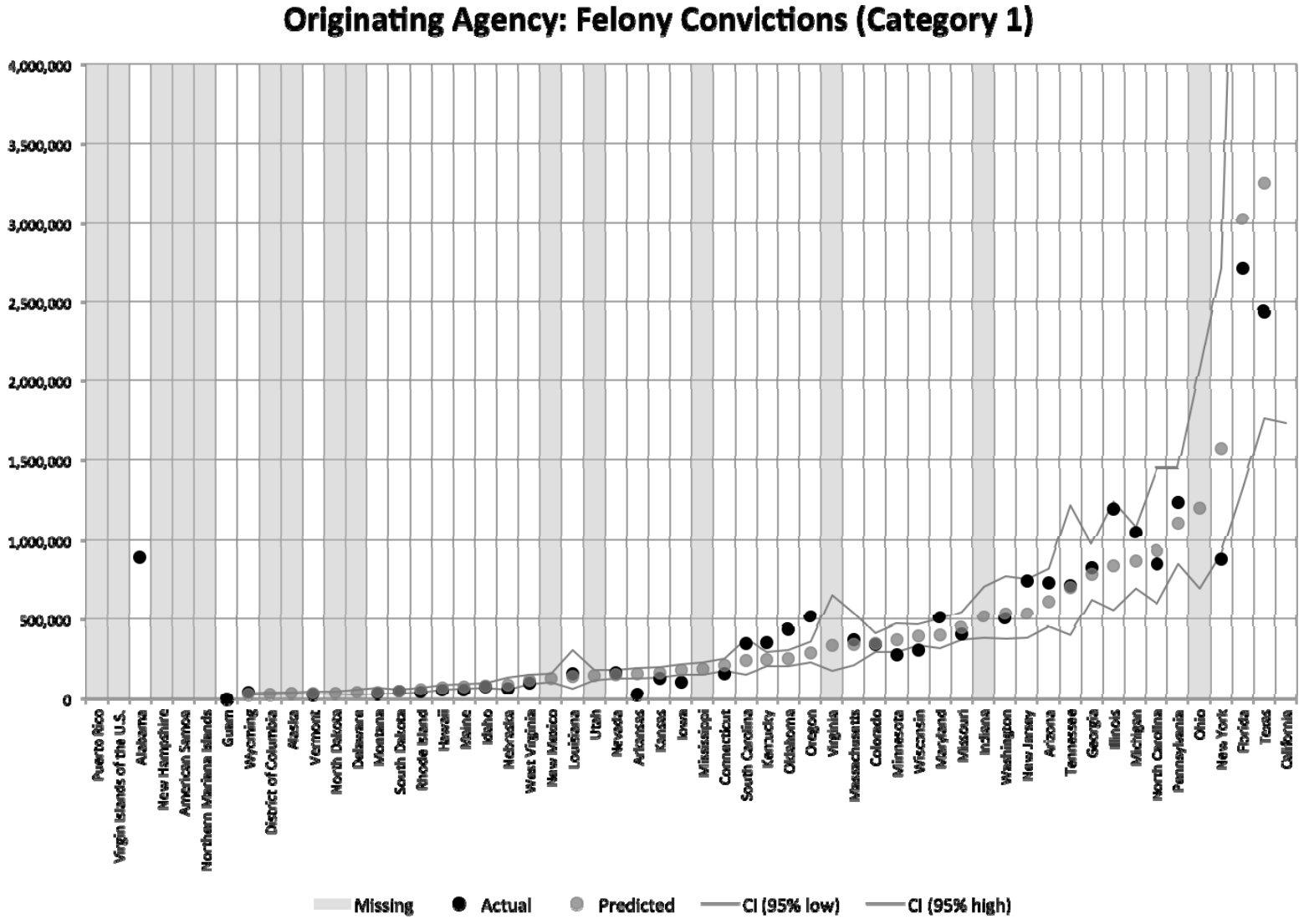
```
      name:  cttotcat
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/cttotcat.log
  log type:  text
 opened on:  20 Nov 2011, 13:41:39
Multivariate NBReg (depvar cttotcat)
note: ctchlprl dropped because of collinearity
                     begin with empty model
p = 0.0087 <  0.4000  adding  ctcat_ovr
p = 0.0319 <  0.4000  adding  ct_complete
p = 0.2933 <  0.4000  adding  totncc_19902009
p = 0.1469 <  0.4000  adding  totcrv_19902009
p = 0.2018 <  0.4000  adding  ctchlra
p = 0.1485 <  0.4000  adding  ctchlaot
p = 0.2687 <  0.4000  adding  ct_gquality
p = 0.2707 <  0.4000  adding  ctchlres
p = 0.1112 <  0.4000  adding  sschis_tot
p = 0.0474 <  0.4000  adding  sschis_auto
p = 0.0703 <  0.4000  adding  nics_tot
p = 0.3619 <  0.4000  adding  iii_state
p = 0.1033 <  0.4000  adding  tot_prop

Negative binomial regression                    Number of obs   =         40
                                                LR chi2(13)     =      33.03
Dispersion     = mean                           Prob > chi2     =     0.0017
Log likelihood = -567.44918                     Pseudo R2       =     0.0283

------------------------------------------------------------------------------
    cttotcat |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
   ctcat_ovr |   .2661051   .0677834     3.93   0.000     .1332522    .3989581
 ct_complete |  -.3083338   .1888117    -1.63   0.102    -.6783979    .0617302
totncc_199~9 |   1.93e-06   2.49e-06     0.77   0.438    -2.95e-06    6.80e-06
totcrv_199~9 |   5.29e-07   7.17e-07     0.74   0.461    -8.76e-07    1.93e-06
     ctchlra |  -.6086967   .2530227    -2.41   0.016    -1.104612   -.1127814
    ctchlaot |  -.1112018   .1760269    -0.63   0.528    -.4562082    .2338047
 ct_gquality |   .3710421   .1579902     2.35   0.019     .0613869    .6806972
    ctchlres |  -.4971999    .209309    -2.38   0.018     -.907438   -.0869619
  sschis_tot |  -1.80e-06   5.09e-07    -3.54   0.000    -2.80e-06   -8.03e-07
 sschis_auto |   1.56e-06   4.71e-07     3.31   0.001     6.37e-07    2.48e-06
    nics_tot |   2.84e-06   1.73e-06     1.64   0.100    -5.46e-07    6.23e-06
   iii_state |  -3.87e-07   2.32e-07    -1.67   0.095    -8.41e-07    6.77e-08
    tot_prop |   1.53e-07   9.40e-08     1.63   0.103    -3.11e-08    3.37e-07
       _cons |  -1.331728   .1669041    -7.98   0.000    -1.658854   -1.004602
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -1.800722   .2177262                     -2.227458   -1.373987
-------------+----------------------------------------------------------------
       alpha |   .1651796   .0359639                      .1078022     .253096
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 9.1e+06 Prob>=chibar2 = 0.000

Negative binomial regression                    Number of obs   =         40
                                                LR chi2(13)     =      33.03
Dispersion     = mean                           Prob > chi2     =     0.0017
Log likelihood = -567.44918                     Pseudo R2       =     0.0283

------------------------------------------------------------------------------
    cttotcat |      Coef.  Legend
-------------+----------------------------------------------------------------
   ctcat_ovr |   .2661051  _b[cttotcat:ctcat_ovr]
 ct_complete |  -.3083338  _b[cttotcat:ct_complete]
```

```
totncc_199~9 |   1.93e-06  _b[cttotcat:totncc_19902009]
totcrv_199~9 |   5.29e-07  _b[cttotcat:totcrv_19902009]
     ctchlra |  -.6086967  _b[cttotcat:ctchlra]
    ctchlaot |  -.1112018  _b[cttotcat:ctchlaot]
 ct_gquality |   .3710421  _b[cttotcat:ct_gquality]
    ctchlres |  -.4971999  _b[cttotcat:ctchlres]
  sschis_tot |  -1.80e-06  _b[cttotcat:sschis_tot]
 sschis_auto |   1.56e-06  _b[cttotcat:sschis_auto]
    nics_tot |   2.84e-06  _b[cttotcat:nics_tot]
   iii_state |  -3.87e-07  _b[cttotcat:iii_state]
    tot_prop |   1.53e-07  _b[cttotcat:tot_prop]
       _cons |  -1.331728  _b[cttotcat:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -1.800722  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   .1651796
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 9.1e+06 Prob>=chibar2 = 0.000
```


Originating Agency: Overall
10,000,000
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Guam
American Samoa
New Hampshire
Northern Mariana Islands
Alabama
Puerto Rico
Virgin Islands of the U.S.
District of Columbia
Vermont
Wyoming
Delaware
North Dakota
Alaska
Rhode Island
South Dakota
Maine
Hawaii
Kansas
West Virginia
Nebraska
Idaho
Indiana
Montana
New Mexico
Arkansas
Utah
Iowa
Colorado
Connecticut
South Carolina
Maryland
Louisiana
Mississippi
Oklahoma
Oregon
Washington
Nevada
Minnesota
Missouri
Georgia
Tennessee
Massachusetts
Kentucky
New Jersey
Arizona
Wisconsin
Pennsylvania
Virginia
North Carolina
New York
Illinois
Ohio
Michigan
Florida
Texas
California
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

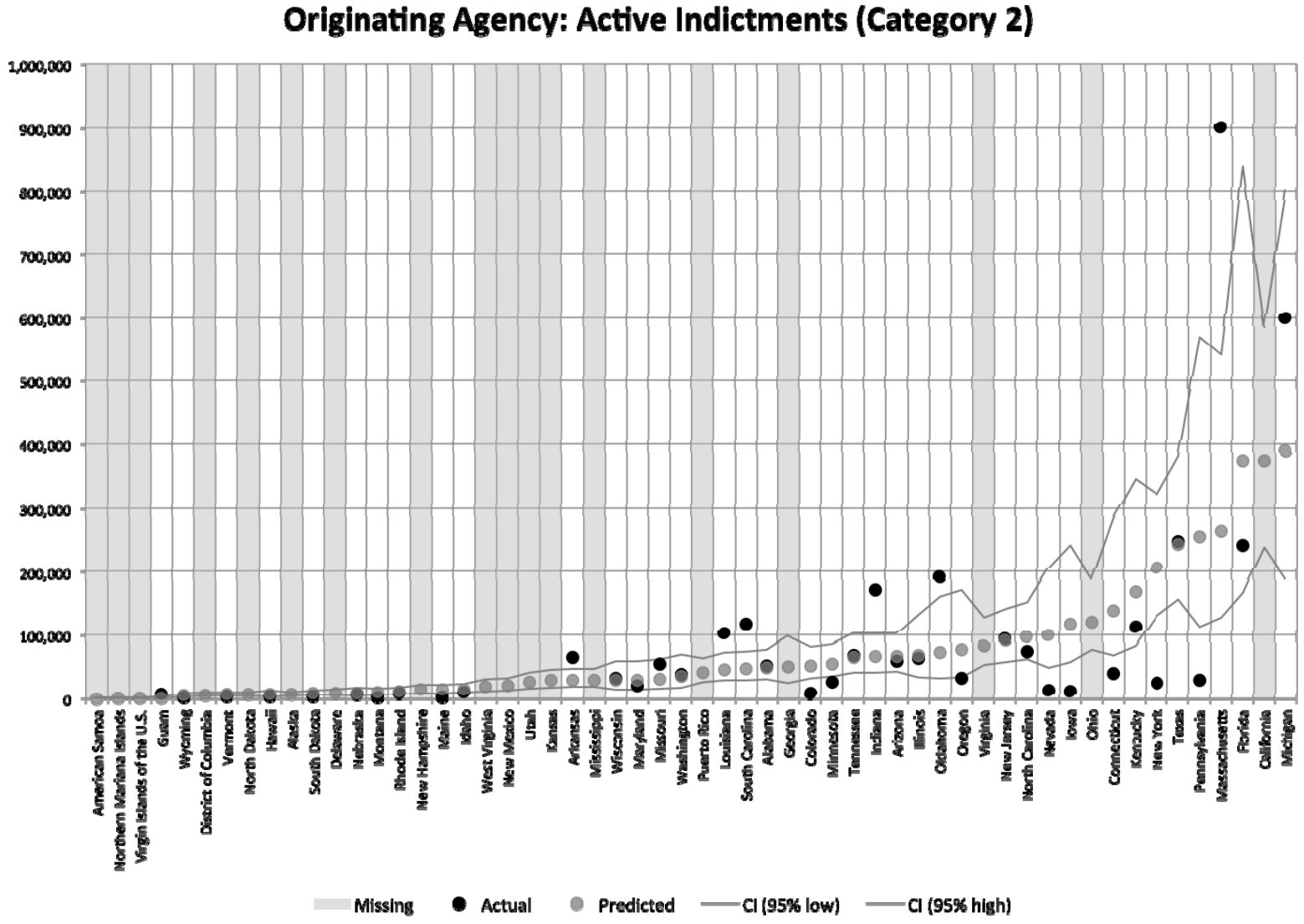
Originating Agency Model: Felony Convictions (Category 1)

```
      name:  ctcat1
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/ctcat1.log
  log type:  text
 opened on:  20 Nov 2011, 13:41:52
Multivariate NBReg (depvar ctcat1)
                     begin with empty model
p = 0.0010 <  0.4000  adding  ucrarr_20042009
p = 0.1486 <  0.4000  adding  totcrv_19902009
p = 0.0504 <  0.4000  adding  nics_a1
p = 0.0791 <  0.4000  adding  tot_prop
p = 0.1645 <  0.4000  adding  sschis_auto
p = 0.2464 <  0.4000  adding  ctcat1_ovr

Negative binomial regression                    Number of obs   =         39
                                                LR chi2(6)      =      23.21
Dispersion     = mean                           Prob > chi2     =     0.0007
Log likelihood = -502.67364                     Pseudo R2       =     0.0226

------------------------------------------------------------------------------
      ctcat1 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
ucrarr_200~9 |   1.41e-07   7.95e-08     1.77   0.077    -1.51e-08    2.97e-07
totcrv_199~9 |  -1.39e-06   4.32e-07    -3.21   0.001    -2.24e-06   -5.42e-07
     nics_a1 |  -6.05e-06   2.59e-06    -2.33   0.020    -.0000111   -9.71e-07
    tot_prop |   1.02e-07   4.86e-08     2.10   0.035     6.96e-09    1.98e-07
 sschis_auto |  -1.15e-07   8.22e-08    -1.40   0.163    -2.76e-07    4.64e-08
  ctcat1_ovr |  -.1991504   .1718095    -1.16   0.246    -.5358907      .13759
       _cons |  -2.710167   .0881951   -30.73   0.000    -2.883026   -2.537307
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -2.124095    .222102                     -2.559407   -1.688783
-------------+----------------------------------------------------------------
       alpha |   .1195411   .0265503                      .0773506    .1847441
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 1.3e+06 Prob>=chibar2 = 0.000

Negative binomial regression                    Number of obs   =         39
                                                LR chi2(6)      =      23.21
Dispersion     = mean                           Prob > chi2     =     0.0007
Log likelihood = -502.67364                     Pseudo R2       =     0.0226

------------------------------------------------------------------------------
      ctcat1 |      Coef.  Legend
-------------+----------------------------------------------------------------
ucrarr_200~9 |   1.41e-07  _b[ctcat1:ucrarr_20042009]
totcrv_199~9 |  -1.39e-06  _b[ctcat1:totcrv_19902009]
     nics_a1 |  -6.05e-06  _b[ctcat1:nics_a1]
    tot_prop |   1.02e-07  _b[ctcat1:tot_prop]
 sschis_auto |  -1.15e-07  _b[ctcat1:sschis_auto]
  ctcat1_ovr |  -.1991504  _b[ctcat1:ctcat1_ovr]
       _cons |  -2.710167  _b[ctcat1:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -2.124095  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   .1195411
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 1.3e+06 Prob>=chibar2 = 0.000
```


Originating Agency: Felony Convictions (Category 1)
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Puerto Rico
Virgin Islands of the U.S.
Alabama
New Hampshire
American Samoa
Northern Mariana Islands
Guam
Wyoming
District of Columbia
Alaska
Vermont
North Dakota
Delaware
Montana
South Dakota
Rhode Island
Hawaii
Maine
Idaho
Nebraska
West Virginia
New Mexico
Louisiana
Utah
Nevada
Arkansas
Kansas
Iowa
Mississippi
Connecticut
South Carolina
Kentucky
Oklahoma
Oregon
Virginia
Massachusetts
Colorado
Minnesota
Wisconsin
Maryland
Missouri
Indiana
Washington
New Jersey
Arizona
Tennessee
Georgia
Illinois
Michigan
North Carolina
Pennsylvania
Ohio
New York
Florida
Texas
California
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

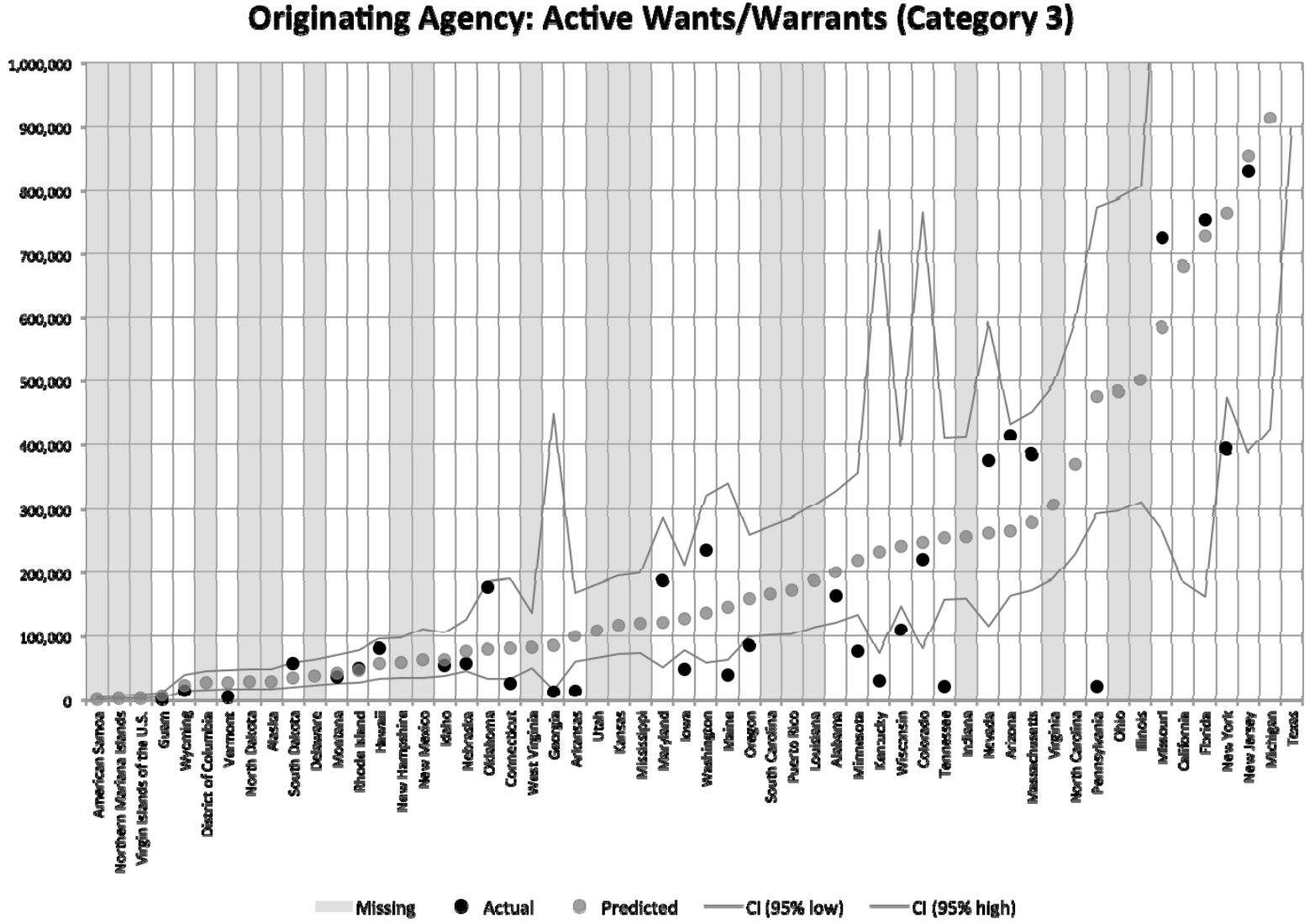
Originating Agency Model: Active Indictments (Category 2)

```
      name:  ctcat2
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/ctcat2.log
  log type:  text
 opened on:  20 Nov 2011, 13:41:56
Multivariate NBReg (depvar ctcat2)
                    begin with empty model
p = 0.0001 <  0.4000  adding  ctcat2_ovr
p = 0.0207 <  0.4000  adding  ctcat2_inc

Negative binomial regression                      Number of obs   =         37
                                                  LR chi2(2)      =      19.76
Dispersion     = mean                             Prob > chi2     =     0.0001
Log likelihood = -435.39445                       Pseudo R2       =     0.0222

------------------------------------------------------------------------------
      ctcat2 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  ctcat2_ovr |   1.321948   .3025413     4.37   0.000     .7289783    1.914918
  ctcat2_inc |  -.6798678   .2939609    -2.31   0.021    -1.256021    -.103715
       _cons |  -4.295156   .1745039   -24.61   0.000    -4.637178   -3.953135
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.4174512   .2118573                     -.8326839   -.0022185
-------------+----------------------------------------------------------------
       alpha |   .6587236   .1395554                      .4348805     .997784
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 2.4e+06 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         37
                                                  LR chi2(2)      =      19.76
Dispersion     = mean                             Prob > chi2     =     0.0001
Log likelihood = -435.39445                       Pseudo R2       =     0.0222

------------------------------------------------------------------------------
      ctcat2 |      Coef.  Legend
-------------+----------------------------------------------------------------
  ctcat2_ovr |   1.321948  _b[ctcat2:ctcat2_ovr]
  ctcat2_inc |  -.6798678  _b[ctcat2:ctcat2_inc]
       _cons |  -4.295156  _b[ctcat2:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.4174512  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   .6587236
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 2.4e+06 Prob>=chibar2 = 0.000
```


Originating Agency: Active Indictments (Category 2)
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
American Samoa
Northern Mariana Islands
Virgin Islands of the U.S.
Guam
Wyoming
District of Columbia
Vermont
North Dakota
Hawaii
Alaska
South Dakota
Delaware
Nebraska
Montana
Rhode Island
New Hampshire
Maine
Idaho
West Virginia
New Mexico
Utah
Kansas
Arkansas
Mississippi
Wisconsin
Maryland
Missouri
Washington
Puerto Rico
Louisiana
South Carolina
Alabama
Georgia
Colorado
Minnesota
Tennessee
Indiana
Arizona
Illinois
Oklahoma
Oregon
Virginia
New Jersey
North Carolina
Nevada
Iowa
Ohio
Connecticut
Kentucky
New York
Texas
Pennsylvania
Massachusetts
Florida
California
Michigan
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

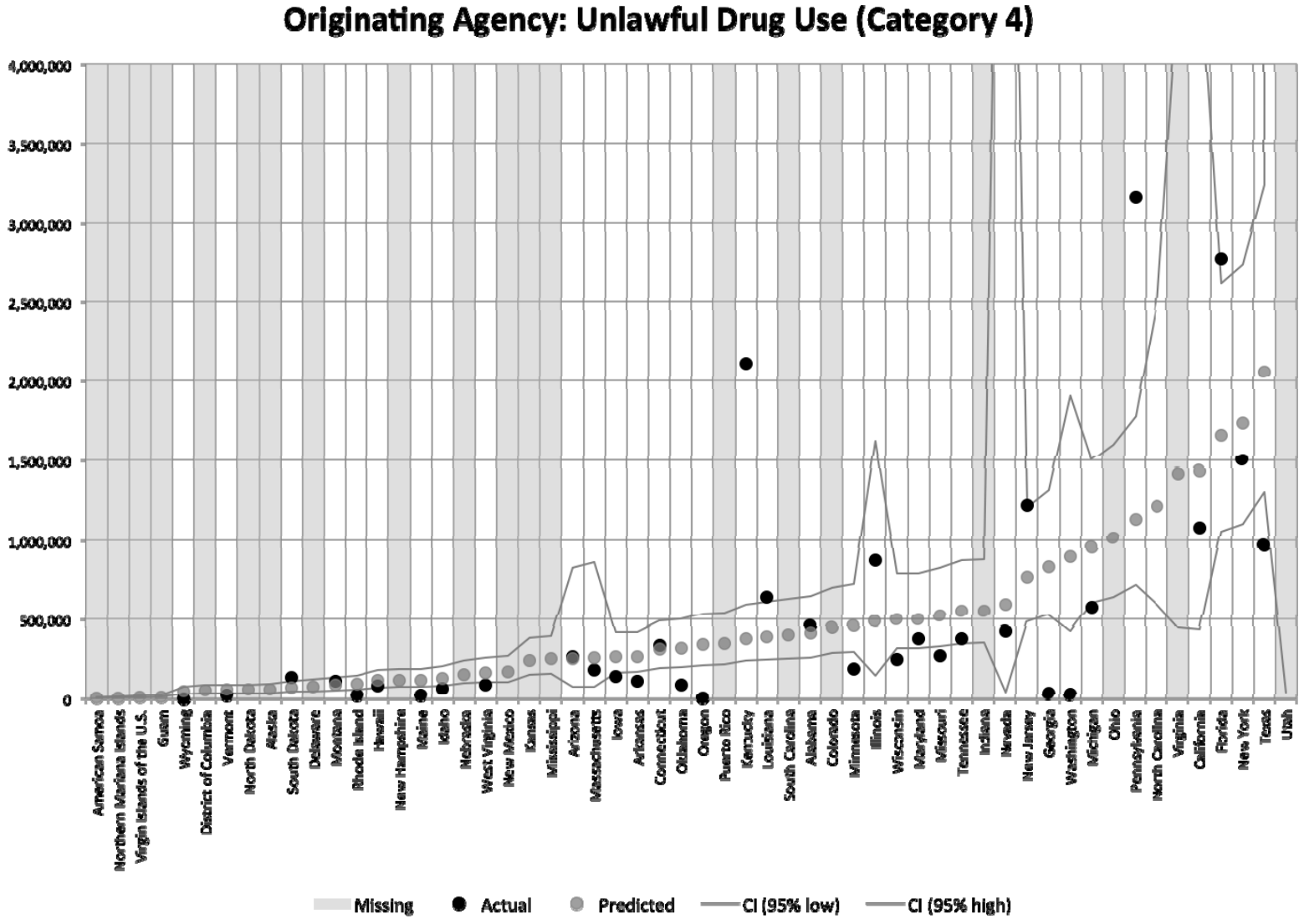
Originating Agency Model: Active Wants/Warrants (Category 3)

```
      name:  ctcat3
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/ctcat3.log
  log type:  text
 opened on:  20 Nov 2011, 13:41:58
Multivariate NBReg (depvar ctcat3)
                     begin with empty model
p = 0.0180 <  0.4000  adding  ctcat3_ovr
p = 0.0938 <  0.4000  adding  ctcat3_inc
p = 0.1212 <  0.4000  adding  ncic_w

Negative binomial regression                      Number of obs   =         36
                                                  LR chi2(3)      =      10.20
Dispersion     = mean                             Prob > chi2     =     0.0169
Log likelihood = -467.37245                       Pseudo R2       =     0.0108

------------------------------------------------------------------------------
      ctcat3 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  ctcat3_ovr |     .89153   .3459322     2.58   0.010     .2135154    1.569545
  ctcat3_inc |  -.6505545   .3677837    -1.77   0.077    -1.371397    .0702883
      ncic_w |  -3.49e-06   2.25e-06    -1.55   0.121    -7.89e-06    9.22e-07
       _cons |  -2.854543   .1986013   -14.37   0.000    -3.243794   -2.465291
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |   -.288863   .2126552                     -.7056595    .1279335
-------------+----------------------------------------------------------------
       alpha |   .7491148   .1593031                      .4937828    1.136477
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 7.1e+06 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         36
                                                  LR chi2(3)      =      10.20
Dispersion     = mean                             Prob > chi2     =     0.0169
Log likelihood = -467.37245                       Pseudo R2       =     0.0108

------------------------------------------------------------------------------
      ctcat3 |      Coef.  Legend
-------------+----------------------------------------------------------------
  ctcat3_ovr |     .89153  _b[ctcat3:ctcat3_ovr]
  ctcat3_inc |  -.6505545  _b[ctcat3:ctcat3_inc]
      ncic_w |  -3.49e-06  _b[ctcat3:ncic_w]
       _cons |  -2.854543  _b[ctcat3:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |   -.288863  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   .7491148
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 7.1e+06 Prob>=chibar2 = 0.000
```


Originating Agency: Active Wants/Warrants (Category 3)
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
American Samoa
Northern Mariana Islands
Virgin Islands of the U.S.
Guam
Wyoming
District of Columbia
Vermont
North Dakota
Alaska
South Dakota
Delaware
Montana
Rhode Island
Hawaii
New Hampshire
New Mexico
Idaho
Nebraska
Oklahoma
Connecticut
West Virginia
Georgia
Arkansas
Utah
Kansas
Mississippi
Maryland
Iowa
Washington
Maine
Oregon
South Carolina
Puerto Rico
Louisiana
Alabama
Minnesota
Kentucky
Wisconsin
Colorado
Tennessee
Indiana
Nevada
Arizona
Massachusetts
Virginia
North Carolina
Pennsylvania
Ohio
Illinois
Missouri
California
Florida
New York
New Jersey
Michigan
Texas
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

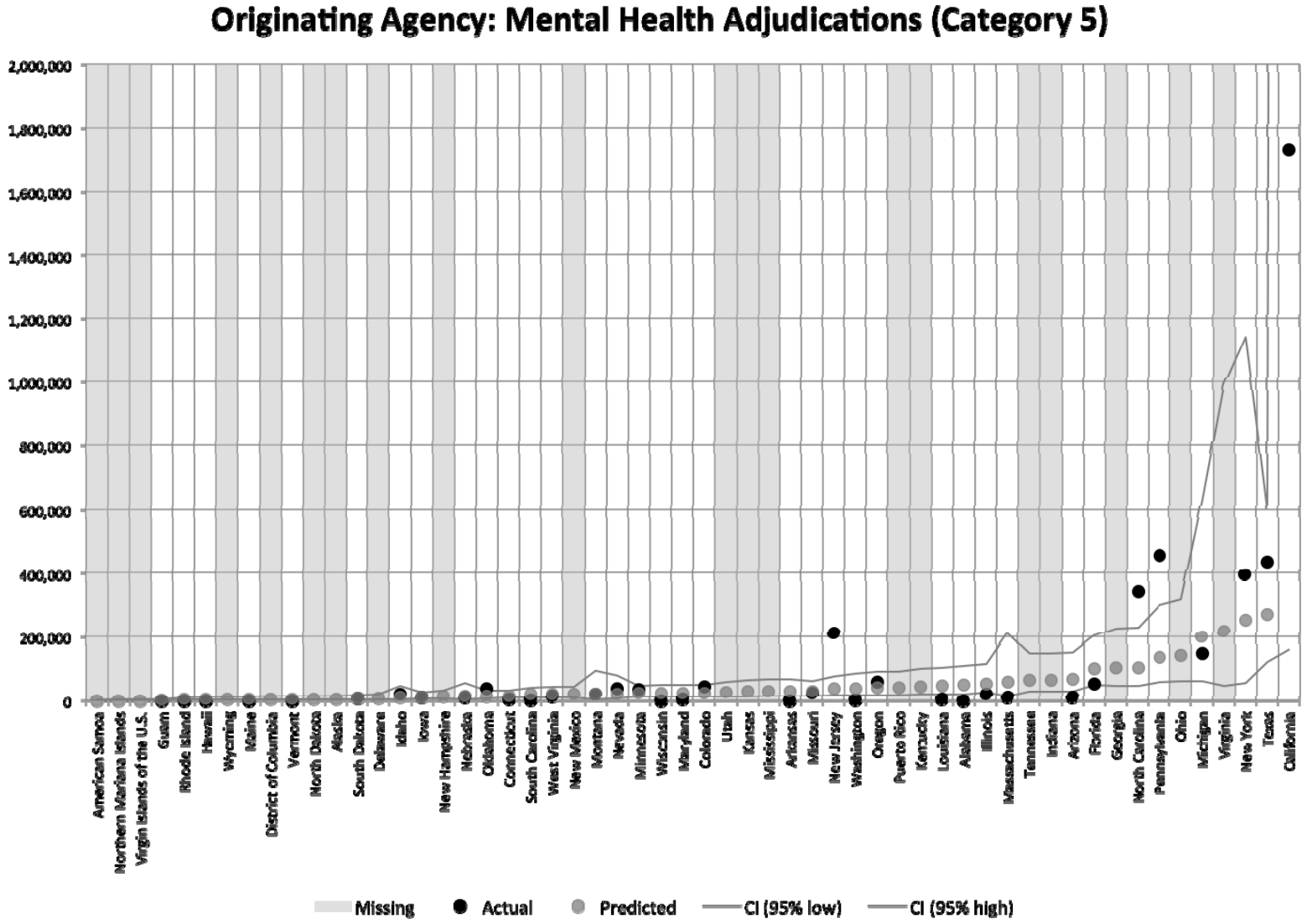
Originating Agency Model: Unlawful Drug Use (Category 4)

```
      name:  ctcat4
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/ctcat4.log
  log type:  text
 opened on:  20 Nov 2011, 13:42:00
Multivariate NBReg (depvar ctcat4)
                     begin with empty model
p = 0.2879 <  0.4000  adding  nics_c
p = 0.0919 <  0.4000  adding  ctcat4_ovr

Negative binomial regression                    Number of obs   =         36
                                                LR chi2(2)      =       3.83
Dispersion     = mean                           Prob > chi2     =     0.1471
Log likelihood = -497.52756                     Pseudo R2       =     0.0038

------------------------------------------------------------------------------
      ctcat4 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      nics_c |   .0284372   .0176977     1.61   0.108    -.0062497     .063124
  ctcat4_ovr |  -.8228352   .4882101    -1.69   0.092    -1.779709    .1340391
       _cons |  -2.162014   .1771657   -12.20   0.000    -2.509253   -1.814776
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.0558162   .2085577                     -.4645818    .3529495
-------------+----------------------------------------------------------------
       alpha |    .945713   .1972358                      .6283978    1.423259
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 1.8e+07 Prob>=chibar2 = 0.000

Negative binomial regression                    Number of obs   =         36
                                                LR chi2(2)      =       3.83
Dispersion     = mean                           Prob > chi2     =     0.1471
Log likelihood = -497.52756                     Pseudo R2       =     0.0038

------------------------------------------------------------------------------
      ctcat4 |      Coef.  Legend
-------------+----------------------------------------------------------------
      nics_c |   .0284372  _b[ctcat4:nics_c]
  ctcat4_ovr |  -.8228352  _b[ctcat4:ctcat4_ovr]
       _cons |  -2.162014  _b[ctcat4:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.0558162  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |    .945713
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 1.8e+07 Prob>=chibar2 = 0.000
```


Originating Agency: Unlawful Drug Use (Category 4)
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
American Samoa
Northern Mariana Islands
Virgin Islands of the U.S.
Guam
Wyoming
District of Columbia
Vermont
North Dakota
Alaska
South Dakota
Delaware
Montana
Rhode Island
Hawaii
New Hampshire
Maine
Idaho
Nebraska
West Virginia
New Mexico
Kansas
Mississippi
Arizona
Massachusetts
Iowa
Arkansas
Connecticut
Oklahoma
Oregon
Puerto Rico
Kentucky
Louisiana
South Carolina
Alabama
Colorado
Minnesota
Illinois
Wisconsin
Maryland
Missouri
Tennessee
Indiana
Nevada
New Jersey
Georgia
Washington
Michigan
Ohio
Pennsylvania
North Carolina
Virginia
California
Florida
New York
Texas
Utah
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

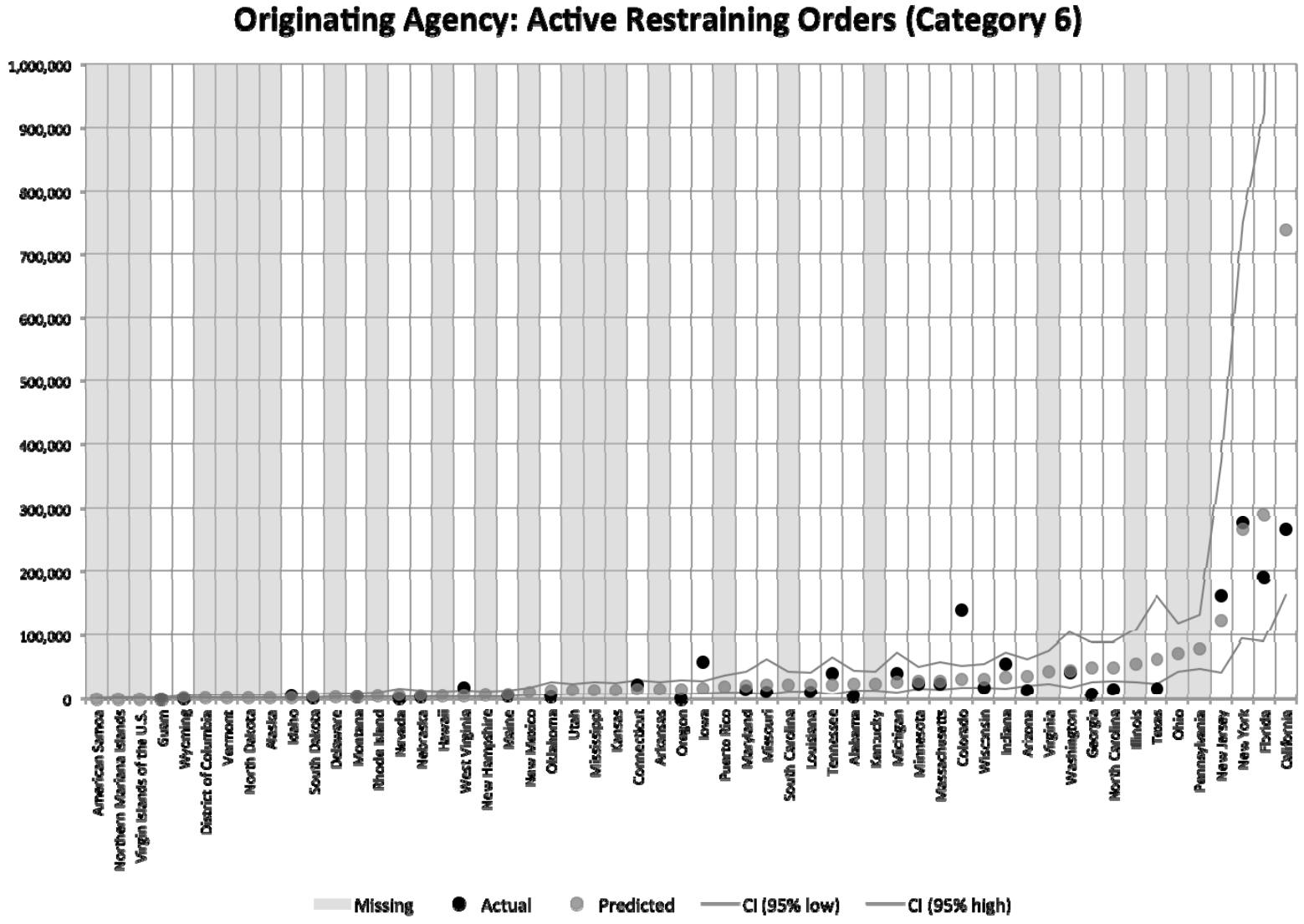
Originating Agency Model: Mental Health Adjudications (Category 5)

```
      name:  ctcat5
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/ctcat5.log
  log type:  text
 opened on:  20 Nov 2011, 13:42:01
Multivariate NBReg (depvar ctcat5)
                    begin with empty model
p = 0.0940 <  0.4000  adding  nics_d
p = 0.0606 <  0.4000  adding  ctcat5_inc
p = 0.1883 <  0.4000  adding  ctcat5_ovr

Negative binomial regression                      Number of obs   =         36
                                                  LR chi2(3)      =       9.61
Dispersion     = mean                             Prob > chi2     =     0.0222
Log likelihood = -407.47976                       Pseudo R2       =     0.0117

------------------------------------------------------------------------------
      ctcat5 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      nics_d |   7.68e-06   4.20e-06     1.83   0.068    -5.57e-07    .0000159
  ctcat5_inc |  -.8931718   .4070025    -2.19   0.028    -1.690882   -.0954616
  ctcat5_ovr |   .7019914   .5335467     1.32   0.188    -.3437409    1.747724
       _cons |  -4.287733   .3121536   -13.74   0.000    -4.899543   -3.675924
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |     .28852   .2023141                     -.1080083    .6850483
-------------+----------------------------------------------------------------
       alpha |   1.334451   .2699782                      .8976201    1.983868
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 1.7e+06 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         36
                                                  LR chi2(3)      =       9.61
Dispersion     = mean                             Prob > chi2     =     0.0222
Log likelihood = -407.47976                       Pseudo R2       =     0.0117

------------------------------------------------------------------------------
      ctcat5 |      Coef.  Legend
-------------+----------------------------------------------------------------
      nics_d |   7.68e-06  _b[ctcat5:nics_d]
  ctcat5_inc |  -.8931718  _b[ctcat5:ctcat5_inc]
  ctcat5_ovr |   .7019914  _b[ctcat5:ctcat5_ovr]
       _cons |  -4.287733  _b[ctcat5:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |     .28852  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   1.334451
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 1.7e+06 Prob>=chibar2 = 0.000
```


Originating Agency: Mental Health Adjudications (Category 5)
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
American Samoa
Northern Mariana Islands
Virgin Islands of the U.S.
Guam
Rhode Island
Hawaii
Wyoming
Maine
District of Columbia
Vermont
North Dakota
Alaska
South Dakota
Delaware
Idaho
Iowa
New Hampshire
Nebraska
Oklahoma
Connecticut
South Carolina
West Virginia
New Mexico
Montana
Nevada
Minnesota
Wisconsin
Maryland
Colorado
Utah
Kansas
Mississippi
Arkansas
Missouri
New Jersey
Washington
Oregon
Puerto Rico
Kentucky
Louisiana
Alabama
Illinois
Massachusetts
Tennessee
Indiana
Arizona
Florida
Georgia
North Carolina
Pennsylvania
Ohio
Michigan
Virginia
New York
Texas
California
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

Originating Agency Model: Active Restraining Orders (Category 6)

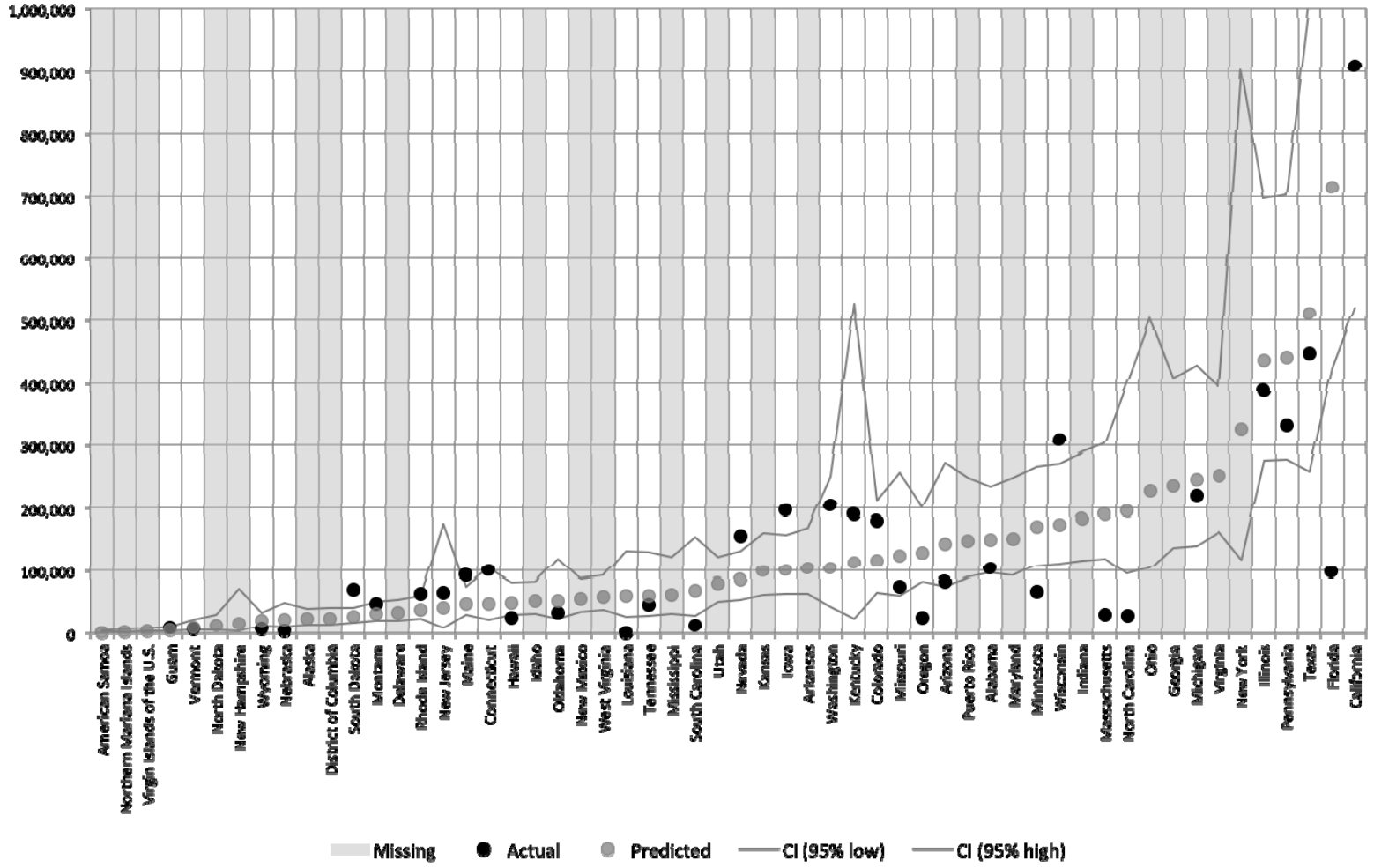
```
      name:  ctcat6
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/ctcat6.log
  log type:  text
 opened on:  20 Nov 2011, 13:42:03
Multivariate NBReg (depvar ctcat6)
                     begin with empty model
p = 0.0146 <  0.4000  adding  ncic_h
p = 0.2434 <  0.4000  adding  ctcat6_inc
p = 0.3420 <  0.4000  adding  ctcat6_ovr

Negative binomial regression                      Number of obs   =         33
                                                  LR chi2(3)      =       9.25
Dispersion     = mean                             Prob > chi2     =     0.0261
Log likelihood = -361.32791                       Pseudo R2       =     0.0126

------------------------------------------------------------------------------
      ctcat6 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      ncic_h |   6.87e-06   3.33e-06     2.06   0.039     3.38e-07    .0000134
  ctcat6_inc |  -.3225951   .3235721    -1.00   0.319    -.9567847    .3115946
  ctcat6_ovr |  -.3917076   .4122358    -0.95   0.342    -1.199675    .4162597
       _cons |  -5.058226   .2493452   -20.29   0.000    -5.546934   -4.569518
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.2688676   .2218354                     -.7036569    .1659218
-------------+----------------------------------------------------------------
       alpha |   .7642445   .1695365                      .4947726    1.180481
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 7.3e+05 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         33
                                                  LR chi2(3)      =       9.25
Dispersion     = mean                             Prob > chi2     =     0.0261
Log likelihood = -361.32791                       Pseudo R2       =     0.0126

------------------------------------------------------------------------------
      ctcat6 |      Coef.  Legend
-------------+----------------------------------------------------------------
      ncic_h |   6.87e-06  _b[ctcat6:ncic_h]
  ctcat6_inc |  -.3225951  _b[ctcat6:ctcat6_inc]
  ctcat6_ovr |  -.3917076  _b[ctcat6:ctcat6_ovr]
       _cons |  -5.058226  _b[ctcat6:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.2688676  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   .7642445
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 7.3e+05 Prob>=chibar2 = 0.000
```


Originating Agency: Active Restraining Orders (Category 6)
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
American Samoa
Northern Mariana Islands
Virgin Islands of the U.S.
Guam
Wyoming
District of Columbia
Vermont
North Dakota
Alaska
Idaho
South Dakota
Delaware
Montana
Rhode Island
Nevada
Nebraska
Hawaii
West Virginia
New Hampshire
Maine
New Mexico
Oklahoma
Utah
Mississippi
Kansas
Connecticut
Arkansas
Oregon
Iowa
Puerto Rico
Maryland
Missouri
South Carolina
Louisiana
Tennessee
Alabama
Kentucky
Michigan
Minnesota
Massachusetts
Colorado
Wisconsin
Indiana
Arizona
Virginia
Washington
Georgia
North Carolina
Illinois
Texas
Ohio
Pennsylvania
New Jersey
New York
Florida
California
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

Originating Agency Model: Misdemeanor Crimes of Domestic Violence (Category 7)

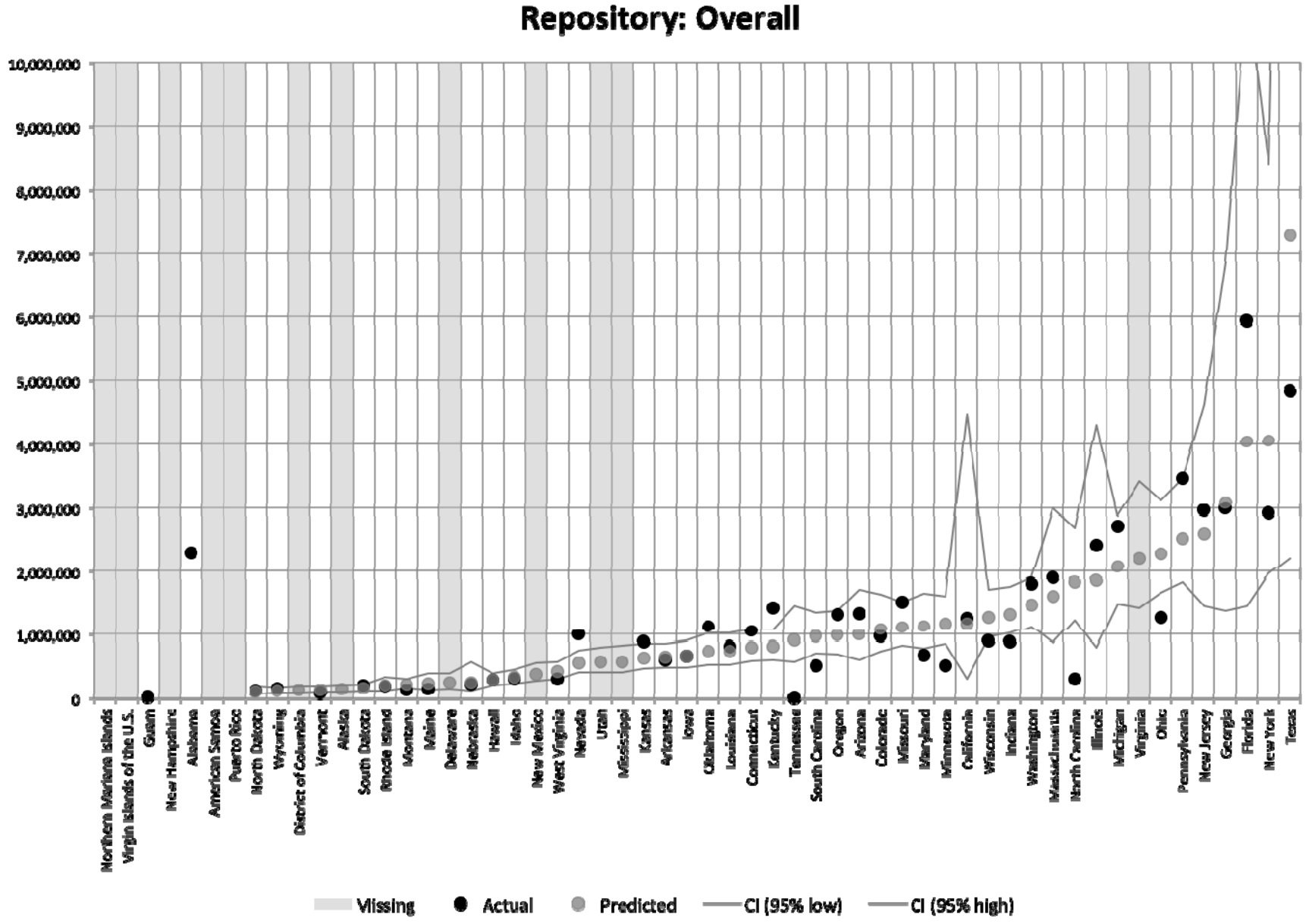
```
      name:  ctcat7
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/ctcat7.log
  log type:  text
 opened on:  20 Nov 2011, 13:42:04
Multivariate NBReg (depvar ctcat7)
                     begin with empty model
p = 0.0168 <  0.4000  adding  ctcat7_inc
p = 0.0776 <  0.4000  adding  ucrdva_20042009
p = 0.2145 <  0.4000  adding  ctcat7_ovr

Negative binomial regression                      Number of obs   =         34
                                                  LR chi2(3)      =       9.12
Dispersion     = mean                             Prob > chi2     =     0.0277
Log likelihood = -422.11019                       Pseudo R2       =     0.0107

------------------------------------------------------------------------------
      ctcat7 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  ctcat7_inc |  -.8302311    .349811    -2.37   0.018    -1.515848   -.1446141
ucrdva_200~9 |  -.0000267    .000015    -1.79   0.074    -.0000561    2.58e-06
  ctcat7_ovr |   .7995216   .6441041     1.24   0.214    -.4628992    2.061942
       _cons |  -3.007522   .2021401   -14.88   0.000    -3.403709   -2.611335
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.3442167   .2197802                     -.7749779    .0865445
-------------+----------------------------------------------------------------
       alpha |   .7087753   .1557748                      .460714      1.0904
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 2.1e+06 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         34
                                                  LR chi2(3)      =       9.12
Dispersion     = mean                             Prob > chi2     =     0.0277
Log likelihood = -422.11019                       Pseudo R2       =     0.0107

------------------------------------------------------------------------------
      ctcat7 |      Coef.  Legend
-------------+----------------------------------------------------------------
  ctcat7_inc |  -.8302311  _b[ctcat7:ctcat7_inc]
ucrdva_200~9 |  -.0000267  _b[ctcat7:ucrdva_20042009]
  ctcat7_ovr |   .7995216  _b[ctcat7:ctcat7_ovr]
       _cons |  -3.007522  _b[ctcat7:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.3442167  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   .7087753
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 2.1e+06 Prob>=chibar2 = 0.000
```

Originating Agency: Misdemeanor Crimes of Domestic Violence (Category 7)



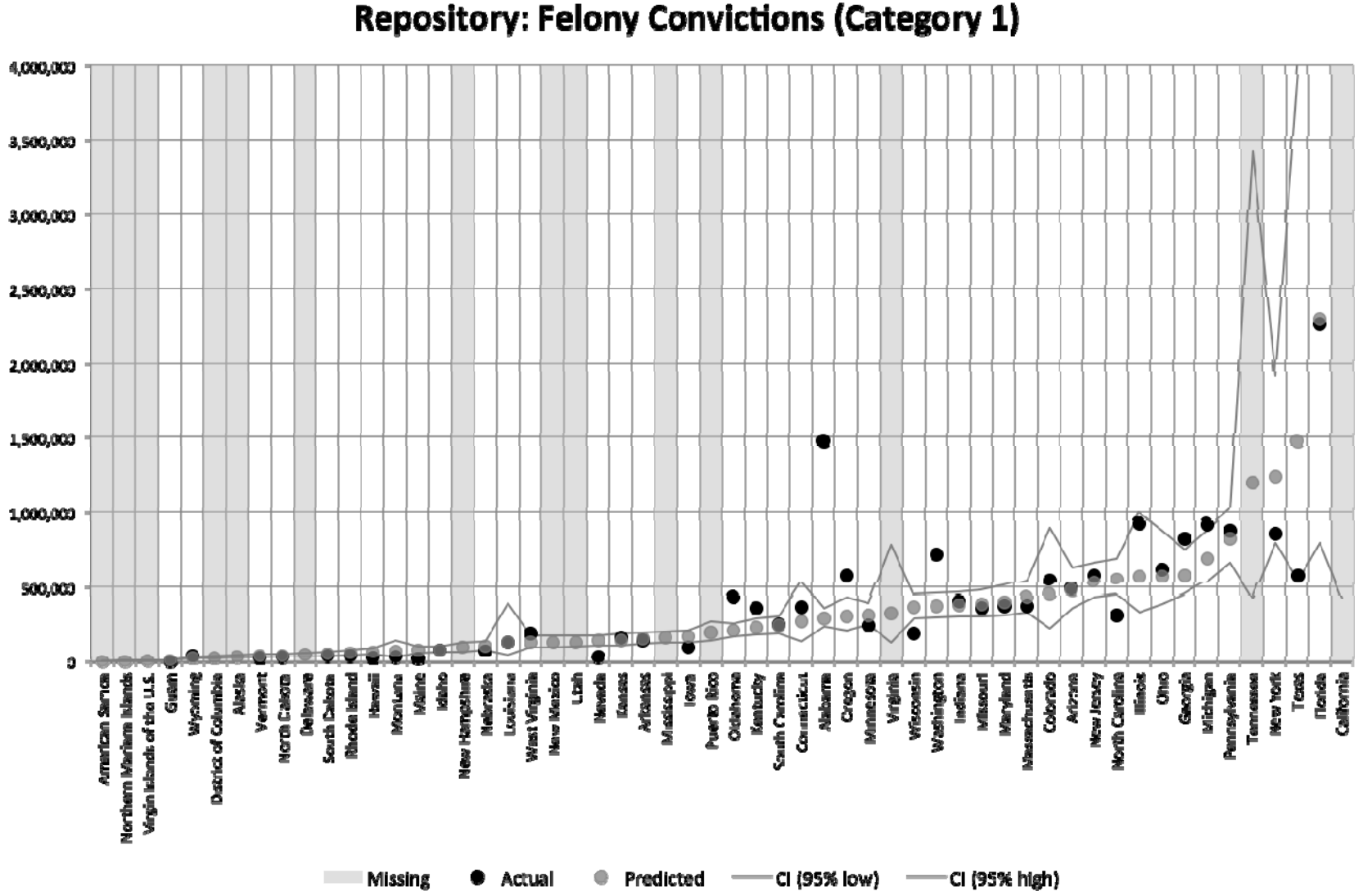
Repository Model: Overall

```
      name:  reptotcat
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/reptotcat.log
  log type:  text
 opened on:  20 Nov 2011, 13:41:19
Multivariate NBReg (depvar reptotcat)
note: repchldisc dropped because of collinearity
                    begin with empty model
p = 0.0042 <  0.4000  adding  totcrv_19902009
p = 0.1459 <  0.4000  adding  repcat_ovr
p = 0.3754 <  0.4000  adding  sschis_tot
p = 0.2907 <  0.4000  adding  tot_violent
p = 0.2569 <  0.4000  adding  iii_state

Negative binomial regression                      Number of obs   =         42
                                                  LR chi2(5)      =      10.15
Dispersion     = mean                             Prob > chi2     =     0.0712
Log likelihood = -602.04691                       Pseudo R2       =     0.0084

------------------------------------------------------------------------------
   reptotcat |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
totcrv_199~9 |  -1.18e-06   5.92e-07    -1.99   0.047    -2.34e-06   -1.74e-08
  repcat_ovr |  -.1334928   .1167979    -1.14   0.253    -.3624124    .0954269
  sschis_tot |   1.44e-07   1.20e-07     1.21   0.228    -9.02e-08    3.79e-07
 tot_violent |  -6.56e-07   4.39e-07    -1.49   0.135    -1.52e-06    2.04e-07
   iii_state |   2.38e-07   2.10e-07     1.13   0.257    -1.73e-07    6.48e-07
       _cons |  -1.270149   .1373562    -9.25   0.000    -1.539362   -1.000935
  adultpop_0 |  (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |   -1.22456   .2084118                     -1.633039   -.8160801
-------------+----------------------------------------------------------------
       alpha |   .2938871   .0612495                       .195335    .4421615
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 9.0e+06 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         42
                                                  LR chi2(5)      =      10.15
Dispersion     = mean                             Prob > chi2     =     0.0712
Log likelihood = -602.04691                       Pseudo R2       =     0.0084

------------------------------------------------------------------------------
   reptotcat |      Coef.  Legend
-------------+----------------------------------------------------------------
totcrv_199~9 |  -1.18e-06  _b[reptotcat:totcrv_19902009]
  repcat_ovr |  -.1334928  _b[reptotcat:repcat_ovr]
  sschis_tot |   1.44e-07  _b[reptotcat:sschis_tot]
 tot_violent |  -6.56e-07  _b[reptotcat:tot_violent]
   iii_state |   2.38e-07  _b[reptotcat:iii_state]
       _cons |  -1.270149  _b[reptotcat:_cons]
  adultpop_0 |  (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |   -1.22456  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   .2938871
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 9.0e+06 Prob>=chibar2 = 0.000
```


Repository: Overall
10,000,000
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Northern Marianas Islands
Virgin Islands of the U.S.
Guam
New Hampshire
Alabama
American Samoa
Puerto Rico
North Dakota
Wyoming
District of Columbia
Vermont
Alaska
South Dakota
Rhode Island
Montana
Maine
Delaware
Nebraska
Hawaii
Idaho
New Mexico
West Virginia
Nevada
Utah
Mississippi
Kansas
Arkansas
Iowa
Oklahoma
Louisiana
Connecticut
Kentucky
Tennessee
South Carolina
Oregon
Arizona
Colorado
Missouri
Maryland
Minnesota
California
Wisconsin
Indiana
Washington
Massachusetts
North Carolina
Illinois
Michigan
Virginia
Ohio
Pennsylvania
New Jersey
Georgia
Florida
New York
Texas
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

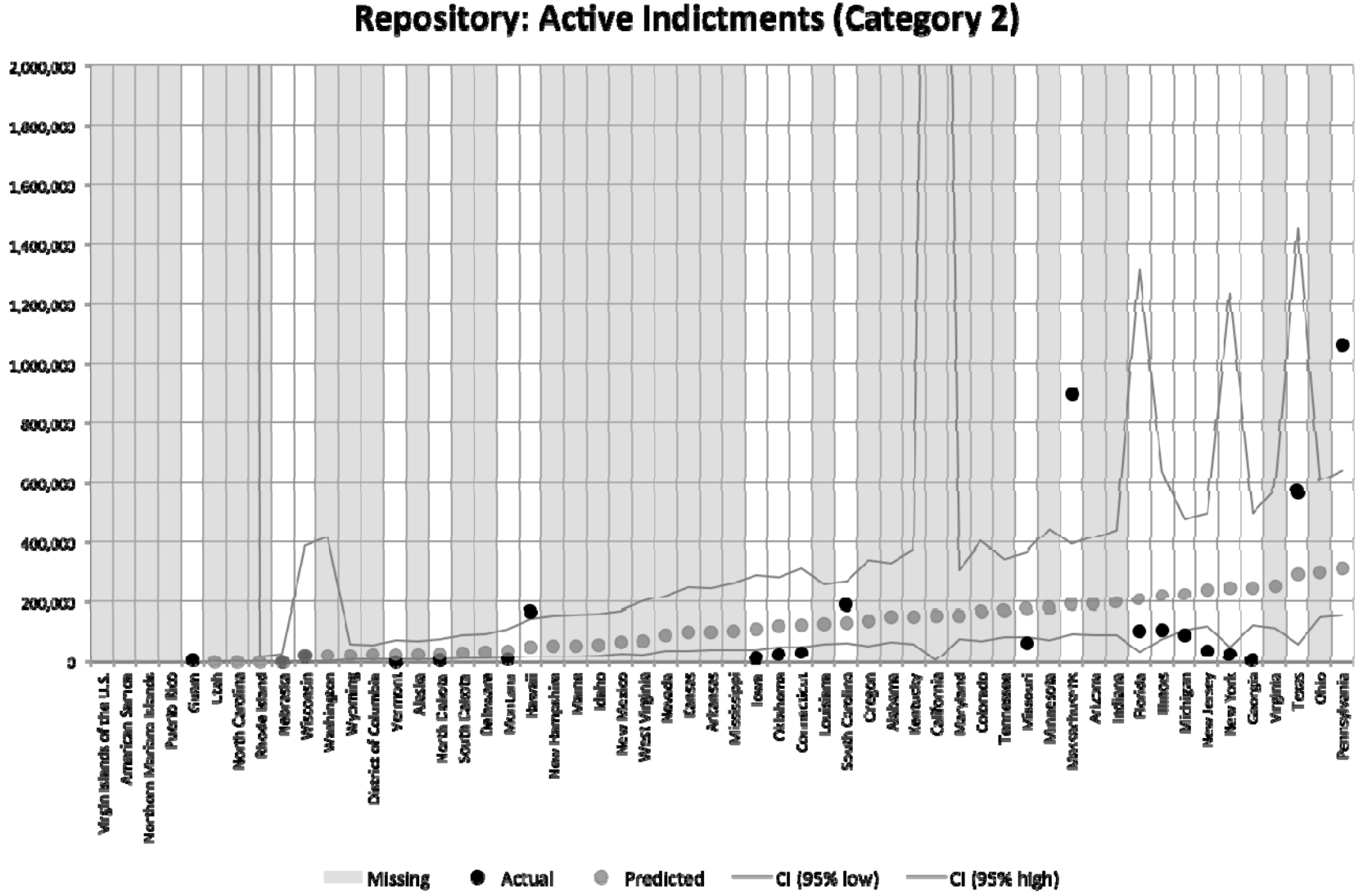
Repository Model: Felony Convictions (Category 1)

```
      name:  repcat1
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/repcat1.log
  log type:  text
 opened on:  20 Nov 2011, 13:41:26
Multivariate NBReg (depvar repcat1)
                    begin with empty model
p = 0.0951 <  0.4000  adding  ucrarr_20042009
p = 0.1323 <  0.4000  adding  totad_19902009
p = 0.1651 <  0.4000  adding  nics_a1
p = 0.2846 <  0.4000  adding  repcat1_inc

Negative binomial regression                      Number of obs   =         40
                                                  LR chi2(4)      =       8.11
Dispersion     = mean                             Prob > chi2     =     0.0875
Log likelihood = -518.27751                       Pseudo R2       =     0.0078

------------------------------------------------------------------------------
     repcat1 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
ucrarr_200~9 |   2.86e-07   1.04e-07     2.74   0.006     8.11e-08    4.91e-07
totad_1990~9 |  -7.42e-07   5.04e-07    -1.47   0.141    -1.73e-06    2.46e-07
     nics_a1 |  -4.93e-06   3.59e-06    -1.37   0.170     -.000012    2.11e-06
 repcat1_inc |   .2961405   .2767496     1.07   0.285    -.2462786    .8385597
       _cons |   -2.70994   .1249445   -21.69   0.000    -2.954827   -2.465053
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -1.567309   .2162846                     -1.991219   -1.143399
-------------+----------------------------------------------------------------
       alpha |   .2086059   .0451182                      .1365289    .3187339
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 2.0e+06 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         40
                                                  LR chi2(4)      =       8.11
Dispersion     = mean                             Prob > chi2     =     0.0875
Log likelihood = -518.27751                       Pseudo R2       =     0.0078

------------------------------------------------------------------------------
     repcat1 |      Coef.  Legend
-------------+----------------------------------------------------------------
ucrarr_200~9 |   2.86e-07  _b[repcat1:ucrarr_20042009]
totad_1990~9 |  -7.42e-07  _b[repcat1:totad_19902009]
     nics_a1 |  -4.93e-06  _b[repcat1:nics_a1]
 repcat1_inc |   .2961405  _b[repcat1:repcat1_inc]
       _cons |   -2.70994  _b[repcat1:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -1.567309  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   .2086059
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 2.0e+06 Prob>=chibar2 = 0.000
```


Repository: Felony Convictions (Category 1)
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
American Samoa
Northern Mariana Islands
Virgin Islands of the U.S.
Guam
Wyoming
District of Columbia
Alaska
Vermont
North Dakota
Delaware
South Dakota
Rhode Island
Hawaii
Montana
Maine
Idaho
New Hampshire
Nebraska
Louisiana
West Virginia
New Mexico
Utah
Nevada
Kansas
Arkansas
Mississippi
Iowa
Puerto Rico
Oklahoma
Kentucky
South Carolina
Connecticut
Alabama
Oregon
Minnesota
Virginia
Wisconsin
Washington
Indiana
Missouri
Maryland
Massachusetts
Colorado
Arizona
New Jersey
North Carolina
Illinois
Ohio
Georgia
Michigan
Pennsylvania
Tennessee
New York
Texas
Florida
California
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

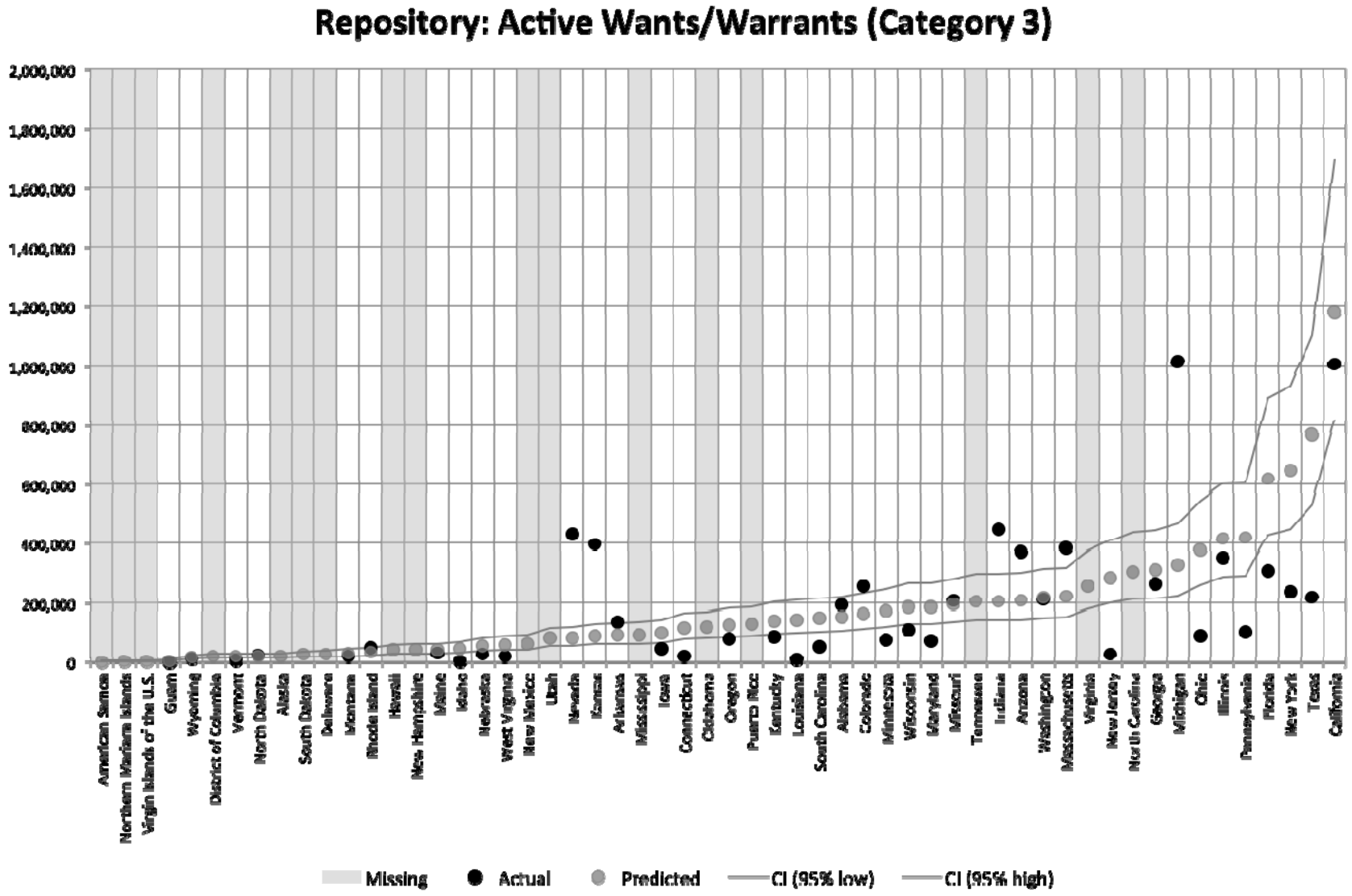
Repository Model: Active Indictments (Category 2)

```
      name:  repcat2
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/repcat2.log
  log type:  text
 opened on:  20 Nov 2011, 13:41:29
Multivariate NBReg (depvar repcat2)
                     begin with empty model
p = 0.0053 <  0.4000  adding  repcat2_ovr
p = 0.0906 <  0.4000  adding  nics_a2
p = 0.1958 <  0.4000  adding  tot_violent

Negative binomial regression                      Number of obs   =         20
                                                  LR chi2(3)      =       6.21
Dispersion     = mean                             Prob > chi2     =     0.1019
Log likelihood = -248.60301                       Pseudo R2       =     0.0123

------------------------------------------------------------------------------
     repcat2 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 repcat2_ovr |  -3.862184   1.223123    -3.16   0.002    -6.259461   -1.464906
     nics_a2 |   -2.30661   1.211385    -1.90   0.057     -4.68088    .0676609
 tot_violent |  -4.58e-07   3.54e-07    -1.29   0.196    -1.15e-06    2.36e-07
       _cons |  -2.964428   .4233846    -7.00   0.000    -3.794247   -2.134609
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |   .2935342   .2710573                     -.2377283    .8247966
-------------+----------------------------------------------------------------
       alpha |   1.341159   .3635309                      .7884168    2.281417
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 4.6e+06 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         20
                                                  LR chi2(3)      =       6.21
Dispersion     = mean                             Prob > chi2     =     0.1019
Log likelihood = -248.60301                       Pseudo R2       =     0.0123

------------------------------------------------------------------------------
     repcat2 |      Coef.  Legend
-------------+----------------------------------------------------------------
 repcat2_ovr |  -3.862184  _b[repcat2:repcat2_ovr]
     nics_a2 |   -2.30661  _b[repcat2:nics_a2]
 tot_violent |  -4.58e-07  _b[repcat2:tot_violent]
       _cons |  -2.964428  _b[repcat2:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |   .2935342  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   1.341159
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 4.6e+06 Prob>=chibar2 = 0.000
```


Repository: Active Indictments (Category 2)
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Virgin Islands of the U.S.
American Samoa
Northern Mariana Islands
Puerto Rico
Guam
Utah
North Carolina
Rhode Island
Nebraska
Wisconsin
Washington
Wyoming
District of Columbia
Vermont
Alaska
North Dakota
South Dakota
Delaware
Montana
Hawaii
New Hampshire
Maine
Idaho
New Mexico
West Virginia
Nevada
Kansas
Arkansas
Mississippi
Iowa
Oklahoma
Connecticut
Louisiana
South Carolina
Oregon
Alabama
Kentucky
California
Maryland
Colorado
Tennessee
Missouri
Minnesota
Massachusetts
Arizona
Indiana
Florida
Illinois
Michigan
New Jersey
New York
Georgia
Virginia
Texas
Ohio
Pennsylvania
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

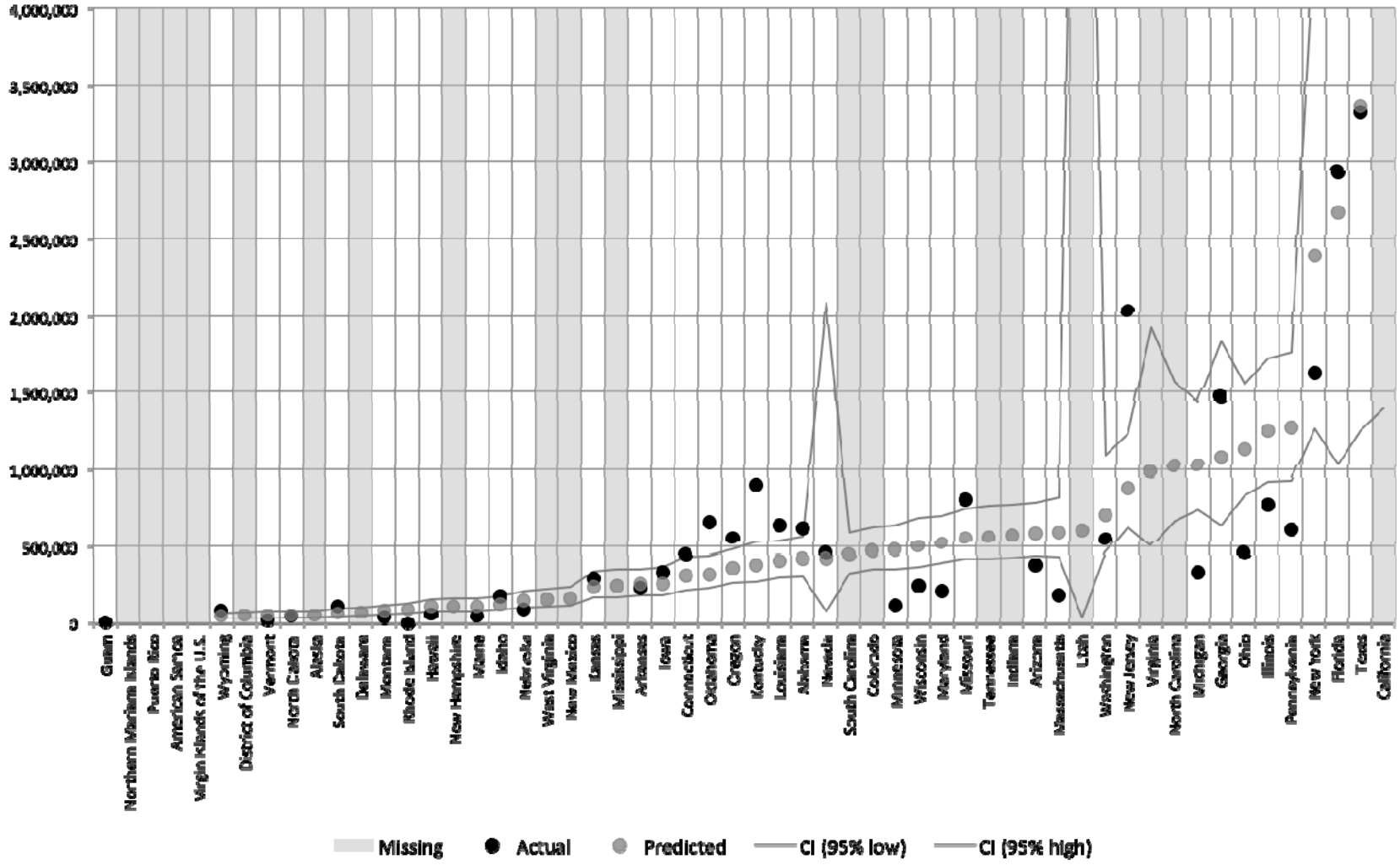
Repository Model: Active Wants/Warrants (Category 3)

```
      name:  repcat3
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/repcat3.log
  log type:  text
 opened on:  20 Nov 2011, 13:41:31
Multivariate NBReg (depvar repcat3)
                     begin with empty model
p >= 0.4000          for all terms in model

Negative binomial regression                      Number of obs   =         39
                                                  LR chi2(0)      =       0.00
Dispersion     = mean                             Prob > chi2     =          .
Log likelihood = -498.23731                       Pseudo R2       =     0.0000

------------------------------------------------------------------------------
     repcat3 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       _cons |  -3.150445   .1423942   -22.12   0.000    -3.429533   -2.871358
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.2347662   .2034249                     -.6334716    .1639393
-------------+----------------------------------------------------------------
       alpha |   .7907557   .1608594                       .530746    1.178143
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 5.5e+06 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         39
                                                  LR chi2(0)      =       0.00
Dispersion     = mean                             Prob > chi2     =          .
Log likelihood = -498.23731                       Pseudo R2       =     0.0000

------------------------------------------------------------------------------
     repcat3 |      Coef.  Legend
-------------+----------------------------------------------------------------
       _cons |  -3.150445  _b[repcat3:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.2347662  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   .7907557
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 5.5e+06 Prob>=chibar2 = 0.000
```


Repository: Active Wants/Warrants (Category 3)
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
American Samoa
Northern Mariana Islands
Virgin Islands of the U.S.
Guam
Wyoming
District of Columbia
Vermont
North Dakota
Alaska
South Dakota
Delaware
Montana
Rhode Island
Hawaii
New Hampshire
Maine
Idaho
Nebraska
West Virginia
New Mexico
Utah
Nevada
Kansas
Arkansas
Mississippi
Iowa
Connecticut
Oklahoma
Oregon
Puerto Rico
Kentucky
Louisiana
South Carolina
Alabama
Colorado
Minnesota
Wisconsin
Maryland
Missouri
Tennessee
Indiana
Arizona
Washington
Massachusetts
Virginia
New Jersey
North Carolina
Georgia
Michigan
Ohio
Illinois
Pennsylvania
Florida
New York
Texas
California
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

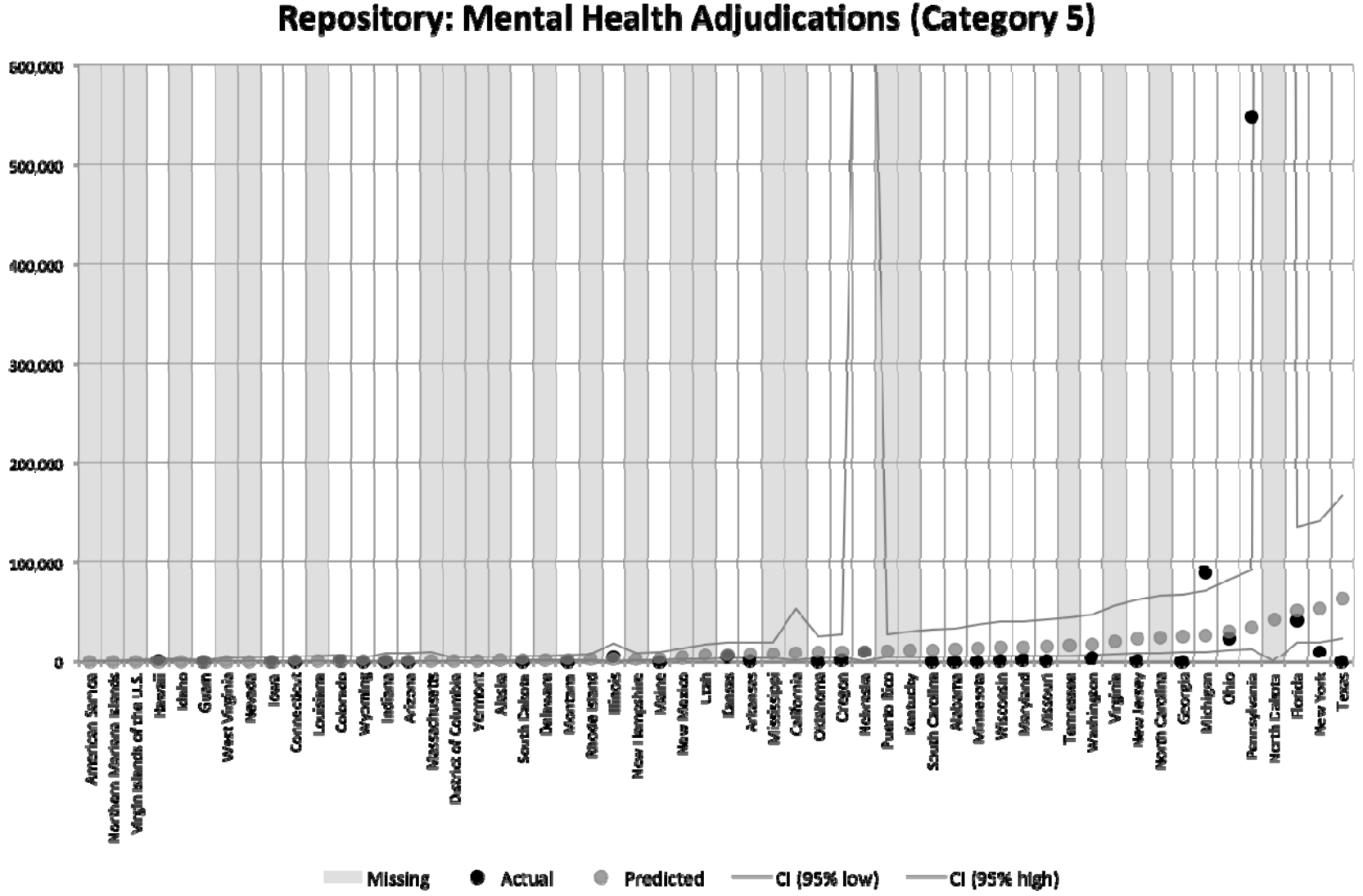
Repository Model: Unlawful Drug Use (Category 4)

```
      name:  repcat4
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/repcat4.log
  log type:  text
 opened on:  20 Nov 2011, 13:41:32
Multivariate NBReg (depvar repcat4)
                     begin with empty model
p = 0.2862 <  0.4000  adding  iii_state
p = 0.3409 <  0.4000  adding  nics_c

Negative binomial regression                      Number of obs   =         36
                                                  LR chi2(2)      =       2.30
Dispersion     = mean                             Prob > chi2     =     0.3160
Log likelihood = -491.75507                       Pseudo R2       =     0.0023

------------------------------------------------------------------------------
     repcat4 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
   iii_state |   1.12e-07   9.60e-08     1.17   0.242    -7.59e-08    3.00e-07
      nics_c |   .0096713   .0101543     0.95   0.341    -.0102307    .0295733
       _cons |   -2.20412   .1451416   -15.19   0.000    -2.488592   -1.919647
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |   -.812125   .2204931                     -1.244284   -.3799665
-------------+----------------------------------------------------------------
       alpha |   .4439138   .0978799                      .2881473    .6838843
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 6.2e+06 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         36
                                                  LR chi2(2)      =       2.30
Dispersion     = mean                             Prob > chi2     =     0.3160
Log likelihood = -491.75507                       Pseudo R2       =     0.0023

------------------------------------------------------------------------------
     repcat4 |      Coef.  Legend
-------------+----------------------------------------------------------------
   iii_state |   1.12e-07  _b[repcat4:iii_state]
      nics_c |   .0096713  _b[repcat4:nics_c]
       _cons |   -2.20412  _b[repcat4:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |   -.812125  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   .4439138
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 6.2e+06 Prob>=chibar2 = 0.000
```


Repository: Unlawful Drug Use (Category 4)
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Guam
Northern Mariana Islands
Puerto Rico
American Samoa
Virgin Islands of the U.S.
Wyoming
District of Columbia
Vermont
North Dakota
Alaska
South Dakota
Delaware
Montana
Rhode Island
Hawaii
New Hampshire
Maine
Idaho
Nebraska
West Virginia
New Mexico
Kansas
Mississippi
Arkansas
Iowa
Connecticut
Oklahoma
Oregon
Kentucky
Louisiana
Alabama
Nevada
South Carolina
Colorado
Minnesota
Wisconsin
Maryland
Missouri
Tennessee
Indiana
Arizona
Massachusetts
Utah
Washington
New Jersey
Virginia
North Carolina
Michigan
Georgia
Ohio
Illinois
Pennsylvania
New York
Florida
Texas
California
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

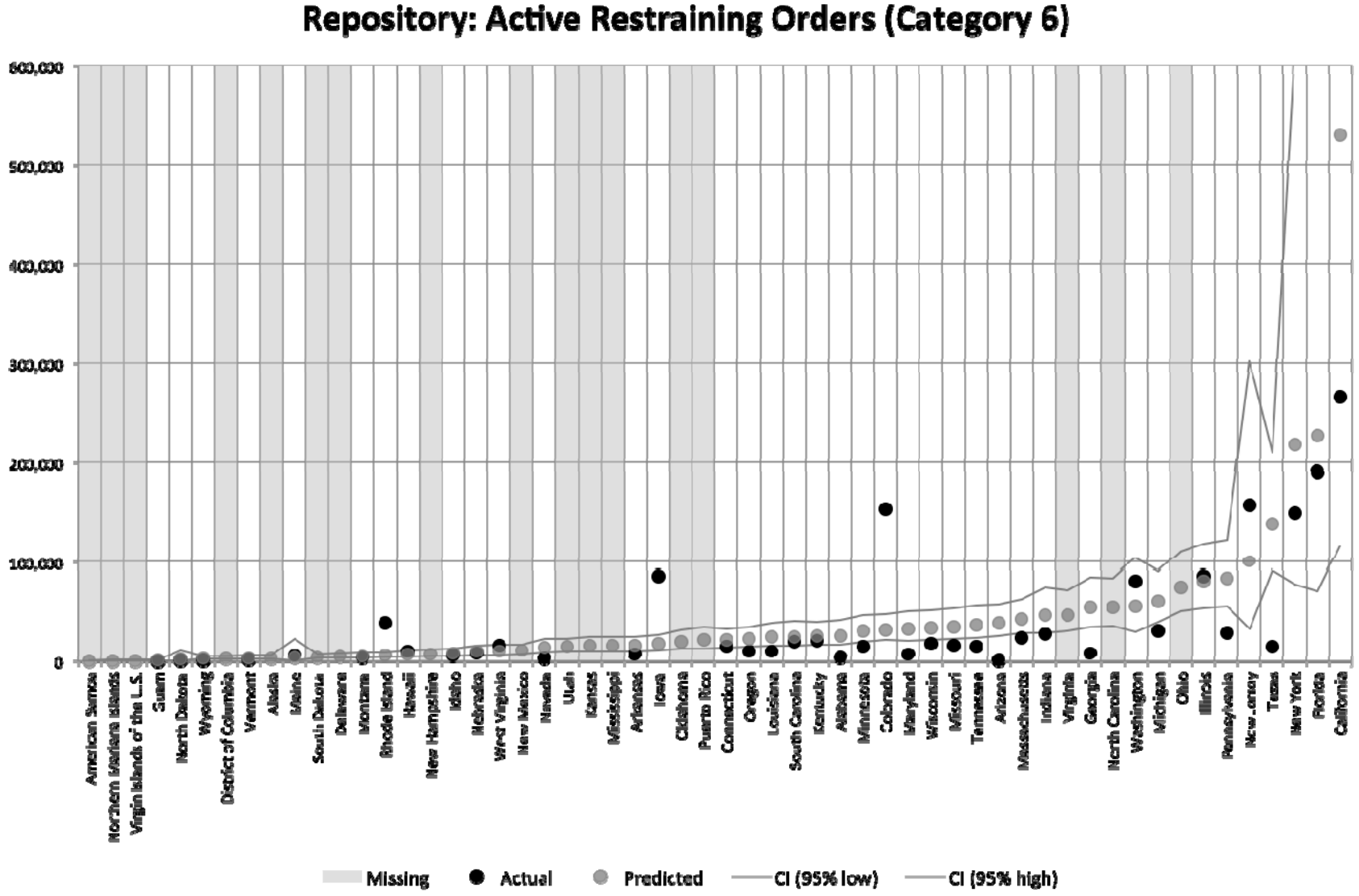
Repository Model: Mental Health Adjudications (Category 5)

```
      name:  repcat5
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/repcat5.log
  log type:  text
 opened on:  20 Nov 2011, 13:41:34
Multivariate NBReg (depvar repcat5)
                     begin with empty model
p = 0.1902 <  0.4000  adding  repcat5_inc
p = 0.1068 <  0.4000  adding  repcat5_ovr

Negative binomial regression                      Number of obs   =         32
                                                  LR chi2(2)      =       5.71
Dispersion     = mean                             Prob > chi2     =     0.0575
Log likelihood = -288.72398                       Pseudo R2       =     0.0098

------------------------------------------------------------------------------
     repcat5 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 repcat5_inc |  -2.382527   .7915175    -3.01   0.003    -3.933873   -.8311812
 repcat5_ovr |   3.176552    1.96952     1.61   0.107    -.6836356    7.03674
       _cons |  -5.636291   .3760506   -14.99   0.000    -6.373337   -4.899245
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |   1.221959   .2019614                      .8261217    1.617796
-------------+----------------------------------------------------------------
       alpha |   3.393829   .6854222                      2.284442    5.041964
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 2.4e+06 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         32
                                                  LR chi2(2)      =       5.71
Dispersion     = mean                             Prob > chi2     =     0.0575
Log likelihood = -288.72398                       Pseudo R2       =     0.0098

------------------------------------------------------------------------------
     repcat5 |      Coef.  Legend
-------------+----------------------------------------------------------------
 repcat5_inc |  -2.382527  _b[repcat5:repcat5_inc]
 repcat5_ovr |   3.176552  _b[repcat5:repcat5_ovr]
       _cons |  -5.636291  _b[repcat5:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |   1.221959  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   3.393829
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 2.4e+06 Prob>=chibar2 = 0.000
```


Repository: Mental Health Adjudications (Category 5)
600,000
500,000
400,000
300,000
200,000
100,000
0
American Samoa
Northern Mariana Islands
Virgin Islands of the U.S.
Hawaii
Idaho
Guam
West Virginia
Nevada
Iowa
Connecticut
Louisiana
Colorado
Wyoming
Indiana
Arizona
Massachusetts
District of Columbia
Vermont
Alaska
South Dakota
Delaware
Montana
Rhode Island
Illinois
New Hampshire
Maine
New Mexico
Utah
Kansas
Arkansas
Mississippi
California
Oklahoma
Oregon
Nebraska
Puerto Rico
Kentucky
South Carolina
Alabama
Minnesota
Wisconsin
Maryland
Missouri
Tennessee
Washington
Virginia
New Jersey
North Carolina
Georgia
Michigan
Ohio
Pennsylvania
North Dakota
Florida
New York
Texas
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

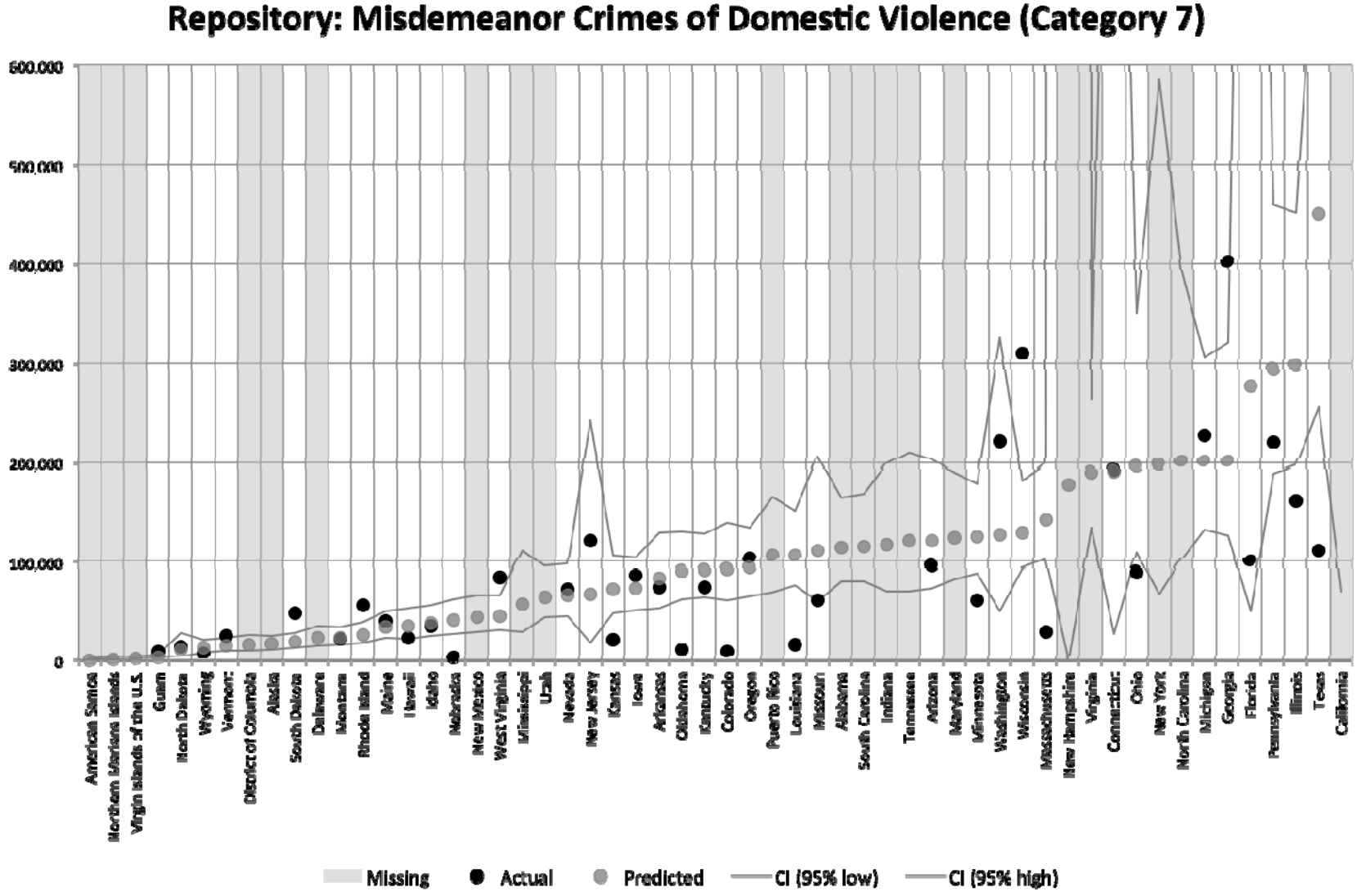
Repository Model: Active Restraining Orders (Category 6)

```
      name:  repcat6
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/repcat6.log
  log type:  text
 opened on:  20 Nov 2011, 13:41:35
Multivariate NBReg (depvar repcat6)
                     begin with empty model
p = 0.1226 <  0.4000  adding  ncic_h
p = 0.3810 <  0.4000  adding  repcat6_ovr

Negative binomial regression                      Number of obs   =         39
                                                  LR chi2(2)      =       3.41
Dispersion     = mean                             Prob > chi2     =     0.1815
Log likelihood = -432.36044                       Pseudo R2       =     0.0039

------------------------------------------------------------------------------
     repcat6 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      ncic_h |   4.68e-06   3.20e-06     1.46   0.144    -1.60e-06     .000011
 repcat6_ovr |  -.5978446   .6824261    -0.88   0.381    -1.935375    .7396859
       _cons |   -4.92893    .184968   -26.65   0.000    -5.291461     -4.5664
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.1422432    .201887                      -.5379345     .253448
-------------+----------------------------------------------------------------
       alpha |   .8674103   .1751188                       .5839532     1.28846
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 1.1e+06 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         39
                                                  LR chi2(2)      =       3.41
Dispersion     = mean                             Prob > chi2     =     0.1815
Log likelihood = -432.36044                       Pseudo R2       =     0.0039

------------------------------------------------------------------------------
     repcat6 |      Coef.  Legend
-------------+----------------------------------------------------------------
      ncic_h |   4.68e-06  _b[repcat6:ncic_h]
 repcat6_ovr |  -.5978446  _b[repcat6:repcat6_ovr]
       _cons |   -4.92893  _b[repcat6:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.1422432  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   .8674103
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 1.1e+06 Prob>=chibar2 = 0.000
```


Repository: Active Restraining Orders (Category 6)
600,000
500,000
400,000
300,000
200,000
100,000
0
American Samoa
Northern Mariana Islands
Virgin Islands of the U.S.
Guam
North Dakota
Wyoming
District of Columbia
Vermont
Alaska
Maine
South Dakota
Delaware
Montana
Rhode Island
Hawaii
New Hampshire
Idaho
Nebraska
West Virginia
New Mexico
Nevada
Utah
Kansas
Mississippi
Arkansas
Iowa
Oklahoma
Puerto Rico
Connecticut
Oregon
Louisiana
South Carolina
Kentucky
Alabama
Minnesota
Colorado
Maryland
Wisconsin
Missouri
Tennessee
Arizona
Massachusetts
Indiana
Virginia
Georgia
North Carolina
Washington
Michigan
Ohio
Illinois
Pennsylvania
New Jersey
Texas
New York
Florida
California
Missing
Actual
Predicted
CI (95% low)
CI (95% high)

Repository Model: Misdemeanor Crimes of Domestic Violence (Category 7)

```
      name:  repcat7
       log:  ~/ANALYSIS/NCSC/PGMS_YR2/OUTS/repcat7.log
  log type:  text
 opened on:  20 Nov 2011, 13:41:37
Multivariate NBReg (depvar repcat7)
                     begin with empty model
p = 0.0662 <  0.4000  adding  ucrdva_20042009
p = 0.2733 <  0.4000  adding  nics_i
p = 0.3390 <  0.4000  adding  ncic_h

Negative binomial regression                      Number of obs   =         36
                                                  LR chi2(3)      =       5.15
Dispersion     = mean                             Prob > chi2     =     0.1615
Log likelihood = -436.61938                       Pseudo R2       =     0.0059

------------------------------------------------------------------------------
     repcat7 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
ucrdva_200~9 |  -.0000144   .0000143    -1.01   0.315    -.0000424    .0000137
      nics_i |   .0001345   .0001175     1.14   0.252    -.0000958    .0003648
      ncic_h |  -3.74e-06   3.92e-06    -0.96   0.339    -.0000114    3.93e-06
       _cons |  -3.330173   .1679722   -19.83   0.000    -3.659392   -3.000953
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.5711235   .2171529                     -.9967354   -.1455116
-------------+----------------------------------------------------------------
       alpha |   .5648904   .1226676                      .3690824    .8645798
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 1.7e+06 Prob>=chibar2 = 0.000

Negative binomial regression                      Number of obs   =         36
                                                  LR chi2(3)      =       5.15
Dispersion     = mean                             Prob > chi2     =     0.1615
Log likelihood = -436.61938                       Pseudo R2       =     0.0059

------------------------------------------------------------------------------
     repcat7 |      Coef.  Legend
-------------+----------------------------------------------------------------
ucrdva_200~9 |  -.0000144  _b[repcat7:ucrdva_20042009]
      nics_i |   .0001345  _b[repcat7:nics_i]
      ncic_h |  -3.74e-06  _b[repcat7:ncic_h]
       _cons |  -3.330173  _b[repcat7:_cons]
  adultpop_0 | (exposure)
-------------+----------------------------------------------------------------
    /lnalpha |  -.5711235  _b[lnalpha:_cons]
-------------+----------------------------------------------------------------
       alpha |   .5648904
------------------------------------------------------------------------------
Likelihood-ratio test of alpha=0:  chibar2(01) = 1.7e+06 Prob>=chibar2 = 0.000
```


Repository: Misdemeanor Crimes of Domestic Violence (Category 7)
600,000
500,000
400,000
300,000
200,000
100,000
0
American Samoa
Northern Mariana Islands
Virgin Islands of the U.S.
Guam
North Dakota
Wyoming
Vermont
District of Columbia
Alaska
South Dakota
Delaware
Montana
Rhode Island
Maine
Hawaii
Idaho
Nebraska
New Mexico
West Virginia
Mississippi
Utah
Nevada
New Jersey
Kansas
Iowa
Arkansas
Oklahoma
Kentucky
Colorado
Oregon
Puerto Rico
Louisiana
Missouri
Alabama
South Carolina
Indiana
Tennessee
Arizona
Maryland
Minnesota
Washington
Wisconsin
Massachusetts
New Hampshire
Virginia
Connecticut
Ohio
New York
North Carolina
Michigan
Georgia
Florida
Pennsylvania
Illinois
Texas
California
Missing
Actual
Predicted
CI (95% low)
CI (95% high)