B.　　**Collection of Information Employing Statistical Methods**

1.　　<u>Universe and Respondent Selection</u>

1.1 Facility Sample Frame

The facility frame for the NIS-4 Jails is based on the 2019 Census of Jails file. U.S. Immigration and Customs Enforcement (ICE), tribal, and military facilities, and those in Alaska and Hawaii are not included. Facilities with five or fewer inmates are also excluded due to confidentiality and cost concerns. The frame incorporates facility-level information on variables such as number of confined and non-confined inmates, number of inmates by sex and adult or juvenile status, and average daily population.

The use of a two-stage sampling process allows for nationally representative and facility-level estimates. The first-stage jails sample will be nationally representative and selected with Probability Proportionate to Size (PPS). The target sample size is 290 jails (after nonresponse). The sample design will be a 'Root 0.9 Design': assigning probabilities proportional to the nine-tenths root of inmate size (with Daily Population on the last day of June or a proxy for that, as given on the 2019 Census of Jails). The second-stage sample will be of inmates (age 16 and older) within each sampled facility. Female inmates will be sampled at a 35% higher level to allow for a meaningful analysis by gender. Eligible inmates of a particular gender within a particular facility will have an equal chance of selection. Finite population corrections will be used at the first stage and second stage; this will reduce the measured variance of the estimates and could allow for a slightly smaller final jail sample size.

The initial measure of size is proportional to the jail measure of size for most jails and is proportional to 1.35 times the jail measure of size for "majority-women" jails (jails with 50% or more women). Table 1 presents the 47 jails on the preliminary frame, which are "majority-women" and have received measures of size enhanced by 35%. The aggregated expected sample size is based on the final expected measure of size, including adjustments for states and large counties (see below). These numbers are reasonable approximations of the final frame.

Table 1. Jail frame counts and expected measure of size by majority-women status

Jails by women-majority status	Number of jails	Expected (final) sample size
Non-women majority	2,843	285.8
Majority women	47	4.2
Total	2,890	290

The universe for the NIS comprises 2,890 facilities and 733,871 inmates, after excluding facilities with less than 6 inmates. Two target populations are of interest: (1) all adult inmates held in jails, and (2) all inmates 16 years old or older held in jails. Inmates younger than 16 are ineligible for the NIS.

1.2 Jail Sample

Sample Sizes. Expected measures of size proportional to jail measures of size (with adjustment in women-majority jails) will be rescaled to aggregate to 290 (the final target sample of jails). The measures of size of jails in small states will be increased so that each state with a jail will have at least one jail selected. These states include Maine, North Dakota, New Hampshire, South Dakota, and Wyoming. The one jail in the District of Columbia will be selected with certainty.

Stratification. A primary implicit stratifier is jail size. Table 2 presents one definition of a jail-size stratum, the number of jails in each class, and the aggregated measures of size, which are initially proportionate to the total number of inmates, but then this measure of size is adjusted for considerations discussed in the previous section.

Table 2. Jail-size strata with measures of size

Jail-size stratum	Number of frame jails	Jails total inmates	Jails aggregate adjusted measure of size	Jails expected sample size	Jails sampling rate
2950+	11	44,770	14,907	10.4	94.1%
2500 to 2949	6	16,083	7,303	5.3	88.2%
1000 to 2499	120	175,878	85,194	61.7	51.4%
500 to 999	264	186,724	96,858	70.2	26.6%
250 to 499	392	137,719	76,760	55.9	14.3%
175 to 249	263	54,426	32,039	23.4	8.9%
140 to 174	177	27,564	16,635	12.3	6.9%
100 to 139	270	32,109	21,767	15.9	5.9%
50 to 99	533	38,366	30,116	22.0	4.1%
6 to 49	854	20,232	17,598	12.9	1.5%
Total	2,890	733,871	399,177	290	

A second implicit stratifier is geography: Census region and state. In addition, states are stratified within Census region by small-state status. This guarantees every state with jails (except AK and HI[1]) will have at least one jail sampled.

A third implicit stratifier is public/private status. This information is embedded in an identification number in the 2019 Census frame.

A fourth implicit stratifier is majority women jails (see Table 1 above).

The hierarchical sort order is given below. The small-state strata within each census region (though the South does not have small states) have states within them as the primary sort variable to guarantee that there is one jail sampled from each of these states. Within the regular state stratum, single state strata are not strictly needed to assure at least

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[1] These two states are excluded from the universe.

one jail is in the sample for each state, so single state strata can be much lower on the stratification hierarchy.

- ❖ Census Region (Northeast, Central, South, West);
  - ➢ Small States (those with expected sample size 1);
    - ▪ State;
      - • County;
        - ◆ Jurisdiction;
          - ➢ Measure of Size;
  - ➢ Large Jurisdictions (those with expected sample size 1 greater than or equal to 1);
    - ▪ State;
      - • County;
        - ◆ Jurisdiction;
          - ➢ Measure of Size;
  - ➢ Regular States (all other states and smaller jurisdictions);
    - ▪ Jail Size;
      - • Majority or Non/Majority Women Jails;
        - ◆ Public/Private Status;
          - ➢ State;
            - ▪ County;
              - • Jurisdiction;
                - ◆ Measure of Size;

The aggregate measures of size for counties/jurisdictions with large aggregate expected sample sizes will be adjusted. The largest is Los Angeles County, CA, with a percentage of the aggregate measure (before small state or large jurisdiction adjustment) of 1.76%. This is reduced so that the final aggregated expected number of facilities is 4.0 (1.38% of the 290), and exactly four jails will be taken in this jurisdiction. There are four jurisdictions with aggregate percentages for the unadjusted measure between 0.73% and 0.99% (Harris County TX, San Diego County, CA, Maricopa County, AZ, New York City), and these are adjusted to give a final aggregate expected number of facilities between 2.0 and 3.0 (0.69% and 1.03% of 290); either two or three jails will be taken in these jurisdictions. There are 11 jurisdictions with aggregate percentages of the unadjusted measure between 0.35% and 0.67%, and after adjustment, these have a final expected number of facilities between 1.0 and 2.0 (0.345% and 0.69% of 290 respectively), and either one or two jails[2] will be taken in these jurisdictions.

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[2] These nine jurisdictions will not have zero jails or more than two jails taken.

Following all of these reductions and augmentations of measures of size, the remaining jails will be adjusted so that the overall sample size is 290.

Reserve Sample. A primary sample of 290 jails will be drawn using the implicit stratification plan, as described in the previous section. In addition, a paired reserve sample of equal size will be taken, which can be drawn upon when the primary sample jails are not eligible or do not respond (a substitution system for drawing on the reserve sample will be set up as it is needed). The reserve sample can be drawn simply by using a "complementary" random start (i.e., if the random start X is between 0 and 0.5, the complementary random start Y is X+0.5. If X is between 0.5 and 1, Y is X-0.5). Sampled jails with probabilities higher than 0.5 are their own reserves, so there is no reserve for these 15 jails.

1.3 Inmate Sample

The universe for inmate sampling within each sampled jail consists of all arraigned inmates age 16 or older enrolled in the facility during the assigned week of data collection for the facility. An initial list of inmates will be obtained from the facility shortly before the week of data collection (either electronically or by paper). The sample will be a stratified simple random sample from this inmate universe, with strata defined by gender to implement female inmate oversampling.

Due to delays in the data collection, inflation concerns, and uncertainty in the final budget, BJS is prepared to decrease the sample if needed. In compliance with PREA, in all scenarios, the first-stage jails sample size remains fixed at 290, as well as the first-stage design. A reduced budget scenario would consequently require a reduction in the inmate sampling rate. BJS anticipates achieving the reductions in inmate sample size by proportionally reducing the inmate sample sizes for sampled jails for certain jail-size strata. BJS will optimize the design when a final budget is confirmed and a final inmate sample size is fixed. Table 3 shows upper and lower bounds for the sampling. The burden estimates are based on the upper bounds.

Table 3. Proposed sample design

Jail-size stratum	Frame count	Expected jails sample size	Total inmates	Second-stage sample rate (stratum lower bound)	Second-stage sample rate (stratum upper bound)	Total sampled inmates	Mean sampled inmates per sampled jail	Percent inmates sampled
2,950+	11	10.4	44,770	10.51%	10.51%	4,432	428.0	9.90%
2,500 to 2,949	6	5.3	16,083	10.73%	12.09%	1,625	307.0	10.11%
1,000 to 2,499	120	61.7	175,878	12.38%	27.76%	17,873	289.9	10.16%
500 to 999	264	70.2	186,724	27.84%	51.72%	18,904	269.2	10.12%
250 to 499	392	55.9	137,719	52.04%	80.00%	13,941	249.2	10.12%
175 to 249	263	23.4	54,426	80.00%	80.00%	3,913	167.2	7.19%
140 to 174	177	12.3	27,564	80.00%	80.00%	1,534	125.2	5.56%
100 to 139	270	15.9	32,109	80.00%	80.00%	1,518	95.4	4.73%
50 to 99	533	22.0	38,366	80.00%	80.00%	1,313	59.6	3.42%
6 to 49	854	12.9	20,232	80.00%	80.00%	308	23.8	1.52%
Total	2,890	290.0	733,871			65,360	225.4	

Precision. Table 3 summarizes the proposed sample design. Stratification will be by jail-size stratum (ten strata), with expected sample sizes based on ADP aggregate measure of size (the sampling rate for the largest-jail-size stratum is 94.1%, for the smallest-jail-size stratum is 1.5%). Expected jail sizes are given, as well as number of sampled inmates per sampled jail. A total of 290 jails and about 65,360 inmates are projected to be sampled. Of these, 95% of the inmate respondents will be sampled for the sexual victimization questionnaire. Based on the NIS-3, a 62% inmate response rate is assumed. Therefore, an expected 38,497 (65,360*.95*.62) inmates will respond to the sexual victimization survey.

To compute the precision of this sample design for sexual victimization prevalence estimates, the additional assumptions in Table 4 are made. The weighted mean across jails of jail victimization prevalence in NIS-3 was 3.2%. The standard deviation for prevalence across sampled jails in NIS-3 was 2.0% (a variance of 0.04%), which can be used as an estimate of a between-jails variance component. The within-jail variance component is 3.1% (0.032*(1-0.032)), the Bernoulli variance.

Table 4. Mean and variance across NIS-3 jails for victimization prevalence

Weighted Mean of Jail Victimization Rates	3.2%
Standard Deviation of Jail Victimization Rates	2.0%
Between-Jail Variance Component	0.04%
Within-Jail Variance Component	3.1%

With these assumed design effects and assuming that appropriate finite population corrections are used in the variance calculations for the NIS-4 jails survey, there is a final stratified variance of 0.0002%, a standard error of 0.14% for the sample percentage of 3.2% (a coefficient of variation of 4.39%). This corresponds to an effective sample size of 15,713 inmates. With the nominal sample size of 38,497 inmates, this is a design effect of 2.45.

In the NIS-3 Methodology Report, it was assumed that 10% of the interviews would not be sexual victimization interviews to preserve confidentiality, but for NIS-4, the plan is to allocate 5% of the interviews as non-sexual victimization interviews.[3] Table 5 shows some representative outcomes for five jail sizes. For jails with up to 300 inmates, 80% of the inmates are sampled, so that the sample sizes increase with jail size, and the precision levels improve. For jails larger than 300 inmates, the sample sizes increase only gradually. The standard error calculations include an assumed design effect for weighting and a finite population correction equal to one minus the interview count divided by the jail size (the final sampling rate)[4]. In most cases, the coefficient of variation is less than 50% for facility-level estimates, but this will not be true for the smallest sampled jails.

Table 5. Jail inmate sample precision

Jail inmate count	200	300	390	750	2500
Jail inmate sampling rate	80%	80%	65%	36%	12%
Jail inmate sample size	160	240	253	270	305
Assumed response rate	62%	62%	62%	62%	62%
Total jail inmate interviews	99	149	157	168	189
Percent given sexual victimization instrument	95%	95%	95%	95%	95%
Jail inmate sexual victimization interview total	94	141	149	159	180
Jails prevalence rate	3.2%	3.2%	3.2%	3.2%	3.2%
Design effect from weighting	1.1	1.1	1.1	1.1	1.1
Finite population correction	52.9%	52.9%	61.8%	78.8%	92.8%
Standard error	1.383%	1.129%	1.188%	1.299%	1.327%
Coefficient of variation	46.1%	37.6%	39.6%	43.3%	44.2%

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[3] This will minimize data collection costs while still providing 2000+ completed surveys for the alternative questionnaire (sufficient data for analysis of these questionnaires). The NIS-4 Prisons study also will allocate 5% of the interviews as non-sexual victimization interviews.

[4] The standard error is $\sqrt{\dfrac{p*(1-p)*DEFF}{n}}*(1-f)$, with p the population prevalence, n the final sample size, DEFF a design effect, and f the final sampling rate.

2.   Procedures for Information Collection

Data collection procedures include computerized interviewer-administered interviews, Audio Computer-Assisted Self-Interviews, and paper and pencil surveys.

The methods proposed for use in data collection are as follows:

a. **Received Approval from Westat's IRB**
Westat's IRB approved the NIS-4J questionnaire, consent form, and protocols for implementation on 1/13/2022. Continuing approval was provided on 3/3/2022. Approval documents are attached to this package.

b. **Recruitment of Jail Administrators**
BJS received OMB approval through a generic clearance (OMB 1121-0339) to make initial contact with the 290 jail facilities. The OMB generic clearance will cover the following activities:

- Each sampled facility will receive a written letter from BJS that informs the facility of their selection to participate in the National Inmate Survey. This letter will include an invitation to view a pre-recorded informational webinar.
- Approximately 1 week after mailing the letter, Westat, on behalf of BJS, will contact each facility by email and phone to (1) obtain updated contact information of the jail administrator, (2) provide the webinar link and sign-in information, and (3) obtain an updated post-pandemic count of the inmate population.
- BJS and Westat will jointly record a webinar that presents an overview of the NIS-4J, its importance and value, and the role of the participating facilities.
- Approximately 1 week after the webinar, each administrator of the 290 jails will receive an email notifying them that Westat will contact them over the upcoming months to discuss arrangements for participating in the NIS-4J study.

Full OMB clearance will cover all subsequent recruitment and data collection contacts between Westat and the sampled jail facilities. These will begin with a request for the administrator to establish a Facility Coordinator who will work with Westat to determine jail-specific protocols, logistics, and scheduling, as presented below.

c. Facility Recruitment
A sample of 290 jails will be selected from a frame of jails. Each sampled facility will be contacted to solicit participation. A contact person will be designated at each facility. The Westat Field Enrollment Specialist will work directly with each sampled facility to solicit participation and a contact person (Facility Coordinator) will be identified at each prison. Working with this

individual, the Westat Field Enrollment Specialist will finalize details for data collection, including submission of background check forms for the interviewers, identifying appropriate space for interviewing, need for bilingual interviewers, format of the roster which will be used to draw the sample of inmates, number of days and hours of each day when interviewing can be conducted, specific rules regarding items that may be brought into the jail, and instructions for arriving at the facility. Based on prior cycles of NIS, data collection visits to each jail facility will begin on Monday and conclude by Friday of the same week. BJS anticipates that fewer than ten jails will request visits that encompass weekend days, and the project team will accommodate their schedules as needed. All logistical details will be provided to Facility Coordinators in a Facility Enrollment Materials packet, which also contains a description of the Roles and Responsibilities of the facility and Westat.

b. Sampling of Inmates
Within one week prior to data collection at a facility, the facility will provide a roster of all arraigned inmates age 18 and older (age 16 older if consent is granted by the facility on behalf of parents of minors) who are currently incarcerated there. A random sample of inmates will be drawn from the roster.

c. Data Collection
A team of interviewers will visit the facility. They will ask correctional officers to bring each sampled inmate to a private interviewing area. The interviewer will read a consent form to the sampled inmate and ask a series of follow-up questions to ensure comprehension. If the inmate consents, the interviewer will begin administering a brief set of demographic questions that includes age, date of admission, and housing assignment. The interviewer will then give the inmate a brief tutorial on answering questions on the touch screen tablet and allow the inmate to answer the more sensitive questions in complete privacy. To allow inmates with reading difficulties to participate, the inmate will wear a set of headphones and hear the questions being read as they appear on the screen. The inmate will enter a response by touching a button on the screen – no computer expertise is required. The program will randomly pick a series of questions to administer. Most inmates will get the series of questions about sexual assault. However, a portion of inmates will get an alternate series of questions. Only the inmate will know which series of questions were asked. At the end of the inmate section of the questionnaire, the inmate will turn the tablet back to the interviewer and return to the housing unit. The interviewer will then finish the process by answering a set of debriefing questions about the interview.

To determine if there is any bias introduced from nonresponse, administrative record data will be collected for all sampled inmates. This will allow researchers to compare demographic characteristics of responding inmates with those who did not participate.

3. Methods to Maximize Response

Administration

Response rate is of great importance for the NIS, particularly due to the requirement to rank facilities by prevalence of sexual victimization. The inmate response rate in the NIS-3 collection was 60% in jails. BJS received approval from OMB to offer incentives (cookies) for inmate participation in permitting jurisdictions prior to implementation of the second data collection. Response rates were significantly higher in facilities allowing the use of incentives (see table in Part A, Section 9). When approved by facility administrators, this survey will offer cookies or metered first-class mail envelopes as inmate incentives. If approved for a snack, inmates will be required to consume it prior to leaving the interviewing area, so it cannot be used as "currency" later. The interviewer will collect all trash and dispose of it according to facility procedures.

Every effort is being made to make the survey materials clear and simple to use. The confidential nature of the data collected is clearly explained in the consent process and followed by several questions to verify respondent comprehension.

The NIS questionnaire has been designed to maximize respondent comprehension and participation and minimize burden. Some examples include an easy-to-use touch-screen interface with the questions simultaneously delivered via headphones. A Spanish version of the questionnaire will be available for non-English, Spanish-speaking respondents. Field staff will be available to answer any questions that respondents may have, including bilingual staff who can answer questions in Spanish. Arrangements with mental health staff at each facility, or if needed, an on-call or some other arrangement, will be made for delivery of counseling services for respondents interested in obtaining counseling services or assistance following the survey.

Some inmates will not be able to come to a common interviewing area to participate in the study. For inmates who are unable to leave their housing areas (e.g., in administrative segregation or a medical unit), we will use the abbreviated PAPI questionnaire. The Westat Team Lead will work with the facility to identify a location where the PAPI questionnaire can be administered. No name will be recorded on the questionnaire, and at no time will the interviewer allow facility staff to handle completed questionnaires.

Nonresponse Adjustments

With almost any survey, some of the selected subjects will not respond to the survey request (i.e., unit nonresponse)[5] and some will not respond to particular questions (i.e., item nonresponse). Weighting will be used to adjust for unit nonresponse in NIS-4J. weights created will allow for the analysis of the cross-section sample of inmates, including those in the self-representing jurisdictions. In the event of unit

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[5] Here, a "unit" is a particular inmate.

nonresponse in the first stage, a ratio adjustment will be applied to the stratum weights to account for the nonrespondents. For nonresponse in the second stage, the non-response adjusted weights will be calculated within each facility using administrative data from the sampling rosters. The weights will be adjusted using calibration software, which adjusts weights using a propensity model and ensures weights for respondents sum to the weight of all eligible sampled inmates.

For unit nonresponse at the inmate stage, BJS will assess whether responding inmates are different from nonresponding inmates. We will examine the disposition codes among nonrespondents to determine if a particular type of inmate had significantly higher levels of nonresponse. Then, using the inmate characteristics we receive on the facility roster (i.e., age, gender, race and ethnicity, and conviction status), BJS will compare the distribution of respondents and nonrespondents by inmate characteristics. BJS will assess the level of potential nonresponse bias both before and after nonresponse adjustment and carry out statistical tests of weighted respondent vs. sample distributions to confirm the absence of a difference in the characteristics evaluated.

For item nonresponse, imputation is preferred, as it preserves a single record per case, allowing for multivariable analysis. For NIS-4J, BJS will use hot-deck imputation after modeling the missingness distributions. This approach works well for large and diverse variable sets while providing a flexible toolset for controlling the underlying missingness mechanisms.

Post-Collection Outreach

After collection, a thank you letter, which is not a part of the generic clearance for outreach, will be sent to thank the facilities (see Attachment I).

4.   Test of Procedures or Methods

The interview and data collection procedures will be tested in a pre-test study among jails with inmates prior to the full survey administration. Juveniles will be selected in the jails so that procedures for administering consent juveniles can be tested.

Timing data will be obtained for both series of questions. Based on the test findings, the burden estimate will be updated as needed. The field staff will participate in a telephone debriefing after data collection to report how data collection went and any issues that arose.

5.   <u>Consultation Information</u>

The Institutional Research and Special Projects Unit at BJS takes responsibility for the overall design and management of the activities described in this submission, including sampling procedures, development of the questionnaires, and the analysis of the data.

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