SUPPORTING STATEMENT – Part B

2018 Census of Medical Examiner and Coroner Offices (CMEC)

1. Universe and Respondent Selection

The universe for the **2018 Census of Medical Examiner and Coroner Offices (CMEC)** will be based on the frame that was successfully developed and employed in the 2004 CMEC combined with updated information from the Drug Enforcement Agency's (DEA) 2017 National Forensic Laboratory Information System (NFLIS) Medical Examiner and Coroner Office (OMB # 1117-0037) survey and a contact information verification effort to be conducted starting January 2019 (see below for discussion).

The universe is defined to include any office that conducts medicolegal death investigations (MDI) for the jurisdiction it serves. To be eligible for completion of the Census for Medical Examiner and Coroner Offices, the following must be positive for a medical examiner or coroner office: 1) it investigates to determine a final cause and manner of death; 2) it signs death certificates; and 3) it determines when autopsies should be performed, even if the autopsy is performed outside of the office in an external autopsy facility. Based on these criteria and in keeping with the definitions of the 2004 CMEC, Justice of the Peace offices, some of which do sign death certificates but do not conduct further medicolegal death investigation, will be excluded from the 2018 CMEC.

The initial frame for the 2004 CMEC was provided to BJS by the Centers for Disease Control and Prevention and updated by RTI through internet and professional association searches. In 2004, 2,062 medical examiner or coroner offices (MECs) were enumerated; the final frame excluded 64 offices in Louisiana due to Hurricane Katrina for a total of 1,998 offices. For the 2017 NFLIS data collection effort, 2,156 MECs were enumerated via internet searches, lists from the National Association of Medical Examiners (NAME), the International Association of Coroners and Medical Examiners (IAC&ME), and state MEC association directories. After the survey findings were reviewed, and using the same eligibility criteria as CMEC, 2,128 MECs were determined to be eligible for the NFLIS-MEC program after duplicate entries, independent autopsy facilities, and county coroners who were actually combined with another MEC office were eliminated from the frame. Based on these experiences, BJS estimates 2,200 offices may be contacted.

Based on an OMB generic clearance approval (1121-0339), RTI is in the process of conducting a frame verification effort. That effort includes telephone outreach to confirm or collect contact information of the 268 offices that were absolute nonresponders to the NFLIS survey and efforts to locate any offices that may have been missed in prior efforts. Those searches utilize professional lists such as those from NAME and IAC&ME and additional internet searches. It is anticipated that up to 50 new offices may be added to the frame based on the NFLIS project team's experience in post-data collection cleaning of the MEC universe. BJS estimates that as part of this verification effort, up to 325 MEC offices will be contacted.

The information gleaned from this effort will be combined to produce a current universe list of MECs. Any duplicates will be identified and removed by examining the file for identical or nearly identical addresses, phone numbers, or names of the coroner or chief medical examiner. From this verification effort and the 2,128 offices contacted for the NFLIS project, BJS is estimating up to 2,200 offices may be contacted for the CMEC.

The 2018 CMEC will be a census rather than a sample survey. The reasons for this decision include:

- The eligible population is approximately 2,200 agencies. Moving to a sample survey with a universe of this size will not result in significant cost savings given the stratification dimensions needed to capture critical aspects of the universe, such as size and jurisdictional characteristics. The MDI is such a well-known constellation of disparate agencies that it has been called a "patchwork" in the forensic professional, scientific, and popular literatures. The differences in MDI systems between, and in some cases within, states complicates efforts to create representative sampling strata. The form of the MDI system is determined at the state level, so any stratification would need to be done within states. In 2004, most states had county coroners responsible for medicolegal death investigation, but many states used either medical examiners or organized medicolegal death investigation at some other (municipal, regional, or state) level. Table 5 shows the number of these offices by type of medicolegal death investigator.

Table 5. Distribution of Medical Examiner and Coroner Office Type, 2004

	Coroner	Medical Examiner	Total
City	0	3	3
County	1,590	316	1,906
District or Region	29	35	64
State	0	24	24
Total	1,619	378	1,997

Any sample-based strategy would likely use the complete population in all these cells except for county coroner. By undertaking a census BJS retains the ability to make estimates across regions and across population served within any of the cells.

- A census provides BJS with the opportunity to show how MECs vary across and within states. Being able to compare MECs is particularly important considering the variability that exists among these organizations in terms of administration, caseload, policies, procedures, resources, staffing, and infrastructure. These differences were critical findings in the 2004 CMEC (Hickman, Hughes, Strom, & Ropero-Miller, 2007; https://www.bjs.gov/content/pub/pdf/meco04.pdf).

- A census provides an opportunity to build a foundation for conducting future surveys of MECs by other federal agencies. Completing the census, for example, will provide the information necessary to produce samples based on a more comprehensive and fuller understanding of how each MEC operates given the variability that exists within and

across states. Generating samples of MECs without this crucial information would be more time intensive and costly. A complete frame may be used for future research in studying only one type of office (either medical examiners or coroners) or drawing samples to support public health surveillance programs (such as the re-established Drug Abuse Warning Network (DAWN) from the Substance Abuse and Mental Health Services Administration).

- The small increase in effort to conduct a census over a sample will allow BJS to report subnational and state-level estimates on MECs in all 50 states and Washington DC.

2. Procedures for Collecting Information

CMEC will utilize a multi-mode data collection approach with web as the primary mode (see **Attachment 3** for example screenshots) and hard copy data collection as an alternative. CMEC will utilize mail, email, and telephone follow-up as needed. The data collection period is planned for approximately seven months and will involve initial invitations, several reminders, and an end-of-study letter. There will be data quality follow-up and non-response follow-up. To promote an efficient and cost effective data collection, the web-based submission method will be promoted over submitting printed copies of the questionnaire and initial mailing will not include a copy of the paper instrument, but rather instructions to complete the questionnaire online. Table 6 shows the 2018 CMEC contact schedule.

Table 6. 2018 CMEC Contact Schedule

Week	Contact description	Attachment(s)
0	Mailed pre-notification	6
2	Mailed survey invitation and endorsement letters	7, 22, 23
3	Email survey invitation and endorsement letters	8, 22, 23
6	Reminder 1 - mail and email	9, 10
8	Start telephone/email data quality follow-up; start telephone prompting for incomplete responders	16, 17
11	Reminder 2 - postcard reminder	11
14	Reminder 3 – email or letter	12, 13
17	Reminder 4 – letter with questionnaire and business reply envelope	14, 2
19	Start telephone and email non-response follow up	18
20	Reminder 5 – postcard reminder	15
22	End-of-study email/letter reminder	19, 20
Variable	Thank you letter	21

Pre-notification letter. The data collection period will open with a pre-notification letter (see **Attachment 6**), on BJS letterhead and signed by the BJS director, being sent to all MECs. The pre-notification letter highlights the importance of the 2018 CMEC and encourages participation. It also provides contact information that can be used to obtain additional information.

Invitation package and email message. Two weeks after the pre-notification letter is sent, RTI will mail an invitation package including a cover letter (**Attachment 7**) to the director or designee of all eligible MEC offices. This letter, signed by the BJS program manager, will include the survey web address, agency specific log-in credentials, and instructions to complete the web survey. The letter will stress the purpose and importance of CMEC and the need for participation. It will notify the recipient of the survey due date and provide RTI contacts for any questions or comments. This invitation package will include letters of support from both the National Association of Medical Examiners (NAME) (**Attachment 22**) and the International Association of Medical Examiners & Coroners (IAC&ME) (**Attachment 23**). Because this population has not been well-surveyed, it is not known what percentage of MECs will respond to the invitation package.

Within a week after the mailed invitation letter is sent, an email invitation (see **Attachment 8**) will be sent to those directors/designees for whom an email address is available. This invitation is closely aligned with the mailed invitation letter but contains a hyperlink to the web survey.

Mail and email reminders. Starting three weeks after the invitation package is sent, the project team will begin to send reminders to respondents alternating between mail and email to keep survey reminders fresh according to the following schedule—

- Week 6: Three weeks after the invitation package is sent, the project team will send the first reminder via letter to nonrespondents for whom it has no email address (**Attachment 9**). Respondents for whom the project teams has an email will also receive a reminder via email (**Attachment 10**).
- Week 11: Five weeks after the first reminder, the project team will mail a second reminder via postcard (**Attachment 11**).
- Week 14: Three weeks after the second reminder, the project team will send a third reminder via email (**Attachment 12**) or via letter (**Attachment 13**) for those offices for which it does not have an email address.
- Week 17: Three weeks after the third reminder, the project team will send the fourth reminder via letter (**Attachment 14**) including the questionnaire (**Attachment 2**) and a business reply envelope with which to return the completed form.
- Week 20: Three weeks after the fourth reminder, the project team will send the fifth reminder via postcard (**Attachment 15**).

Telephone and email data quality follow-up. Approximately 8 weeks after data collection begins, RTI will begin reviewing the data received. As data discrepancies or missing data values are discovered, RTI staff will follow up with respondents via telephone or email to clarify responses or obtain missing information (**Attachment 16**).

Telephone prompting for incomplete responses. Approximately 8 weeks into data collection, RTI will be begin telephone prompting for incomplete responders. As responders have the ability to break off from a survey and pause, this effort will be geared toward prompting respondents who have begun but did not complete their surveys (**Attachment 17**). These communications will also allow the project staff to assess whether respondents have any issues accessing and completing the survey. Responses will be considered incomplete if a form is partially completed, and remains incomplete for three weeks.

Telephone and nonresponse follow-up. Nineteen weeks into the data collection (two weeks after the fourth reminder), telephone follow-up with nonrespondents will begin (**Attachment 18**). Respondents will be reminded of the purpose and importance of the survey and informed of the goal of receiving a completed survey from each office. They will be asked to submit the survey online but will be sent another hard copy version of the survey if requested. Up to 10 calls will be made by RTI until surveys are received (or an office refuses to participate) and will reference the most recent communication (e.g., reminder letters, reminder emails, etc.). This effort will also be used to capture survey items deemed critical from non-responders.

Mail and email the end-of-study notification. In week 22 of the data collection (two weeks after the fifth reminder), RTI will send an end-of-study notification both via mail and email to notify nonrespondents that the study is coming to an end and that their response is needed within two weeks (**Attachments 19**, **20**). Data collection will continue for approximately three more weeks to allow for receipt of any remaining questionnaires.

Thank-you letters. Beginning two weeks after the invitation package is sent out, RTI will mail thank you letters to those respondents who have completed the survey (**Attachment 21**). These letters will thank them for the time and effort necessary to complete the survey and once again emphasize the importance of CMEC data. Mailings of thank you letters will continue until the survey ends and all responders have been mailed a letter.

Data Editing. As part of the data quality follow-up, RTI will attempt to reconcile missing or erroneous data through automated and manual edits of questionnaires within two weeks of completion. In collaboration with BJS, RTI will develop a set of edits that will use other data provided by the respondent on the survey instrument to confirm acceptable responses or identify possible errors due to missing or inconsistent data elements. For example, if a screening question was left blank, but the follow-up questions were completed, a manual edit would be made to indicate the intended positive response to the screening question. Through this process, RTI can quickly identify which hard copy questionnaires require follow-up and indicate the items that need clarification or retrieval from the respondent.

Data Retrieval. When errors due to missing or inconsistent data elements are found during data review and editing, attempts to verify or collect the correct information with the respondent will occur. When it is determined that data retrieval is needed, a project staff member will contact the respondent for clarification. Throughout the data retrieval process, RTI will document the questions needing retrieval (e.g. missing or inconsistent data elements) then request clarification on the provided information, obtain values for missing data elements, and discuss any other issues related to the respondent's submission.

Data Entry. Respondents completing the survey via the web instrument will enter their responses directly into the online instrument. The instrument will have quality control checks programmed in to enforce skip patterns and check for out-of-range values. For those respondents returning the survey via hardcopy (mail or fax), the survey responses will be hand keyed by trained and certified data entry personnel at RTI's Raleigh Operations Center (ROC). Twenty percent of these manually coded surveys will be entered a second time and have results

compared as a form of quality control. Additionally, supervisors will conduct random spot checks of all manually entered surveys. Any anomalies, inconsistencies, or unexpected values will be investigated and resolved. Throughout the remainder of the data collection period, RTI and BJS staff will conduct regular data frequency reviews to evaluate the quality and completeness of data captured in both the web and hard copy modes. Data files will be made available to BJS via an SFTP site when response rates reach 50%, 75%, and 90%.

3. Methods to Maximize Response Rates

The 2004 CMEC achieved an 86% response rate. BJS and RTI will undertake various activities to ensure that high response rates are again achieved for the 2018 CMEC. CMEC will use a web-based instrument supported by various online help functions to maximize response rates. A toll-free number will also be provided for both substantive and technical assistance. RTI staff will respond to these requests for assistance.

The survey instrument was reviewed to ensure the collection of the most pertinent information, removing any unnecessary questions to reduce burden. An item-level review of the 2004 CMEC was done to look for patterns of non-response (**Attachment 24**). When an item response rate was below 75%, or there was a 5% or greater percentage point difference between medical examiners and coroners, the item was flagged and discussed with the expert panel. Nineteen items from the 2004 CMEC met this criteria. Any items that were not dropped at the recommendation of the expert panel were revised and tested in cognitive interviews. The questionnaire was also reviewed for ease of use, flow, and additional survey methodology best practices to ensure ease in administration by expert panel reviewers and by BJS and RTI. BJS and RTI worked with a group of subject matter experts from MEC offices that varied in characteristics (type of office, size of office, and geographical location) to further clarify questions that could create confusion, eliminate questions that were not relevant to the field, and to revise questions that were out of date. Because MEC offices use differing vocabulary to describe similar procedures, additional directions and definitions have been added to those questions to provide a direct example of the information BJS is looking for.

BJS will encourage respondents to submit their information via the web survey. Close attention has been paid to the formatting of the web survey instrument. The survey is formatted in a user-friendly manner and in such a way that respondents can complete it on a computer or tablet, through various browsers (e.g. Internet Explorer, Firefox, and Google Chrome), and at various resolutions or screen sizes. The web survey saves respondents' answers automatically and gives them the option to save their progress, leave the survey and resume at a later time. Data will be checked as it is collected for completeness and logical consistency of responses. The online survey is programmed with data consistency checks and prompts to ensure logical consistency like enforcement of skip patterns and out-of-range responses. This will help reduce the need for data quality follow up calls following respondents' submission of the questionnaire. However, where information does appear to be incomplete or inconsistent RTI project staff will follow up with respondents via telephone (**Attachment 16**).

To encourage participation and obtain higher response rates, project staff will conduct outreach and follow-up procedures at various points during the data collection. This includes reminders to

take the survey (**Attachments 9–15**), data quality follow up (**Attachment 16**), survey completion prompting (**Attachment 17**), and nonresponse follow up calls (**Attachment 18**). Throughout the data collection, resources will be available to help respondents complete the survey. For technical help this includes telephone and email Help Desk support, and for overall questions or concerns with the survey, this includes providing respondents with BJS contacts. The non-response follow up script also includes prompts for nonresponders to provide items deemed critical for the CMEC to capture. These items are highlighted on the survey form (**Attachment 2**).

The 2004 CMEC enjoyed widespread support by the National Association of Medical Examiners and the International Association of Coroners and Medical Examiners, which were enlisted to help with the development of the questionnaire and to encourage individual offices to respond to the survey. This continues to be case for 2018 project, and these letters of support will be included in the survey invitation package (**Attachments 22**, **23**).

To promote 100% item completion by respondents, RTI will monitor item response rates as surveys are submitted. RTI has a survey management system linked to the web-based application that will flag missing items and invalid responses. RTI will also flag missing items on hard copy submissions on a flow basis. The data collection manager will oversee phone and email outreach to respondents to clarify missing or invalid responses and to take corrective action (**Attachment 16**). Changes to survey responses obtained through this follow-up effort will be tracked and entered in the data collection database.

As the 2018 CMEC is planned to be a complete census of coroners and medical examiners, sampling weights are not necessary. However, in the event unit response rates are lower than anticipated, some weighting of the data may be required. The extent of this step will depend on response rates within sub-groups of the respondent pool. Response rates within jurisdiction size grouping, public health region of the country, and office type will be reviewed to determine if a weighting adjustment is necessary. To ensure that nonresponding agencies are not different than those that participate, a nonresponse bias analysis will be conducted if the unit response rate falls below 80 percent. Administrative data on the type of office, state in which the office is located, and population served will be used in the nonresponse bias analysis.

Imputation procedures will be used to address issues of item nonresponse. Given the age of the most recent CMEC, cold-deck imputation is not a plausible solution for item nonresponse in this instance. If item nonresponse overlaps with the NFLIS data elements, then the responses offices provided for NFLIS may offer a basis for imputation. As needed, BJS will consider hot-deck and multiple imputation methods, flagging observations and values that were imputed in the archived dataset.

4. Testing of Procedures

The proposed new questions in the 2018 CMEC data collection instrument and the revisions made to those retained from 2004 were reviewed by BJS and RTI staff, suggested and discussed by the Expert Panelists, and cognitively tested.

BJS and RTI cognitively tested the instrument with 14 offices (7 medical examiners and 7 coroners) of 18 initially selected. Offices varied by geographic region, size, and population served. To conduct the cognitive interviews, RTI talked with respondents via telephone for about two hours while respondents read through the questionnaire item by item. Each item had at least one probing question the RTI interviewer would ask the respondent to assess clarity and ease of answering the questions. The cognitive testing provided insight into whether respondents fully understood questions and provided expected answers, informed our phrasing and response options, and provided an estimate of the burden (**Attachment 25**). The instrument was modified to increase comprehension as a result of these interviews.

In addition, RTI and BJS will thoroughly test the web-based survey administration system through systematic user testing, including testing skip patterns, attempting to "break" the instrument, and back-end data checks on entered responses.

The 2018 CMEC will maintain similar respondent recruitment and support procedures as the 2004 CMEC administration, which was field tested and successfully employed. We expect that response rates for the 2018 CMEC will at a minimum match the 86% response rate set by the 2004 administration and potentially, achieve over a 95% response rate. RTI has previously utilized web-based survey instruments that are substantially similar to the format in design for the 2018 CMEC in recent Law Enforcement Management and Administrative Statistics (LEMAS) survey (OMB #1121-0240) and Census of State and Local Law Enforcement Agencies (CSLLEA) (OMB #1121-0346) administrations. The web-based survey administration procedures successfully employed in the LEMAS and CSLLEA survey designs have been substantially retained but modified as necessary to accommodate the 2018 CMEC instrument and respondents.

5. Contacts for Statistical Aspects and Data Collection

BJS Contacts

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Attachments:

1. 34 U.S.C. §10131–10132
2. 2018 CMEC questionnaire: Formatted paper instrument
3. 2018 CMEC questionnaire: Example screen shots of web instruments
4. 60-day Federal Register notice
5. 30-day Federal Register notice
6. Pre-notification letter
7. Survey invitation cover letter
8. Survey invitation email
9. 1st reminder – letter
10. 1st reminder – email
11. 2nd reminder – postcard
12. 3rd reminder – email
13. 3rd reminder – letter
14. 4th reminder – letter
15. 5th reminder – postcard
16. Data quality follow-up telephone script
17. Sample call script for telephone prompting calls
18. Sample call script for nonresponse telephone calls
19. End-of-Study letter
20. End-of-Study email
21. Thank you letter
22. Letter of Support: National Association of Medical Examiners
23. Letter of Support: International Association of Coroners & Medical Examiners
24. Data quality assessment of 2004 CMEC
25. Cognitive testing report