Request for Approval under the "Generic Clearance for Improving Customer Experience (OMB Circular A-11, Section 280 Implementation)" (OMB Control Number: 2900-0876)

TITLE OF INFORMATION COLLECTION: Long COVID Surveys

PURPOSE

Long COVID is a unique clinical use case with little and evolving evidence base to inform appropriate level of care and interventions to support struggling COVID survivors. Through efforts to-date, there have been multiple efforts to capture the experiences of Veterans Health Administration (VHA) clinicians, system and VAMC perspectives, as well as specific input from dedicated long COVID programs emerging across VHA. There is a need to also capture Veteran perspectives to bring in broad Veteran perspective to inform VA Long COVID operational and clinical efforts.

DESCRIPTION OF RESPONDENTS:

VEO proposes to conduct **3 brief surveys** using an online survey disseminated via an invitation email sent to selected beneficiary in three distinct cohorts:

1. **Cohort 1**: General Veteran Population that does not have indication in their health record of having had COVID
2. **Cohort 2**: Veterans that have an indication in their health records of having had COVID but not of having Long COVID
3. **Cohort 3**: Veterans that have an indication in their health records of having Long COVID

The three cohort design suites several purposes. First the design will allow VHA to assess the volume of Veteran's that have experienced COVID and Long COVID. The VHA only has accurate data for those that have sought care within the VA Health System. With home tests and vaccines available the prevalence of COVID is undercounted. Long COVID, furthermore, is underdiagnosed. The Long COVID survey will attempt to fill in this information gap to assess the volume of patients in need and to understand why some patients go undiagnosed. Second, the three-cohort design will allow VHA to assess the burden that Long Covid places on the Veteran population with control populations.

TYPE OF COLLECTION: (Check one)

[ ] Customer Comment Card/Complaint Form	[X] Customer Satisfaction Survey
[ ] Usability Testing (e.g., Website or Software	[ ] Small Discussion Group
[ ] Focus Group	[ ] Other:_____

CERTIFICATION:

I certify the following to be true:

1. The collection is voluntary.
2. The collection is low-burden for respondents and low-cost for the Federal Government.
3. The collection is non-controversial and does not raise issues of concern to other federal agencies.

4. Personally identifiable information (PII) is collected only to the extent necessary and is not retained.
5. Information gathered is intended to be used for general service improvement and program management purposes.
6. The collection is targeted to the solicitation of opinions from respondents who have experience with the program or may have experience with the program in the future.
7. All or a subset of information may be released as part of A-11, Section 280 requirements on performance.gov. Additionally, summaries of the data may be released to the public in communications to Congress, the media and other releases disseminated by VEO, consistent with the Information Quality Act.

- Name: Sergio Gazaryan, Enterprise Measurement Project Manager, Veterans Experience Office, VA (603) 203-3167

To assist review, please provide answers to the following question:

Personally Identifiable Information:

1. Will this survey use individualized links, through which VA can identify particular respondents even if they do not provide their name or other personally identifiable information on the survey? [X] Yes [] No
2. Is personally identifiable information (PII) collected? [ ] Yes [X] No
3. If Yes, will any information that is collected be included in records that are subject to the Privacy Act of 1974? [ ] Yes [ ] No [**N/A**]
4. If Yes, has an up-to-date System of Records Notice (SORN) been published? [ ] Yes [ ] No [**N/A**]

Gifts or Payments:

Is an incentive (e.g., money or reimbursement of expenses, token of appreciation) provided to participants? [ ] Yes [X] No

BURDEN HOURS

Category of Respondent	**No. of Respondents**	**Participation Time**	**Burden**
Cohort #1	7,347	5 minutes	612 hours
Cohort #2	7,347	5 minutes	612 hours

Cohort #3	7,347	5 minutes	612 hours
Totals	22,041	5 minutes (avg)	1837 hours

Please answer the following questions.

1. **Are you conducting a focus group, a survey that does not employ random sampling, user testing or any data collection method that does not employ statistical methods?**

   Yes X
   No __

   If Yes, please answer questions 1a-1c, 2 and 3.
   If No, please answer or attach supporting documentation that answers questions 2-8.

   a. Please provide a description of how you plan to identify your potential group of respondents and how you will select them.

      1. **Cohort 1**: General Veteran Population that does not have indication in their health record of having had COVID
      2. **Cohort 2**: Veterans that have an indication in their health records of having had COVID but not of having Long COVID
      3. **Cohort 3**: Veterans that have an indication in their health records of having Long COVID

   b. How will you collect the information? (Check all that apply)
   [X] Web-based or other forms of Social Media
   [ ] Telephone

   [ ] In-person

   [ ] Mail
   [X] Other- E-mail-based surveys

   c. Will interviewers or facilitators be used? [X] Yes [] No

2. Please provide an estimated annual cost to the Federal government to conduct this data collection: __$13,000_____

3. Please make sure that all instruments, instructions, and scripts are submitted with the request. This includes questionnaires, interviewer manuals (if using interviewers or facilitators), all response options for questions that require respondents to select a response from a group of options, invitations given to potential respondents,

instructions for completing the data collection or additional follow-up requests for the data collection.

- Done

4. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection methods to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.

    - Not applicable.

Category of Respondent	**No. of Respondents**
Individuals and Households	22,041annual
Totals	22,041annual

5. Describe the procedures for the collection of information, including:
    a. Statistical methodology for stratification and sample selection.
    b. Estimation procedure.
    c. Degree of accuracy needed for the purpose described in the justification.
    d. Unusual problems requiring specialized sampling procedures.
    e. Any use of periodic (less frequent than annual) data collection cycles to reduce burden.

    - Not applicable.

6. Describe methods to maximize response rates and to deal with issues of nonresponse. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.

    - Not applicable.

7. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of tests may be submitted for approval separately or in combination with the main collection of information.

    - Not applicable.

8. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractors, grantees, or other person(s) who will actually collect or analyze the information for the agency.

    - Collection and Analysis:
        - Evan Albert, Dir. of Measurement and Data Analytics, Veterans Experience Office, VA (202) 875-9478
        - Sergio Gazaryan, Enterprise Measurement Project Manager, Veterans Experience Office, VA (603) 203-3167
        - Marian Adley, Presidential Innovation Fellow, General Service Administration, (732) 278-4842

Long COVID Survey

Sampling Methodology Report

Prepared by

Veteran Experience Office

Version 1, January 2023

VETERANS EXPERIENCE OFFICE

Contents

Executive Summary

Long COVID is a unique clinical use case with little and evolving evidence base to inform appropriate level of care and interventions to support struggling COVID survivors. Through efforts to-date, there have been multiple efforts to capture the experiences of Veterans Health Administration (VHA) clinicians, system and VAMC perspectives, as well as specific input from dedicated long COVID programs emerging across VHA. There is a need to also capture Veteran perspectives to bring in broad Veteran perspective to inform VA Long COVID operational and clinical efforts.

Veterans experience data will be collected using an online survey disseminated via an invitation email sent to selected beneficiary in three distinct cohorts:

- Cohort 1: General Veteran Population that does not have indication in their health record of having had COVID
- Cohort 2: Veterans that have an indication in their health records of having had COVID but not of having Long COVID
- Cohort 3: Veterans that have an indication in their health records of having Long COVID

The three cohort design suites a number of purposes. First the design will allow VHA to assess the volume of Veteran's that have experienced COVID and Long COVID. The VHA only has accurate data for those that have sought care within the VA Health System. With home tests and vaccines available the prevalence of COVID is undercounted. Long COVID, furthermore, is underdiagnosed. The Long COVID survey will attempt to fill in this information gap to assess the volume of patients in need and to understand why some patients go undiagnosed. Second, the three-cohort design will allow VHA to assess the burden that Long Covid places on the Veteran population with control populations.

This report describes the methodology used to conduct the Long COVID Survey. Information about quality assurance protocols, as well as limitations of the survey methodology, is also included in this report.

Part I – Introduction

A. Background

The **Enterprise Measurement and Design** team (EMD) within the **Veterans Experience Office** (VEO) is tasked with conducting transactional surveys of the customer population to measure their satisfaction with the Department of Veterans Affairs (VA) numerous benefit services. Thus, their mission is to empower Veterans by rapidly and discreetly collecting feedback on their interactions with such VA entities as National Cemetery Administration (NCA), Veterans Health Administration (VHA), and Veterans Benefits Administration (VBA). VEO surveys generally entail *probability* samples which only contact minimal numbers of participants necessary to obtain reliable estimates. This information is subsequently used by internal stakeholders to monitor, evaluate, and improve beneficiary processes. Participants are always able to decline participation and can opt out of future invitations. A *quarantine* protocol is maintained to limit the number of times a customer may be contacted over a period of time across all VEO surveys, in order to prevent survey fatigue.

Surveys issued by EMD are generally brief in nature and present a low amount of burden to participants. Structured questions directly address the pertinent issues regarding each surveyed population The opportunity to volunteer open-ended text responses is provided within most surveys. This open text has been demonstrated to yield enormous information. Machine learning tools are used for text classification, ranking by sentiment scores, and screening for homelessness, depression, etc. Modern survey theory is used to create sample designs which are representative, statistically sound, and in accordance with OMB guidelines on federal surveys.

Long COVID is a unique clinical use case with little and evolving evidence base to inform appropriate level of care and interventions to support struggling COVID survivors. Through efforts to-date, there have been multiple efforts to capture the experiences of VHA clinicians, system and VAMC perspectives, as well as specific input from dedicated long COVID programs emerging across VHA. There is a need to also capture Veteran perspectives, and this is the opportunity through VSignals. With the establishment of the long COVID IPT in 2022, there is a desire to formally support this.

Beneficiaries are selected to participate in the survey via an invitation email. A link is enclosed so the survey may be completed using an online interface, with customized participant information. The data is collected on a weekly basis. The purpose of this document is to outline the planned sample design and provide a description of the data collection and sample sizes necessary for proper reporting

The survey questionnaire is brief. After the survey has been distributed, recipients have two weeks to complete the survey. Invitees will receive a reminder email after one week.

B. Basic Definitions

Coverage	The percentage of the population of interest that is included in the sampling frame.
Measurement Error	The difference between the response coded and the true value of the characteristic being studied for a respondent.
Non-Response	Failure of some respondents in the sample to provide responses in the survey.
Transaction	A *transaction* refers to the specific time a customer interacts with the VA that impacts the customer's journey and their perception of VA's effectiveness in servicing participants.
Response Rate	The ratio of participating persons to the number of contacted persons. This is one of the basic indicators of survey quality.
Sample	In statistics, a data sample is a set of data collected and/or selected from a statistical population by a defined procedure.
Sampling Error	Error due to taking a particular sample instead of measuring every unit in the population.
Sampling Frame	A list of units in the population from which a sample may be selected.
Reliability	The consistency or dependability of a measure. Also referred to as *standard error*.

C. Application to Veterans Affairs

This measurement may bring insights and value to all stakeholders at VA. Front-line VA staff can resolve individual feedback from participant and take steps to improve their experience; meanwhile VA executives can receive real-time updates on systematic trends that allow them to make changes.

1) To collect continuous participant experience data to monitor the relative success of programs designed to improve Long COVID care
2) To help field staff and the national office identify need of the specific population they serve
3) To better understand why beneficiaries provide positive or negative feedback about Long COVID care

Part II – Methodology

A. Target Population and Frame

The target populations of the Long COVID survey will lie in three cohorts. Cohort one will be any Veteran seeking care at a VHA facility in the last 12 months that do not have an indication in their medical record of having had COVID or Long COVID. Cohort two will be Veterans that have an indication in their medical record of having had COVID but not of having Long COVID. Cohort three will be Veterans an indication in their medical record of having had Long COVID. The sample frame will exclude beneficiaries without a valid email address, those that have been invited to take another VEO survey in the past 30 days, those who have opted out from receiving VEO surveys, and those with

incomplete information. Unlike other VEO surveys, this survey is not transactional. The population will be updated each wave and will change over time but a Veteran qualifying in one wave will most likely qualify for the next wave. In order to prevent over-surveying certain Veterans we propose a 90 day quarantine of Veterans invited to take the same survey.

VEO staff will access the data directly from the VHA patient databases including the legacy CDW and the onboarding Cerner HER.

B. Sample Size Determination

For a given margin of error and confidence level, the sample size is calculated as below (Lohr, 1999). For population that is *large*, the equation below is used to yield a representative sample for proportions:

$$n_0 = \frac{Z_{\alpha/2}^2 pq}{e^2}$$

where

- $\boldsymbol{Z_{\alpha/2}}$ = 1.96, which is the critical Z score value under the normal distribution when using a 95% confidence level (α = 0.05).
- **p** = the estimated proportion of an attribute that is present in the population, with q=1-p.
    - Note that pq attains its maximum when value p=0.5, and this is often used for a conservative sample size (i.e., large enough for any proportion).
- **e** = the desired level of precision; in the current case, the margin of error e = 0.03, or 3%. Also referred to as **MOE**.

For a population that is relatively *small*, the finite population correction is used to yield a representative sample for proportions:

$$n = \frac{n_0}{1 + \frac{n_0}{N}}$$

Where

- $\boldsymbol{n_0}$ = Representative sample for proportions when the population is large.
- **N** = Population size.

The margin of error surrounding the baseline proportion is calculated as:

$$Margin\ of\ error = z_{\alpha/2}\sqrt{\frac{N-n}{N-1}}\sqrt{\frac{p(1-p)}{n}}$$

Where

- $\boldsymbol{Z_{\alpha/2}}$ = 1.96, which is the critical Z score value under the normal distribution when using a 95% confidence level (α = 0.05).
- **N** = Population size.
- **n** = Representative sample.
- **p** = the estimated proportion of an attribute that is present in the population, with q=1-p.

Table 2 depicts the estimated population for each of the three cohorts. For *Application* and *Determination,* the population is considered shared with each cohort being half of the total volume. For each of these population, we propose selecting 7,347 to be invited to take the survey from which we anticipate approximately 1,102 completed surveys for a +/- 3% MOE. Combined we expect just under 40,000 completed surveys per years from 266,000 invites.

Table 2a. Estimated Monthly Population and Survey Figures: Chapter 31

	Estimated Email Population*	Available Population	Proposed Sample	Expected Response Rate	Estimated Number of Respondents
Cohort 1	3,199,935	2,399,951	7,347	15%	1,102
Cohort 2	532,251	399,188	7,347	15%	1,102
Cohort 3	28,419	21,314	7,347	15%	1,102

*Estimates are for current population. Cohorts 2 and 3 are expected to grow gradually as new cases arise.

C. Stratification

Stratification is used to ensure that the sample matches the population, to the extent possible, across sub-populations. For explicit strata we will use the cohorts described above. This survey will also use implicit strata or balancing variables to assure that each survey represents closely the population of each cohort by age, gender, and location.

D. Data Collection Methods

The population for the survey will be extracted by VEO every week. Any record with a valid email address will be included in the sample frame. Email invitations are delivered to all selected participants. Selected respondents will be contacted within 8 days of their interaction with the call center They will have 14 days to complete the survey. Estimates will be accessible to data users instantly on the VSignals platform.

Table 3. Survey Mode

Mode of Data Collection	Recruitment Method	Recruitment Period	Collection Days
Online Survey	Email Recruitment	14 Days (Reminder after 7 Days)	Tuesday

E. Reporting

Researchers will be able to use the VSignals platform for interactive reporting and data visualization. The results may be viewed by various subgroups across a variety of charts for different perspective. They are also depicted within time series plots to investigate trends. Finally, filter options are available to assess scores at varying time periods and within the context of other collected variable information.

Recruitment is continuous (weekly) but the results from several weeks may be combined into a *monthly*, *quarterly*, or *annual* estimate for more precise estimates.

F. Quality Control

To ensure the prevention of errors and inconsistencies in the data and the analysis, quality control procedures will be instituted in several steps of the survey process. Records will undergo a cleaning during the population file creation. The quality control steps are as follows.

1. Records will be reviewed for missing data. When records with missing data are discovered, they will be either excluded from the population file when required or coded as missing.
2. Any duplicate records will be removed from the population file to both maintain the probabilities of selection and prevent the double sampling of the same customer.
3. Invalid emails will be removed.

The survey sample loading and administration processes will have quality control measures built into them.

1. The extracted sample will be reviewed for representativeness. A secondary review will be applied to the final respondent sample.
2. The survey load process will be rigorously tested prior to the induction of the survey to ensure that sampled participants is not inadvertently dropped or sent multiple emails.
3. The email delivery process is monitored to ensure that bounce-back records will not hold up the email delivery process.

G. Sample Weighting, Coverage Bias, and Non-Response Bias

A final respondent sample should closely resemble the true population, in terms of the demographic distributions (e.g. age groups). One problem that arises in the survey collection process is ***nonresponse***, which is defined as systematic failure of selected persons in the sample to provide responses. This occurs in various degrees to *all* surveys, but the resulting estimates can be distorted when some groups are actually more or less prone to complete the survey. In many applications, younger people are less likely to participate than older persons. Another problem is ***under-coverage***, which is the event that certain groups of interest in the population are not even included in the sampling frame. They cannot participate because they cannot be contacted: those without an email address will be excluded from sample frame. These two phenomena may cause some groups to be over- or under-represented. In such cases, when the respondent population does not match the true population, conclusions drawn from the survey data may not be reliable and are said to be **biased**.

Weighting adjustments are commonly applied in surveys to correct for nonresponse bias and coverage bias. As a business rule will be implemented to require callers to provide email address, the coverage bias for this survey is expected to decrease. In many surveys, however, differential response rates may be observed across age groups. In the event that some age groups are more represented in the final respondent sample, the

weighting application will yield somewhat smaller weights for this age group. Conversely, age groups that are underrepresented will receive larger weights. This phenomenon is termed *non-response bias correction* for a single variable. Strictly speaking, we can never know how non-respondents would have really answered the question, but the aforementioned adjustment calibrates the sample to resemble the full population – from the perspective of demographics. This may result in a substantial correction in the resulting weighting survey estimates when compared to direct estimates in the presence of non-negligible sample error (non-response bias).

If implemented, weighting will utilize cell weights in real time. With each query on the VSignals platform for each respondent by dividing the target for a cell by the number of respondents in the cell. The weighting scheme will include, where possible all the variables used for explicit stratification, However, cells will be collapsed if the proportion of the population is insufficient to reliably achieve a minimum of 3 completes per month. As a result, weights may be more comprehensive for larger population segments. For instance, in the VA, women are a smaller proportion of the populations. Therefore, woman will have more collapsed cells than men.

As part of the weighting validation process, the weights of persons in age and gender groups are summed and verified that they match the universe estimates (i.e., population totals). Additionally, we calculate the *unequal weighting effect*, or UWE (see Kish, 1992; Liu et al., 2002). This statistic is an indication of the amount of variation that may be expected due to the inclusion of weighting. The unequal weighting effect estimates the percent increase in the variance of the final estimate due to the presence of weights and is calculated as:

$$UWE = 1 + cv^2_{weights} = (\frac{s}{\bar{w}})^2$$

where

- **cv** = coefficient of variation for all weights w_{ij}.
- **s =** sample standard deviation of weights.
- $\bar{w}$ = sample mean of weights, $\bar{w} = \frac{1}{n}\sum_{ij} w_{ij}$.

H. Quarantine Rules

VEO seeks to limit contact with participants as much as possible, and only as needed to achieve measurement goals. These rules are enacted to prevent excessive recruitment attempts upon VA's participants. VEO also monitors participation within other surveys, to ensure veterans and other participants do not experience survey fatigue. All VEO surveys offer options for respondents to opt out, and ensure they are no longer contacted for a specific survey. VEO also monitors participation within other VEO surveys, to ensure participants do not experience *survey fatigue.* For this survey we expect that the later will be minimal since the target population is mostly non-veteran and will have little overlap with other VEO surveys.

Table 4. Quarantine Protocol

Quarantine Rule	Description	Elapsed Time
Repeated Sampling for Long COVID Survey	Number of days between receiving/completing online survey, prior to receiving email invitation for CSP Survey	90 Days
Other VEO Surveys	Number of days between receiving/completing online survey and becoming eligible for another VEO survey	30 Days
Opt Outs	Persons indicating their wish to opt out of either phone or online survey will no longer be contacted.	N/A

Part III – Assumptions and Limitations

A. Coverage Bias

Since the Long COVID Survey is email only, there is a substantial population of qualifying beneficiaries that cannot be reached by the survey. Veterans that lack access to the internet or do not use email may have different levels of Trust and satisfaction with their service. As such, it is thought that Veterans in this latter category do not harbor any tangible differences to other program participants who do share their information.

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