



USAID GLOBAL HEALTH SUPPLY CHAIN PROGRAM

TECHNICAL ASSISTANCE, NATIONAL SUPPLY CHAIN ASSESSMENT TASK ORDER

Guidance on Updating the SurveyCTO Code for the Key Performance Indicator (KPI) Data Collection Central Tool

NSCA 2.0



DISCLAIMER: Development of the NSCA 2.0 toolkit was funded by the United States Agency for International Development (USAID). The authors' views expressed in this publication do not necessarily reflect the views of USAID or the United States Government.

INTRODUCTION

Before reading this document, users are encouraged to familiarize themselves with the SurveyCTO programming environment. Resources available for learning SurveyCTO are provided in Annex 14 of the NSCA 2.0 Implementation Guide. Users should also review Table 8 in the NSCA 2.0 Implementation guide and the text explaining this table. Advanced understanding of the SurveyCTO coding environment should not be necessary to conduct essential updates to the key performance indicator (KPI) Central data collection tool (hereafter “KPI Central tool”) code, but some familiarity with the structure of SurveyCTO Excel coding workbooks and how they operate is required. Some optional changes to the SurveyCTO code may require a more advanced knowledge of the SurveyCTO coding environment.

The guidance provided in this document refers primarily to the NSCA 2.0 “KPI Central tool” SurveyCTO coding, which is presented in a Microsoft Excel workbook. The guidance also references five other NSCA 2.0 resources: the “Facilities_central_v1.csv” worksheet, “Forecast Supply Plan Commodities_v1.csv” worksheet, “Months_v1.csv” worksheet, “Twelvemonths_v1.csv”, and the “KPI central analysis template”. The first four worksheets are ancillary files that support the KPI Central tool SurveyCTO workbook (that should be uploaded to the SurveyCTO site as attachments to the “KPI Central tool”), while the latter is one of two Microsoft Excel platforms that provides platform for analyzing KPI central data collected in SurveyCTO (the other analysis template supports calculation of KPIs collected for non-central indicators).

This document is divided into four sections (subsequent to the introduction):

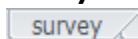
1. Brief overview of the structure of the KPI Central tool SurveyCTO Excel coding.
2. Changes that will need to be made to the SurveyCTO coding for all NSCAs conducted. These changes include populating the SurveyCTO code with the appropriate names of facilities / entities included in the sample for the assessment, updating the list and number of tracer commodities used for forecasting and supply planning KPIs, and updating the names of the months for which historical data will be collected.
3. Optional changes that likely will be needed for most NSCAs. These changes include minor wording changes to questions / responses including some generic language that can be customized to a particular country.
4. Advanced changes that may be necessary but should be done with caution.

Assessment teams should thoroughly check the functionality of the SurveyCTO code after changes have been made. This should be done by manually going through the data collection instrument to ensure that the changes made appear properly in the SurveyCTO data collection instrument, relevant skip logic still functions properly, and spelling and other grammatical concerns are all correct.

STRUCTURE OF THE KPI CENTRAL TOOL CODEBOOK

There are seven worksheets in the KPI Central tool Excel workbook:

I. Survey



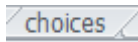
The first row of this worksheet contains headers that list the type of information to be included in each column. This includes the question types (“type”), numbers (“Names”), the questions (“Label”), question explanations / supporting text (“hint”), skip logic (“relevance”), the number of times questions in certain areas should be repeated (“repeat_count”), and other information for administering the survey.

Each row is for one question / collection of one data point. The rows are organized into introductory items and then by the 12 data extraction tables included in the KPI Central tool survey (Table I).

TABLE I: SECTIONS IN THE SURVEY WORKSHEET	
ROW NUMBERS	SECTION
1 – 27	Collection of information about the team collecting conducting the survey, information about the site being visited, and the months of historical data collection.
28 – 41	Table of contents
42 – 83	Table 1a: Forecast Accuracy data
84 – 118	Table 1b: Supply Plan Accuracy data
119 – 146	Table 1c: Sources of Funds data
147 – 183	Table 2: Prices Paid data
184 – 214	Table 3a: Emergency Orders and Procurement Methods data
215 – 249	Table 3b: Vendor delivery data
250 – 265	Table 3c: National Essential Medicines List (or similar list) data
266 – 288	Table 4: Customs Clearance data
289 – 323	Table 5: Stock Turn data
324 – 500	Table 6: Human Resources data
501 – 576	Table 7: Facility Reporting data
577 – 601	Table 8: Product Testing data

Assessment teams likely will need to update the “repeat_count” column in Table I and make some wording changes in the columns “Label” and “hint”. More advanced changes may also be made in the “Relevance” column, and questions may be inserted. These changes are discussed in the sections “Changes that need to be made for all assessments”, “Optional changes that likely will be needed for most NSCAs”, and “Advanced changes that may be necessary but should be done with caution”.

2. Choices

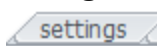


This worksheet contains the possible responses to close ended question listed on the Survey worksheet. There are four columns of relevance for adopting the coding on this worksheet:

- a. **list_name:** Refers to the answer choices listed for a question in the “type” column on the survey worksheet. All rows with a particular list_name will provide answers for questions with this label in the “type” column in the survey worksheet. For example Row 45 on the Survey worksheet contains “select_one yesno” in the first column. Rows 2-3 on the Choices workbook all contain “yesno” under list_name, indicating these are the possible answers for the question listed on row 45 of the Survey worksheet (note that “select_one” indicates only one answer may be selected, while “select_multiple” would allow multiple answers to be selected). The term “yesno” does not appear elsewhere under list_name on the choices worksheet; it is best practice to keep the possible answers grouped together. (Readers that do not understand this explanation are encouraged to review or further read or watch SurveyCTO tutorials before proceeding with making changes to the KPI Central tool workbook.)
- b. **value:** This determines how SurveyCTO will code the answer selected.
- c. **label:** This column lists the answers as they will appear during data collection. For example, for questions with the “yesno” list_name, the options “No” and “Yes” will be available for the data collection team to select.
- d. **filter:** This allows SurveyCTO to only display some of the labels for a particular list_name; more details on this column will be provided in the section “Changes that need to be made for all assessments”.

Note that the images column is not used for the KPI Central tool.

3. Settings

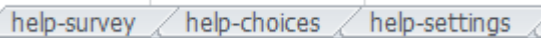


This contains information that allows SurveyCTO to identify the workbook.

***IMPORTANT NOTE:** When users are creating a SurveyCTO space, they may need, initially, to update this worksheet because simply uploading the KPI Central tool may preclude SurveyCTO from correctly identifying the workbook. To do this, users need to create a new form in SurveyCTO; this form need not contain anything in it. The created form should then be downloaded and the information on the Settings worksheet copied and pasted into the KPI Central tool. KPI Central tool can then be uploaded to SurveyCTO, and SurveyCTO will recognize the form correctly.

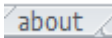
Otherwise, users should not change this worksheet.

4. **help-survey, help-choices, and help-settings**



These worksheets contain standard SurveyCTO help and guidance, with each sheet corresponding to the three sheets listed above. Users are encouraged to read through these sheets, but no changes to these sheets are necessary (although changing the sheets will not affect the functionality of the coding).

5. **about:**



This worksheet lists information about the creation of the KPI Central tool for informational purposes only. Users are not expected to change this worksheet, although they may wish to use this worksheet to track dates and details about changes made elsewhere in the workbook.

CHANGES THAT NEED TO BE MADE FOR ALL ASSESSMENTS

UPDATING THE NAMES OF ENTITIES INCLUDED IN THE ASSESSMENT SAMPLE

Data collectors will need to enter the name of the site where they are conducting the KPI Central tool data collection in response to the question listed on row 12 of the Survey worksheet. This question refers to the list_name “facid”. In the default programming, answers possible for “facid” are listed in rows 4 through 7 of the Choices worksheet; these are simply placeholders and are not meant to convey any meaning. **Users will need to update the “facid” list_name on the Choices worksheet** to match the facilities and entities that have been identified as places where central KPI data will be collected for the assessment:

1. Determine the number of facilities and entities where central KPI data will be collected for the assessment.
2. Insert rows under row 7 to create enough rows for all of the facilities and entities included in the assessment (or delete unnecessary rows, as appropriate).
3. Copy and paste “facid” in the first column of all the newly created rows (if needed).
4. Enter values for each row (e.g., F100 through FXXX) in the second column.
5. Enter the names of the facilities and entities in the third column.

UPDATING THE FACILITIES CENTRAL_VI WORKBOOK

The Facilities central_vl workbook allows SurveyCTO to access ‘text’ data about the facilities and entities and report these data. Thus, it allows SurveyCTO to record the name of a facility to be reported as “CMS” rather than what is entered in the value column of the Choices worksheet (e.g., “F100”). It should be saved and uploaded as a comma saved variable (.csv) file (and not, e.g., a Microsoft Excel file).

The Facilities_vl workbook contains two columns of information:

1. **Facility Identifier:** This column contains the information from the ‘values’ column of the Choices worksheet for all “facid” list_names.
2. **Facility Name:** This column contains the text name of the facility or entity. These two columns should be copied from the Choices worksheet (for the rows using the “facid” list_name) in the KPI Central tool workbook and pasted into the Facilities_vl worksheet to maintain consistency between the two workbooks.

UPDATING THE MONTHS_VI WORKBOOK

The Months_vl workbook allows SurveyCTO to access ‘text’ data about the names of the months over which historical data will be collected for the KPI Central tool and report these data. Users need to enter the names of the six months prior to the month in which data is being collected for the assessment (or the names of the six months for which historical data will be collected) in the worksheet in column B (“Months”). Column A (“Month ID”) lists the numbers 1 through 6 and should not be changed. The final result should resemble:

	A	B	
1	Month ID	Months	
2		1 February	
3		2 March	
4		3 April	
5		4 May	
6		5 June	
7		6 July	

(with the names of the appropriate months listed in cells B2:B7).

Updating the Twelvemonths_v1 workbook

The “Twelvemonths_v1” workbook has two columns of information:

Month ID (column A): Numeric values from 1 through 12 for each of 12 months.

Months (column B): Text names of the twelve months in a calendar year.

Typically, these values will not need to be changed unless the assessment team would like to use alternative (non-Gregorian) names for the calendar months.

UPDATING THE FORECAST SUPPLY PLAN COMMODITIES_V1 WORKBOOK

The “Forecast Supply Plan Commodities_v1” worksheet contains five columns:

product_key (Column A): Numeric code for each tracer commodity, generally starting with 1 and increasing sequentially.

Product Name (Column B): The name of the tracer commodity, as used in the assessment. Note that for forecast accuracy and supply plan accuracy, it is recommended that the tracer commodities used in other parts of the assessment be retained to the extent that they are judged to be appropriate for these two KPIs. However, it is also recommended that additional products beyond the core tracer commodity list be selected for these two KPIs. The tracer commodities listed on this worksheet should reflect all of the commodities needed for forecast accuracy and supply plan accuracy.

Product Dosage (Column C): The specific dosage of the commodity listed under Product Name to be used for the assessment (e.g., 100mg, 5 mg/ml, etc.).

Product Category (Column D): Optional column listing the category of the commodity (e.g., by program or type of commodity).

Product Unit (Column E): The unit for which data collectors should enter data (e.g., Bottle of 1,000 tabs, 1 capsule, 100ml bottle, sachet, 6 by 4 pill pack, etc.). What is entered here should typically be the standard unit used by most entities in the supply chain in order to enable ease of data extraction, collection, and entry.

The final should resemble:

	A	B	C	D	E
1	product_key	Product Name	Product Dosage	Product Category	Product Unit
2	1	Amoxicillin Capsule	250mg	Essential Drug	Bottle of 1,000
3	2	Arthemether/Lumefantrine 6x1	20/120mg	Anti-malarial	6x1 packet
4	3	Malaria RDT	Test	Diagnostic test kit	Each
5	4	Cotrimoxazole	960mg	Drugs against Opportunistic Infection	Bottle of 1,000
6	5	Depo Provera	Injection	Family Planning	Each
7	6	Oxytocin Injection	10ui/ml	Emergency Obstetrical Care/MCH	Each
8	7	Determine RTK	Test	Diagnostic test kit (HIV)	Each
9	8	Magnesium Sulphate 50%	Injection	Emergency Obstetrical Care	Each
10	9	TDF+3TC+EFV	300mg+300mg+600mg	ARV	Bottle of 30
11	10	Gentamycin 80mg/2ml	Injection	Essential Drug	Each
12	11	Oral Rehydration Solution (ORS)	Sachet	Essential Drug	Sachet

(with the appropriate assessment-specific information entered). Note that the default template lists 10 commodities but more / fewer commodities is possible.

UPDATING TRACER COMMODITIES INFORMATION ON THE CHOICES WORKSHEET

The Product Units of the tracer commodities need to also be entered on the Choices worksheet of the KPI Central tool (in addition to being entered in the Forecast Supply Plan Commodities_v1 worksheet).

Rows 8 through 47 (in the default programming) of the choices worksheet lists the Product Units of the tracer commodities, using the list_name “unit”. These rows contain two sections; the first block lists the product units for each of the tracer commodities (in the default programming, there are 20 tracer commodities). The second section (starting on row 28 in the default programming) then enables users to enter a different unit if the data they are collecting is not presented in the default units. This is labelled ‘other’; there should be one ‘other’ for each of the tracer commodities used in the assessment.

If more than 20 tracer commodities are being used for the Forecast and Supply Plan accuracy portions of the assessment, additional rows should be added below rows 27 AND 47, and labelled with the ‘unit’ list_name (column A) (if less than 20 tracer commodities are being used, then rows should be deleted). For example, if 22 tracer commodities are being used for the assessment, two rows should be inserted below row 27 and 2 additional rows inserted below row 47. The ‘value’ column (column B) should also be updated so that all rows with ‘tracers’ have a value. Typically, the rows before the ‘other’ label starts should be numbered consecutively, with the values for ‘other’ labels all having the same ‘value’. The units (Product Units) of the tracer commodities should then be entered in the ‘label’ (column C) column (retaining the ‘other’ label).

Finally, in the ‘filter’ column (column E), users should enter the number corresponding to the ‘product_key’ in the Forecast Supply Plan Commodities_v1 worksheet in the first section of the ‘unit’ list_field. The, the numbers should repeat for the ‘other’ labels. Thus, each ‘product_key’ number should be entered twice – once in the row of the appropriate unit for each tracer commodity and once in a row for ‘other’. This allows data collectors, when prompted, to either select the default product unit for a tracer commodity, or ‘other’ if the data are not in the default product unit (users will then be prompted to enter the unit if the select ‘other’).

UPDATING TRACER COMMODITIES INFORMATION ON THE SURVEY WORKSHEET

The last step in updating the KPI Central tool to enable functionality of the KPI Central tool is to update the 'repeat_count' column of the Survey worksheet. *The default programming assumes that there are 20 tracer commodities, and this step only needs to be done if the assessment is NOT using 20 tracer commodities.* The coding is set up so that the same questions are asked of each tracer commodity. Rather than replicating the coding for each tracer commodity, the default KPI Central tool uses the 'repeat' function of SurveyCTO. The 'repeat' function allows each question / data collection prompt (or, in this case, block of questions / data collections) to be repeated a given number of times. However, SurveyCTO needs to be 'told' how many times it should repeat each question / data collection prompt (which is done in the 'repeat_count' column or Column O of the Survey worksheet).

Thus, users need to update the default numbers in the following cells:

O22
O50
O61
O92
O103.

By default, each of these cells contains '20'. Users should replace this '20' with the number of tracer commodities being used in the assessment.

UPDATING WORDING ON THE SURVEY AND CHOICES WORKSHEET

Some of the wording on the survey worksheet is *by design* intended to be placeholders that the assessment team will need to update before using the KPI Central tool.

This includes:

1. The default programming for the year of the assessment. This is listed on the survey worksheet as '20XX'. Users will need to update the term '20XX' to reflect the year of the assessment. The term 20XX appears 32 times in the Survey. Users can chose to find '20XX' and replace with the appropriate year using the Ctrl + H function in Microsoft Excel.
2. Cell C50 on the Choices worksheet lists 'local currency unit'; users should replace this phrase with the name of the currency used in the country where the assessment is occurring.

OPTIONAL CHANGES THAT LIKELY WILL BE NEEDED FOR MOST NSCAS

CHANGING THE WORDING OF QUESTIONS TO FIT THE COUNTRY-SPECIFIC CONTEXT

Assessment teams and stakeholders should review the KPI Central tool instrument in the preparation stages of an NSCA. During this review, some of the terminology or wording of questions may want to be refined in order to make questions more easily understood by respondents (and data collectors).

To change the wording of a question, users should change the text in the 'label' column (Column C) of the Survey worksheet. Users may also review the language in the 'hint' column (Column D) of the Survey worksheet and change the text as appropriate.

Rows 200 through 206 list names of methods for placing orders. While these names are fairly standard across supply chains, there may be different mechanisms or nomenclature used in a particular country. Assessment teams can opt to change the names of the methods for placing orders here.

Cells E333 through E338 contain default job titles for supply chain positions. These title may need to be updated and can simply be changed as needed (note that job titles can also be added in any of the cells in E338 through E362).

Users may also elect to change some of the answers on the Choices worksheet. For example, for the list_name 'pu', packs and units might have different nomenclature in some countries.

Note that wording changes should serve to *clarify* questions for a particular audience, but should not *alter the underlying meaning* of a question. If the underlying meaning of a question is changed, then the answers may no longer be appropriate and the maturity scoring of the question may also no longer be appropriate.

OMITTING OPTIONAL KPIS

Data collection tables 1b, 3a, 3c, 4, 5 and 8, as well as part of data collection tables 3b (related to supplier fill rate), 6 (related to supply chain staff vacancy rates), and 7 (related to facility reporting rates – complete) collect data for optional (non-Core) KPIs, and assessment teams, in consultation with stakeholders, may decide not to collect these data for an assessment. Thus, the KPI Central tool may need to be modified so as not to prompt users to collect or enter data for these tables (or sections of tables). There are three (non-mutually exclusive) ways remove these items from the data collection tool:

1. Do not remove the tables: All of the tables start with a question asking whether or not data for that table should be collected from the entity being visited. For tables 1b, 3a, 3c, 4, 5 and 8, assessment teams may opt to select 'no' in for these tables (if, in fact, these optional indicators are not included in the assessment) at all entities from which data are collected, and thereby not collect any data for the indicators that are not included in the assessment.

2. Disable relevant rows: While option 1 above is the easiest solution from a coding point of view, it may result in confusion while collecting data. Thus, assessment teams may want to remove the option of collecting data for indicators that are not included in the assessment. Further, tables 3a, 3b, 6, 7, and 8 collect data for multiple KPIs, one or both of which may be optional KPIs. Assessment teams may be collecting information on one of the KPIs collected in these tables, but not the other. Thus, assessment teams may want to remove portions of tables (and not skip the entire table) from the data collection instrument.

TABLE 2: ROWS FOR OPTIONAL INDICATORS	
INDICATOR	ROW(S)
Supply Plan Accuracy data	84 - 118
Percentage of orders placed as emergency orders	199
Procurement methods employed	200 - 207
Both Percentage of orders placed as emergency orders AND Procurement methods employed	184 - 214
Supplier fill rate	None (all rows in Table 3b are used for Vendor on-time and in full delivery rate)
Percentage of health products procured listed on the National Essential Medicines List or similar document for other health products	250 - 265
Customs clearance time	266 - 288
Stock turn per annum	289 - 323
Percent of supply chain positions vacant	364 - 429
Facility reporting rates –complete reports	519, 529, 539, 549, 559, 569
Percentage of incoming batches tested for quality	592 (note row 593 is needed for Percentage of product batches tested that meet quality standards)
Percentage of product batches tested that meet quality standards	594
Both Percentage of incoming batches tested for quality AND Percentage of product batches tested that meet quality standards	577 - 601

To remove optional indicators from the data collection instrument, find the appropriate rows for that indicator (Table 2). Then, go to column J ('disable') of the appropriate rows and type 'yes' to disable the questions.

3. The third option is the same as the second option listed above, except that instead of ‘disabling’ questions, assessment teams could delete the rows out of the code. The second option listed above is recommended over deletion of rows, especially if there is any doubt as to whether or not data for an optional KPI will be collected.

ADVANCED CHANGES THAT MAY BE NECESSARY BUT SHOULD BE DONE WITH CAUTION

ADDING QUESTIONS

Assessment teams may have a particular topic or problem that they want to gather further information about but that is not included in the KPI Central tool. Extra questions can be added to the survey without compromising the SurveyCTO code by adding rows in the appropriate place on the Survey worksheet and filling in the required information (understanding how SurveyCTO coding is written will be necessary to complete this step). Answer categories can be added to the end of the Choices worksheet if needed. Care should be taken to ensure that the added questions do not make the data collection process overly long (i.e., a limited number of questions should be added).

When adding questions, users should consider the following:

1. The “KPI central analysis template” will not produce any results for the added questions. Analysis of additional questions is the responsibility of the analysis team.
2. The numbers (in the ‘name’ column or column B of the Survey worksheet) of existing questions cannot be changed to maintain the functionality of the “KPI central analysis template”. That is, users cannot add a question in the middle of a section and then re-sequence the numbering of the remaining questions in a section and retain functionality of the “KPI central analysis template”. For example, if the assessment team wants to insert a question after question forecast49, they should NOT number the new question forecast50 and renumber the remaining forecastXX series of questions. Rather, a new number (e.g., ‘forecast49c’) should be used for the inserted question.