



Coverage Rate Report Information

November 2017



















Support Services

For general support on this product, contact your system administrator. For up-to-date documentation, visit the STC Documentation Portal at https://documentation.stchome.com/.

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Coverage Report Parameters and Settings

Settings and selected user-specified parameters can impact a patient's vaccination forecast, which then impacts the patient's inclusion in the Coverage Rate Report.

NOTE: A specific table or location cannot be referenced for all data points because the business logic is applied to the query each time.

Please consider the following:

Parameter	Table Reference	Description
Parameter Run By	Table Reference Reports by ownership pull data from the master tables. Reports by service pull from the reserve tables.	By Ownership and By Service filters work along with the Patient Status filter to determine which patients are displayed in the report. Use the guidelines below to produce the results that best meet your needs: • For all patients currently owned by the Organization/Facility (Active): Select By Ownership and Active Only (Patient Status) • For all patients ever owned by the Organization/Facility: Select By Ownership and All (Patient Status) • For all current patients (Active) that have received service from the Organization/Facility: Select By Service and Active Only (Patient Status). Note that patients who have received a more recent vaccination from a different organization/facility (that does not have the Automatic Ownership Blocked option enabled) do not appear on the report. If the Patient does not have a status of Active for the given Org/Fac, the patient will
		 For all patients (Active and Inactive) that have ever received service from the Organization/Facility: Select By Service and All (Patient Status)

Parameter Table Reference	Description
	Run by Ownership and Limit by Organization/Facility:
	Limit by Active status returns all patients owned and active with the organization/facility
	Limit by Inactive status returns any patients owned by the organization/facility but inactive within the organization/facility
	Run by Service and Limit by Organization/Facility:
	Limit by Active status returns all patients who have been vaccinated by the organization/facility and are active for that organization/facility
	Limit by Inactive status returns all patients who have been vaccinated by organization/facility but not active within the organization/facility
	Run by Ownership:
	Limit by Active status returns all patients who have an owning organization assigned and have at least one active status for an organization/facility
	Limit by Inactive status returns all patients who have any owning organization/facility and do not have an active status in the IIS.
	Run by Service:
	Limit by Active status returns all patients who have been vaccinated by any organization/facility and have an active status in the IIS with any organization/facility
	Limit by Inactive status returns all patients who have been vaccinated by any organization/ facility and do not have an active

Parameter	Table Reference	Description
	- Labra Rarar Chiad	status in the IIS
		These changes are effective as of IWeb version 5.17.5.
Series (Required field)	Series must be pre-defined in define lookups before they appear in this drop-down list. Checks patient's history from H33_VALID_VACCINATION and checked against the doses for the specified series or antigen.	Select a pre-defined series from the drop- down list to be evaluated against patient vaccination history for complete coverage. Either Series or Vaccine is required. To read a definition of the series, select a series from the list and click Series
		Description. This determination is made by the forecaster. This is not a metric that relies on dose counts. Effective as of IWeb version 5.16.12.3 (CONSORT-4283).
Vaccine (Required field)	Drop-down contains a list of active vaccines.	Select a vaccine from the drop-down list. Either Series or Vaccine is required.
Vaccine Date Range		To define a vaccine date range, enter the From and Through dates.
Age Range (Required field)		Select a From and Through age and then select the age identifier (Months or Years) from the two drop-down lists. These fields are required.
Age as of Date (Today's date if left blank)		Enter a date for when you would like the patients' ages to be evaluated. This is dependent upon the defined age range. For example, if the defined age range is from 6 years through 8 years and you enter the date 01/01/2016, the system evaluates patients who are aged 6 through 8 years old as of 01/01/2016. Default: This field defaults to the current date when left blank.
Evaluate at Age		Enter the patient's age to be evaluated for vaccine coverage. This evaluates patients at the specified age within the defined age range. For example, if you enter 24 months in the Evaluate at Age field and define the age range as 6 years through 8 years, the system evaluates the vaccine coverage of the 6-through-8-years cohort when they were at 24 months of age. Note that you cannot enter an age greater than the ending age range value. The report assess whether patients are up-to-date with all doses in the selected series by the age entered in this field.

Parameter	Table Reference	Description
Patient Status	H33_PATIENT_MASTER	Select a patient status: Active Only (default), Inactive Only, or All. See the explanations below and use this filter with the Run By filter to generate the correct report. • Active Only - will only pull Patients with the status of Active based on the search parameters. The Patient Status must be set to Active for the selected Org/Fac when limiting by Org/Fac. • Inactive Only - will only pull Patients with the status of Inactive based on the search parameters. The Patient Status must be set to Inactive for the selected Org/Fac when limiting by Org/Fac. • All – will pull all Patients (Active, Inactive, and Deceased) regardless of status based on the search parameters. The Patient Status must be set to Active, Inactive, or Deceased for the selected Org/Fac when limiting by Org/Fac. Default setting is Active Only.
Patient VFC Status	H33_PATIENT_MASTER	Also known as VFC Eligibility. To limit the report by patient VFC status, click in the field and select one or more statuses from the drop-down list. Default Setting is Blank.
Vaccine Status	H33_VALID_VACCINATION	Select a vaccination status: All Vaccinations or Valid Vaccinations Only (default).
Patient Race	H33_PATIENT_RACE_RESERVE joined on by H33_PATIENT_MASTER.ASIIS_PAT_ID	To limit the report to one or more specific races, click in the field and select one or more races from the drop-down list. Default Setting is Blank.
Gender	H33_PATIENT_MASTER	To limit the report to a specific gender, select it from the list. Default Setting is Blank.
District / Region	H33_PATIENT_MASTER, DISTRICT_NUMBER	To limit the report to a specific district or region, select it from the list.
Patient County / Parish / Borough / Census Area	H33_COUNTY_CODE.COUNTY	To limit the report to one specific county (according to patient demographics), select it from the drop-down list.

Parameter	Table Reference	Description
Zip Code	H33_PATIENT_MASTER.ADDRESS_ZIP	To limit the report to one specific zip code, enter it.
Organization (IRMS) / Organization (IRMS) Group / Do Not Limit	H33_IRMS.NAME	To limit the report to an Organization (IRMS) or group, select it from the related drop-down list, after which the radio button is automatically selected. Default: Do Not Limit.
Facility / Facility Group / Do Not Limit	H33_FACILITY_MASTER.NAME	To limit the report to a specific Facility or group, select it from the related dropdown list, after which the radio button is automatically selected. Default: Do Not Limit.
VFC PIN	H33_FACILITY_MASTER.VFC_PIN	To limit the report to a specific VFC PIN, select it from the drop-down list (after which the checkbox is automatically selected).
Exclude Patients Who Have Completed or Aged Out (Only Patient List)		For the Patient List only. Select this option to exclude patients who have completed their vaccine series or aged out. Note that aged out is based on a patient not having a current forecast for the vaccine. If Exclude patients is selected, patients are excluded from both the Coverage Rate Report and the Patient List. This displays for patients who have aged out or do meet the age requirements, but who do not have a forecast listed for the vaccines in the series. This can happen if the Suppress First Dose option is enabled, the database needs to be reforecasted, or a patient has just gone through deduplication and forecasting has not yet run.
View By		Select an option to view the report by: District/Region County/Parish/Borough/Census Area Zip Code Organization (IRMS) Organization (IRMS) Group Facility Facility Group VFC PIN

Parameter	Table Reference	Description
		Aggregate (Total Only) (default)
Display Report Columns	The calculations are the result of multiple queries and the results are not available in a table.	Select one or more columns to include in the report:

Coverage Rate Report Output

See the information below regarding the Coverage Rate Report output:

Report Column	Table Reference	Definition	Example
Complete by Vaccine	Checks patient's history from H33_VALID_VACCIN ATION against the doses for the specified series or antigen. The current patient forecast is held in H33_VACCINATION_FORECAST.	The patient is considered to be complete if: • The patient meets the criteria for the series completion, or • The patient has received all the vaccine doses specified in the series This determination is made by the forecaster. This is not a metric that relies on dose counts. Effective as of IWeb version 5.16.12.3 (CONSORT-4283).	Both patients in the examples below are included in the output of this report. User specifies 5-dose DTaP series. Example 1: Patient A was born 2/14/2012 and received DTaP #1 on 4/14/2012, DTaP #2 on 6/15/2012, DTaP #3 on 8/16/2012, DTaP #4 on 5/20/2013, and DTaP #5 on 6/10/2017. Patient A is series complete with five doses. Example 2: Patient B was born 2/14/2012 and received DTaP #1 on 4/14/2012, DTaP #2 on 6/15/2012, DTaP #3 on 8/16/2012, and DTaP #4 on 6/10/2017. Patient B meets the criteria for series complete with four doses.
One Dose to Complete Series	Checks patient's history from H33_VALID_VACCIN ATION against the doses for the specified series or antigen.	A patient is considered to be one dose from completing the series if: • The number of doses required for the vaccine in the series exceeds the number of doses received by the patient by 1. Note: If dose away count = 1, the patient is considered to be one dose away from completing the vaccine series, regardless of	Example 1: Hepatitis B is routinely given as a three-dose series. • Patient C received Hepatitis B #1 at birth on 1/11/2017. • Patient C received Hepatitis B #2 at 3 months of age on 4/11/2017. • Patient C was evaluated on

Report Column	Table Reference	Definition	Example
		whether the due date is in the past or future. This may account for the potential difference between One dose away to complete series and One visit away to complete series, as a patient is not included in the One visit to complete category if the forecasted due date is in the future.	 6/01/2017. Hepatitis B #3 is due on 7/11/2017. Patient C is included in the One Dose to Complete Series. Example 2: Hepatitis B is routinely given as a three-dose series. Patient D received Hepatitis B #1 at birth on 5/05/2015. Patient D received Hepatitis B #2 at 3 months of age on 12/11/2015. Patient D was evaluated on 6/01/2017. Hepatitis B #3 was due on 2/05/2016. Patient D is included in the One Dose to Complete Series.
One Visit to Complete Series	Checks patient's history from H33_VALID_VACCIN ATION against the doses for the specified series or antigen.	The patient is considered to be one visit away from a complete series if: The patient is due for single dose for all the vaccines in the specified series, and The forecasted due date is past due for each of the specified vaccines, and The missing doses can be given within one visit Note: If the forecasted due date is in the future, the patient is not included in the one visit total. This may account for the potential differences between One dose away to complete series, as a	Example: Patient E is due for MMR and Hepatitis A. MMR was due on 1/10/2017. Hepatitis A is due on 9/01/2017. If the report is run on 7/23/2017, Patient E is not considered one visit away from a complete series because the Hepatitis A is due in the future. If everything remains the same and the report is run on 10/23/2017, Patient E is considered one visit away from a complete series because the Hepatitis A dose is past due.

Report Column	Table Reference	Definition	Example
		patient is included in One Dose to Complete Series regardless if a forecasted dose is in the future or in the past.	
Missed Opportunities	Checks patient's history from H33_VALID_VACCIN ATION against the doses for the specified series or antigen.	Any vaccination for which the patient was eligible but did receive during the last vaccination visit is an missed opportunity. Eligibility is determined by the earliest due date for each family in the defined series.	In the following examples, the user has defined the series for MMR and Varicella Example 1: Patient T gets a valid DTaP vaccination on 10/01/2017. The patient is not up to date for MMR and Varicella. The due date for Varicella was 09/01/2017. The due date for MMR was 09/01/2017. Patient T has missed opportunities for MMR and Varicella when he got the dose of DTaP. Example 2: Patient T gets a valid DTAP vaccination on 09/01/2017. The due date for MMR and Varicella. The due date for waricella. The due date for Waricella. The due date for MMR is 10/01/2017. The due date for MMR is 10/01/2017. The due date for MMR is 10/01/2017. The due date for MMR and Varicella as he was not yet eligible for MMR and Varicella as he was not yet eligible for MMR and Varicella when he got the dose of DTaP. Example 3: Patient T gets a valid DTaP vaccination on 09/01/2017.

Report Column	Table Reference	Definition	Example
			 The patient is not up to date for MMR and Varicella. The due date for Varicella is 10/01/2017. The due date for MMR was 08/01/2017. Patient T has a missed opportunity for MMR as he was eligible for a dose of MMR when he got the dose of DTaP. He does not have a missed opportunity for Varicella because he was not yet eligible for Varicella when the DTaP dose was given.
Incomplete Series	Checks patient's history from H33_VALID_VACCIN ATION against the doses for the specified series or antigen.	The patient is considered as under-immunized and counted as incomplete for the series if: • The patient did not receive any vaccine doses at all, or • The patient did not receive all the vaccine doses specified in the series The forecasted due date does not matter for this measure. Output includes patients who are incomplete with a forecast for the future and patients with a past due forecasted date.	Example 1: Patient F has not received any doses of HPV Patient is incomplete. Example 2: Patient G received HPV #1 on 1/15/2016 at age 16 Patient G received HPV #2 on 5/18/2016 at age 17 Patient G is past due for HPV #3 Patient is incomplete. Example 3: Patient H received HPV #1 on 7/23/2017 at age 11 HPV #2 is due in the future Patient is incomplete.

Forecasting: Setting Properties and Coverage Rate

A note about forecasting: The database should be re-forecast when there have been significant changes applied to forecasting, particularly when those changes reflect new recommendations or bug fixes related to general recommendations. At a minimum, the affected age group should be re-forecast.

A state may choose to adjust the ACIP schedule by using the administration settings. These changes to the ACIP schedule can impact a patient's vaccination forecast and their inclusion in the Coverage Rate Report.

Please consider the following IWeb administration settings:

Include in Forecast and Reminder/Recall

Select the checkbox to include the vaccine family in the sections of the application related to forecasting and reminder/recall.

Include in Child Care

Select the checkbox to include the vaccine family in the sections of the application related to childcare.

Suppress Dose 1 Forecast

This state-configurable option can also be set to not forecast a specific vaccine unless the first dose has been given.

Vaccination Grace Period

Select a numeric value to represent the window of time for vaccination administrations to occur.

Maximum Patient Age

Enter the maximum patient age for the vaccine family as a numeric value in the first box, then select Days, Months, or Years in the drop-down list next to it. Select either All or Dose 1 to indicate whether the maximum patient age is for all vaccines in the family (default) or only for the first dose.

If the Personal Forecast setting has been configured to prevent certain vaccines from appearing due to the age setting (maximum age for immunizations), the forecast is hidden if the patient is over the maximum age.

All Doses

Once the patient reaches the maximum age indicated, the forecast is no longer displayed for that patient. If the patient is given any dose of the vaccine after the maximum age, it is reflected as valid or invalid based on the current forecast calculations. If the patient receives any portion of a series, subsequent doses are not forecast after the maximum age.

Dose 1 - Once the patient reaches the maximum age specified, Dose 1 of the forecast is suppressed. If Dose 1 is administered, the rest of the schedule is forecast, regardless of the patient's age.

Allow Unlicensed Vaccines in Forecast

Select this option to allow inclusion of unlicensed vaccines in the forecast. Unlicensed vaccines are counted as valid during forecasting.

Do Not Display Recommended Date Older than One Year

Selection this option to prevent vaccines that are older than one year from displaying in the forecast.

Use Invalid Vaccine in Forecast Calculation

Select this option to calculate the interval for the next dose based on the date of the last dose, whether it is valid or not, matching the ACIP guidelines. If this option is disabled, the interval for the next dose is calculated by the date of the last valid dose.

Tables Relevant to Forecasting

The following tables are relevant to or used in forecasting:

Table Name	Holds
H33_VACCINATION_FORECAST	This table holds the patient's current forecast records.
H33_FAMILY_SCHEDULE	This table holds all possible schedules.
	This table holds the state-specific forecast preferences used to override the ACIP schedules.

Differences Between SMaRT AFIX and IWeb Coverage Rate Reports

The following information details the differences between SMaRT AFIX Coverage Rate Reports and SMaRT AFIX Coverage Rate Reports.

Category	I Web Coverage Rate Report	SMaRT AFIX Coverage Rate Report	Examples
Patient demographics H33_PATIENT_ MASTER	In IWEB: Only patients who reside in the state (or their address is unknown) are included. Anonymous patients are not excluded.	In SMART AFIX: Patients who are active with the assessed provider are included, regardless of patient address.	Example: Patient A has an Idaho address and an active status with ABC Pediatrics, which is a Washington facility. Patient A <u>is not</u> included in the IWeb Coverage Rate Report for ABC Pediatrics. Patient A <u>is</u> included in the SMaRT AFIX assessment for ABC Pediatrics.
Influenza	In IWEB: This report does not take the current flu season into consideration when calculating complete. It only counts the dose that has been identified in the series. If you selected a series containing the flu vaccine, the report actually measures if the patient has ever received a flu vaccination. It does not measure if they received a flu vaccination in the current year or current flu season.	In SMART AFIX: SMaRT AFIX defines the flu season as July 1 through June 30. Coverage calculations are based on one dose given during the most recently completed flu season - not a flu season in progress.	Example: If an SMaRT AFIX assessment occurs between January and June 2017, the assessment includes the 2016-2017 season. A patient who has received one dose of influenza (even if they are forecasted for a second dose within the same season) is considered up-to-date (UTD).
Forecasting	In IWEB: Recommended dates are based on the last vaccination date and current age. The latest due date is evaluated from the H33_VACCINATION_FOR	In SMART AFIX: CDSi forecasting only. No state preferences or settings. Recommended dates are based on the last vaccination date, which	Example: CDSi test cases reflect the recommended administration date for DTaP dose 4 at 15 months of age. Some IISs may forecast this dose at 12 months of

Category	IWeb Coverage Rate Report	SMaRT AFIX Coverage Rate Report	Examples
	ECAST table (max) due date. H33_VACCINATION_FOR ECAST holds the patient's current forecast records. H33_FAMILY_SCHEDULE holds all possible schedules. H33_VACC_FAMILY_RPT_PREFS holds the state-specific forecast preferences, which override the ACIP schedule.	may cause past due dates to be calculated differently than in IWeb.	age in conjunction with the Hib, PCV-13, Hepatitis A, MMR, and Varicella forecast to reduce missed opportunities.
Doses	In IWEB: Valid or invalid. For forecasting, a state-specific setting allows the next dose calculation to be based on the date of the last dose, whether it is valid or not, matching the ACIP guidelines. If this option is disabled, the interval for the next dose is calculated by the date of the last valid dose.	In SMART AFIX: Valid doses only.	
Missed Opportunities	In IWEB: Any vaccination for which the patient was eligible but did receive during the last vaccination visit is an missed opportunity. Eligibility is determined by the earliest due date for each family in the defined series. Rememberforecaste d doses in IWeb (or other IIS systems) may not always be consistent with the CDSi compatible logic that SMaRT AFIX uses for forecasting.	In SMART AFIX: A patient has a missed opportunity if the patient did not receive a dose for which he or she was forecasted and eligible to receive. For the purpose of SMaRT AFIX, missed opportunities are based on the last vaccination visit (which can be an influenza-only visit) and the recommended date for the relevant antigen. Parent refusal of one or more vaccine is counted as a missed opportunity to vaccinate.	 Today, Patient A is due for DTaP, MMR and Varicella. He received Hib #4, Hepatitis A #1 and PCV #4 on 7/17/2015. The recommended date for his MMR and Varicella was 7/16/2015. The recommended date for the DTaP dose was 8/12/2015. For the purpose of this example, the

Category	IWeb Coverage Rate Report	SMaRT AFIX Coverage Rate Report	Examples
		Remember: Forecasted doses in IWeb (or other IIS systems) may not always be consistent with the CDSi compatible logic that SMaRT AFIX uses for forecasting.	minimum valid date was 6/1/2015. Patient A will appear on the missed opportunities list within SMaRT AFIX for MMR and Varicella but not for DTaP. His last vaccination visit was 7/17/2015. He was eligible for Hib, Hepatitis A, PCV, MMR and Varicella on that day but received only Hib, Hepatitis A and PCV. If he had been vaccinated on September 20, 2015 (for a flu shot, perhaps), then all three forecasted doses (MMR, Varicella AND DTaP) would appear as missed opportunities. For IWeb, Patient A's DTaP dose can be considered a missed opportunity based on the minimum valid date.

Definitions

The following are definitions for the terms used in IWeb:

Complete by Series

Includes patients who are up-to-date and those who are late up-to-date.

Permanent exemptions count as series complete (i.e., history of disease, contraindications, and immunity). Parental refusals do not count as series complete.

Due Now

As of today's date, the patient is considered Due Now if:

- The patient's age falls between the recommended minimum age and the recommended maximum age for this dose, and
- The absolute minimum interval has been met since the last dose.

Missed Opportunities

Any vaccination for which the patient was eligible but did receive during the last vaccination visit is an missed opportunity. Eligibility is determined by the earliest due date for each family in the defined series.

No Forecast/Incomplete

Occurs if the **Suppress 1st Dose** option is enabled, if the database needs to be reforecasted, or if a patient has just gone through deduplication and forecasting has not yet run.

Optional

This vaccine can be administered today. Although the usual recommended date has not been met, the minimum valid date for this dose has been met. This appears when the current date is between the minimum valid date and the recommended date.

Past Due

As of today's date, the recommended maximum age or the recommended maximum date for this dose has passed.

Patient has no forecast or no longer meets the age requirements for the vaccines in the series

This message displays for patients who have aged out, or who do meet the age requirements but do not have a forecast listed for the vaccines in the series. This can

happen if the **Suppress 1st Dose** option is enabled or if the database has not yet been re-forecasted after a forecast patch or forecast setting change.

Patient no longer meets the age requirements for the vaccines in the series

Aged-out patients (including those on the catch-up schedule) can be filtered out of the patient list by selecting the **Exclude patients who have completed or aged out** option. This selection affects patient lists and the Coverage Rate report.

Recommended Date

If the recommended date is more than one year before the current date, the actual date is hidden and the words *Past Due* display instead.

There is a state-configurable option to forecast for Hepatitis A.

Undefined Patients

The data is not populated for a specific field.

Under-immunized

For the specific vaccine series that has been selected, the patient has not received all valid doses of the vaccines listed in the selected series.

Up-to-Date (UTD)

For the specific vaccine series that has been selected, the patient has completed the selected vaccine series by the specified date. As of today's date, the patient is not due or past due.

UTD Status

A patient is up-to-date (UTD) as determined by the forecaster. Note: There is no UTD field in a table that can be referenced by a client.