



ImmuCast

Release Notes

v5.21.0



Support Services

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

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This documentation describes the following: ImmuCast 5.21.0 (and IWeb Forecaster) release notes

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Table of Contents

| | |
|---|----|
| Introduction | 1 |
| Apply the Release..... | 1 |
| For ImmuCast (Stand-Alone Forecaster)..... | 1 |
| For IWeb Only | 1 |
| Patient Groups Affected by this Release (v5.21.0) | 2 |
| CDSi Changes in v5.21.0..... | 2 |
| New Features/Improvements..... | 3 |
| Bug Fixes Summary for ImmuCast v5.21.0..... | 3 |
| Bug Fixes Details for v5.21.0 | 5 |
| Known Issues for v5.21.0..... | 11 |
| Planned Logic Changes | 12 |
| Product Documentation..... | 13 |

Introduction

This release contains schedule changes that may affect the group of patients you select to be reforecasted. Detailed descriptions and test cases follow below in the ticket descriptions.

Please note that testing scenarios do not have a grace period applied.

Also note that Forecast, Forecaster, and ImmuCast are used interchangeably throughout this document.

Apply the Release

Apply the release by executing either the included `forecast.bat` or `forecast.sh` file. Prior forecast releases through version 5.20.0 should have already been applied. Log files, which are created in the same folder from where the release is executed, can be reviewed for errors. To determine the current version of ImmuCast, execute this statement from SQLPlus:

```
SQL> select max(version) from h33_forecast_version where insert_stamp =  
(select max(insert_stamp) from h33_forecast_version);
```

If the version number returned is not 5.20.0, download and apply the previous releases prior to applying this. If the release prior to and including 5.20.0 releases were not applied, edit the `forecast.bat` file (or `forecast.sh` if applying the batch with the shell script) and uncomment any lines with a later version number than the version number returned by your query so that they can be applied to the database. Log files are created in the folder from where the release is executed and can be reviewed for errors.

For example, if the release for 5.20.0 was not applied, uncomment that line in the file to include it when the release is executed:

```
REM sqlplus H33ASIIS/ASIIS@SIIS @forecast_patch5_20.sql
```

For ImmuCast (Stand-Alone Forecaster)

After applying the release, restart Tomcat to enable and cache any new vaccine codes into memory.

For IWeb Only

The database should be reforecast when there have been multiple changes to forecasting. Please be aware that this can affect a large number of patients and is best accomplished over a weekend.

IWeb versions prior to 5.17.5.2: Patients that are marked for reforecasting may interfere with the immediate deduplication of HL7 messages, because patients belonging to a particular

organization will also be picked up by that organization's immediate deduplication session. Reforecasting patients in IWeb version 5.17.5.2 or later will not affect the deduplication of HL7 messages.

If IWeb is hosted by STC, please contact the Help Desk to ask that the current `v5.21.0_PreIWeb5.17.5.2_NeedsForecast.sql` script included in this release be executed to mark patients for reforecasting. This will update the patients affected by this release. Non-STC hosted clients may perform these steps to mark patients for reforecasting.

After applying the database release, log in to SQLPlus as the H33ASIIS user. Execute the `v5.21.0_PreIWeb5.17.5.2_NeedsForecast.sql` script included with this release to flag the patients affected by this release for reforecasting.

If you desire to reforecast all patients, execute the H33_MARK_FORECAST procedure (`SQL> exec h33_mark_forecast`) to flag patient records to be reforecast. The procedure may also be run for a specific birthdate range. For IWeb 5.17.5.2 or later, forecasting is run during the regular nightly deduplication processes.

Patient Groups Affected by this Release (v5.21.0)

If your database will be reforecast for this release, the following are patient ranges that we believe to be most affected by the changes in this release. You may wish to limit your reforecast to these ranges to limit the scope of your reforecast.

- **Hepatitis B – Patients < 18 years of age**

CDSi Changes in v5.21.0

| Key | Summary |
|---|--|
| CONSORT-4970 | This change updates INVALID_VACC_REASON 10 from 'This additional dose not required' to "Extraneous Dose" to match CDSi terminology. |
| CONSORT-4971 | This change implements the CDSi date logic to handle computed dates which are not real dates. These dates will be rolled forward to the first day of the next month. This changes impacts flu dates for children with birthdates: 03/31/2018, 05/31/2018, 08/30/2018, 08/31/2018, 10/31/2018 and 12/31/2018. |
| As part of this release, routine maintenance and CDSi alignment was performed for the following vaccine groups: Hepatitis B. | |

New Features/Improvements

The following are new features, functionalities or enhancements in this version of ImmuCast.

| Key | Summary |
|------------------------------|--|
| CONSORT-4972 | This adds MVX and CVX codes for CVX Codes 193 (Twinrix Jr. – Non-U.S) and 194 (Influenza, Southern Hemisphere, unspecified formulation). |
| CONSORT-4973 | This updates the invalid reason displayed in scenarios containing two doses of zoster, live. The warning now reads, "Zoster live is not acceptable for this dose." |

Bug Fixes Summary for ImmuCast v5.21.0

| | |
|--|---|
| HDSD-593 | This resolves a situation in which duplicate PCV and PPSV given on same date resulted in a unique constraint error on h33_valid_vaccination. No client testing is necessary for this change. |
| CONSORT-4974 | This resolves an issue for the timing of the recommended date for doses following Hepatitis B Dose #1, given as Heplisav-B. |
| HDSD-185 CONSORT-4975 | This resolves an issue observed with the recommended date for Hepatitis B Dose #3. |
| HDSD-319 CONSORT-4976 | This addresses an inconsistency caused by a Forecast Preference setting overriding the other minimum age setting. The issue only presented when DTaP #4 had the Recommended Age set to 15 Months. |
| CONSORT-4977 | This adjusts the minimum recommended date for several CDSi DTaP test cases which had a difference of 4 days from expected. |
| CONSORT-4978 | This change corrects the inaccurate recommendation of a fourth dose for complete Hib series. |

| | |
|------------------------------|--|
| CONSORT-4979 | This resolves an issue which affected the recommended dates following single antigen Attenuvax and was discovered by STC during regression testing. |
| CONSORT-4980 | This change incorporates minimum age of Dose 2 and Dose 3 Polio into the minimum date recommendations. |
| CONSORT-4981 | This aligns the past due date returned for Dose 2 HepB-C with CDSi. |
| N/A | This adds an entry for ASIIS_VACC CODE 614 to H33_VACCINE_GROUP_MEMBERS table. This issue affects IWeb reporting only and does not require client testing. |
| N/A | This resolves a rarely occurring scenario in which the HepB CXV 104 is missing the HepB Dose 3 portion of response message. It was observed in High risk scenarios and does not require client testing. |

Bug Fixes Details for v5.21.0

The following lists the detailed information about each of the tickets addressed in v5.21

| Key | Vaccine Group | Description | | | | | | |
|--|--|---|------------|----------|------------|------------|------------|--|
| CONSORT-4979 | MMR | This resolves an issue which affected the recommended dates following single antigen Attenuvax and was discovered by STC during regression testing. | | | | | | |
| Test Scenario | Antigen | Vacc Date | Valid | Rec Date | Min Date | Past Due | Comment | |
| CDSi Test Case 2013-0531 1 single antigen dose at 12 M: Measles | DOB 02/21/2018 Assessment Date 02/21/2019 | Attenuvax CVX 05 | 04/24/2017 | Y | 05/24/2018 | 05/24/2018 | 09/20/2018 | |
| CDSi Test Case 2013-0537 3 single antigen doses on same day: 1 Measles; 1 Mumps; 1 Rubella | DOB 02/21/2018 Assessment Date 02/21/2019 | Mumps CVX 07 | 2/21/2019 | Y | | | | |
| | | Meruvax CVX 06 | 2/21/2019 | Y | | | | |
| | | Attenuvax CVX 05 | 2/21/2019 | Y | 02/21/2022 | 03/21/2019 | 03/20/2025 | |

| Key | Vaccine Group | Description | | | | | | |
|---|--|---|------------|----------|------------|------------|------------|--|
| CONSORT-4974 | Hep B | This resolves an issue for the timing of the recommended date for doses following Hepatitis B Dose #1, given as Heplisav-B prior to 18 years of age. Per the CDC, the patient can receive any age appropriate HepB which can be administered immediately or any time thereafter (on the same day as the dose of Heplisav-B with 0 day interval) since no HepB series had been initiated. | | | | | | |
| Test Scenario | Antigen | Vacc Date | Valid | Rec Date | Min Date | Past Due | Comment | |
| CDSi Test Case 2018-0022 Hep B: Patient is 18 years - 5 days with first dose of Hep B (Heplisav-b) vaccine | DOB 2/26/2001 Assessment Date 2/21/2019 | Heplisav-b CVX 189 | 08/24/2018 | Yes | 08/24/2018 | 08/24/2018 | 09/20/2018 | |
| Key | Vaccine Group | Description | | | | | | |
| CONSORT-4975 HDSD-185 | Hep B | This resolves an issue observed with the recommended date for Hepatitis Dose #3. | | | | | | |
| Test Scenario | Antigen | Vacc Date | Valid | Rec Date | Min Date | Past Due | Comment | |
| STC HEP B 2019-1 Hep #3 Recommended Date | DOB 08/31/2005 Assessment Date 02/25/2019 | Hep B Ped/Adol ENGERIX B PEDS CVX 8 | 1/09/2019 | Yes | | | | |
| | | Hep B Ped/Adol CVX 8 | 02/25/2019 | Yes | 05/01/2019 | 05/01/2019 | 05/31/2019 | |

| Key | Vaccine Group | Description | | | | | | |
|--|-------------------------------|--|------------|-------|------------|------------|------------|---------|
| CONSORT-4976 HDSD-319 | DTAP | <p>This addresses an inconsistency caused by a Forecast Preference setting overriding the other minimum age setting. The issue only presented when DTaP #4 had the Recommended Age set to 15 Months.</p> <p>Instructions for testing: Set the Recommended Age to 15 months and the Minimum Age to 12 months</p> | | | | | | |
| Test Scenario | | Antigen | Vacc Date | Valid | Rec Date | Min Date | Past Due | Comment |
| STC DTaP 2019-2 Forecast Preference setting overriding the other minimum age setting | DOB 04/10/2018 | DTaP, unspec CVX 107 | 6/8/2018 | Yes | | | | |
| | Assessment Date 10/22/2018 | DTaP, unspec CVX 107 | 8/7/2018 | Yes | | | | |
| | | DTaP, unspec CVX 107 | 10/22/2018 | Yes | 07/10/2019 | 04/22/2019 | 12/07/2019 | |

| Key | Vaccine Group | Description | | | | | | |
|--|----------------------------|---|------------|-------|------------|------------|------------|---------|
| CONSORT-4977 | DTAP | This adjusts the minimum recommended date for several CDSi test cases which had a difference of 4 days from expected. | | | | | | |
| Test Scenario | | Antigen | Vacc Date | Valid | Rec Date | Min Date | Past Due | Comment |
| CDSi Test Case 2013-0003 DTaP #2 at 10 wks-4 days | DOB 12/17/2018 | DTaP, unspec CVX 107 | 01/28/2019 | Y | | | | |
| | Assessment Date 02/21/2019 | DTaP, unspec CVX 107 | 02/21/2019 | Y | 06/17/2019 | 03/25/2019 | 08/13/2019 | |
| CDSi Test Case 2013-0130 # 2 Pediarix at 10 wks-4 days | DOB 12/17/2018 | Pediarix CVX 110 | 01/29/2019 | Y | | | | |
| | Assessment Date 02/21/2019 | Pediarix CVX 110 | 02/21/2019 | Y | 06/17/2019 | 03/25/2019 | 08/13/2019 | |
| CDSi Test Case 2013-0044 DTaP #1 at age 6 weeks-4 days | DOB 01/14/2019 | DTaP, unspec CVX 107 | 02/21/2019 | Y | 05/14/2019 | 03/25/2019 | 07/11/2019 | |
| CDSi Test Case 2013-0112 # 1 Pediarix at 6 wks-4 days | DOB 01/14/2019 | Pediarix CVX 110 | 02/21/2019 | Y | 05/14/2019 | 03/25/2019 | 07/11/2019 | |
| | Assessment Date 02/21/2019 | | | | | | | |

| Key | Vaccine Group | Description | | | | | | |
|--|-------------------------------|--|------------|-------|------------|------------|------------|-----------------------------|
| CONSORT-4978 | HIB | This change corrects the accurate recommendation of a fourth dose for complete Hib series. The issue was discovered by STC during regression. | | | | | | |
| Test Scenario | | Antigen | Vacc Date | Valid | Rec Date | Min Date | Past Due | Comment |
| CDSi Test case 2013-0324: #3 at 12 months - 3 days | DOB 08/27/2017 | ACTHIB CVX 48 | 10/27/2017 | Y | | | | |
| | Assessment Date 08/27/2018 | ACTHIB CVX 48 | 12/27/2017 | Y | | | | |
| | | ACTHIB CVX 48 | 08/27/2018 | Y | | | | Patient is series complete. |
| Key | Vaccine Group | Description | | | | | | |
| CONSORT-4980 | POLIO | This change incorporates minimum age of Dose 2 and Dose 3 Polio into the minimum date recommendations. Previously only minimum intervals between doses were considered in the forecast date. | | | | | | |
| Test Scenario | | Antigen | Vacc Date | Valid | Rec Date | Min Date | Past Due | Comment |
| STC POL-2019-10 Minimum age after Dose #1 | DOB 01/14/2019 | IPV CVX 89 | 02/21/2019 | Y | 05/14/2019 | 03/25/2019 | 06/14/2019 | |
| STC POL-2019-11 Minimum age after Dose #2 | DOB 12/17/2018 | IPV CVX 89 | 01/28/2019 | Y | | | | |
| | | IPV CVX 89 | 02/21/2019 | Y | 06/17/2019 | 03/25/2019 | 07/17/2020 | |

| Key | Vaccine Group | Description | | | | | | |
|------------------------------|--|---|------------|-------|------------|------------|------------|---------|
| CONSORT-4981 | Hep B | This aligns the past due date returned for Dose 2 Heplisav-B with CDSi. | | | | | | |
| Test Scenario | | Antigen | Vacc Date | Valid | Rec Date | Min Date | Past Due | Comment |
| CDSi Test Case 2018-0019 | DOB 01/01/2000 Assessment Date 01/01/2018 | Heplisav-B CVX 189 | 01/01/2018 | Y | 01/29/2018 | 01/29/2018 | 02/25/2018 | |

Known Issues for v5.21.0

The following are known issues and will be addressed in future releases:

DTaP/Tdap Forecasting

- Logic to support forecasting for 6 doses given before the age of 4 years has not yet been implemented. (CDSi Test Case 2013-0034)
- Logic to support inadvertent doses has not yet been implemented. (CDSi Test case 2013-0060)
- Logic to repeat Tdap at 11-12 years after administration at 7-10 years was published in April 27, 2018 MMWR has not yet been implemented. (Further changes to the recommendations are anticipated. This logic will not be implemented until recommendations are finalized and CDSi test cases have been published.)
- HDTN-905, HDAK 2469: Forecaster incorrectly marks DTaP Dose #5 as valid when the minimum interval from Dose #4 is > 4 months but < 6 months.
- HDSD-437: Minimum valid date following Dose #2 should be 4 weeks, not 8 weeks
- HDSD-322: Expired Pediarix over age 7 does not display as invalid. STC has been unable to reproduce.

Influenza Forecasting

- HDSD-452. Add extraneous dose warning for scenarios in instances where a child under 9 has three doses in the same flu season, the 3rd dose does not include a warning indicating that dose was not needed

Hib Forecasting

- HDSAF-143, HDMT-1855, HDAZ-890: Forecaster incorrectly recommends Dose #3 Hib at 4 week interval after dose 2, rather than an 8 week interval.
- HDWV-1040: Forecaster correctly marks a Hib PRP-T dose as invalid but returns a "minimum interval not met" reason, rather than "minimum age not met".
- HDTN-1087: Recommended Hib intervals between Dose #1 and Dose #2 are different for Hib PRP-OMP and Hib-PRP-T and display "Minimum" interval dates as "Recommended" interval dates.

Pneumococcal Forecasting

- HDSD-470: Minimum spacing between PCV 13 and PPSV 23 is 8 weeks. When the interval is violated, warning should appear on the second dose referencing outside the recommended interval, but that repeating dose not recommended.
- HDSD-403-, HDSD-455: Forecast returns PCV13 recommendation 1 year after inadvertent PPSV. PPSV23 given at this age should not be considered to be part of the pneumococcal vaccination series. PCV13 should be administered as soon as the error is discovered.
- HDSD-422, HDSD-418: Scenario: DOB: 08/10/2018, PCV13: 09/28/2018 , 03/07/2019 Dose 2 incorrectly displays *Invalid PNEUMO (PCV): Minimum interval from previous dose not met.* Warning disappears with 4 day grace period.

Zoster: Returning brand recommendation

- Scenario: Forecaster returns Dose #2 ZVL recommendation for patient with previous dose of ZVL, rather than returning RZV recommendation. The 5.18.8 patch changed the name

from Herpes Zoster to Zoster to match the CDC vaccine group. So it does not recommend ZVL.

- Task: Determine method for returning specific recommendation for Zoster. Typically, a vaccine family/group recommendation meets the need. A brand preference may be clinically meaningful in some cases. This is similar to PCV/PPSV23 recommendation.
- FCAST-542, HDWA-3232

Planned Logic Changes

New Vaccine Forecasting

- Addition for forecasting logic for Twinrix Jr.
- Add BCG vaccine family changes

Live Vaccine Rules

- HDSD-535: Patient received OPV and MMR less than 28 days apart. MMR dose on 8/1/1988 is flagged as invalid but should be considered valid based on CDC General Recommendations on Immunization from the Pink Book. *"Parenteral live vaccines (MMR, MMRV, varicella, zoster, and yellow fever) and LAIV are not believed to have an effect on live vaccines given by the oral route (OPV, oral typhoid, and rotavirus). Live oral vaccines may be given at any time before or after live parenteral vaccines or LAIV."*
- HDSD-519: Patient received RSV IGIV on 3/15/18 and then received MMR and varicella vaccines on 4/9/18. The MMR and varicella vaccines are incorrectly marked as invalid.

Product Documentation

Product documentation is located on the STC Documentation Portal:
<https://documentation.stchome.com/>.

The following documents are available for this version of ImmuCast:

- ImmuCast 5.18.1 User Guide
- ImmuCast 5.21 Release Notes