MEDITECH

Medical Information Technology
2023 Real World Testing Results Report
MAGIC HCA Release Acute/Emergency Care Settings

Overview
MEDITECH, as an Electronic Health Record (EHR) vendor, is fortunate to collaborate with many of our customers in facilitating the Real World Testing program established by the Office of the National Coordinator (ONC) as introduced with the 21st Century Cures Act. Under the ONC Health IT Certification Program, MEDITECH, as a Health IT developer conducts Real World Testing ensuring validation of patient access, exchange, and use of Electronic Health Information (EHI). Organizations work with us directly in validating the Real World Testing Cures condition of certification, furthering MEDITECH's commitment to interoperability, and advancing health data exchange for our entire customer base.

MEDITECH customers partnered with us in testing and collecting statistical data for Real World Testing results reporting — connecting with organizations quarterly and expediting metric collection in production environments, which supports health data exchange capabilities with related Real World Testing criteria.

This 2023 Real World Testing Result document outlines the data review, demonstrating the interoperability universally of each associated care setting, based on the corresponding Real World Testing plan. Data was aggregated from healthcare organizations utilizing existing performance monitoring tools to demonstrate compliance with the conditions of certification. The information captured is metric-based and contains no Protected Health Information (PHI) data. Result reporting instances included verification for data export, transitions of care, electronic prescribing, clinical information reconciliation and incorporation, public health interfaces, and Application Programming Interfaces (API).

Products and Certificate Numbers
MAGIC HCA
- MEDITECH MAGIC HCA Electronic Health Record Core HCIS (without PatientKeeper) v5.67c 15.04.04.2931.MEDI.56.02.1.221111

Care Settings
Real World Testing is demonstrated following typical physician workflow — providing care in Acute and Emergency Department care settings. Scenarios incorporate Cures Edition certification criteria for testing purposes within the Care Coordination, Patient Engagement, Public Health, and Health IT Design and Performance categories.

Changes to Original Plan
The previous method of quarterly execution of § 170.315(b)(6) Data Export has been modified. Validation via an internal environment with synthetic patient data was validated simulating the execution of the creation of data export file(s) for the MG HCA release.

- Challenges involved a lack of customer participation resulting in alternate methods being utilized due to non-deployed capabilities in customer production environments with the associated criteria.
- This test methodology primarily tested the conformance of the implementation.

The previous testing of Application Programming Interface for (API) §170.315(g)(8) — Application access — data category request has been retired as of 12/31/22 and replaced with §170.315(g)(10) Standardized API for patient and population services.

Testing Methods

Data has been aggregated from a number of healthcare organizations, utilizing existing performance monitoring tools to demonstrate compliance with the conditions of certification. Interfaces have been tested for interoperability, universally of each care setting certified within the CHPL listings for those criteria included within the Conditions and Maintenance of Certification: Real World Testing (170.405). The information captured is metric-based and contains no Protected Health Information (PHI) data.

The following testing methods were utilized to demonstrate real-world interoperability:

- Quarterly review of Management Information System (MIS) interface logs for MAGIC HCA customers evaluating electronic health exchange (EHI) of Care Coordination, Patient Engagement, and Public Health criteria demonstrating a percentage of messages sent across the related interfaces. The number of accepted messages exceeds the Promoting Interoperability measurements related to each criteria
- Validation of execution of Application Programming Interface (API) conformance via internal environment.

Measures: Scenarios and Testing Elements: EHI

Sharing of Electronic Health Information - demonstrates MEDITECH's Health IT module conforms to the following certification criteria: § 170.315(b)(1) Transitions of Care, (b)(6) Data Export, and § 170.315(e)(1) View, Download, and Transmit to 3rd party.

The chart below outlines the measures identified to best demonstrate conformance to multiple certification criteria concerning the sharing of Electronic Health Information across the two use cases demonstrated (single patient and population services).

Measure 1 – Sharing EHI	Method
§ 170.315(b)(1) Transitions of care	(i)(A) Send transition of care/referral summaries (i)(B) Receive transition of care/referral summaries
§ 170.315(e)(1) View, download, and transmit	(i)(B)(2) Download ambulatory summary or inpatient summary using CCD Template (i)(B)(3) (Inpatient setting only) Download of transition of care/referral summaries (i)(C)(1) Transmit to third party (i)(C)(2) (Inpatient setting only) Transmit transition of care/referral summaries

Use Case

Sharing of Electronic Health Information Use Case 1 (Single Patient Overview) MEDITECH's solution is an integrated component of MEDITECH's enterprise-wide EHR consisting of advanced patient management; at the center of MEDITECH's EHR is a single electronic patient record. This Certified Health IT Module is utilized when documentation needs to be coordinated between providers and patients both internally and externally within a healthcare organization.

- MEDITECH demonstrates that both a limited and full set of data, as required in the United States Core Data for Interoperability (USCDIv1) standard, can be sent and received for Transition of Care (TOC) documentation for a single patient.
- The data can be shared externally using Edge protocol technology (Direct, SMTP email), exported, and shared directly with the patient. This functionality provides the ability to view, download, and transmit data.
- TOC summaries provide essential clinical information for the receiving care team and help organize final clinical and administrative activities for the transferring care team. MEDITECH's enterprise-wide EHR ensures the timely availability of patient information within the Inpatient and Emergency Department care settings.

United States Core Data for Interoperability (USCDIv1) standard can be sent and received on documentation for a single patient. The Inpatient and Emergency Department settings include two capabilities for conformance: (1) Sending transition of care/referral summaries and (2) Receiving transition of care referral summaries, including XDM processing.

- Seamless exchange of information ensures patients and staff alike have timely access to accurate and timely data across care settings.
- Metrics provide details on the types of transmissions deployed and the frequency of usage.

Test Methodology

MEDITECH reporting logs were utilized to monitor Management Information System (MIS) interfaces to determine the frequency and the transport workings used by providers for sending and receiving transitions of care and downloading or transmitting data.

- Logs obtained during real world testing were de-identified and used for analysis in several areas to validate the proper operation of the transport system and input for the calculation of the metric on the specific types of transport functionality utilized.
- The data metrics associated with criteria in these scenarios confirm the ability to create, receive, and properly consume interoperable documents using a common content and transport standard (e.g., Consolidated Clinical Document Architecture (C-CDA) that includes key health data — accessible and available for exchange).

Justification

The Inpatient and Emergency Department settings include two capabilities for conformance: (1) Sending transition of care/referral summaries and (2) Receiving transition of care referral summaries. Transitions of care (TOC) documents are shared using connection protocols (e.g., SMTP, Direct) while other data may be shared using downloads and encrypted or unencrypted transmissions. Seamless exchange of information ensures patients and staff alike have timely access to accurate and timely data across care settings. Quarterly metrics provided details on the types of transmissions deployed and the frequency of usage.

Final Outcome(s):

A total number of summary of care messages were generated for each transition of care request either receiving or sending information upon receipt of a transition. The functionality of incorporating the summary of care information provides a seamless transition into or out of the MEDITECH EHR. Providers and patients (or their authorized representatives) share data using the transmission functionality provided for Medicare Eligible Hospitals (EHs), Critical Access Hospitals (CAHs), and Medicaid Eligible Professionals (EPs) to meet or surpass the requirements of Promoting Interoperability programs related to Coordination of Care. Success and error rates were tracked and trended over time.

Measurement/Metric Findings:

In reviewing reports for Electronic Health Exchange (EHI), the number of accepted messages exceeded Promoting Interoperability measurements related to each criteria. Result totals included the following number of accepted messages for all related interface types with no challenges encountered:

- § 170.315(b)(1) Transitions of care 151,877 total transactions demonstrating transmitting a set of documents and associated metadata for a combined 99.91% success rate
- § 170.315(e)(1) View, download, and transmit - 5,371 transactions including medication renewal requests, allergy, and full health summary views related to VDT criteria were populated for a combined 100% success rate

Measure 2 – Patient Export	Method
(b)(6) Data Export	(6)(ii) Create export file (6)(iii)(A) real-time export; export based upon a relative date; and export based upon a specific date. (6)(iii)(B) Execute export

Test Methodology

As part of the Real World Testing requirements for §170.315(b)(6), MEDITECH demonstrates Data Export via validation reports following standard workflow within dedicated internal platforms for Acute and Emergency Department settings.

Justification

The export of data associated with a patient population is an additional way to share health information with external organizations. The intent is to provide data research to analyze specific trends in the patient population, export of which is only available to authorized users. Challenges involved a lack of customer participation resulting in alternate methods being utilized due to non-deployed capabilities in customer production environments with the associated criteria.

Final Outcomes/Measurement Findings

Validation via an internal environment with synthetic patient data was validated simulating the execution of the creation of data export file(s) for the MG HCA release. Using a dedicated internal platform, testing confirmed the export function is operating properly and generating export files real-time. This test methodology primarily tests the conformance of the implementation.

Measurement/Metric Findings

A review of export files for Electronic Health Exchange (EHI) with Data Export was executed for result totals included in the following statistics for the criteria with no challenges encountered:

- (b)(6) Data Export Export: 3 XML files with the Data Export routine file type for a combined 100% success rate

Measures: Scenarios and Testing Elements: Clinical Information Reconciliation and Incorporation (CIRI)

The chart below outlines the measures that have been identified to best demonstrate conformance to Clinical Information Reconciliation and Incorporation (CIRI) certification criteria concerning the ability to maintain and review

accurate medication, allergy, and problem lists for a patient — enabling clinicians to make informed care decisions during office visits.

Clinical Information Reconciliation and Incorporation	Method
§170.315(b)(2) Clinical Information Reconciliation and Incorporation	(b)(2)(ii) transition of care summary/referral summary Consolidated-Clinical Document Architecture (C-CDA) document can be properly matched to a patient in the Health IT Module (automatically or manually). (b)(2)(iii)(B) user creates a single, reconciled list using the data reviewed from the multiple medications, problems, or medication allergies (b)(2)(iii)(D) user accepts the reconciled list

Use Case

MEDITECH demonstrates (CIRI) by comparing information from the MEDITECH system with information from external sources, such as discussions with the patient or a CCD to ensure the data on the patient's chart is up to date. An inbound CCD is received for patients and any unmatched CCD medications, allergies, or problems are displayed. Metrics provided details on the number of reconciliations deployed and the frequency of usage.

Test Methodology

MEDITECH reporting logs were utilized to monitor Management Information System (MIS) interfaces to capture percentages for the Support Electronic Referral Loops by Receiving and Incorporating Health Information (Receive and Reconcile) measures. Variables capture the reconciliation percentage of imported problems, medications, or allergies. Logs obtained during Real World Testing were de-identified and used for analysis in several areas to validate the proper operation of (CIRI) transactions. The data metrics associated with the criteria in the above scenario confirm the ability of customers to perform accurate clinical information reconciliation.

Justification

As part of the Real World Testing requirements for §170.315(b)(2) Clinical Information Reconciliation and Incorporation (CIRI), MEDITECH demonstrates that external medications, allergies, and problems are available for reconciliation in order to confirm all current data. MEDITECH's enterprise-wide EHR ensures the ongoing capabilities in reconciling patient information within the Inpatient and Emergency Department care settings.

Final Outcome(s):

A total number of transitions or referrals receiving and incorporating Health Information (external medications, allergies, and problems) by performing a clinical information reconciliation were captured over a period for the Real World Test population of patients. This data exchange allows EHs/CAHs and Medicaid EPs to meet or surpass requirements of the Health Information Exchange objective Measure 3 - Clinical Information Reconciliation for threshold-based reporting and the Support Electronic Referral Loops by Receiving and Incorporating Health Information measure for performance-based reporting. Success and error rates were tracked and trended over time.

Measurement/Metric Findings:

A review of reports for Electronic Health Exchange (EHI) with CIRI found the number of accepted messages well exceeds Promoting Interoperability measurements related to the criteria. Result totals included the following accepted messages for the interface type with no challenges encountered:

- §170.315(b)(2) Clinical Information Reconciliation and Incorporation - 32,622 messages for Retrieve Document Set files with a combined 90.45% success rate

Measures: Scenarios and Testing Elements: Electronic Prescribing

As part of the Real World Testing requirements for §170.315(b)(3) Electronic Prescribing, MEDITECH demonstrates that an authorized user can be enabled to perform required prescription-related transactions in accordance with the standard. MEDITECH enables Electronic Prescribing and Order Communications from a single, central location. This Certified Health IT module is utilized when clinicians need to enter individual orders or multi-disciplinary order sets for prescription orders. The eRX orders are communicated in real-time to the receiving ancillary department's desktop, and clinicians can easily cancel, edit, renew, repeat, or hold orders at any time.

The chart below outlines the measures that have been identified to best demonstrate conformance to Electronic Prescribing (eRX) certification criteria concerning the ability to perform prescription-related transactions. This functionality includes creating new prescriptions, changing prescriptions, transmitting and receiving medication-associated diagnoses, and reasons for each prescription transaction.

Electronic Prescribing	Method
§170.315(b)(3) Electronic Prescribing	(b)(3)(ii)(A) send and receive specified prescription transactions electronically (all eRX transaction types) (b)(3)(ii) (C) send and receive the reason for the prescription (all eRX transaction types)

Use Case

MEDITECH's eRX capabilities are offered in collaboration with DrFirst. Functionality supported includes the ability to electronically submit prescriptions to outpatient pharmacies, review medication claim histories, electronically query a patient's prescription drug plan to ensure eligibility, and check the insurance formulary for covered medications.

Test Methodology

Reports and interface logs were reviewed to determine the frequency of transaction transmissions, outbound requests, and inbound responses. Logs obtained during Real World Testing were de-identified and used for analysis in several areas to validate the proper operation of eRX transactions. The metrics associated with the criteria in the above scenario confirm the ability of customers to generate and transmit permissible prescriptions electronically.

Justification

The Inpatient and Emergency Department settings include the following capabilities for conformance: receiving and processing a number of electronic transactions for new prescriptions; requests to change, cancel, or refill prescriptions; and Medication History Information requests. Metrics provide details on the types of transactions deployed and the frequency of usage.

Final Outcome(s):

Transaction types reconcile the corresponding number of new prescriptions; requests to change, cancel, or refill prescriptions; and Medication History Information requests. A total number of messages were generated for each eRX request either receiving or sending prescriptions for the Real World Test population of patients. Authorized users generate and transmit permissible discharge prescriptions electronically for EHs/CAHs and Medicaid EPs to meet or surpass (eRX) requirements for Promoting Interoperability criteria. Success and error rates were tracked and trended over time.

Measurement/Metric Findings:

A review of reports for Electronic Prescribing found the number of accepted messages well exceeds Promoting Interoperability measurements related to the criteria. Result totals included the following accepted messages for the interface type with no challenges encountered:

- §170.315(b)(3) Electronic Prescribing - 86,757 total messages for eRX categories with a combined 100% success rate

Measures: Scenarios and Testing Elements: Public Health Interfaces

The Real World Testing scenario below demonstrates that MEDITECH's Health IT module conforms to the following certification criteria: §170.315(f)(1) Transmission to Immunization Registries, §170.315(f)(2) Transmission to Public Health Agencies - Syndromic Surveillance, and §170.315(f)(3) Transmission to Public Health Agencies - Reportable Laboratory Tests and Value/Results.

The chart below outlines the measures that have been identified to best demonstrate conformance to multiple certification criteria concerning the sharing of registry data as demonstrated through the use case for population services.

Public Health Interfaces	Method
§170.315(f)(1) Transmission to Immunization Registries	(f)(1)(i) (1) generate the indicated HL7 v2.5.1 Z22 VXU immunization information message, (2) consume the associated acknowledgment message, (3) maintain historical vaccine records (f)(1)(ii) receive HL7 evaluated immunization history and forecast HL7 v2.5.1 Z42 RSP or HL7 v2.5.1 Z33 RSP response messages
§170.315(f)(2) Transmission to Public Health Agencies - Syndromic Surveillance	(f)(2) (2) generate the indicated HL7 v2.5.1 ADT message
§170.315(f)(3) Transmission to Public HealthAgencies - Reportable Laboratory Tests and Value/Results	(f)(3)(i) create Reportable Lab content and generate ELR message

Use Case

At the foundation of any effective population management solution is data, and MEDITECH's EHR brings it all together through reporting solutions in capturing public health criteria. Our EHR aggregates data across the continuum of care —

from customer hospitals, physician practices, emergency departments, and long-term care facilities. MEDITECH's Certified Health IT module provides functionality to track and store patient immunization information electronically, ensure hospitals possess the ability to report threat and outbreak information to public health agencies with Syndromic Surveillance data, as well as reportable condition functionality where specific reportable laboratory tests and results are defined.

Test Methodology

MEDITECH reporting logs were utilized to monitor Management Information System (MIS) interfaces to capture percentages to ensure the transmissions are operating properly and to determine the frequency of use. Logs obtained during Real World Testing were de-identified and utilized for analysis in several areas to validate the proper operation of the Public Health interfaces. This test methodology primarily tests the conformance of the Implementation.

Justification

The transmission of Public Health data associated with a patient population using interface functionality provides data research to analyze specific trends in the patient population. With intuitive interfaces, MEDITECH's Public Health & Clinical Data Exchange functionality within the care settings includes seamless and active engagement with public health agencies or clinical data registries to submit electronic public health data for conformance to this combined criteria. Interface messages provide metrics on the use and frequency of transmissions to state agencies for immunizations, syndromic surveillance, and reportable laboratory tests, value/results for a patient population associated with MEDITECH's Health IT Module.

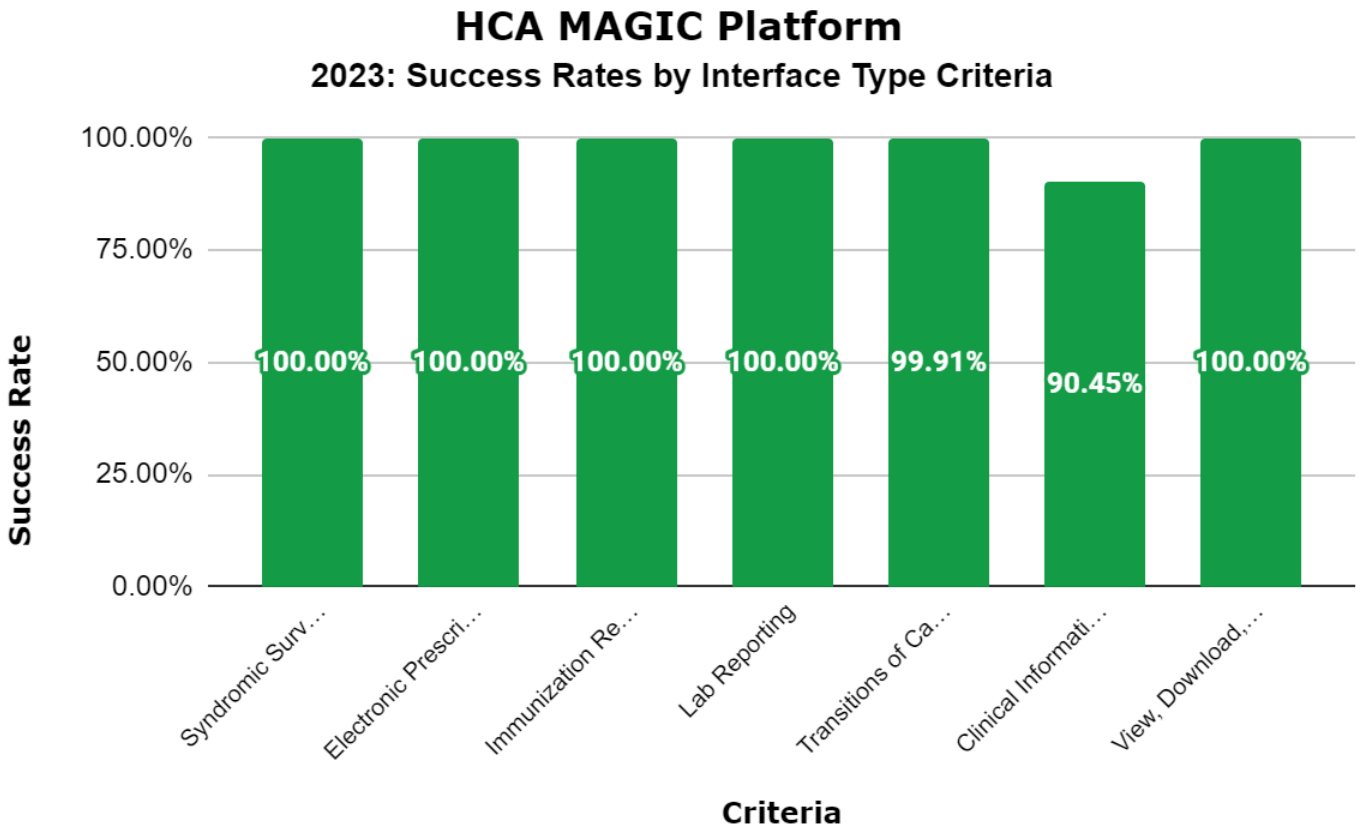
Final Outcome(s):

Public Health messages are processed and received via the interfaces used by the healthcare organization. Eligible hospitals or professionals are in active engagement with a public health agency using functionality provided in order to submit electronic public health data for EHs/CAHs and Medicaid EPs to meet or surpass requirements of Promoting Interoperability programs related to Public Health and Clinical Data Exchange objectives. Success and errors in transmission were tracked and analyzed over time.

Measurement/Metric Findings:

A review of sent messages for each public health interface was reviewed for result totals included in the following statistics for the criteria with no challenges encountered:

- §170.315(f)(1) Transmission to Immunization Registries - Immunization Query and Response 2,792 messages with a combined 100% success rate
- §170.315(f)(2) Transmission to Public Health Agencies - Syndromic Surveillance Admission, Discharge, Transfer (Inbound and Outbound) 1,195,952 messages with a 100% combined success rate
- §170.315(f)(3) Transmission to Public Health Agencies - Reportable Laboratory Tests and Value/Results (Inbound and Outbound) 25,770 messages with a 100% combined success rate



Measures: Scenarios and Testing Elements: Application Access

The Real World Testing scenario below demonstrates that MEDITECH's Health IT module conforms to the following certification criteria: §170.315(g)(7) Application Access - Patient Selection, §170.315(g)(9) Application Access - All Data Request, and §170.315(g)(10) Application Access - Standardized API for Patient and Population Services.

The chart below outlines the measures that have been identified to best demonstrate conformance to multiple certification criteria to validate Application Programming Interface (API) interoperability-specific application requests and responses.

Public Health Interfaces: Application Access	Method
§170.315(g)(7) Application Access - Patient Selection	The health IT developer submits their self-declaration to the ONC-ATL.
§170.315(g)(9) Application Access - All Data Request	(g)(9)(i)(A) (2) user demonstrates that the API responds to and returns all data from the USCDI (g)(9)(i)(B) API functions return data to the developer-identified requesting application for a specific date that the requesting application identifies.

§170.315(g)(10) Application Access - Standardized API for Patient and Population Services	(g)(10)(i), (ii) Demonstrate Single Patient API (g)(10)(i), (ii), (iv) Demonstrate Multi-Patient Authorization and API

Use Case

Interoperability Services (IOPS), an Application Programming Interface (API) platform installed alongside the RESTful API Infrastructure, provides the MEDITECH EHR with next-generation interoperability capabilities. The platform runs interoperability-specific applications (collections of APIs) — enabling the MEDITECH EHR to take advantage of more advanced features and integrations. The MEDITECH API platform is an extension of the MEDITECH Health Care Information System (HCIS) which enables client applications to interact with MEDITECH's databases.

Test Methodology

An authorized user acting as the Health Care Organization's System Administrator registered the API User client application with the MEDITECH API platform in order to demonstrate the facilitation of Application Access requests for all Application Access requests. This test methodology tests the conformance of the implementation. Visual inspection of successful test data were tracked and analyzed.

Justification

MEDITECH remains at the forefront of the interoperability movement. As a contributing member of the CommonWell Health Alliance and a collaborator in Argonaut's FHIR Project, we are committed to increasing our customers' data exchange avenues. Where Application Access criteria requirements include health IT developers submitting ongoing certification via self-declaration, supplemental testing of patient requests, all data requests, and Multi-Patient Authorization by an authorized MEDITECH user best demonstrates conformance to Application Programming Interface (API) interoperability-specific application requests and responses for Real World Testing.

Challenges involved customer participation for the setup of authorized users, synthetic patient data, and application review to validate all related criteria in each participating customer production environment.

Final Outcome(s)/Measurement Findings:

MEDITECH facilitated API calls successfully using synthetic patient data in a dedicated production environment. Validation resulted in 100% success rates with interoperability-specific application requests and responses for all API criteria categories from the patient identified by ID or token. Measurements included single patient identifiers and full CCD API calls for Application Programming Interface (API).

Measurement/Metric Findings:

A review of reports for Application Access data for the successful capture of API collections was evaluated for a sample of testing patients with the following combined totals:

- §170.315(g)(7) Application Access - Patient Selection - patient identifier 1675 (total # of patient events for the given ImplementationID)
- §170.315(g)(9) Application Access - All Data Request 31 (total # of events for the given ImplementationID specifically for (CDA)
- §170.315(g)(10) Application Access - Standardized API for Patient and Population Services 7 (total # of Globally Unique Identifiers (GUID) with events in more than 1 category for the given ImplementationID)

Related Criteria/Relied-Upon Software	
Criteria	**Relied-Upon Software**
§170.315(b)(3) Electronic Prescribing	• DrFirst Rcopia (DrFirst)

STANDARDS UPDATES (INCLUDING STANDARDS VERSION ADVANCEMENT PROCESS (SVAP) AND UNITED STATES CORE DATA FOR INTEROPERABILITY (USCDI))	
Standard (and version)	N/A
Updated certification criteria and associated product	N/A
Health IT Module CHPL ID	N/A
Method used for standard update	N/A
Date of ONC -ACB notification	N/A
Date of customer notification (SVAP only)	N/A
Conformance measure	N/A
USCDI-updated certification criteria (and USCDI version)	N/A

Care Settings	
Acute	MEDITECH's Inpatient solution is an integrated component of MEDITECH's enterprise-wide EHR consisting of advanced patient management via Registration capturing details for public health interfaces and data export. Clinical workflows incorporate medication reconciliation and list medications, problems, and allergies. Inpatient Data Export Exchange routines export single patient and/or bulk patient data files for Continuity of Care documents, Discharge Summaries, Referral Notes, and Care Plans.

Emergency Department	MEDITECH's Emergency Department Management solution assists ED staff with the critical task of treating patients quickly and efficiently. As an integrated component of MEDITECH's EHR, Emergency Department Management supports the seamless exchange of patient information between the ED settings, expediting care and providing all clinicians with the complete information they need to make safer, more informed decisions.

Schedule of Key Milestones

MEDITECH, following change control approval procedures, connected to a number of predetermined customer directories or dedicated internal environments gathering data for a specific period each quarter beginning in January 2023 and throughout the year in order to capture metrics for each criterion. These statistics substantiate the demonstration of interoperability and functionality of our Certified Health IT in the care settings and scenarios for the 2023 test plan as described in the above scenarios. As criteria tests have been conducted, authorized MEDITECH representatives analyzed the result outcomes.

The execution of the testing process, capturing data on a quarterly basis, was completed in December 2023 for an analysis of success rates over a period of time for submission of reporting results due by February 2024.

Key Milestone	Care Setting	Timeframes
Initial development of the Real World Testing plans designed by platform combination.	Acute Emergency	August – October 2022
Development submission of reporting utilities to gather data for analysis.	Acute Emergency	August – October 2022
Submit final Real World Test plans to Drummond Group.	Acute Emergency	November 1, 2022
Post approved Real World Test Plan to external URL.		December 15, 2022
MEDITECH Initiated a collection of metrics for each group of criteria based on the reporting tools and utilities noted.	Acute	Quarterly – March, June, September, and December 2023
Met with designated testers and Certification group review for analysis of data collected.	Acute	March, June, September, and December 2023

Design Real World Testing Results Report	Acute	December 2023 - January 2024
Complete metric analysis and Real World Testing report completion.	Acute	January 2024
Submit Real World Testing report to Drummond Group.	Acute	February 1, 2024

ATTESTATION

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