Registry - Data Push

Version 2.2

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Document Information

Document Owner	FIGmd Operations Team

Current Version - 2.2

Details Of Current Revision	Review Type	Reviewed By	Review Date (Month DD, YYYY)
Annual Updates	Technical SME	Hrushikesh Bhosle	January 15, 2020
	Final Approver	Narendra Shaligram, Siddhi Baralay	July 06, 2020

Revision History

Author Name	Version	Details Of Revision	Approved By	Approval Date (Month DD, YYYY)
Pallavi Salunkhe	1.0	Hosting provider updates	Narendra Shaligram	March 1, 2019
Pallavi Salunkhe	2.0	Annual Updates	Narendra Shaligram, Siddhi Baralay	January 23, 2020

Table of Contents

1. General Information

1.1. Document Conventions

Callouts

- Alpha-numerical callouts in the images represent the processes.
- The callout prefixed by
  - **P** denotes the practice side component and the number indicates the sequence of the push process.
  - **R** denotes the registry side component and the number indicates the sequence of the push process.

Hyperlinks

- Hyperlinks have been used in the document to easily reference detailed explanations related to a specific topic, which is placed at some other location within the document.

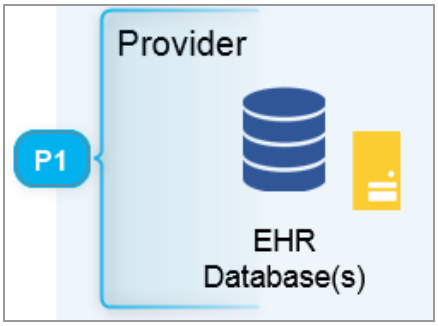

Figure 1: Alphanumeric Callouts

1.2. Acronyms

Acronym	Description
CCDA	Consolidated Clinical Document Architecture
CDR	Clinical Data Repository
DD	Data Dictionary
EMR	Electronic Medical Record
EHR	Electronic Health Record
FEC	FIGmd Enterprise Connector
GCS	Google Cloud Storage
PMS	Practice Management System
SFTP	Secure File Transfer Protocol
SSL	Secure Sockets Layer
TLS	Transport Layer Security
VPN	Virtual Private Network

2. Data Extraction

2.1. Overview

In Data Push, the data is received using **SFTP** wherein the required data elements are shared with the practice/vendor. The practice/vendor creates a file to be exported. FIGmd team imports the file from the practice/vendor location to FIGmd using SFTP.

If the mapping process is changed, the corresponding data elements are changed at the practice/vendor side to retrieve data. Data extraction frequency is set as per practice/vendor convenience.

2.2. Data Push Environment

The Data Push environment is divided into

1. **Practice Environment**
   The practice environment encompasses:
   - Practice EHR Server
   - EHR Data Mapping
   - SFTP Server/Client (In a few cases, the SFTP account can be present in FIGmd environment)

2. **Registry Environment**
   The registry environment encompasses:
   - Clinical Data Repository
   - Data Marts
   - Registry Dashboard

1. There is **no FIGmd Enterprise Connector(FEC) installation** required by the participant.
2. The participant sends the **Clinical and/or Billing** data to the **FedRAMP compliant platform** via **Secure File Transfer Protocol** (SFTP/SSL/TLS), **Web Service** or **TCP Tunnel** (VPN, etc.).
3. The participants send data in a pre-defined format with the data elements in the Clinical Data Repository (**CDR**) template to the registry.
4. The participants take on mapping responsibilities for mapping their own **EHR** data to elements in the **CDR layout** template.
5. The registry CDR warehouse stores the data submitted by the participants.
6. FIGmd's mapping team then maps this data from the **CDR** into the **Registry Data Mart** using the **Registry Data Dictionary** (DD). The participant may be asked to assist in the final mapping process.

2.3. End-to-End Data Flow

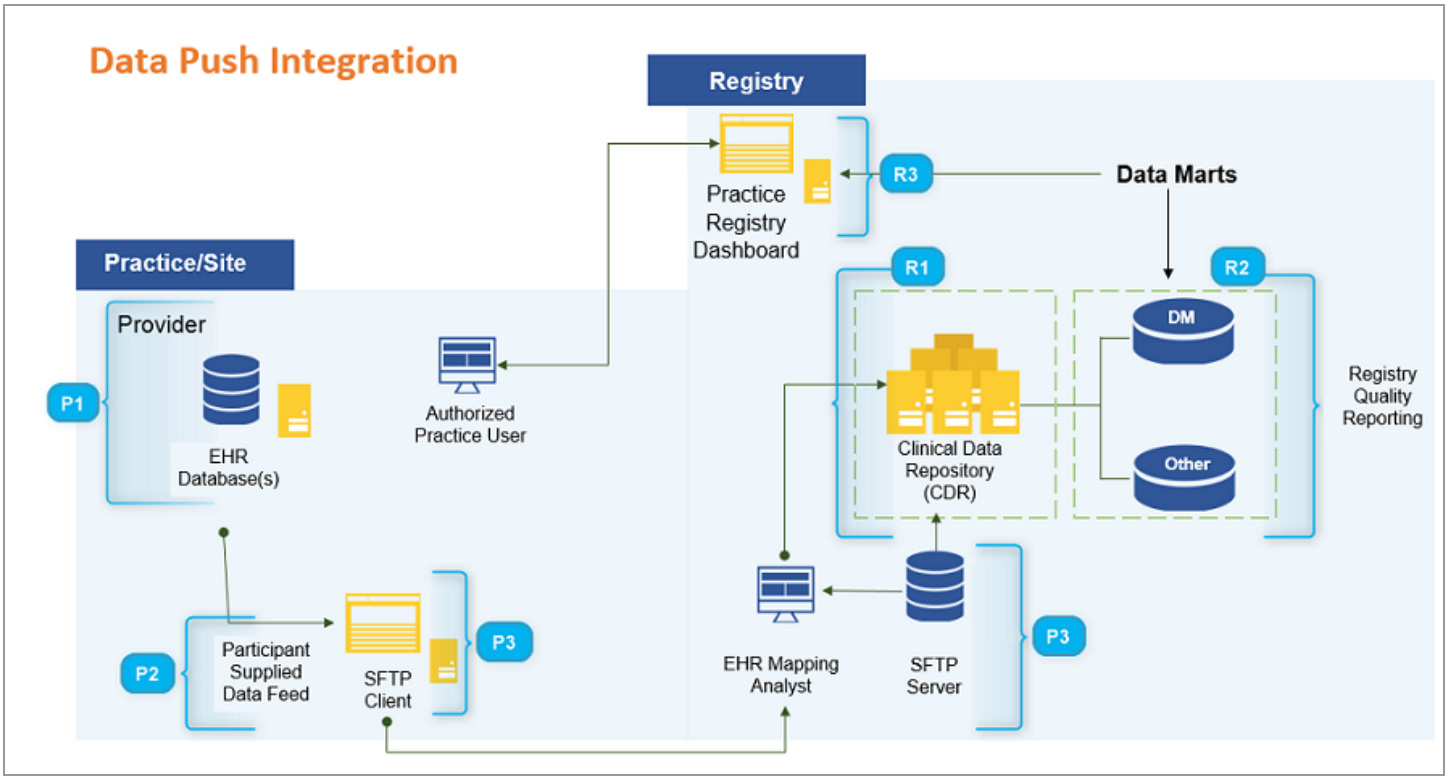

Figure 2: Data Push Data Flow

Practice Environment	
P1	Practice EHR Server
P2	EHR Data Mapping
P3	SFTP Client/ SFTP Server
Registry Environment	
R1	Clinical Data Repository
R2	Data Marts
R3	Registry Dashboard

2.3.1. Practice Environment

The **Practice environment** encompasses:

P1 - Practice EHR Server
P2 - EHR Data Mapping
P3 - SFTP Server/Client

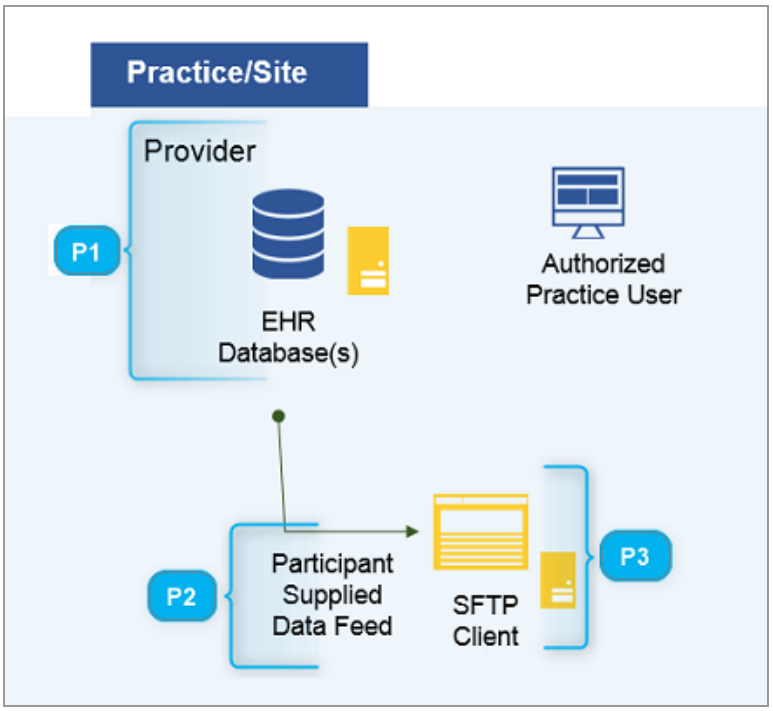

Figure 3: Data Push at Practice Environment

2.3.1.1. Practice EHR Server

The practice EHR is an information system that manages the patient's medical history and can be a billing database(s)/Practice Management (PMS) system for a practice/provider (Figure **4**).

Figure 4: Practice EHR Server

Back to the End-to-End Data Flow

Back to Practice Environment

2.3.1.2. EHR Data Mapping

In the Data Push scenario, the EHR data mapping is performed on the practice side in the below phases:

1. The participant practice receives the CDR Layout template from FIGmd team which is designed per the requirements of the registry.
2. The practice/EHR vendor team then maps the EHR data with the data elements that are included in the CDR Layout template. If there is data that is presented outside of the EHR, the practice may send separate files for each section, or a single file with consolidated data from their EHR and PM system.
3. The data from the EHR and/or PM system is then transferred to the **GCP** cloud via SFTP in a predefined format.

2.3.1.3. SFTP Server/Client

SFTP account can be created in two ways:

1. The account is created on FIGmd GCP where a participant can push the files (Figure **5**).
2. The participant creates an SFTP account on their server and shares the credentials with FIGmd team to enable a download of the files.

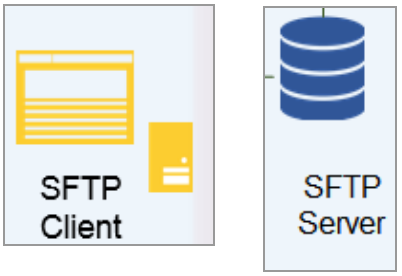

Figure 5: SFTP Client / Server

Back to the End-to-End Data Flow

Back to Practice Environment

2.3.2. Registry Environment

The registry environment encompasses:

R1 - Clinical Data Repository
R2 - Data Marts
R3 - Registry Dashboard

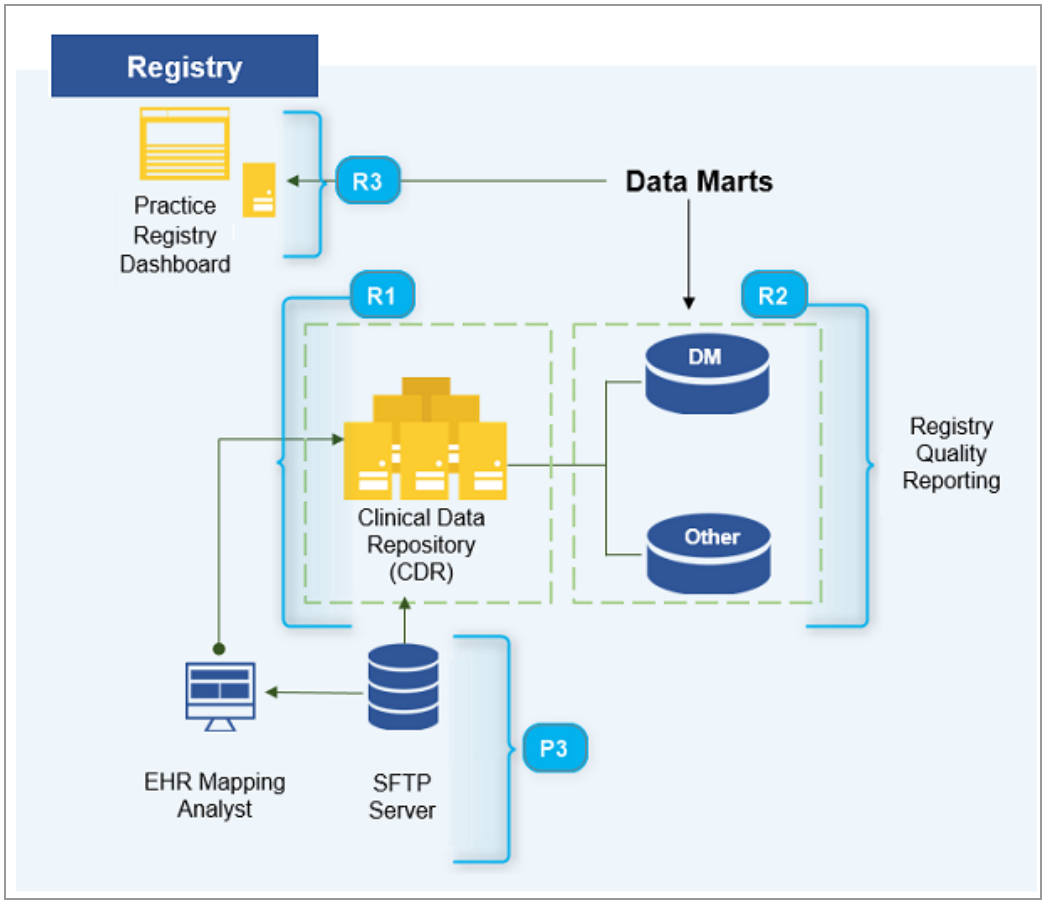

Figure 6: Data Push at Registry Environment

2.3.2.1. Clinical Data Repository (CDR)

The **CDR** stores the data that is transferred from the **Clinical Data Upload** server (Figure **7**).

Purpose

- Stores the data that has been extracted from the **Practice EHR**.
- Stores the data in an **HL7 CDA compliant** format.

Prerequisites

- Requires a 256-bit Bit-Locker Local/ 256 EBS Network Drive encryption.

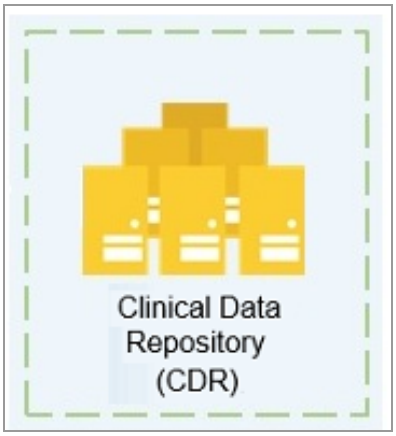

Figure 7: CDR

Back to the End-to-End Data Flow

Back to Registry Environment

2.3.2.2. Data Marts

Data from the **CDR** is converted into FIGmd specific database format which is called **Data Marts** (Figure **8**).

Purpose

- Support requirements such as quality measure calculations.
- Are displayed on the **practice dashboard** for review.

Figure 8: Data Marts

Back to the End-to-End Data Flow

Back to Registry Environment

2.3.2.3. Registry Dashboard

The dashboard displays measure-specific data (Figure **9**).

It supports:

- View measure details
- Export measure details in the required format (PDF, .CSV, and .XLS format)
- View and analyze the performance trend of measures against the registry benchmark and registry average.
- Generate reports.
- Raise tickets through the Service Desk.

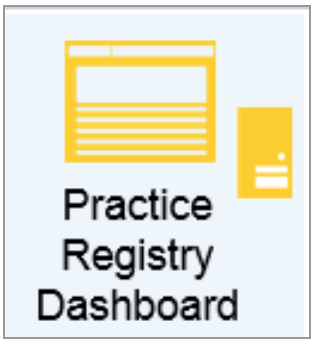

Figure 9: Registry Dashboard

Back to the End-to-End Data Flow

Back to Registry Environment

3. FAQs

3.1. Registry Dashboard

1. **Where is the registry dashboard hosted?**
   The Registry Dashboard is hosted on Google Cloud Platform.

2. **Who deploys the registry dashboard?**
   FIGmd deployment team deploys the registry dashboard.

3. **Who can access the registry dashboard?**
   Practice Admin, Practice clinician can access the registry dashboard.

4. **Does the registry dashboard display PHI?**
   Yes, the registry dashboard displays the PHI.

5. **Which browsers are compatible with the registry dashboard deployment?**
   Following browsers are compatible with the registry dashboard deployment:

Browser	Version
Chrome	65 and above
Safari	11 and above
Mozilla Firefox	60 and above
Internet Explorer	11 and above