

# Introduction

## **Two different systems IDR and CCW used by RTI on health research projects**

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1

# Background

- The Centers for Medicare & Medicaid Services (CMS) maintains the largest volume of health care data files in the world.
- Medicare Modernization Act of 2003 - CMS launched the Chronic Conditions Data Warehouse (CCW).
- September 2005, CMS announced the implementation of an Integrated Data Repository (IDR)

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# Integrated Data Repository (IDR)

- The underlying technology is integrated Hadoop and Teradata Enterprise Data Warehouse
- Integrates billions of Parts A, B, C, D, and DME claims, beneficiary, provider and plan data sources from 2006 to the present
- Consists of supporting reference data for beneficiary, provider, drug, contract, geography, diagnosis and procedures
- It is updated on daily, weekly and monthly basis depending on the type of data

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# Chronic Condition Data Warehouse (CCW)

- Access using a Virtual Research Data Center (VRDC)
- Medicare, Medicaid, Assessments, and Part D Prescription Drug Event data
- The preliminary linkage work is already accomplished and delivered as part of the data files sent to researchers
- It is updated on weekly, monthly and yearly basis depending on the type of data

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# IDR vs. CCW

## IDR

Relational database

CMS Mainframe

SAS/Access (pass through)

SAS and Teradata database functions and utilities are available

## CCW

Set of data files merged by beneficiary ID

CMS Virtual Research Data Center (VRDC)

SAS Enterprise Guide

SAS programming language skills

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# Database uploads - IDR

National claims history (NCH) – weekly updates

CMS Medicare eligibility and enrolment – daily updates

Part D (drugs) – daily updates

Health plan management system (HPMS) – monthly updates

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# Database uploads - CCW

Part A/B claims – monthly claims file are added at the end of the month

CMS Medicare eligibility and enrolment – monthly updates

Part D – annual updates

Denominator – annual updates

Assessment data – monthly updates

Medicaid– annual updates

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7

# Database uploads

	IDR updates	CCW updated
Part A/B claims	weekly	Weekly*
Part D (drugs)	daily	annual
CMS Medicare eligibility and enrolment	daily	monthly

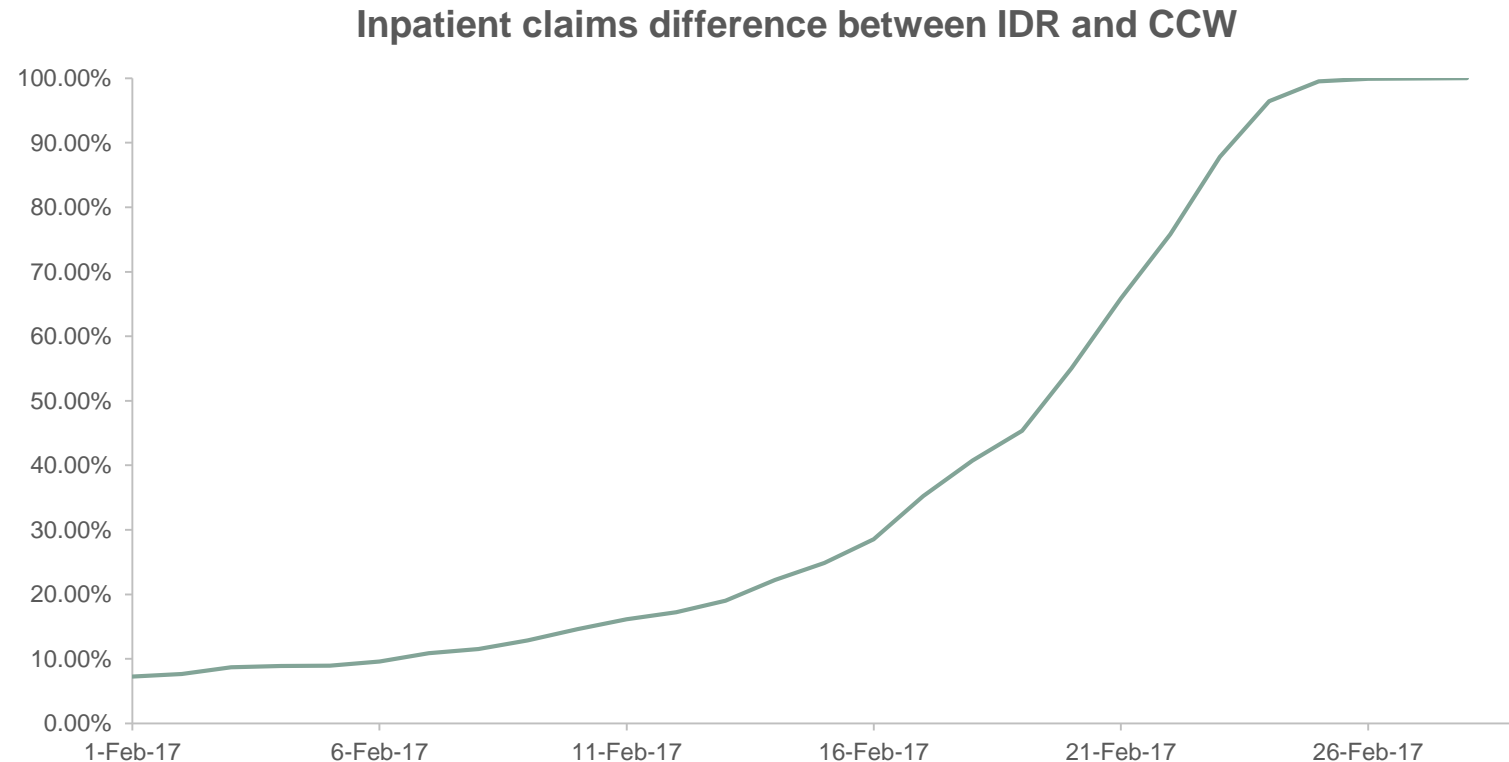
*\* Part A/B claims are first uploaded monthly at the end of the month*

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# Database uploads

- Final action inpatient claims from Feb 2017
- March 30, 2017
- Number of IDR claims minus number of CCW claims



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# Historical Data

	IDR	CCW
Part A/B claims	2006	2000
Part D (drugs)	2006	2006
Enrolment	2006	2008
Assessment data	N/A	2000
Medicaid	N/A	2000-2012

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# The Researcher - IDR

## Advantages:

- Up-to-date data availability is the most important advantage of the IDR warehouse
- Access to all claim variables

## Disadvantages:

- Researcher needs programmer's help in order to process data in the repository
- There are a lot of parameters to consider for selecting data correctly. For example, final action flag and all the dates associated with a claim.

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# The Researcher - CCW

## Advantages:

- Great documentation on website- easy for a new analyst to get up to speed
- Final action claims- no need to worry about debit/credit and claims adjustments
- Merge beneficiaries from claim files to assessment data
- Access to STATA

## Disadvantages:

- Missing some data elements (like EDB Medicare primary payer flag, claim control number, etc.)
- Run time constraints

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# Center for Health Data Analytics (CHDA) in Division of eHealth, Quality and Analytics (eQUA)

- The center for Health Data Analytics has a team of programmers with a wide area of expertise:
  - Big data
  - Extensive knowledge of all types of health care claims data
  - Database Knowledge, SQL
  - Advanced SAS (file construction and file processing)

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# Center for Health Data Analytics (CHDA) in Division of eHealth, Quality and Analytics (eQUA) (cont)

Some of our CMS projects:

- Accountable Care Organization (ACO)
- State Innovation Model (SIM)
- Maryland all payer model (MDAP)
- Development and Maintenance of Symptom Management Measures Task Order

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# Thank You

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