

# Tool for RSR and ADR XML Generation (TRAX)

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ADAP Data Report (ADR)  
HIV/AIDS Bureau  
March 23, 2016



Welcome to the webcast about the Tool for RSR and ADR XML Generation – or TRAX. My name is Michael Costa, and I am part of the DART Team, one of the TA providers responsible for the RSR and the ADR. I am joined by my colleague from DART, Ellie Coombs. This webcast will help you decide if TRAX – formally known as Rx-REX – is for you and give you detailed instructions on how to use TRAX for the ADR.

At any time during the presentation, you'll be able to send us questions using the "Question" function on your control panel on the right-hand side of the screen. You'll also be able to ask questions directly "live" at the end of the presentation. You can do so by clicking the "raise hand" button (on your control panel) and my colleague, Debbie, will conference you in. You can also click the "telephone" button and you'll see a dial-in number and code.

We hope you consider asking questions "live," because we really like hearing voices other than our own.

Now I'll turn this over to our presenter Ellie.

# Outline

Overview of TRAX

Steps for Using TRAX

Questions

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Thank you, Michael! TRAX is a free tool that you can download from the TARGET center website. It takes files with your client-level data as input and converts those data to the correctly structured XML file. TRAX is here to stay!

I'll start the presentation with an overview of TRAX, including why to use it. Then, we'll go into more detail about each step. Throughout this discussion, I'll be pulling up resources and giving a demo of key activities.

And, finally, as always, we'll take your questions.

This webinar is very detailed, but don't worry. There is a detailed user manual with the same information that comes along with the TRAX download package. The webinar recording and slides will also be posted on TARGET.

This webinar just focuses on TRAX for the ADR; if you are here for the RSR, you should go to the TARGET Center website and review the webinar we did specifically for the RSR.

## Why Use TRAX?

- You don't use an ADR-Ready System to capture ADR data
- You don't have the resources to create your own XML export



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About half of ADAPs used TRAX last year to create the ADR client-level data file. TRAX is a good tool for you if don't already input your data into an ADR Ready System, such as CAREWare, and you don't have the resources or desire to create the XML export function yourself. *If you are in that situation, we think you will find it easier to get your data into the input files required for TRAX than the XML file.*

## Steps to Using TRAX

1. Become familiar with the ADR data elements
2. Identify the structure of the required input files
3. Prepare your input files
4. Use CHEX to check data quality
5. Install TRAX
6. Load data into TRAX and create the client-level data XML file

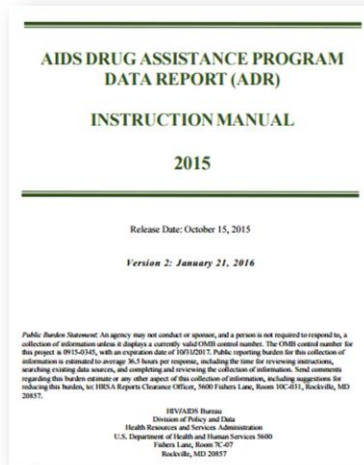
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Now, let's go over the steps to using TRAX.

1. Become familiar with the ADR data elements.
2. Identify the structure of the required input files.
3. Prepare your input files.
4. Use CHEX to check data quality.
5. Install TRAX.
6. Load data into TRAX and create the client-level data XML file.

# ADR Instruction Manual

- Detailed description of ADR data elements
- <https://careacttarget.org/library/adr-instruction-manual>



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The first step is to become familiar with the ADR data elements.

You can do this by carefully reading two resources posted on TARGET. The ADR instruction manual has a detailed description of all ADR data elements.

# ADR Implementation Guide (v4.0)

- Formally known as the Data Dictionary
- Required values for each data element
- <https://careacttarget.org/library/adap-data-report-adr-download-package>

## Information Technology Support Services

### Acquired Immune Deficiency Syndrome (AIDS) Drug Assistance Program (ADAP) Data Reports (ADR) Release 4.0 XML Schema Implementation Guide

Date Last Updated: March 10 2016

Prepared for:

 **HHS**  
U.S. Department of Health and Human Services  
Health Resources and Services Administration  
HRSA  
HRSA Bureau  
5600 Fishers Lane  
Rockville, MD 20857

Prepared by:

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And the data dictionary or implementation guide has the required values for each data element. Version 4.0 has recently been posted. The only change is that the maximum allowed value for medication cost increased from 20,000 dollars to 100,000 dollars.

## Use the ADR Crosswalk

- Where do these data elements live in your system(s)?
  - What is the field name?
  - What are the response options?
- How do I need to transform my data?

Your Data (RaceID)

ADR Data (RaceID)

White	→	1
Black	→	2
Asian	→	3
Hawaiian/PI	→	4
Native American (AK Native)	→	5



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Next you'll need to complete a crosswalk that maps the data elements in the ADR to the data elements in your data management system.

Find out where these data elements live and how they are coded. This will help you assess how you'll need to format your data to correctly report the ADR.

In this example, with the RaceID variable, your own database might categorize clients as "white", "black", etc. However, the ADR requires this variable be categorized as numbers 1 through 5. Using this crosswalk, it will be easier to see and track what data transformations are necessary, as "white" becomes "1", "black" becomes "2", and so on.

# ADR Crosswalk Template

ADR				Your System		
ID	Variable	Definition	Value	Variable	Value	Notes
Client Demographics Elements						
4	Ethnicity	Client's ethnicity.	1. Hispanic 2. Non-Hispanic			
5	Race	Client's race.	1. White 2. Black or African American 3. Asian 4. Native Hawaiian/Pacific Islander 5. American Indian or Alaska Native			
68	Hispanic Subgroup	If Ethnicity = Hispanic (If ID 4=1, then ID 68 required), Client's Hispanic Sub-group (choose all that apply)	1. Mexican, Mexican American, Chicano/a 2. Puerto Rican 3. Cuban 4. Another Hispanic, Latino/a or Spanish origin			
69	Asian Subgroup	If Race = Asian (If ID 5=3, then ID 69 required), Client's Asian subgroup. (choose all that apply)	1. Asian Indian 2. Chinese 3. Filipino 4. Japanese 5. Korean 6. Vietnamese			

Become familiar with data elements

Identify structure of input files

Prepare input files

Use CHEX

Install TRAX

Load data and create file

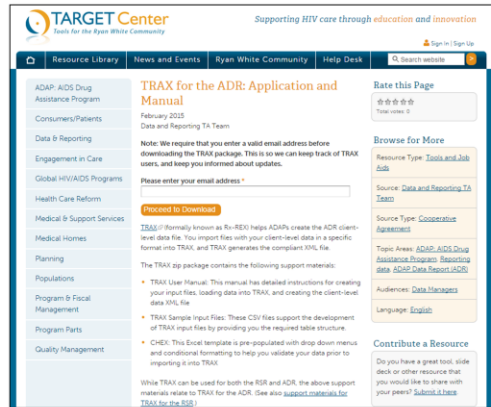
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Here is the a screenshot of the ADR crosswalk. You can find this in the ADR TRAX support package, located on TARGET.



# Download Support Materials

- User manual
- ADR crosswalk
- Templates for input files (10 .CSV files)
- <https://careacttarget.org/library/trax-adr>

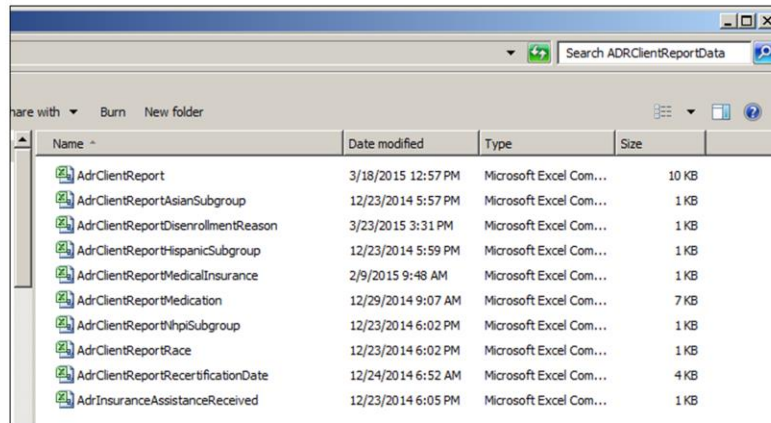


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And, that's a good segue into the next step. Identify the structure of the input files, which consist of 10 dot CSV files. If you don't know what dot CSV is, don't worry. It is essentially the same as Excel and you can easily create a dot CSV file from an Excel file using Save As.

To know how to structure your data, go to the TARGET Center website, input your email address, and download the support package. The support package is a zip file with the TRAX user manual, templates for the 10 input files, and the ADR crosswalk.

# TRAX .CSV Files



Name	Date modified	Type	Size
AdrClientReport	3/18/2015 12:57 PM	Microsoft Excel Com...	10 KB
AdrClientReportAsianSubgroup	12/23/2014 5:57 PM	Microsoft Excel Com...	1 KB
AdrClientReportDisenrollmentReason	3/23/2015 3:31 PM	Microsoft Excel Com...	1 KB
AdrClientReportHispanicSubgroup	12/23/2014 5:59 PM	Microsoft Excel Com...	1 KB
AdrClientReportMedicalInsurance	2/9/2015 9:48 AM	Microsoft Excel Com...	1 KB
AdrClientReportMedication	12/29/2014 9:07 AM	Microsoft Excel Com...	7 KB
AdrClientReportIhpiSubgroup	12/23/2014 6:02 PM	Microsoft Excel Com...	1 KB
AdrClientReportRace	12/23/2014 6:02 PM	Microsoft Excel Com...	1 KB
AdrClientReportRecertificationDate	12/24/2014 6:52 AM	Microsoft Excel Com...	4 KB
AdrInsuranceAssistanceReceived	12/23/2014 6:05 PM	Microsoft Excel Com...	1 KB

Become familiar  
with data elements

Identify  
structure of  
input files

Prepare input  
files

Use CHEX

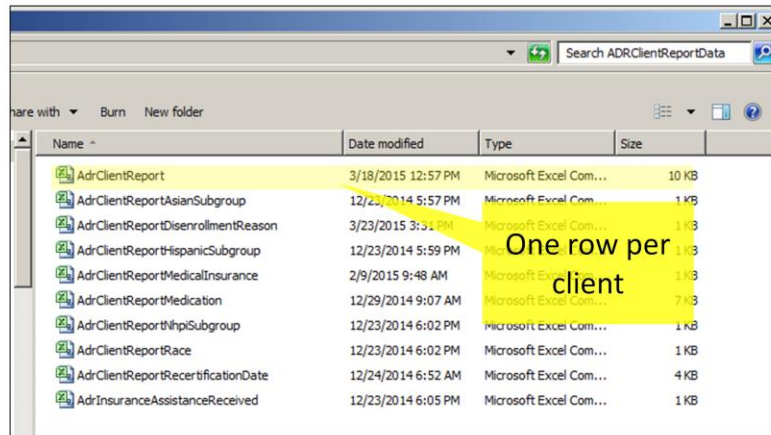
Install TRAX

Load data  
and create  
file

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Here is a view of the inside of the folder you'll download from the TARGET Center website with the 10 dot CSV files. You'll create a folder that looks exactly like this, but the files will be populated with your data.

# TRAX .CSV Files



Name	Date modified	Type	Size
AdiClientReport	3/18/2015 12:57 PM	Microsoft Excel Com...	10 KB
AdiClientReportAsianSubgroup	12/23/2014 5:57 PM	Microsoft Excel Com...	1 KB
AdiClientReportDisenrollmentReason	3/23/2015 3:31 PM	Microsoft Excel Com...	3 KB
AdiClientReportHispanicSubgroup	12/23/2014 5:59 PM	Microsoft Excel Com...	1 KB
AdiClientReportMedicalInsurance	2/9/2015 9:48 AM	Microsoft Excel Com...	3 KB
AdiClientReportMedication	12/29/2014 9:07 AM	Microsoft Excel Com...	7 KB
AdiClientReportIhpiSubgroup	12/23/2014 6:02 PM	Microsoft Excel Com...	1 KB
AdiClientReportRace	12/23/2014 6:02 PM	Microsoft Excel Com...	1 KB
AdiClientReportRecertificationDate	12/24/2014 6:52 AM	Microsoft Excel Com...	4 KB
AdiInsuranceAssistanceReceived	12/23/2014 6:05 PM	Microsoft Excel Com...	1 KB



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The first file contains the bulk of the data elements in the ADR. It has all the data elements with just one response per client, like poverty level and new enrollment flag. *When your data is in this file, You'll have just one row per client in this file.*

# TRAX .CSV Files

Name	Date modified	Type	Size
AdClientReport	3/18/2015 12:57 PM	Microsoft Excel Com...	10 KB
AdClientReportAsianSubgroup	12/23/2014 5:57 PM	Microsoft Excel Com...	1 KB
AdClientReportDisenrollmentReason	3/23/2015 3:31 PM	Microsoft Excel Com...	1 KB
AdClientReportHispanicSubgroup	12/23/2014 5:59 PM	Microsoft Excel Com...	1 KB
AdClientReportMedicalInsurance	2/9/2015 9:48 AM	Microsoft Excel Com...	1 KB
AdClientReportMedication	12/29/2014 9:07 AM	Microsoft Excel Com...	7 KB
AdClientReportIhpiSubgroup	12/23/2014 6:02 PM	Microsoft Excel Com...	1 KB
AdClientReportRace	12/23/2014 6:02 PM	Microsoft Excel Com...	1 KB
AdClientReportRecertificationDate	12/24/2014 6:52 AM	Microsoft Excel Com...	1 KB
AdInsuranceAssistanceReceived	12/23/2014 6:05 PM	Microsoft Excel Com...	1 KB

Multiple rows  
per client



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Each of the subsequent file represent one data element that allows for multiple responses. These include health insurance and medications.

## Prepare Input Files

- Extract data from your system
- Use the .CSV files as templates to correctly structure data
  - Files must have identical names
  - Column order does not matter, but column headers must be identical
  - Replace your values with ADR-required values



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Once you have downloaded the support package and identified where each of the ADR data elements mean to you, you must extract client-level data from your system or from multiple systems and get it into the format of the 10 dot CSV files. Some grantees are able to write programming code that allows them to directly pull data into the dot CSV file format. Others may need to extract data in one format and then do some manual formatting. Regardless, this is probably the hardest step to using TRAX.

Here are some things to keep in mind while you structure your data. Although the column order does not matter the columns headers do – they must be identical to the ones in the dot CSV files. You also must replace your values with the ADR-required values. Also, the file names must be identical to the ones in the template.

## ClientId is the Primary Key

- Unique sequential or internal number (*no letters; no more than 10 digits*)
- First column in every file
- ClientId must be the same for a given client across files

	A	B	C	D
1	ClientId	FirstName	LastName	ClientDateOfBirth
2	1	Carmelo	Salter	11/2/1983
3	2	Noel	Cordova	4/12/1998
4	3	Kiana	Winslow	12/18/2001
5	4	Ays		11/14/2014

File1: Client Report

	A	B	C
	ClientId	MedicalInsurance	
	1	16	
	1	11	
	2	16	
	3	12	

File 2: Health Insurance

Same person

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Now, let's talk about a couple of specific data elements.

The records of clients within each file are linked by the Client ID. It is the first column in every file.

It can be a sequential number or internal number, like a medical record number. They can't have letters; just numbers.

This number must be unique for every client; You must make sure that the same client has the same ID in each table.

Let's look at an example. Carmelo has an ID of 1. Through this same ID in the health insurance file, we can see that he has health insurance status of 11 and 16.

## TRAX and the eUCI

- There are multiple identifier fields that relate to the eUCI (encrypted unique client identifier) in the *ADRClientReport* file
- The ones you populate depend on whether you already create the eUCI or would like TRAX to do it for you
- We will cover the following scenarios
  - ADAP does not create the eUCI
  - ADAP needs the UCI encrypted
  - ADAP creates the eUCI

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Another important data element I want to go over is the eUCI. That first dot CSV file – *ADRClientReport* – has multiple data elements related to the eUCI. The ones you populate depend on whether you already create the eUCI or want TRAX to create it for you.

## What Composes the eUCI?

Name: Joe Smith Birthdate: 12/20/1968 Gender code: 1=Male



J E S I 12 20 68 1



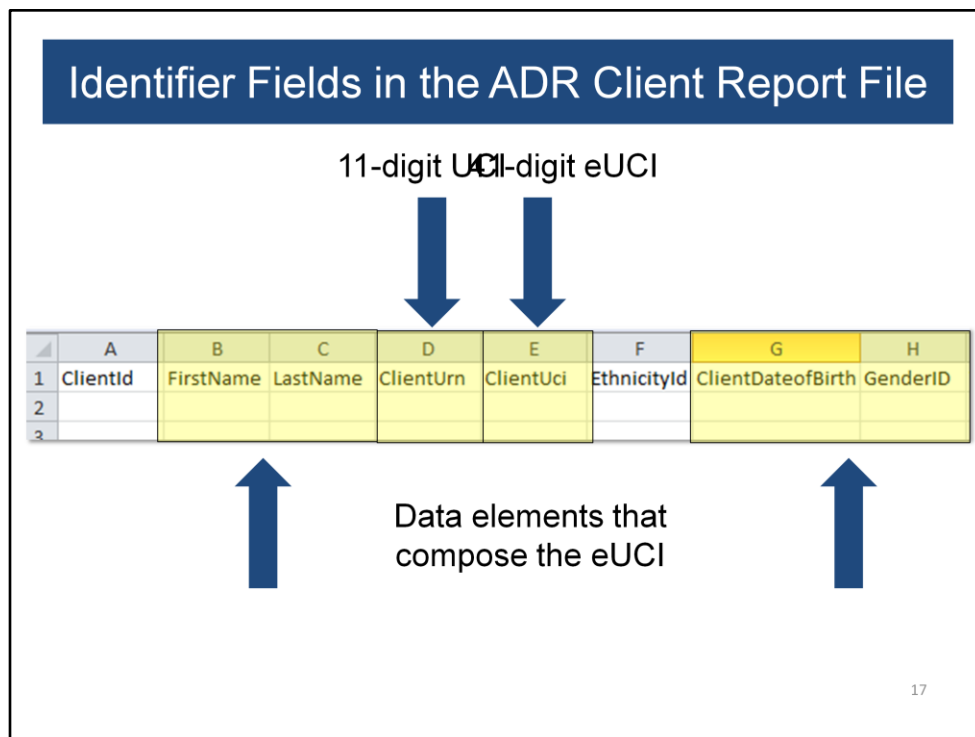
CCD741F7984DD5DA59955CC74B3B9EA6DF5203FEW

Check out a video on the eUCI: <https://careacttarget.org/library/euci-and-you>

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As a reminder, the eUCI is created from the first and third letters of the first name, first and third letters of last name, date of birth, and a code for gender. This creates the 11-digit URN or unencrypted UCI. That URN is then encrypted into a 40-digit string. A 41st-digit lets HAB know if any other client within the ADAP's file has the same eUCI. It should be U for unique or A, B, C etc. to distinguish clients.





Now, let's take a look at those columns related to the eUCI in the ADR Client Report file. These are the ones that represent the data elements that create the eUCI. This contains the 11-digit unencrypted eUCI. And, this contains the 41-digit eUCI.

## ADAP Does Not Create the eUCI

- Populate:
  - Name
  - Date of birth
  - Gender (*required ADR data element*)
- Leave the ClientUCI and ClientURN fields blank (*keep header row!*)

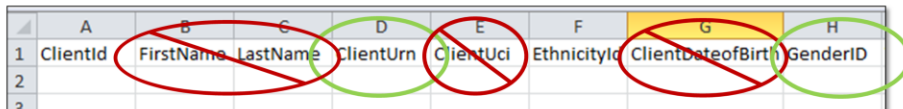
	A	B	C	D	E	F	G	H
1	ClientID	FirstName	LastName	ClientURN	ClientUci	EthnicityId	ClientDateofBirth	GenderID
2								
3								

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If you do not already create the eUCI, you need to populate the first and last name, 6-digit date of birth and gender ID. You can leave the URN and eUCI columns blank. You'll need to maintain the header. In other words, don't delete the columns entirely.

## ADAP Creates the URN

- Populate the ClientURN field with the pre-created URNs
- Populate Gender (*required ADR data element*)
- Leave other fields blank



	A	B	C	D	E	F	G	H
1	ClientId	FirstName	LastName	ClientURN	ClientUci	EthnicityId	ClientDateofBirth	GenderID
2								
3								

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If you already create the 11-digit UCI and you just want TRAX to encrypt it for you, just populate column D and leave the other ones blank. Note GenderID is an ADR data element, so you need to input that regardless of your approach. Also, birth year is a separate field you need to populate as part of ADR requirements.

## ADAP Creates the eUCI

- Populate the ClientUCI field with the pre-created eUCIs
- Populate Gender (*required ADR data element*)
- Leave the ClientURN, name and DOB fields blank

	A	B	C	D	E	F	G	H
1	ClientID	FirstName	LastName	ClientURN	ClientUci	EthnicityID	ClientDateofBirth	GenderID
2								
3								

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If you already create the eUCI, then you can populate the Client UCI column and leave the other ones blank. Once again, you need the GenderID regardless because it is an ADR data element.

## Viral Load

- For “undetectable” viral load counts:
  - Report the lower test limit for the viral load count
  - If you don’t know the threshold, report 0 for clients with “undetectable” status

W	X	Y	Z
LastCd4Date	LastCd4Cc	LastViralLoa	LastViralLo
10/17/2015	613	10/17/2015	73515
11/12/2015	430	11/12/2015	48

Client’s viral load  
is undetectable;  
Threshold of 48

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Other data element that we have gotten questions about are related to viral load. The ADR does not accept “undetectable” or less than values for the viral load value. Therefore, for your undetectable clients, you should input the test value under which a client is considered undetectable. In this example, you see this client has an undetectable viral load; the test has a threshold of 48. *Viral Load tests have different thresholds for their limits of detection. Your ADAP may get test results from different labs that use different tests. In that cast when you have a result that is undetectable, report 0.*

## Medications

- Report a row for each unique combination of client, D-code, and dispense date
- Client has three rows:
  - One D-code with one dispense date
  - One D-code with two dispense dates

	A	B	C	D	E
1	ClientId	Medication	MedicationSta	MedicationDays	MedicationCos
2	21165	d00034	12/10/2015	30	10
3	21165	d03858	3/13/2015	30	214
4	21165	d03858	7/13/2015	30	214

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I also want to note that in the medications dot CSV file, you report a row for every unique combination of client, D code, and dispense data. In this example, the client has three rows. One D code has one dispense data, and another D code has two dispense dates.

Note that TRAX only accepts D codes, not NDCs, so you must map these codes prior to loading data into TRAX.

## Reporting Flags

- Three flags (yes/no question)
  - New client
  - Medication services
  - Insurance services
- 0 = No and 1 = Yes
- Accurate flags are essential because they drive completeness calculations and validations

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One final comment on tricky data elements. There are three flags in the ADR – meaning that they require a yes/no response. They are: is the client new? Did the client receive medication services? And, did the client receive insurance services?

According to the data dictionary, ADAPs should report 0 for No and 1 for Yes. Last year, TRAX only accepted True and False. This has been changed, so now you need to report 0 and 1.

It's really important that you populate these flags accurately because whether you are required to report other data depends on how these flags are populated. For example, you only need to report application date for new clients or clinical data for medication assistance clients. So, they drive your completeness rates and validations.

## CHEX: Checking Data Quality

- An Excel spreadsheet pre-loaded with drop down menus and conditional formatting
- Copy and paste your data into each tab
- “Validate” data to find invalid values
- Review color-coded cells to identify other validation issues
- *Check Your XML in the ADR Web System is also available!*



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The next step is to use a tool called HEX. It is an Excel spreadsheet pre-loaded with drop down menus and conditional formatting to help you check the quality of your data. It is also located in the support package.

There is a tab for each of the 10 dot CSV files. Once you have your dot CSV files populated, you can copy and paste them into the 10 tabs. You “Validate” data to find invalid values and review color coded cells to identify other validation issues. Let me pull it up a populated HEX file now.

As you can see, there is a tab for every dot CSV file. The first check is on valid values. You can see the drop down menu here that tells you which values are acceptable. To make sure my values match those, go to Data, Data Validations, and Circle Invalid values. I have two invalid values for Ethnicity.

Through conditional formatting, HEX also color codes cells if there are issues.



## Strategies for Fixing Data

- Correct issues in your source data and re-populate your templates
- Fix issues in the .CSV files
- Fix issues in CHEX and then re-save those CHEX Excel tabs as separate .CSV files



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If you do find issues with your data, you can correct them in your source data and re-generate your files, fix them in the dot CSV files, or fix them in CHEX and then re-save those CHEX Excel tabs as separate dot CSV files.

## Creating .CSV Files from CHEX

- CHEX has some columns not in the .CSV templates that allow us to run validations on the data
- If you create your .CSV files directly from the CHEX spreadsheet, delete these extra columns

Y	Z	AA	AB	AC	AD
			Has Medication Record	Has Recertification Record	Has Disenrollment Record
LastViralLoa	LastViralLoa	SexAtBirthic			
			0	0	0
			0	0	0
			0	0	0



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If you use that last approach, make sure to delete some of CHEX's extra columns that we created to help with the validations. TRAX won't accept a file with extra columns. These columns are located at the end of the spreadsheet. The ones highlighted in yellow on this screen are examples of columns to delete. The TRAX user guide tells you exactly which columns you should keep for each tab.

# Install TRAX

<https://performance.hrsa.gov/hab/trax/publish.htm>

**Leidos**  
**TRAX**

**Name:** TRAX

**Version:** 2.0.0.2

**Publisher:** Leidos

The following prerequisites are required:

- Windows Installer 3.1
- Microsoft .NET Framework 4 Client Profile (x86 and x64)

If these components are already installed, you can [launch](#) the application now. Otherwise, click the button below to install the prerequisites and run the application.

[ClickOnce and .NET Framework Resources](#)



# Demo

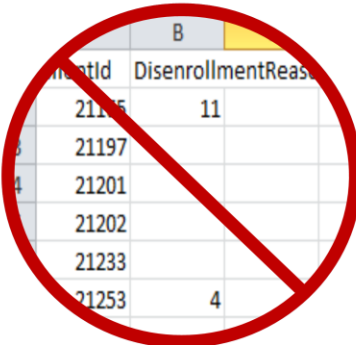


## Avoid Common Mistakes

- Close files prior to upload
- Include all files even if you don't have data (just the header row)
- Capitalization matters!

## Missing Data

- Do your best to collect and report complete data!
- If missing data cannot be fixed:
  - In the ADR Client Report file, leave cell blank
  - In the other files, exclude clients entirely



	B	
ClientId	DisenrollmentReason	
21175	11	
21197		
21201		
21202		
21233		
21253	4	

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## Data Security

- Keep the populated Excel and .CSV files secure:
  - Store on a secure system
  - Only use secure transfer methods
- Lots of resources on TARGET:
  - Data Security Refresher:  
<https://careacttarget.org/library/data-security-refresher>
  - Data Academy:  
<https://careacttarget.org/content/ensuring-security-your-clients%E2%80%99-data>

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Before we go to your questions, I want to discuss data security. The client XML does not contain personally identifying information, like name or full date of birth. However, most likely, your Excel spreadsheet or dot CSV file will. So, I want to emphasize the importance of keeping these data secure. Store your dot CSV files on secure systems, such as behind firewalls. And, only use secure transfer mechanisms to transfer the files.

If you would like more information about data security, just go to TARGET and do a search on “data security.” There are lots of archived webcasts and resources there.

## Resources and Questions

- Accessing TRAX:  
<https://careacttarget.org/library/trax-adr>
- Questions?
  - Start with the DART Team: [Data.TA@caiglobal.org](mailto:Data.TA@caiglobal.org)
  - Be prepared to share your desktop with us through webinar software (we'll send you a link)
  - We may connect you with the developers at Leidos, if necessary