

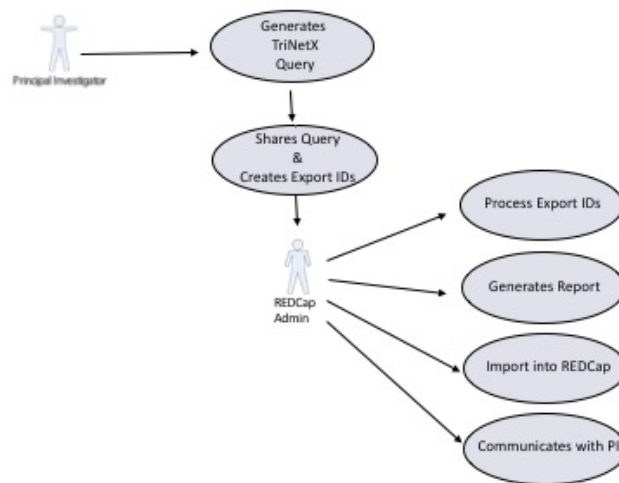


MetaMorphosis Clinical Data Conversion Tool

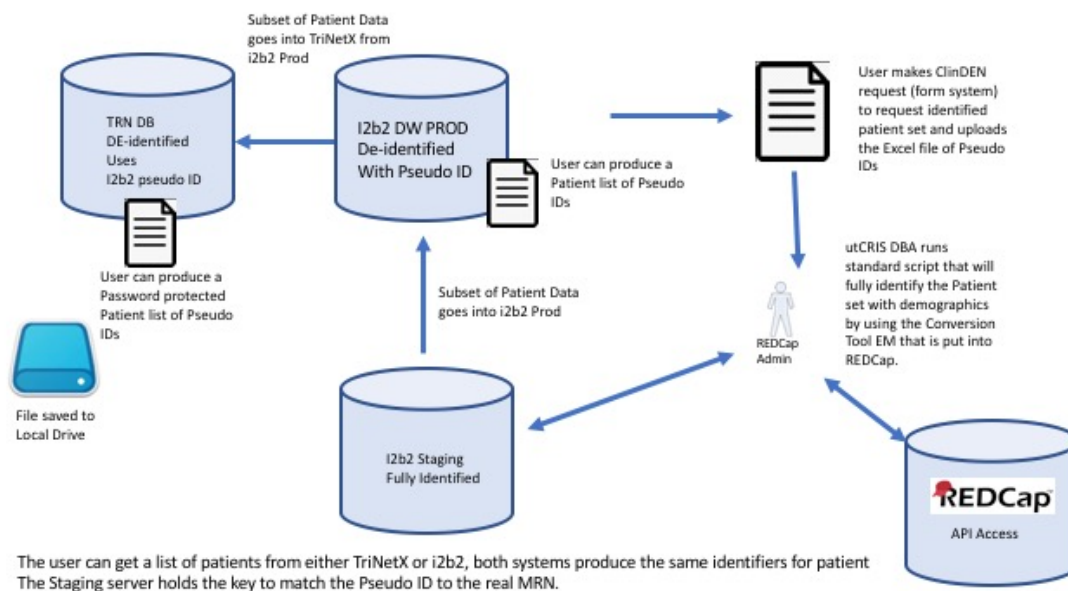
Getting Started

The MetaMorphosis Clinical Data Conversion Tool External Module allows REDCap Administrators to take a collection of exported patient identifiers from a source system (TriNetX, i2b2, other data warehouse) and convert them into an identified patient cohort in a standard demographics REDCap template.

Use Case for External Module



Basic Flow of Process



Requirements

- REDCap Version 8.10.2 or later
- You must be a REDCap Administrator to use this module. The REDCap Administrator will serve as an honest broker of health care data for this module.
- This module assumes that a valid IRB-approved protocol is in place.
- This module assumes that there will be a Service Account used for the Data Warehouse connection. You will need an account, password and host.
- You may need to rewrite the Script to suit your data warehouse design. The one provided was designed to work with an i2b2 staging server.

Installation

- Obtain this module from the Consortium [REDCap Repo] (<https://redcap.vanderbilt.edu/consortium/modules/index.php>) from the control center.

Configuration

Configure Module: TriNetX Conversion Tool



System Settings for All Projects

Enable module on all projects by default:

Unchecked (default) = Module must be enabled in each project individually:

☐**Make module discoverable by users:**

Display info on External Modules page in all projects:

☒**Module configuration permissions in projects:**

By default, users with Project Setup/Design privileges can modify this module's project-level configuration settings. Alternatively, project users can be given explicit module-level permission (via User Rights page) in order to do so:

Require Project Setup/Design privilege

Demographic Conversion DB:

Enter Database connection parameters

DB Username:

* must provide value

trinetxttool

DB Password:

* must provide value

DB Host:

* must provide value

DB port:

* must provide value

1522

DB SID:

* must provide value

Demographic Import:

Select Import Template csv File

REDCap Demographics Import Template:

* must provide value

TriNetXConversionTool_ImportTemplate.csv

Delete File

Cancel

Save

1. *Enable module on all Projects by default* - As marked in the example, this option does not automatically show as a useable module. If a normal user goes into External Modules, they will not see this
2. *Make module discoverable* – As marked in the example, allows the green Enable a Module to find MetaMorphosis by a REDCap Administrator
3. *Module configuration permissions in projects* –
4. The remainder of the options are related to configuring the server that you will be connecting to as the source system. You will need to enter the Username, password, host , Port, and SID. The SID is server id.

5. Still need to add the ability to select database

Project Setup

1. The Redcap Administrator will create a new project using the Green “New Project” Tab using an institutional Demographics form that must be pre-setup and marked to be used as a project template.
2. Go to the External project page and click the green Enable a Module button.
3. Enable the MetaMorphosis External Module by clicking Enable
4. Go to the External Modules link in the left navigation and select Metamorphosis
5. Go to the document field and choose the file that the user provided from either TriNetX or i2b2 or other data source. You may add other data on this screen for auditing purposes.
6. Click Submit.
7. The External Module will go to the data warehouse and grab identifiable demographics and place them as records in the REDCap project.

Convert TriNetX File

This tool takes Exported IDs from TriNetX and converts them to the institutional MRN from i2b2 and adds the rest of the demographic information to a useful file. The file produced can then be imported into RedCap.

Field	Data
Document Select Document.	<input type="button" value="Choose File"/> no file selected
Name/Label Enter Name or Label.	<input type="text" value="Text"/>
IRB Number Enter IRB Number.	<input type="text" value="Id"/>
Request Number Enter Request Number.	<input type="text" value="Number"/>
PI Name Enter Principal Investigator name.	<input type="text" value="Name"/>

Information

Authors

UTSD: 367

TITLE: MetaMorphosis Clinical Data Conversion Tool

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Glossary of Terms

i2b2 is a Data Warehouse platform from Harvard University

Metadata - a set of data that describes and gives information about other data.

Metamorphosis - the process of transformation from an immature form to an adult form in two or more distinct stages.

TriNetX is the global health research network that optimizes clinical research and enables discoveries through the creation of real-world evidence. TriNetX combines real-time access to longitudinal clinical data with state-of-the-art analytics to answer complex research questions at the speed of thought.

Audit Trail

The Audit Trail is available from the Control Panel Under the External Modules option on the lower left navigation

Addendum

Below is a Generic version of the Script that goes to the PHI table in the Data Warehouse and grabs all the demographics that will get placed into the REDCap Import file.

```
create table trinetxtool.redcap_demographics as
select distinct
  phi.patient_num "record_id"
,phi.mrn "mrn"
,phi.first_name "first_name"
,phi.middle_name "middle_name"
,phi.last_name "last_name"
,phi.address1 "address1"
,phi.address2 "address2"
,phi.city "city"
,phi.state "state"
,phi.zipcode "zip_code"
,phi.home_phone "telephone"
,phi.email_address "email"
,to_Char(to_date(date_of_birth, 'yyyymmdd'),'MM/dd/yyyy') "dob"
,phi.pat_status "vital_status"
,phi.death_date "death_date_utsw"
,phi.dmf_death_date "death_date_ssdi"
,case when race in ('@','DECLINED','UNKNOWN','UNK','UNAVAILABLE/UNKNOWN') or race is null then
'UNK'
  when race in ('ASIAN') then '2028-9'
  when race in ('BLACK','BLACK OR AFRICAN AMERICAN') then '2054-5'
  when race in ('AMERICAN INDIAN OR ALASKA NATIVE','AMINDAN') then '1002-5'
  when race in ('NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER','HAWPACIS') then '2076-8'
  when race in ('WHITE') then '2106-3'
  when race in ('OTHER','SOME OTHER RACE') then '2131-1'
  else race
end as "race"
,case when phi.ethnicity in ('Hispanic','HISPANIC') then '2135-2'
  when phi.ethnicity in ('Non-hispanic') then '2186-5'
  when phi.ethnicity in ('@','Unknown','UNKNOWN','Declined') or ethnicity is null then 'UNK'
  else phi.ethnicity
end as "ethnicity"
,phi.gender "gender"
,Cast(NULL as VARCHAR2(100)) as "height"
,Cast(NULL as VARCHAR2(100)) as "weight"
,Cast(NULL as VARCHAR2(100)) as "comments"
from STAGEUSER.PHI_PATIENT_FACT phi
order by phi.patient_num
;
```

Below is the UT Southwestern version of the Script that goes to the PHI table in the Data Warehouse and grabs all the demographics that will get placed into the REDCap Import file. Ours requires manipulation of the race and ethnicity and also of several hospitals MRN numbers.

```
create table trinetxtool.redcap_demographics as.
with
```

```

RACES as (select distinct PHI_PATIENT_FACT.patient_num,
    listagg (
        case when race in ('@','DECLINED','UNKNOWN','UNK','UNAVAILABLE/UNKNOWN') or race is
null then 'UNK'
        when race in ('ASIAN') then '2028-9'
        when race in ('BLACK','BLACK OR AFRICAN AMERICAN') then '2054-5'
        when race in ('AMERICAN INDIAN OR ALASKA NATIVE','AMINDAN') then '1002-5'
        when race in ('NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER','HAWPACIS') then '2076-8'
        when race in ('WHITE') then '2106-3'
        when race in ('OTHER','SOME OTHER RACE') then '2131-1'
        else race
        end, ', ' ) within group (order by PHI_PATIENT_FACT.race asc) RACE
    from STAGEUSER.PHI_PATIENT_FACT
    where facilitycd='UTSW IDX'
    group by PHI_PATIENT_FACT.patient_num
    ),
PHHS_MRNS as (select patient_num,listagg (MRN , ',') within group (order by patient_num) PHHS_MRNS
from (
    select distinct
    PHI_PATIENT_FACT.patient_num,PHI_PATIENT_FACT.MRN,PHI_PATIENT_FACT.FACILITYCD --
    PHI_PATIENT_FACT.*
    from STAGEUSER.PHI_PATIENT_FACT
    where facilitycd like 'PHH%'
    )
    group by patient_num
    ),
CMC_MRNS as (select patient_num,listagg (MRN , ',') within group (order by patient_num) CMC_MRNS
from (
    select distinct
    PHI_PATIENT_FACT.patient_num,PHI_PATIENT_FACT.MRN,PHI_PATIENT_FACT.FACILITYCD
    from STAGEUSER.PHI_PATIENT_FACT
    where facilitycd = 'CMC ID'
    )
    group by patient_num
    )
select distinct
    phi.patient_num "record_id"
    ,phi.mrn "mrn"
    ,PHHS_MRNS.phhs_mrn "phhs_mrn"
    ,CMC_MRNS.cmc_mrn "cmc_mrn"
    ,phi.first_name "first_name"
    ,phi.middle_name "middle_name"
    ,phi.last_name "last_name"
    ,phi.address1 "address1"
    ,phi.address2 "address2"
    ,phi.city "city"
    ,phi.state "state"
    ,phi.zipcode "zip_code"
    ,phi.home_phone "telephone"
    ,phi.email_address "email"

```

```

,to_Char(to_date(date_of_birth, 'yyyymmdd'),'MM/dd/yyyy') "dob"
,phi.pat_status "vital_status"
,phi.death_date "death_date_utsu"
,phi.dmf_death_date "death_date_ssdi"
,RACES.RACE "race"
,case when phi.ethnicity in ('Hispanic','HISPANIC') then '2135-2'
      when phi.ethnicity in ('Non-hispanic') then '2186-5'
      when phi.ethnicity in ('@','Unknown','UNKNOWN','Declined') or ethnicity is null then 'UNK'
      else phi.ethnicity
end as "ethnicity"
,phi.gender "gender"
,Cast(NULL as VARCHAR2(100)) as "height"
,Cast(NULL as VARCHAR2(100)) as "weight"
,Cast(NULL as VARCHAR2(100)) as "comments"
from STAGEUSER.PHI_PATIENT_FACT phi
left join PHHS_MRNS on PHHS_MRNS.patient_num = phi.patient_num
left join RACES on RACES.patient_num = phi.patient_num
left join CMC_MRNS on CMC_MRNS.patient_num = phi.patient_num
where phi.facilitycd = 'UTSW IDX'
      --and phi.patient_num not in (select patient_num FROM stageuser.PHI_PAT_FACT_VOLUNTEER where
vol_status = 'EXCLUDE')
      and first_name like 'ZZ%'
order by phi.patient_num
;

```