

# Consolidating address data and geo-coding in SEER\*DMS

Parsing and consolidating addresses;  
setting latitude, longitude, census tract, and other geo-spatial data items.

# Overview

- Address data are received at the registry in record data. This includes:
  - Current Address
  - Address at DX
- Data from the record are copied to a Patient Set:
  - If it is a new Patient Set, the record's value is copied.
  - If the Patient Set already has a value, the “best” address is consolidated into the patient set.
- SEER\*DMS tries to set several variables including:
  - Latitude and Longitude values for the Address at DX
  - County at DX
  - County for the Current Address
  - Census Tracts – Census Tract 2010, 2000, 1990 (as required for the DX Year)
  - Other geo-spatial data items (this list varies by registry). These are listed in the Census Tract polisher documentation on the Polishers Help page.

# Parsing Addresses in Record Data

- ❑ Census tracts, latitude, longitude, and other fields can be determined based on address.
- ❑ It is easier to process an address that is broken into its natural parts (street number, street name, type, etc). But addresses are stored in a single field in NAACCR import files.
- ❑ SEER\*DMS tries to parse the address into its parts. This takes place during the auto-coding task.
- ❑ The audit log below shows an address in a NAACCR Abstract record. It was successfully parsed during the auto-coding step. SEER\*DMS set street number, street name, street type, and county at dx.

Auto-Coding by seerdms				6 changes	0 filtered	02-02-2010 09:48:38AM
Op	Field	Old	New			
Mod [p]	NPI Physician Primary Surgeon					
Mod [p]	NPI Physician Follow-Up					
Mod [p]	Addr at DX Street Type		AVE			
Mod [p]	County at DX (Code)		033			
Mod [p]	Addr at DX Street Name	600 4TH AVE	4TH			
Mod [p]	Addr at DX Street Number		600			

- ❑ The Polisher Help page in SEER\*DMS has documentation for your registry's auto-coding polishers. Select the auto-coding polisher group and search for address.

# Geocoding Addresses

- When a Patient Set address is changed, SEER\*DMS will submit the address to the NAACCR geo-coder.
  - If a single perfect match is found:
    - “Address Found” will be displayed.
    - Census tracts, latitude, longitude, county at dx, and other fields will be set.
    - In many cases, this will be fully automated (as shown in the screen shot below).

The screenshot displays a web interface for address geocoding. At the top, it says "Address at Diagnosis" with a search icon and the text "(address found)". Below this, various fields are populated with data:

- Num: 4100
- Dir: [empty]
- Street: JOHN R
- Type: ST
- Dir: [empty]
- Suppl: [empty]
- City: DETROIT
- County: 163
- State: MI
- Zip: 48201
- Latitude: 42.351562
- Longitude: -83.057887
- GIS Quality: 03
- Country: USA
- Addr Rev: [empty]


Below the address fields, there is a section for "Census Tract" with a "Census Rev" dropdown set to [empty]. Two rows of data are shown:

Year	Census Tract	Certainty
2010	517500	1
2000	517500	1

- A user will need to manually edit or review addresses when:
  - The address could not be found by the geo-coder; or the geo-coder finds a possible match that needs review.
  - A different Address at DX is sent on a new record – consolidation may be required.
  - And in some registries, consolidation is required if a new Current Address is received on a record.

# Consolidating Addresses

- ❑ SEER\*DMS will attempt to auto-consolidate address data per registry rules.
  - Most registries only have rules to auto-consolidate Current Address.
  - Registry auto-consolidation rules are documented on the Auto-consolidation Help page.
- ❑ A registry coder can use the following tools to manually consolidate, edit, and review address data:
  - Multi-page icon
  - [search](#) link
  - Address Reviewed Flag

**Address at Diagnosis**  [search](#) [review results](#)

Num  Dir  Street  Type  Dir

Suppl

City  State  Zip

County  CSS County  Country  Addr Rev

Latitude  Longitude  GIS Quality  Geocoded County  Geocoded Zip

Addr Cmt


**Census Tract** Census Rev

2000  Certainty  Block

# Tools for editing Address Data

**Multi-page Icon:** View all addresses in record and Patient Set fields.

**Search** for the address in geocoder data. Confirm that it is a valid address; if not found then review addresses that are similar. Census tract and other fields will be set for an address that is found.

**Address at Diagnosis**  [search](#) [review results](#)

Num  Dir  Street  Type  Dir   
Suppl   
City  State  Zip   
County  CSS County  Country  Addr Rev

**Address Review Flag** - indicates whether an address has been manually reviewed.

# Summary Address Info

## Summary Address Info

[Show Records as Linked](#)


	Addr Dt	Type	Src	Address	Cnty	Cntry	User	Facility	Captured Dt	Action
<b>Patient</b>										
Current		Curr	WA			093				<a href="#">copy</a>
<b>CTC</b>										
	03-01-2010	DX		600 4TH AVE; SEATTLE, WA 98124	033	093				
<b>Linked Records</b>										
<a href="#">REC-5000208575</a>	03-01-2010		Curr	NA WA				FAC-0426	03-09-2010	<a href="#">copy</a>
<a href="#">REC-5000208575</a>	03-01-2010		DX	NA 600 4TH AVE; SEATTLE, WA 98124	033			FAC-0426	03-09-2010	<a href="#">copy</a>

[Close](#)

- This popup is displayed when you click the multi-page icon next to an address in SEER\*DMS.
- It is a summary of all address data in the patient set.
- Record and patient set address fields are shown and can be copied.

# Search Geocoding Database

- Click search to submit the address to the NAACCR Geocoding system. Use this when you want to:
  - Confirm that it is a valid street address for the city and zip
  - Parse an address into its parts.
  - Review results returned by the geocoder. The “review results” icon is displayed when the geocoder does not find a single perfect match.
  - Do not change an address unless you are certain that your change is accurate.
  - Your registry may have policies regarding address modifications. Refer to your registry coding guidelines.

**Address at Diagnosis**  **review results**

Num  Dir

Suppl

City

Zip  Dir

Addr Rev

Num	Dir	Street	Type	Dir	Sup	City	State	Zip
		600 4TH AVE				SEATTLE	WA	98124
<b>Possible</b>								
600		4TH	AVE			SEATTLE	WA	98104 <a href="#">copy</a>



# Census Tract Reviewed Flag

- Census tract values are required for some CTCs.
  - Census Tract 2010 is required for certain years of diagnosis. Census Tract 1990, 2000 are required for other years.
  - SEER reportability, local reportability, and other factors determine whether a tract is required. These rules vary by registry.
- An edit will fail if census tract is required and the value is blank, 9-filled (unknown), or 0-filled (not tracted).
- The Census Rev Flag can be used to over-ride SEER\*DMS and registry edits that fail when a census tract is required.
- Do not set this flag unless authorized by registry management.
- The Census Tract Review flag is automatically reset if the address is modified.

The screenshot shows a software interface with a 'Census Tract' section. It contains a table with columns for year and census tract value. The 2000 row has the value '008100'. Below this is an 'Occupation/Industry' section with input fields for 'Usual Occup' and 'Usual Industry'. A tooltip is displayed over the 'Census Rev' flag, which is currently checked. The tooltip contains the following information:

Name	Census Tract Reviewed Flag				
Java Path	patient.ctcs.censusTractReviewed				
Database	CTC.CENSUS_TRACT_REVIEWED				
NAACCR		Updatable	true	Lookup	lkup_reviewed

This flag is an edit over-ride that can be used when it is determined that the area is not census-tracted (000000) or the census tract is not available (999999). Use this flag in accordance with policies defined by registry management.

# Address Reviewed Flag

- ❑ Address Reviewed flag simply means that a person manually reviewed the address.
- ❑ SEER\*DMS sets it to “needs review” if the geocoder does not find a perfect match for the CTC address.
- ❑ The flag is automatically set if a person selects an address from the geocode search results.
- ❑ No impact on census tract edits (see Census Tract reviewed Flag)

**Address at Diagnosis** [search](#) [review results](#)

Num  Dir  Street  Type  Dir

Suppl

City  State  Zip

County  CSS County  Country  Addr Rev

Latitude  Addr Cmt

**Census Tract**

2000	<input type="text" value="00810"/>
1990	<input type="text"/>
1980	<input type="text"/>
1970	<input type="text"/>

Name

Java Path

Database

NAACCR  Updatable  Lookup

This flag indicates that a person has specified or reviewed the address. Set this flag to reviewed if you used external tools to verify an address. This flag will automatically be set to 1 if a person selects an address from the geocode search results. A value of 1 is never auto-changed by any SEER\*DMS processes.

# Using Zip Centroid Values

- A census tract based on a complete address is the most precise.
  - Census tract certainty: 1 = based on complete and valid address of residence
- Some registries do not allow SEER\*DMS to automatically set census tract if the certainty is not as precise.
  - The address is manually reviewed;
  - Other data sources are checked.
- If a better address cannot be identified, “use zip centroid” will assign a census tract with certainty of 2-5.
  - The “use zip centroid” link is restricted to users with the pat\_census system permission.
  - In some registries, a zip centroid census tract is auto-assigned. The registry reviews all addresses with certainty = 2-5. A configuration setting determines whether the review takes place when each address is first set; or later.

**Address at Diagnosis**  search (address not found)

Num  Dir  Street  Type  Dir

Suppl

City  County  State  Zip

Latitude  Longitude  GIS Quality  Tri County  Country  Addr Rev

**Census Tract** Census Rev  [use zip centroid](#)

2010	<input type="text" value="999999"/>	Certainty	<input type="text" value="9"/>	Poverty Code	<input type="text" value="9"/>
2000	<input type="text" value="999999"/>	Certainty	<input type="text" value="9"/>		