Flu Near You – SAS Program: FluNearYou.sas

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Description: Descriptive analyses for Arizona Flu Near You data

Purpose: Import and analyze Flu Near You data

Importation of Flu Near You Data

Requested by the Flu Near You Epi-hack group

Date of program start: 9/29/2015

This program can be done in three steps:

Step 1. Jurisdiction defines 3 variables

Step 2. Import data

Step 3. Clean data / create variables

Step 4. Create summary datasets for all data, state data, and county data

Pre-requisite: FluNearYou data from datasets dashboard.

Original Variables:

- `week_of = "Weeks starting Monday"`
- `state = "State"`
- `zip = "Zip code"`
- `participants = "Total participants"`
- `users = "Total users"`
- `household = "Total household members"`
- `ili = "ILI syndrome(N)"`
- `other = "Other symptoms(N)"`
- `no_symptoms = "No symptoms(N)"`
- `fever = "Fever(N)"`
- `cough = "Cough(N)"`
- `sore_throat = "Sore throat(N)"`
- `chills = "Chills(N)"`
- `fatigue = "Fatigue(N)"`
- `nausea = "Nausea(N)"`
- `diarrhea = "Diarrhea(N)"`
- `bodyache = "Body aches(N)"`
- `headache = "Headache(N)"`

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User needs to define 4 variables (highlighted below):

1. **Folder where the file is located (make sure file is named FNY.csv)**
2. **State abbreviation**
3. **County abbreviation**
4. **Zip codes**

(If your jurisdiction is not interested in county-level data, then the code will need to be updated. Delete county-related code)

```
Jurisdiction defines 3 variables:

/*Jurisdiction defined.  Place file named "FNY" in a folder and indicate folder's path
below*/
%let filename = \\pubhs-filesrv03\dctrl$\\EPI\Syndromic Surveillance\Syndrome-specific
Files - Influenza-like Illness\Flu Near You\Data Files;

/*Jurisdiction defined.  Change state and county information to meet needs*/
%let state = AZ;
%let county = Maricopa; /*Place county name here and define zip codes in county*/


/*Jurisdiction defined.  Create county or jurisdiction variable*/
/*Create county variable using zip codes*/


…

      IF     FNY_zip IN (85001, 85002, 85003, 85004, 85005, 85006, 85007, 85008,
85009, 85010, 85011, 85012, 85013, 85014, 85015, 85016, 85017, 85018, 85019, 85020,
85021, 85022, 85023, 85024, 85025, 85026, 85027, 85028, 85029, 85030, 85031, 85032,
85033, 85034, 85035, 85036, 85037, 85038, 85039, 85040, 85041, 85042, 85043, 85044,
85045, 85046, 85392, 85395, 85396) THEN FNY_county ="&county";


…
```

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SAS Program creates datasets:

- **work.rawFNY**
  - All raw data (all states; all dates)
  - Renames variables to begin with "FNY_"
  - Formats variables & adds labels
- **work.FNY**
  - Eliminates observation with missing zip or date
  - Defines zip
  - Assigns MMWR weeks to dates
  - Adds leading zero to single digits MMWR weeks
  - Creates new variables for flu season and year
  - Creates a year/MMWR week variable
  - Creates ILI% (ILI cases/total participants)
  - Creates non-ILI count
- **National datasets (all states):**

  FNY_1213 l FNY_1314 l FNY_1415 l FNY_1516
  - Selects distinct MMWR weeks
  - Sums FNY_ili to make variables FNY_ili_1213, FNY_ili_1314, FNY_ili_1415, FNY_ili_1516
  - Sums FNY_participants to make variables FNY_particpants_1213, FNY_particpants_1314, FNY_particpants_1415, FNY_particpants_1516
  - Makes non-ili count variable (FNY_participants – FNY_ili): FNY_nonili_1213, FNY_nonili_1314, FNY_nonili_1415, FNY_nonili_1516
  - Finds proportion of ILI participants ((FNY_ili/FNY_participants)*100): FNY_ili_pct_1213, FNY_ili_ pct_1314, FNY_ili_ pct_1415, FNY_ili_ pct_1516
- **State datasets (defined *state*):**

  FNY_1213_*state* l FNY_1314_*state* l FNY_1415_*state* l FNY_1516_*state*
  - Selects distinct MMWR weeks
  - Sums FNY_ili to make variables FNY_ili_1213_*state*, FNY_ili_1314_*state*, FNY_ili_1415_*state*, FNY_ili_1516_*state*
  - Sums FNY_participants to make variables FNY_particpants_1213_*state*, FNY_particpants_1314_*state*, FNY_particpants_1415_*state*, FNY_particpants_1516_*state*
  - Makes non-ili count variable (FNY_participants – FNY_ili): FNY_nonili_1213_*state*, FNY_nonili_1314_*state*, FNY_nonili_1415_*state*, FNY_nonili_1516_*state*
  - Finds proportion of ILI participants ((FNY_ili/FNY_participants)*100): FNY_ili_pct_1213_*state*, FNY_ili_ pct_1314_*state*, FNY_ili_ pct_1415_*state*, FNY_ili_ pct_1516_*state*

- **County datasets (defined *county*):**

  FNY_1213_*county* I FNY_1314_*county* I FNY_1415_*county* I FNY_1516_*county*

  - Selects distinct MMWR weeks
  - Sums FNY_ili to make variables FNY_ili_1213_*county*, FNY_ili_1314_*county*, FNY_ili_1415_*county*, FNY_ili_1516_*county*
  - Sums FNY_participants to make variables FNY_particpants_1213_*county*, FNY_particpants_1314_*county*, FNY_particpants_1415_*county*, FNY_particpants_1516_*county*
  - Makes non-ili count variable (FNY_participants – FNY_ili): FNY_nonili_1213_*county*, FNY_nonili_1314_*county*, FNY_nonili_1415_*county*, FNY_nonili_1516_*county*
  - Finds proportion of ILI participants ((FNY_ili/FNY_participants)*100): FNY_ili_pct_1213_*county*, FNY_ili_ pct_1314_*county*, FNY_ili_ pct_1415_*county*, FNY_ili_ pct_1516_*county*
- **Work.FNY_mergesummaries**: Combines summaries for national, state, & county data
- **Work.FNY_tot1**: data for MMWR week 1 - 20
- **Work.FNY_tot2**: data for MMWR week 40 – 53
- **Work.FNY_fluseason_data**: combines work.FNY_tot1 and work.FNY_tot2

Report Contents

Figures **1**

Figure 1. Counts of ILI reported to Flu Near You in &state by MMWR Week 1

1a. Flu Season 2015-2016 1

1b. Flu Season 2014-2015 2

1c. Flu Season 2013-2014 3

1d. Flu Season 2012-2013 4

Figure 2. Proportions of ILI reported to Flu Near You in &state by MMWR Week (2012-2016) 5

Figure 3. Counts of Participants and ILI Cases per MMWR Week 6

3a. Flu Season 2015-2016 ..... N/A

3b. Flu Season 2014-2015 6

3c. Flu Season 2013-2014 7

3d. Flu Season 2012-2013 8

Table **9**

Influenza-like illness reported each week in &state ; Flu Near You 2012 - 2015 9