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Working Together for Public Health: Using SAS®, ESRI, and Tableau to Enhance Data Presentation

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ABSTRACT

Numerous clients receive clinical services at local public health departments every day. With the current climate of providing necessary services with fewer resources, data-driven decision-making is essential in public health. Many local public health data systems are antiquated and provide limited reports to public health employees. Innovative means of assessing and visualizing data to enable public health employees to quickly access timely information specific to their clients and community will enhance efforts at the local level. This presentation demonstrates how large volumes of county-level surveillance data and client data can be analyzed using SAS® and meaningfully displayed in a dashboard using ESRI ArcGIS maps and Tableau software.

INTRODUCTION

Like many government entities and private companies, public health agencies across the country are having to do more with fewer resources. The ability to effectively leverage a variety of tools to create new insights at the individual and aggregated geographic level is extremely important. Data-driven decision-making has become essential in public health.

Thousands of individuals receive clinical services at local public health departments every day. Many local public health data systems are antiquated and reporting capabilities are limited, reducing the usefulness of client data for public health employees. Innovative means of assessing and visualizing data to enable public health employees to quickly access timely information specific to their clients and community will enhance health prevention efforts at the local level. This paper demonstrates how large volumes of county-level surveillance data and client data can be analyzed using SAS® and ESRI ArcGIS for spatial analysis and utilized to create meaningful dashboards in Tableau.

METHODS

There existed a need to move a county-based health profile report to a more automated and updated process without investing additional dollars into the product. Using the resources that the Oklahoma State Department of Health had on hand was an important part of this process. To accomplish this, a process was designed to incorporate several products into the analysis and visualization of the county-level data. Eventually this process will be replicated at an individual level for internal use.

Figure 1 shows the general process flow for the project.

1. Data are stored in either Excel or csv files based on the source. See the Data section below for additional information on all data sources.

2. SAS® Enterprise Guide is at the core of the system. It is responsible for importing, transforming, merging and managing all data tables used in this process.

3. The SAS® Bridge for ESRI® is utilized to access the SAS files inside the ESRI ArcMap system. A geographic weighted regression is conducted in ArcMap to determine if there is a spatial component to the data. Results of the geographic weighted regression are shuttled back to SAS through the SAS® Bridge for ESRI®.

4. Finally, SAS data is visualized in a dashboard environment created in Tableau® and published to the web using the Tableau Public service.

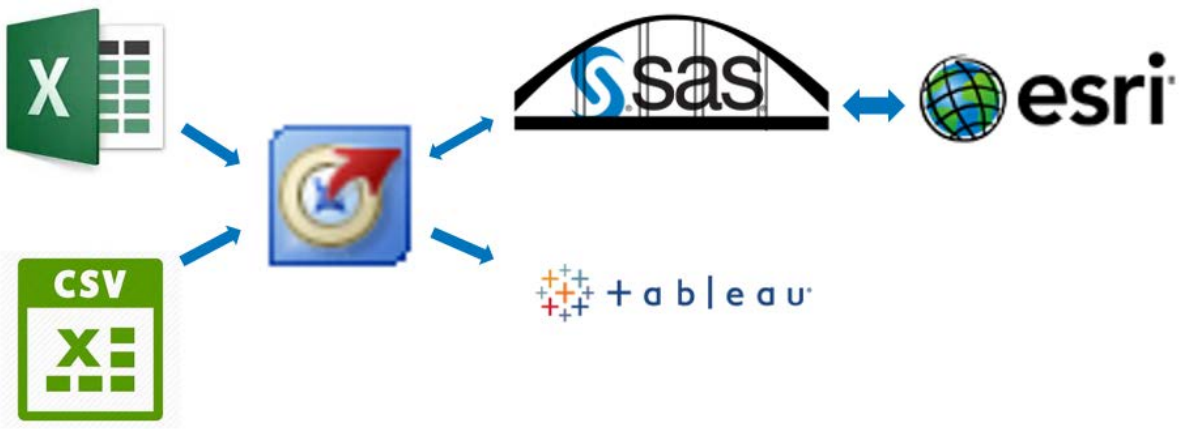

Figure 1. Project Process Flow

DATA

The Public Health Model of the Social Determinants of Health, shown in figure 2, was published in 2003 by Ansari.[1] It presents the interrelationships between four primary domains that determine health status. Medicine and the health care system are only one primary domain driving good or bad health outcomes. Individual behavior choices and the social surroundings also work together with the health care system, feeding off of each other, to impact health. What is most interesting about this concept is the social setting can often be directly linked to health outcomes to a greater extent than the other domains.

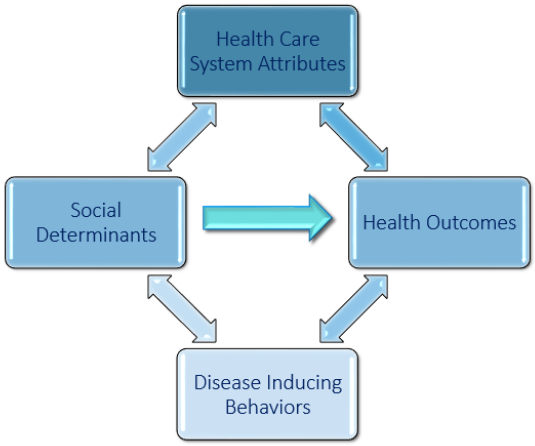

Figure 2: The Public Health Model for the Social Determinants of Health

Data was selected from four main sources for this project. Variable lists for each of these sources can be found in Appendix A.

1. American Community Survey 2012-2016 downloaded from the U.S. Census Bureau FTP site
2. OSDH Vital Statistics - Deaths, 2012-2016 downloaded from the OK2Share website
3. Oklahoma Behavioral Risk Factor Surveillance System 2016, small area estimates obtained from Health Care Information, Center for Health Statistics
4. OSDH Public Health Oklahoma Client Information System 2016

AMERICAN COMMUNITY SURVEY CENSUS DATA

SAS® Enterprise Guide was used to manage the variety of data sets used in this project. After data was downloaded from the U.S. Census Bureau file transfer protocol (FTP) site, a series of programs were obtained from the same website to read in the extracted text files.[2] Figure 3 shows a portion of the SAS® Enterprise Guide project that imported each of the required census tables.

Figure 3. Census Data Import and Merge Process

A SQL procedure was written to merge all necessary census information into a final CENSUS.sas7bdat file:

```
proc sql;
create table SASUSER.census as
select  aa.fips, aa.geoid, aa.name,aa.county,
       a.logrecno, a.b01003e1 as pop, b.b25001e1 as housingunits,
       c.b01001e2/c.b01001e1 format = percent10.1 as males_perc,
       c.b01001e26/c.b01001e1 format = percent10.1 as females_perc,
       a.b01002e1 as totmedage, a.b01002e2 as malemedage, a.b01002e3 as femalemedage,
       d.b02001e2/d.b02001e1 format = percent10.1 as white_perc,
       d.b02001e3/d.b02001e1 format = percent10.1 as black_perc,
```

```
        d.b02001e4/d.b02001e1 format = percent10.1 as amerind_perc,
        e.b03001e3/e.b03001e1 format = percent10.1 as hispanic,
        f.b05010e2/f.b05010e1 format = percent10.1 as childreninpovertyunder1,
        f.b05010e10/f.b05010e1 format = percent10.1 as childreninpoverty1_199,
        f.b05010e18/f.b05010e1 format = percent10.1 as childreninpoverty2over,
        g.b06012e2/g.b06012e1 format = percent10.1 as individualsinpovertyunder1,
        g.b06012e3/g.b06012e1 format = percent10.1 as individualsinpoverty1_149,
        g.b06012e4/g.b06012e1 format = percent10.1 as individualsinpoverty150over,
        h.b19013e1 as medianhhincome,
        i.c18120e6/i.c18120e2 format = percent10.1 as unemployment_laborforce,
        j.percent formate = percent10.1 as hsplusgrads_percent
    from work.okgeo2 as aa
         inner join work.SFe0003ok as a on aa.logrecno = a.logrecno
         inner join work.SFe0103ok as b on aa.logrecno = b.logrecno
         inner join work.sfe0002ok as c on aa.logrecno = c.logrecno
         inner join work.sfe0004ok as d on aa.logrecno = d.logrecno
         inner join work.sfe0005ok as e on aa.logrecno = e.logrecno
         inner join work.sfe0011ok as f on aa.logrecno = f.logrecno
         inner join work.sfe0015ok as g on aa.logrecno = g.logrecno
         inner join work.sfe0059ok as h on aa.logrecno = h.logrecno
         inner join work.sfe0058ok as i on aa.logrecno = i.logrecno
         inner join work.sfe0043ok_final as j on aa.logrecno = j.logrecno ;
quit;
```

VITAL STATISTICS – DEATH DATA

While many communities have similar major causes of death, there can be variation in the order or the causes of death. To be able to visualize these leading causes of death by county, initial data was pulled from the Oklahoma State Department of Health OK2SHARE system.[3] Figure 4 shows a partial snapshot of the original data table. The resulting file was stored as a csv file. Because the file was optimized for the web query system, the table had to be transposed to accommodate appropriate usage for this project. A series of DATA steps, SQL procedures, and a TRANSPOSE procedure were all written to adjust the data to a final wide pattern resulting in each county being a record and each disease category being represented by two separate columns: age-adjusted death rate (AADR) and years of potential life lost (YPLL75). YPLL75 is an indicator of premature death within a community. The full code for this process can be found in Appendix B. Figure 5 shows a partial output of the resulting AADR table.

		Deaths	Population	Death Rate	Age_Adjusted_Death_Rat	YPLL_Before_the_Age_of_
county_of_residence	ICD10_Rankable_Causes_of_Dea	.	.	.	.	.
Adair	Missing	.	.	.	.	.
	Salmonella infections (A01-A02)	.	.	.	.	.
	Tuberculosis (A16-A19)	.	.	.	.	.
	Meningococcal infection (A39)	.	.	.	.	.
	Septicemia (A40-A41)	10	66,288	15.1	13.4	80
	Viral hepatitis (B15-B19)	.	.	.	.	.
	Human immunodeficiency virus (HIV) disease (B20-B24)	.	.	.	.	.
	Malignant neoplasms (C00-C97)	168	66,288	253.4	230.5	1,500
	In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00-D48)	.	.	.	.	.
	Anemias (D50-D64)	.	.	.	.	.
	Diabetes mellitus (E10-E14)	57	66,288	86	81.9	469

Figure 4. County-level Death Data by Leading Cause of Death – Original Structure

AADR

Filter and Sort | Query Builder | Where | Data | Describe | Graph | Analyze | Export | Send To

	county_of_residence	Accidents_AADR	Acutebronchitisandbronchiol_AADR	Alzheimersdisease_AADR	Anemias_AADR	Aorticaneurysmanddissection_AADR	Assault_AADR	Atherosclerosis_AADR	Cerebrovasculardiseases_AADR
1	Adair	54.1	.	43.6	.	7.7	6.6	.	48.1
2	Alfalfa	55.9	.	34.2	.	.	.	.	37.6
3	Atoka	67.1	.	17.3	.	.	.	.	31.5
4	Beaver	104.8	.	.	.	.	.	.	20.6
5	Beckham	78.5	.	52.8	.	.	9.5	.	37.8
6	Blaine	89.5	.	18.9	.	.	.	.	40.4
7	Bryan	84.3	.	48.9	.	3.4	.	.	40.7
8	Caddo	82.3	.	23	.	.	12	.	51.8
9	Canadian	47.8	.	33.6	.	3.4	3.5	.	46.3
10	Carter	75.7	.	45.6	.	4.6	13.8	.	55.1
11	Cherokee	77.9	.	28.5	.	5.6	5	5.3	40.9
12	Choctaw	110.8	.	58	.	.	14.8	.	51.4
13	Cimarron	74.7	.	.	.	.	.	.	49.5
14	Cleveland	54	.	28.2	1.5	2.7	3.4	1.6	37.8
15	Coal	83	.	.	.	.	.	.	26.4
16	Comanche	55.4	.	32.8	2.7	4.5	8.1	.	41.7

Figure 5. County-level Age-Adjusted Death Rate – Transposed

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based telephone survey conducted throughout the country, including Oklahoma. The BRFSS survey measures a variety of health behaviors, which have been linked to major causes of injury, disease, and premature death. Data for each county in Oklahoma and a variety of health behaviors were obtained from the same OK2SHARE system as the death file.[4] Eighteen distinct behavior variables plus county were compiled into a final BRFSS.sas7bdat file (Figure 6). This was a manual process as the final file was available for the project. Future work will consist of creating an automated link to the online query system to obtain the data.

COUNTY	ACES_3plus	DentVst	Obese	Good_Better Hlth	Asthma	BingeDrink	COPD	Diabetic	FluShot_65plus
OKSTATE	21.363248806	58.194691415	32.75512739	79.828011185	9.9600268612	11.845141591	8.254433378	11.951871857	64.321876986
ADAIR	19.124636606	40.137118267	46.59990952	63.185458217	11.724544541	8.8893140672	11.812339841	20.333661238	61.026187079
ALFALFA	15.136414298	50.779567807	41.56262789	75.059942172	15.484659711	11.657637868	14.617122681	11.824015548	58.493251571
ATOKA	28.657925149	41.519060907	36.15635407	63.053907711	9.5998105865	9.6585306577	14.288568914	13.661655435	64.348358275
BEAVER	13.180731596	54.084956657	33.10492952	74.612464581	10.193006732	9.8143644974	6.6424979962	15.479886347	59.240327044
BECKHAM	23.476959024	47.027746174	38.63111653	76.512203772	10.589567172	11.707654343	8.6969428332	10.57586334	59.228973979
BLAINE	15.596734021	52.81625288	31.94478822	68.887673584	11.061667807	10.274643353	12.279524564	15.863819313	58.326614541

Figure 6: Partial Output of BRFSS table by County

PUBLIC HEALTH OKLAHOMA CLIENT INFORMATION SYSTEM

The clinic information system used in Oklahoma county health departments is the Public Health Oklahoma Client Information System (PHOCIS). This system holds client visit information and demographics for every person who has received a county health department service. Information on the number of visits, clients, and services were obtained from the system by county for comparable timeframe as the other data sets, 2012 to 2016.

Once all data sources were entered into SAS, a final combined data set was created using a PROC SQL:

```
proc sql;
create table sasuser.healthprofile as
select a.*, b.*, c.*, d.*
  from sasuser.brfss_phocis as a
         left join sasuser.census as b on a.county = b.county
            left join sasuser.aadr as c on a.county = c.county
            left join sasuser.ypll75 as d on a.county = d.county;
           quit;
```

Data must be located in a system-defined location for the Bridge to function. Options are SASUSER, SASHELP, and a variety of mapping libraries. Unfortunately, the WORK location does not function with the Bridge.

This file was stored in SASUSER for the remaining portions of this project to access. This will allow the data to be accessible and visible by the SAS® Bridge to ESRI (Bridge).

RESULTS

STEPWISE REGRESSION

A stepwise regression was conducted in SAS® Enterprise Guide to reduce the number of input variables to those which are meaningful to poor health. Thirty-six variables were entered into the stepwise regression with poor health as the dependent variable. The final model obtained an adjusted R-square of 0.7383 indicating that 74% of the variation in poor health was accounted for by the model. Figure 7 has the final model from the regression analysis.

Number of Observations Read	78
Number of Observations Used	77
Number of Observations with Missing Values	1

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	309.32323	38.66540	27.80	<.0001
Error	68	94.56139	1.39061		
Corrected Total	76	403.88463			

Root MSE	1.17924	R-Square	0.7659
Dependent Mean	10.97449	Adj R-Sq	0.7383
Coeff Var	10.74529		

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Standardized Estimate	Variance Inflation
Intercept	Intercept	1	8.21717	5.95789	1.38	0.1724	0	0
ACES_3plus		1	0.15636	0.03692	4.23	<.0001	0.31749	1.63265
DentVst		1	-0.09176	0.02636	-3.48	0.0009	-0.29139	2.03440
COPD		1	0.21962	0.07895	2.78	0.0070	0.22449	1.89143
FluShot_65plus		1	0.18537	0.05594	3.31	0.0015	0.25913	1.77590
HlthPlan		1	0.06394	0.03991	1.60	0.1138	0.11927	1.60989
Pneumo_65plus		1	-0.28734	0.07158	-4.01	0.0002	-0.28167	1.42981
totmedage	Total:	1	0.15738	0.04982	3.16	0.0024	0.24391	1.73153
unemployment_laborforce		1	19.14083	7.14585	2.68	0.0093	0.19142	1.48329

Figure 7. Stepwise Regression Model Results

CONTINUOUS GEOGRAPHICAL CLUSTERING

While the stepwise regression found a model that contains independent and uncorrelated variables, there was still a question of how these counties clustered across the variables geographically. To study this phenomenon, the resulting variables from the regression model were examined in ESRI® ArcMap using the Grouping tool. This tool performs constrained aggregative clustering using a spatial k-means method based on a minimum spanning tree algorithm.[5]

The resulting clusters are similar to previously obtained clusters using other algorithms with Oklahoma county-level data analyzed internally to OSDH.

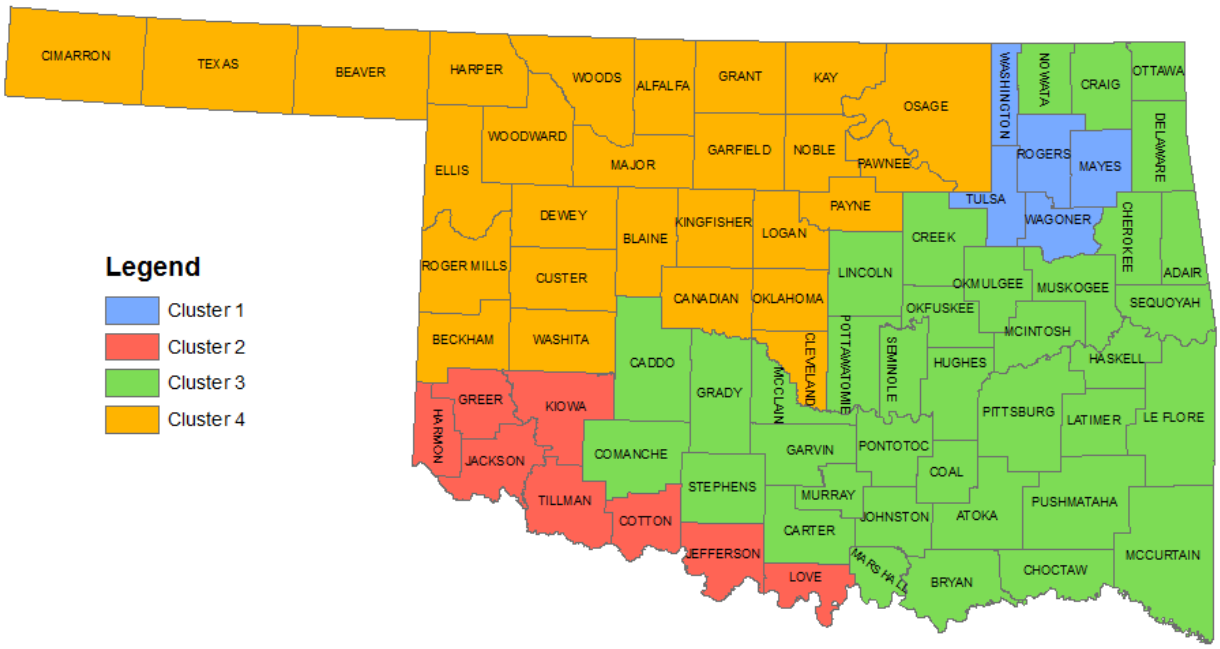

Figure 8. Geographic Spatial K-Means Grouping

TABLEAU

All variables were then visualized in Tableau to create a user-friendly and intuitive browsing space for the data. Variables were examined in groups by data source and topic as in Figures 9-11. Figure 12 shows a portion of the interactive dashboard created based on this data.

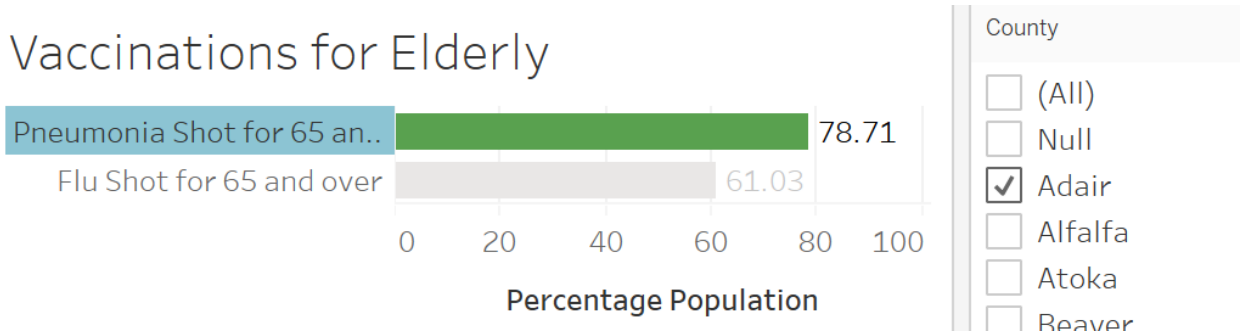

Figure 9. Vaccinations for Elderly

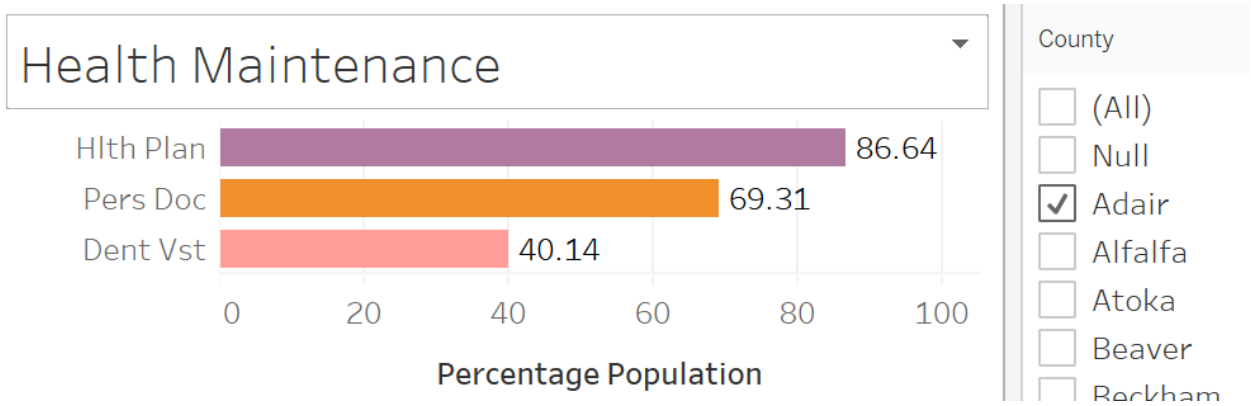

Figure 10. Health Maintenance Variables

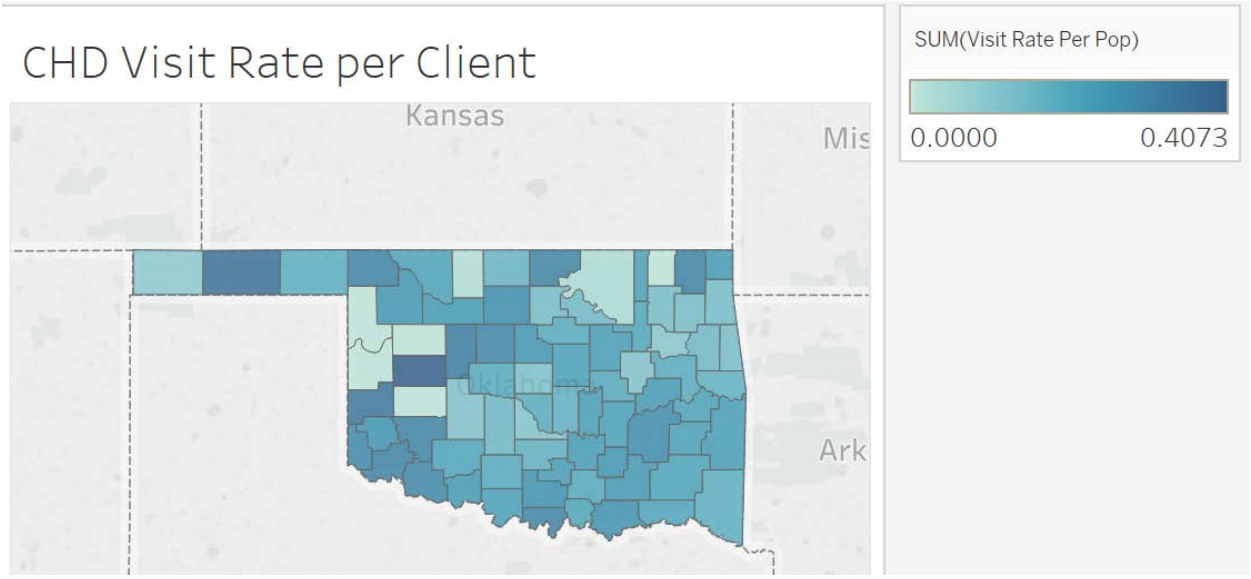

Figure 11. County Health Department Visits per Client Rate

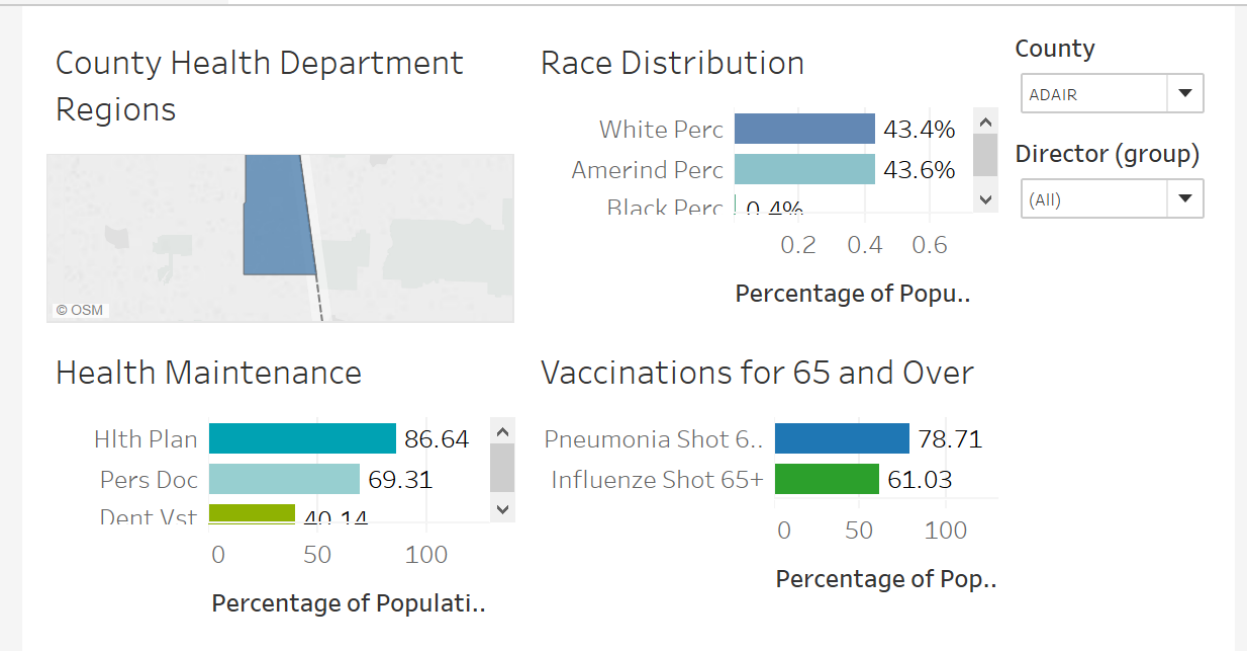

Figure 12. Interactive Dashboard

CONCLUSIONS

Once fully complete, this interactive map, which will be made available on Tableau Public, will supplement other county health profiles available on the Community Epidemiology webpage and provide communities with information that can be used for planning and implementation purposes. This information will be useful for county health departments in their staffing and programming planning needs, local hospitals and health organizations to meet federal requirements and many others for a variety of reasons. In addition, the system put into place during this re-design process has been automated as much as possible to make updating the information for the Community Epidemiology & Evaluation staff as easy and low maintenance as possible.

REFERENCES

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3. Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2012 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). Accessed at http://www.health.ok.gov/ok2share on 08MAR2018:00:33:09.
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APPENDIX A

Variable Lists by Data Source

1. American Community Survey 2012-2016 downloaded from the U.S. Census Bureau FTP site
    a. Population
    b. Housing Units
    c. Gender
    d. Median Age
    e. Median Household Income
    f. Race/ Ethnicity
    g. Educational Attainment
    h. Unemployment
    i. Poverty
2. OSDH Vital Statistics - Deaths, 2012-2016 downloaded from the OK2Share website
    a. Age-Adjusted Death Rate for Leading Causes of Death
    b. Years of Potential Life Lost before 75 for Leading Causes of Death
3. Oklahoma Behavioral Risk Factor Surveillance System 2016
    a. 3 or more Adverse Childhood Events
    b. Dental Visits
    c. Obesity Status
    d. Good or Better Health
    e. Asthma -
    f. BingeDrink
    g. COPD
    h. Diabetic
    i. FluShot_65plus
    j. HvyDrinker
    k. HlthPlan
    l. LTPA30d
    m. MentHlth
    n. PhysHlth
    o. PoorHlth
    p. PersDoc
    q. Pneumo_65plus
    r. Smoker
    s. CHDVisits_CY16
    t. CHDClients_CY16
    u. CHDServices_CY16
4. OSDH Public Health Oklahoma Client Information System 2016

APPENDIX B

SAS Code for Death File

```
title;
data death_all;
length county_of_residence $100 ICD10_Rankable_Causes_of_Death $100
Deaths 8 Population 8 Death_rate 8 AADR 8 YPLL75 8;
infile "C:\Users\miriajm\OneDrive - Oklahoma State University\Business
Analytics Program\SAS Global Forum\Health Paper\Death_All_1.csv"
dlm=',' dsd firstobs=2;
input county_of_residence $ ICD10_Rankable_Causes_of_Death $ Deaths
Population Death_Rate AADR YPLL75;
run;
proc sql;
create table work.death_all_updated as
select a.*, b.shortname
  from work.death_all as a, WORK.QUERY_FOR_DEATH_ALL as b
    where a.ICD10_Rankable_Causes_of_Death =
b.ICD10_Rankable_Causes_of_Death
      and county_of_residence ~= "UNKNOWN";
      quit;

proc sort data=death_all_updated;
by county_of_residence shortname;
run;

proc sort data=death_all_updated out=death_top_10_sort;
by county_of_residence descending AADR;
run;

data SASUSER.death_top_10;
set work.death_top_10_sort;
by county_of_residence descending aadr;
county=upcase(compress(county_of_residence));
if first.county_of_residence = 1 then count = 0;
count+1;
if count<=10 then output;

run;

proc transpose data=death_all_updated out=death_all_transpose
name=considered_variable;
by county_of_residence;
var AADR YPLL75;
id shortname;
run;
proc sql;
select * from death_all_transpose where considered_variable='YPLL75';
run;
data sasuser.AADR(drop=considered_variable)
sasuser.YPLL75(drop=considered_variable);
set death_all_transpose;
```

```
county=upcase(compress(county_of_residence));
if considered_variable='YPLL75' then output sasuser.YPLL75;
else output sasuser.AADR;
run;

data sasuser.aadr;
set sasuser.aadr(rename=(Accidents = Accidents_AADR
Acutebronchitisandbronchiol = Acutebronchitisandbronchiol_AADR
Alzheimersdisease = Alzheimersdisease_AADR
Anemias = Anemias_AADR
Aorticaneurysmanddissection = Aorticaneurysmanddissection_AADR
Assault = Assault_AADR
Atherosclerosis = Atherosclerosis_AADR
Cerebrovasculardiseases = Cerebrovasculardiseases_AADR
Certainconditionsoriginatin = Certainconditionsoriginatin_AADR
Cholelithiasisandotherdisor = Cholelithiasisandotherdisor_AADR
Chronicliverdiseaseandcirrh = Chronicliverdiseaseandcirrh_AADR
Chroniclowerrespiratorydise = Chroniclowerrespiratorydise_AADR
Complicationsofmedicalandsu = Complicationsofmedicalandsu_AADR
Congenitalmalformations_def = Congenitalmalformations_def_AADR
Diabetesmellitus = Diabetesmellitus_AADR
Diseasesofappendix = Diseasesofappendix_AADR
Diseasesofheart = Diseasesofheart_AADR
Essential = Essential_AADR
Hernia = Hernia_AADR
Humanimmunodeficiencyvirus = Humanimmunodeficiencyvirus_AADR
Hyperplasiaofprostate = Hyperplasiaofprostate_AADR
Infectionsofkidney = Infectionsofkidney_AADR
Inflammatorydiseasesoffemal = Inflammatorydiseasesoffemal_AADR
Influenzaandpneumonia = Influenzaandpneumonia_AADR
Insituneoplasms_benignneopl = Insituneoplasms_benignneopl_AADR
Intentionalselfharm = Intentionalselfharm_AADR
Legalintervention = Legalintervention_AADR
Malignantneoplasms = Malignantneoplasms_AADR
Meningitis = Meningitis_AADR
Meningococcalinfection = Meningococcalinfection_AADR
Missing = Missing_AADR
Nephritis_nephroticsyndrome = Nephritis_nephroticsyndrome_AADR
NonRankableCauses = NonRankableCauses_AADR
Nutritionaldeficiencies = Nutritionaldeficiencies_AADR
Parkinsonsdisease = Parkinsonsdisease_AADR
Pepticulcer = Pepticulcer_AADR
Pneumoconiosesandchemicalef = Pneumoconiosesandchemicalef_AADR
Pneumonitisduetosolidsandli = Pneumonitisduetosolidsandli_AADR
Pregnancy_childbirthandthep = Pregnancy_childbirthandthep_AADR
Salmonellainfections = Salmonellainfections_AADR
Septicemia = Septicemia_AADR
Tuberculosis = Tuberculosis_AADR
Viralhepatitis = Viralhepatitis_AADR
Operationsofwarandtheirsequ = Operationsofwarandtheirsequ_AADR
Syphilis = Syphilis_AADR
Whoopingcough = Whoopingcough_AADR
```

```
));
run;

data sasuser.YPLL75;
set sasuser.YPLL75(rename=(Accidents = Accidents_YPLL
Acutebronchitisandbronchiol = Acutebronchitisandbronchiol_YPLL
Alzheimersdisease = Alzheimersdisease_YPLL
Anemias = Anemias_YPLL
Aorticaneurysmanddissection = Aorticaneurysmanddissection_YPLL
Assault = Assault_YPLL
Atherosclerosis = Atherosclerosis_YPLL
Cerebrovasculardiseases = Cerebrovasculardiseases_YPLL
Certainconditionsoriginatin = Certainconditionsoriginatin_YPLL
Cholelithiasisandotherdisor = Cholelithiasisandotherdisor_YPLL
Chronicliverdiseaseandcirrh = Chronicliverdiseaseandcirrh_YPLL
Chroniclowerrespiratorydise = Chroniclowerrespiratorydise_YPLL
Complicationsofmedicalandsu = Complicationsofmedicalandsu_YPLL
Congenitalmalformations_def = Congenitalmalformations_def_YPLL
Diabetesmellitus = Diabetesmellitus_YPLL
Diseasesofappendix = Diseasesofappendix_YPLL
Diseasesofheart = Diseasesofheart_YPLL
Essential = Essential_YPLL
Hernia = Hernia_YPLL
Humanimmunodeficiencyvirus = Humanimmunodeficiencyvirus_YPLL
Hyperplasiaofprostate = Hyperplasiaofprostate_YPLL
Infectionsofkidney = Infectionsofkidney_YPLL
Inflammatorydiseasesoffemal = Inflammatorydiseasesoffemal_YPLL
Influenzaandpneumonia = Influenzaandpneumonia_YPLL
Insituneoplasms_benignneopl = Insituneoplasms_benignneopl_YPLL
Intentionalselfharm = Intentionalselfharm_YPLL
Legalintervention = Legalintervention_YPLL
Malignantneoplasms = Malignantneoplasms_YPLL
Meningitis = Meningitis_YPLL
Meningococcalinfection = Meningococcalinfection_YPLL
Missing = Missing_YPLL
Nephritis_nephroticsyndrome = Nephritis_nephroticsyndrome_YPLL
NonRankableCauses = NonRankableCauses_YPLL
Nutritionaldeficiencies = Nutritionaldeficiencies_YPLL
Parkinsonsdisease = Parkinsonsdisease_YPLL
Pepticulcer = Pepticulcer_YPLL
Pneumoconiosesandchemicalef = Pneumoconiosesandchemicalef_YPLL
Pneumonitisduetosolidsandli = Pneumonitisduetosolidsandli_YPLL
Pregnancy_childbirthandthep = Pregnancy_childbirthandthep_YPLL
Salmonellainfections = Salmonellainfections_YPLL
Septicemia = Septicemia_YPLL
Tuberculosis = Tuberculosis_YPLL
Viralhepatitis = Viralhepatitis_YPLL
Operationsofwarandtheirsequ = Operationsofwarandtheirsequ_YPLL
Syphilis = Syphilis_YPLL
Whoopingcough = Whoopingcough_YPLL
));
run;
```

```
/* ----------------------------------------
Code exported from SAS Enterprise Guide
DATE: Monday, March 12, 2018     TIME: 9:52:38 PM
PROJECT: HealthProfile2
PROJECT PATH: C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS Global Forum\Health Paper\HealthProfile2.egp
---------------------------------------- */

/* Conditionally delete set of tables or views, if they exists          */
/* If the member does not exist, then no action is performed   */
%macro _eg_conditional_dropds /parmbuff;

	%local num;
	%local stepneeded;
	%local stepstarted;
	%local dsname;
	%local name;

	%let num=1;
	/* flags to determine whether a PROC SQL step is needed */
	/* or even started yet                                  */
	%let stepneeded=0;
	%let stepstarted=0;
	%let dsname= %qscan(&syspbuff,&num,',()');
	%do %while(&dsname ne);
		%let name = %sysfunc(left(&dsname));
		%if %qsysfunc(exist(&name)) %then %do;
			%let stepneeded=1;
			%if (&stepstarted eq 0) %then %do;
				proc sql;
				%let stepstarted=1;

			%end;
				drop table &name;
		%end;

		%if %sysfunc(exist(&name,view)) %then %do;
			%let stepneeded=1;
			%if (&stepstarted eq 0) %then %do;
				proc sql;
				%let stepstarted=1;
			%end;
				drop view &name;
		%end;
		%let num=%eval(&num+1);
	%let dsname=%qscan(&syspbuff,&num,',()');
	%end;
	%if &stepstarted %then %do;
		quit;
	%end;
%mend _eg_conditional_dropds;
```

```
/* Build where clauses from stored process parameters */
%macro _eg_WhereParam( COLUMN, PARM, OPERATOR, TYPE=S, MATCHALL=_ALL_VALUES_,
MATCHALL_CLAUSE=1, MAX= , IS_EXPLICIT=0, MATCH_CASE=1);

  %local q1 q2 sq1 sq2;
  %local isEmpty;
  %local isEqual isNotEqual;
  %local isIn isNotIn;
  %local isString;
  %local isBetween;

  %let isEqual = ("%QUPCASE(&OPERATOR)" = "EQ" OR "&OPERATOR" = "=");
  %let isNotEqual = ("%QUPCASE(&OPERATOR)" = "NE" OR "&OPERATOR" = "<>");
  %let isIn = ("%QUPCASE(&OPERATOR)" = "IN");
  %let isNotIn = ("%QUPCASE(&OPERATOR)" = "NOT IN");
  %let isString = (%QUPCASE(&TYPE) eq S or %QUPCASE(&TYPE) eq STRING );
  %if &isString %then
  %do;
      %if "&MATCH_CASE" eq "0" %then %do;
            %let COLUMN = %str(UPPER%(&COLUMN%));
      %end;
      %let q1=%str(%");
      %let q2=%str(%");
      %let sq1=%str(%');
      %let sq2=%str(%');
  %end;
  %else %if %QUPCASE(&TYPE) eq D or %QUPCASE(&TYPE) eq DATE %then
  %do;
    %let q1=%str(%");
    %let q2=%str(%"d);
       %let sq1=%str(%');
    %let sq2=%str(%');
  %end;
  %else %if %QUPCASE(&TYPE) eq T or %QUPCASE(&TYPE) eq TIME %then
  %do;
    %let q1=%str(%");
    %let q2=%str(%"t);
       %let sq1=%str(%');
    %let sq2=%str(%');
  %end;
  %else %if %QUPCASE(&TYPE) eq DT or %QUPCASE(&TYPE) eq DATETIME %then
  %do;
    %let q1=%str(%");
    %let q2=%str(%"dt);
       %let sq1=%str(%');
    %let sq2=%str(%');
  %end;
  %else
  %do;
    %let q1=;
    %let q2=;
       %let sq1=;
    %let sq2=;
  %end;
```

```
  %if "&PARM" = "" %then %let PARM=&COLUMN;

  %let isBetween = ("%QUPCASE(&OPERATOR)"="BETWEEN" or "%QUPCASE(&OPERATOR)"="NOT
BETWEEN");

  %if "&MAX" = "" %then %do;
   %let MAX = &parm._MAX;
   %if &isBetween %then %let PARM = &parm._MIN;
  %end;

  %if not %symexist(&PARM) or (&isBetween and not %symexist(&MAX)) %then %do;
   %if &IS_EXPLICIT=0 %then %do;
            not &MATCHALL_CLAUSE
      %end;
      %else %do;
         not 1=1
      %end;
  %end;
  %else %if "%qupcase(&&&PARM)" = "%qupcase(&MATCHALL)" %then %do;
   %if &IS_EXPLICIT=0 %then %do;
         &MATCHALL_CLAUSE
      %end;
      %else %do;
         1=1
      %end;
  %end;
  %else %if (not %symexist(&PARM._count)) or &isBetween %then %do;
   %let isEmpty = ("&&&PARM" = "");
   %if (&isEqual AND &isEmpty AND &isString) %then
     &COLUMN is null;
   %else %if (&isNotEqual AND &isEmpty AND &isString) %then
     &COLUMN is not null;
   %else %do;
        %if &IS_EXPLICIT=0 %then %do;
        &COLUMN &OPERATOR
                %if "&MATCH_CASE" eq "0" %then %do;
                     %unquote(&q1)%QUPCASE(&&&PARM)%unquote(&q2)
                %end;
                %else %do;
                     %unquote(&q1)&&&PARM%unquote(&q2)
                %end;
        %end;
        %else %do;
           &COLUMN &OPERATOR
                %if "&MATCH_CASE" eq "0" %then %do;
                     %unquote(%nrstr(&sq1))%QUPCASE(&&&PARM)%unquote(%nrstr(&sq2))
                %end;
                %else %do;
                     %unquote(%nrstr(&sq1))&&&PARM%unquote(%nrstr(&sq2))
                %end;
        %end;
     %if &isBetween %then
       AND %unquote(&q1)&&&MAX%unquote(&q2);
```

```
  %end;
%end;
%else
%do;
    %local emptyList;
    %let emptyList = %symexist(&PARM._count);
    %if &emptyList %then %let emptyList = &&&PARM._count = 0;
    %if (&emptyList) %then
    %do;
        %if (&isNotin) %then
          1;
        %else
            0;
    %end;
    %else %if (&&&PARM._count = 1) %then
 %do;
  %let isEmpty = ("&&&PARM" = "");
  %if (&isIn AND &isEmpty AND &isString) %then
   &COLUMN is null;
  %else %if (&isNotin AND &isEmpty AND &isString) %then
   &COLUMN is not null;
  %else %do;
      %if &IS_EXPLICIT=0 %then %do;
            %if "&MATCH_CASE" eq "0" %then %do;
                &COLUMN &OPERATOR (%unquote(&q1)%QUPCASE(&&&PARM)%unquote(&q2))
            %end;
            %else %do;
                &COLUMN &OPERATOR (%unquote(&q1)&&&PARM%unquote(&q2))
            %end;
      %end;
        %else %do;
          &COLUMN &OPERATOR (
            %if "&MATCH_CASE" eq "0" %then %do;
                %unquote(%nrstr(&sq1))%QUPCASE(&&&PARM)%unquote(%nrstr(&sq2)))
            %end;
            %else %do;
                %unquote(%nrstr(&sq1))&&&PARM%unquote(%nrstr(&sq2)))
            %end;
        %end;
    %end;
 %end;
 %else
 %do;
   %local addIsNull addIsNotNull addComma;
   %let addIsNull = %eval(0);
   %let addIsNotNull = %eval(0);
   %let addComma = %eval(0);
   (&COLUMN &OPERATOR (
   %do i=1 %to &&&PARM._count;
     %let isEmpty = ("&&&PARM&i" = "");
     %if (&isString AND &isEmpty AND (&isIn OR &isNotIn)) %then
     %do;
       %if (&isIn) %then %let addIsNull = 1;
       %else %let addIsNotNull = 1;
```

```
        %end;
        %else
        %do;
          %if &addComma %then %do;,%end;
                %if &IS_EXPLICIT=0 %then %do;
                      %if "&MATCH_CASE" eq "0" %then %do;
                            %unquote(&q1)%QUPCASE(&&&PARM&i)%unquote(&q2)
                      %end;
                      %else %do;
                            %unquote(&q1)&&&PARM&i%unquote(&q2)
                      %end;
                %end;
                %else %do;
                      %if "&MATCH_CASE" eq "0" %then %do;
                            %unquote(%nrstr(&sq1))%QUPCASE(&&&PARM&i)%unquote(%nrstr(&sq2))
                      %end;
                      %else %do;
                            %unquote(%nrstr(&sq1))&&&PARM&i%unquote(%nrstr(&sq2))
                      %end;
                %end;
          %let addComma = %eval(1);
        %end;
      %end;)
      %if &addIsNull %then OR &COLUMN is null;
      %else %if &addIsNotNull %then AND &COLUMN is not null;
      %do;)
      %end;
    %end;
  %end;
%mend _eg_WhereParam;


/* ---------------------------------- */
/* MACRO: enterpriseguide             */
/* PURPOSE: define a macro variable   */
/*   that contains the file system    */
/*   path of the WORK library on the  */
/*   server.  Note that different     */
/*   logic is needed depending on the */
/*   server type.                     */
/* ---------------------------------- */
%macro enterpriseguide;
%global sasworklocation;
%local tempdsn unique_dsn path;

%if &sysscp=OS %then %do; /* MVS Server */
       %if %sysfunc(getoption(filesystem))=MVS %then %do;
       /* By default, physical file name will be considered a classic MVS data set. */
          /* Construct dsn that will be unique for each concurrent session under a particular account: */
             filename egtemp '&egtemp' disp=(new,delete); /* create a temporary data set */
             %let tempdsn=%sysfunc(pathname(egtemp)); /* get dsn */
             filename egtemp clear; /* get rid of data set - we only wanted its name */
             %let unique_dsn=".EGTEMP.%substr(&tempdsn, 1, 16).PDSE";
             filename egtmpdir &unique_dsn
```

```
                disp=(new,delete,delete) space=(cyl,(5,5,50))
                dsorg=po dsntype=library recfm=vb
                lrecl=8000 blksize=8004 ;
            options fileext=ignore ;
        %end;
        %else %do;
        /*
            By default, physical file name will be considered an HFS
            (hierarchical file system) file.
            */
            %if "%sysfunc(getoption(filetempdir))"="" %then %do;
                filename egtmpdir '/tmp';
            %end;
            %else %do;
                filename egtmpdir "%sysfunc(getoption(filetempdir))";
            %end;
        %end;
        %let path=%sysfunc(pathname(egtmpdir));
    %let sasworklocation=%sysfunc(quote(&path));
%end; /* MVS Server */
%else %do;
        %let sasworklocation = "%sysfunc(getoption(work))/";
%end;
%if &sysscp=VMS_AXP %then %do; /* Alpha VMS server */
        %let sasworklocation = "%sysfunc(getoption(work))";
%end;
%if &sysscp=CMS %then %do;
        %let path = %sysfunc(getoption(work));
        %let sasworklocation = "%substr(&path, %index(&path,%str( )))";
%end;
%mend enterpriseguide;

%enterpriseguide


/* save the current settings of XPIXELS and YPIXELS */
/* so that they can be restored later               */
%macro _sas_pushchartsize(new_xsize, new_ysize);
        %global _savedxpixels _savedypixels;
        options nonotes;
        proc sql noprint;
        select setting into :_savedxpixels
        from sashelp.vgopt
        where optname eq "XPIXELS";
        select setting into :_savedypixels
        from sashelp.vgopt
        where optname eq "YPIXELS";
        quit;
        options notes;
        GOPTIONS XPIXELS=&new_xsize YPIXELS=&new_ysize;
%mend _sas_pushchartsize;

/* restore the previous values for XPIXELS and YPIXELS */
%macro _sas_popchartsize;
```

```
    %if %symexist(_savedxpixels) %then %do;
        GOPTIONS XPIXELS=&_savedxpixels YPIXELS=&_savedypixels;
        %symdel _savedxpixels / nowarn;
        %symdel _savedypixels / nowarn;
    %end;
%mend _sas_popchartsize;


ODS PROCTITLE;
OPTIONS DEV=ACTIVEX;
GOPTIONS XPIXELS=0 YPIXELS=0;
FILENAME EGSRX TEMP;
ODS tagsets.sasreport13(ID=EGSRX) FILE=EGSRX
    STYLE=HtmlBlue
    STYLESHEET=(URL="file:///C:/Program%20Files/SASHome/SASEnterpriseGuide/7.1/Styles/HtmlBlue.css")
    NOGTITLE
    NOGFOOTNOTE
    GPATH=&sasworklocation
    ENCODING=UTF8
    options(rolap="on")
;

/*   START OF NODE: Import Data (Copy of
ACS_5yr_Seq_Table_Number_Lookup.xls[ACS_5yr_Seq_Table_Number_Lookup])   */

GOPTIONS ACCESSIBLE;
/* ---------------------------------------------------------------------
   Code generated by a SAS task

   Generated on Saturday, March 3, 2018 at 8:19:12 PM
   By task:     Import Data Wizard

   Source file: C:\Users\miriajm\OneDrive - Oklahoma State
   University\Business Analytics Program\SAS Global Forum\Health
   Paper\Census Data\Copy of ACS_5yr_Seq_Table_Number_Lookup.xls
   Server:      Local File System

   Output data: WORK.ACS_5yr_Seq_Table_Number
   Server:      Local
   --------------------------------------------------------------------- */

/* ---------------------------------------------------------------------
   This DATA step reads the data values from a temporary text file
   created by the Import Data wizard. The values within the temporary
   text file were extracted from the Excel source file.
   --------------------------------------------------------------------- */

DATA WORK.ACS_5yr_Seq_Table_Number;
    LENGTH
       File_ID         $ 5
       Table_ID        $ 9
       Sequence_Number    8
       Line_Number        8
       Start_Position     8
```

```
    Total_Cells_in_Table $ 9
    Total_Cells_in_Sequence   8
    Table_Title      $ 246
    Subject_Area     $ 35 ;
  LABEL
    File_ID         = "File ID"
    Table_ID        = "Table ID"
    Sequence_Number  = "Sequence Number"
    Line_Number      = "Line Number"
    Start_Position   = "Start Position"
    Total_Cells_in_Table = "Total Cells in Table"
    Total_Cells_in_Sequence = "Total Cells in Sequence"
    Table_Title      = "Table Title"
    Subject_Area     = "Subject Area" ;
  FORMAT
    File_ID         $CHAR5.
    Table_ID        $CHAR9.
    Sequence_Number  BEST12.
    Line_Number      BEST12.
    Start_Position   BEST12.
    Total_Cells_in_Table $CHAR9.
    Total_Cells_in_Sequence BEST12.
    Table_Title      $CHAR246.
    Subject_Area     $CHAR35. ;
  INFORMAT
    File_ID         $CHAR5.
    Table_ID        $CHAR9.
    Sequence_Number  BEST12.
    Line_Number      BEST12.
    Start_Position   BEST12.
    Total_Cells_in_Table $CHAR9.
    Total_Cells_in_Sequence BEST12.
    Table_Title      $CHAR246.
    Subject_Area     $CHAR35. ;
  INFILE 'C:\Users\miriajm\AppData\Local\Temp\SEG13048\Copy of ACS_5yr_Seq_Table_Number_Lookup-
befcaffffaba4d7fb81c1a3e9ac049c7.txt'
    LRECL=288
    ENCODING="WLATIN1"
    TERMSTR=CRLF
    DLM='7F'x
    MISSOVER
    DSD ;
  INPUT
    File_ID         : $CHAR5.
    Table_ID        : $CHAR9.
    Sequence_Number  : BEST32.
    Line_Number      : BEST32.
    Start_Position   : BEST32.
    Total_Cells_in_Table : $CHAR9.
    Total_Cells_in_Sequence : BEST32.
    Table_Title      : $CHAR246.
    Subject_Area     : $CHAR35. ;
RUN;
```

```
GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;


/*   START OF NODE: Import Data (OKgeo.xlsx[OK])   */

GOPTIONS ACCESSIBLE;
/* ---------------------------------------------------------------------
   Code generated by a SAS task

   Generated on Saturday, March 3, 2018 at 5:28:01 PM
   By task:     Import Data Wizard

   Source file: C:\Users\miriajm\OneDrive - Oklahoma State
   University\Business Analytics Program\SAS Global Forum\Health
   Paper\Census Data\OKgeo.xlsx
   Server:      Local File System

   Output data: WORK.OKgeo
   Server:      Local
   --------------------------------------------------------------------- */

/* ---------------------------------------------------------------------
   This DATA step reads the data values from a temporary text file
   created by the Import Data wizard. The values within the temporary
   text file were extracted from the Excel source file.
   --------------------------------------------------------------------- */

DATA WORK.OKgeo;
    LENGTH
       STATE          $ 2
       LOGRECNO       $ 7
       GEOID          $ 22
       Name           $ 184 ;
    FORMAT
       STATE          $CHAR2.
       LOGRECNO       $CHAR7.
       GEOID          $CHAR22.
       Name           $CHAR184. ;
    INFORMAT
       STATE          $CHAR2.
       LOGRECNO       $CHAR7.
       GEOID          $CHAR22.
       Name           $CHAR184. ;
    INFILE 'C:\Users\miriajm\AppData\Local\Temp\SEG13048\OKgeo-f254ab2c090b4f95a66af1a74e4ae3bb.txt'
       LRECL=214
       ENCODING="WLATIN1"
       TERMSTR=CRLF
       DLM='7F'x
```

```
      MISSOVER
      DSD ;
   INPUT
      STATE          : $CHAR2.
      LOGRECNO       : $CHAR7.
      GEOID          : $CHAR22.
      Name           : $CHAR184. ;
RUN;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;


/*   START OF NODE: Query Builder   */
%LET _CLIENTTASKLABEL='Query Builder';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';

GOPTIONS ACCESSIBLE;
%put ERROR: Unable to get SAS code. Unable to open input data;


GOPTIONS NOACCESSIBLE;


%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;


/*   START OF NODE: Program   */
%LET SYSLAST=WORK.QUERY_FOR_OKGEO;
%LET _CLIENTTASKLABEL='Program';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='';
%LET _SASPROGRAMFILEHOST='';

GOPTIONS ACCESSIBLE;
data work.okgeo2;
length county $ 50;
```

```
set work.okgeo;
FIPS = substr(geoid,index(geoid,"US")+2);
where logrecno in ('0000001')
        or logrecno between '0000013' and '0000089';
if FIPS = '40' then county = 'OKState';
   else county = upcase(compress(tranwrd(name," County, Oklahoma","")));
run;

data work.acs_5yr_sec;
set work.acs_5yr_seq_table_number;
where Sequence_Number in (1,2,4,5,11,59,43,58,3, 103,15)
  and Table_id in ("B01003", "B25001", "B01001", "B03001", "B02001", "B05010", "B19013", "B15001", "C18120",
"B01002", "B06012");
if table_id = "B15001" and table_title in  ("High school graduate (includes equivalency)",
                                "Some college, no degree",
                                "Associate's degree",
                                "Bachelor's degree",
                                "Graduate or professional degree") then hsPlusGrades =2;
  else if table_id = "B15001" and table_title in ("Less than 9th grade", "9th to 12th grade, no diploma") then
hsPlusGrades = 1;
  else if table_id = "B15001" and table_title not in  ("Less than 9th grade", "9th to 12th grade, no diploma","High school
graduate (includes equivalency)",
                                "Some college, no degree",
                                "Associate's degree",
                                "Bachelor's degree",
                                "Graduate or professional degree") then hsplusgrades = 0;
                                else hsplusgrades = .;
run;

GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: One-Way Frequencies   */

GOPTIONS ACCESSIBLE;
/* ---------------------------------------------------------------
   Code generated by SAS Task

   Generated on: Saturday, March 3, 2018 at 8:23:30 PM
   By task: One-Way Frequencies

   Input Data: Local:WORK.ACS_5YR_SEC
   Server:  Local
   ---------------------------------------------------------------- */

%_eg_conditional_dropds(WORK.SORT);
/* ---------------------------------------------------------------
```

```
   Sort data set Local:WORK.ACS_5YR_SEC
   ---------------------------------------------------------------- */

PROC SQL;
      CREATE VIEW WORK.SORT AS
            SELECT T.Table_ID
      FROM WORK.ACS_5YR_SEC as T
;
QUIT;

TITLE;
TITLE1 "One-Way Frequencies";
TITLE2 "Results";
FOOTNOTE;
FOOTNOTE1 "Generated by the SAS System (&_SASSERVERNAME, &SYSSCPL) on
%TRIM(%QSYSFUNC(DATE(), NLDATE20.)) at %TRIM(%SYSFUNC(TIME(), TIMEAMPM12.))";
PROC FREQ DATA=WORK.SORT
      ORDER=INTERNAL
;
      TABLES Table_ID /  SCORES=TABLE;
RUN;
/* ----------------------------------------------------------------
   End of task code
   ---------------------------------------------------------------- */
RUN; QUIT;
%_eg_conditional_dropds(WORK.SORT);
TITLE; FOOTNOTE;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;


/*   START OF NODE: Query Builder (2)   */
%LET _CLIENTTASKLABEL='Query Builder (2)';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';

GOPTIONS ACCESSIBLE;
%put ERROR: Unable to get SAS code. Unable to open input data;


GOPTIONS NOACCESSIBLE;


%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
```

```
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;


/*   START OF NODE: Query Builder (3)   */
LIBNAME TMP00001 "C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS
Global Forum\Health Paper";


%LET _CLIENTTASKLABEL='Query Builder (3)';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';

GOPTIONS ACCESSIBLE;
%_eg_conditional_dropds(SASUSER.BRFSS_PHOCIS);

PROC SQL;
  CREATE TABLE SASUSER.BRFSS_PHOCIS AS
  SELECT /* COUNTY */
         (UPCASE(compress(t1.County))) AS COUNTY,
       t1.ACES_3plus,
       t1.DentVst,
       t1.Obese,
       t1.Good_BetterHlth,
       t1.Asthma,
       t1.BingeDrink,
       t1.COPD,
       t1.Diabetic,
       t1.FluShot_65plus,
       t1.HvyDrinker,
       t1.HlthPlan,
       t1.LTPA30d,
       t1.MentHlth,
       t1.PhysHlth,
       t1.PoorHlth,
       t1.PersDoc,
       t1.Pneumo_65plus,
       t1.Smoker,
       t1.CHDVisits_CY16,
       t1.CHDClients_CY16,
       t1.CHDServices_CY16
    FROM TMP00001.data t1;
QUIT;

GOPTIONS NOACCESSIBLE;


%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
```

```
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;


/*   START OF NODE: DeathData   */
%LET _CLIENTTASKLABEL='DeathData';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\DeathData.sas';
%LET _SASPROGRAMFILEHOST='SSB6RZ3N72';

GOPTIONS ACCESSIBLE;
title;
data death_all;
length county_of_residence $100 ICD10_Rankable_Causes_of_Death $100 Deaths 8 Population 8 Death_rate 8 AADR
8 YPLL75 8;
infile "C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS Global Forum\Health
 Paper\Death_All_1.csv" dlm=',' dsd firstobs=2;
input county_of_residence $ ICD10_Rankable_Causes_of_Death $ Deaths Population Death_Rate AADR YPLL75;
run;
proc sql;
create table work.death_all_updated as
select a.*, b.shortname
  from work.death_all as a, WORK.QUERY_FOR_DEATH_ALL as b
    where a.ICD10_Rankable_Causes_of_Death = b.ICD10_Rankable_Causes_of_Death
       and county_of_residence ~= "UNKNOWN";
       quit;

proc sort data=death_all_updated;
by county_of_residence shortname;
run;

proc sort data=death_all_updated out=death_top_10_sort;
by county_of_residence descending AADR;
run;

data SASUSER.death_top_10;
set work.death_top_10_sort;
by county_of_residence descending aadr;
county=upcase(compress(county_of_residence));
if first.county_of_residence = 1 then count = 0;
count+1;
if count<=10 then output;

run;

proc transpose data=death_all_updated out=death_all_transpose name=considered_variable;
by county_of_residence;
var AADR YPLL75;
id shortname;
```

```
run;
proc sql;
select * from death_all_transpose where considered_variable='YPLL75';
run;
data sasuser.AADR(drop=considered_variable) sasuser.YPLL75(drop=considered_variable);
set death_all_transpose;
county=upcase(compress(county_of_residence));
if considered_variable='YPLL75' then output sasuser.YPLL75;
else output sasuser.AADR;
run;

data sasuser.aadr;
set sasuser.aadr(rename=(Accidents = Accidents_AADR
Acutebronchitisandbronchiol = Acutebronchitisandbronchiol_AADR
Alzheimersdisease = Alzheimersdisease_AADR
Anemias = Anemias_AADR
Aorticaneurysmanddissection = Aorticaneurysmanddissection_AADR
Assault = Assault_AADR
Atherosclerosis = Atherosclerosis_AADR
Cerebrovasculardiseases = Cerebrovasculardiseases_AADR
Certainconditionsoriginatin = Certainconditionsoriginatin_AADR
Cholelithiasisandotherdisor = Cholelithiasisandotherdisor_AADR
Chronicliverdiseaseandcirrh = Chronicliverdiseaseandcirrh_AADR
Chroniclowerrespiratorydise = Chroniclowerrespiratorydise_AADR
Complicationsofmedicalandsu = Complicationsofmedicalandsu_AADR
Congenitalmalformations_def = Congenitalmalformations_def_AADR
Diabetesmellitus = Diabetesmellitus_AADR
Diseasesofappendix = Diseasesofappendix_AADR
Diseasesofheart = Diseasesofheart_AADR
Essential = Essential_AADR
Hernia = Hernia_AADR
Humanimmunodeficiencyvirus = Humanimmunodeficiencyvirus_AADR
Hyperplasiaofprostate = Hyperplasiaofprostate_AADR
Infectionsofkidney = Infectionsofkidney_AADR
Inflammatorydiseasesoffemal = Inflammatorydiseasesoffemal_AADR
Influenzaandpneumonia = Influenzaandpneumonia_AADR
Insituneoplasms_benignneopl = Insituneoplasms_benignneopl_AADR
Intentionalselfharm = Intentionalselfharm_AADR
Legalintervention = Legalintervention_AADR
Malignantneoplasms = Malignantneoplasms_AADR
Meningitis = Meningitis_AADR
Meningococcalinfection = Meningococcalinfection_AADR
Missing = Missing_AADR
Nephritis_nephroticsyndrome = Nephritis_nephroticsyndrome_AADR
NonRankableCauses = NonRankableCauses_AADR
Nutritionaldeficiencies = Nutritionaldeficiencies_AADR
Parkinsonsdisease = Parkinsonsdisease_AADR
Pepticulcer = Pepticulcer_AADR
Pneumoconiosesandchemicalef = Pneumoconiosesandchemicalef_AADR
Pneumonitisduetosolidsandli = Pneumonitisduetosolidsandli_AADR
Pregnancy_childbirthandthep = Pregnancy_childbirthandthep_AADR
Salmonellainfections = Salmonellainfections_AADR
Septicemia = Septicemia_AADR
Tuberculosis = Tuberculosis_AADR
```

```
Viralhepatitis = Viralhepatitis_AADR
Operationsofwarandtheirsequ = Operationsofwarandtheirsequ_AADR
Syphilis = Syphilis_AADR
Whoopingcough = Whoopingcough_AADR
));
run;

data sasuser.YPLL75;
set sasuser.YPLL75(rename=(Accidents = Accidents_YPLL
Acutebronchitisandbronchiol = Acutebronchitisandbronchiol_YPLL
Alzheimersdisease = Alzheimersdisease_YPLL
Anemias = Anemias_YPLL
Aorticaneurysmanddissection = Aorticaneurysmanddissection_YPLL
Assault = Assault_YPLL
Atherosclerosis = Atherosclerosis_YPLL
Cerebrovasculardiseases = Cerebrovasculardiseases_YPLL
Certainconditionsoriginatin = Certainconditionsoriginatin_YPLL
Cholelithiasisandotherdisor = Cholelithiasisandotherdisor_YPLL
Chronicliverdiseaseandcirrh = Chronicliverdiseaseandcirrh_YPLL
Chroniclowerrespiratorydise = Chroniclowerrespiratorydise_YPLL
Complicationsofmedicalandsu = Complicationsofmedicalandsu_YPLL
Congenitalmalformations_def = Congenitalmalformations_def_YPLL
Diabetesmellitus = Diabetesmellitus_YPLL
Diseasesofappendix = Diseasesofappendix_YPLL
Diseasesofheart = Diseasesofheart_YPLL
Essential = Essential_YPLL
Hernia = Hernia_YPLL
Humanimmunodeficiencyvirus = Humanimmunodeficiencyvirus_YPLL
Hyperplasiaofprostate = Hyperplasiaofprostate_YPLL
Infectionsofkidney = Infectionsofkidney_YPLL
Inflammatorydiseasesoffemal = Inflammatorydiseasesoffemal_YPLL
Influenzaandpneumonia = Influenzaandpneumonia_YPLL
Insituneoplasms_benignneopl = Insituneoplasms_benignneopl_YPLL
Intentionalselfharm = Intentionalselfharm_YPLL
Legalintervention = Legalintervention_YPLL
Malignantneoplasms = Malignantneoplasms_YPLL
Meningitis = Meningitis_YPLL
Meningococcalinfection = Meningococcalinfection_YPLL
Missing = Missing_YPLL
Nephritis_nephroticsyndrome = Nephritis_nephroticsyndrome_YPLL
NonRankableCauses = NonRankableCauses_YPLL
Nutritionaldeficiencies = Nutritionaldeficiencies_YPLL
Parkinsonsdisease = Parkinsonsdisease_YPLL
Pepticulcer = Pepticulcer_YPLL
Pneumoconiosesandchemicalef = Pneumoconiosesandchemicalef_YPLL
Pneumonitisduetosolidsandli = Pneumonitisduetosolidsandli_YPLL
Pregnancy_childbirthandthep = Pregnancy_childbirthandthep_YPLL
Salmonellainfections = Salmonellainfections_YPLL
Septicemia = Septicemia_YPLL
Tuberculosis = Tuberculosis_YPLL
Viralhepatitis = Viralhepatitis_YPLL
Operationsofwarandtheirsequ = Operationsofwarandtheirsequ_YPLL
Syphilis = Syphilis_YPLL
Whoopingcough = Whoopingcough_YPLL
```

```
));
array var(*) accidents_YPLL -- whoopingcough_YPLL;
ypll = 0;
do i = 1 to dim(var);
  ypll+var{i};
  end;
run;

GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: Query Builder (4)   */
%LET _CLIENTTASKLABEL='Query Builder (4)';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';

GOPTIONS ACCESSIBLE;
%put ERROR: Unable to get SAS code. Unable to open input data;


GOPTIONS NOACCESSIBLE;


%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;


/*   START OF NODE: eok_0103   */
%LET _CLIENTTASKLABEL='eok_0103';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\eok_0103.sas';
%LET _SASPROGRAMFILEHOST='SSB6RZ3N72';

GOPTIONS ACCESSIBLE;
TITLE "e20165ok0103000";
DATA work.SFe0103ok;
```

```
LENGTH FILEID   $6
      FILETYPE $6
      STUSAB   $2
      CHARITER $3
      SEQUENCE $4
      LOGRECNO $7;

INFILE 'C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS Global
Forum\Health Paper\Census Data\e20165ok0103000.txt' DSD TRUNCOVER DELIMITER =',' LRECL=3000;

LABEL  FILEID  ='File Identification'
      FILETYPE='File Type'
      STUSAB  ='State/U.S.-Abbreviation (USPS)'
          CHARITER='Character Iteration'
          SEQUENCE='Sequence Number'
          LOGRECNO='Logical Record Number'


/*HOUSING UNITS */
/*Universe:  Housing Units */

B25001e1='Total'

/*OCCUPANCY STATUS */
/*Universe:  Housing Units */

B25002e1='Total:'
B25002e2='Occupied'
B25002e3='Vacant'

/*TENURE */
/*Universe:  Occupied Housing Units */

B25003e1='Total:'
B25003e2='Owner occupied'
B25003e3='Renter occupied'

/*TENURE (WHITE ALONE HOUSEHOLDER) */
/*Universe:  Occupied Housing Units With A Householder Who Is White Alone */

B25003Ae1='Total:'
B25003Ae2='Owner occupied'
B25003Ae3='Renter occupied'

/*TENURE (BLACK OR AFRICAN AMERICAN ALONE HOUSEHOLDER) */
/*Universe:  Occupied Housing Units With A Householder Who Is Black Or African American Alone */

B25003Be1='Total:'
B25003Be2='Owner occupied'
B25003Be3='Renter occupied'

/*TENURE (AMERICAN INDIAN AND ALASKA NATIVE ALONE HOUSEHOLDER) */
/*Universe:  Occupied Housing Units With A Householder Who Is American Indian And Alaska Native Alone */
```

B25003Ce1='Total:'
B25003Ce2='Owner occupied'
B25003Ce3='Renter occupied'

/*TENURE (ASIAN ALONE HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is Asian Alone */

B25003De1='Total:'
B25003De2='Owner occupied'
B25003De3='Renter occupied'

/*TENURE (NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is Native Hawaiian And Other Pacific Islander Alone
*/

B25003Ee1='Total:'
B25003Ee2='Owner occupied'
B25003Ee3='Renter occupied'

/*TENURE (SOME OTHER RACE ALONE HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is Some Other Race Alone */

B25003Fe1='Total:'
B25003Fe2='Owner occupied'
B25003Fe3='Renter occupied'

/*TENURE (TWO OR MORE RACES HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is Two Or More Races */

B25003Ge1='Total:'
B25003Ge2='Owner occupied'
B25003Ge3='Renter occupied'

/*TENURE (WHITE ALONE, NOT HISPANIC OR LATINO HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is White Alone, Not Hispanic Or Latino */

B25003He1='Total:'
B25003He2='Owner occupied'
B25003He3='Renter occupied'

/*TENURE (HISPANIC OR LATINO HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is Hispanic Or Latino */

B25003Ie1='Total:'
B25003Ie2='Owner occupied'
B25003Ie3='Renter occupied'

/*VACANCY STATUS */
/*Universe: Vacant Housing Units */

B25004e1='Total:'
B25004e2='For rent'
B25004e3='Rented, not occupied'

B25004e4='For sale only'
B25004e5='Sold, not occupied'
B25004e6='For seasonal, recreational, or occasional use'
B25004e7='For migrant workers'
B25004e8='Other vacant'

/*VACANT - CURRENT RESIDENCE ELSEWHERE */
/*Universe: Vacant Housing Units */

B25005e1='Total:'
B25005e2='Vacant - current residence elsewhere'
B25005e3='All other vacant units'

/*RACE OF HOUSEHOLDER */
/*Universe: Occupied Housing Units */

B25006e1='Total:'
B25006e2='Householder who is White alone'
B25006e3='Householder who is Black or African American alone'
B25006e4='Householder who is American Indian and Alaska Native alone'
B25006e5='Householder who is Asian alone'
B25006e6='Householder who is Native Hawaiian and Other Pacific Islander alone'
B25006e7='Householder who is Some other race alone'
B25006e8='Householder who is Two or more races:'
B25006e9='Householder who is Two races including Some other race'
B25006e10='Householder who is Two races excluding Some other race, and three or more races'

/*TENURE BY AGE OF HOUSEHOLDER */
/*Universe: Occupied Housing Units */

B25007e1='Total:'
B25007e2='Owner occupied:'
B25007e3='Householder 15 to 24 years'
B25007e4='Householder 25 to 34 years'
B25007e5='Householder 35 to 44 years'
B25007e6='Householder 45 to 54 years'
B25007e7='Householder 55 to 59 years'
B25007e8='Householder 60 to 64 years'
B25007e9='Householder 65 to 74 years'
B25007e10='Householder 75 to 84 years'
B25007e11='Householder 85 years and over'
B25007e12='Renter occupied:'
B25007e13='Householder 15 to 24 years'
B25007e14='Householder 25 to 34 years'
B25007e15='Householder 35 to 44 years'
B25007e16='Householder 45 to 54 years'
B25007e17='Householder 55 to 59 years'
B25007e18='Householder 60 to 64 years'
B25007e19='Householder 65 to 74 years'
B25007e20='Householder 75 to 84 years'
B25007e21='Householder 85 years and over'

/*TOTAL POPULATION IN OCCUPIED HOUSING UNITS BY TENURE */
/*Universe: Total Population In Occupied Housing Units */

B25008e1='Total:'
B25008e2='Owner occupied'
B25008e3='Renter occupied'

/*TENURE BY HOUSEHOLD SIZE */
/*Universe: Occupied Housing Units */

B25009e1='Total:'
B25009e2='Owner occupied:'
B25009e3='1-person household'
B25009e4='2-person household'
B25009e5='3-person household'
B25009e6='4-person household'
B25009e7='5-person household'
B25009e8='6-person household'
B25009e9='7-or-more person household'
B25009e10='Renter occupied:'
B25009e11='1-person household'
B25009e12='2-person household'
B25009e13='3-person household'
B25009e14='4-person household'
B25009e15='5-person household'
B25009e16='6-person household'
B25009e17='7-or-more person household'

/*AVERAGE HOUSEHOLD SIZE OF OCCUPIED HOUSING UNITS BY TENURE */
/*Universe: Occupied Housing Units */
/*Average household size -- */

B25010e1='Total:'
B25010e2='Owner occupied'
B25010e3='Renter occupied'

/*TENURE BY HOUSEHOLD TYPE (INCLUDING LIVING ALONE) AND AGE OF HOUSEHOLDER */
/*Universe: Occupied Housing Units */

B25011e1='Total:'
B25011e2='Owner occupied:'
B25011e3='Family households:'
B25011e4='Married-couple family:'
B25011e5='Householder 15 to 34 years'
B25011e6='Householder 35 to 64 years'
B25011e7='Householder 65 years and over'
B25011e8='Other family:'
B25011e9='Male householder, no wife present:'
B25011e10='Householder 15 to 34 years'
B25011e11='Householder 35 to 64 years'
B25011e12='Householder 65 years and over'
B25011e13='Female householder, no husband present:'
B25011e14='Householder 15 to 34 years'
B25011e15='Householder 35 to 64 years'
B25011e16='Householder 65 years and over'
B25011e17='Nonfamily households:'

B25011e18='Householder living alone:'
B25011e19='Householder 15 to 34 years'
B25011e20='Householder 35 to 64 years'
B25011e21='Householder 65 years and over'
B25011e22='Householder not living alone:'
B25011e23='Householder 15 to 34 years'
B25011e24='Householder 35 to 64 years'
B25011e25='Householder 65 years and over'
B25011e26='Renter occupied:'
B25011e27='Family households:'
B25011e28='Married-couple family:'
B25011e29='Householder 15 to 34 years'
B25011e30='Householder 35 to 64 years'
B25011e31='Householder 65 years and over'
B25011e32='Other family:'
B25011e33='Male householder, no wife present:'
B25011e34='Householder 15 to 34 years'
B25011e35='Householder 35 to 64 years'
B25011e36='Householder 65 years and over'
B25011e37='Female householder, no husband present:'
B25011e38='Householder 15 to 34 years'
B25011e39='Householder 35 to 64 years'
B25011e40='Householder 65 years and over'
B25011e41='Nonfamily households:'
B25011e42='Householder living alone:'
B25011e43='Householder 15 to 34 years'
B25011e44='Householder 35 to 64 years'
B25011e45='Householder 65 years and over'
B25011e46='Householder not living alone:'
B25011e47='Householder 15 to 34 years'
B25011e48='Householder 35 to 64 years'
B25011e49='Householder 65 years and over'

/*TENURE BY FAMILIES AND PRESENCE OF OWN CHILDREN */
/*Universe: Occupied Housing Units */

B25012e1='Total:'
B25012e2='Owner-occupied housing units:'
B25012e3='With related children of the householder under 18:'
B25012e4='With own children of the householder under 18:'
B25012e5='Under 6 years only'
B25012e6='Under 6 years and 6 to 17 years'
B25012e7='6 to 17 years'
B25012e8='No own children of the householder under 18'
B25012e9='No related children of the householder under 18'
B25012e10='Renter-occupied housing units:'
B25012e11='With related children of the householder under 18:'
B25012e12='With own children of the householder under 18:'
B25012e13='Under 6 years only'
B25012e14='Under 6 years and 6 to 17 years'
B25012e15='6 to 17 years'
B25012e16='No own children of the householder under 18'
B25012e17='No related children of the householder under 18'

/*TENURE BY EDUCATIONAL ATTAINMENT OF HOUSEHOLDER */
/*Universe: Occupied Housing Units */

B25013e1='Total:'
B25013e2='Owner-occupied housing units:'
B25013e3='Less than high school graduate'
B25013e4='High school graduate (including equivalency)'
B25013e5='Some college or associate"s degree'
B25013e6='Bachelor"s degree or higher'
B25013e7='Renter-occupied housing units:'
B25013e8='Less than high school graduate'
B25013e9='High school graduate (including equivalency)'
B25013e10='Some college or associate"s degree'
B25013e11='Bachelor"s degree or higher'

/*TENURE BY OCCUPANTS PER ROOM */
/*Universe: Occupied Housing Units */

B25014e1='Total:'
B25014e2='Owner occupied:'
B25014e3='0.50 or less occupants per room'
B25014e4='0.51 to 1.00 occupants per room'
B25014e5='1.01 to 1.50 occupants per room'
B25014e6='1.51 to 2.00 occupants per room'
B25014e7='2.01 or more occupants per room'
B25014e8='Renter occupied:'
B25014e9='0.50 or less occupants per room'
B25014e10='0.51 to 1.00 occupants per room'
B25014e11='1.01 to 1.50 occupants per room'
B25014e12='1.51 to 2.00 occupants per room'
B25014e13='2.01 or more occupants per room'

/*OCCUPANTS PER ROOM (WHITE ALONE HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is White Alone */

B25014Ae1='Total:'
B25014Ae2='1.00 or less occupants per room'
B25014Ae3='1.01 or more occupants per room'

/*OCCUPANTS PER ROOM (BLACK OR AFRICAN AMERICAN ALONE HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is Black Or African American Alone */

B25014Be1='Total:'
B25014Be2='1.00 or less occupants per room'
B25014Be3='1.01 or more occupants per room'

/*OCCUPANTS PER ROOM (AMERICAN INDIAN AND ALASKA NATIVE ALONE HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is American Indian And Alaska Native Alone */

B25014Ce1='Total:'
B25014Ce2='1.00 or less occupants per room'
B25014Ce3='1.01 or more occupants per room'

/*OCCUPANTS PER ROOM (ASIAN ALONE HOUSEHOLDER) */

/*Universe: Occupied Housing Units With A Householder Who Is Asian Alone */

B25014De1='Total:'
B25014De2='1.00 or less occupants per room'
B25014De3='1.01 or more occupants per room'

/*OCCUPANTS PER ROOM (NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is Native Hawaiian And Other Pacific Islander Alone */

B25014Ee1='Total:'
B25014Ee2='1.00 or less occupants per room'
B25014Ee3='1.01 or more occupants per room'

/*OCCUPANTS PER ROOM (SOME OTHER RACE ALONE HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is Some Other Race Alone */

B25014Fe1='Total:'
B25014Fe2='1.00 or less occupants per room'
B25014Fe3='1.01 or more occupants per room'

/*OCCUPANTS PER ROOM (TWO OR MORE RACES HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is Two Or More Races */

B25014Ge1='Total:'
B25014Ge2='1.00 or less occupants per room'
B25014Ge3='1.01 or more occupants per room'

/*OCCUPANTS PER ROOM (WHITE ALONE, NOT HISPANIC OR LATINO HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is White Alone, Not Hispanic Or Latino */

B25014He1='Total:'
B25014He2='1.00 or less occupants per room'
B25014He3='1.01 or more occupants per room'

/*OCCUPANTS PER ROOM (HISPANIC OR LATINO HOUSEHOLDER) */
/*Universe: Occupied Housing Units With A Householder Who Is Hispanic Or Latino */

B25014Ie1='Total:'
B25014Ie2='1.00 or less occupants per room'
B25014Ie3='1.01 or more occupants per room'

/*TENURE BY AGE OF HOUSEHOLDER BY OCCUPANTS PER ROOM */
/*Universe: Occupied Housing Units */

B25015e1='Total:'
B25015e2='Owner occupied:'
B25015e3='Householder 15 to 34 years:'
B25015e4='1.00 or less occupants per room'
B25015e5='1.01 to 1.50 occupants per room'
B25015e6='1.51 or more occupants per room'
B25015e7='Householder 35 to 64 years:'
B25015e8='1.00 or less occupants per room'

B25015e9='1.01 to 1.50 occupants per room'
B25015e10='1.51 or more occupants per room'
B25015e11='Householder 65 years and over:'
B25015e12='1.00 or less occupants per room'
B25015e13='1.01 to 1.50 occupants per room'
B25015e14='1.51 or more occupants per room'
B25015e15='Renter occupied:'
B25015e16='Householder 15 to 34 years:'
B25015e17='1.00 or less occupants per room'
B25015e18='1.01 to 1.50 occupants per room'
B25015e19='1.51 or more occupants per room'
B25015e20='Householder 35 to 64 years:'
B25015e21='1.00 or less occupants per room'
B25015e22='1.01 to 1.50 occupants per room'
B25015e23='1.51 or more occupants per room'
B25015e24='Householder 65 years and over:'
B25015e25='1.00 or less occupants per room'
B25015e26='1.01 to 1.50 occupants per room'
B25015e27='1.51 or more occupants per room'
;

INPUT

FILEID $
FILETYPE $
STUSAB $
CHARITER $
SEQUENCE $
LOGRECNO $

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B25002e1
B25002e2
B25002e3

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B25003e2
B25003e3

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B25003Ae2
B25003Ae3

B25003Be1
B25003Be2
B25003Be3

B25003Ce1
B25003Ce2
B25003Ce3

B25003De1

B25003De2
B25003De3

B25003Ee1
B25003Ee2
B25003Ee3

B25003Fe1
B25003Fe2
B25003Fe3

B25003Ge1
B25003Ge2
B25003Ge3

B25003He1
B25003He2
B25003He3

B25003Ie1
B25003Ie2
B25003Ie3

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B25014Ce3

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B25014De2
B25014De3

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B25014Ee3

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B25014Fe2
B25014Fe3

B25014Ge1
B25014Ge2
B25014Ge3

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B25014He2
B25014He3

B25014Ie1
B25014Ie2
B25014Ie3

B25015e1
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B25015e23
B25015e24
B25015e25
B25015e26
B25015e27
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RUN;


GOPTIONS NOACCESSIBLE;
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%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: eok_0002   */
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%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
```

```
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\eok_0002.sas';
%LET _SASPROGRAMFILEHOST='SSB6RZ3N72';

GOPTIONS ACCESSIBLE;
TITLE "e20165ok0002000";
DATA work.SFe0002ok;

LENGTH FILEID   $6
      FILETYPE $6
      STUSAB   $2
      CHARITER $3
      SEQUENCE $4
      LOGRECNO $7;

INFILE 'C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS Global
Forum\Health Paper\Census Data\e20165ok0002000.txt' DSD TRUNCOVER DELIMITER =',' LRECL=3000;

LABEL  FILEID  ='File Identification'
      FILETYPE='File Type'
      STUSAB  ='State/U.S.-Abbreviation (USPS)'
         CHARITER='Character Iteration'
         SEQUENCE='Sequence Number'
         LOGRECNO='Logical Record Number'


/*SEX BY AGE */
/*Universe:  Total Population */

B01001e1='Total:'
B01001e2='Male:'
B01001e3='Under 5 years'
B01001e4='5 to 9 years'
B01001e5='10 to 14 years'
B01001e6='15 to 17 years'
B01001e7='18 and 19 years'
B01001e8='20 years'
B01001e9='21 years'
B01001e10='22 to 24 years'
B01001e11='25 to 29 years'
B01001e12='30 to 34 years'
B01001e13='35 to 39 years'
B01001e14='40 to 44 years'
B01001e15='45 to 49 years'
B01001e16='50 to 54 years'
B01001e17='55 to 59 years'
B01001e18='60 and 61 years'
B01001e19='62 to 64 years'
B01001e20='65 and 66 years'
B01001e21='67 to 69 years'
B01001e22='70 to 74 years'
```

B01001e23='75 to 79 years'
B01001e24='80 to 84 years'
B01001e25='85 years and over'
B01001e26='Female:'
B01001e27='Under 5 years'
B01001e28='5 to 9 years'
B01001e29='10 to 14 years'
B01001e30='15 to 17 years'
B01001e31='18 and 19 years'
B01001e32='20 years'
B01001e33='21 years'
B01001e34='22 to 24 years'
B01001e35='25 to 29 years'
B01001e36='30 to 34 years'
B01001e37='35 to 39 years'
B01001e38='40 to 44 years'
B01001e39='45 to 49 years'
B01001e40='50 to 54 years'
B01001e41='55 to 59 years'
B01001e42='60 and 61 years'
B01001e43='62 to 64 years'
B01001e44='65 and 66 years'
B01001e45='67 to 69 years'
B01001e46='70 to 74 years'
B01001e47='75 to 79 years'
B01001e48='80 to 84 years'
B01001e49='85 years and over'

/*SEX BY AGE (WHITE ALONE) */
/*Universe: People Who Are White Alone */

B01001Ae1='Total:'
B01001Ae2='Male:'
B01001Ae3='Under 5 years'
B01001Ae4='5 to 9 years'
B01001Ae5='10 to 14 years'
B01001Ae6='15 to 17 years'
B01001Ae7='18 and 19 years'
B01001Ae8='20 to 24 years'
B01001Ae9='25 to 29 years'
B01001Ae10='30 to 34 years'
B01001Ae11='35 to 44 years'
B01001Ae12='45 to 54 years'
B01001Ae13='55 to 64 years'
B01001Ae14='65 to 74 years'
B01001Ae15='75 to 84 years'
B01001Ae16='85 years and over'
B01001Ae17='Female:'
B01001Ae18='Under 5 years'
B01001Ae19='5 to 9 years'
B01001Ae20='10 to 14 years'
B01001Ae21='15 to 17 years'
B01001Ae22='18 and 19 years'
B01001Ae23='20 to 24 years'

B01001Ae24='25 to 29 years'
B01001Ae25='30 to 34 years'
B01001Ae26='35 to 44 years'
B01001Ae27='45 to 54 years'
B01001Ae28='55 to 64 years'
B01001Ae29='65 to 74 years'
B01001Ae30='75 to 84 years'
B01001Ae31='85 years and over'

/*SEX BY AGE (BLACK OR AFRICAN AMERICAN ALONE) */
/*Universe: Black Or African American Alone */

B01001Be1='Total:'
B01001Be2='Male:'
B01001Be3='Under 5 years'
B01001Be4='5 to 9 years'
B01001Be5='10 to 14 years'
B01001Be6='15 to 17 years'
B01001Be7='18 and 19 years'
B01001Be8='20 to 24 years'
B01001Be9='25 to 29 years'
B01001Be10='30 to 34 years'
B01001Be11='35 to 44 years'
B01001Be12='45 to 54 years'
B01001Be13='55 to 64 years'
B01001Be14='65 to 74 years'
B01001Be15='75 to 84 years'
B01001Be16='85 years and over'
B01001Be17='Female:'
B01001Be18='Under 5 years'
B01001Be19='5 to 9 years'
B01001Be20='10 to 14 years'
B01001Be21='15 to 17 years'
B01001Be22='18 and 19 years'
B01001Be23='20 to 24 years'
B01001Be24='25 to 29 years'
B01001Be25='30 to 34 years'
B01001Be26='35 to 44 years'
B01001Be27='45 to 54 years'
B01001Be28='55 to 64 years'
B01001Be29='65 to 74 years'
B01001Be30='75 to 84 years'
B01001Be31='85 years and over'

/*SEX BY AGE (AMERICAN INDIAN AND ALASKA NATIVE ALONE) */
/*Universe: People Who Are American Indian And Alaska Native Alone */

B01001Ce1='Total:'
B01001Ce2='Male:'
B01001Ce3='Under 5 years'
B01001Ce4='5 to 9 years'
B01001Ce5='10 to 14 years'
B01001Ce6='15 to 17 years'
B01001Ce7='18 and 19 years'

B01001Ce8='20 to 24 years'
B01001Ce9='25 to 29 years'
B01001Ce10='30 to 34 years'
B01001Ce11='35 to 44 years'
B01001Ce12='45 to 54 years'
B01001Ce13='55 to 64 years'
B01001Ce14='65 to 74 years'
B01001Ce15='75 to 84 years'
B01001Ce16='85 years and over'
B01001Ce17='Female:'
B01001Ce18='Under 5 years'
B01001Ce19='5 to 9 years'
B01001Ce20='10 to 14 years'
B01001Ce21='15 to 17 years'
B01001Ce22='18 and 19 years'
B01001Ce23='20 to 24 years'
B01001Ce24='25 to 29 years'
B01001Ce25='30 to 34 years'
B01001Ce26='35 to 44 years'
B01001Ce27='45 to 54 years'
B01001Ce28='55 to 64 years'
B01001Ce29='65 to 74 years'
B01001Ce30='75 to 84 years'
B01001Ce31='85 years and over'

/*SEX BY AGE (ASIAN ALONE) */
/*Universe: People Who Are Asian Alone */

B01001De1='Total:'
B01001De2='Male:'
B01001De3='Under 5 years'
B01001De4='5 to 9 years'
B01001De5='10 to 14 years'
B01001De6='15 to 17 years'
B01001De7='18 and 19 years'
B01001De8='20 to 24 years'
B01001De9='25 to 29 years'
B01001De10='30 to 34 years'
B01001De11='35 to 44 years'
B01001De12='45 to 54 years'
B01001De13='55 to 64 years'
B01001De14='65 to 74 years'
B01001De15='75 to 84 years'
B01001De16='85 years and over'
B01001De17='Female:'
B01001De18='Under 5 years'
B01001De19='5 to 9 years'
B01001De20='10 to 14 years'
B01001De21='15 to 17 years'
B01001De22='18 and 19 years'
B01001De23='20 to 24 years'
B01001De24='25 to 29 years'
B01001De25='30 to 34 years'
B01001De26='35 to 44 years'

B01001De27='45 to 54 years'
B01001De28='55 to 64 years'
B01001De29='65 to 74 years'
B01001De30='75 to 84 years'
B01001De31='85 years and over'

/*SEX BY AGE (NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE) */
/*Universe: People Who Are Native Hawaiian And Other Pacific Islander Alone */

B01001Ee1='Total:'
B01001Ee2='Male:'
B01001Ee3='Under 5 years'
B01001Ee4='5 to 9 years'
B01001Ee5='10 to 14 years'
B01001Ee6='15 to 17 years'
B01001Ee7='18 and 19 years'
B01001Ee8='20 to 24 years'
B01001Ee9='25 to 29 years'
B01001Ee10='30 to 34 years'
B01001Ee11='35 to 44 years'
B01001Ee12='45 to 54 years'
B01001Ee13='55 to 64 years'
B01001Ee14='65 to 74 years'
B01001Ee15='75 to 84 years'
B01001Ee16='85 years and over'
B01001Ee17='Female:'
B01001Ee18='Under 5 years'
B01001Ee19='5 to 9 years'
B01001Ee20='10 to 14 years'
B01001Ee21='15 to 17 years'
B01001Ee22='18 and 19 years'
B01001Ee23='20 to 24 years'
B01001Ee24='25 to 29 years'
B01001Ee25='30 to 34 years'
B01001Ee26='35 to 44 years'
B01001Ee27='45 to 54 years'
B01001Ee28='55 to 64 years'
B01001Ee29='65 to 74 years'
B01001Ee30='75 to 84 years'
B01001Ee31='85 years and over'

/*SEX BY AGE (SOME OTHER RACE ALONE) */
/*Universe: People Who Are Some Other Race Alone */

B01001Fe1='Total:'
B01001Fe2='Male:'
B01001Fe3='Under 5 years'
B01001Fe4='5 to 9 years'
B01001Fe5='10 to 14 years'
B01001Fe6='15 to 17 years'
B01001Fe7='18 and 19 years'
B01001Fe8='20 to 24 years'
B01001Fe9='25 to 29 years'
B01001Fe10='30 to 34 years'

B01001Fe11='35 to 44 years'
B01001Fe12='45 to 54 years'
B01001Fe13='55 to 64 years'
B01001Fe14='65 to 74 years'
B01001Fe15='75 to 84 years'
B01001Fe16='85 years and over'
B01001Fe17='Female:'
B01001Fe18='Under 5 years'
B01001Fe19='5 to 9 years'
B01001Fe20='10 to 14 years'
B01001Fe21='15 to 17 years'
B01001Fe22='18 and 19 years'
B01001Fe23='20 to 24 years'
B01001Fe24='25 to 29 years'
B01001Fe25='30 to 34 years'
B01001Fe26='35 to 44 years'
B01001Fe27='45 to 54 years'
B01001Fe28='55 to 64 years'
B01001Fe29='65 to 74 years'
B01001Fe30='75 to 84 years'
B01001Fe31='85 years and over'
;

INPUT

FILEID $
FILETYPE $
STUSAB $
CHARITER $
SEQUENCE $
LOGRECNO $

B01001e1
B01001e2
B01001e3
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RUN;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: eok_0003   */
%LET _CLIENTTASKLABEL='eok_0003';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\eok_0003.sas';
%LET _SASPROGRAMFILEHOST='SSB6RZ3N72';

GOPTIONS ACCESSIBLE;
TITLE "e20165ok0003000";
DATA work.SFe0003ok;

LENGTH FILEID   $6
      FILETYPE $6
      STUSAB   $2
      CHARITER $3
      SEQUENCE $4
      LOGRECNO $7;

INFILE 'C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS Global
Forum\Health Paper\Census Data\e20165ok0003000.txt' DSD TRUNCOVER DELIMITER =',' LRECL=3000;

LABEL  FILEID  ='File Identification'
      FILETYPE='File Type'
      STUSAB  ='State/U.S.-Abbreviation (USPS)'
          CHARITER='Character Iteration'
          SEQUENCE='Sequence Number'
          LOGRECNO='Logical Record Number'


/*SEX BY AGE (TWO OR MORE RACES) */
/*Universe:  People Who Are Two Or More Races */
```

B01001Ge1='Total:'
B01001Ge2='Male:'
B01001Ge3='Under 5 years'
B01001Ge4='5 to 9 years'
B01001Ge5='10 to 14 years'
B01001Ge6='15 to 17 years'
B01001Ge7='18 and 19 years'
B01001Ge8='20 to 24 years'
B01001Ge9='25 to 29 years'
B01001Ge10='30 to 34 years'
B01001Ge11='35 to 44 years'
B01001Ge12='45 to 54 years'
B01001Ge13='55 to 64 years'
B01001Ge14='65 to 74 years'
B01001Ge15='75 to 84 years'
B01001Ge16='85 years and over'
B01001Ge17='Female:'
B01001Ge18='Under 5 years'
B01001Ge19='5 to 9 years'
B01001Ge20='10 to 14 years'
B01001Ge21='15 to 17 years'
B01001Ge22='18 and 19 years'
B01001Ge23='20 to 24 years'
B01001Ge24='25 to 29 years'
B01001Ge25='30 to 34 years'
B01001Ge26='35 to 44 years'
B01001Ge27='45 to 54 years'
B01001Ge28='55 to 64 years'
B01001Ge29='65 to 74 years'
B01001Ge30='75 to 84 years'
B01001Ge31='85 years and over'

/*SEX BY AGE (WHITE ALONE, NOT HISPANIC OR LATINO) */
/*Universe: White Alone, Not Hispanic Or Latino Population */

B01001He1='Total:'
B01001He2='Male:'
B01001He3='Under 5 years'
B01001He4='5 to 9 years'
B01001He5='10 to 14 years'
B01001He6='15 to 17 years'
B01001He7='18 and 19 years'
B01001He8='20 to 24 years'
B01001He9='25 to 29 years'
B01001He10='30 to 34 years'
B01001He11='35 to 44 years'
B01001He12='45 to 54 years'
B01001He13='55 to 64 years'
B01001He14='65 to 74 years'
B01001He15='75 to 84 years'
B01001He16='85 years and over'
B01001He17='Female:'
B01001He18='Under 5 years'
B01001He19='5 to 9 years'

B01001He20='10 to 14 years'
B01001He21='15 to 17 years'
B01001He22='18 and 19 years'
B01001He23='20 to 24 years'
B01001He24='25 to 29 years'
B01001He25='30 to 34 years'
B01001He26='35 to 44 years'
B01001He27='45 to 54 years'
B01001He28='55 to 64 years'
B01001He29='65 to 74 years'
B01001He30='75 to 84 years'
B01001He31='85 years and over'

/*SEX BY AGE (HISPANIC OR LATINO) */
/*Universe: Hispanic Or Latino Population */

B01001Ie1='Total:'
B01001Ie2='Male:'
B01001Ie3='Under 5 years'
B01001Ie4='5 to 9 years'
B01001Ie5='10 to 14 years'
B01001Ie6='15 to 17 years'
B01001Ie7='18 and 19 years'
B01001Ie8='20 to 24 years'
B01001Ie9='25 to 29 years'
B01001Ie10='30 to 34 years'
B01001Ie11='35 to 44 years'
B01001Ie12='45 to 54 years'
B01001Ie13='55 to 64 years'
B01001Ie14='65 to 74 years'
B01001Ie15='75 to 84 years'
B01001Ie16='85 years and over'
B01001Ie17='Female:'
B01001Ie18='Under 5 years'
B01001Ie19='5 to 9 years'
B01001Ie20='10 to 14 years'
B01001Ie21='15 to 17 years'
B01001Ie22='18 and 19 years'
B01001Ie23='20 to 24 years'
B01001Ie24='25 to 29 years'
B01001Ie25='30 to 34 years'
B01001Ie26='35 to 44 years'
B01001Ie27='45 to 54 years'
B01001Ie28='55 to 64 years'
B01001Ie29='65 to 74 years'
B01001Ie30='75 to 84 years'
B01001Ie31='85 years and over'

/*MEDIAN AGE BY SEX */
/*Universe: Total Population */
/*Median age -- */

B01002e1='Total:'
B01002e2='Male'

B01002e3='Female'

/*MEDIAN AGE BY SEX (WHITE ALONE) */
/*Universe: People Who Are White Alone */
/*Median age -- */

B01002Ae1='Total:'
B01002Ae2='Male'
B01002Ae3='Female'

/*MEDIAN AGE BY SEX (BLACK OR AFRICAN AMERICAN ALONE) */
/*Universe: Black Or African American Alone */
/*Median age -- */

B01002Be1='Total:'
B01002Be2='Male'
B01002Be3='Female'

/*MEDIAN AGE BY SEX (AMERICAN INDIAN AND ALASKA NATIVE) */
/*Universe: People Who Are American Indian And Alaska Native Alone */
/*Median age -- */

B01002Ce1='Total:'
B01002Ce2='Male'
B01002Ce3='Female'

/*MEDIAN AGE BY SEX (ASIAN ALONE) */
/*Universe: People Who Are Asian Alone */
/*Median age -- */

B01002De1='Total:'
B01002De2='Male'
B01002De3='Female'

/*MEDIAN AGE BY SEX (NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE) */
/*Universe: People Who Are Native Hawaiian And Other Pacific Islander Alone */
/*Median age -- */

B01002Ee1='Total:'
B01002Ee2='Male'
B01002Ee3='Female'

/*MEDIAN AGE BY SEX (SOME OTHER RACE ALONE) */
/*Universe: People Who Are Some Other Race Alone */
/*Median age -- */

B01002Fe1='Total:'
B01002Fe2='Male'
B01002Fe3='Female'

/*MEDIAN AGE BY SEX (TWO OR MORE RACES) */
/*Universe: People Who Are Two Or More Races */
/*Median age -- */

B01002Ge1='Total:'
B01002Ge2='Male'
B01002Ge3='Female'

/*MEDIAN AGE BY SEX (WHITE ALONE, NOT HISPANIC OR LATINO) */
/*Universe: White Alone, Not Hispanic Or Latino Population */
/*Median age -- */

B01002He1='Total:'
B01002He2='Male'
B01002He3='Female'

/*MEDIAN AGE BY SEX (HISPANIC OR LATINO) */
/*Universe: Hispanic Or Latino Population */
/*Median age -- */

B01002Ie1='Total:'
B01002Ie2='Male'
B01002Ie3='Female'

/*TOTAL POPULATION */
/*Universe: Total Population */

B01003e1='Total'
;

INPUT

FILEID $
FILETYPE $
STUSAB $
CHARITER $
SEQUENCE $
LOGRECNO $

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B01001Ge2
B01001Ge3
B01001Ge4
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B01001Ge18

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B01001Ge26
B01001Ge27
B01001Ge28
B01001Ge29
B01001Ge30
B01001Ge31

B01001He1
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B01001He30
B01001He31

B01001Ie1
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B01001Ie8

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B01001Ie30
B01001Ie31

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B01002e2
B01002e3

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B01002Ae2
B01002Ae3

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B01002Be2
B01002Be3

B01002Ce1
B01002Ce2
B01002Ce3

B01002De1
B01002De2
B01002De3

B01002Ee1
B01002Ee2
B01002Ee3

B01002Fe1
B01002Fe2
B01002Fe3

B01002Ge1
B01002Ge2

```
B01002Ge3

B01002He1
B01002He2
B01002He3

B01002Ie1
B01002Ie2
B01002Ie3

B01003e1
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RUN;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: eok_0004   */
%LET _CLIENTTASKLABEL='eok_0004';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\eok_0004.sas';
%LET _SASPROGRAMFILEHOST='SSB6RZ3N72';

GOPTIONS ACCESSIBLE;
TITLE "e20165ok0004000";
DATA work.SFe0004ok;

LENGTH FILEID   $6
      FILETYPE $6
      STUSAB   $2
      CHARITER $3
      SEQUENCE $4
      LOGRECNO $7;

INFILE 'C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS Global
Forum\Health Paper\Census Data\e20165ok0004000.txt' DSD TRUNCOVER DELIMITER =',' LRECL=3000;

LABEL  FILEID  ='File Identification'
      FILETYPE='File Type'
      STUSAB  ='State/U.S.-Abbreviation (USPS)'
          CHARITER='Character Iteration'
```

SEQUENCE='Sequence Number'
LOGRECNO='Logical Record Number'

/*RACE */
/*Universe: Total Population */

B02001e1='Total:'
B02001e2='White alone'
B02001e3='Black or African American alone'
B02001e4='American Indian and Alaska Native alone'
B02001e5='Asian alone'
B02001e6='Native Hawaiian and Other Pacific Islander alone'
B02001e7='Some other race alone'
B02001e8='Two or more races:'
B02001e9='Two races including Some other race'
B02001e10='Two races excluding Some other race, and three or more races'

/*WHITE ALONE OR IN COMBINATION WITH ONE OR MORE OTHER RACES */
/*Universe: White Alone Or In Combination With One Or More Other Races */

B02008e1='Total:'

/*BLACK OR AFRICAN AMERICAN ALONE OR IN COMBINATION WITH ONE OR MORE OTHER RACES */
/*Universe: Black Or African American Alone Or In Combination With One Or More Other Races */

B02009e1='Total:'

/*AMERICAN INDIAN AND ALASKA NATIVE ALONE OR IN COMBINATION WITH ONE OR MORE OTHER RACES */
/*Universe: People Who Are American Indian Or Alaska Native Alone Or In Combination With One Or More Other Races */

B02010e1='Total:'

/*ASIAN ALONE OR IN COMBINATION WITH ONE OR MORE OTHER RACES */
/*Universe: Asian Alone Or In Combination With One Or More Other Races */

B02011e1='Total:'

/*NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE OR IN COMBINATION WITH ONE OR MORE OTHER RACES */
/*Universe: Native Hawaiian And Other Pacific Islander Alone Or In Combination With One Or More Other Races */

B02012e1='Total:'

/*SOME OTHER RACE ALONE OR IN COMBINATION WITH ONE OR MORE OTHER RACES */
/*Universe: Some Other Race Alone Or In Combination With One Or More Other Races */

B02013e1='Total:'

/*AMERICAN INDIAN AND ALASKA NATIVE ALONE FOR SELECTED TRIBAL GROUPINGS */
/*Universe: People Who Are American Indian And Alaska Native Alone And People With No Tribe Reported */

B02014e1='Total:'
B02014e2='American Indian tribes, specified:'
B02014e3='Apache'
B02014e4='Arapaho'
B02014e5='Blackfeet'
B02014e6='Canadian and French American Indian'
B02014e7='Central American Indian'
B02014e8='Cherokee'
B02014e9='Cheyenne'
B02014e10='Chickasaw'
B02014e11='Chippewa'
B02014e12='Choctaw'
B02014e13='Colville'
B02014e14='Comanche'
B02014e15='Cree'
B02014e16='Creek'
B02014e17='Crow'
B02014e18='Delaware'
B02014e19='Hopi'
B02014e20='Houma'
B02014e21='Iroquois'
B02014e22='Kiowa'
B02014e23='Lumbee'
B02014e24='Menominee'
B02014e25='Mexican American Indian'
B02014e26='Navajo'
B02014e27='Osage'
B02014e28='Ottawa'
B02014e29='Paiute'
B02014e30='Pima'
B02014e31='Potawatomi'
B02014e32='Pueblo'
B02014e33='Puget Sound Salish'
B02014e34='Seminole'
B02014e35='Shoshone'
B02014e36='Sioux'
B02014e37='South American Indian'
B02014e38='Spanish American Indian'
B02014e39='Tohono O"Odham'
B02014e40='Ute'
B02014e41='Yakama'
B02014e42='Yaqui'
B02014e43='Yuman'
B02014e44='All other American Indian tribes (with only one tribe reported)'
B02014e45='American Indian tribes, not specified'
B02014e46='Alaska Native tribes, specified:'
B02014e47='Alaskan Athabascan'
B02014e48='Aleut'
B02014e49='Inupiat'
B02014e50='Tlingit-Haida'
B02014e51='Tsimshian'
B02014e52='Yup"ik'
B02014e53='Alaska Native tribes, not specified'
B02014e54='American Indian or Alaska Native tribes, not specified'

B02014e55='Two or More American Indian or Alaska Native Tribes'

/*ASIAN ALONE BY SELECTED GROUPS */
/*Universe: Total Asian Alone Population */

B02015e1='Total:'
B02015e2='Asian Indian'
B02015e3='Bangladeshi'
B02015e4='Bhutanese'
B02015e5='Burmese'
B02015e6='Cambodian'
B02015e7='Chinese, except Taiwanese'
B02015e8='Filipino'
B02015e9='Hmong'
B02015e10='Indonesian'
B02015e11='Japanese'
B02015e12='Korean'
B02015e13='Laotian'
B02015e14='Malaysian'
B02015e15='Mongolian'
B02015e16='Nepalese'
B02015e17='Okinawan'
B02015e18='Pakistani'
B02015e19='Sri Lankan'
B02015e20='Taiwanese'
B02015e21='Thai'
B02015e22='Vietnamese'
B02015e23='Other Asian, specified'
B02015e24='Other Asian, not specified'
B02015e25='Two or more Asian'

/*NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE BY SELECTED GROUPS */
/*Universe: Total Native Hawaiian And Other Pacific Islander Alone Population */

B02016e1='Total:'
/*Polynesian: */
B02016e2='Native Hawaiian'
B02016e3='Samoan'
B02016e4='Tongan'
B02016e5='Other Polynesian'
/*Micronesian: */
B02016e6='Guamanian or Chamorro'
B02016e7='Marshallese'
B02016e8='Other Micronesian'
/*Melanesian: */
B02016e9='Fijian'
B02016e10='Other Melanesian'
B02016e11='Other Pacific Islander, not specified (check box only)'
B02016e12='Two or More NHPI'

/*AMERICAN INDIAN AND ALASKA NATIVE (AIAN) ALONE OR IN ANY COMBINATION BY SELECTED TRIBAL GROUPINGS */
/*Universe: Total Aian Alone Or In Any Combination Population (The Total Groups Tallied) */

B02017e1='Total Groups Tallied:'
B02017e2='American Indian tribes, specified:'
B02017e3='Apache'
B02017e4='Arapaho'
B02017e5='Blackfeet'
B02017e6='Canadian and French American Indian'
B02017e7='Central American Indian'
B02017e8='Cherokee'
B02017e9='Cheyenne'
B02017e10='Chickasaw'
B02017e11='Chippewa'
B02017e12='Choctaw'
B02017e13='Colville'
B02017e14='Comanche'
B02017e15='Cree'
B02017e16='Creek'
B02017e17='Crow'
B02017e18='Delaware'
B02017e19='Hopi'
B02017e20='Houma'
B02017e21='Iroquois'
B02017e22='Kiowa'
B02017e23='Lumbee'
B02017e24='Menominee'
B02017e25='Mexican American Indian'
B02017e26='Navajo'
B02017e27='Osage'
B02017e28='Ottawa'
B02017e29='Paiute'
B02017e30='Pima'
B02017e31='Potawatomi'
B02017e32='Pueblo'
B02017e33='Puget Sound Salish'
B02017e34='Seminole'
B02017e35='Shoshone'
B02017e36='Sioux'
B02017e37='South American Indian'
B02017e38='Spanish American Indian'
B02017e39='Tohono O"Odham'
B02017e40='Ute'
B02017e41='Yakama'
B02017e42='Yaqui'
B02017e43='Yuman'
B02017e44='All other American Indian tribes (with only one tribe reported)'
B02017e45='American Indian tribes, not specified'
B02017e46='Alaska Native tribes, specified:'
B02017e47='Alaskan Athabascan'
B02017e48='Aleut'
B02017e49='Inupiat'
B02017e50='Tlingit-Haida'
B02017e51='Tsimshian'
B02017e52='Yup"ik'
B02017e53='Alaska Native tribes, not specified'
B02017e54='American Indian or Alaska Native tribes, not specified'

/*ASIAN ALONE OR IN ANY COMBINATION BY SELECTED GROUPS */
/*Universe: Total Asian Alone Or In Any Combination Population (The Total Groups Tallied) */

B02018e1='Total Groups Tallied:'
B02018e2='Asian Indian'
B02018e3='Bangladeshi'
B02018e4='Bhutanese'
B02018e5='Burmese'
B02018e6='Cambodian'
B02018e7='Chinese, except Taiwanese'
B02018e8='Filipino'
B02018e9='Hmong'
B02018e10='Indonesian'
B02018e11='Japanese'
B02018e12='Korean'
B02018e13='Laotian'
B02018e14='Malaysian'
B02018e15='Mongolian'
B02018e16='Nepalese'
B02018e17='Okinawan'
B02018e18='Pakistani'
B02018e19='Sri Lankan'
B02018e20='Taiwanese'
B02018e21='Thai'
B02018e22='Vietnamese'
B02018e23='Other Asian, specified'
B02018e24='Other Asian, not specified'

/*NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE OR IN ANY COMBINATION BY SELECTED GROUPS */
/*Universe: Total Nhpi Alone Or In Any Combination Population (The Total Groups Tallied) */

B02019e1='Total Groups Tallied:'
/*Polynesian: */
B02019e2='Native Hawaiian'
B02019e3='Samoan'
B02019e4='Tongan'
B02019e5='Other Polynesian'
/*Micronesian: */
B02019e6='Guamanian or Chamorro'
B02019e7='Marshallese'
B02019e8='Other Micronesian'
/*Melanesian: */
B02019e9='Fijian'
B02019e10='Other Melanesian'
B02019e11='Other Pacific Islander, not specified'

/*DETAILED RACE */
/*Universe: Total Population */

C02003e1='Total:'
C02003e2='Population of one race:'
C02003e3='White'

C02003e4='Black or African American'
C02003e5='American Indian and Alaska Native'
C02003e6='Asian alone'
C02003e7='Native Hawaiian and Other Pacific Islander'
C02003e8='Some other race'
C02003e9='Population of two or more races:'
C02003e10='Two races including Some other race'
C02003e11='Two races excluding Some other race, and three or more races'
C02003e12='Population of two races:'
C02003e13='White; Black or African American'
C02003e14='White; American Indian and Alaska Native'
C02003e15='White; Asian'
C02003e16='Black or African American; American Indian and Alaska Native'
C02003e17='All other two race combinations'
C02003e18='Population of three races'
C02003e19='Population of four or more races'
;

INPUT

FILEID $
FILETYPE $
STUSAB $
CHARITER $
SEQUENCE $
LOGRECNO $

B02001e1
B02001e2
B02001e3
B02001e4
B02001e5
B02001e6
B02001e7
B02001e8
B02001e9
B02001e10

B02008e1

B02009e1

B02010e1

B02011e1

B02012e1

B02013e1

B02014e1
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RUN;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;
```

```
/*   START OF NODE: eok_0005   */
%LET _CLIENTTASKLABEL='eok_0005';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\eok_0005.sas';
%LET _SASPROGRAMFILEHOST='SSB6RZ3N72';

GOPTIONS ACCESSIBLE;
TITLE "e20165ok0005000";
DATA work.SFe0005ok;

LENGTH FILEID   $6
      FILETYPE $6
      STUSAB   $2
      CHARITER $3
      SEQUENCE $4
      LOGRECNO $7;

INFILE 'C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS Global
Forum\Health Paper\Census Data\e20165ok0005000.txt' DSD TRUNCOVER DELIMITER =',' LRECL=3000;

LABEL  FILEID  ='File Identification'
      FILETYPE='File Type'
      STUSAB  ='State/U.S.-Abbreviation (USPS)'
          CHARITER='Character Iteration'
          SEQUENCE='Sequence Number'
          LOGRECNO='Logical Record Number'


/*HISPANIC OR LATINO ORIGIN BY SPECIFIC ORIGIN */
/*Universe:  Total Population */

B03001e1='Total:'
B03001e2='Not Hispanic or Latino'
B03001e3='Hispanic or Latino:'
B03001e4='Mexican'
B03001e5='Puerto Rican'
B03001e6='Cuban'
B03001e7='Dominican (Dominican Republic)'
B03001e8='Central American:'
B03001e9='Costa Rican'
B03001e10='Guatemalan'
B03001e11='Honduran'
B03001e12='Nicaraguan'
B03001e13='Panamanian'
B03001e14='Salvadoran'
B03001e15='Other Central American'
B03001e16='South American:'
B03001e17='Argentinean'
```

B03001e18='Bolivian'
B03001e19='Chilean'
B03001e20='Colombian'
B03001e21='Ecuadorian'
B03001e22='Paraguayan'
B03001e23='Peruvian'
B03001e24='Uruguayan'
B03001e25='Venezuelan'
B03001e26='Other South American'
B03001e27='Other Hispanic or Latino:'
B03001e28='Spaniard'
B03001e29='Spanish'
B03001e30='Spanish American'
B03001e31='All other Hispanic or Latino'

/*HISPANIC OR LATINO ORIGIN BY RACE */
/*Universe: Total Population */

B03002e1='Total:'
B03002e2='Not Hispanic or Latino:'
B03002e3='White alone'
B03002e4='Black or African American alone'
B03002e5='American Indian and Alaska Native alone'
B03002e6='Asian alone'
B03002e7='Native Hawaiian and Other Pacific Islander alone'
B03002e8='Some other race alone'
B03002e9='Two or more races:'
B03002e10='Two races including Some other race'
B03002e11='Two races excluding Some other race, and three or more races'
B03002e12='Hispanic or Latino:'
B03002e13='White alone'
B03002e14='Black or African American alone'
B03002e15='American Indian and Alaska Native alone'
B03002e16='Asian alone'
B03002e17='Native Hawaiian and Other Pacific Islander alone'
B03002e18='Some other race alone'
B03002e19='Two or more races:'
B03002e20='Two races including Some other race'
B03002e21='Two races excluding Some other race, and three or more races'

/*HISPANIC OR LATINO ORIGIN */
/*Universe: Total Population */

B03003e1='Total:'
B03003e2='Not Hispanic or Latino'
B03003e3='Hispanic or Latino'
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INPUT

FILEID $
FILETYPE $
STUSAB $

CHARITER $
SEQUENCE $
LOGRECNO $

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B03001e2
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B03001e6
B03001e7
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B03002e18

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B03002e21

B03003e1
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B03003e3
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RUN;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: eok_0011   */
%LET _CLIENTTASKLABEL='eok_0011';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\eok_0011.sas';
%LET _SASPROGRAMFILEHOST='SSB6RZ3N72';

GOPTIONS ACCESSIBLE;
TITLE "e20165ok0011000";
DATA work.SFe0011ok;

LENGTH FILEID   $6
      FILETYPE $6
      STUSAB   $2
      CHARITER $3
      SEQUENCE $4
      LOGRECNO $7;

INFILE 'C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS Global
Forum\Health Paper\Census Data\e20165ok0011000.txt' DSD TRUNCOVER DELIMITER =',' LRECL=3000;

LABEL  FILEID  ='File Identification'
      FILETYPE='File Type'
      STUSAB  ='State/U.S.-Abbreviation (USPS)'
         CHARITER='Character Iteration'
         SEQUENCE='Sequence Number'
         LOGRECNO='Logical Record Number'
```

/*PLACE OF BIRTH BY YEAR OF ENTRY BY CITIZENSHIP STATUS FOR THE FOREIGN-BORN POPULATION */
/*Universe: Foreign-Born Population */

B05007e1='Total:'
B05007e2='Entered 2010 or later'
B05007e3='Naturalized U.S. citizen'
B05007e4='Not a U.S. citizen'
B05007e5='Entered 2000 to 2009'
B05007e6='Naturalized U.S. citizen'
B05007e7='Not a U.S. citizen'
B05007e8='Entered 1990 to 1999:'
B05007e9='Naturalized U.S. citizen'
B05007e10='Not a U.S. citizen'
B05007e11='Entered before 1990:'
B05007e12='Naturalized U.S. citizen'
B05007e13='Not a U.S. citizen'
B05007e14='Europe:'
B05007e15='Entered 2010 or later:'
B05007e16='Naturalized U.S. citizen'
B05007e17='Not a U.S. citizen'
B05007e18='Entered 2000 to 2009:'
B05007e19='Naturalized U.S. citizen'
B05007e20='Not a U.S. citizen'
B05007e21='Entered 1990 to 1999:'
B05007e22='Naturalized U.S. citizen'
B05007e23='Not a U.S. citizen'
B05007e24='Entered before 1990:'
B05007e25='Naturalized U.S. citizen'
B05007e26='Not a U.S. citizen'
B05007e27='Asia:'
B05007e28='Entered 2010 or later:'
B05007e29='Naturalized U.S. citizen'
B05007e30='Not a U.S. citizen'
B05007e31='Entered 2000 to 2009:'
B05007e32='Naturalized U.S. citizen'
B05007e33='Not a U.S. citizen'
B05007e34='Entered 1990 to 1999:'
B05007e35='Naturalized U.S. citizen'
B05007e36='Not a U.S. citizen'
B05007e37='Entered before 1990:'
B05007e38='Naturalized U.S. citizen'
B05007e39='Not a U.S. citizen'
B05007e40='Latin America:'
B05007e41='Caribbean:'
B05007e42='Entered 2010 or later:'
B05007e43='Naturalized U.S. citizen'
B05007e44='Not a U.S. citizen'
B05007e45='Entered 2000 to 2009:'
B05007e46='Naturalized U.S. citizen'
B05007e47='Not a U.S. citizen'
B05007e48='Entered 1990 to 1999:'
B05007e49='Naturalized U.S. citizen'
B05007e50='Not a U.S. citizen'

B05007e51='Entered before 1990:'
B05007e52='Naturalized U.S. citizen'
B05007e53='Not a U.S. citizen'
B05007e54='Central America:'
B05007e55='Mexico:'
B05007e56='Entered 2010 or later:'
B05007e57='Naturalized U.S. citizen'
B05007e58='Not a U.S. citizen'
B05007e59='Entered 2000 to 2009:'
B05007e60='Naturalized U.S. citizen'
B05007e61='Not a U.S. citizen'
B05007e62='Entered 1990 to 1999:'
B05007e63='Naturalized U.S. citizen'
B05007e64='Not a U.S. citizen'
B05007e65='Entered before 1990:'
B05007e66='Naturalized U.S. citizen'
B05007e67='Not a U.S. citizen'
B05007e68='Other Central America:'
B05007e69='Entered 2010 or later:'
B05007e70='Naturalized U.S. citizen'
B05007e71='Not a U.S. citizen'
B05007e72='Entered 2000 to 2009:'
B05007e73='Naturalized U.S. citizen'
B05007e74='Not a U.S. citizen'
B05007e75='Entered 1990 to 1999:'
B05007e76='Naturalized U.S. citizen'
B05007e77='Not a U.S. citizen'
B05007e78='Entered before 1990:'
B05007e79='Naturalized U.S. citizen'
B05007e80='Not a U.S. citizen'
B05007e81='South America:'
B05007e82='Entered 2010 or later:'
B05007e83='Naturalized U.S. citizen'
B05007e84='Not a U.S. citizen'
B05007e85='Entered 2000 to 2009:'
B05007e86='Naturalized U.S. citizen'
B05007e87='Not a U.S. citizen'
B05007e88='Entered 1990 to 1999:'
B05007e89='Naturalized U.S. citizen'
B05007e90='Not a U.S. citizen'
B05007e91='Entered before 1990:'
B05007e92='Naturalized U.S. citizen'
B05007e93='Not a U.S. citizen'
B05007e94='Other areas:'
B05007e95='Entered 2010 or later:'
B05007e96='Naturalized U.S. citizen'
B05007e97='Not a U.S. citizen'
B05007e98='Entered 2000 to 2009:'
B05007e99='Naturalized U.S. citizen'
B05007e100='Not a U.S. citizen'
B05007e101='Entered 1990 to 1999:'
B05007e102='Naturalized U.S. citizen'
B05007e103='Not a U.S. citizen'
B05007e104='Entered before 1990:'

B05007e105='Naturalized U.S. citizen'
B05007e106='Not a U.S. citizen'

/*SEX BY PLACE OF BIRTH BY YEAR OF ENTRY FOR THE FOREIGN-BORN POPULATION */
/*Universe: Foreign-Born Population */

B05008e1='Total:'
B05008e2='Male:'
B05008e3='Europe:'
B05008e4='Entered 2010 or later'
B05008e5='Entered 2000 to 2009'
B05008e6='Entered before 2000'
B05008e7='Asia:'
B05008e8='Entered 2010 or later'
B05008e9='Entered 2000 to 2009'
B05008e10='Entered before 2000'
B05008e11='Latin America:'
B05008e12='Entered 2010 or later'
B05008e13='Entered 2000 to 2009'
B05008e14='Entered before 2000'
B05008e15='Caribbean:'
B05008e16='Entered 2010 or later'
B05008e17='Entered 2000 to 2009'
B05008e18='Entered before 2000'
B05008e19='Central America:'
B05008e20='Mexico:'
B05008e21='Entered 2010 or later'
B05008e22='Entered 2000 to 2009'
B05008e23='Entered before 2000'
B05008e24='Other Central America:'
B05008e25='Entered 2010 or later'
B05008e26='Entered 2000 to 2009'
B05008e27='Entered before 2000'
B05008e28='South America:'
B05008e29='Entered 2010 or later'
B05008e30='Entered 2000 to 2009'
B05008e31='Entered before 2000'
B05008e32='Other areas:'
B05008e33='Entered 2010 or later'
B05008e34='Entered 2000 to 2009'
B05008e35='Entered before 2000'
B05008e36='Female:'
B05008e37='Europe:'
B05008e38='Entered 2010 or later'
B05008e39='Entered 2000 to 2009'
B05008e40='Entered before 2000'
B05008e41='Asia:'
B05008e42='Entered 2010 or later'
B05008e43='Entered 2000 to 2009'
B05008e44='Entered before 2000'
B05008e45='Latin America:'
B05008e46='Entered 2010 or later'
B05008e47='Entered 2000 to 2009'
B05008e48='Entered before 2000'

B05008e49='Caribbean:'
B05008e50='Entered 2010 or later'
B05008e51='Entered 2000 to 2009'
B05008e52='Entered before 2000'
B05008e53='Central America:'
B05008e54='Mexico:'
B05008e55='Entered 2010 or later'
B05008e56='Entered 2000 to 2009'
B05008e57='Entered before 2000'
B05008e58='Other Central America:'
B05008e59='Entered 2010 or later'
B05008e60='Entered 2000 to 2009'
B05008e61='Entered before 2000'
B05008e62='South America:'
B05008e63='Entered 2010 or later'
B05008e64='Entered 2000 to 2009'
B05008e65='Entered before 2000'
B05008e66='Other areas:'
B05008e67='Entered 2010 or later'
B05008e68='Entered 2000 to 2009'
B05008e69='Entered before 2000'

/*AGE AND NATIVITY OF OWN CHILDREN UNDER 18 YEARS IN FAMILIES AND SUBFAMILIES BY NUMBER AND NATIVITY OF PARENTS */
/*Universe: Own Children Under 18 Years Living In Families Or Subfamilies */

B05009e1='Total:'
B05009e2='Under 6 years:'
B05009e3='Living with two parents:'
B05009e4='Child is native'
B05009e5='Child is foreign born'
B05009e6='Both parents native'
B05009e7='Both parents foreign born:'
B05009e8='Child is native'
B05009e9='Child is foreign born'
B05009e10='One native and one foreign-born parent:'
B05009e11='Child is native'
B05009e12='Child is foreign born'
B05009e13='Living with one parent:'
B05009e14='Child is native'
B05009e15='Child is foreign born'
B05009e16='Native parent'
B05009e17='Foreign-born parent:'
B05009e18='Child is native'
B05009e19='Child is foreign born'
B05009e20='6 to 17 years:'
B05009e21='Living with two parents:'
B05009e22='Child is native'
B05009e23='Child is foreign born'
B05009e24='Both parents native'
B05009e25='Both parents foreign born:'
B05009e26='Child is native'
B05009e27='Child is foreign born'
B05009e28='One native and one foreign-born parent:'

B05009e29='Child is native'
B05009e30='Child is foreign born'
B05009e31='Living with one parent:'
B05009e32='Child is native'
B05009e33='Child is foreign born'
B05009e34='Native parent'
B05009e35='Foreign-born parent:'
B05009e36='Child is native'
B05009e37='Child is foreign born'

/*RATIO OF INCOME TO POVERTY LEVEL IN THE PAST 12 MONTHS BY NATIVITY OF CHILDREN UNDER 18 YEARS IN FAMILIES AND SUBFAMILIES BY LIVING ARRANGEMENTS AND NATIVITY OF PARENTS */
/*Universe: Own Children Under 18 Years Living In Families Or Subfamilies For Whom Poverty Status Is Determined */

B05010e1='Total:'
B05010e2='Under 1.00:'
B05010e3='Living with two parents:'
B05010e4='Both parents native'
B05010e5='Both parents foreign born'
B05010e6='One native and one foreign-born parent'
B05010e7='Living with one parent:'
B05010e8='Native parent'
B05010e9='Foreign-born parent'
B05010e10='1.00 to 1.99:'
B05010e11='Living with two parents:'
B05010e12='Both parents native'
B05010e13='Both parents foreign born'
B05010e14='One native and one foreign-born parent'
B05010e15='Living with one parent:'
B05010e16='Native parent'
B05010e17='Foreign-born parent'
B05010e18='2.0 and over:'
B05010e19='Living with two parents:'
B05010e20='Both parents native'
B05010e21='Both parents foreign born'
B05010e22='One native and one foreign-born parent'
B05010e23='Living with one parent:'
B05010e24='Native parent'
B05010e25='Foreign-born parent'
;

INPUT

FILEID $
FILETYPE $
STUSAB $
CHARITER $
SEQUENCE $
LOGRECNO $

B05007e1

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B05010e5
B05010e6
B05010e7
B05010e8
B05010e9
B05010e10
B05010e11
B05010e12
B05010e13
B05010e14
B05010e15
B05010e16
B05010e17
B05010e18
B05010e19
B05010e20
B05010e21
B05010e22
B05010e23
B05010e24
B05010e25
;
RUN;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: eok_0015   */
%LET _CLIENTTASKLABEL='eok_0015';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\eok_0015.sas';
%LET _SASPROGRAMFILEHOST='SSB6RZ3N72';

GOPTIONS ACCESSIBLE;
TITLE "e20165ok0015000";
DATA work.SFe0015ok;

LENGTH FILEID   $6
      FILETYPE $6
```

```
    STUSAB   $2
    CHARITER $3
    SEQUENCE $4
    LOGRECNO $7;

INFILE 'C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS Global
Forum\Health Paper\Census Data\e20165ok0015000.txt' DSD TRUNCOVER DELIMITER =',' LRECL=3000;

LABEL  FILEID  ='File Identification'
    FILETYPE='File Type'
    STUSAB  ='State/U.S.-Abbreviation (USPS)'
       CHARITER='Character Iteration'
       SEQUENCE='Sequence Number'
       LOGRECNO='Logical Record Number'


/*PLACE OF BIRTH BY INDIVIDUAL INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED
DOLLARS) IN THE UNITED STATES */
/*Universe:  Population 15 Years And Over In The United States */

B06010e1='Total:'
B06010e2='No income'
B06010e3='With income:'
B06010e4='$1 to $9,999 or loss'
B06010e5='$10,000 to $14,999'
B06010e6='$15,000 to $24,999'
B06010e7='$25,000 to $34,999'
B06010e8='$35,000 to $49,999'
B06010e9='$50,000 to $64,999'
B06010e10='$65,000 to $74,999'
B06010e11='$75,000 or more'
B06010e12='Born in state of residence:'
B06010e13='No income'
B06010e14='With income:'
B06010e15='$1 to $9,999 or loss'
B06010e16='$10,000 to $14,999'
B06010e17='$15,000 to $24,999'
B06010e18='$25,000 to $34,999'
B06010e19='$35,000 to $49,999'
B06010e20='$50,000 to $64,999'
B06010e21='$65,000 to $74,999'
B06010e22='$75,000 or more'
B06010e23='Born in other state in the United States:'
B06010e24='No income'
B06010e25='With income:'
B06010e26='$1 to $9,999 or loss'
B06010e27='$10,000 to $14,999'
B06010e28='$15,000 to $24,999'
B06010e29='$25,000 to $34,999'
B06010e30='$35,000 to $49,999'
B06010e31='$50,000 to $64,999'
B06010e32='$65,000 to $74,999'
B06010e33='$75,000 or more'
B06010e34='Native; born outside the United States:'
```

B06010e35='No income'
B06010e36='With income:'
B06010e37='$1 to $9,999 or loss'
B06010e38='$10,000 to $14,999'
B06010e39='$15,000 to $24,999'
B06010e40='$25,000 to $34,999'
B06010e41='$35,000 to $49,999'
B06010e42='$50,000 to $64,999'
B06010e43='$65,000 to $74,999'
B06010e44='$75,000 or more'
B06010e45='Foreign born:'
B06010e46='No income'
B06010e47='With income:'
B06010e48='$1 to $9,999 or loss'
B06010e49='$10,000 to $14,999'
B06010e50='$15,000 to $24,999'
B06010e51='$25,000 to $34,999'
B06010e52='$35,000 to $49,999'
B06010e53='$50,000 to $64,999'
B06010e54='$65,000 to $74,999'
B06010e55='$75,000 or more'

/*PLACE OF BIRTH BY INDIVIDUAL INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) IN PUERTO RICO */
/*Universe: Population 15 Years And Over In Puerto Rico */

B06010PRe1='Total:'
B06010PRe2='No income'
B06010PRe3='With income:'
B06010PRe4='$1 to $9,999 or loss'
B06010PRe5='$10,000 to $14,999'
B06010PRe6='$15,000 to $24,999'
B06010PRe7='$25,000 to $34,999'
B06010PRe8='$35,000 to $49,999'
B06010PRe9='$50,000 to $64,999'
B06010PRe10='$65,000 to $74,999'
B06010PRe11='$75,000 or more'
B06010PRe12='Born in Puerto Rico:'
B06010PRe13='No income'
B06010PRe14='With income:'
B06010PRe15='$1 to $9,999 or loss'
B06010PRe16='$10,000 to $14,999'
B06010PRe17='$15,000 to $24,999'
B06010PRe18='$25,000 to $34,999'
B06010PRe19='$35,000 to $49,999'
B06010PRe20='$50,000 to $64,999'
B06010PRe21='$65,000 to $74,999'
B06010PRe22='$75,000 or more'
B06010PRe23='Born in the United States:'
B06010PRe24='No income'
B06010PRe25='With income:'
B06010PRe26='$1 to $9,999 or loss'
B06010PRe27='$10,000 to $14,999'
B06010PRe28='$15,000 to $24,999'

B06010PRe29='$25,000 to $34,999'
B06010PRe30='$35,000 to $49,999'
B06010PRe31='$50,000 to $64,999'
B06010PRe32='$65,000 to $74,999'
B06010PRe33='$75,000 or more'
B06010PRe34='Native; born elsewhere:'
B06010PRe35='No income'
B06010PRe36='With income:'
B06010PRe37='$1 to $9,999 or loss'
B06010PRe38='$10,000 to $14,999'
B06010PRe39='$15,000 to $24,999'
B06010PRe40='$25,000 to $34,999'
B06010PRe41='$35,000 to $49,999'
B06010PRe42='$50,000 to $64,999'
B06010PRe43='$65,000 to $74,999'
B06010PRe44='$75,000 or more'
B06010PRe45='Foreign born:'
B06010PRe46='No income'
B06010PRe47='With income:'
B06010PRe48='$1 to $9,999 or loss'
B06010PRe49='$10,000 to $14,999'
B06010PRe50='$15,000 to $24,999'
B06010PRe51='$25,000 to $34,999'
B06010PRe52='$35,000 to $49,999'
B06010PRe53='$50,000 to $64,999'
B06010PRe54='$65,000 to $74,999'
B06010PRe55='$75,000 or more'

/*MEDIAN INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) BY PLACE OF BIRTH IN THE UNITED STATES */
/*Universe: Population 15 Years And Over In The United States With Income */
/*Median income in the past 12 months -- */

B06011e1='Total:'
B06011e2='Born in state of residence'
B06011e3='Born in other state of the United States'
B06011e4='Native; born outside the United States'
B06011e5='Foreign born'

/*MEDIAN INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) BY PLACE OF BIRTH IN PUERTO RICO */
/*Universe: Population 15 Years And Over In Puerto Rico With Income */
/*Median income in the past 12 months -- */

B06011PRe1='Total:'
B06011PRe2='Born in Puerto Rico'
B06011PRe3='Born in other state of the United States'
B06011PRe4='Native; born elsewhere'
B06011PRe5='Foreign born'

/*PLACE OF BIRTH BY POVERTY STATUS IN THE PAST 12 MONTHS IN THE UNITED STATES */
/*Universe: Population In The United States For Whom Poverty Status Is Determined */

B06012e1='Total:'

B06012e2='Below 100 percent of the poverty level'
B06012e3='100 to 149 percent of the poverty level'
B06012e4='At or above 150 percent of the poverty level'
B06012e5='Born in state of residence:'
B06012e6='Below 100 percent of the poverty level'
B06012e7='100 to 149 percent of the poverty level'
B06012e8='At or above 150 percent of the poverty level'
B06012e9='Born in other state in the United States:'
B06012e10='Below 100 percent of the poverty level'
B06012e11='100 to 149 percent of the poverty level'
B06012e12='At or above 150 percent of the poverty level'
B06012e13='Native; born outside the United States:'
B06012e14='Below 100 percent of the poverty level'
B06012e15='100 to 149 percent of the poverty level'
B06012e16='At or above 150 percent of the poverty level'
B06012e17='Foreign born:'
B06012e18='Below 100 percent of the poverty level'
B06012e19='100 to 149 percent of the poverty level'
B06012e20='At or above 150 percent of the poverty level'

/*PLACE OF BIRTH BY POVERTY STATUS IN THE PAST 12 MONTHS IN PUERTO RICO */
/*Universe: Population In Puerto Rico For Whom Poverty Status Is Determined */

B06012PRe1='Total:'
B06012PRe2='Below 100 percent of the poverty level'
B06012PRe3='100 to 149 percent of the poverty level'
B06012PRe4='At or above 150 percent of the poverty level'
B06012PRe5='Born in Puerto Rico:'
B06012PRe6='Below 100 percent of the poverty level'
B06012PRe7='100 to 149 percent of the poverty level'
B06012PRe8='At or above 150 percent of the poverty level'
B06012PRe9='Born in the United States:'
B06012PRe10='Below 100 percent of the poverty level'
B06012PRe11='100 to 149 percent of the poverty level'
B06012PRe12='At or above 150 percent of the poverty level'
B06012PRe13='Native; born elsewhere:'
B06012PRe14='Below 100 percent of the poverty level'
B06012PRe15='100 to 149 percent of the poverty level'
B06012PRe16='At or above 150 percent of the poverty level'
B06012PRe17='Foreign born:'
B06012PRe18='Below 100 percent of the poverty level'
B06012PRe19='100 to 149 percent of the poverty level'
B06012PRe20='At or above 150 percent of the poverty level'
;

INPUT

FILEID $
FILETYPE $
STUSAB $
CHARITER $
SEQUENCE $
LOGRECNO $

B06010e1
B06010e2
B06010e3
B06010e4
B06010e5
B06010e6
B06010e7
B06010e8
B06010e9
B06010e10
B06010e11
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B06010e14
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B06010e46
B06010e47
B06010e48
B06010e49
B06010e50
B06010e51
B06010e52
B06010e53

B06010e54
B06010e55

B06010PRe1
B06010PRe2
B06010PRe3
B06010PRe4
B06010PRe5
B06010PRe6
B06010PRe7
B06010PRe8
B06010PRe9
B06010PRe10
B06010PRe11
B06010PRe12
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B06010PRe29
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B06010PRe31
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B06010PRe33
B06010PRe34
B06010PRe35
B06010PRe36
B06010PRe37
B06010PRe38
B06010PRe39
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B06010PRe45
B06010PRe46
B06010PRe47
B06010PRe48
B06010PRe49
B06010PRe50
B06010PRe51

B06010PRe52
B06010PRe53
B06010PRe54
B06010PRe55

B06011e1
B06011e2
B06011e3
B06011e4
B06011e5

B06011PRe1
B06011PRe2
B06011PRe3
B06011PRe4
B06011PRe5

B06012e1
B06012e2
B06012e3
B06012e4
B06012e5
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B06012e7
B06012e8
B06012e9
B06012e10
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B06012e12
B06012e13
B06012e14
B06012e15
B06012e16
B06012e17
B06012e18
B06012e19
B06012e20

B06012PRe1
B06012PRe2
B06012PRe3
B06012PRe4
B06012PRe5
B06012PRe6
B06012PRe7
B06012PRe8
B06012PRe9
B06012PRe10
B06012PRe11
B06012PRe12
B06012PRe13
B06012PRe14
B06012PRe15
B06012PRe16

```
B06012PRe17
B06012PRe18
B06012PRe19
B06012PRe20
;
RUN;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: eok_0043   */
%LET _CLIENTTASKLABEL='eok_0043';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\eok_0043.sas';
%LET _SASPROGRAMFILEHOST='SSB6RZ3N72';

GOPTIONS ACCESSIBLE;
TITLE "e20165ok0043000";
DATA work.SFe0043ok;

LENGTH FILEID   $6
      FILETYPE $6
      STUSAB   $2
      CHARITER $3
      SEQUENCE $4
      LOGRECNO $7;

INFILE 'C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS Global
Forum\Health Paper\Census Data\e20165ok0043000.txt' DSD TRUNCOVER DELIMITER =',' LRECL=3000;

LABEL  FILEID  ='File Identification'
      FILETYPE='File Type'
      STUSAB  ='State/U.S.-Abbreviation (USPS)'
          CHARITER='Character Iteration'
          SEQUENCE='Sequence Number'
          LOGRECNO='Logical Record Number'


/*SEX BY AGE BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 18 YEARS AND OVER */
/*Universe:  Population 18 Years And Over */
```

B15001e1='Total:'
B15001e2='Male:'
B15001e3='18 to 24 years:'
B15001e4='Less than 9th grade'
B15001e5='9th to 12th grade, no diploma'
B15001e6='High school graduate (includes equivalency)'
B15001e7='Some college, no degree'
B15001e8='Associate"s degree'
B15001e9='Bachelor"s degree'
B15001e10='Graduate or professional degree'
B15001e11='25 to 34 years:'
B15001e12='Less than 9th grade'
B15001e13='9th to 12th grade, no diploma'
B15001e14='High school graduate (includes equivalency)'
B15001e15='Some college, no degree'
B15001e16='Associate"s degree'
B15001e17='Bachelor"s degree'
B15001e18='Graduate or professional degree'
B15001e19='35 to 44 years:'
B15001e20='Less than 9th grade'
B15001e21='9th to 12th grade, no diploma'
B15001e22='High school graduate (includes equivalency)'
B15001e23='Some college, no degree'
B15001e24='Associate"s degree'
B15001e25='Bachelor"s degree'
B15001e26='Graduate or professional degree'
B15001e27='45 to 64 years:'
B15001e28='Less than 9th grade'
B15001e29='9th to 12th grade, no diploma'
B15001e30='High school graduate (includes equivalency)'
B15001e31='Some college, no degree'
B15001e32='Associate"s degree'
B15001e33='Bachelor"s degree'
B15001e34='Graduate or professional degree'
B15001e35='65 years and over:'
B15001e36='Less than 9th grade'
B15001e37='9th to 12th grade, no diploma'
B15001e38='High school graduate (includes equivalency)'
B15001e39='Some college, no degree'
B15001e40='Associate"s degree'
B15001e41='Bachelor"s degree'
B15001e42='Graduate or professional degree'
B15001e43='Female:'
B15001e44='18 to 24 years:'
B15001e45='Less than 9th grade'
B15001e46='9th to 12th grade, no diploma'
B15001e47='High school graduate (includes equivalency)'
B15001e48='Some college, no degree'
B15001e49='Associate"s degree'
B15001e50='Bachelor"s degree'
B15001e51='Graduate or professional degree'
B15001e52='25 to 34 years:'
B15001e53='Less than 9th grade'
B15001e54='9th to 12th grade, no diploma'

B15001e55='High school graduate (includes equivalency)'
B15001e56='Some college, no degree'
B15001e57='Associate"s degree'
B15001e58='Bachelor"s degree'
B15001e59='Graduate or professional degree'
B15001e60='35 to 44 years:'
B15001e61='Less than 9th grade'
B15001e62='9th to 12th grade, no diploma'
B15001e63='High school graduate (includes equivalency)'
B15001e64='Some college, no degree'
B15001e65='Associate"s degree'
B15001e66='Bachelor"s degree'
B15001e67='Graduate or professional degree'
B15001e68='45 to 64 years:'
B15001e69='Less than 9th grade'
B15001e70='9th to 12th grade, no diploma'
B15001e71='High school graduate (includes equivalency)'
B15001e72='Some college, no degree'
B15001e73='Associate"s degree'
B15001e74='Bachelor"s degree'
B15001e75='Graduate or professional degree'
B15001e76='65 years and over:'
B15001e77='Less than 9th grade'
B15001e78='9th to 12th grade, no diploma'
B15001e79='High school graduate (includes equivalency)'
B15001e80='Some college, no degree'
B15001e81='Associate"s degree'
B15001e82='Bachelor"s degree'
B15001e83='Graduate or professional degree'

/*SEX BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 25 YEARS AND OVER */
/*Universe: Population 25 Years And Over */

B15002e1='Total:'
B15002e2='Male:'
B15002e3='No schooling completed'
B15002e4='Nursery to 4th grade'
B15002e5='5th and 6th grade'
B15002e6='7th and 8th grade'
B15002e7='9th grade'
B15002e8='10th grade'
B15002e9='11th grade'
B15002e10='12th grade, no diploma'
B15002e11='High school graduate (includes equivalency)'
B15002e12='Some college, less than 1 year'
B15002e13='Some college, 1 or more years, no degree'
B15002e14='Associate"s degree'
B15002e15='Bachelor"s degree'
B15002e16='Master"s degree'
B15002e17='Professional school degree'
B15002e18='Doctorate degree'
B15002e19='Female:'
B15002e20='No schooling completed'
B15002e21='Nursery to 4th grade'

B15002e22='5th and 6th grade'
B15002e23='7th and 8th grade'
B15002e24='9th grade'
B15002e25='10th grade'
B15002e26='11th grade'
B15002e27='12th grade, no diploma'
B15002e28='High school graduate (includes equivalency)'
B15002e29='Some college, less than 1 year'
B15002e30='Some college, 1 or more years, no degree'
B15002e31='Associate"s degree'
B15002e32='Bachelor"s degree'
B15002e33='Master"s degree'
B15002e34='Professional school degree'
B15002e35='Doctorate degree'

/*EDUCATIONAL ATTAINMENT FOR THE POPULATION 25 YEARS AND OVER */
/*Universe: Population 25 Years And Over */

B15003e1='Total:'
B15003e2='No schooling completed'
B15003e3='Nursery school'
B15003e4='Kindergarten'
B15003e5='1st grade'
B15003e6='2nd grade'
B15003e7='3rd grade'
B15003e8='4th grade'
B15003e9='5th grade'
B15003e10='6th grade'
B15003e11='7th grade'
B15003e12='8th grade'
B15003e13='9th grade'
B15003e14='10th grade'
B15003e15='11th grade'
B15003e16='12th grade, no diploma'
B15003e17='Regular high school diploma'
B15003e18='GED or alternative credential'
B15003e19='Some college, less than 1 year'
B15003e20='Some college, 1 or more years, no degree'
B15003e21='Associate"s degree'
B15003e22='Bachelor"s degree'
B15003e23='Master"s degree'
B15003e24='Professional school degree'
B15003e25='Doctorate degree'

/*SEX BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 25 YEARS AND OVER (WHITE ALONE)
*/
/*Universe: White Alone Population 25 Years And Over */

C15002Ae1='Total:'
C15002Ae2='Male:'
C15002Ae3='Less than high school diploma'
C15002Ae4='High school graduate (includes equivalency)'
C15002Ae5='Some college or associate"s degree'
C15002Ae6='Bachelor"s degree or higher'

C15002Ae7='Female:'
C15002Ae8='Less than high school diploma'
C15002Ae9='High school graduate (includes equivalency)'
C15002Ae10='Some college or associate''s degree'
C15002Ae11='Bachelor''s degree or higher'

/*SEX BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 25 YEARS AND OVER (BLACK OR AFRICAN AMERICAN ALONE) */
/*Universe: Black Or African American Alone Population 25 Years And Over */

C15002Be1='Total:'
C15002Be2='Male:'
C15002Be3='Less than high school diploma'
C15002Be4='High school graduate (includes equivalency)'
C15002Be5='Some college or associate''s degree'
C15002Be6='Bachelor''s degree or higher'
C15002Be7='Female:'
C15002Be8='Less than high school diploma'
C15002Be9='High school graduate (includes equivalency)'
C15002Be10='Some college or associate''s degree'
C15002Be11='Bachelor''s degree or higher'

/*SEX BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 25 YEARS AND OVER (AMERICAN INDIAN AND ALASKA NATIVE ALONE) */
/*Universe: American Indian And Alaska Native Alone Population 25 Years And Over */

C15002Ce1='Total:'
C15002Ce2='Male:'
C15002Ce3='Less than high school diploma'
C15002Ce4='High school graduate (includes equivalency)'
C15002Ce5='Some college or associate''s degree'
C15002Ce6='Bachelor''s degree or higher'
C15002Ce7='Female:'
C15002Ce8='Less than high school diploma'
C15002Ce9='High school graduate (includes equivalency)'
C15002Ce10='Some college or associate''s degree'
C15002Ce11='Bachelor''s degree or higher'

/*SEX BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 25 YEARS AND OVER (ASIAN ALONE) */
/*Universe: Asian Alone Population 25 Years And Over */

C15002De1='Total:'
C15002De2='Male:'
C15002De3='Less than high school diploma'
C15002De4='High school graduate (includes equivalency)'
C15002De5='Some college or associate''s degree'
C15002De6='Bachelor''s degree or higher'
C15002De7='Female:'
C15002De8='Less than high school diploma'
C15002De9='High school graduate (includes equivalency)'
C15002De10='Some college or associate''s degree'
C15002De11='Bachelor''s degree or higher'

/*SEX BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 25 YEARS AND OVER (NATIVE

HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE) */
/*Universe: Native Hawaiian And Other Pacific Islander Alone Population 25 Years And Over */

C15002Ee1='Total:'
C15002Ee2='Male:'
C15002Ee3='Less than high school diploma'
C15002Ee4='High school graduate (includes equivalency)'
C15002Ee5='Some college or associate"s degree'
C15002Ee6='Bachelor"s degree or higher'
C15002Ee7='Female:'
C15002Ee8='Less than high school diploma'
C15002Ee9='High school graduate (includes equivalency)'
C15002Ee10='Some college or associate"s degree'
C15002Ee11='Bachelor"s degree or higher'

/*SEX BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 25 YEARS AND OVER (SOME OTHER RACE ALONE) */
/*Universe: Some Other Race Alone Population 25 Years And Over */

C15002Fe1='Total:'
C15002Fe2='Male:'
C15002Fe3='Less than high school diploma'
C15002Fe4='High school graduate (includes equivalency)'
C15002Fe5='Some college or associate"s degree'
C15002Fe6='Bachelor"s degree or higher'
C15002Fe7='Female:'
C15002Fe8='Less than high school diploma'
C15002Fe9='High school graduate (includes equivalency)'
C15002Fe10='Some college or associate"s degree'
C15002Fe11='Bachelor"s degree or higher'

/*SEX BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 25 YEARS AND OVER (TWO OR MORE RACES) */
/*Universe: Two Or More Races Population 25 Years And Over */

C15002Ge1='Total:'
C15002Ge2='Male:'
C15002Ge3='Less than high school diploma'
C15002Ge4='High school graduate (includes equivalency)'
C15002Ge5='Some college or associate"s degree'
C15002Ge6='Bachelor"s degree or higher'
C15002Ge7='Female:'
C15002Ge8='Less than high school diploma'
C15002Ge9='High school graduate (includes equivalency)'
C15002Ge10='Some college or associate"s degree'
C15002Ge11='Bachelor"s degree or higher'

/*SEX BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 25 YEARS AND OVER (WHITE ALONE, NOT HISPANIC OR LATINO) */
/*Universe: White Alone, Not Hispanic Or Latino Population 25 Years And Over */

C15002He1='Total:'
C15002He2='Male:'
C15002He3='Less than high school diploma'

C15002He4='High school graduate (includes equivalency)'
C15002He5='Some college or associate''s degree'
C15002He6='Bachelor''s degree or higher'
C15002He7='Female:'
C15002He8='Less than high school diploma'
C15002He9='High school graduate (includes equivalency)'
C15002He10='Some college or associate''s degree'
C15002He11='Bachelor''s degree or higher'

/*SEX BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 25 YEARS AND OVER (HISPANIC OR LATINO) */
/*Universe: Hispanic Or Latino Population 25 Years And Over */

C15002Ie1='Total:'
C15002Ie2='Male:'
C15002Ie3='Less than high school diploma'
C15002Ie4='High school graduate (includes equivalency)'
C15002Ie5='Some college or associate''s degree'
C15002Ie6='Bachelor''s degree or higher'
C15002Ie7='Female:'
C15002Ie8='Less than high school diploma'
C15002Ie9='High school graduate (includes equivalency)'
C15002Ie10='Some college or associate''s degree'
C15002Ie11='Bachelor''s degree or higher'
;

INPUT

FILEID $
FILETYPE $
STUSAB $
CHARITER $
SEQUENCE $
LOGRECNO $

B15001e1
B15001e2
B15001e3
B15001e4
B15001e5
B15001e6
B15001e7
B15001e8
B15001e9
B15001e10
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B15001e17
B15001e18

B15001e19
B15001e20
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B15001e22
B15001e23
B15001e24
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B15001e27
B15001e28
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B15001e30
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B15001e65
B15001e66
B15001e67
B15001e68
B15001e69
B15001e70
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B15001e73
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B15001e76
B15001e77
B15001e78
B15001e79
B15001e80
B15001e81
B15001e82
B15001e83

B15002e1
B15002e2
B15002e3
B15002e4
B15002e5
B15002e6
B15002e7
B15002e8
B15002e9
B15002e10
B15002e11
B15002e12
B15002e13
B15002e14
B15002e15
B15002e16
B15002e17
B15002e18
B15002e19
B15002e20
B15002e21
B15002e22
B15002e23
B15002e24
B15002e25
B15002e26
B15002e27
B15002e28
B15002e29
B15002e30
B15002e31
B15002e32
B15002e33
B15002e34
B15002e35

B15003e1
B15003e2
B15003e3
B15003e4
B15003e5
B15003e6

B15003e7
B15003e8
B15003e9
B15003e10
B15003e11
B15003e12
B15003e13
B15003e14
B15003e15
B15003e16
B15003e17
B15003e18
B15003e19
B15003e20
B15003e21
B15003e22
B15003e23
B15003e24
B15003e25

C15002Ae1
C15002Ae2
C15002Ae3
C15002Ae4
C15002Ae5
C15002Ae6
C15002Ae7
C15002Ae8
C15002Ae9
C15002Ae10
C15002Ae11

C15002Be1
C15002Be2
C15002Be3
C15002Be4
C15002Be5
C15002Be6
C15002Be7
C15002Be8
C15002Be9
C15002Be10
C15002Be11

C15002Ce1
C15002Ce2
C15002Ce3
C15002Ce4
C15002Ce5
C15002Ce6
C15002Ce7
C15002Ce8
C15002Ce9
C15002Ce10

C15002Ce11

C15002De1
C15002De2
C15002De3
C15002De4
C15002De5
C15002De6
C15002De7
C15002De8
C15002De9
C15002De10
C15002De11

C15002Ee1
C15002Ee2
C15002Ee3
C15002Ee4
C15002Ee5
C15002Ee6
C15002Ee7
C15002Ee8
C15002Ee9
C15002Ee10
C15002Ee11

C15002Fe1
C15002Fe2
C15002Fe3
C15002Fe4
C15002Fe5
C15002Fe6
C15002Fe7
C15002Fe8
C15002Fe9
C15002Fe10
C15002Fe11

C15002Ge1
C15002Ge2
C15002Ge3
C15002Ge4
C15002Ge5
C15002Ge6
C15002Ge7
C15002Ge8
C15002Ge9
C15002Ge10
C15002Ge11

C15002He1
C15002He2
C15002He3
C15002He4

```
C15002He5
C15002He6
C15002He7
C15002He8
C15002He9
C15002He10
C15002He11

C15002Ie1
C15002Ie2
C15002Ie3
C15002Ie4
C15002Ie5
C15002Ie6
C15002Ie7
C15002Ie8
C15002Ie9
C15002Ie10
C15002Ie11
;
RUN;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: Program (4)   */
%LET SYSLAST=WORK.SFE0043OK;
%LET _CLIENTTASKLABEL='Program (4)';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='';
%LET _SASPROGRAMFILEHOST='';

GOPTIONS ACCESSIBLE;
data work.sfe0043ok_final;
set WORK.SFE0043OK (drop=b15001e2 b15001e3 b15001e11 b15001e19 b15001e27 b15001e35 b15001e43
b15001e44 b15001e52 b15001e60 b15001e68 b15001e76);
array vars(*) B15001e4-b15001e83;
array lshsvars(*) b15001e4 b15001e5 b15001e12 b15001e13 b15001e20 b15001e21 b15001e28 b15001e29 b15001e36
b15001e37
                    b15001e45 b15001e46 b15001e53 b15001e54 b15001e61 b15001e62 b15001e69 b15001e70
b15001e77 b15001e78;
do i = 1 to dim(vars);
```

```
  total = sum(vars{i},total);
  end;
do j=1 to dim(lshsvars);
  lesshs_sum = sum(vars{j}, lesshs_sum);
  end;
hsplus = total - lesshs_sum;
percent = hsplus/total;
format percent percent10.1;
keep fileid filetype stusab chariter sequence logrecno total lesshs_sum hsplus percent;
  run;

GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: eok_0058   */
%LET _CLIENTTASKLABEL='eok_0058';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\eok_0058.sas';
%LET _SASPROGRAMFILEHOST='SSB6RZ3N72';

GOPTIONS ACCESSIBLE;
TITLE "e20165ok0058000";
DATA work.SFe0058ok;

LENGTH FILEID   $6
      FILETYPE $6
      STUSAB   $2
      CHARITER $3
      SEQUENCE $4
      LOGRECNO $7;

INFILE 'C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS Global
Forum\Health Paper\Census Data\e20165ok0058000.txt' DSD TRUNCOVER DELIMITER =',' LRECL=3000;

LABEL  FILEID  ='File Identification'
      FILETYPE='File Type'
      STUSAB  ='State/U.S.-Abbreviation (USPS)'
          CHARITER='Character Iteration'
          SEQUENCE='Sequence Number'
          LOGRECNO='Logical Record Number'
```

/*SEX BY AGE BY AMBULATORY DIFFICULTY */
/*Universe: Civilian Noninstitutionalized Population 5 Years And Over */

B18105e1='Total:'
B18105e2='Male:'
B18105e3='5 to 17 years:'
B18105e4='With an ambulatory difficulty'
B18105e5='No ambulatory difficulty'
B18105e6='18 to 34 years:'
B18105e7='With an ambulatory difficulty'
B18105e8='No ambulatory difficulty'
B18105e9='35 to 64 years:'
B18105e10='With an ambulatory difficulty'
B18105e11='No ambulatory difficulty'
B18105e12='65 to 74 years:'
B18105e13='With an ambulatory difficulty'
B18105e14='No ambulatory difficulty'
B18105e15='75 years and over:'
B18105e16='With an ambulatory difficulty'
B18105e17='No ambulatory difficulty'
B18105e18='Female:'
B18105e19='5 to 17 years:'
B18105e20='With an ambulatory difficulty'
B18105e21='No ambulatory difficulty'
B18105e22='18 to 34 years:'
B18105e23='With an ambulatory difficulty'
B18105e24='No ambulatory difficulty'
B18105e25='35 to 64 years:'
B18105e26='With an ambulatory difficulty'
B18105e27='No ambulatory difficulty'
B18105e28='65 to 74 years:'
B18105e29='With an ambulatory difficulty'
B18105e30='No ambulatory difficulty'
B18105e31='75 years and over:'
B18105e32='With an ambulatory difficulty'
B18105e33='No ambulatory difficulty'

/*SEX BY AGE BY SELF-CARE DIFFICULTY */
/*Universe: Civilian Noninstitutionalized Population 5 Years And Over */

B18106e1='Total:'
B18106e2='Male:'
B18106e3='5 to 17 years:'
B18106e4='With a self-care difficulty'
B18106e5='No self-care difficulty'
B18106e6='18 to 34 years:'
B18106e7='With a self-care difficulty'
B18106e8='No self-care difficulty'
B18106e9='35 to 64 years:'
B18106e10='With a self-care difficulty'
B18106e11='No self-care difficulty'
B18106e12='65 to 74 years:'
B18106e13='With a self-care difficulty'
B18106e14='No self-care difficulty'

B18106e15='75 years and over:'
B18106e16='With a self-care difficulty'
B18106e17='No self-care difficulty'
B18106e18='Female:'
B18106e19='5 to 17 years:'
B18106e20='With a self-care difficulty'
B18106e21='No self-care difficulty'
B18106e22='18 to 34 years:'
B18106e23='With a self-care difficulty'
B18106e24='No self-care difficulty'
B18106e25='35 to 64 years:'
B18106e26='With a self-care difficulty'
B18106e27='No self-care difficulty'
B18106e28='65 to 74 years:'
B18106e29='With a self-care difficulty'
B18106e30='No self-care difficulty'
B18106e31='75 years and over:'
B18106e32='With a self-care difficulty'
B18106e33='No self-care difficulty'

/*SEX BY AGE BY INDEPENDENT LIVING DIFFICULTY */
/*Universe: Civilian Noninstitutionalized Population 18 Years And Over */

B18107e1='Total:'
B18107e2='Male:'
B18107e3='18 to 34 years:'
B18107e4='With an independent living difficulty'
B18107e5='No independent living difficulty'
B18107e6='35 to 64 years:'
B18107e7='With an independent living difficulty'
B18107e8='No independent living difficulty'
B18107e9='65 to 74 years:'
B18107e10='With an independent living difficulty'
B18107e11='No independent living difficulty'
B18107e12='75 years and over:'
B18107e13='With an independent living difficulty'
B18107e14='No independent living difficulty'
B18107e15='Female:'
B18107e16='18 to 34 years:'
B18107e17='With an independent living difficulty'
B18107e18='No independent living difficulty'
B18107e19='35 to 64 years:'
B18107e20='With an independent living difficulty'
B18107e21='No independent living difficulty'
B18107e22='65 to 74 years:'
B18107e23='With an independent living difficulty'
B18107e24='No independent living difficulty'
B18107e25='75 years and over:'
B18107e26='With an independent living difficulty'
B18107e27='No independent living difficulty'

/*AGE BY DISABILITY STATUS BY HEALTH INSURANCE COVERAGE STATUS */
/*Universe: Civilian Noninstitutionalized Population */

B18135e1='Total:'
B18135e2='Under 18 years:'
B18135e3='With a disability:'
B18135e4='With health insurance coverage:'
B18135e5='With private health insurance coverage'
B18135e6='With public health coverage'
B18135e7='No health insurance coverage'
B18135e8='No disability:'
B18135e9='With health insurance coverage:'
B18135e10='With private health insurance coverage'
B18135e11='With public health coverage'
B18135e12='No health insurance coverage'
B18135e13='18 to 64 years:'
B18135e14='With a disability:'
B18135e15='With health insurance coverage:'
B18135e16='With private health insurance coverage'
B18135e17='With public health coverage'
B18135e18='No health insurance coverage'
B18135e19='No disability:'
B18135e20='With health insurance coverage:'
B18135e21='With private health insurance coverage'
B18135e22='With public health coverage'
B18135e23='No health insurance coverage'
B18135e24='65 years and over:'
B18135e25='With a disability:'
B18135e26='With health insurance coverage:'
B18135e27='With private health insurance coverage'
B18135e28='With public health coverage'
B18135e29='No health insurance coverage'
B18135e30='No disability:'
B18135e31='With health insurance coverage:'
B18135e32='With private health insurance coverage'
B18135e33='With public health coverage'
B18135e34='No health insurance coverage'

/*MEDIAN EARNINGS IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) BY DISABILITY STATUS BY SEX FOR THE CIVILIAN NONINSTITUTIONALIZED POPULATION 16 YEARS AND OVER WITH EARNINGS */
/*Universe: Civilian Noninstitutionalized Population 16 Years And Over With Earnings In The Past 12 Months */

B18140e1='Total:'
B18140e2='With a disability:'
B18140e3='Male'
B18140e4='Female'
B18140e5='No disability:'
B18140e6='Male'
B18140e7='Female'

/*AGE BY NUMBER OF DISABILITIES */
/*Universe: Civilian Noninstitutionalized Population */

C18108e1='Total:'
C18108e2='Under 18 years:'
C18108e3='With one type of disability'

C18108e4='With two or more types of disability'
C18108e5='No disability'
C18108e6='18 to 64 years:'
C18108e7='With one type of disability'
C18108e8='With two or more types of disability'
C18108e9='No disability'
C18108e10='65 years and over:'
C18108e11='With one type of disability'
C18108e12='With two or more types of disability'
C18108e13='No disability'

/*EMPLOYMENT STATUS BY DISABILITY STATUS */
/*Universe: Civilian Noninstitutionalized Population 18 To 64 Years */

C18120e1='Total:'
C18120e2='In the labor force:'
C18120e3='Employed:'
C18120e4='With a disability'
C18120e5='No disability'
C18120e6='Unemployed:'
C18120e7='With a disability'
C18120e8='No disability'
C18120e9='Not in labor force:'
C18120e10='With a disability'
C18120e11='No disability'

/*WORK EXPERIENCE BY DISABILITY STATUS */
/*Universe: Civilian Noninstitutionalized Population 18 To 64 Years */

C18121e1='Total:'
C18121e2='Worked full-time, year round:'
C18121e3='With a disability'
C18121e4='No disability'
C18121e5='Worked less than full-time, year round:'
C18121e6='With a disability'
C18121e7='No disability'
C18121e8='Did not work:'
C18121e9='With a disability'
C18121e10='No disability'

/*AGE BY DISABILITY STATUS BY POVERTY STATUS */
/*Universe: Civilian Noninstitutionalized Population For Whom Poverty Status Is Determined */

C18130e1='Total:'
C18130e2='Under 18 years:'
C18130e3='With a disability:'
C18130e4='Income in the past 12-months below poverty level'
C18130e5='Income in the past 12-months at or above poverty level'
C18130e6='No disability:'
C18130e7='Income in the past 12-months below poverty level'
C18130e8='Income in the past 12-months at or above poverty level'
C18130e9='18 to 64 years:'
C18130e10='With a disability:'
C18130e11='Income in the past 12-months below poverty level'

C18130e12='Income in the past 12-months at or above poverty level'
C18130e13='No disability:'
C18130e14='Income in the past 12-months below poverty level'
C18130e15='Income in the past 12-months at or above poverty level'
C18130e16='65 years and over:'
C18130e17='With a disability:'
C18130e18='Income in the past 12-months below poverty level'
C18130e19='Income in the past 12-months at or above poverty level'
C18130e20='No disability:'
C18130e21='Income in the past 12-months below poverty level'
C18130e22='Income in the past 12-months at or above poverty level'

/*RATIO OF INCOME TO POVERTY LEVEL IN THE PAST 12 MONTHS BY DISABILITY STATUS */
/*Universe: Civilian Noninstitutionalized Population For Whom Poverty Status Is Determined */

C18131e1='Total:'
C18131e2='Under .50:'
C18131e3='With a disability'
C18131e4='No disability'
C18131e5='.50 to .99:'
C18131e6='With a disability'
C18131e7='No disability'
C18131e8='1.00 to 1.49:'
C18131e9='With a disability'
C18131e10='No disability'
C18131e11='1.50 to 1.99:'
C18131e12='With a disability'
C18131e13='No disability'
C18131e14='2.00 and over:'
C18131e15='With a disability'
C18131e16='No disability'
;

INPUT

FILEID $
FILETYPE $
STUSAB $
CHARITER $
SEQUENCE $
LOGRECNO $

B18105e1
B18105e2
B18105e3
B18105e4
B18105e5
B18105e6
B18105e7
B18105e8
B18105e9
B18105e10
B18105e11

B18105e12
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B18105e14
B18105e15
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B18105e33

B18106e1
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B18106e8
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B18106e24
B18106e25
B18106e26
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B18106e28
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B18106e31

B18106e32
B18106e33

B18107e1
B18107e2
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B18107e8
B18107e9
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B18107e26
B18107e27

B18135e1
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B18135e3
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B18140e1
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B18140e7

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C18131e1
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C18131e8
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C18131e15
C18131e16
;
RUN;

GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;

```
/*   START OF NODE: eok_0059   */
%LET _CLIENTTASKLABEL='eok_0059';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\eok_0059.sas';
%LET _SASPROGRAMFILEHOST='SSB6RZ3N72';

GOPTIONS ACCESSIBLE;
TITLE "e20165ok0059000";
DATA work.SFe0059ok;

LENGTH FILEID   $6
      FILETYPE $6
      STUSAB   $2
      CHARITER $3
      SEQUENCE $4
      LOGRECNO $7;

INFILE 'C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics Program\SAS Global
Forum\Health Paper\Census Data\e20165ok0059000.txt' DSD TRUNCOVER DELIMITER =',' LRECL=3000;

LABEL  FILEID  ='File Identification'
      FILETYPE='File Type'
      STUSAB  ='State/U.S.-Abbreviation (USPS)'
          CHARITER='Character Iteration'
          SEQUENCE='Sequence Number'
          LOGRECNO='Logical Record Number'


/*HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) */
/*Universe:  Households */

B19001e1='Total:'
B19001e2='Less than $10,000'
B19001e3='$10,000 to $14,999'
B19001e4='$15,000 to $19,999'
B19001e5='$20,000 to $24,999'
B19001e6='$25,000 to $29,999'
B19001e7='$30,000 to $34,999'
B19001e8='$35,000 to $39,999'
B19001e9='$40,000 to $44,999'
B19001e10='$45,000 to $49,999'
B19001e11='$50,000 to $59,999'
B19001e12='$60,000 to $74,999'
B19001e13='$75,000 to $99,999'
B19001e14='$100,000 to $124,999'
B19001e15='$125,000 to $149,999'
B19001e16='$150,000 to $199,999'
```

B19001e17='$200,000 or more'

/*HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (WHITE ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is White Alone */

B19001Ae1='Total:'
B19001Ae2='Less than $10,000'
B19001Ae3='$10,000 to $14,999'
B19001Ae4='$15,000 to $19,999'
B19001Ae5='$20,000 to $24,999'
B19001Ae6='$25,000 to $29,999'
B19001Ae7='$30,000 to $34,999'
B19001Ae8='$35,000 to $39,999'
B19001Ae9='$40,000 to $44,999'
B19001Ae10='$45,000 to $49,999'
B19001Ae11='$50,000 to $59,999'
B19001Ae12='$60,000 to $74,999'
B19001Ae13='$75,000 to $99,999'
B19001Ae14='$100,000 to $124,999'
B19001Ae15='$125,000 to $149,999'
B19001Ae16='$150,000 to $199,999'
B19001Ae17='$200,000 or more'

/*HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (BLACK OR AFRICAN AMERICAN ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Black Or African American Alone */

B19001Be1='Total:'
B19001Be2='Less than $10,000'
B19001Be3='$10,000 to $14,999'
B19001Be4='$15,000 to $19,999'
B19001Be5='$20,000 to $24,999'
B19001Be6='$25,000 to $29,999'
B19001Be7='$30,000 to $34,999'
B19001Be8='$35,000 to $39,999'
B19001Be9='$40,000 to $44,999'
B19001Be10='$45,000 to $49,999'
B19001Be11='$50,000 to $59,999'
B19001Be12='$60,000 to $74,999'
B19001Be13='$75,000 to $99,999'
B19001Be14='$100,000 to $124,999'
B19001Be15='$125,000 to $149,999'
B19001Be16='$150,000 to $199,999'
B19001Be17='$200,000 or more'

/*HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (AMERICAN INDIAN AND ALASKA NATIVE ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is American Indian And Alaska Native Alone */

B19001Ce1='Total:'
B19001Ce2='Less than $10,000'
B19001Ce3='$10,000 to $14,999'
B19001Ce4='$15,000 to $19,999'

B19001Ce5='$20,000 to $24,999'
B19001Ce6='$25,000 to $29,999'
B19001Ce7='$30,000 to $34,999'
B19001Ce8='$35,000 to $39,999'
B19001Ce9='$40,000 to $44,999'
B19001Ce10='$45,000 to $49,999'
B19001Ce11='$50,000 to $59,999'
B19001Ce12='$60,000 to $74,999'
B19001Ce13='$75,000 to $99,999'
B19001Ce14='$100,000 to $124,999'
B19001Ce15='$125,000 to $149,999'
B19001Ce16='$150,000 to $199,999'
B19001Ce17='$200,000 or more'

/*HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (ASIAN ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Asian Alone */

B19001De1='Total:'
B19001De2='Less than $10,000'
B19001De3='$10,000 to $14,999'
B19001De4='$15,000 to $19,999'
B19001De5='$20,000 to $24,999'
B19001De6='$25,000 to $29,999'
B19001De7='$30,000 to $34,999'
B19001De8='$35,000 to $39,999'
B19001De9='$40,000 to $44,999'
B19001De10='$45,000 to $49,999'
B19001De11='$50,000 to $59,999'
B19001De12='$60,000 to $74,999'
B19001De13='$75,000 to $99,999'
B19001De14='$100,000 to $124,999'
B19001De15='$125,000 to $149,999'
B19001De16='$150,000 to $199,999'
B19001De17='$200,000 or more'

/*HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Native Hawaiian And Other Pacific Islander Alone */

B19001Ee1='Total:'
B19001Ee2='Less than $10,000'
B19001Ee3='$10,000 to $14,999'
B19001Ee4='$15,000 to $19,999'
B19001Ee5='$20,000 to $24,999'
B19001Ee6='$25,000 to $29,999'
B19001Ee7='$30,000 to $34,999'
B19001Ee8='$35,000 to $39,999'
B19001Ee9='$40,000 to $44,999'
B19001Ee10='$45,000 to $49,999'
B19001Ee11='$50,000 to $59,999'
B19001Ee12='$60,000 to $74,999'
B19001Ee13='$75,000 to $99,999'
B19001Ee14='$100,000 to $124,999'

B19001Ee15='$125,000 to $149,999'
B19001Ee16='$150,000 to $199,999'
B19001Ee17='$200,000 or more'

/*HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (SOME OTHER RACE ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Some Other Race Alone */

B19001Fe1='Total:'
B19001Fe2='Less than $10,000'
B19001Fe3='$10,000 to $14,999'
B19001Fe4='$15,000 to $19,999'
B19001Fe5='$20,000 to $24,999'
B19001Fe6='$25,000 to $29,999'
B19001Fe7='$30,000 to $34,999'
B19001Fe8='$35,000 to $39,999'
B19001Fe9='$40,000 to $44,999'
B19001Fe10='$45,000 to $49,999'
B19001Fe11='$50,000 to $59,999'
B19001Fe12='$60,000 to $74,999'
B19001Fe13='$75,000 to $99,999'
B19001Fe14='$100,000 to $124,999'
B19001Fe15='$125,000 to $149,999'
B19001Fe16='$150,000 to $199,999'
B19001Fe17='$200,000 or more'

/*HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (TWO OR MORE RACES HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Two Or More Races */

B19001Ge1='Total:'
B19001Ge2='Less than $10,000'
B19001Ge3='$10,000 to $14,999'
B19001Ge4='$15,000 to $19,999'
B19001Ge5='$20,000 to $24,999'
B19001Ge6='$25,000 to $29,999'
B19001Ge7='$30,000 to $34,999'
B19001Ge8='$35,000 to $39,999'
B19001Ge9='$40,000 to $44,999'
B19001Ge10='$45,000 to $49,999'
B19001Ge11='$50,000 to $59,999'
B19001Ge12='$60,000 to $74,999'
B19001Ge13='$75,000 to $99,999'
B19001Ge14='$100,000 to $124,999'
B19001Ge15='$125,000 to $149,999'
B19001Ge16='$150,000 to $199,999'
B19001Ge17='$200,000 or more'

/*HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (WHITE ALONE, NOT HISPANIC OR LATINO HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is White Alone, Not Hispanic Or Latino */

B19001He1='Total:'
B19001He2='Less than $10,000'

B19001He3='$10,000 to $14,999'
B19001He4='$15,000 to $19,999'
B19001He5='$20,000 to $24,999'
B19001He6='$25,000 to $29,999'
B19001He7='$30,000 to $34,999'
B19001He8='$35,000 to $39,999'
B19001He9='$40,000 to $44,999'
B19001He10='$45,000 to $49,999'
B19001He11='$50,000 to $59,999'
B19001He12='$60,000 to $74,999'
B19001He13='$75,000 to $99,999'
B19001He14='$100,000 to $124,999'
B19001He15='$125,000 to $149,999'
B19001He16='$150,000 to $199,999'
B19001He17='$200,000 or more'

/*HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (HISPANIC OR LATINO HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Hispanic Or Latino */

B19001Ie1='Total:'
B19001Ie2='Less than $10,000'
B19001Ie3='$10,000 to $14,999'
B19001Ie4='$15,000 to $19,999'
B19001Ie5='$20,000 to $24,999'
B19001Ie6='$25,000 to $29,999'
B19001Ie7='$30,000 to $34,999'
B19001Ie8='$35,000 to $39,999'
B19001Ie9='$40,000 to $44,999'
B19001Ie10='$45,000 to $49,999'
B19001Ie11='$50,000 to $59,999'
B19001Ie12='$60,000 to $74,999'
B19001Ie13='$75,000 to $99,999'
B19001Ie14='$100,000 to $124,999'
B19001Ie15='$125,000 to $149,999'
B19001Ie16='$150,000 to $199,999'
B19001Ie17='$200,000 or more'

/*MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) */
/*Universe: Households */

B19013e1='Median household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (WHITE ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is White Alone */

B19013Ae1='Median household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (BLACK OR AFRICAN AMERICAN ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Black Or African American Alone */

B19013Be1='Median household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (AMERICAN INDIAN AND ALASKA NATIVE ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is American Indian And Alaska Native Alone */

B19013Ce1='Median household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (ASIAN ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Asian Alone */

B19013De1='Median household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Native Hawaiian And Other Pacific Islander Alone */

B19013Ee1='Median household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (SOME OTHER RACE ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Some Other Race Alone */

B19013Fe1='Median household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (TWO OR MORE RACES HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Two Or More Races */

B19013Ge1='Median household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (WHITE ALONE, NOT HISPANIC OR LATINO HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is White Alone, Not Hispanic Or Latino */

B19013He1='Median household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (HISPANIC OR LATINO HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Hispanic Or Latino */

B19013Ie1='Median household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) BY HOUSEHOLD SIZE */
/*Universe: Households */

B19019e1='Total:'
B19019e2='1-person households'
B19019e3='2-person households'
B19019e4='3-person households'
B19019e5='4-person households'
B19019e6='5-person households'

B19019e7='6-person households'
B19019e8='7-or-more-person households'

/*AGGREGATE HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) */
/*Universe: Households */

B19025e1='Aggregate household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*AGGREGATE HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (WHITE ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is White Alone */

B19025Ae1='Aggregate household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*AGGREGATE HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (BLACK OR AFRICAN AMERICAN ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Black Or African American Alone */

B19025Be1='Aggregate household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*AGGREGATE HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (AMERICAN INDIAN AND ALASKA NATIVE ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is American Indian And Alaska Native Alone */

B19025Ce1='Aggregate household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*AGGREGATE HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (ASIAN ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Asian Alone */

B19025De1='Aggregate household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*AGGREGATE HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Native Hawaiian And Other Pacific Islander Alone */

B19025Ee1='Aggregate household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*AGGREGATE HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (SOME OTHER RACE ALONE HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Some Other Race Alone */

B19025Fe1='Aggregate household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*AGGREGATE HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (TWO OR MORE RACES HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Two Or More Races */

B19025Ge1='Aggregate household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*AGGREGATE HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (WHITE ALONE, NOT HISPANIC OR LATINO HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is White Alone, Not Hispanic Or Latino */

B19025He1='Aggregate household income in the past 12 months (in 2016 inflation-adjusted dollars)'

/*AGGREGATE HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS) (HISPANIC OR LATINO HOUSEHOLDER) */
/*Universe: Households With A Householder Who Is Hispanic Or Latino */

B19025Ie1='Aggregate household income in the past 12 months (in 2016 inflation-adjusted dollars)'
;

INPUT

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FILETYPE $
STUSAB $
CHARITER $
SEQUENCE $
LOGRECNO $

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B19001Ie13
B19001Ie14
B19001Ie15
B19001Ie16
B19001Ie17

B19013e1

B19013Ae1

B19013Be1

B19013Ce1

B19013De1

B19013Ee1

B19013Fe1

B19013Ge1

```
B19013He1

B19013Ie1

B19019e1
B19019e2
B19019e3
B19019e4
B19019e5
B19019e6
B19019e7
B19019e8

B19025e1

B19025Ae1

B19025Be1

B19025Ce1

B19025De1

B19025Ee1

B19025Fe1

B19025Ge1

B19025He1

B19025Ie1
;
RUN;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: Program (2)   */
%LET SYSLAST=WORK.SFE0059OK;
%LET _CLIENTTASKLABEL='Program (2)';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
```

```
%LET _SASPROGRAMFILE='';
%LET _SASPROGRAMFILEHOST='';

GOPTIONS ACCESSIBLE;
proc sql;
create table SASUSER.census as
select  aa.fips, aa.geoid, aa.name,aa.county,
            a.logrecno, a.b01003e1 as pop, b.b25001e1 as housingunits,
            c.b01001e2/c.b01001e1 format = percent10.1 as males_perc,
            c.b01001e26/c.b01001e1 format = percent10.1 as females_perc,
            a.b01002e1 as totmedage, a.b01002e2 as malemedage, a.b01002e3 as femalemedage,
            d.b02001e2/d.b02001e1 format = percent10.1 as white_perc,
            d.b02001e3/d.b02001e1 format = percent10.1 as black_perc,
            d.b02001e4/d.b02001e1 format = percent10.1 as amerind_perc,
            e.b03001e3/e.b03001e1 format = percent10.1 as hispanic,
            f.b05010e2/f.b05010e1 format = percent10.1 as childreninpovertyunder1,
            f.b05010e10/f.b05010e1 format = percent10.1 as childreninpoverty1_199,
            f.b05010e18/f.b05010e1 format = percent10.1 as childreninpoverty2over,
            g.b06012e2/g.b06012e1 format = percent10.1 as individualsinpovertyunder1,
            g.b06012e3/g.b06012e1 format = percent10.1 as individualsinpoverty1_149,
            g.b06012e4/g.b06012e1 format = percent10.1 as individualsinpoverty150over,
            h.b19013e1 as medianhhincome,
            i.c18120e6/i.c18120e2 format = percent10.1 as unemployment_laborforce,
            j.percent formate = percent10.1 as hsplusgrads_percent

      from work.okgeo2 as aa
            inner join work.SFe0003ok as a on aa.logrecno = a.logrecno
            inner join work.SFe0103ok as b on aa.logrecno = b.logrecno
            inner join work.sfe0002ok as c on aa.logrecno = c.logrecno
            inner join work.sfe0004ok as d on aa.logrecno = d.logrecno
            inner join work.sfe0005ok as e on aa.logrecno = e.logrecno
            inner join work.sfe0011ok as f on aa.logrecno = f.logrecno
            inner join work.sfe0015ok as g on aa.logrecno = g.logrecno
            inner join work.sfe0059ok as h on aa.logrecno = h.logrecno
            inner join work.sfe0058ok as i on aa.logrecno = i.logrecno
            inner join work.sfe0043ok_final as j on aa.logrecno = j.logrecno

            ;
            quit;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: Program (5)   */
%LET _CLIENTTASKLABEL='Program (5)';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
```

```
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';
%LET _SASPROGRAMFILE='';
%LET _SASPROGRAMFILEHOST='';

GOPTIONS ACCESSIBLE;
data work.YPLL75;
set SASUSER.YPLL75;
array var(*) accidents_YPLL -- whoopingcough_YPLL;
ypll = 0;
do i = 1 to dim(var);
  ypll+var{i};
  end;
run;

GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: Import Data (Regional Directors.xlsx[Sheet1])   */

GOPTIONS ACCESSIBLE;
/* ---------------------------------------------------------------------
   Code generated by a SAS task

   Generated on Monday, March 12, 2018 at 4:29:08 PM
   By task:     Import Data Wizard

   Source file: C:\Users\miriajm\OneDrive - Oklahoma State
   University\Business Analytics Program\SAS Global Forum\Health
   Paper\Regional Directors.xlsx
   Server:      Local File System

   Output data: WORK.Regional Directors
   Server:      Local
   --------------------------------------------------------------------- */

/* ---------------------------------------------------------------------
   This DATA step reads the data values from a temporary text file
   created by the Import Data wizard. The values within the temporary
   text file were extracted from the Excel source file.
   --------------------------------------------------------------------- */

DATA WORK.'Regional Directors'n;
    LENGTH
       County          $ 55
```

```
      Director        $ 24
      Address         $ 29
      City_ST_ZIP     $ 32
      Interim         $ 1 ;
   FORMAT
      County          $CHAR55.
      Director        $CHAR24.
      Address         $CHAR29.
      City_ST_ZIP     $CHAR32.
      Interim         $CHAR1. ;
   INFORMAT
      County          $CHAR55.
      Director        $CHAR24.
      Address         $CHAR29.
      City_ST_ZIP     $CHAR32.
      Interim         $CHAR1. ;
   INFILE 'C:\Users\miriajm\AppData\Local\Temp\SEG4340\Regional Directors-
022a641e3d434ebf8108994b932e7beb.txt'
      LRECL=84
      ENCODING="WLATIN1"
      TERMSTR=CRLF
      DLM='7F'x
      MISSOVER
      DSD ;
   INPUT
      County          : $CHAR55.
      Director        : $CHAR24.
      Address         : $CHAR29.
      City_ST_ZIP     : $CHAR32.
      Interim         : $CHAR1. ;
RUN;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;


/*   START OF NODE: Program (6)   */

GOPTIONS ACCESSIBLE;
PROC SQL;
CREATE TABLE WORK.DIRECTORS AS
SELECT COMPRESS(upcase(A.COUNTY)) AS COUNTY_OSDH, A.DIRECTOR, A.ADDRESS,A.CITY_ST_ZIP,
B.COUNTIES
  FROM WORK.'REGIONAL DIRECTORS'N AS A LEFT JOIN
    (SELECT DIRECTOR,COUNT(*) AS COUNTIES
          FROM WORK.'REGIONAL DIRECTORS'N
             GROUP BY DIRECTOR) AS B ON A.DIRECTOR = B.DIRECTOR
             ORDER BY DIRECTOR, COUNTY;
             QUIT;
```

```
GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: Program (3)   */

GOPTIONS ACCESSIBLE;
proc sql;
create table sasuser.healthprofile as
select a.*, b.*, c.*, d.*, (ypll/pop) as ypllrate, E.DIRECTOR, E.COUNTIES
  from sasuser.brfss_phocis as a
        left join sasuser.census as b on a.county = b.county
              left join sasuser.aadr as c on a.county = c.county
              left join sasuser.ypll75 as d on a.county = d.county
               LEFT JOIN WORK.DIRECTORS AS E ON A.COUNTY = E.COUNTY_OSDH;
              quit;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;
%LET _SASPROGRAMFILE=;
%LET _SASPROGRAMFILEHOST=;


/*   START OF NODE: Correlations   */

GOPTIONS ACCESSIBLE;
/* ---------------------------------------------------------------
   Code generated by SAS Task

   Generated on: Monday, March 12, 2018 at 9:51:56 PM
   By task: Correlations

   Input Data: Local:SASUSER.HEALTHPROFILE
   Server:  Local
   --------------------------------------------------------------- */
ODS GRAPHICS ON;

%_eg_conditional_dropds(WORK.SORTTempTableSorted);
/* ---------------------------------------------------------------
   Sort data set Local:SASUSER.HEALTHPROFILE
   --------------------------------------------------------------- */
```

```
PROC SQL;
	CREATE VIEW WORK.SORTTempTableSorted AS
		SELECT T.ACES_3plus, T.DentVst, T.Obese, T.Good_BetterHlth, T.Asthma, T.BingeDrink, T.COPD,
T.Diabetic, T.FluShot_65plus, T.HvyDrinker, T.HlthPlan, T.LTPA30d, T.MentHlth, T.PhysHlth, T.PoorHlth,
T.PersDoc, T.Pneumo_65plus, T.Smoker
	FROM SASUSER.HEALTHPROFILE as T
;
QUIT;
TITLE;
TITLE1 "Correlation Analysis";
FOOTNOTE;
FOOTNOTE1 "Generated by the SAS System (&_SASSERVERNAME, &SYSSCPL) on
%TRIM(%QSYSFUNC(DATE(), NLDATE20.)) at %TRIM(%SYSFUNC(TIME(), TIMEAMPM12.))";
PROC CORR DATA=WORK.SORTTempTableSorted
	PLOTS=(SCATTER MATRIX)
	ALPHA
	PEARSON
	VARDEF=DF
	;
	VAR ACES_3plus DentVst Obese Good_BetterHlth Asthma BingeDrink COPD Diabetic FluShot_65plus
HvyDrinker HlthPlan LTPA30d MentHlth PhysHlth PoorHlth PersDoc Pneumo_65plus Smoker;
RUN;

/* ---------------------------------------------------------------
   End of task code
   --------------------------------------------------------------- */
RUN; QUIT;
%_eg_conditional_dropds(WORK.SORTTempTableSorted);
TITLE; FOOTNOTE;
ODS GRAPHICS OFF;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;


/*   START OF NODE: Linear Regression   */
%LET _CLIENTTASKLABEL='Linear Regression';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';

GOPTIONS ACCESSIBLE;
/* ---------------------------------------------------------------
   Code generated by SAS Task

   Generated on: Monday, March 12, 2018 at 9:51:56 PM
```

```
   By task: Linear Regression

   Input Data: Local:SASUSER.HEALTHPROFILE
   Server:  Local
   ---------------------------------------------------------------------- */
ODS GRAPHICS ON;

%_eg_conditional_dropds(WORK.SORTTempTableSorted,
            WORK.TMP1TempTableForPlots);
/* ----------------------------------------------------------------------
   Determine the data set's type attribute (if one is defined)
   and prepare it for addition to the data set/view which is
   generated in the following step.
   ---------------------------------------------------------------------- */
DATA _NULL_;
      dsid = OPEN("SASUSER.HEALTHPROFILE", "I");
      dstype = ATTRC(DSID, "TYPE");
      IF TRIM(dstype) = " " THEN
            DO;
            CALL SYMPUT("_EG_DSTYPE_", "");
            CALL SYMPUT("_DSTYPE_VARS_", "");
            END;
      ELSE
            DO;
            CALL SYMPUT("_EG_DSTYPE_", "(TYPE=""" || TRIM(dstype) || """)");
            IF VARNUM(dsid, "_NAME_") NE 0 AND VARNUM(dsid, "_TYPE_") NE 0 THEN
                  CALL SYMPUT("_DSTYPE_VARS_", "_TYPE_ _NAME_");
            ELSE IF VARNUM(dsid, "_TYPE_") NE 0 THEN
                  CALL SYMPUT("_DSTYPE_VARS_", "_TYPE_");
            ELSE IF VARNUM(dsid, "_NAME_") NE 0 THEN
                  CALL SYMPUT("_DSTYPE_VARS_", "_NAME_");
            ELSE
                  CALL SYMPUT("_DSTYPE_VARS_", "");
            END;
      rc = CLOSE(dsid);
      STOP;
RUN;

/* ----------------------------------------------------------------------
   Data set SASUSER.HEALTHPROFILE does not need to be sorted.
   ---------------------------------------------------------------------- */
DATA WORK.SORTTempTableSorted &_EG_DSTYPE_ / VIEW=WORK.SORTTempTableSorted;
      SET SASUSER.HEALTHPROFILE(KEEP=PoorHlth ACES_3plus DentVst Obese Asthma BingeDrink COPD
Diabetic FluShot_65plus HvyDrinker HlthPlan LTPA30d PersDoc Pneumo_65plus Smoker CHDVisits_CY16
CHDClients_CY16 CHDServices_CY16
       males_perc females_perc totmedage malemedage femalemedage white_perc black_perc amerind_perc hispanic
childreninpovertyunder1 childreninpoverty1_199 childreninpoverty2over
       individualsinpovertyunder1 individualsinpoverty1_149 individualsinpoverty150over medianhhincome
unemployment_laborforce hsplusgrads_percent &_DSTYPE_VARS_);
RUN;
TITLE;
TITLE1 "Linear Regression Results";
FOOTNOTE;
FOOTNOTE1 "Generated by the SAS System (&_SASSERVERNAME, &SYSSCPL) on
```

```
%TRIM(%QSYSFUNC(DATE(), NLDATE20.)) at %TRIM(%SYSFUNC(TIME(), TIMEAMPM12.))";
PROC REG DATA=WORK.SORTTempTableSorted
             PLOTS(ONLY)=ALL
       ;
       Linear_Regression_Model: MODEL PoorHlth = ACES_3plus DentVst Obese Asthma BingeDrink COPD Diabetic
 FluShot_65plus HvyDrinker HlthPlan LTPA30d PersDoc Pneumo_65plus Smoker CHDVisits_CY16
CHDClients_CY16 CHDServices_CY16 males_perc females_perc totmedage malemedage femalemedage white_perc
black_perc amerind_perc hispanic childreninpovertyunder1 childreninpoverty1_199 childreninpoverty2over
individualsinpovertyunder1 individualsinpoverty1_149 individualsinpoverty150over medianhhincome
unemployment_laborforce hsplusgrads_percent
             /             SELECTION=STEPWISE
             SLE=0.15
             SLS=0.15
             INCLUDE=0
             STB
             VIF
       ;
RUN;
QUIT;

/* ---------------------------------------------------------------------
   End of task code
   --------------------------------------------------------------------- */
RUN; QUIT;
%_eg_conditional_dropds(WORK.SORTTempTableSorted,
             WORK.TMP1TempTableForPlots);
TITLE; FOOTNOTE;
ODS GRAPHICS OFF;


GOPTIONS NOACCESSIBLE;
%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;


/*   START OF NODE: Query Builder (5)   */
%LET _CLIENTTASKLABEL='Query Builder (5)';
%LET _CLIENTPROCESSFLOWNAME='Process Flow';
%LET _CLIENTPROJECTPATH='C:\Users\miriajm\OneDrive - Oklahoma State University\Business Analytics
Program\SAS Global Forum\Health Paper\HealthProfile2.egp';
%LET _CLIENTPROJECTPATHHOST='SSB6RZ3N72';
%LET _CLIENTPROJECTNAME='HealthProfile2.egp';

GOPTIONS ACCESSIBLE;
%_eg_conditional_dropds(SASUSER.HEALTH_PROFILE_Poor);

PROC SQL;
   CREATE TABLE SASUSER.HEALTH_PROFILE_Poor AS
   SELECT t1.COUNTY,
          t1.PoorHlth,
          t1.ACES_3plus,
```

```
        t1.DentVst,
        t1.COPD,
        t1.FluShot_65plus,
        t1.Pneumo_65plus,
        t1.totmedage,
        t1.unemployment_laborforce
    FROM SASUSER.HEALTHPROFILE t1;
QUIT;

GOPTIONS NOACCESSIBLE;


%LET _CLIENTTASKLABEL=;
%LET _CLIENTPROCESSFLOWNAME=;
%LET _CLIENTPROJECTPATH=;
%LET _CLIENTPROJECTPATHHOST=;
%LET _CLIENTPROJECTNAME=;

;*';*";*/;quit;run;
ODS _ALL_ CLOSE;
```