



# GIS Applications for Coordinated Chronic Disease Prevention & Management

Bambi Bevill *(Heart Disease & Stroke Prevention Program)*

Katharine vonRueden *(Obesity, Nutrition & Physical Activity Program)*

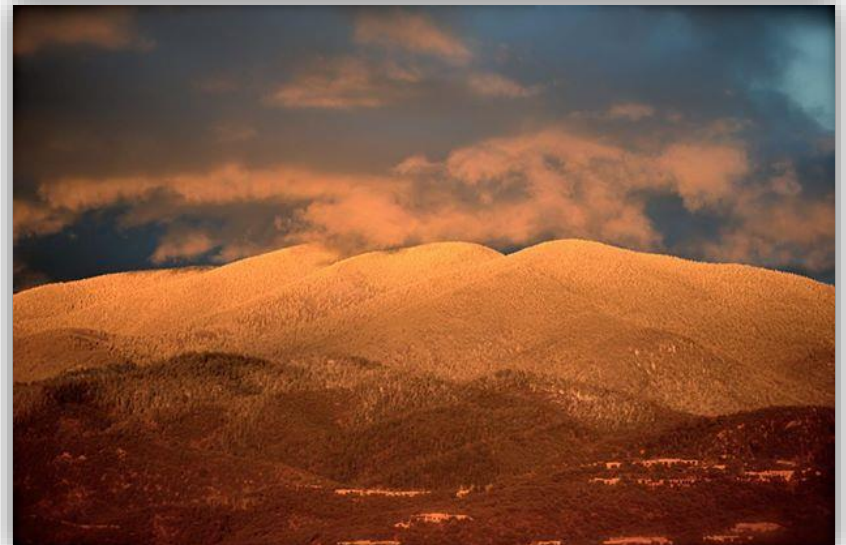
Chris Lucero *(Diabetes Prevention & Control Program)*

Bryan Patterson *(Emergency Medical Systems Bureau)*

ESRI Health GIS Conference

November 4<sup>th</sup>, 2014 / Colorado Springs, Colorado

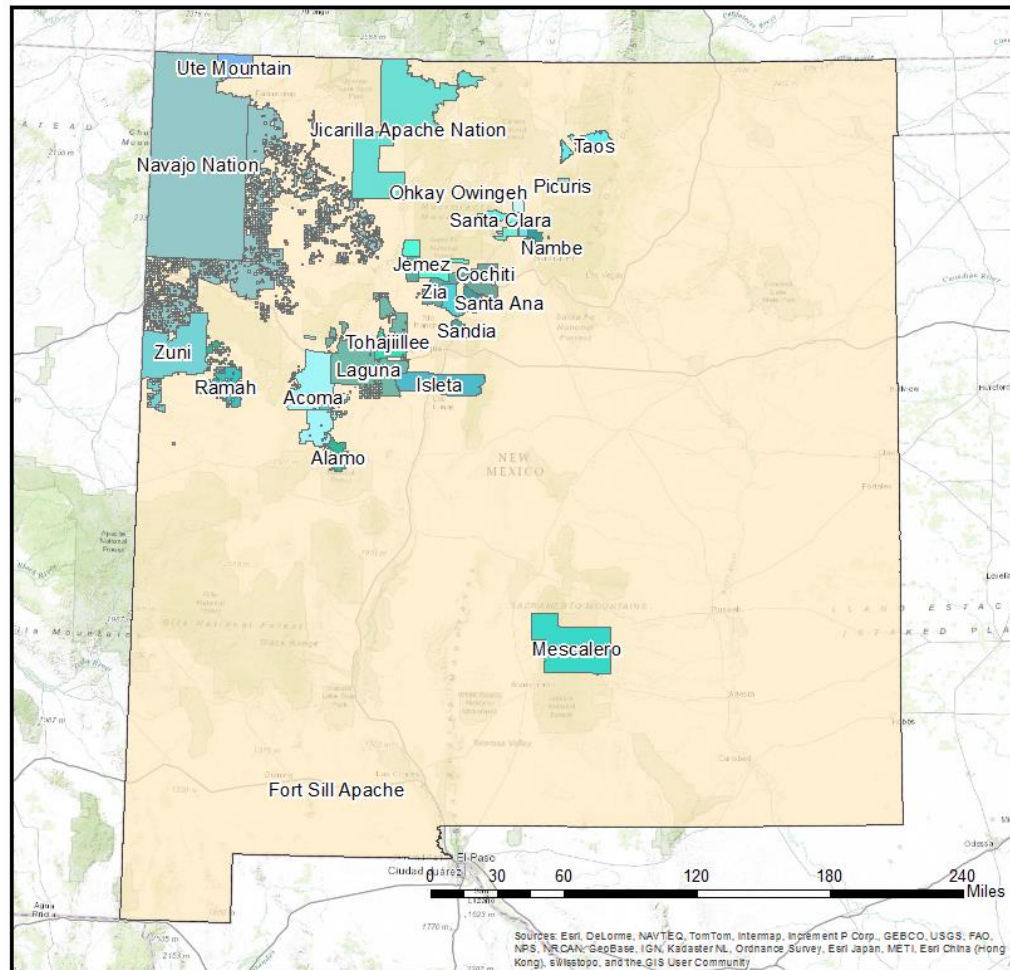
# "The Land of Enchantment"



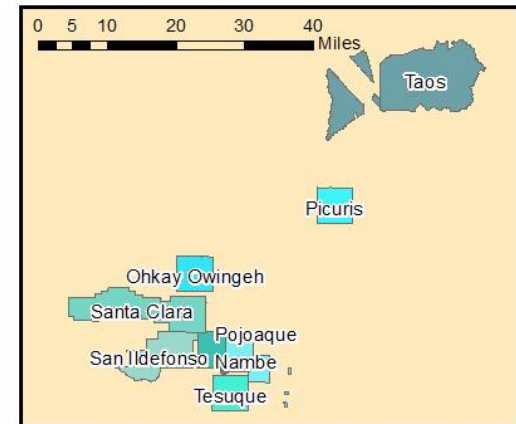


# New Mexico: Geographic Context

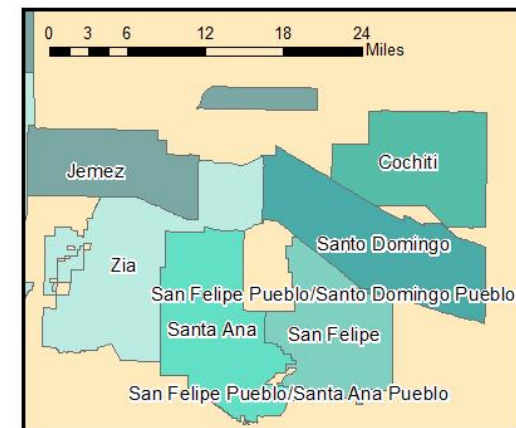
## Tribal Areas Within New Mexico, 2014



### Northern New Mexico Pueblos



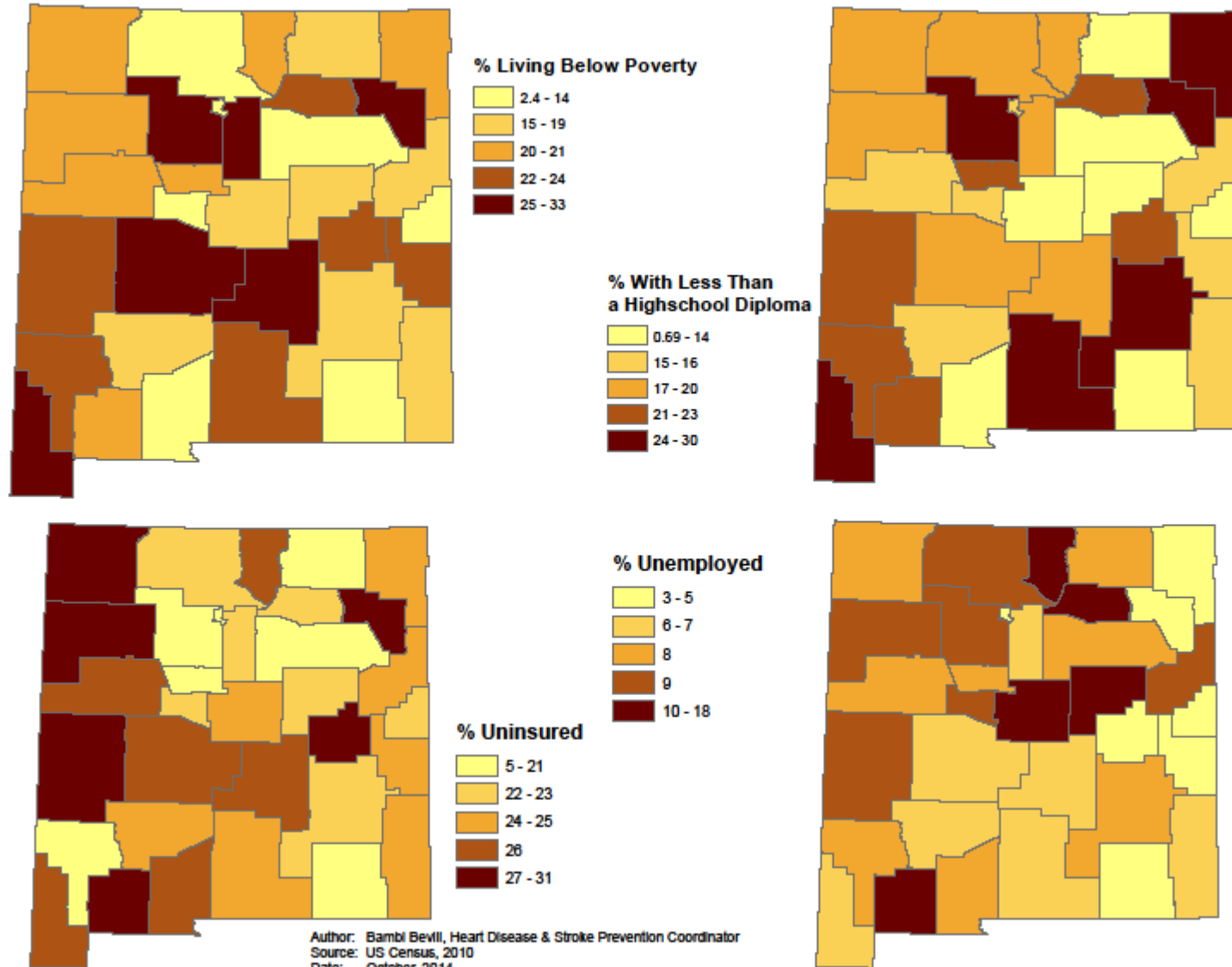
### Sandoval County Pueblos



Source: U. S. Census TIGER/line Shapefiles

Map by Samuel Swift, MPH

# New Mexico: Socio-Economic Context

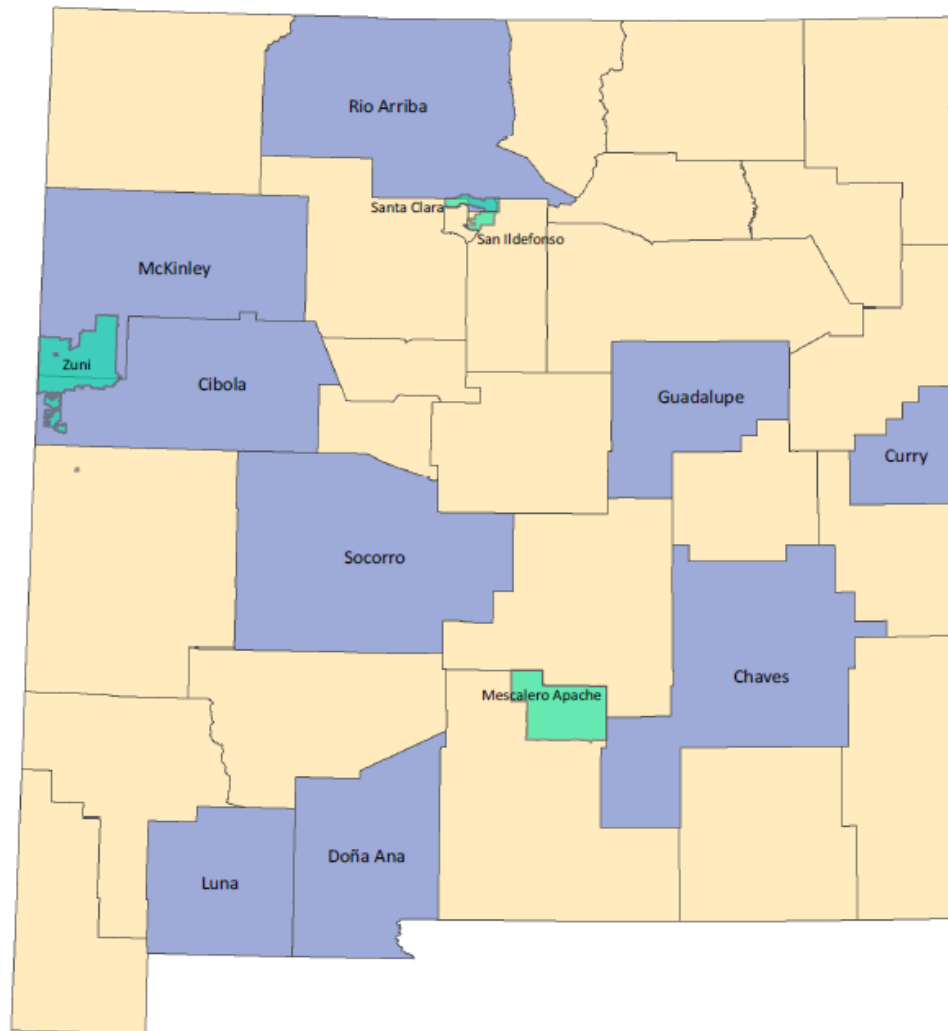


# "The Land of Enchantment"





# Healthy Kids Healthy Communities, New Mexico, 2014



- Healthy Kids Healthy Communities Counties
- Healthy Kids Healthy Communities Tribal Areas
- New Mexico Counties

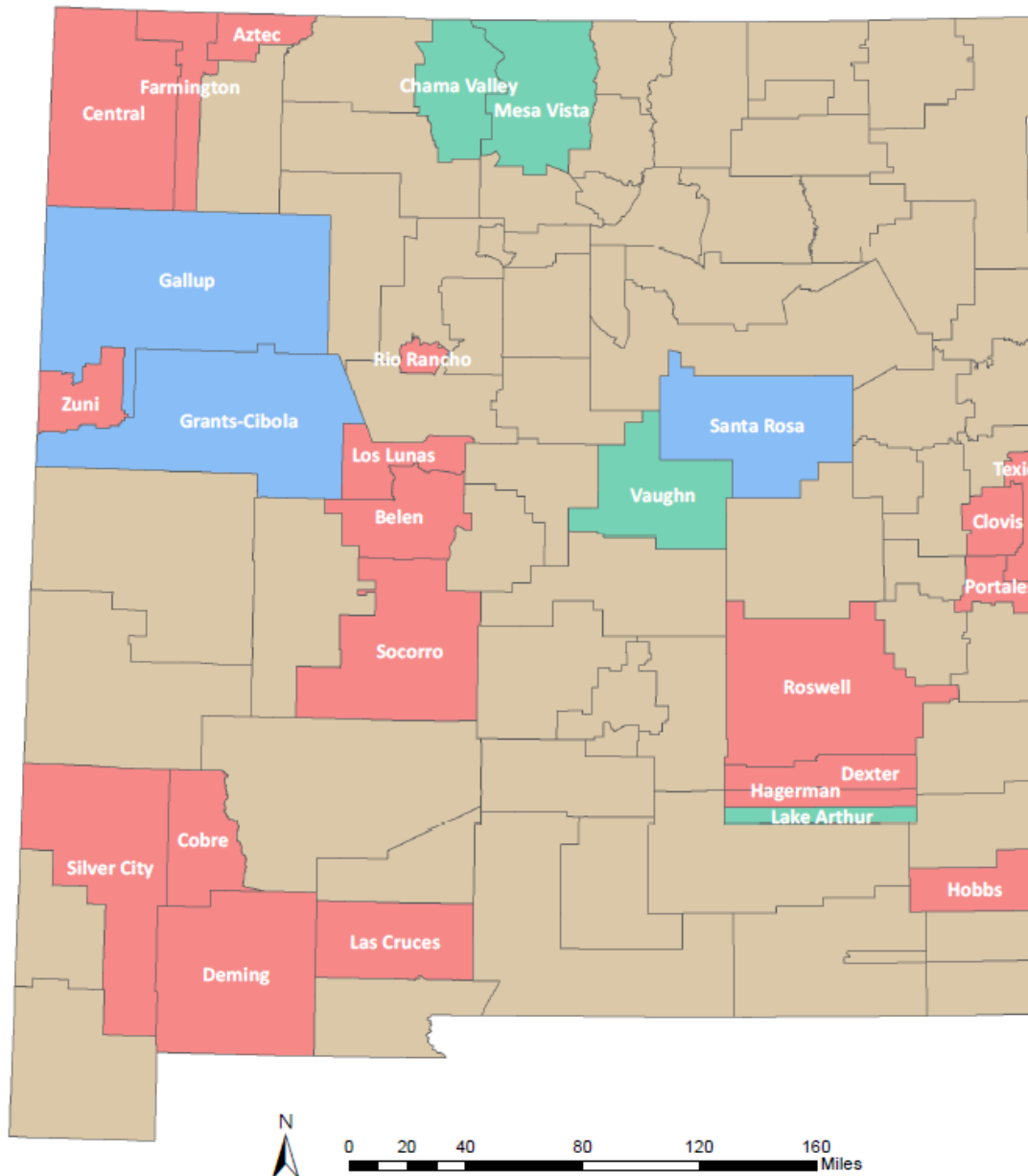
Healthy Kids Healthy Communities (HKHC) builds state and local partnerships to expand children's opportunities for healthy eating and active living where they live, learn and play. Community coalitions in each of 9 counties and 4 tribes are comprised of 20 public school districts and reach 37,158 elementary school-age children through collaborative efforts to create environmental, policy and systems changes to support healthy lifestyles.

Author: Katharine vonRueden, MPH  
New Mexico Department of Health  
Obesity, Nutrition & Physical Activity Program/Healthy Kids NM  
Date: August 1, 2014



0 25 50 100 150 200 Miles

# Status of School District Wellness Policies in New Mexico, School Year 2013-14



## District Wellness Policy Progress

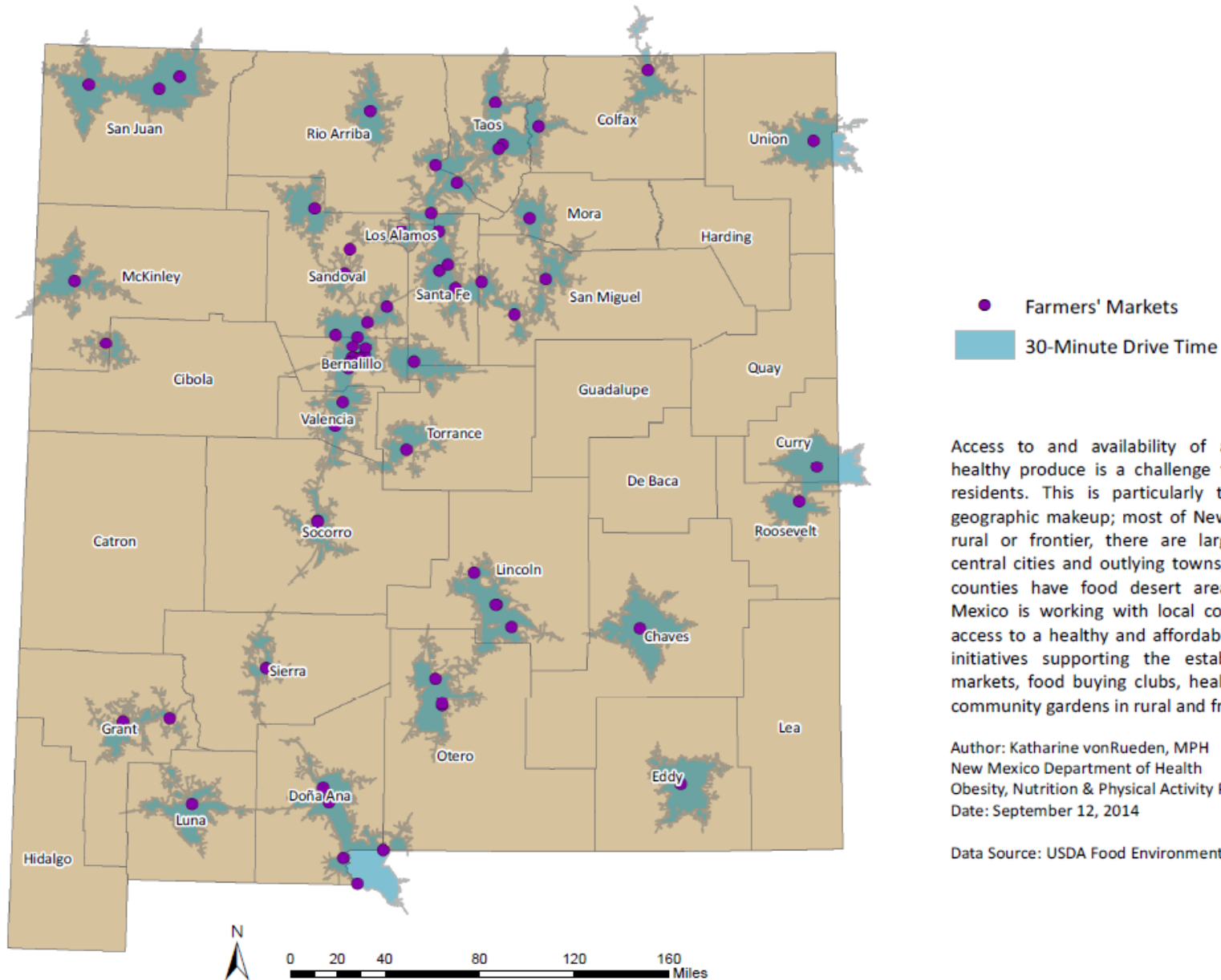
<span style="color: red;">■</span>	In Process
<span style="color: green;">■</span>	Updated
<span style="color: blue;">■</span>	Implementation
<span style="color: tan;">■</span>	Not Working On

Healthy Kids New Mexico works with public school districts across the state to update and strengthen their wellness policies to include language supporting healthy eating, physical activity, and staff wellness. School districts either 1) are in the process of drafting language and updating their policies; 2) have an updated wellness policy in place; 3) are implementing the new policies and educating school staff and parents on changes made; or 4) not working on their policies.

Author: Katharine vonRueden, MPH  
 New Mexico Department of Health  
 Obesity, Nutrition & Physical Activity Program/Healthy Kids NM  
 Date: August 1st, 2014

Data Source: Healthy Kids New Mexico program data

# Food Access: 30-Minute Drive Time to Farmers' Markets in New Mexico



Access to and availability of affordable, fresh, and healthy produce is a challenge for many New Mexico residents. This is particularly true given the state's geographic makeup; most of New Mexico is considered rural or frontier, there are large distances between central cities and outlying towns, and at least 27 of 33 counties have food desert areas. Healthy Kids New Mexico is working with local communities to increase access to a healthy and affordable food supply through initiatives supporting the establishment of farmers' markets, food buying clubs, healthy corner stores, and community gardens in rural and frontier areas.

Author: Katharine vonRueden, MPH  
New Mexico Department of Health  
Obesity, Nutrition & Physical Activity Program/Healthy Kids NM  
Date: September 12, 2014

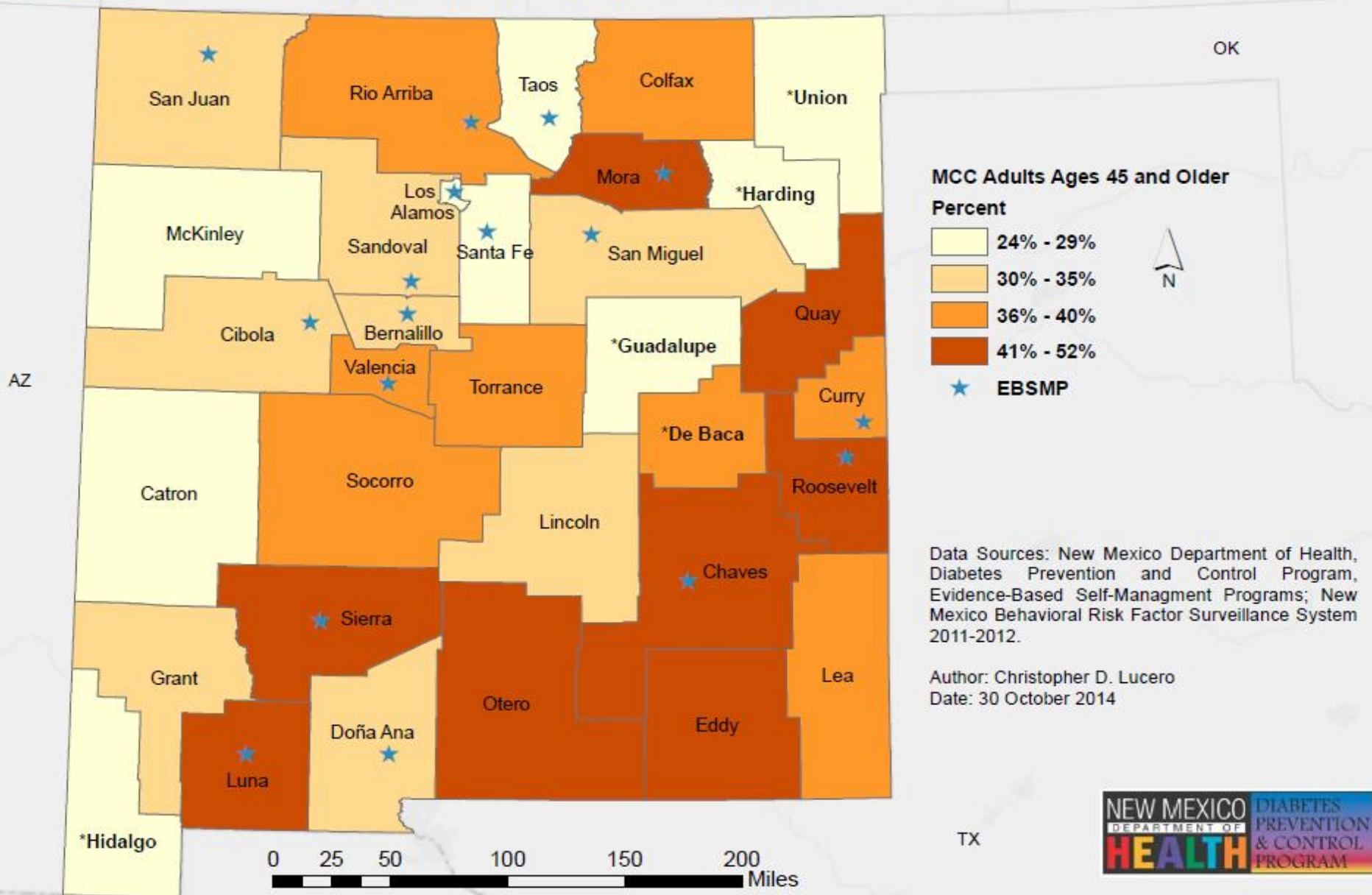
Data Source: USDA Food Environment Atlas, 2014; USDA



# New Mexico

## Multiple Chronic Conditions, 2011-2012

### Evidence-Based Self-Management Programs (EBSMP), 2010-2014



UT

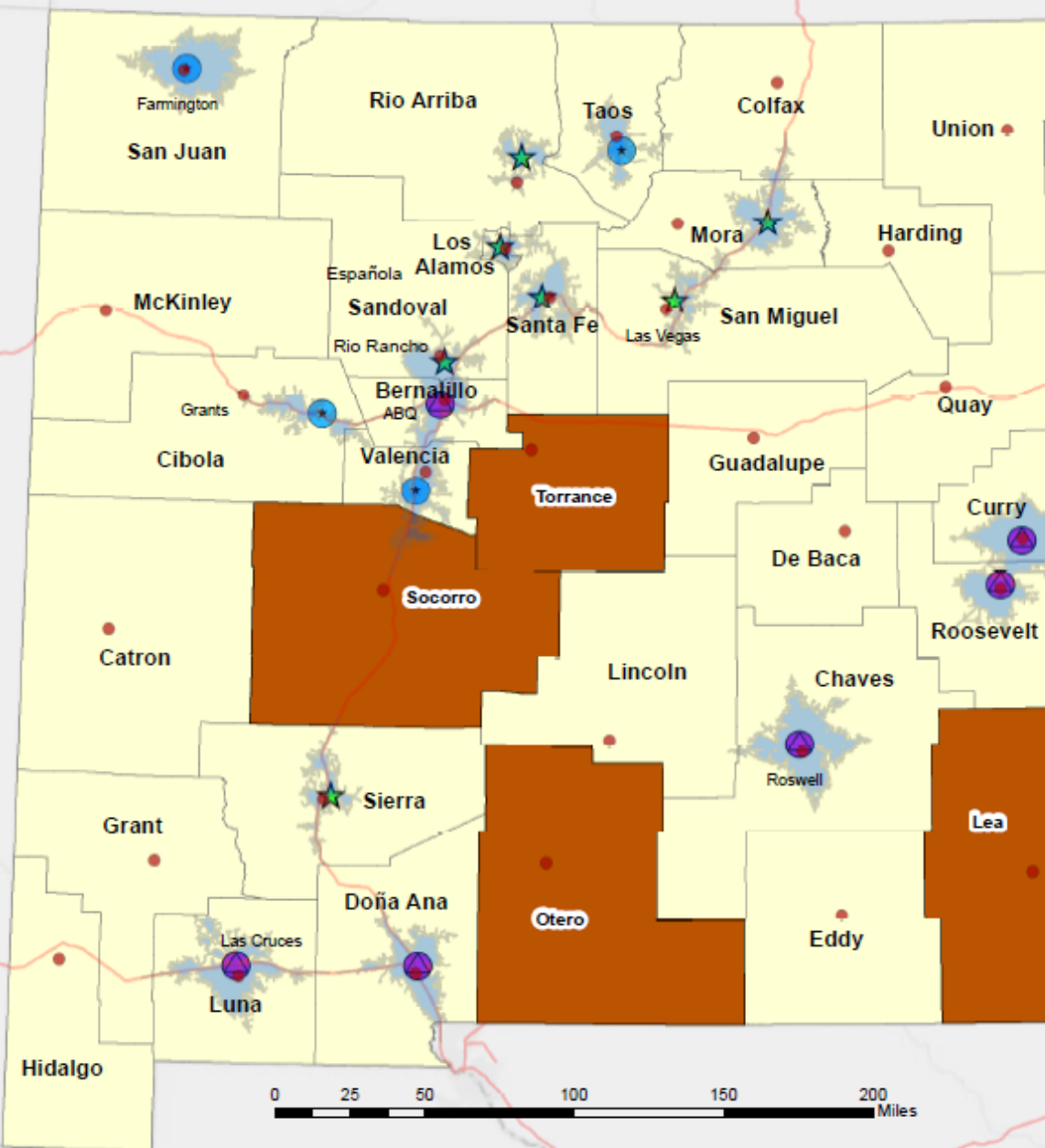
CO

KS

# New Mexico MyCD and Tomando Programs

## 30 Minute Drive Time to Six-Week Community Workshop Locations

AZ



- ★ MyCD
- ★ MyCD - New Counties Reached
- MyCD and Tomando
- FY15 Counties Targeted for Expansion
- 30 Minute Drive
- Major Road
- Center of Population

Data Sources: New Mexico Department of Health, Diabetes Prevention and Control Program MyCD and Tomando Data; U.S. Census, Centers of Population by County, 2010.

Author: Christopher D. Lucero  
Date: 30 October 2014

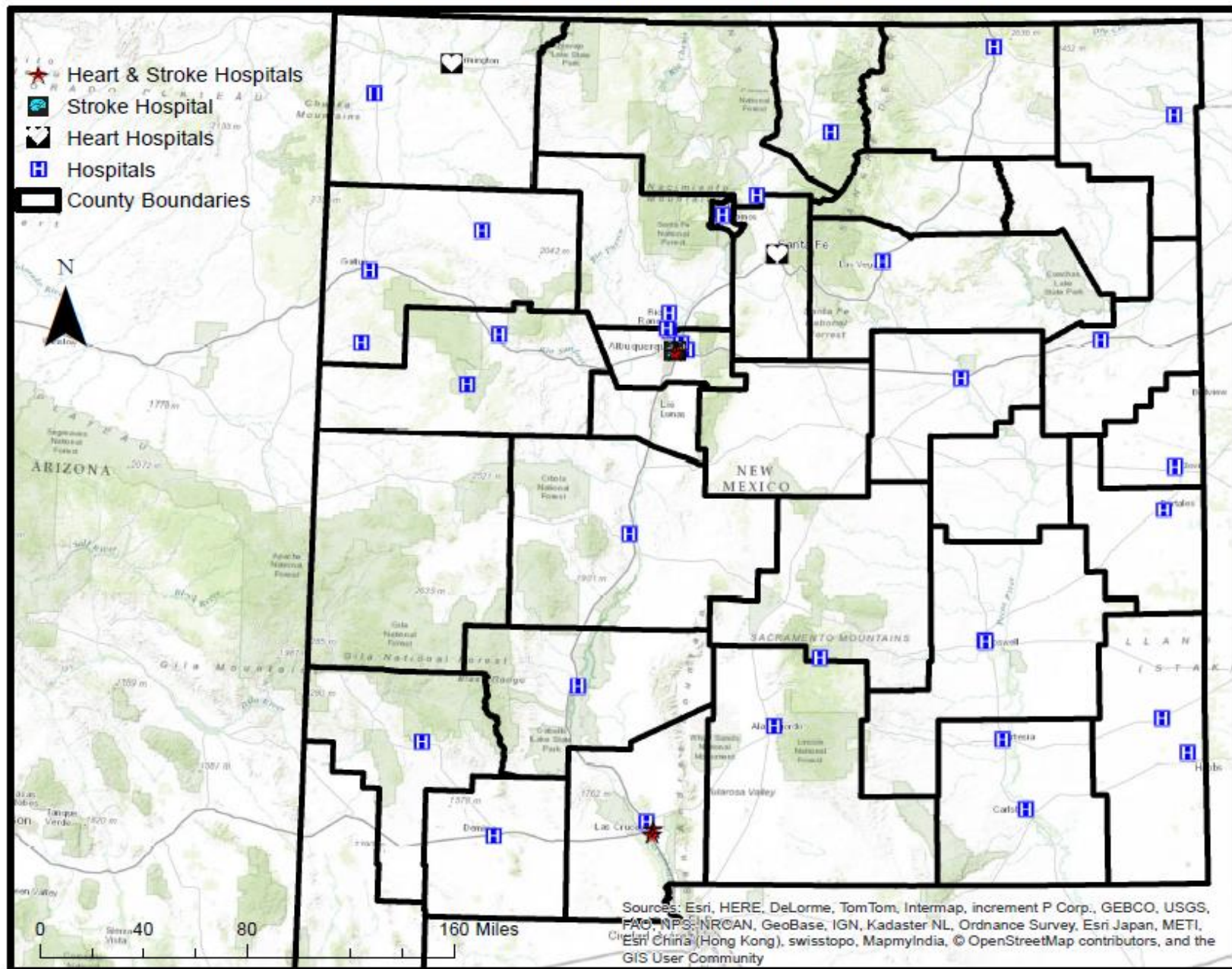
0 25 50 100 150 200 Miles

TX



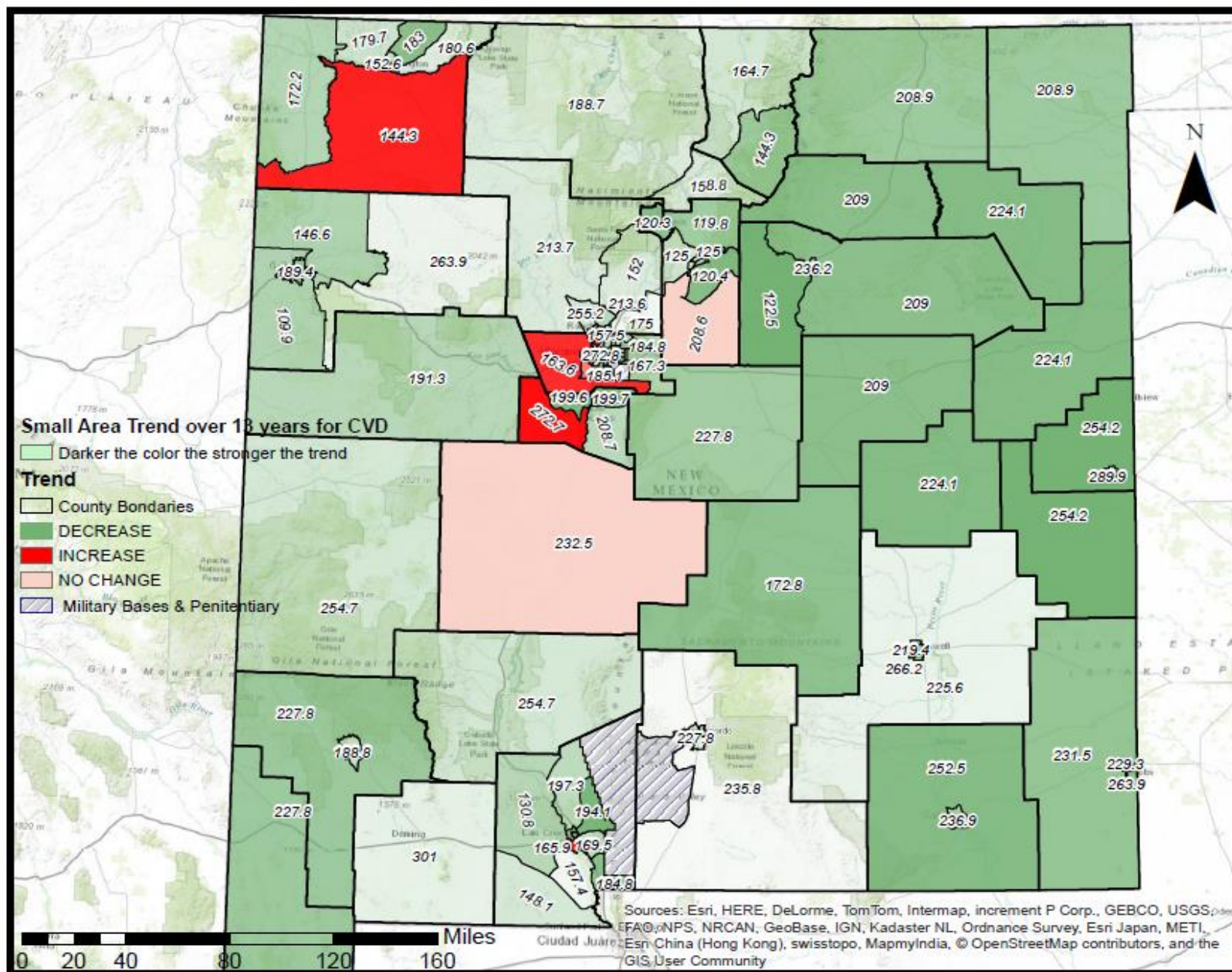


# Stroke & STEMI Centers 2014





# Cardiovascular Disease (CVD) Trends (1999-2011) & Rates (2007-2011)



# NM Department of Health: Next Steps

- ✿ Establish protocol for map consistency & dissemination within Chronic Disease Bureau and across NMDOH
- ✿ Communicate with internal and external partners to identify pain points and increase interoperability
  - Recruit innovative thinkers
- ✿ Map health systems (*FQHCs; primary care centers*)
- ✿ Utilize GIS applications for strategic planning
  - Public health accreditation
  - Framework for Results Based Accountability

# Thank You!



Albuquerque International Balloon Fiesta, October 2013

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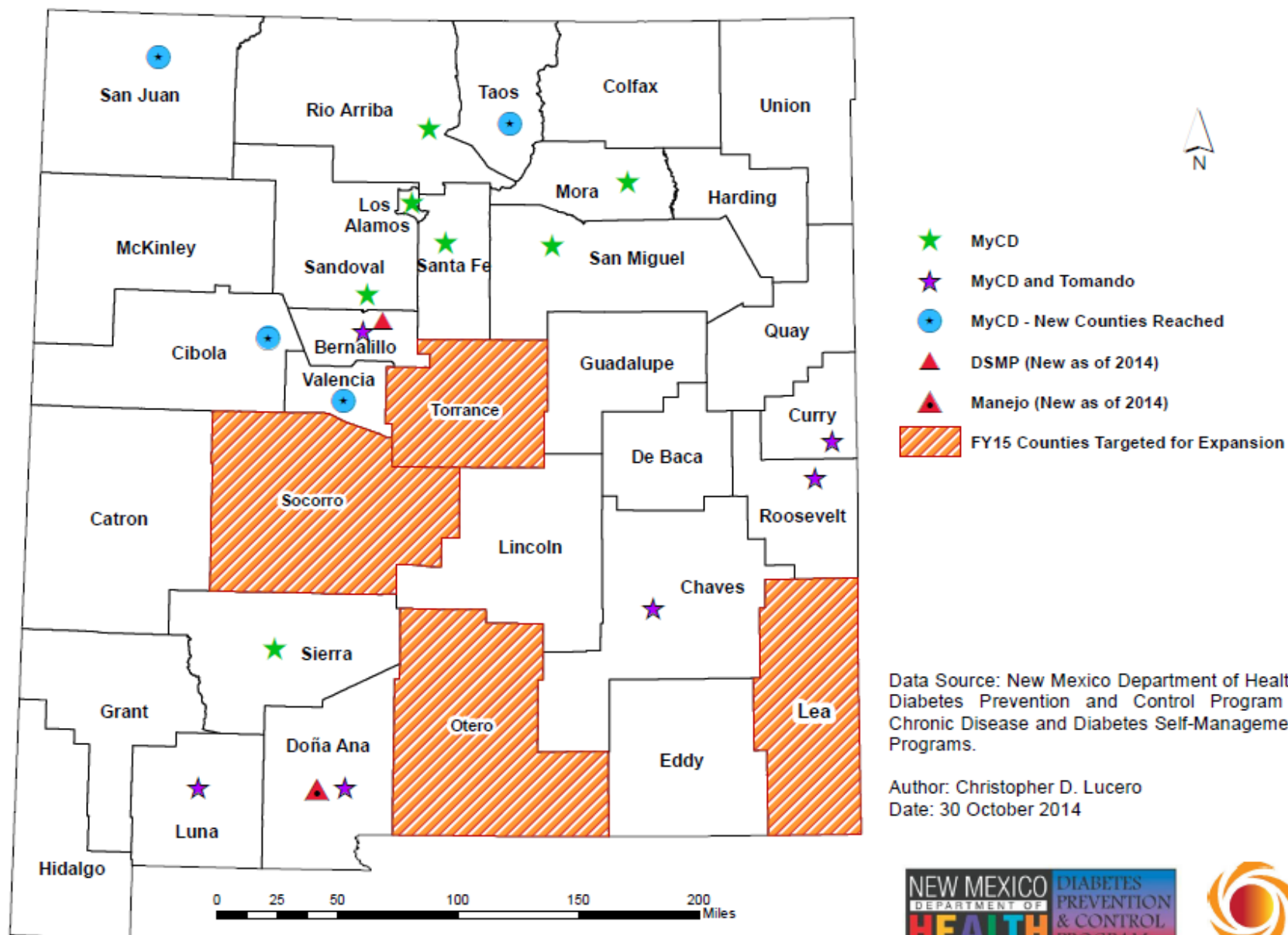
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Chris Lucero ([Christopher.Lucero@state.nm.us](mailto:Christopher.Lucero@state.nm.us))

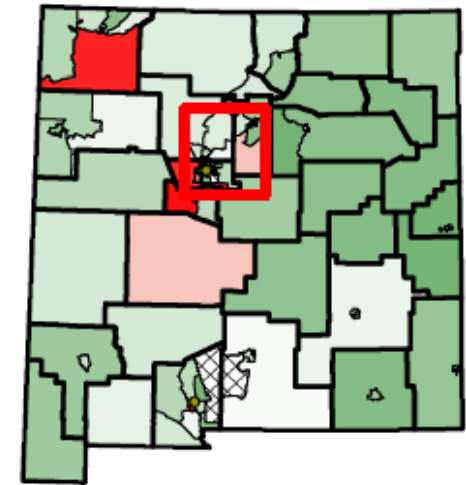
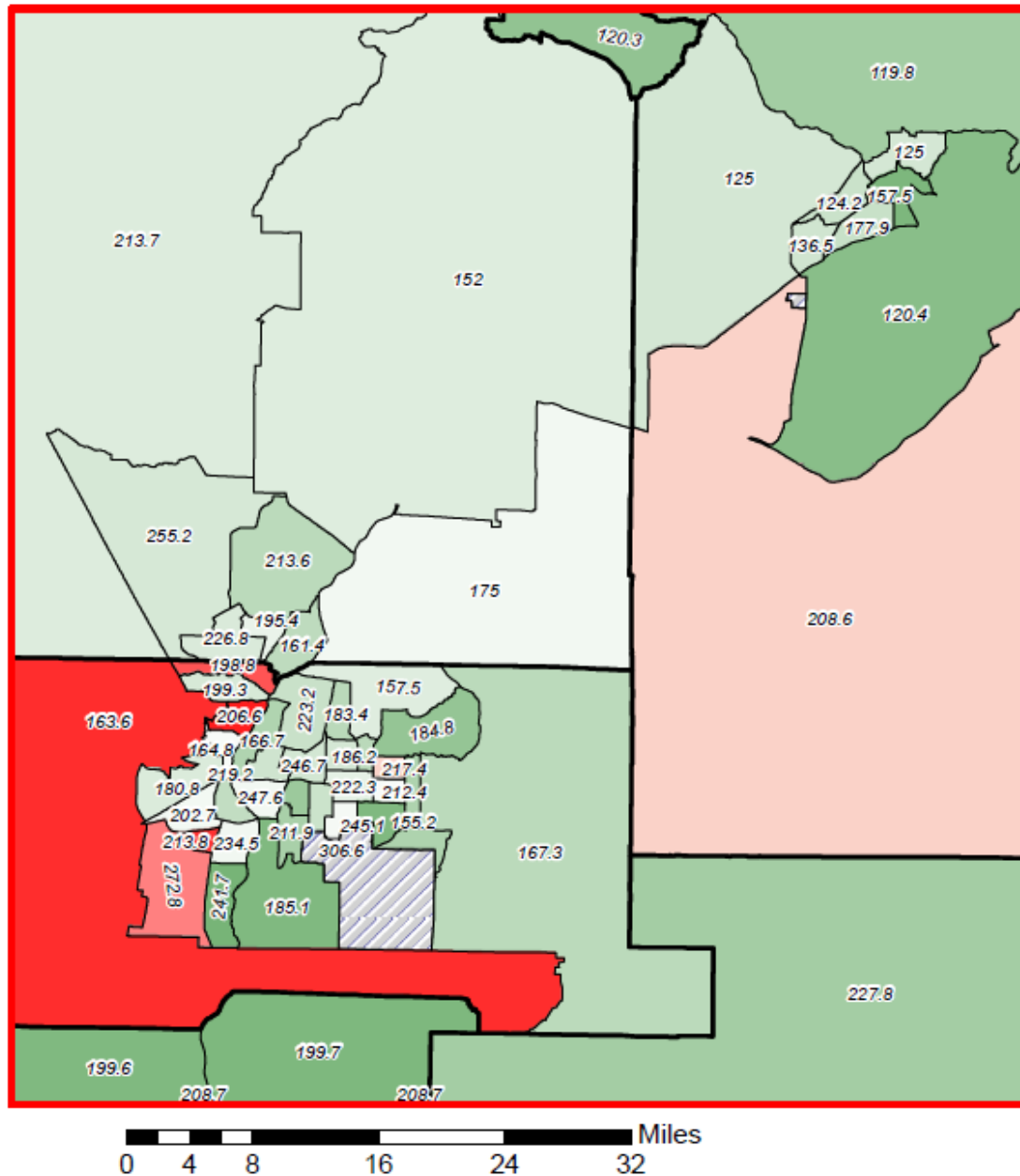
Bryan Patterson ([Bryan.Patterson@state.nm.us](mailto:Bryan.Patterson@state.nm.us))




# New Mexico Counties Reached Chronic Disease and Diabetes Self-Management Programs (2010-2014)



## Cardiovascular Disease (CVD) Trends (1999-2011) & Rates (2007-2011)





### Small Area Trend over 13 years for CVD


 Darker the color the stronger the trend

### Trend

 County Boundaries

■ DECREASE

 INCREASE  
 NO CHANGE

 Military Bases & Penitentiary