A Health Impact Assessment of a Food Tax in New Mexico

An analysis of the taxation of grocery purchases and its impacts on the health of the state's children, families, and communities

November 2015

NEW MEXICO VOICES FOR CHILDREN

New Mexico Voices for Children

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The executive summary for this report can be found at www.nmvoices.org.

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NEW MEXICO VOICES FOR CHILDREN

HEALTH IMPACT PROJECT

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About this Report

This document summarizes findings from a health impact assessment (HIA) that was conducted in 2014 and 2015 on the potential health impacts of New Mexico taxing food purchased to be consumed at home. This HIA report is intended to be an accessible and informative resource for New Mexico residents and policy-makers (at both the state and local levels) interested in the issue of taxing food in New Mexico. The report is intended to inform the decision-making process by describing the potential positive and negative health impacts that could result from a tax on food.

The New Mexico Voices for Children HIA team also recognizes that other state and local governments have considered or may in the future address food taxes, and it is hoped that this HIA may be of value to decision-makers and stakeholders in those areas as well. In a broader sense, the framework of this HIA—examining how tax policy can affect health—should be a relevant basis on which to consider "health in all" policies and the health impacts of other tax and economic policy decisions, both in and outside of New Mexico.

ACKNOWLEDGEMENTS

This project was supported by a grant from the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts.

Over the course of the project, the New Mexico Voices for Children's (NMVC) health impact assessment team received valuable input and participation from a variety of stakeholders, including community members, nonprofit and faith leaders, food bank and food pantry employees, researchers, academics, government officials, and public health experts. We thank them for their willingness to share their valuable time and significant experiences for the benefit of the project.

We extend special thanks and deep gratitude to the stakeholders who served on the HIA Advisory Council (see Appendix A, page 49, for a full list of Advisory Council members). These experts brought an incredible body of knowledge, passion, and expertise to the project, and they were crucial to its execution. We also wish to thank Kari Bachman, M.A., with Doña Ana Place Matters, Jordon Johnson, Ph.D. with McKinley Community Place Matters, Rodrigo Rodriguez with the SouthWest Organizing Project, and Janet Page-Reeves, Ph.D., with the Department of Family and Community Medicine at the University of New Mexico Health Sciences Center. Their input and expertise was critical to conducting focus group research and gathering community feedback on the possible health impacts of a tax on food.

This HIA would not have been possible without the guidance and support of Amber Lenhart, M.P.H., of the Health Impact Project; Tia Henderson, Ph.D. and M.S.T., and Heidi Guenin, M.U.R.P. and M.P.H. of Upstream Public Health; and Mandy Green, M.P.H. of Green Health Consulting.

DISCLAIMER

The authors of this report are responsible for the facts and accuracy of the information presented. The views expressed are those of the authors and do not necessarily reflect the views of the Food Tax HIA Advisory Council, the Health Impact Project, The Pew Charitable Trusts, or the Robert Wood Johnson Foundation.

PROJECT BACKGROUND AND SCREENING SUMMARY

In October of 2014, New Mexico Voices for Children (NMVC) received funding from the Health Impact Project—a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts—to conduct a health impact assessment (HIA) on the proposed reinstatement of a tax on food in New Mexico. A health impact assessment is defined as "a systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects."[1]

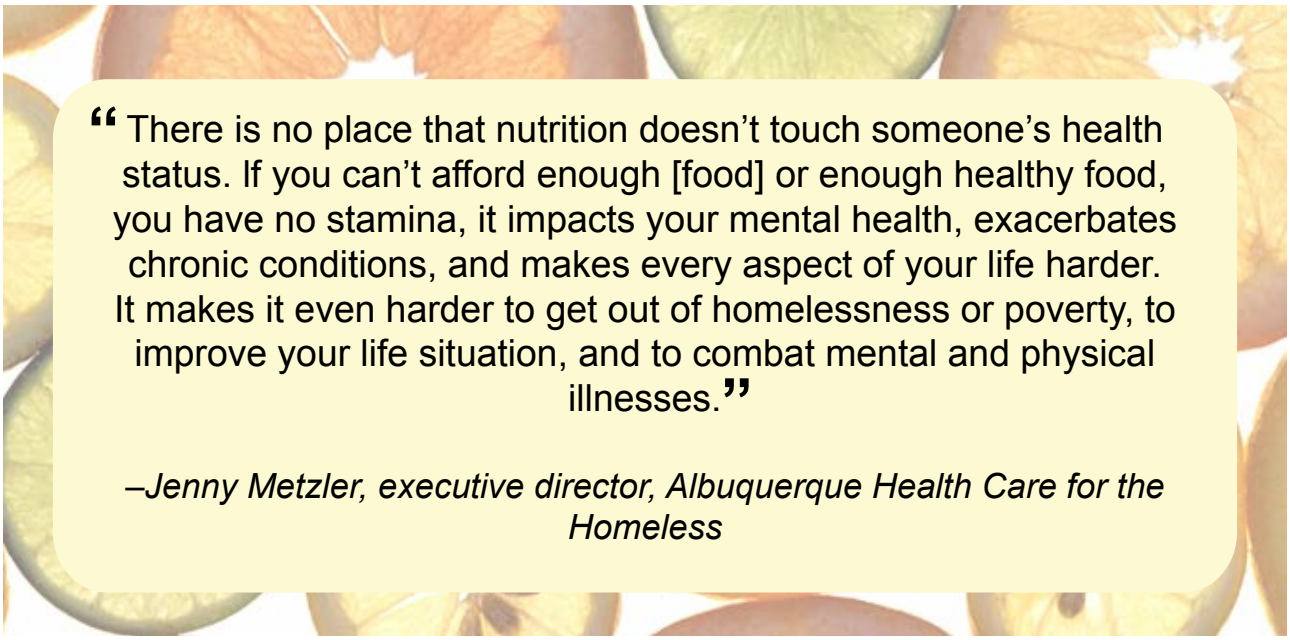
In considering the value of an HIA on a food tax, the NMVC HIA team first noted that health was currently not part of the discussion on the issue. While NMVC had previously engaged in policy work and research on the food tax, the staff had not examined how it could potentially impact health. The NMVC HIA team then considered and gathered stakeholder and expert input on the existing health conditions in New Mexico as well as how these health conditions might be impacted by a tax on food.

After consulting with stakeholders and considering the decision to be made and the current debate around the issue, the NMVC staff determined that the possible health impacts of a reinstatement of a tax on food might not be considered unless an HIA on the topic was done. The decision to conduct an HIA was also strongly influenced by the likely timeline of the introduction and discussion of a bill to tax food, its potential impacts on family economic security and health outcomes, the intersection of health and tax policy, and the background and policy expertise among NMVC staff and partners in these areas.

FOOD TAX HIA GOALS:

- Inform public opinion and government decisions on the potential health impacts of food tax policy;
- Ensure that any potential health impacts of a food tax are rigorously evaluated and considered;
- Demonstrate the policy's health impacts on particularly vulnerable groups, as well as to engage these groups and help build resources with them;
- Demonstrate how tax, economic, and budgetary policies can impact health outcomes;
- Create new and/or strengthen ongoing partnerships between health and non-health groups; and
- Increase organizational, partner, government, and community capacity to conduct and use HIAs.

The development of the scope of the HIA, as well as the HIA process, were driven by the accepted values of *democracy*, *equity*, *ethical use of evidence*, and *comprehensive approach to health* that underpin HIA.[2]



> "There is no place that nutrition doesn't touch someone's health status. If you can't afford enough [food] or enough healthy food, you have no stamina, it impacts your mental health, exacerbates chronic conditions, and makes every aspect of your life harder. It makes it even harder to get out of homelessness or poverty, to improve your life situation, and to combat mental and physical illnesses."
>
> *–Jenny Metzler, executive director, Albuquerque Health Care for the Homeless*

About the Food Tax in New Mexico

HISTORY OF THE FOOD TAX

Prior to 2004, New Mexico taxed food that was purchased for consumption at home under the state's gross receipts tax (GRT), the state's version of a sales tax composed of increments imposed by the state, counties, and municipalities. In 2004, the state Legislature exempted food groceries from the GRT. (Food purchased from restaurants is still taxed, as are non-food groceries such as paper products.) The legislation contained a "hold-harmless" provision whereby the state would compensate cities and counties for their portion of the revenue lost from this new exemption. Over time the value of the exemption grew to be approximately $250 million per year—much more than was originally estimated.

In 2013, a new state law was enacted that phased out the hold-harmless payments over a 15-year period. This was done to offset the cost of a major corporate income tax cut. This new law also allowed cities and counties to recoup the loss of the hold-harmless revenue by imposing up to three-eighths of 1 percent of the local GRT. However, some government officials concluded that the increase would not make up for the total loss of the hold-harmless payments in years to come and many local officials have resisted raising their GRT rates. In 2014, the New Mexico Municipal League—an association that represents New Mexico's cities, towns, and villages, many of which were already facing declining tax revenues—called for legislation to allow local governments the option to tax food purchased for consumption at home. Since then, elected officials have discussed multiple bill versions that include a reinstatement of a tax on food.

POLICY ALTERNATIVES

State legislators—under pressure from the local governments and local government organizations, as well as lawmakers wishing to overhaul the state's entire tax system—are now considering reinstating a tax on food. The authority to impose gross receipts taxes is divided between city, county and state governments, each with their own legal authority to impose different increments. However, the base against which the tax is imposed is controlled by the state Legislature. Thus, adding food back into the tax base can only be done by the Legislature, which can also decide which of the three levels of government may impose their taxes on the new receipt category. This means the legislation determines which government(s) would receive the revenue raised from the taxation of food.

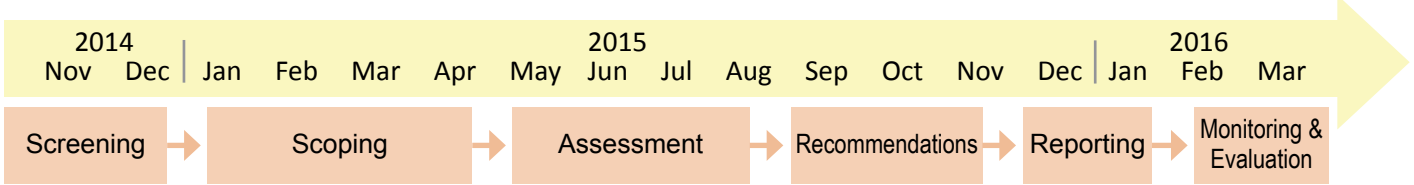
New Mexico policy makers have drafted, proposed, and/or discussed multiple bills that would reinstate the GRT on food. Recently proposed legislation has included two options. The tax overhaul proposal would add food to the tax base and eliminate many other deductions and exemptions in order to reduce the total GRT rate on all goods and services. A second proposal would allow cities and counties to tax food but would not apply state-level taxes. Some cities and counties have also advocated for a referendum that would allow voters in each constituency to decide whether to tax food.

While conducting the HIA, the HIA team focused only on the food tax component of proposed legislation and the health impacts that could result from any new tax on food. The non-food-tax components of the bills seeking to overhaul the tax system differ in each proposal to the extent that it is not possible under current time and resource restraints to thoroughly evaluate the health impacts of each different tax package comprehensively. These components were considered, however, but only generally for contextual purposes and specifically for the Secondary Policy Recommendations section (page 46) of this report.

Timeline for the Decision-Making Process

A bill to reinstate the food tax could be introduced and passed by state legislators—and either signed or vetoed by the Governor—as early as the 2016 legislative session. The bill could be written so that food could be taxed by the state as soon as mid-2016. If a bill to give local governments the option to reinstate a food tax is enacted, local governments could begin formally considering the tax under a timeline determined by state law and by each local government, though those laws would not likely go into effect until 2017 at the earliest.

HIA Timeline



HIA Methodology

HIA is defined as "a systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects."[3]

An HIA is conducted in six primary stages: screening, scoping, assessment, recommendations, reporting, and monitoring/evaluation. The steps of an HIA are outlined in Figure I, below.[4]

FIGURE I
HIA Steps

1. **Screening**
   Determine whether an HIA is needed and likely to be useful.
2. **Scoping**
   In consultation with stakeholders, develop a plan for the HIA, including the identification of potential health risks and benefits.
3. **Assessment**
   Describe the baseline health of affected communities and assess the potential impacts of the decision.
4. **Recommendations**
   Develop practical solutions that can be implemented within the political, economic or technical limitations of the project or policy being assessed.
5. **Reporting**
   Disseminate the findings to decision-makers, affected communities and other stakeholders.
6. **Monitoring and Evaluation**
   Monitor the changes in health or health risk factors and evaluate the efficacy of the measures that are implemented and the HIA process as a whole.

The HIA process encourages public input at each step.

STAKEHOLDER INVOLVEMENT IN THE FOOD TAX HIA

Stakeholder engagement is essential to and happens in every stage of the HIA process. Because many stakeholders have an interest or expertise in, are involved with, or may be affected by a tax on food purchases in New Mexico, the HIA team identified a clear understanding of the perspectives and influence of this diverse body of stakeholders as crucial to the success of the project. With the help of public health experts and vested stakeholders, the NMVC HIA team crafted a stakeholder engagement plan to ensure that stakeholders were thoughtfully and effectively engaged in the HIA and that those most impacted by the decision, particularly vulnerable populations and their representatives, were meaningfully involved in the HIA process. The HIA team deliberately involved stakeholders from many different sectors, backgrounds, income levels, ethnicities, and geographic regions in the project.

New Mexico Voices for Children identified stakeholders to ask to serve on the HIA Advisory Council through a series of meetings among HIA project team members, with interested groups and individuals, and with partner organizations who also have a background in health policy, tax policy, and/or community engagement. More Advisory Council members entered into the process as the project progressed, and stakeholders were very involved throughout and critical to the success of the HIA process. A description of stakeholder involvement in each stage of the HIA can be found in Appendix B (page 50).

FOOD TAX HIA RESEARCH METHODS

This health impact assessment relied on five primary research methods to identify and evaluate the potential health impacts of reinstating a tax on food:

1. Literature review
2. Evaluation of existing conditions
3. Quantitative data analysis
4. Key stakeholder interviews
5. Focus groups

LITERATURE REVIEW:

The project team conducted a literature review to identify studies relevant to this work. We used PubMed, JSTOR, and other academic databases, as well as Google Scholar and other search engines to identify relevant peer-reviewed articles and reports. We selected a number of search parameters—including time frame (published since 2000), peer-reviewed status, English language publication, and non-editorial pieces—to ensure that

sources were of sound quality. Using a variety of pre-determined keywords, we identified more than 160 relevant research studies and reports describing: the impacts of economic security on health; the impacts of food insecurity, food choices and nutrition on heath; and the impacts of government taxation and spending on health. Vulnerable populations of interest for the literature search included low-income groups, children, populations of color, seniors, and people living in food deserts. A more detailed discussion of literature review protocol can be found in Appendix Q (page 70).

EVALUATION OF EXISTING CONDITIONS:

This component of the research reviews the current health status of the populations in New Mexico that could be most impacted by a tax on food, including vulnerable populations such as low-income children, communities of color, the working poor, and seniors. Since a food tax impacts family economic security as well as diet and nutrition, we looked at current New Mexico statistics pertaining to both categories. To look at health outcomes and determinants as they pertain to economic security, we compiled: up-to-date data on the demographics of our minority-majority state; economic indicators of vulnerable populations including median income and poverty rates; and economically based choices between purchasing food and other basic necessities that food insecure populations have reported making. Regarding health outcomes and determinants as they pertain to food, diet and nutrition, we included: current data on the food insecurity rates of various sub-populations; food access and food deserts across the state; participation in public programs including the Supplemental Nutrition Assistance Program (SNAP), the supplemental food program known as Women, Infants, and Children (WIC), and free and reduced-price meals in school; mental health and stress rates; low birth-weight rates; and diabetes, obesity, and hypertension rates. A list of research questions, data indicators, and their sources can be found in Appendix N (page 63).

QUANTITATIVE DATA AND TAX ANALYSIS:

This HIA study includes a number of calculations conducted by staff at NMVC with extensive economic analysis experience. We calculated food tax impacts on various income groups and in various localities in New Mexico using gross receipts tax information, current and proposed taxation rates across New Mexico, and national consumer expenditure data to determine the percentage of family income spent on food in the state, by county, and in larger metropolitan areas. A detailed description of the methodology of the quantitative food tax distributional analysis is included in Appendix I (page 58).

KEY STAKEHOLDER INTERVIEWS:

We conducted interviews with more than a dozen stakeholders to gain their perspectives on the potential health effects of a food tax on vulnerable populations. Selected interviewees represented a variety of sectors including experts in public health and nutrition, community groups focused on poverty, health care providers, staff working at food banks and food depots, representatives from state agencies, faith-based organizations, and pediatricians. We asked each interviewee the same set of questions including those focused on existing food insecurity in the populations they work with or research, additional food choices vulnerable populations might have to make if faced with a food tax, and the health impacts of an increase in food costs. Interviews lasted around 20 minutes, and interviewees had the opportunity to review their quotes to check for accuracy before publication. The primary stakeholder interview questions can be found in Appendix O (page 87).

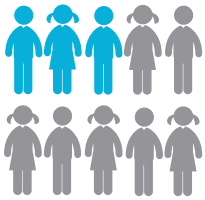
FOCUS GROUPS:

To obtain qualitative information around the types of struggles families have to deal with around food insecurity, we conducted three focus groups—one each in Vado, Gallup, and Albuquerque—with a total of 26 individuals. The Vado focus group was conducted in Spanish. The project team used data collected from these focus groups to frame and provide contextual information for quantitative data findings and to better understand the impacts the tax change might have on community members' income, economic and food security, purchasing choices, and health.

Each focus group involved between six and nine adult participants, with the mandatory criteria that they either be low-income, food insecure, or SNAP eligible, and that they have primary responsibility for grocery shopping for their households. We contracted with community collaborators in each location—Doña Ana Place Matters in Las Cruces, McKinley Place Matters in Gallup, and SouthWest Organizing Project in Albuquerque—to recruit the participants and to facilitate the discussions. We also contracted with a focus group expert with food insecurity research experience out of the University of New Mexico to help develop effective focus group questions to best tease out the issues at hand. At her recommendation, we assured focus group members that their input would be anonymous. Unattributed quotes obtained from the focus group transcripts were included in the study as appropriate. The focus group protocol and questions can be found in Appendix P (page 68).

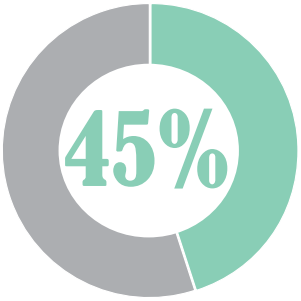
A Portrait of New Mexico

The highest child poverty rate



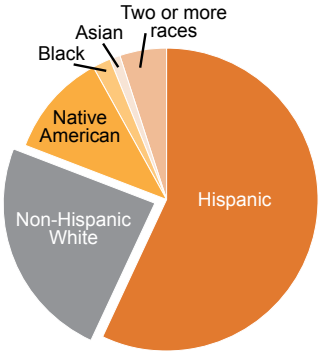
3 out of every **10** children lives at or below the poverty level

The highest long-term unemployment rate



45% of our unemployed have been looking for work for more than **6 months**

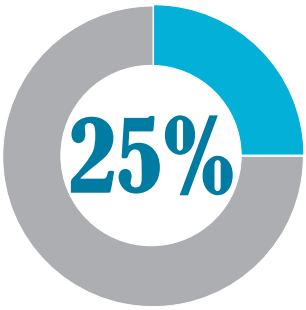
The 2nd highest percentage of minority children



74% of our children are racial/ ethnic minorities

The 3rd highest child hunger rate

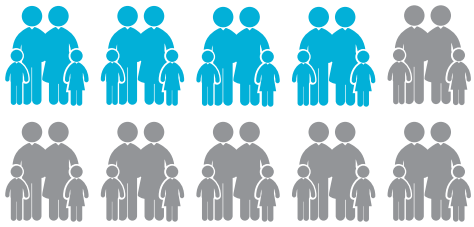
28% of our children don't have access to enough food



Low-income families spend 25% of their income on food

Those in the highest income group spend just **3%** of their income on food

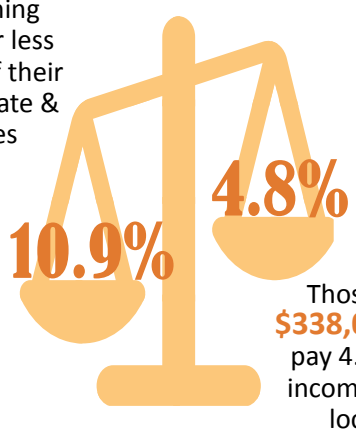
The 2nd highest rate of working families who are low-income



42% of our working families are low-income

Low-income New Mexicans pay the heaviest tax load in state and local taxes

Those earning **$17,000** or less pay 10.9% of their income in state & local taxes



Those earning **$338,000** or more pay 4.8% of their income in state & local taxes

Low-income New Mexicans miss, on average, 12 meals per month

That comes to a statewide total of **117 million** meals missed per year

Sources: U.S. Census Bureau, 2014 American Community Survey (child poverty); Census, 2011-2013 ACS, Table S0201 (child population by race/ethnicity); Working Poor Families Project analysis of 2013 Census ACS data (low-income working families); *Missing Meals in New Mexico*, NM Association of Food Banks, 2010 (missing meals); *Governing* calculations of 2014 annual averages published by Bureau of Labor Statistics, Current Population Survey (long-term unemployment); *Map the Meal Gap*, Feeding America, 2015 (child hunger); BLS, Consumer Expenditure Survey, 2013 (food costs); *Who Pays?*, Institute on Taxation and Economic Policy, 2015 (tax load)

Some images courtesy of flaticon.com

NEW MEXICO VOICES FOR CHILDREN

Geographic Boundaries of the HIA

At this time, it is unknown which local governments would enact a tax on food if given the option to do so. It is also possible that the state could enact a food tax that would affect all New Mexico residents (see Policy Alternatives section, page 6). Ultimately, all communities in New Mexico currently face the possibility of a tax on food, and the initial part of the decision will be made at the state level by state legislation. For this reason, the geographic area of the HIA is the state of New Mexico.

Potentially Vulnerable Populations

A core tenet of HIA is to consider health equity, highlight health disparities, and systematically evaluate health impacts of a potential project, program, or policy (in this case, a tax on food) on particularly vulnerable populations that may face harmful health effects at greater rates or more detrimental levels.[5] Where available, data were disaggregated by population characteristics including, but not limited to age, gender, income, place of residence, and race or ethnicity. This detailed data helped the team better understand the health impacts that a change in food tax policy would have on the following populations that were identified by the HIA project team and Advisory Council as particularly vulnerable:

- Children (both young children, aged 5 and younger, and school-aged children, ages 6-18);
- People of color; and
- Low-income families and individuals (both living below the poverty line and living below 200 percent of the poverty level).

The potential health effects on elderly New Mexicans (adults ages 65 and older), residents of rural areas, and residents of food deserts (places without reliable access to affordable sources of healthy food) were also analyzed when possible. The selection of each of these groups of more vulnerable populations was based on a review of current population health statistics for New Mexico, evidence from a preliminary literature review, and input from community members, stakeholders, and Advisory Council members.

Health Determinants Related to a Tax on Food

Health determinants are any factors that contribute to a person's state of health. These factors may be biological, behavioral, physical, or social. According to the World Health Organization, social determinants of health are "the complex, integrated, and overlapping social structures and economic systems that are responsible for most health inequities. Social determinants of health are shaped by the distribution of money, power, and resources throughout local communities, nations, and the world."[6] Health determinants shape the environments in which people are born, learn, grow, work, and live, and they are key influences on peoples' health throughout their lives.

For maps and tables showing health determinants and outcomes by county see Appendices C, D and E (pages 52, 53 and 54).

If a tax on food is reinstated, three things could happen that could have a strong influence on health determinants that impact health in New Mexico:

The cost of purchasing food would increase, changing the economic security of families, particularly those with low incomes. Low-income households would either:

1. Maintain their current food purchasing patterns, which would mean increasing the amount of money they spend on food and decreasing spending in other budget areas, or
2. Maintain their current food budget, which would require them to change their spending habits on food by decreasing the amount of food they purchase or buying lower-cost food.

At the same time, a food tax would cause government revenues to increase, which would change government spending (either directly or indirectly through other changes to the tax code). This means governments could:

3. Be able to maintain current service levels (in the case of municipalities that are facing budgetary shortfalls), or could increase spending for current programs, create new programs, cut other taxes, or reduce tax rates (the latter being the case with a state-level tax system overhaul).

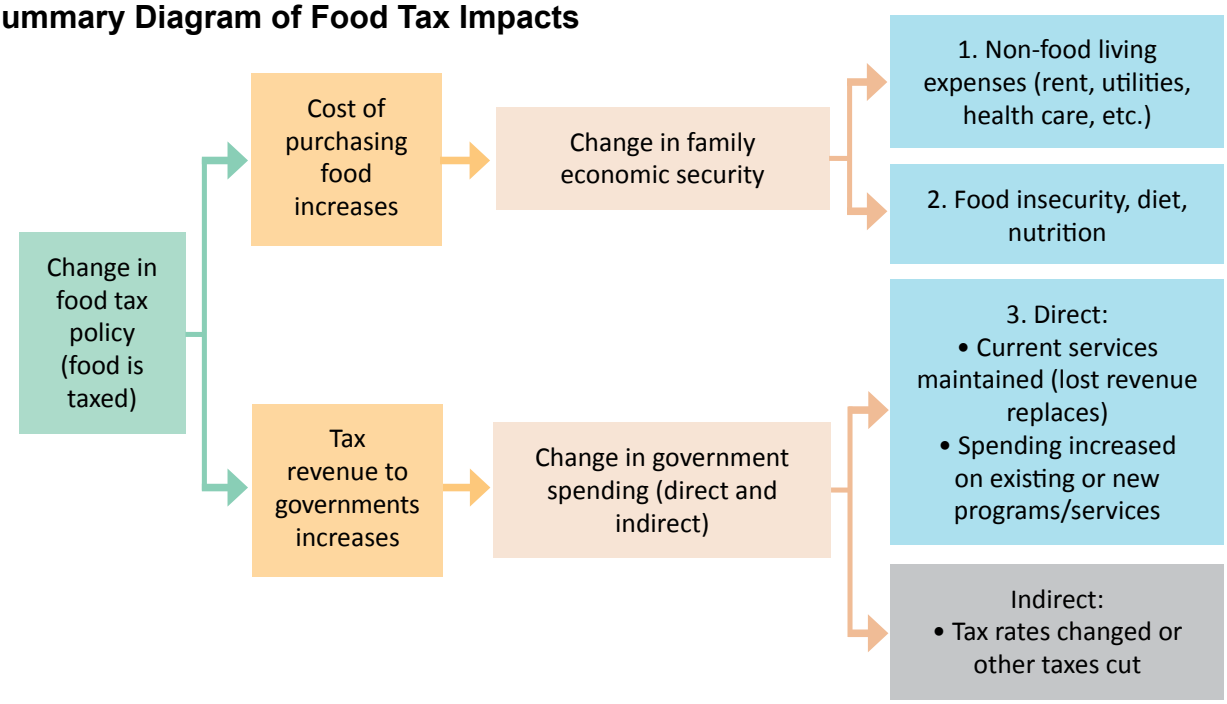
From these outcomes and the logic outlined above, and based on community, Advisory Council, and key stakeholder input, as well as on a preliminary review of existing literature, the following three health determinant logical pathways were selected for further study:

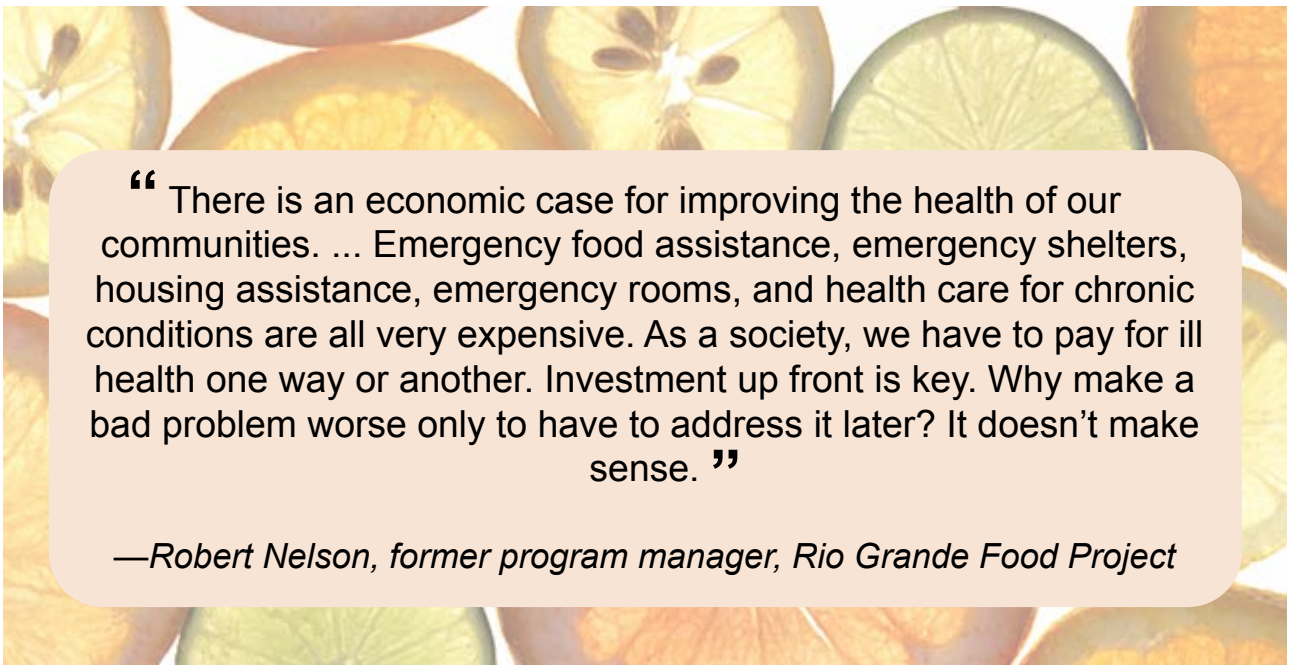
1. Family Economic Security: Changes to Non-Food Living Expenses
2. Family Economic Security: Changes to the Food Budget, and Food Insecurity, Diet, and Nutrition
3. Changes in Government Spending: Maintaining Current Services

The following summary pathways diagram (Figure II) demonstrates the relationships between a tax on food and the major health determinant pathways that may, in turn, impact health outcomes. A more complete description of each of the major determinants described above can be found in each corresponding health determinant sections.

The availability of, access to, and demand for public assistance and government health services were also identified as potential health determinants that could be impacted by a change in food tax policy. As such, they were initially included in the government spending pathway. However, the project team decided that the changes in those areas would be driven primarily by health outcomes that resulted from changes in family economic security, food security and nutrition, and should thus be considered as part of those two major health determinant pathways.

FIGURE II
Summary Diagram of Food Tax Impacts





> “There is an economic case for improving the health of our communities. ... Emergency food assistance, emergency shelters, housing assistance, emergency rooms, and health care for chronic conditions are all very expensive. As a society, we have to pay for ill health one way or another. Investment up front is key. Why make a bad problem worse only to have to address it later? It doesn’t make sense.”
>
> *—Robert Nelson, former program manager, Rio Grande Food Project*

Overall Assessment Findings

Reinstating a tax on food in New Mexico may affect several health factors. The analysis conducted as part of this HIA through a literature review and both quantitative and qualitative research suggests that implementing a food tax is likely to have an overall negative impact on health through multiple health factors; while there are some potentially positive health impacts that could result, these are less likely.

Taxing food would cost each New Mexico household around $350 per year, or $29 per month, on average. Of course, the cost would vary considerably depending on the size of the households. Highest-income earners in New Mexico would spend about one-half of 1 percent of their income on a food tax, while the lower half of New Mexico earners would spend around 1 percent of their income on the food tax alone—double the rate that high earners would pay. Research and calculations show that a food tax would be regressive—that is, it would take a higher percentage of low incomes than high ones and hit low-income earners harder than high-income earners—and could harm family economic security, which could have negative impacts on mental health and stress levels, income available for other necessary purchases besides food, need and demand for public assistance, childhood development and learning capacity, ability to pay for health services and medicine, economic equity, and the ability to manage chronic conditions through diet.

Taxing food could also have an adverse impact on food security, diet, and nutrition, which would have important and harmful implications for health, particularly nutrition-related chronic conditions, the ability to manage chronic conditions through diet, childhood development and learning capacity, malnutrition issues, the incidence of low birth-weight and/or preterm babies, and the need and demand for food assistance from both public and private/nonprofit sources.

It is also possible that the negative health impacts of taxing food could be mitigated by how that revenue is spent. If new revenue from taxing food leads to overall increased government spending on direct health services, food assistance and nutrition programs, programs that provide recreational opportunities, and education, then the food tax could have positive implications for health, or at the very least have no net negative implications. However, though it is possible that food tax revenue could be spent on these programs, it is unlikely, particularly at the municipal level.

Overall HIA findings are presented in Figure III (page 13). Specific findings and policy recommendations for each of the three health determinant pathways studied in this HIA are discussed in more detail in each of those sections. A summary and discussion of policy recommendations are presented in the Policy Recommendations section (page 46).

FIGURE III
Summary of Health Impacts of a Reinstatement of a Tax on Food in NM

	Based on Literature and Research Findings						
Health Factor or Health Outcome	Expected Health Impact	Likelihood of Impact	Magnitude	Equity Impact	Distribution (Who will be most impacted?)	Quality of Evidence	Stakeholder Projections
Pathway 1. Family Economic Security: Non-Food Living Expenses							
Mental health and stress levels	Negative	Likely	Moderate	Negative	Low-income residents, families with children, those with mental illness, those that are housing insecure or homeless	***	Negative
Disposable income	Negative	Certain	Moderate	Negative	Middle- and high-income residents	***	Negative
Financial security	Negative	Certain	Substantial	Negative	Low- and middle-income residents	***	Negative
Need and demand for public assistance and food banks	Negative	Certain	Moderate	Negative	People experiencing poverty, low- and middle-income, families with children	**	Negative
Learning capacity and educational outcomes	Negative	Possible or likely	Moderate	Negative	Children and pregnant mothers in food insecure or low-income residents	***	Negative
Economic equity	Negative	Likely	Substantial	Negative	All residents	***	Negative
Ability to pay for health care and medicine	Negative	Possible or likely	Moderate	Negative	People experiencing poverty, low-income residents, people with chronic conditions, seniors	***	Negative
Ability to manage chronic conditions with diet and nutrition	Negative	Likely	Moderate	Negative	People experiencing poverty, low- and middle-income households, people with chronic conditions, food insecure residents, seniors, those in rural areas and in food deserts	***	Negative
Tax system regressivity	Negative	Certain	Moderate	Negative	All residents	***	Negative
Pathway 2. Family Economic Security: Food Insecurity, Diet, and Nutrition							
Food insecurity and hunger	Negative	Certain	Substantial	Negative	People experiencing poverty, those experiencing food insecurity and/or hunger, people in food deserts, seniors, rural populations, the housing insecure and/or homeless	***	Negative
Incidence of nutrition related chronic conditions	Negative	Possible	Limited	Negative	People experiencing poverty, low-income residents, people at risk of developing chronic conditions	**	Negative
Ability to manage nutrition-related chronic conditions	Negative	Likely	Moderate	Negative	People experiencing poverty, low income and marginal income, people with chronic conditions, food insecure residents, seniors	***	Negative
Childhood development and educational outcomes	Negative	Possible or likely	Moderate	Negative	Children and pregnant mothers in food insecure or low-income residents	***	Negative
Malnutrition impacts (iron and vitamin D deficiencies)	Negative	Possible	Limited	Negative	Children, those experiencing food insecurity and/or hunger, seniors	**	Negative
Low birth-weight, pre-term births	Negative	Likely	Moderate	Negative	Children and pregnant mothers in food insecure or low-income residents	***	Negative
Need and demand for public and private assistance	Negative	Likely	Moderate	Negative	People experiencing food insecurity and/or hunger, people in poverty, low-income residents, children, families with children	**	Negative
Pathway 3. Government Spending: Current Services Maintained							
Government spending on emergency medical services (local level)	Positive	Possible	Limited	Uncertain	All residents	**	N/A
Government spending on education (state level)	Positive	Possible	Moderate	Positive	Children	***	N/A
Government spending on recreational opportunities	Positive	Unlikely	Limited	Uncertain	All residents	***	N/A
Government spending on food and nutrition programs	Positive	Unlikely	Limited	Positive	People experiencing food insecurity and/or hunger, people in poverty, low-income residents, children, families with children	***	Mixed
Government spending on health care	Positive	Unlikely	Moderate	Positive	Low- and middle-income residents, children, seniors	***	Mixed

HEALTH EFFECTS CHARACTERIZATION

The HIA team used guidance provided in *Minimum Elements and Practice Standards for Health Impact Assessment, Version 3* (2014) and other accepted HIA practices to characterize estimated health effects. The inclusion and characterization of effects was based on determination by the NMVC HIA team, the Advisory Council, and health experts of whether the effects are plausible, logical, and evidence-based. See Figure IV, below, for a detailed description of the criteria used to classify food tax health impacts.

FIGURE IV

Legend: Food Tax Health Impacts

Criteria	Description
Expected Health Impact	*What is the expected health effect of a food tax on this health factor, according to data and literature?*
	Positive – Changes may improve health.
	Negative – Changes may harm health.
	Uncertain – Unknown how health might be impacted.
	Mixed – Changes may be positive as well as negative.
	None – No identified effect on health.
Likelihood of Impact	*How likely is it that the given impact will occur as the result of a food tax, based on data and literature?*
	Certain – It is certain that this impact will occur as the result of the proposed changes.
	Likely – It is likely that impacts might occur as the result of the proposed changes.
	Possible – It is possible that impacts might occur as the result of the proposed changes.
	Unlikely – It is unlikely that impacts might occur as the result of the proposed changes.
	Uncertain – It is uncertain that impacts will occur as the result of the proposed changes.
Magnitude of Impact	*How widely will the effects be spread within the population, based on data and literature?*
	Substantial – The effects will have a strong impact on many residents, a strong impact on a medium number, and/or a moderate impact on many.
	Moderate – The effects will likely have a strong impact on a few residents, a moderate impact on a medium number, and/or a small impact on many.
	Limited – The effects will likely have a moderate impact on a few residents, a small impact on a medium number, and/or a small impact on a few.
	Uncertain – It is uncertain that impacts will occur as the result of the proposed changes.
	None – Affects no people.
Equity Impact	*How will this change impact racial, economic, and/or health equity, based on data and literature?*
	Negative – This change will have a negative impact on equity.
	Positive – This change will have a positive impact on equity.
	Mixed – This change will have both positive and negative equity impacts.
	Uncertain – It is unclear if equity will be impacted by this change.
Distribution	*Which populations are most likely to be strongly affected by changes in this area, based on data and literature?*
Quality of Evidence	*How strong are the data and literature behind this projection?*
	******* – Strong data or literature.
	****** – Sufficient data or literature.
	***** – Lacks either quality data or literature.
Expected Impact Based on Stakeholder Projections	*What is the expected health effect of a food tax on this health factor, according to stakeholders?*
	Positive – Stakeholders expected changes to improve health.
	Negative – Stakeholders expected changes to impair health.
	Mixed – Stakeholders were divided in their opinions.
	None – Stakeholders anticipated seeing no change.
	N/A – Stakeholders didn't express their opinion about this issue.

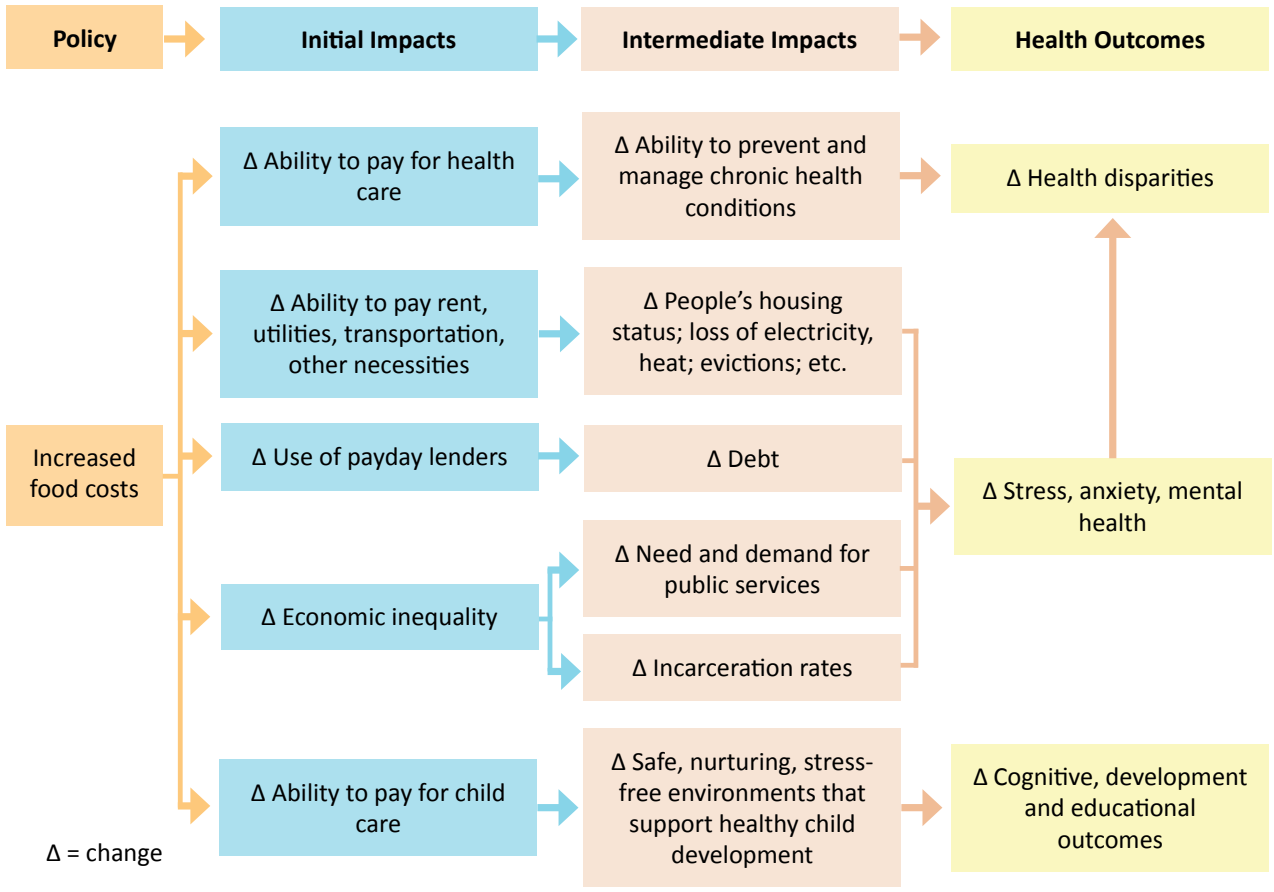
PATHWAY 1
Food Tax Impacts on Family Economic Security and Health

HOW A FOOD TAX MAY AFFECT NON-FOOD LIVING EXPENSES

Increases in the cost of purchasing food that will result from a food tax could affect the health determinant family economic security. In the Non-Food Budget Squeeze pathway (see Figure V, below), families react to a food tax by maintaining their current food consumption patterns, with increased food costs necessitating an increased family food budget. Without a complementary increase in family income, the bigger food budget would result in less money to spend on the other expenses of daily living such as rent, utilities and non-food purchases. Income, socio-economic status, and economic security—and with them the ability to afford basic necessities, services, and lifestyles that support both immediate and long-term health—are some of the most thoroughly documented and most important predictors of overall health status. When families are economically secure they are better able to afford quality housing situations, health insurance, and have access to preventive health services, are more likely to have disposable income, and likely more time to engage in the kinds of activities that are beneficial to health and happiness. Impacts to family economic security through budgetary constraint may thus lead to changes in health outcomes.

FIGURE V

PATHWAY 1: Family Economic Security: Non-Food Living Expenses and Health



PATHWAY 1
Key Findings and Recommendations

The Food Tax, Family Economic Security, Non-Food Living Expenses, and Health	
Key Findings	**Recommendations*:**
A food tax could negatively impact: • Mental health and stress • Disposable income • Financial security • Need and demand for public and private assistance • Childhood development and learning capacity • Economic equity • Ability to pay for health care and medicine • Ability to manage chronic conditions • Housing security	New Mexico should not tax food • The state should also: • Increase tax credits for low-income groups • Push for an increase in the minimum wage • Make changes to public service programs that will benefit low-income groups • Increase coordination and administrative resource sharing between agencies for administration of public support programs • Increase resources for and enforce compliance with the Health Information Act's data-sharing requirements

*A more detailed discussion of recommendations is included in the Policy Recommendations section of this report

PATHWAY 1
What We Learned from the Literature

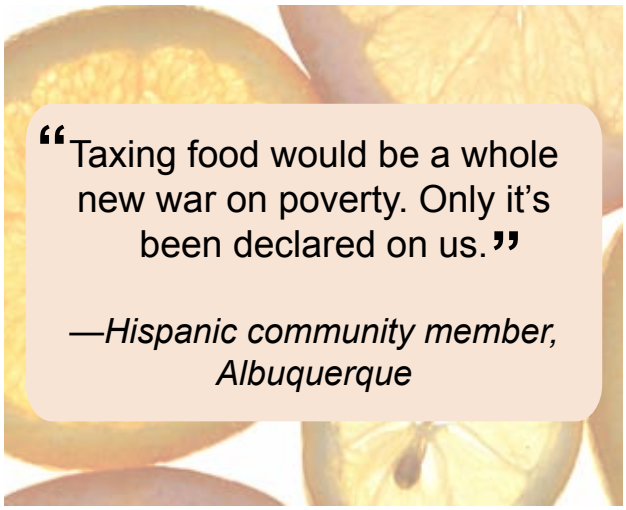
Studies show that low-income groups suffer from lower emotional, mental, and physical health, have poorer health habits, have significantly less access to medical care, and are more likely to be diagnosed with chronic conditions (particularly depression, high blood pressure, heart disease, and diabetes).[7] Research also shows that there is a strong correlation between family economic security and stress, with those of lower economic status and income much more likely to experience negative mental health and stress levels.[8]

Evidence suggests that poverty and low socio-economic status may have particularly long-lasting and powerful effects on children that start even before birth and continue through adulthood. For example, studies show that poor children confront significantly more physical and social risk factors than their wealthier counterparts, and that socio-economic status is associated with a variety of health, cognitive, and socio-emotional outcomes in children.[9] Literature has extensively documented that family income is a strong and consistent predictor of multiple indices of achievement, including standardized test scores, grades in school, and educational attainment, which can then also impact health.[10]

In addition to having a strong impact on childhood development and learning outcomes, low-income status has also been shown to be among the strongest contributors to food insecurity. One recent study showed that the cost of a healthy diet is $1.50 more per person per day than the cost of an unhealthy diet, and that even small decreases in income can translate into big barriers for healthy and sufficient eating.[11]

Studies also show that income is strongly related to a number of other health determinants. For example, research shows that low-income groups can least afford health services and healthy food and have the poorest access to basic health services and opportunities for health improvement.[12] Other studies show that low-wage and lower middle-wage workers and their families are the most likely groups to slip through a benefits gap, where do not receive employer benefits (such as paid sick leave and health insurance) and also make too much to be eligible for public assistance.[13]

(A comprehensive reporting of this HIA's literature review of the link between family economic security and health can be found in Appendix R, page 71.)



PATHWAY 1
What We Learned from the Data

ECONOMIC INDICATORS[14]

New Mexico ranks poorly as compared to other states on health determinant measures that are related to family economic security, in large part because our poverty rate is already so high. (See Appendices F and G, pages 55 and 56, for more demographic, poverty, and child well-being data.) Because it is regressive, a tax on food will hit hardest those who can already least afford it. Nationwide in 2014 (the most recent year data are available), 16 percent of the overall population and 22 percent of the child population lived below the federal poverty level (FPL). New Mexico's poverty rate is 21 percent (see Figure VI, below), and our child poverty rate is a troubling 30 percent (Figure VII, below). New Mexico has the worst child poverty rate and the next-to-worst overall poverty rate in the nation.[15]

Poverty rates are particularly high among people of color in New Mexico. Hispanics (26 percent), Native Americans (35 percent), and African Americans (22 percent) all have significantly higher rates of poverty than do non-Hispanic whites (13 percent) and Asians (12 percent) in New Mexico. Figure VIII (page 18) shows poverty rates nationwide, in New Mexico, and among different racial and ethnic groups in New Mexico.

While most other states have recovered from the recession, New Mexico's economic recovery has flat-lined. Nationwide, poverty rates have continued to improve for the past few years. However, New Mexico's poverty rate actually increased from 2012 to 2013. This makes New Mexico one of only three states to see poverty go up during that time period. From 2013 to 2014, New Mexico's overall poverty rate remained unchanged.

Census data trends also show that while the poverty rate among Hispanics nationwide continues to fall, New Mexico's Hispanic poverty rate increased from 2012 to 2013. This is especially important because Hispanics are the largest ethnic group in the state, and 15,000 more Hispanics dropped below the poverty line in 2013. There was not a significant change in the poverty rate among Hispanic New Mexicans from 2013 to 2014, though nationwide the Hispanic poverty rate improved.

Recent data tell the same story about kids living in poverty. Nationwide and in most states, the percentage of kids in poverty is improving. However, New Mexico was one of only three states to see child poverty get worse from 2012 to 2013. From 2013 to 2014, child poverty remain unchanged. However, because New Mexico's rate stagnated while others' continued to improve, New Mexico is now ranked worst in child poverty among the states.

The median household income in New Mexico, at $44,803, is lower than the national average of $53,657. As with other economic indicators, income among Hispanics and Native Americans in New Mexico is lower than both the state average and that of non-Hispanic whites. While the nation overall saw an increase in

FIGURE VI

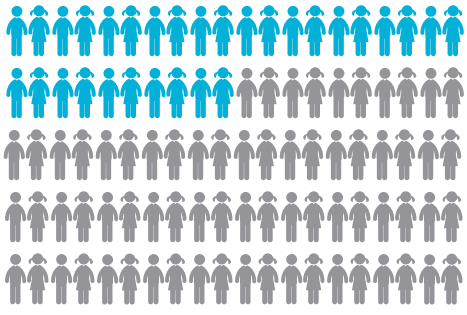
21% of New Mexicans live in poverty

Percentage of total population living at or below the poverty level (2014)

FIGURE VII

30% of New Mexico children live in poverty

Percentage of children living at or below the poverty level (2014)



Source (for both): U.S. Census Bureau, 2014 American Community Survey
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median household income from 2013 to 2014, New Mexico's income stayed flat, and median incomes are still 8 percent below what they were before the recession.[16] Figure IX shows the median income nationwide, in New Mexico, and among different racial and ethnic groups in New Mexico.

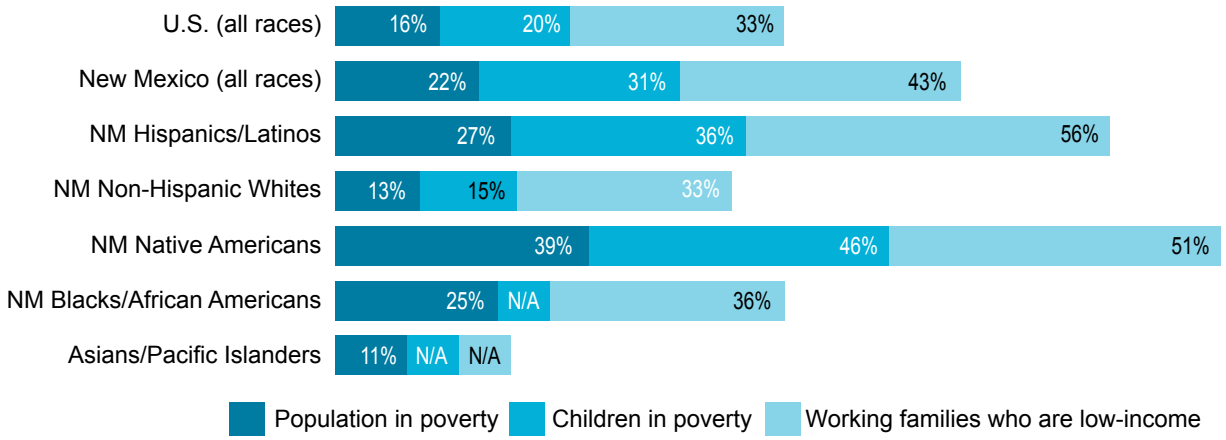
Stagnant incomes are also reflected in the fact that New Mexico has the next-to-highest rate (42 percent) of working families that are low-income (below 200 percent of FPL).[17] Rates of low-income working families are even higher among Hispanics (56 percent) and Native Americans (51 percent). Low-income families are more likely to suffer from food insecurity,[18] and it is noteworthy that 53 percent of the New Mexico households that seek food assistance include at least one working adult.[19] Figure VIII, below, shows the working low-income rate nationwide, in New Mexico, and among different racial and ethnic groups in New Mexico.

New Mexico has also seen relatively flat job growth month to month and year to year. New Mexico has the worst rate of long-term unemployment out of all 50 states, with 45 percent of the state's unemployed population looking for work for more than six months.[20]

FIGURE VIII

New Mexico's Hispanic, Native American, and Black populations are more likely than non-Hispanic whites to be poor or low-income

The percentage of adults and children in poverty and the rate of working families who are low-income (2013)



Source: US Census, American Community Survey, 2013
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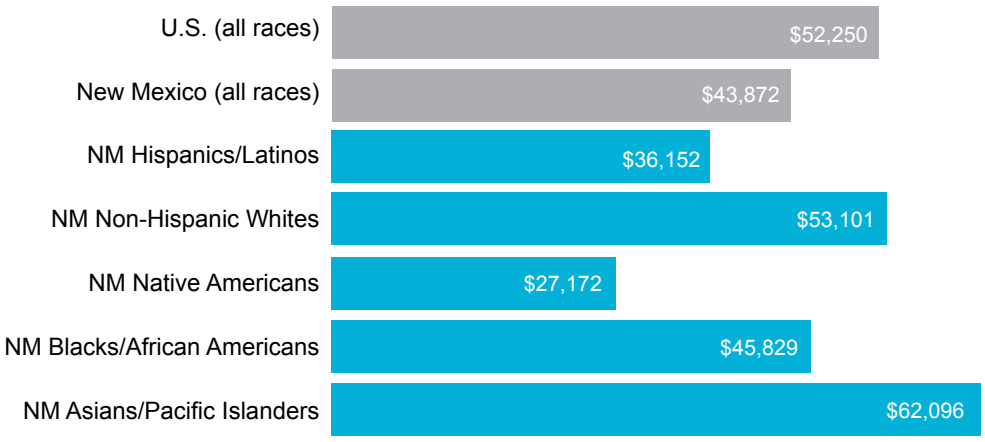
FIGURE IX

New Mexico's median household income levels show significant disparities by race/ethnicity

Median household incomes in the U.S. and New Mexico by race/ethnicity (2013)



Source: US Census Bureau, American Community Survey, 2013
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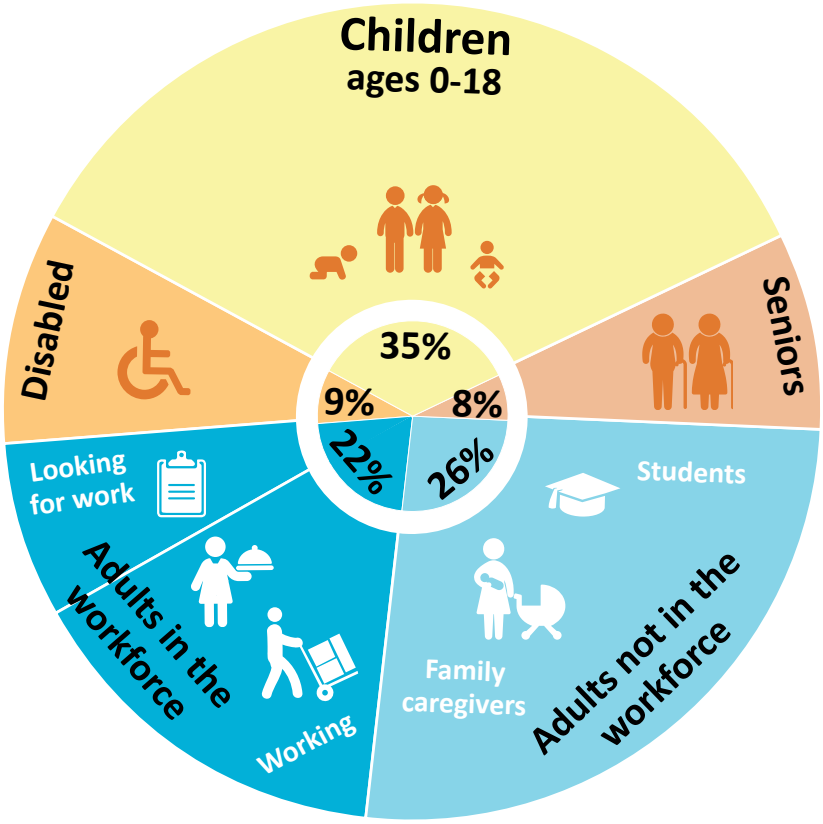
FIGURE X

More than half of low-income New Mexicans don't work because they are either too young, too old or are disabled

New Mexicans for whom poverty status is determined by age and work status



Source: Estimates based on data from U.S. Census, 2011-2013 and 2014 ACS
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FIGURE XI

42% of New Mexico's working families are low-income

Percentage of working families who earn incomes below 200% of the poverty level (2013)

Source: Working Poor Families Project analysis of 2013 U.S. Census American Community Survey data
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INCOME INEQUALITY

To compound our inability to recover from the recession, New Mexico has one of the highest rates of income inequality. Only five other states and the District of Columbia are worse. In New Mexico, those in the top quintile, with an average income of $161,545, earn more than 15 times the average income of $10,400 for the bottom quintile (see Figure XII, below).[21] According to the Census, income inequality nationwide increased in 2013 and is at near-record levels.[22] This is problematic because economic recoveries happen more quickly when the income and employment increases are more broadly shared and spread across all income levels. However, in contrast with past economic recoveries, the recovery of the last recession has taken longer to reach low- and middle-income earners. As the gap between the wealthiest and the poorest gets bigger, income gains in New Mexico—including recession recovery gains—are going very disproportionately to the richest.

FOOD CHOICES AND FOOD COSTS

Low-income families have little leeway when budgeting for their monthly expenses. Everything—from their rent to their groceries, to their transportation—takes up a bigger portion of their monthly income than it does for high-income earners. Many of these families are one illness, one car repair, or one rent increase away from financial disaster. As it stands now, on average, the lowest quintile of New Mexico households spends 26 percent of their income on food purchases, whereas the highest income earners spend only 3 percent of their income on the same (see Figure XIV, page 21).

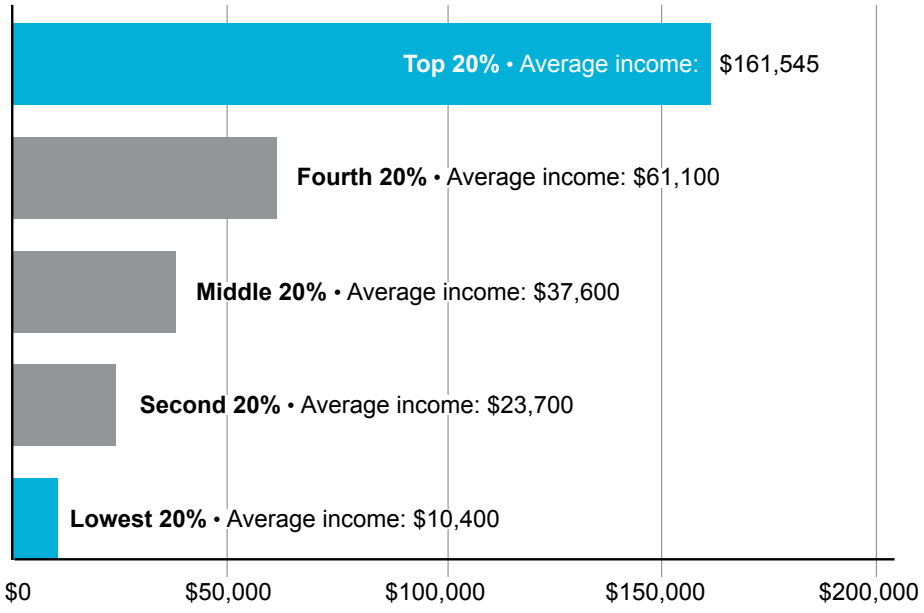
Because food requires such a large portion of their budget, low-income New Mexicans often have to make very difficult choices, pitting their need for food against other needs. A survey conducted by the New Mexico Association of Food Banks found that food bank customers often have to choose between buying food and other basic necessities (see Figure XIII, page 21).

In terms of costs, New Mexico does benefit from lower costs of living, including food costs, than most other states. The national average spent on meals by food-secure individuals was $2.79 compared with $2.66 in New Mexico[23]—but since New Mexico also has a much lower median income than the U.S. as a whole, food costs are still a relatively serious issue. Some counties have food costs that go above $3 per meal like Colfax ($3.15), Harding ($3.06) and Taos ($3.41), and some —Mora, Eddy, Lea, and Sandoval, among others—that average very near $3 per meal, which makes it harder for low-income individuals and families in those counties to stretch their food dollars.

FIGURE XII

New Mexicans in the top 20% earn, on average, more than 15 times what those in the bottom 20% earn

Average income of New Mexico tax filers by quintile (2015)



Source: *Who Pays?*, Institute on Taxation and Economic Policy, 2015
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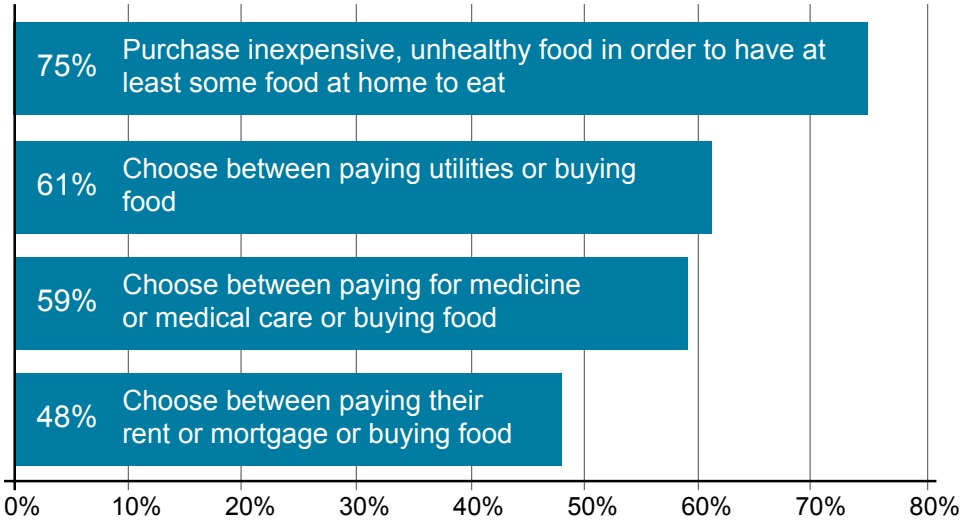
STATE AND LOCAL TAXES IN NEW MEXICO

The real-life impact of these negative economic indicators may be especially hard felt by New Mexico's low-income residents partly because the state already has a relatively regressive tax system. In New Mexico, low- and middle-income earners pay a larger share of their income in state and local taxes than do those in high income brackets (see Figure XV, page 22). (See Appendix H, page 57, for a breakout of each type of tax.) In other words, state and local taxes—particularly sales and property taxes—take up a higher percentage of incomes at the lowest end of the scale. That's because the smaller your paycheck, the more of it you spend just on day-to-day living expenses—most of which are taxed.

FIGURE XIII

New Mexicans with low food security must make tradeoffs in order to get by



Sources: NM Association of Food Banks Survey, and *Map the Meal Gap, 2014*, Feeding America
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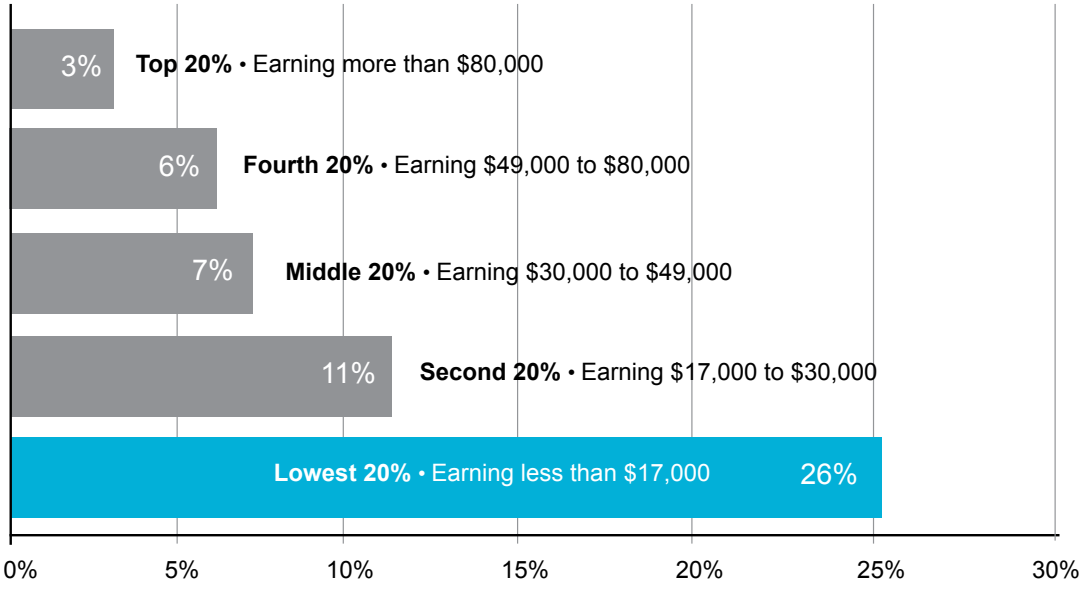
FIGURE XIV

Those with the lowest incomes must spend the largest share on food

Percentage of income spent on food for consumption at home by quintile (2013)



Source: Bureau of Labor Statistics, Consumer Expenditure Survey, 2013
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A FOOD TAX IS REGRESSIVE

New Mexico's tax system is already regressive, meaning those with the lowest incomes pay the highest percentage of their incomes in taxes. Because of this and the fact that low-income groups spend a disproportionate amount of their income on grocery purchases, a tax on food would be regressive and would disproportionately negatively impact low- and lower-middle-income households. This violates the New Mexico Legislative Finance Committee's (LFC's) official "Tax Policy Principles": equity—that idea that different tax payers (in this case, in different income groups) should be fairly impacted by changes to the tax code[24] (for the full list of tax principles, see Appendix L, page 62).

If food was taxed at the current average tax rate in New Mexico (6.9 percent), it would total about $260 million in revenue and average out to approximately $350 per household per year, or around $29 per month. However, this amount varies by income level, and would be much harder to absorb for lower-income families than it would for higher-income households. Figure XVI (page 23) shows how much a food tax would cost taxpayers by income group as a percentage of income (see Appendix I, page 58, for a complete discussion of these findings and the methodology behind them). The inequity is substantial. The lowest 10th percentile of income earners in New Mexico will pay more than double the portion of their income on a tax on food than the richest 10th percentile of earners on this same tax. As stated previously, a tax that takes a higher percentage of earnings from low-income people than from high-income people is considered regressive. A food tax will undoubtedly add to the New Mexico tax system's already significant tax regressivity.

Calculations also show that families in certain localities will face a greater burden than those in other cities and counties, as gross receipts taxes and the amount of money spent on food purchases varies by city and county (see Figure XVII, page 23, and Appendices J and K, pages 60 and 61). For example, gross receipts tax rates vary from 5.8 percent in Catron County to 7.96 percent in Santa Fe County. The average amount that a food tax will cost a resident of each county was found by applying the current GRT rate to the total food deduction receipts in that area and dividing by the total population. This amount ranges from less than $15 per person per year in Mora County to more than $450 per person per year in Sandoval County.

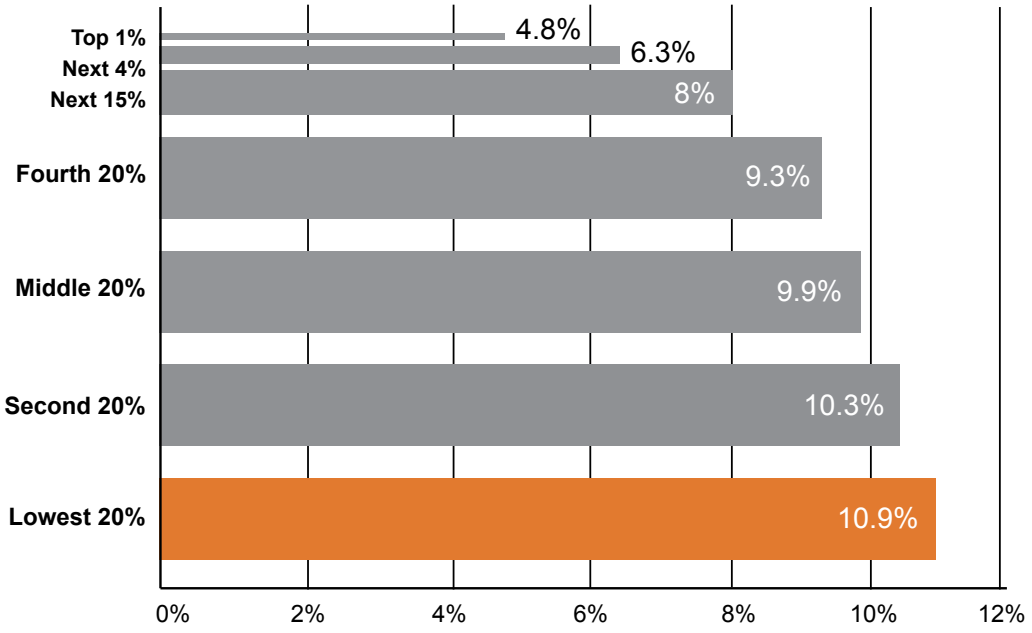
MENTAL HEALTH AND STRESS

As is noted in the literature review, there is a strong correlation between family economic security and health, with those of lower economic status and income much more likely to experience negative mental health and stress levels.[25] New Mexico fares worse than the nation

FIGURE XV

State and local taxes fall most heavily on those with the lowest incomes

New Mexico tax incidence by income quintile (2015)



Source: *Who Pays?*, Institute on Taxation and Economic Policy, 2015
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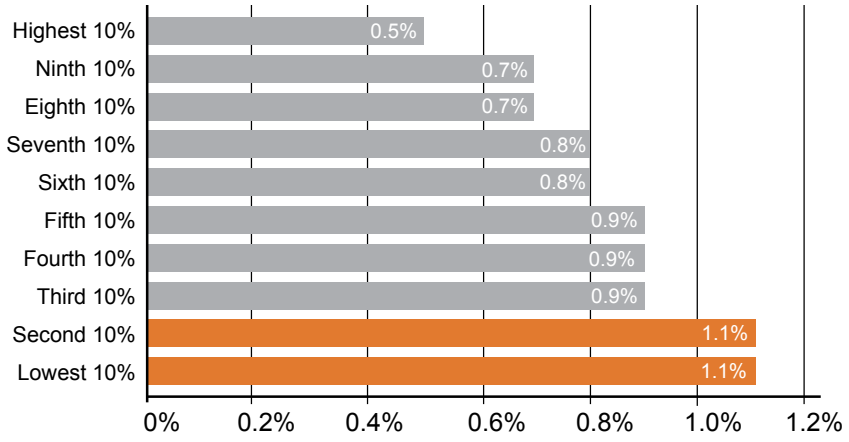
in most measures of mental health. While the national suicide rate is 11.6 per 100,000, New Mexico has a far higher—and one of the worst—suicide rates (at 19.1 per 100,000) in the nation.[26]

New Mexico also has higher rates of depression than the nationwide average, and people of color are more likely to experience depression, both nationwide and in New Mexico.[27] In New Mexico, 16 percent of residents said that they felt depressed all or most of the last month, and rates were higher among Hispanics (20 percent), Native Americans (18 percent), and African Americans (17 percent) than among non-Hispanic whites (13 percent).[28]

FIGURE XVI

A tax on food will lean most heavily on those with the lowest incomes

Amount and percentage paid on food tax by income tenths



Source: NM TRD *Report 80* for FY15
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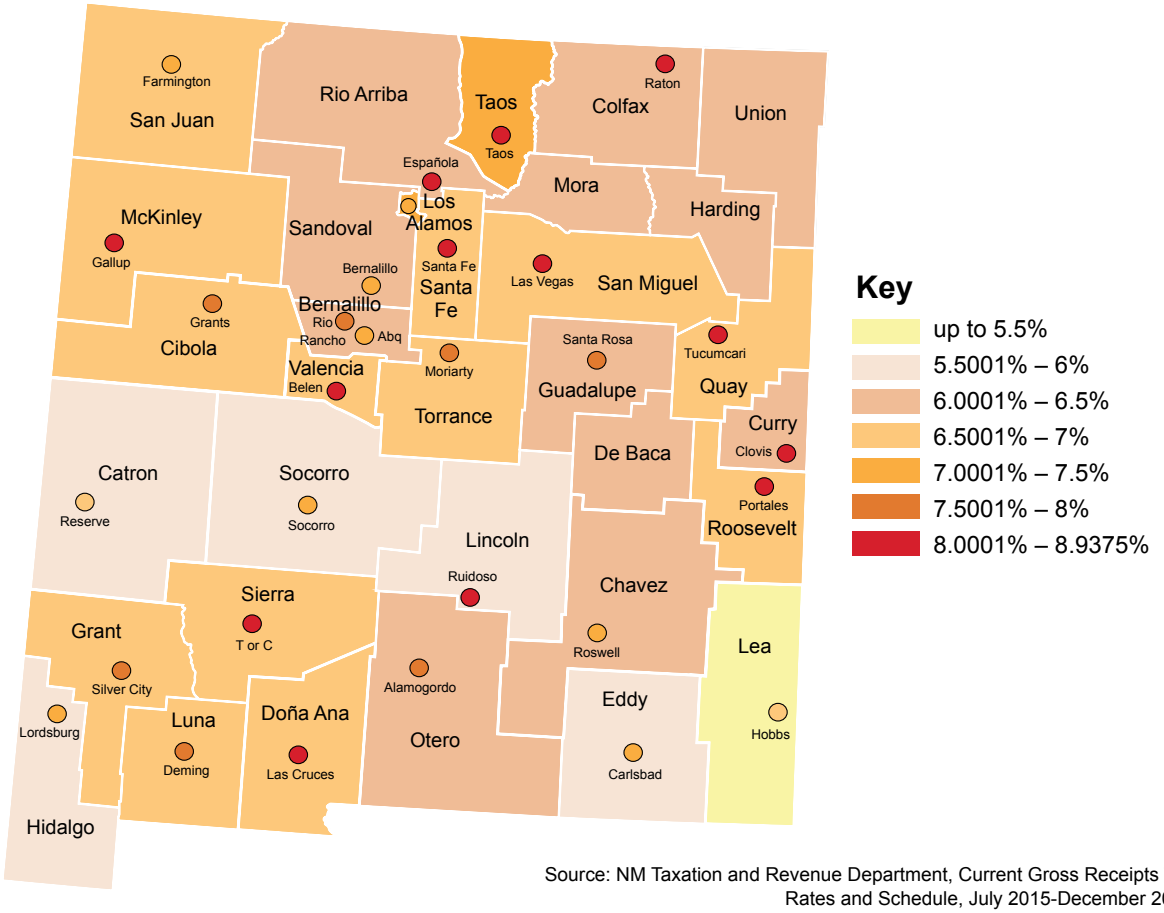
FIGURE XVII

New Mexico's gross receipts tax rates vary greatly by city and county

Gross receipts taxes rates by city and county (2015)



Source: NM Taxation and Revenue Department, Current Gross Receipts Tax Rates and Schedule, July 2015-December 2015
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PATHWAY 1
What We Learned from Stakeholders

KEY STAKEHOLDER INTERVIEWS

The cost of food was identified by every key-stakeholder interviewed as a major source of concern and cause of stress for the populations they served. Many key stakeholders noted that people are often out of food by the end of the month and, for those who receive them, out of SNAP benefits by the end of the month. They also noted that many food insecure and low-income populations in New Mexico are regularly forced to choose between buying food and purchasing other necessities.

The key stakeholders predicted that a tax on food would lead to more purchases of cheaper food, more purchases at big-box retailers (versus local stores, which keep more money in local economies), increased demand for public assistance safety net programs, increased demand at food pantries, and eventual cuts to other necessary items such as rent, utilities, and medicine.

"It would put additional stress on food pantries. We'd see an increase in the food assistance services needed. We'd see more people in line and earlier in the month; and we'd eventually see our supply decrease because demand went up."
—Robert Nelson, former program manager, Rio Grande Food Project

"Food options are already so limited for low-income groups. If food costs go up, they will be forced to go for the more processed, less healthy, cheaper foods, or they will buy less food because they have to choose between buying food and paying for a bus pass, for utilities, or for medicine. These are very extreme life and death choices that people make every day when they have little income."
—Jenny Metzler, executive director, Albuquerque Health Care for the Homeless

The key stakeholders interviewed also identified low-income families and individuals, children, seniors, people in rural areas and food deserts, grandparents raising grandchildren, and already food-insecure populations as those most likely to feel negative impacts as a direct result of a tax on food.

"In the end, the people who we are going to punish with a tax on food are the ones who don't have very much and the ones who can least afford it; the ones who have the least are the ones who are going to pay the highest price."
—NM emergency food service provider employee

"We have given a lot of tax advantages to people at my income and higher. We're the people who can afford the $300 per year. But it is poor people who have incomes that don't stretch beyond anything but the necessities that will be hit the hardest. To them, $300 will make a big difference."
—Dr. Lance Chilton, pediatrician

FOCUS GROUPS

Focus group responses demonstrated a concern that a tax on food would threaten economic security for low- to moderate-income families, SNAP recipients, and those who were food insecure. Focus group participants were acutely aware of the cost of food, and all identified the cost of food as a major source of stress. In fact, all participants responded in the affirmative to the question: "Do you ever have feelings of stress, anxiety or depression when shopping for food, making food, or thinking about providing food for you and your family?"

"Grocery shopping is already stressful for me. I'm trying to stay within the budget, and adding up with my calculator. I feel almost embarrassed because I'm sitting there in the store and I'm adding up all my things, and I'll stop and I'll pull aside and I'll go through with my grocery cart, and I'll be adding up my stuff again, making sure I'm getting everything right. And then I know I'm too close to going over, I still have a lot of stuff I need, then I'm like, 'Okay, now what can I put back? What do I not absolutely have to have?'"
—Albuquerque community member

"I get anxious because I know my mom has diabetes, and because I had gestational diabetes when I was pregnant, so I became more conscientious of things like sugars and carbohydrates in food. And the ones that have the less of those are usually the ones more expensive too, so that is where [the cost of food comes back in]. I want to eat better, I want to be healthier, but I can't afford it… So it perpetuates poverty in our communities, and that is why the food tax doesn't make any sense for us right now or ever."
—Native-American community member, McKinley County

"[A tax on food] would stress me out a lot."
—Native-American community member, McKinley County

Though most focus group participants receive SNAP benefits, all said that the benefits did not cover their families' food needs for the month. Participants also shared that they have had to choose between purchasing

food and purchasing other necessities, and that they would be put in even harder positions if the cost of food rose.

"$25 doesn't seem like a lot until you don't have a dollar to your name. Then, it is like a small fortune."
—Albuquerque community member

"It is either buying food or paying our utility bill."
—Native-American community member, McKinley County

"$25 means skipping a prescription. Already, I don't feel well and ask myself, 'how come I don't feel well?' And it's because I passed on the prescription to buy groceries."
—Albuquerque community member

"[$25 per month is what I spend on transportation.] I'd have to hitchhike or be back on foot."
—Native-American community member, McKinley County

"As it is, we don't qualify for the free/reduced lunches, but we can't afford to buy food to pack their lunches every day or buy them their lunches at school."
—Albuquerque community member

"You don't earn any more than the same amount, all the time. The check comes and it's the same amount, but yet just food costs keep rising. It is an impossible situation."
—Hispanic community member, Doña Ana County

"Whenever I'm stressed with money and don't have enough, I buy [my son] the dollar frozen pastas in the frozen section. And I feel guilty giving him those because they aren't healthy, but when you buy something that is good, it's costly, and then you feel the guilt, 'Oh shit, I spent that money. Maybe I should have paid the electricity.'"
—Albuquerque community member

PATHWAY 1
Overall Findings

This HIA finds that reinstating a tax on food could likely have a negative impact on family economic security and, through that pathway, could harm health. Figure XVIII, below, presents a summary of these findings, and the implications for different health determinants and impacts.

FIGURE XVIII
Summary of Health Impacts on Family Economic Security: Non-Food Spending

	Based on Literature and Research Findings						
Health Factor or Health Outcome	Expected Health Impact	Likelihood of Impact	Magnitude	Equity Impact	Distribution (Who will be most impacted?)	Quality of Evidence	Stakeholder Projections
Mental health and stress levels	Negative	Likely	Moderate	Negative	Low-income residents, families with children, those with mental illness, those that are housing insecure or homeless	***	Negative
Disposable income	Negative	Certain	Moderate	Negative	Middle- and high-income residents	***	Negative
Financial security	Negative	Certain	Substantial	Negative	Low- and middle-income residents	***	Negative
Need and demand for public assistance and food banks	Negative	Certain	Moderate	Negative	People experiencing poverty, low- and middle-income, families with children	**	Negative
Learning capacity and educational outcomes	Negative	Possible or likely	Moderate	Negative	Children and pregnant mothers in food insecure or low-income residents	***	Negative
Economic equity	Negative	Likely	Substantial	Negative	All residents	***	Negative
Ability to pay for health care and medicine	Negative	Possible or likely	Moderate	Negative	People experiencing poverty, low-income residents, people with chronic conditions, seniors	***	Negative
Ability to manage chronic conditions with diet and nutrition	Negative	Likely	Moderate	Negative	People experiencing poverty, low- and middle-income households, people with chronic conditions, food insecure residents, seniors, those in rural areas and in food deserts	***	Negative
Tax system regressivity	Negative	Certain	Moderate	Negative	All residents	***	Negative

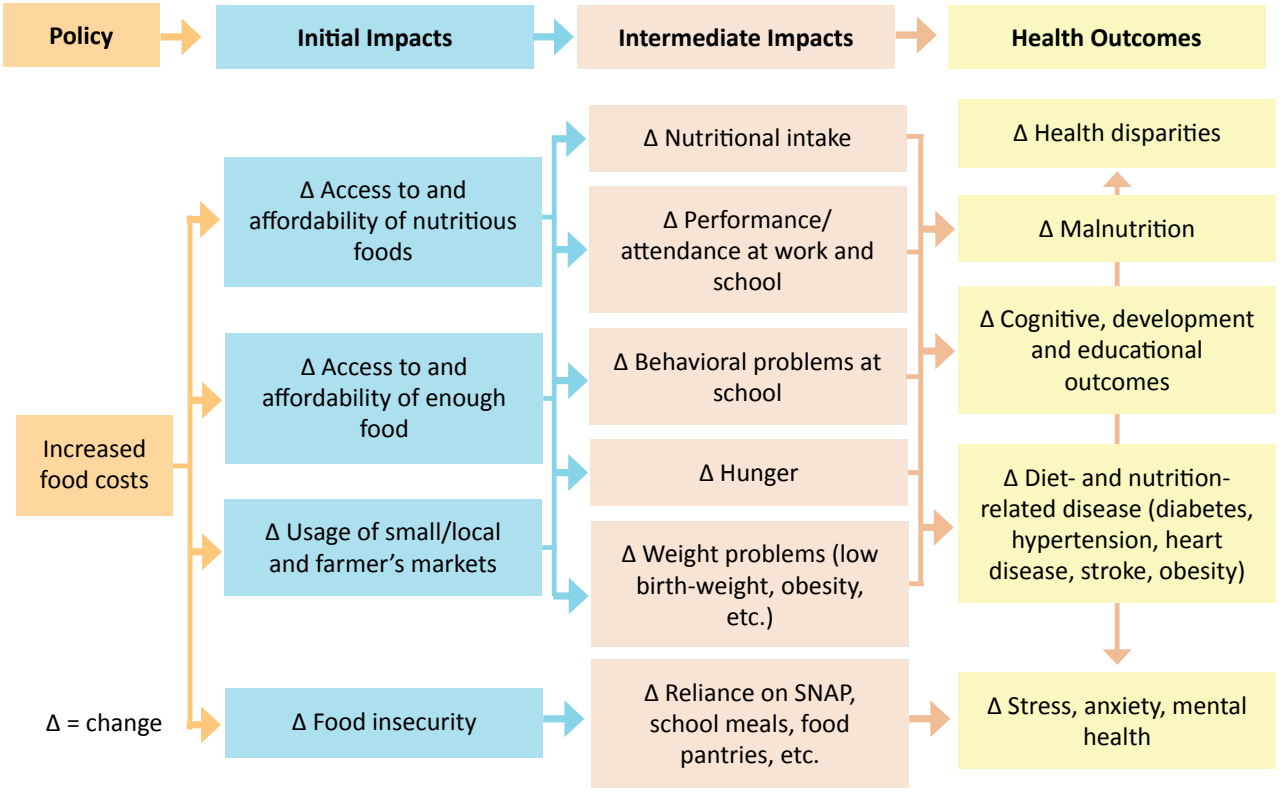
PATHWAY 2
Food Tax Impacts on Food Security, Diet, Nutrition, and Health

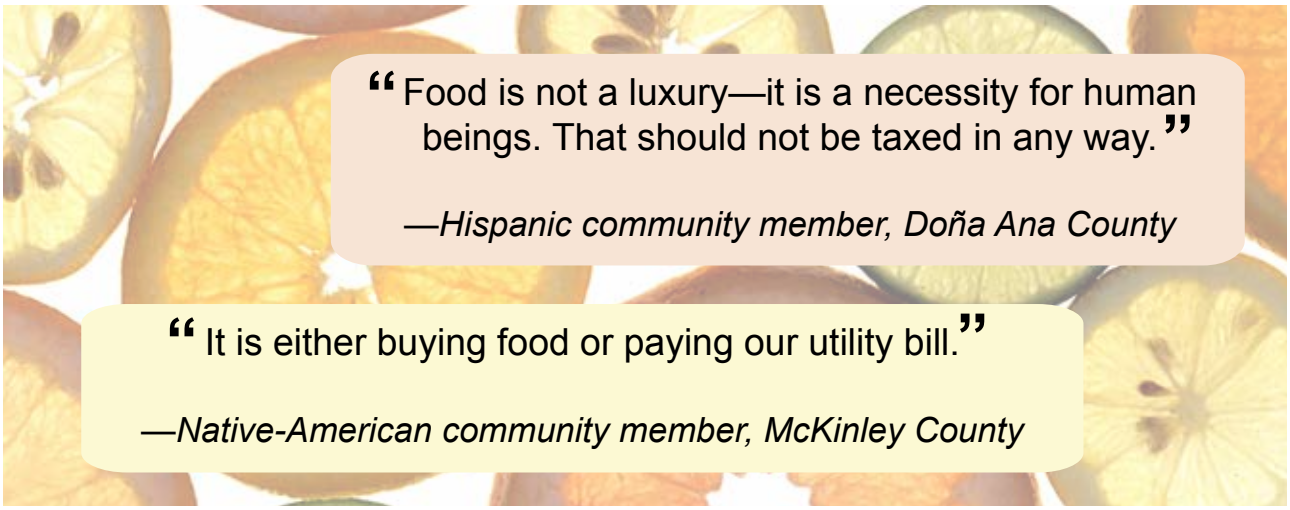
HOW A FOOD TAX MAY AFFECT PURCHASES OF FOOD

A tax on food, and the resulting strain on family economic security could also impact the health determinants of food, diet, and nutrition. If families and individuals do not react to an increased cost of food by decreasing other parts of their family budget, and instead maintain their current food budget, they may have to either buy less food or buy cheaper food. This may impact food insecurity levels, food choices, and overall diet and nutrition, which in turn could lead to changes in diet- and nutrition-related health outcomes, as shown in Figure XIX, below.

FIGURE XIX

PATHWAY 2: Family Economic Security: Food Insecurity, Diet and Nutrition





PATHWAY 2
Key Findings and Recommendations

The Food Tax, Family Economic Security, Food Security, and Health	
Key Findings	**Recommendations*:**

A food tax could negatively impact:
• Food insecurity and hunger
• Incidence of nutrition-related chronic conditions
• Ability to manage nutrition-related chronic conditions through diet
• Childhood development and learning capacity
• Malnutrition issues
• Incidence of low birth-weight or pre-term babies
• Need and demand for public and private assistance
	New Mexico should not tax food
	• If necessary for revenue, increase taxes in other areas
	• The state should also:
	  • Increase appropriations for services directly related to food insecurity and hunger
	  • Make changes to SNAP program that will benefit low-income groups
	  • Maximize use of federal dollars for food programs
	  • Increase coordination and administrative resource sharing between agencies for administration of assistance programs
	  • Increase resources for and enforce compliance with the Health Information Act's data-sharing requirements
	  • Consider legislation that addresses food desert zoning

*A more detailed discussion of recommendations is included in the Policy Recommendations section of this report	

PATHWAY 2
What We Learned from the Literature

Studies show that people who experience food insecurity and poor nutrition are more likely to have chronic conditions such as diabetes, obesity, cardiovascular illnesses, and other nutrition-related illnesses.[29] Research also links food insecurity to a number of other health determinants and health outcomes including iron deficiency anemia, depression, lack of sleep and difficulty going to sleep, increased health care costs, low birth-weight, pre-term birth, and poorer socio-emotional, cognitive, developmental, and educational outcomes in children.[30]

Food prices have also been shown to have a strong impact on food purchasing decisions. Extensive economic research on the elasticity of food (that is, the change in demand for a product from a change in price) demonstrates that the cost of food impacts the purchase of healthy food choices: if costs go up, purchases of fresh fruits and vegetables decreases, and vice versa.[31] Studies show an affirmative correlation between an increased cost of fresh fruits and vegetables and obesity.[32] Other studies suggest that cost constraints force low-income families and pregnant mothers to decrease their intake of more costly meats, dairy and fresh produce while simultaneously increasing the proportions of foods containing grains and added sugar and fats.[33]

Research shows that there is a strong, but seemingly paradoxical link between food insecurity and diabetes and obesity, especially among women and children, and that obesity rates are highest in populations with the highest poverty rates.[34] More research on this issue is needed, but many studies on the topic suggest that the reason behind this link is that low-income groups often opt for processed foods that are made with refined grains or with additional sugars or fats because they are usually cheaper than healthier foods, but also relatively filling.[35]

(A comprehensive reporting of this HIA's literature review of the link between family economic security and health can be found in Appendix R, page 71.)

PATHWAY 2
What We Learned from the Data

FOOD INSECURITY

Seventeen percent of New Mexico's entire population is food insecure. Rates of food insecurity are particularly high in households with low incomes and in single-parent households with children; and 28 percent of New Mexico's children are food insecure (see Figure XX, below).[36] New Mexico ranks third in the U.S. in child food insecurity.[37] Food insecurity rates for each county, and the fact that childhood food insecurity is significantly higher than overall food insecurity, are illustrated in Figure XXIII (page 30). Eleven percent of New Mexico mothers report not having enough to eat during pregnancy, with rates particularly high among Native-American mothers (20 percent) and low-income mothers (18 percent).[38] More than 70,000 hungry New Mexicans seek food assistance every week. Between 30 and 40 percent are children, and 21 percent are seniors over the age of 60.[39]

People of color are more likely to be food insecure than are non-Hispanic whites. Nearly one in four (24 percent) Hispanic households nationwide are food insecure as compared to just one in ten (11 percent) of non-Hispanic white households and one in seven (14 percent) households overall.[40] More than one in four Hispanic children (30 percent) live in food-insecure households as compared to one in seven (15 percent) non-Hispanic white children.[41]

FIGURE XX

28% of New Mexico children don't always get enough to eat

Percentage of children who are food insecure (2013)

Source: *Map the Meal Gap*, Feeding America, 2015
NEW MEXICO VOICES FOR CHILDREN

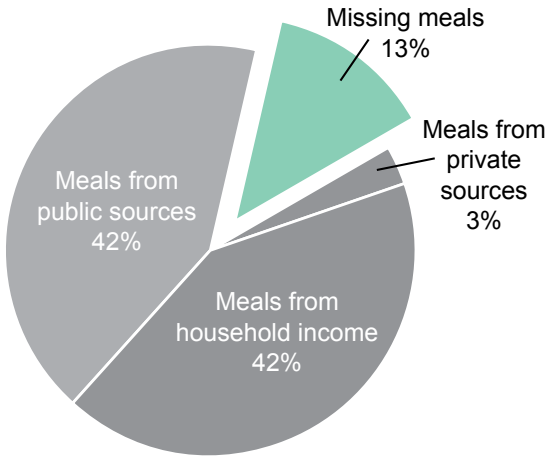
By looking at how many meals are covered by public food benefits (i.e., SNAP, WIC, and school lunches), food pantries, and by the household using its own income, researchers in one study were able to estimate the number of meals that low-income families go without (see Figure XXI, below). The study commissioned by the New Mexico Association of Food Banks estimated that New Mexico's low-income population misses out on 117 million meals every year, which equates to each low-income person missing 12 meals every month.[42] That's the equivalent of having a city the size of Santa Fe need emergency food every seven days. The same study showed that meal gaps are spread across urban and rural communities, with 15 percent of Bernalillo County's and 20 percent of Catron County's low-income population's meals unaccounted for or "missing."

In addition to not having enough food to eat, New Mexicans do not eat enough healthy food. Only 18 percent of New Mexico adults eat the recommended five or more fruit and vegetable servings per day. Among New Mexico's child and teen population, only 21 percent eat the recommended servings[43] (see Figure XXII, page 29). A survey done by the New Mexico Association of Food Banks found that 75 percent of food bank customers reported purchasing inexpensive, unhealthy food as the most common way to have at least some food at home to eat.[44]

FIGURE XXI

Low-income New Mexicans miss 13% of their meals—or 3 per week

New Mexico meals for those who are food insecure by source (2010)



Source: *Missing Meals in New Mexico*, NM Association of Food Banks, 2010
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FOOD INSECURITY IN NEW MEXICO SENIORS

Nationwide, 15.5 percent of all seniors faced the threat of hunger, compared with 9.5 percent in New Mexico in 2013. This puts the state third best in the nation in terms of seniors facing the threat of hunger, which is good news. Data also show, however, that the percentage of seniors 65 and older living in poverty in New Mexico is 29.1 percent compared with a nationwide rate of 22 percent. McKinley, Cibola, San Miguel, and Sierra counties all have senior poverty rates above 35 percent.[45]

Looking at one subset population, there is a much greater likelihood nationwide of food insecurity in seniors living with grandchildren compared with those not living with grandchildren (32.6 percent versus 14.6 percent).[46] Since New Mexico has higher rates of grandparents living with grandchildren (4.6 percent) and responsible for grandchildren (2.4 percent) compared with national rates (3.8 percent and 1.5 percent), this subpopulation is a vulnerable group. (Please note that these census data include adults ages 30 and older, because not all grandparents are seniors.[47])

FOOD DESERTS AND FOOD ACCESS IN NEW MEXICO

Contributing to New Mexico's food insecurity problem is the fact that half of the state is considered a food desert, or an area without ready access to fresh, healthy, and affordable food. Food access is an important health determinant because the lack of access can make it harder to eat healthy. New Mexico as a whole ranked ninth in the rate of difficulty accessing affordable fresh fruits and vegetables (2008-2010) in both households with children and all households. That New Mexico is a rural state is part of the reason for this, but urban areas are also affected. Albuquerque ranks fourth among 100 metro areas in the U.S. for the highest rate of difficulty accessing affordable fresh fruits and vegetables in households with children and 13th in all households.[48] Figure XXIV (page 31) shows the percentage of the population in each county that has limited food access to supermarkets, grocery stores, or other sources of healthy and affordable food. Figure XXV (page 31) shows the same information, but for the percentage of the population in each county that has low access and is also low income.

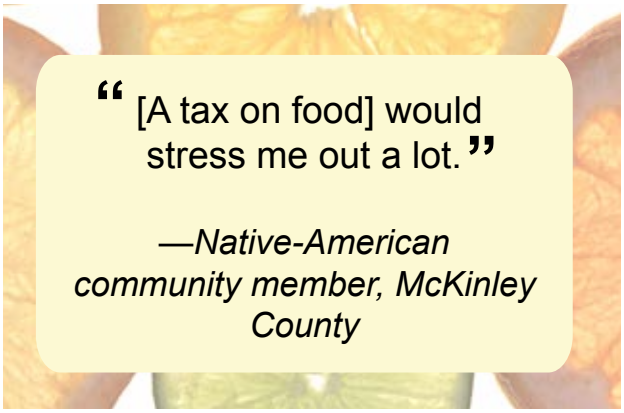


FIGURE XXII

More than 80% of New Mexico's adults and 79% of its children and teens are not eating enough fruits and vegetables

Percentage of adults and children and teens in New Mexico not eating the recommended five or more fruit and vegetable servings per day

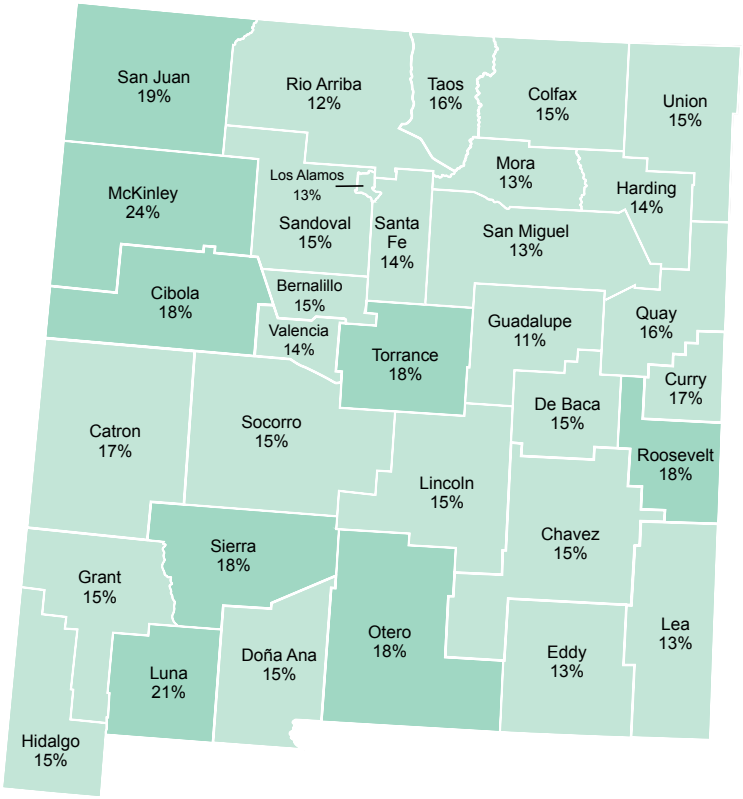
Source: NM Youth Risk and Resiliency statewide survey, NM Department of Health, IBIS, 2007, 2009, 2011 compiled data
NEW MEXICO VOICES FOR CHILDREN

FIGURE XXIII

Food insecurity is far worse among New Mexico's children than the state's population as a whole

The percentage of New Mexicans (all ages) who are food insecure by county (2013)

The darker the color, the higher the food insecurity. The rate for the state is 17%.

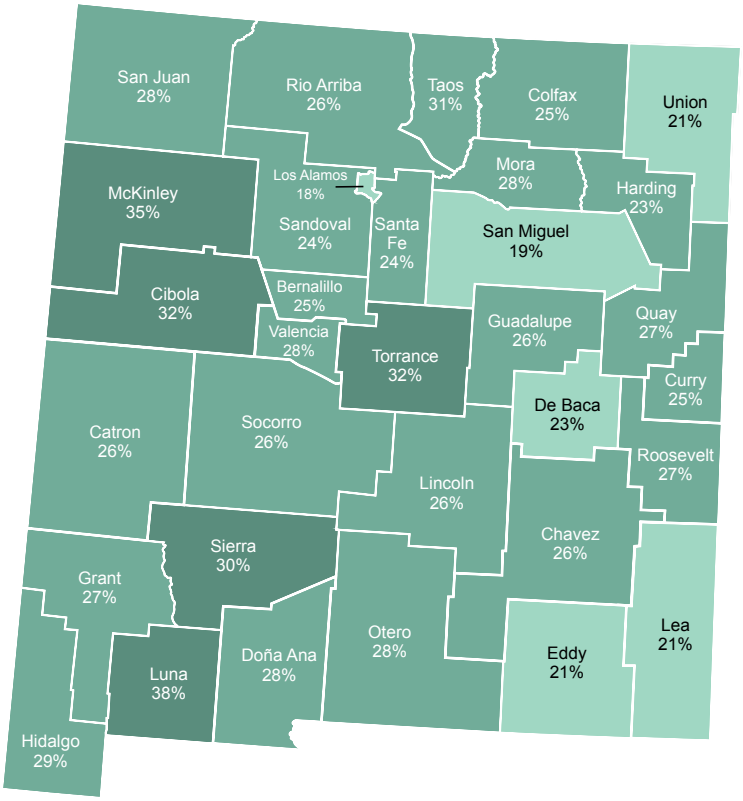


Key

- 11% – 17%
- 18% – 24%
- 25% – 31%
- 32% – 38%

The percentage of children (ages 0-18) who are food insecure by county (2013)

Note that food insecurity is significantly higher for children than for the population in general. The rate for the state's children is 28%.



Source: *Map the Meal Gap 2015*, Feeding America

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FIGURE XXIV

Three New Mexico counties are complete food deserts

The percentage of the population with low access* to a grocery store by county (2010)

The darker the color, the higher the percentage of the population that has low access to a grocery store.

Key

- 0%-25%
- 26%-50%
- 51%-75%
- 76%-100%

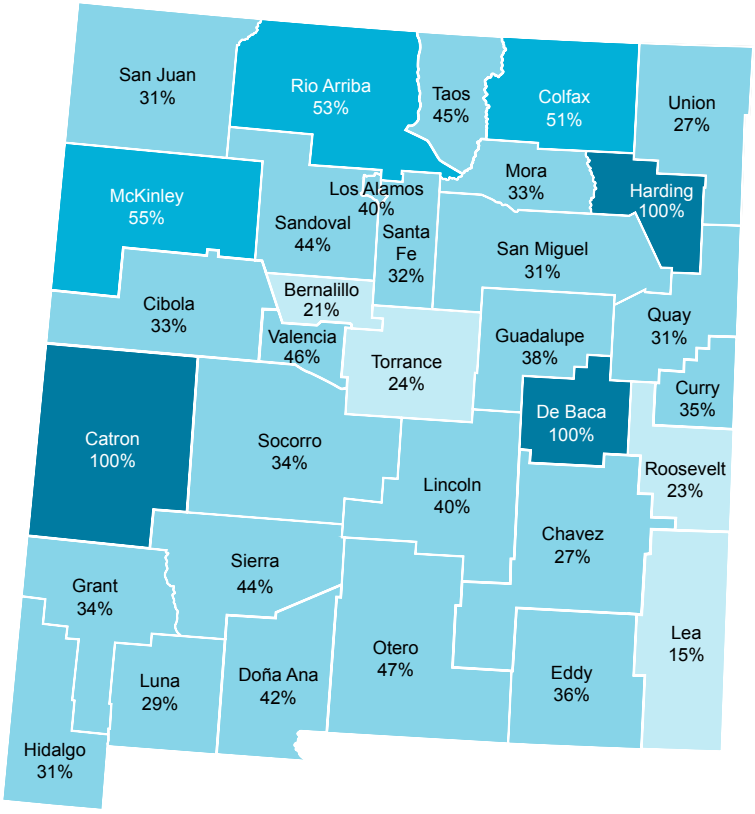


FIGURE XXV

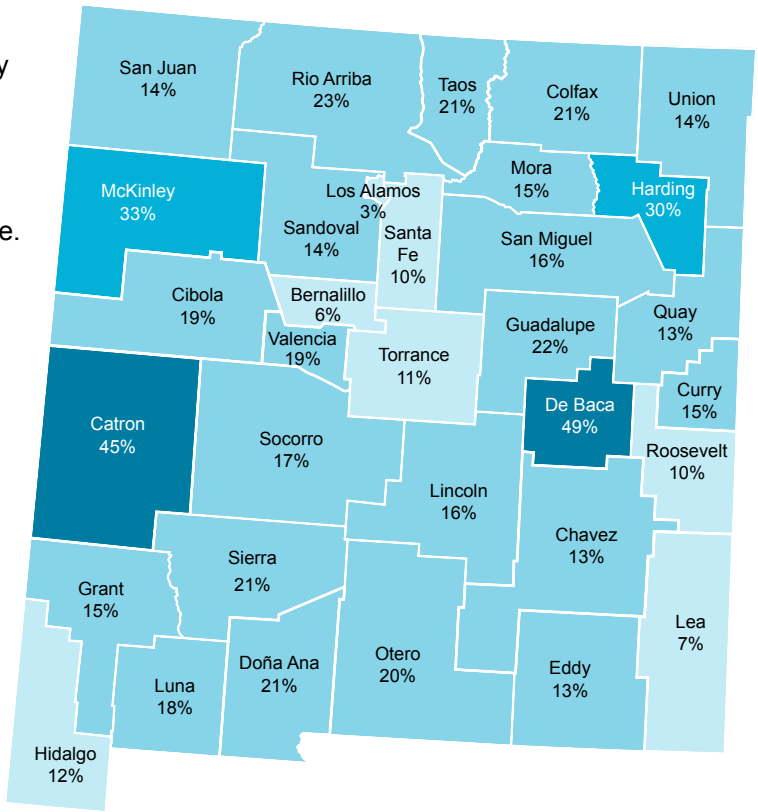
Two counties that are food deserts are also low-income

The percentage of the population with low income and low access* to a grocery store by county (2010)

The darker the color, the higher the percentage of the population that is low income and has low access to a grocery store.

Key

- 0%-12%
- 13%-24%
- 25%-37%
- 38%-49%



*Food access indicators for census tracts use ½-mile and 1-mile demarcations to the nearest supermarket for urban areas, 10-mile and 20-mile demarcations to the nearest supermarket for rural areas.

Source: "Food Access Research Atlas Data File," U.S. Dept. of Agriculture, Economic Research Service, released August 2015
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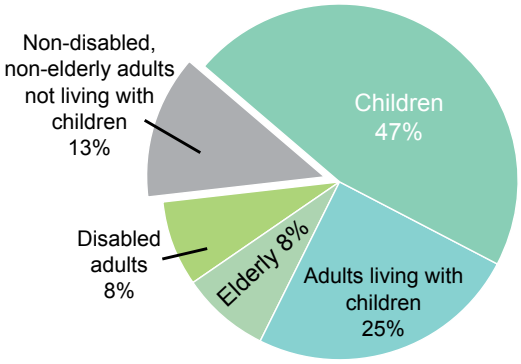
SNAP PARTICIPATION IN NEW MEXICO

Nationwide, around 13 percent of households receive SNAP (Supplemental Nutrition Assistance Program) benefits. In New Mexico, that rate is 14 percent.[49] Hispanic household in New Mexico have significantly higher rates of SNAP participation and eligibility than do non-Hispanic whites,[50] although SNAP participation rates track poverty rates very closely when dissagregated by race/ethnicity (see Figure XXVII, below). It is important to note that 87 percent of SNAP recipients in New Mexico are either children, adults living with children, or are elderly or disabled (see Figure XXVI, below).[51]

FIGURE XXVI

The vast majority of SNAP beneficiaries are children, adults living with children, the elderly or disabled

SNAP recipients by age/ability to work (2013)



Source: Center on Budget and Policy Priorities analysis of USDA data, 2013
NEW MEXICO VOICES FOR CHILDREN

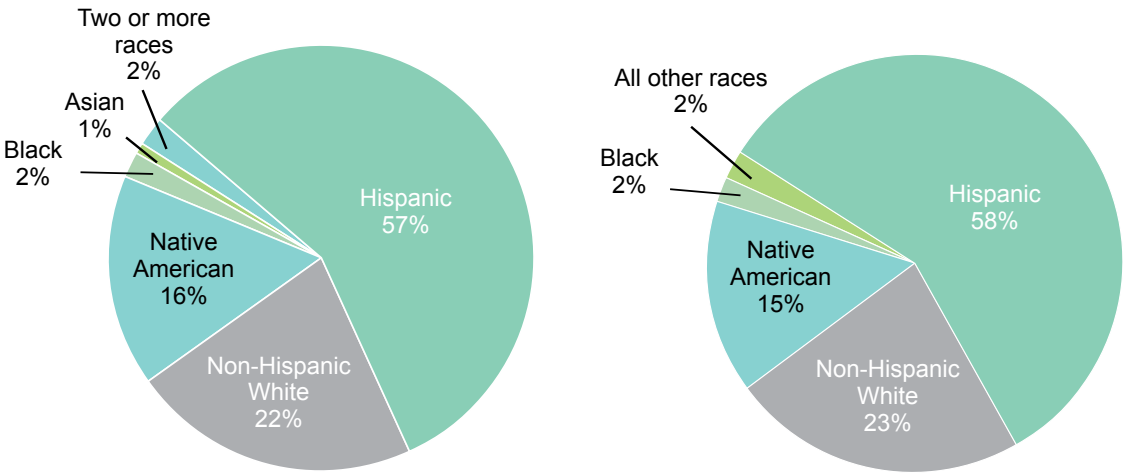
It is also important to remember that SNAP is intended to be supplemental to a family's food intake and does not provide all meals for recipients. Even with SNAP benefits, many New Mexicans are still left food insecure and/or hungry. For most New Mexicans, SNAP benefits translate to only 2.3 weeks worth of groceries.[52] Figure XXVIII (page 33) shows the sometimes stark difference between food insecurity and SNAP coverage in the state. Other important numbers on SNAP in New Mexico include:

- 86 percent of New Mexico SNAP households have incomes below 100 percent of the poverty line.[53]
- 44 percent of New Mexico SNAP households are in deep poverty with incomes below 50 percent of the poverty line.[54]
- 76 percent of New Mexico SNAP participants are in families with children.[55]
- 24 percent of New Mexico SNAP participants are in families with elderly or disabled members.[56]
- 78 percent of families in New Mexico that receive SNAP have at least one worker.[57]
- New Mexico's SNAP participation rate is 86 percent.[58]
- The average monthly benefit per person in New Mexico is $129.[59]
- The average monthly benefit per household in New Mexico is $287.[60]
- Most SNAP benefits (53 percent) are exhausted halfway through the month and 90 percent are exhausted by the third week (see Figure XXX, page 35).

FIGURE XXVII

SNAP participation rates track closely with poverty rates by race/ethnicity

New Mexico SNAP recipients by race/ethnicity (2015) and population in poverty by race/ethnicity (2011-2013)



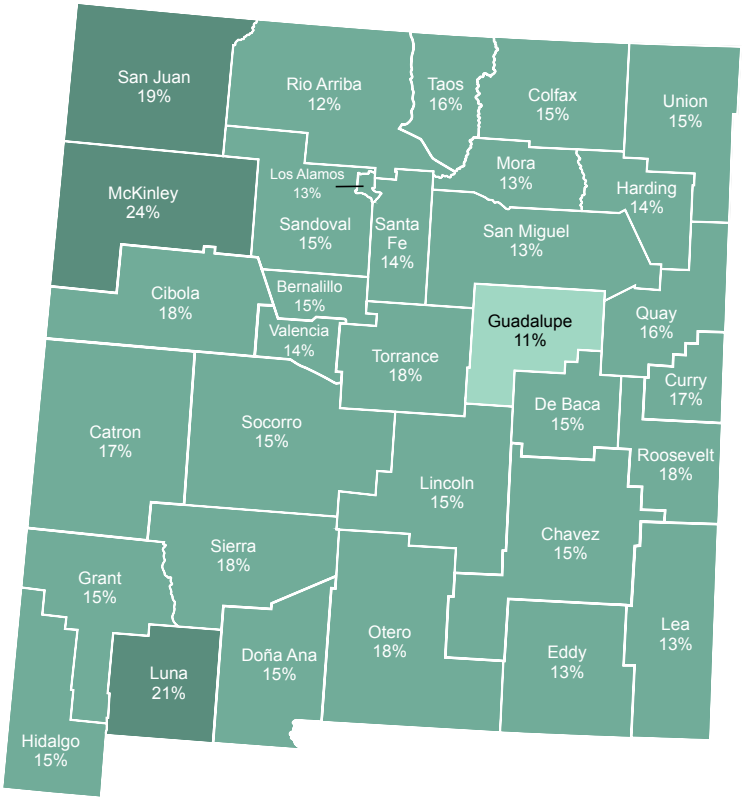
Sources: Monthly Statistical Report, NM Department of Health and Human Services, September 2015 (SNAP participation rates); U.S. Census , 2011-2013 American Community Survey (poverty rates)
NEW MEXICO VOICES FOR CHILDREN

FIGURE XXVIII

New Mexico's rate of SNAP usage does not necessarily corollate with need

The percentage of people who are food insecure by county (2013)

The darker the color, the higher the food insecurity. Note that the map to the right has less color variation than the one below.

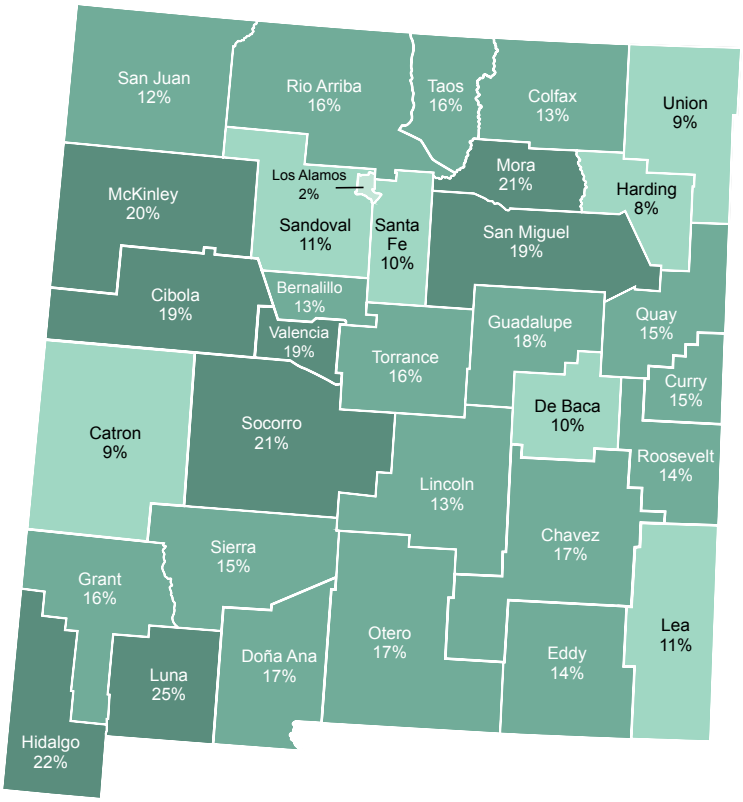


Key

- <5%
- 5% – 11%
- 12% – 18%
- 19% – 25%

The percentage of households receiving SNAP benefits by county (2009-2013)

Some counties with high food insecurity (darker green in the map above) receive a lower percentage (lighter green in the map at right) of SNAP benefits, while some with low food insecurity receive a higher percentage.



Sources: *Map the Meal Gap 2015*, Feeding America (food insecurity); U.S. Census Bureau, American Community Survey, 2009-2013 (SNAP rates)
NEW MEXICO VOICES FOR CHILDREN

OTHER FEDERAL FOOD PROGRAM PARTICIPATION RATES IN NEW MEXICO

Figure XXIX, below, shows that New Mexico ranks second in the nation in participation in federal meal programs geared towards school children.

DIABETES AND OBESITY IN NEW MEXICO

Chronic diseases (diabetes in particular) and the leading causes of death in New Mexico are partially attributed to poor nutrition.[61] While the statewide obesity rate (27 percent) is slightly lower than the national rate (28 percent), rates among Hispanics (30 percent), Native Americans (38 percent), and African Americans (31 percent) in New Mexico are higher than the state and national average[62] (see Figure XXXI, page 36). The diabetes rate in New Mexico (10 percent) is slightly higher than nationwide (9 percent), with rates particularly high among Hispanics (13 percent) and Native Americans (18 percent). Diabetes death rates are even more skewed by race and ethnicity. Again, the

FIGURE XXIX

New Mexico ranks second in the nation for participation in federal school meal programs

State participation in federal meal programs geared toward children (2013-2014)

School Breakfast Program (school year 2013-2014)	
Average daily student participation	147,781
Students receiving free and reduced-price breakfasts	121,195
Students paying for breakfast	26,586
Change in free and reduced-price participation in last 10 years	45.9%
Free and reduced-price student participation rate (compared to school lunch participation)	71.50%
Rank among states	2
Additional low-income students served if participation rate reached 70%	0
Additional federal dollars state would receive if participation rate reached 70%	$0
Number of schools participating	791
School participation rate (compared to number of schools serving lunch)	95.9%
Federal funding for school breakfast (FY 2014)	$39,308,626
School breakfast mandate in state law (yes/no)	Yes
National School Lunch Program (school year 2013-2014)	
Average daily student participation	213,128
Students receiving free and reduced-price lunches	169,438
Students paying for lunch	43,690
Number of schools participating	825
Federal funding for school lunch (FY 2014)	$90,648,504
Summer Nutrition Participation (July 2013)	
Average daily summer nutrition participation in July	51,943
July summer food service participation	32,236
July national school lunch participation in free and reduced-price lunch	19,707
Change in average daily summer nutrition participation in last 10 years	-4.5%
Low-income participation rate (compared to regular year free/reduced-price school lunch)	32.4%
Rank among states	2
Additional low-income children served if participation rate reached 40%	12,270
Additional federal dollars state would receive if participation reached 40%	$921,170
Number of summer food service sponsors	60
Number of summer food service sites	651
Federal funding for summer food service program	$5,476,934

Source: Food Research and Action Center (FRAC), 2013 New Mexico State Profile, February, 2015
NEW MEXICO VOICES FOR CHILDREN

state rate (28 per 100,000) is higher than the national rate (21 per 100,000), and very high among Hispanics (37 per 100,000), Native Americans (74 per 100,000), and African Americans (43 per 100,000) in New Mexico.[63] Hispanic and Native American children in New Mexico also have higher rates of obesity than do non-Hispanic whites[64] (see Figure XXXII, page 36).

Diet-related health determinants like obesity and health outcomes like diabetes are also relevant to discussions about government spending. More than 1 in 10 health care dollars in the U.S. are spent directly on diabetes and its complications, and more than 1 in 5 health care dollars go towards caring for people with diabetes.[65] When both direct medical costs (such as office and hospital visits and medication) and indirect costs (such as reduced productivity, missed days of work, unemployment, and early death) are taken into account, it's estimated that New Mexico absorbs more than $1.53 billion per year in diabetes-related costs.[66]

HEART HEALTH IN NEW MEXICO

New Mexicans generally are healthier than the nationwide population on some measures related to heart health. Statewide, 27 percent of residents have high blood pressure, with rates higher among Hispanics (28 percent) and African Americans (39 percent), but overall the rate is still lower than the national rate (33 percent; see Figure XXXI, page 36). New Mexicans also fare better when it comes to cholesterol measures, with the state rate of 31 percent lower than the national average of 39 percent. In New Mexico, only Hispanics have a higher overall rate (at 32 percent) than the state average.[67]

EARLY CHILDHOOD HEALTH

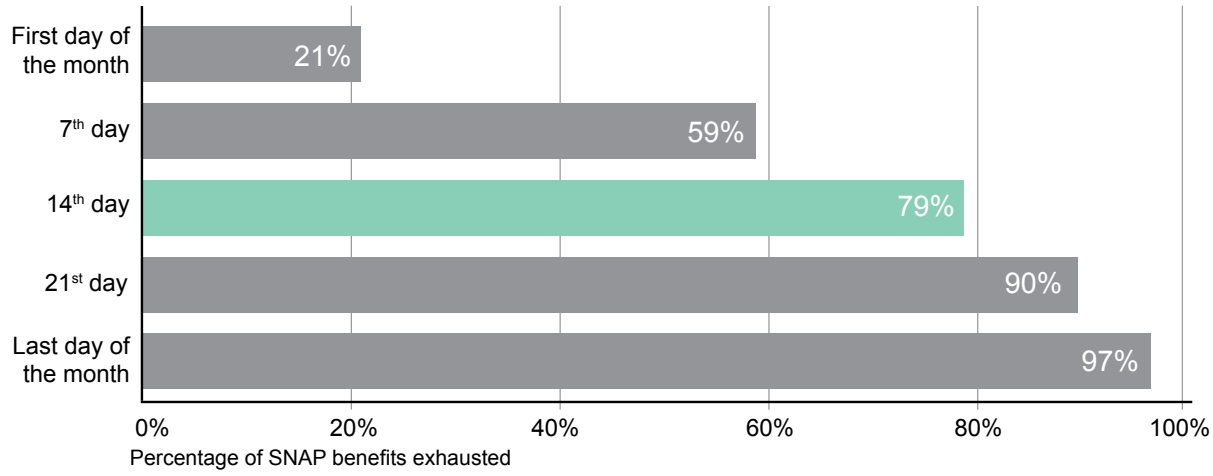
New Mexico fares worse than the national average in low birth-weight babies born (8.9 percent in the state compared with 8.0 percent in the U.S.) and ranks 43rd among the states.[68] While Native Americans fare better in this particular measure than both the U.S. and the New Mexico average (see Figure XXXIII, page 36), they have relatively high rates of high birth-weight (or "large gestational age"), which introduces its own health complications and is associated specifically with gestational diabetes and obesity in the mother and respiratory distress and low blood sugar in the baby.[69]

The state ranks poorly (40th nationwide) in the percentage of children without health insurance (7 percent in NM versus 6 percent in the U.S.), which impacts access to and usage of preventive services as well as treatments needed for a range of conditions for children.[70] However, since expanding Medicaid, New Mexico has seen a dramatic drop in the number of uninsured children. The number fell from 14 percent in 2008 to 9 percent in 2013, then to 7 percent in 2014. As the Affordable Care Act's Medicaid provisions continue to be implemented, we know that that number will fall even further.

FIGURE XXX

Most SNAP benefits are exhausted by the middle of the month

Percentage of SNAP benefits that are exhausted at given points of the month (2011)



Source: "Benefit Redemption Patterns in SNAP," USDA, 2011
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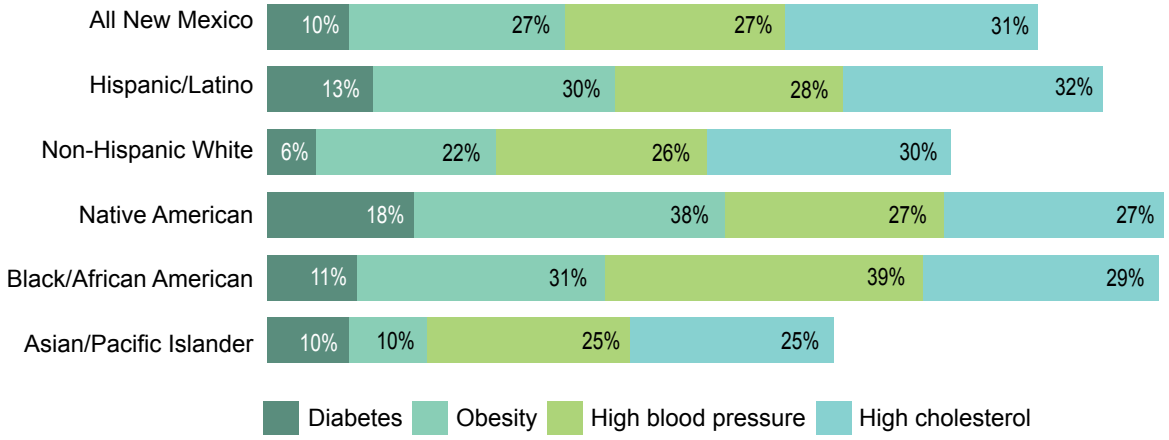
FIGURE XXXI

New Mexico's communities of color disproportionately suffer from a variety of chronic health conditions

The percentage of adults in New Mexico with chronic health conditions by race/ethnicity



Sources: Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Dept. of Health and Human Services, Centers for Disease Control and Prevention, with NM Dept. of Health
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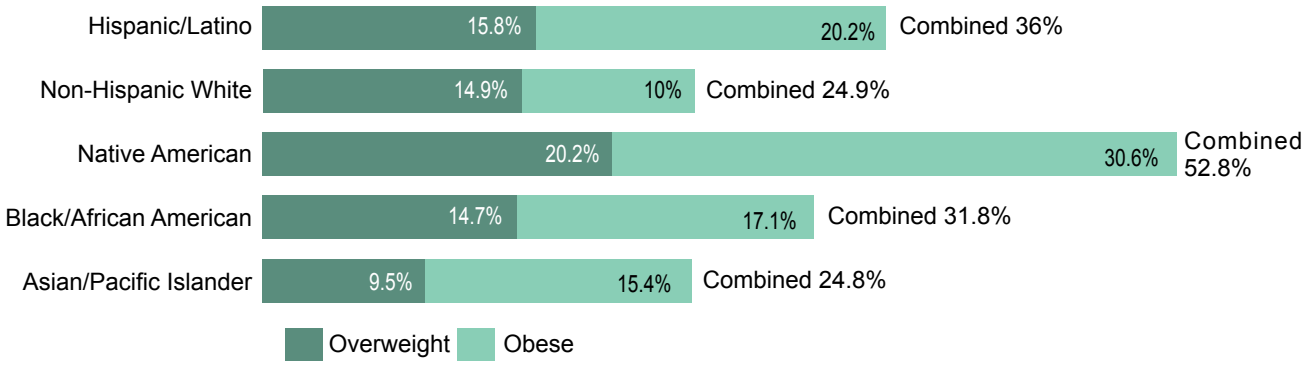
FIGURE XXXII

New Mexico's children of color are disproportionately overweight and obese

The percentage of third grade students in New Mexico who are overweight or obese by race/ethnicity (2014)



Source: *New Mexico Childhood Obesity 2014 Update*, NM Department of Health, 2014
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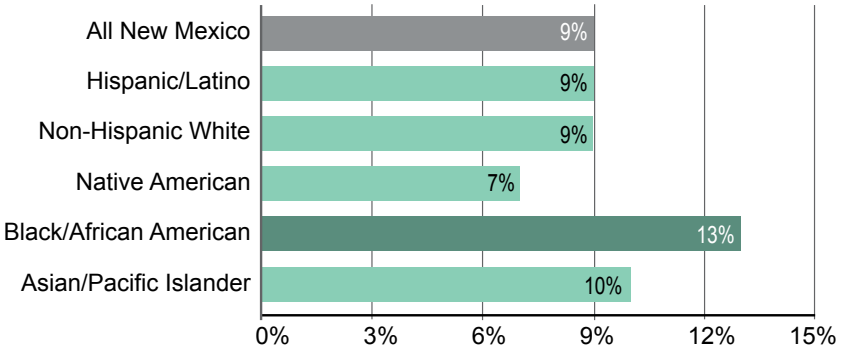
FIGURE XXXIII

New Mexico's Black population has the highest rate of low birth-weight babies

Percentage of babies born weighing 5.5 pounds or less by race/ethnicity (2013)



Source: Population Reference Bureau analysis of National Center for Health Statistics' National Vital Statistics Report, 2013
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The Women, Infant, and Children program (WIC) provides nutritious foods, nutrition education, and health and social services referrals to low-income mothers and children aged four and younger who are nutritionally at-risk. In fiscal year 2014, 58,376 people were served in New Mexico, and the average monthly benefit per person was $37.51 (compared with $43.65 nationwide).[71] A 2015 report comparing states' reach of WIC-eligible individuals showed that in 2012, New Mexico had ranked in the bottom ten nationwide in the coverage rate (the number of WIC participants divided by the number of eligible individuals in the state) with 53 percent, compared with the national average of 63 percent. [72]

PATHWAY 2
What We Learned from Stakeholders

KEY STAKEHOLDER INTERVIEWS

Key stakeholders unanimously believe that the populations that they work with and/or serve would likely shift their buying habits in reaction to a food tax by buying cheaper, less fresh, more processed, and overall less nutritious foods. The experts note that many low-income families, kids and seniors already face health challenges, that many of those health challenges relate to diet or should be managed in part with diet, and that any dietary shift towards less healthy foods has the potential to exacerbate existing health conditions and contribute to creating new conditions. The following health conditions were listed as those that could be negatively impacted by a tax on food:

- Nutrition-related chronic conditions
- Obesity and diabetes; especially among youth
- Mental health and stress
- Hypertension, heart disease, high cholesterol, and high blood pressure
- Iron-deficiencies
- Childhood brain development, attention span, social and emotional health, educational outcomes

According to the key stakeholders, any policy that will foreseeably lead to families purchasing lower-quality food is a threat to overall population health.

"The food tax is a regressive tax and it will greatly impact the poor. Without a doubt, families will buy cheaper and less nutritious food if the cost of food goes up."
—B.J. Ciesielski, executive director, New Mexico Community Health Worker Association

"Food options are already so limited for low-income groups. If food costs go up, they will go for the more processed, less healthy, cheaper foods. The quality of the food will be worse, and that will have a highly negative impact on their health."
—Jenny Metzler, executive director, Albuquerque Health Care for the Homeless

"Unfortunately the types of food these households need to combat those chronic conditions are the most expensive. The foods that they can afford to buy are high calorie, but low nutrition; they fill the stomach, but they serve to exacerbate the chronic conditions that they face. So the conditions get worse, the people go to the doctor, and their doctors prescribe medicines to combat the chronic conditions. Those medicines cost money, meaning that the households have even less to spend on food, and place those household heads in the same position of trying to decide which necessities they can cut back on or go without. It is a vicious, crazy cycle."
—New Mexico emergency food service provider employee

"Food insecurity definitely impairs the ability of people who struggle with it to manage their chronic conditions, especially their ability to make healthy changes in their diet. It's a major social determinant of health."
—Elizabeth Yakes Jimenez, assistant professor, registered dietitian, UNM Department of Individual, Family, and Community Education, Nutrition and Dietetics Program

"There is no place that nutrition doesn't touch someone's health status. If you can't afford enough [food] or enough healthy food, you have no stamina, it impacts your mental health, exacerbates chronic conditions, and makes every aspect of your life harder. It makes it even harder to get out of homelessness or poverty, to improve your life situation, and to combat mental and physical illnesses."
—Jenny Metzler, executive director, Albuquerque Health Care for the Homeless

FOCUS GROUPS

Focus group participants felt very strongly that a tax on food would harm their food security and nutrition by negatively impacting their ability to purchase healthy foods. Community members were very savvy about which foods were healthiest for themselves and their kids, and for the management of chronic conditions that many of them faced or had family members who faced. They all knew how important food was to their overall health. However, all participants noted that the healthy foods

that they wanted or needed to purchase were already expensive; participants shared that they already often had to make cuts and substitutes that left the healthier and more costly purchases out of their shopping carts just to ensure that they and their families had enough food to eat.

"When you have diabetes, like I do, the cost of trying to live healthy is more expensive than the cost of just trying to stay alive."
— McKinley County community member

"[My son] gets a lot of not-great-for-him foods, just to make sure he's getting enough to eat."
—Albuquerque community member

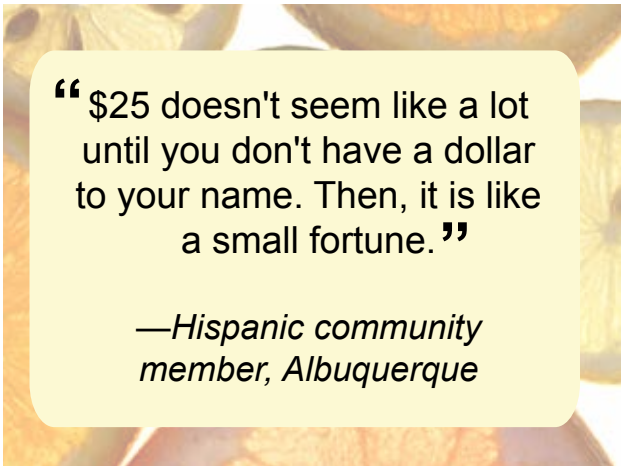
"At school, there are times when some of the kids can't focus because they don't get to eat dinner because their parents don't have money for food. And because they didn't eat well, they don't sleep well, so they don't even get to school on time. So they don't even get to eat breakfast. So some of these kids don't even get to eat at all at home. They eat at school, but sometimes only once a day."
— McKinley County community member

"And just buying the fresh fruits and vegetables is expensive. My 1-year-old daughter loves fresh cherries —they were $1.98 a pound two weeks ago. Now they are $3.98 a pound. So she was looking at the cherries and we just had to pass by. And the poor thing was crying and we can't change anything. Not with the money that we have available—we get by with what we have. Sometimes all we have left is bologna and bread. And they expect us to eat healthy and we can't. There is just no way."
— McKinley County community member

Knowing the approximate amount that a tax would cost them per month, community members expressed that although that amount may not seem significant to people who had enough money, that for low-income families, $25 per month could significantly detract from the amount of healthy food they would be able to purchase.

"Even if [the tax] is only 15 or 20 bucks a month, then that's a few more fruits and vegetables than I would've gotten before. And that's important."
—Albuquerque community member

"I want to eat better, I want to be healthier, but I can't afford it. Lawmakers perpetuate this poverty in our communities and that is why the food tax doesn't make any sense for us right now or ever, really. They should not tax food in general. Because people need to eat."
— McKinley County community member



"I buy the same amount of items every month because I know it will last. So if the price went up and I couldn't afford the same amount I get every month then that would cut my meals again."
— McKinley County community member

"And so, if we put a tax on it, nobody's going to be getting the nutritious food that they need. Our children are going to be getting sick and will be stuck with all these health issues."
—Albuquerque community member

Many participants expressed the opinion that food was a basic human necessity and right, and so should not be subject to a tax.

"Food is not a luxury—it is a necessity for human beings. That should not be taxed in any way."
—Community member, Doña Ana County

"Wealth comes from health. We can't be productive if we are not healthy. If there isn't health, there is nothing."
— Doña Ana County community member

"The tax is going to affect what our kids eat, how they eat, how often they eat, their health, their attention in school."
—Albuquerque community member

"It's hard enough to keep up their health now and the energy levels that they have and that they need to stay awake in class, and to focus on their classwork and to focus on their work when they get home. If they're buying and eating even more of this processed food and junk food because food is more expensive thanks to a food tax, the kids aren't going to be doing well in school because they're not going to be able to focus."
—Albuquerque community member

PATHWAY 2
Overall Findings

This HIA finds that reinstating a tax on food could likely have a negative impact on food choices, diet, and nutrition and, through those avenues, could negatively impact health. Figure XXXIIV presents a summary of these findings, and the implications for different health determinants and impacts.

FIGURE XXXIV

Summary of Health Impacts on Family Economic Security: Food Insecurity, Diet and Nutrition

	Based on Literature and Research Findings						
Health Factor or Health Outcome	Expected Health Impact	Likelihood of Impact	Magnitude	Equity Impact	Distribution (Who will be most impacted?)	Quality of Evidence	Stakeholder Projections
Food insecurity and hunger	Negative	Certain	Substantial	Negative	People experiencing poverty, those experiencing food insecurity and/or hunger, people in food deserts, seniors, rural populations, the housing insecure and/or homeless	***	Negative
Incidence of nutrition related chronic conditions	Negative	Possible	Limited	Negative	People experiencing poverty, low-income residents, people at risk of developing chronic conditions	**	Negative
Ability to manage nutrition-related chronic conditions	Negative	Likely	Moderate	Negative	People experiencing poverty, low- and marginal-income residents, people with chronic conditions, food insecure residents, seniors	***	Negative
Childhood development and educational outcomes	Negative	Possible or likely	Moderate	Negative	Children and pregnant mothers in food insecure or low-income residents	***	Negative
Malnutrition impacts (iron and vitamin D deficiencies)	Negative	Possible	Limited	Negative	Children, those experiencing food insecurity and/or hunger, seniors	**	Negative
Low birth-weight, pre-term births	Negative	Likely	Moderate	Negative	Children and pregnant mothers in food insecure or low-income residents	***	Negative
Need and demand for public and private assistance	Negative	Likely	Moderate	Negative	People experiencing food insecurity and/or hunger, people in poverty, low-income residents, children, families with children	**	Negative

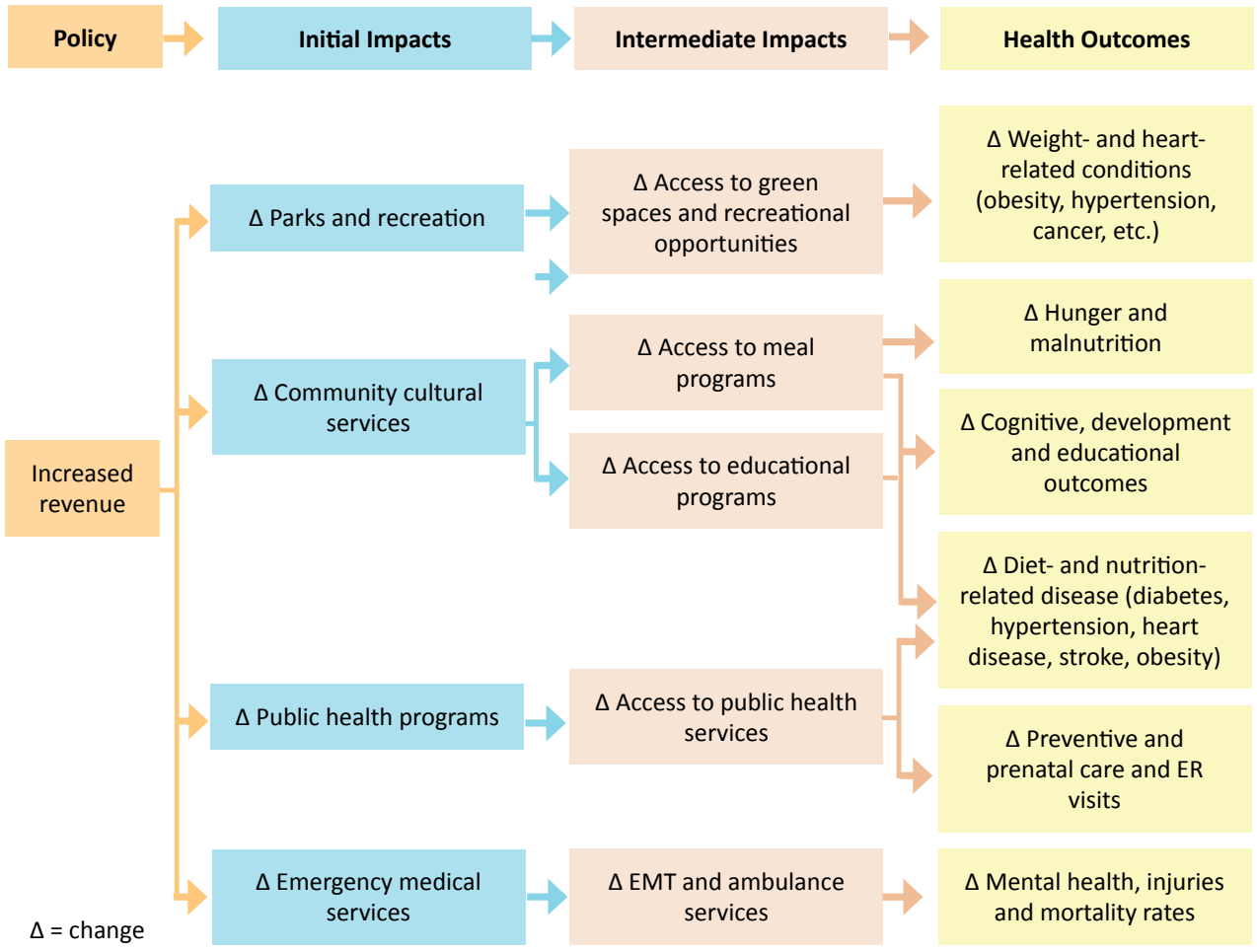
PATHWAY 3
Food Tax Impacts on Government Spending and Health

HOW A FOOD TAX MAY AFFECT GOVERNMENT DIRECT SPENDING AND HEALTH

A tax on food could also affect the health determinant government spending. If governments tax food, they would collect more tax revenues than they would if there was not a tax on food (assuming no other changes to the tax system, such as a rate reduction). In the case of New Mexico's local governments, a food tax could allow cities and counties to maintain current spending levels on a range of services and programs. Reinstating the food tax at the state level could allow the state to increase spending on current programs, create new programs, cut other taxes or decrease tax rates (see Figure XXXV, below).

However, it is unlikely that cities, counties or the state would increase spending in a proactive attempt to address the negative consequences of taxing food. (That they may have to spend money remediating the consequences of poor health outcomes is a valid concern, but beyond the scope of this HIA.) First, as is noted earlier in the report, the repeal of the hold-harmless compensations, even phased-in over 15 years, is straining city and county budgets already tight under the slow recovery from the Great Recession. As a result, the additional revenue cities and counties may recover from taxing food will likely be allocated to existing needs rather than new programs. Second, local governments do not allocate significant funds for health services, with the exception of the county requirements for the Safety Net Care Pool and Medicaid. Municipal budgets are dominated by requirements for police and fire services, which tend to be viewed more favorably when decisions are being made about resource allocations.

FIGURE XXXV
PATHWAY 3: Government Spending: Maintaining Current Services



PATHWAY 3
Key Findings and Recommendations

The Food Tax, Government Spending, and Health	
Key Findings:	**Recommendations*:**
• Food tax revenue could improve health factors related to health services, food programs, recreation programs, and education if that revenue is spent on those programs • However, food tax revenue is unlikely to be spent on health, food, and recreational services, so it is unlikely to directly contribute to improved population health, except possibly in the area of education • It is unlikely that food tax revenues will increase overall government revenues, instead, they would help maintain pre-FY 2015 revenue levels or be used to offset other tax changes	New Mexico should not tax food • Other revenue options to consider: • Reverse hold-harmless revenue phase-outs • Raise the personal income tax rate for high incomes • Institute a minimum corporate tax rate or amount for very large and/or very profitable corporations • Eliminate the capital gains tax deduction • Increase local portions of different taxes
*A more detailed discussion of recommendations is included in the Policy Recommendations section of this report.	

PATHWAY 3
What We Learned from the Literature

Research shows that governments can positively impact health through budget choices, particularly in the areas of direct health care services (including food assistance, primary and preventive health care, and emergency health services and programs) and education.

Studies reflect that government spending on primary care and preventive health services helps provide important opportunities for residents with few economic resources and significant social needs to have their health and social needs met. The use of available primary and preventive health services in particular has been shown to contribute to the prevention of hospitalizations and premature death from a number of chronic conditions.[73] Research has specifically found that health outreach in medically underserved areas can lower hospitalization rates for preventable conditions.[74]

Government spending in other areas such as education, transportation, parks, and social and recreational facilities is also correlated with improved health outcomes.[75] Though more research is needed, some studies indicate that government spending through tax exemptions, credits, and supplements can increase income, help move families out of poverty, and contribute to improved health outcomes.[76]

(A comprehensive reporting of this HIA's literature review of the link between government spending and health can be found in Appendix R, page 71.)

PATHWAY 3
What We Learned from the Data

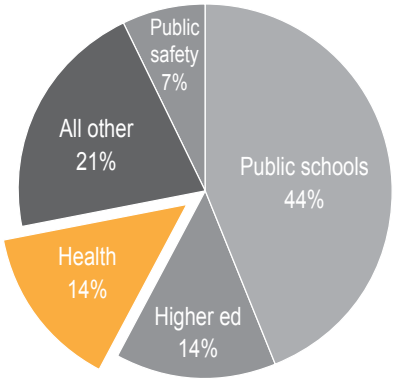
SPENDING ON HEALTH IN NEW MEXICO

In New Mexico, public spending for public health is concentrated at the state level with the exception of a county-level program focused on health care services for indigent populations (now called the Safety Net Care Pool). Currently, the state spends about 14 percent of its General Fund on health services and programs[77] (see Figure XXXVI, below). However, it is likely that this amount will decrease as part of a continued trend where less General Fund money is spent on health programs due to increases in federal dollars spent on health services

FIGURE XXXVI

Just 14% of the state's general fund spending goes to health

New Mexico's general fund budget (FY 2015)



Source: NM Legislative Finance Committee Post Session Review, 2015
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in New Mexico as a result of the expansion of Medicaid under the Affordable Care Act.

Of the state Department of Health's $305 million operating budget, $63 million—or 20 percent—is allocated to the Public Health Division. It is the programs and services in this portion of the budget that would be most needed to combat the negative health impacts of food taxation on low-income and vulnerable populations. Other health-related programs such as SNAP and behavioral health services are funded or administered through the Human Services Department. Funding for public schools, which can also have a strong and positive influence on health, represents about 44 percent of the state budget. While this amount is significant, per-pupil inflation-adjusted funding for school operations dropped by 14 percent between 2007-08 and 2012-13.[78]

Given the concentration of health-focused programs at the state level, is it not likely that state government would proactively increase spending to offset the negative health impacts of taxing food at the local level. Continued weak economic growth and revenue losses linked to tax cuts enacted in recent years makes this unlikely into the foreseeable future. This combination means existing programs, many of which have been underfunded for decades, already place high demands on available funds.

The most recent estimate of state government revenues for the 2017 fiscal year, which indicated potential budget growth of $293 million, or 4.4 percent, is now seen as overly optimistic. Three additional factors will stress the FY 17 budget and will have implications for future years: around $85 million will be needed for the state's share of the Medicaid expansion, $70 million will be needed to offset a drop in disbursements from the Land Grant Permanent Fund, and another $50 million will be lost as the corporate income tax cut phase-in continues. Thus, the likelihood of new spending to address the negative impacts of taxing food is remote, at best. Nor is the official revenue outlook particularly robust.

COUNTY SPENDING ON HEALTH

In general, county governments spend a very small portion of their general fund budgets on health care. For example, San Juan County allocates 1.8 percent for health and welfare, while Bernalillo County allocates approximately 2.5 percent. This is likely due to the structure of county budgets. Rather than use general fund dollars for health services, counties created other funds. Even so, this non-general fund spending is largely targeted to jail inmate health costs and for uncompensated health care services provided to county residents. Aside for these provisions for direct care, and with senior meal programs, county budgets allocate insignificant amounts towards other programs that would treat the negative health consequences of taxing food. Emergency medical care provided through county fire departments would only treat extreme cases.

This focus on direct services for indigent populations was mandated in the Indigent Hospital and County Health Care Act—also referred to as the uncompensated care program—which provided for a system of payments to providers and facilities approved by the Board of County Commissioners. This claim-based system was a significant supplement to facilities and providers across the state. In San Juan County, for example, county-generated tax revenues paid for inmate medical care, hospitalization services, ambulance transport, substance abuse treatment, at-home health care, and hospice services. However, this program has been changed substantially, particularly with respect to the method for funding, giving the state more control over funding for health services.

In 2015, the Legislature enacted Senate Bill 268 in order to comply with Affordable Care Act (ACA) requirements for sole community providers. This legislation requires counties, other than Bernalillo and Sandoval, to dedicate an amount equal to one-twelfth of 1 percent of the county's gross receipts tax revenue to the state's Safety Net Care Pool. Over a ten-year period, the New Mexico Association of Counties estimates that county contributions to the Safety Net Care Pool will exceed $270 million.

Facing a deficit of approximately $6 million, San Juan County has cut its budget by $51 million and reduced

the workforce by more than 8 percent over the past five years. In such a climate—with lagging tax revenues and insufficient funds for existing programs—the creation of new programs addressing the health impacts of taxing food is unlikely. The recent experience of San Juan County is likely to be instructive in how other counties may respond to the combination of changes resulting from the ACA and the repeal of the hold-harmless payments.

CITY SPENDING ON HEALTH

Due to the allocation of responsibility for health services to state and county governments, municipal spending on health care is insignificant in most communities. The city services that are provided—such as fire and medical emergency, police, cultural, recreation, infrastructure, housing, and water services—tend to be tangential to those needed to address the health impacts of taxing food. Some city governments partner with county senior meals programs and some help provide summer meals programs for children, although the majority of the funding for them is provided from federal sources and administered by state agencies. The city budget allocations that help support these programs are very small.

The balance of city government spending thus does not directly redress most of the negative health impacts of taxing food. Additionally, existing city programs have well-developed constituencies that will place claims on any new dollars generated from food taxation. Given the repeal of the hold-harmless payments, the reality is that few "unspoken for" dollars will be available in the first place.

TAXATION OF FOOD NATIONWIDE

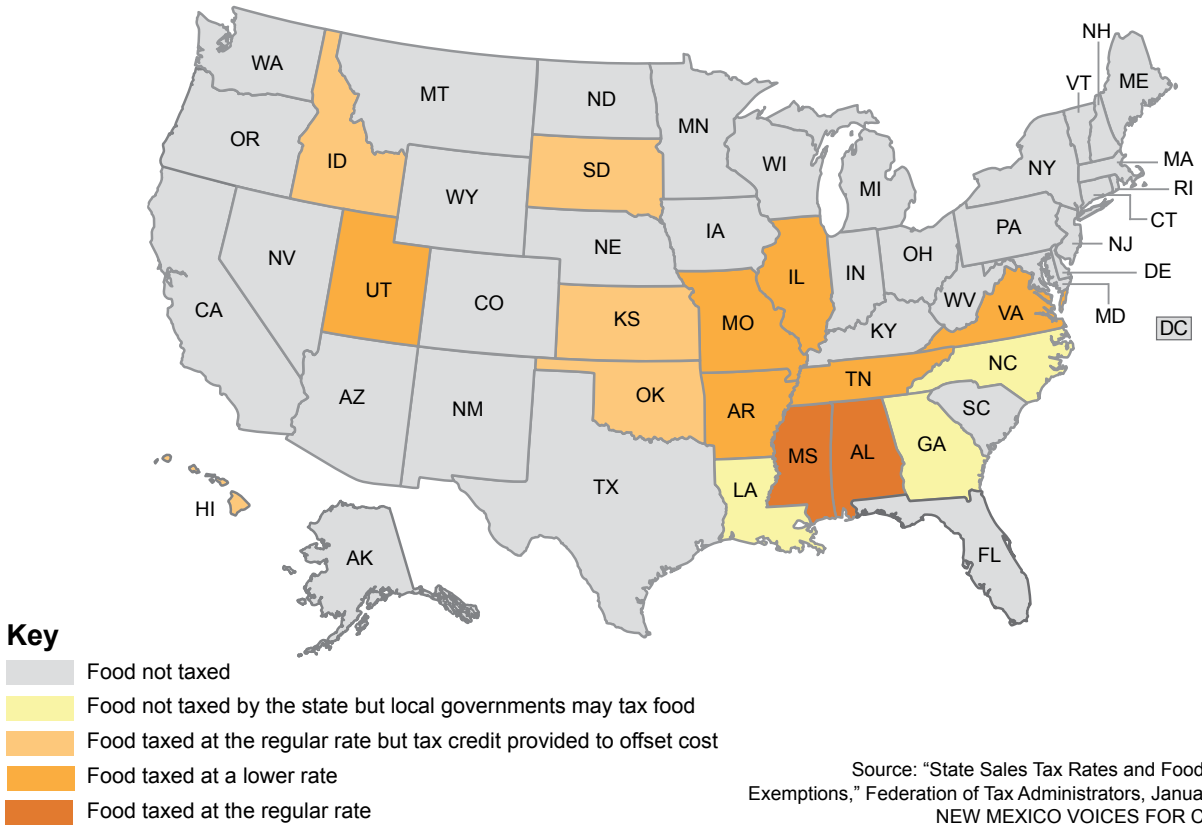
Nationwide, very few states tax grocery purchases at the same rate as other goods and services, and there is a trend towards fewer and fewer states taxing food at all[79] (see Figure XXXVII, below, and Appendix M, page 62). Forty-five states and the District of Columbia level some sort of general sales taxes (which include taxes like New Mexico's gross receipts tax). Of those areas, most have eliminated, reduced, or offset with other tax credits the sales tax on food groceries.

- Twenty nine states and the District of Columbia exempt nearly all food groceries from the state's version of the sales tax.
- Only two states—Alabama and Mississippi—tax food

FIGURE XXXVII

Most states do not tax food purchased for consumption at home

State policies for taxing food (2015)



Source: "State Sales Tax Rates and Food and Drug Exemptions," Federation of Tax Administrators, January 1, 2015
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purchased for home consumption at the same rate as other goods without providing any offsets or tax relief for families.

- Three states—Georgia, Louisiana, and North Carolina—do not tax food at the state level, but do allow local governments to tax food.
- Six states tax groceries at lower rates than other goods; they are Arkansas, Illinois, Missouri, Tennessee, Utah, and Virginia. Two of those states, Arkansas and Utah, also allow local governments to apply a tax on food.
- Five other states — Hawaii, Idaho, Kansas, Oklahoma, and South Dakota— tax groceries at the same rates as other goods, but offer rebates and/or credits to offset taxes paid on food by some or all members of the population. The rebate/credit amounts and eligibility vary, but most are set at a flat amount per person and often do not provide full relief from sales taxes paid on grocery purchases.

PATHWAY 3
What We Learned from Stakeholders

Both key stakeholders and focus group participants acknowledged the crucial value of public services and the revenues that support them to public health and to the health of vulnerable populations in the state. However, stakeholders felt very strongly that increasing a tax on food would be detrimental to public health, to economic security, and to food purchases and nutrition, especially for children, low-income groups, and populations that are already facing diet-related health challenges.

Stakeholders clearly expressed that though putting a tax on food would raise revenues, they believed that it would also contribute to increased public health costs (in medicines, doctor visits, and hospitalizations) and increased costs associated with higher demand on public assistance services (including food banks, SNAP, other existing food assistance programs, energy and housing assistance, and available tax credits and rebates). For stakeholders, the harms to public health, to health care costs, and to public assistance demands far outweighed the potential benefits of the revenue increases that a food tax could bring.

KEY STAKEHOLDER INTERVIEWS

"There is an economic case for improving the health of our communities. Challenging and addressing poverty up front is much more cost effective than addressing it in long-term costs for public assistance and long-term social and health costs. Emergency food assistance, emergency shelters, housing assistance, emergency rooms, and health care for chronic conditions are all very expensive. As a society, we have to pay for ill health one way or another. Investment up front is key. Why make a bad problem worse only to have to address it later? It doesn't make sense."
—Robert Nelson, former program manager, Rio Grande Food Project

FOCUS GROUPS

"They should see it from all its aspects, because if things get to the point that you can't eat or you don't have enough money, then instead of [the food tax] being a benefit to the state, it's going to be more negative because then a lot of people will resort to other options, that is, they're going to resort to food stamps for support. Then, who will be paying for that? They themselves [through taxes collected and redistributed by the federal government]. So then, they need to see the positive and negative sides of the problems that a food tax could cause."
— Doña Ana County community member

"If [policy-makers] just remember that where New Mexico is, we're so high in poverty, we're such a high-poverty state, and there's so many children that are living in poverty and not getting food, not getting meals and doing without... Why would you want to

put tax on food? That's just going to create even more problems, and cause even more hardship on those families. It just doesn't make sense. People are going to have less money to buy food, so that's just going to make us go backward instead of forward. You want the kids to have more food, have access to more food, but by taking money out of the food budget, that's taking food away from our kids."
— Albuquerque community member

"[Taxing food] is a whole new war on poverty. Only they declared war on us."
— Albuquerque community member

"They've declared war on the low-income families, on minorities, on people of color, on people on the cusp, the working poor. That's what this is all about. And it's about that divide between the haves and the have-nots. The 1 percent or the 10 percent. Food should be the great equalizer."
— Albuquerque community member

PATHWAY 3
Overall Findings

This HIA finds that reinstating a tax on food would raise government revenue to a higher point than if no other action is taken. However, because local governments stand to see a decrease in revenue every year as the hold-harmless payments from the state phase out through 2030, food tax revenue may not result in a positive revenue gain. Depending on the tax proposal, the revenue may be less than the current tax revenue, it may be the same, or it may be more. Results will also vary by city and county. However, because the intention is for the food tax to make up for decreasing revenue, for health impact purposes, it is assumed that food tax revenue will help maintain the current tax revenue and consistent expenditure pattern of local governments.

Again, approximately 14 percent of state General Fund revenue is spent directly on health, a number that may decline in future years. At the local level, the percentages spent on health are even smaller. Because current legislation includes no earmarking of the food tax for health services, it is assumed that revenues will be expended in the manner consistent with recent trends. As such, it is unlikely that food tax revenue would be spent on health, recreation, or food programs and services. As such, the potentially positive effects of this new tax revenue on health are difficult to determine. Figure XXXVIII, below, presents a summary of these findings, and the implications for different health determinants and impacts.

FIGURE XXXVIII
Summary of Health Impacts on Government Spending: Maintaining Current Services

	Based on Literature and Research Findings						
Health Factor or Health Outcome	Expected Health Impact	Likelihood of Impact	Magnitude	Equity Impact	Distribution (Who will be most impacted?)	Quality of Evidence	Stakeholder Projections
Government spending on emergency medical services (local level)	Positive	Possible	Limited	Uncertain	All residents	**	N/A
Government spending on education (state level)	Positive	Possible	Moderate	Positive	Children	***	N/A
Government spending on recreational opportunities	Positive	Unlikely	Limited	Uncertain	All residents	***	N/A
Government spending on food and nutrition programs	Positive	Unlikely	Limited	Positive	People experiencing food insecurity and/ or hunger, people in poverty, low-income residents, children, families with children	***	Mixed
Government spending on health care	Positive	Unlikely	Moderate	Positive	Low- and middle-income residents, children, seniors	***	Mixed

Policy Recommendations

PRIMARY POLICY RECOMMENDATIONS

The following recommendations were drawn from findings based on literature, data, and stakeholder feedback and are intended to improve population health in New Mexico, maximize health benefits, and minimize health risks. One key finding of this project is that the tax code is an important health determinant and can play a significant role in child and family health and well-being. The policy recommendations that follow are driven by that finding and the idea that changes to tax code should improve the health and well-being of New Mexico families.

1. Do not tax food. The HIA team strongly recommends that the food tax deduction is not repealed and that food is not taxed due to the potentially serious and harmful health impacts, regressivity, and increased health disparities that could result from the tax.

2. Generate revenue in other ways. If it is determined that new revenue is needed, instead of a food tax, New Mexico should consider other taxes that would likely have a less harmful effect on the health of vulnerable populations in New Mexico and potentially address some of the existing regressivity in the tax code. These include:

- **Repealing the capital gains deduction.** This deduction has no proven economic development value, and it has a very inequitable distribution, with the highest 10 percent of earners claiming 90 percent of the deduction's value.

- **Increasing corporate income taxes collected from large and/or multi-state corporations.** Corporate income tax reform could include increasing the minimum amount of the corporate franchise tax, increasing the rate for very high-profit or larger corporations, mandating combined reporting, ensuring all internet sales are subject to the GRT, and/or temporarily freezing the phase-in of the corporate income tax cut passed in 2013.

- **Enacting higher personal income tax rates for high-income earners.** Personal income tax cuts enacted in 2003 slashed personal income tax revenues and disproportionally benefitted higher-income filers.

- **Raising taxes that are associated with curbing unhealthy behavior.** Raising taxes on cigarettes, e-cigarettes, vaporizers, and other tobacco products, alcohol, and junk food such as candy and soda, though also regressive, would at least generate revenue while also curbing unhealthy behaviors and reducing the high public health costs associated with the use of the products.

SECONDARY POLICY RECOMMENDATIONS

Given that New Mexico has high rates of poverty and food insecurity, several other policy recommendations should be considered to help improve the health determinants and outcomes that many New Mexicans are facing now, even without a tax on food.

Note: These recommendations are targeted towards improving families' day-to-day economic security, food security, diet, and nutrition and do not in any way serve as an endorsement of a tax on food. While they could mitigate some of the harmful effects of a food tax, they would not likely address all or even most of those effects. Rather, these policy recommendations should be considered not just with, but also apart from any decision about taxing food.

1. Increase current state tax credits and create new credits for low-income families.

Increasing tax credits for low-income families with children is one way to combat the regressivity of the state's tax system and lift working families out of poverty. Changes could include increasing the Low-Income Comprehensive Tax Rebate and the Working Families Tax Credit (based directly on the federal Earned Income Tax Credit). The state could also implement a state Child Tax Credit based on the federal credit.

It is important to note here that though tax credits or rebates could help mitigate the harmful effects of a food tax, they do not address all or even most of those effects. Tax credits are often spent within the first month following the date they are received, and are often spent on large, major purchases such as car repairs and paying off debt.[80] Earned Income Tax Credit refunds for low- and middle-income earners are associated with healthier food purchases among recipient families, but only within one month following the refund.[81] While tax credit participation is higher in NM than nationwide (81 percent for the EITC and 90 percent for LICTR), many eligible participants do not receive the credits. So while tax credits and rebates can mitigate regressivity and negative health impacts that come with a decrease in family economic security, a significant number of eligible New Mexicans do not receive the credits and the credits do not address day-to-day food purchasing challenges.

2. Increase and/or maximize programs that help to improve food access and diet- and nutrition-related health outcomes of vulnerable populations.

- **Increase appropriations and outreach for services directly related to food insecurity, hunger, and nutrition** including, but not limited to child and senior meal programs; community gardens; food pantries, especially in rural and frontier areas; and programs such as the SNAP Double Up Food Bucks program, which allows SNAP benefits to be used at farmers' markets for twice their value—a variation of the Fruit and Vegetable Prescription program (FVRx) that could combine nutrition counselling with 'prescribed' no-cost fresh produce at farmers' markets using Double Up Food Bucks funding.

- **Increase SNAP enrollment and simplify and streamline SNAP recertification:**
  - -Take full advantage of federal SNAP offerings, including drawing down all available SNAP outreach dollars for increasing SNAP participation
  - -Continue the federal exemptions from work-requirements
  - -Eliminate excessive and administratively burdensome verification requirements
  - -Institute a phone application for SNAP
  - -Implement "express-lane" enrollment that includes and ties SNAP, Medicaid, and childcare assistance

- **Increase utilization of USDA at-risk meal program funds.**

- **Take full advantage of community eligibility for free and reduced-price school lunches.**

- **Improve data sharing under the New Mexico Health Information Act.** This would include increasing administrative resources as necessary to comply with the Act's data-sharing requirements and enforcing compliance with those same requirements.

- **Increase coordination and administrative resource sharing between CYFD and PED for administering food programs.**

- **Increase the statewide minimum wage and index it to inflation.**

Limitations on Data and Methods, and Issues That Are Worth Further Exploration

This study has limitations that should be considered when interpreting the findings. As noted in the Policy Alternatives section (page 46), many different tax packages that include a tax on food have been discussed since early spring of 2014, when NMVC took the first steps forward in this project. The scope of the HIA was limited to the potential health impacts of a tax on food. Other components of possible tax legislation were only considered for contextual purposes and specifically for the Secondary Policy Recommendations section of this report (page 46). As these other tax elements differ in each proposal, it is not possible under current time and resource restraints to thoroughly evaluate the health impacts of each different tax package.

Additionally, a tax on food could have health impacts through other pathways that were not considered or not assigned high-priority research status during this assessment due to limitations on time and resources. Some resident groups who may also be disproportionately impacted by a tax on food are not wholly represented in the HIA because time and resource constraints led HIA team and Advisory Council members to highly prioritize certain vulnerable populations (children, low-income groups, and people of color).

The literature review portion of this report was limited to the research questions identified as high-priority by HIA team and Advisory Council members during scoping. It was also limited by the parameters included in the literature review appendix (Appendices Q and R, pages 70 and 71). Though the literature review was thorough, it did not include, for example, a search of foreign literature, literature that was not peer-reviewed, or all relevant literature older than 10 years, and so relevant published studies may not be included. Most studies and articles were not New Mexico-specific and did not include a comprehensive consideration of the unique influences of New Mexico's culture, environment, politics, and geography on its people, so findings might not be exactly replicable or applicable to all New Mexico communities.

Stakeholder and community engagement is a core tenet of the HIA process. While this project meaningfully involved many stakeholders from many different sectors, backgrounds, income levels, ethnicities, and geographic regions, it was limited by time and resource constraints. Additionally, the HIA team was based in Albuquerque,

but was conducting a statewide HIA. Though team members traveled to other parts of the state to meet with dozens of stakeholders, community engagement was not as comprehensive as might have been possible with a project that focused on a more local policy.

The data analysis portion of this assessment is also subject to limitations. National food expenditure patterns from the Bureau of Labor Statistics Current Expenditure Survey were applied to local income data in order to estimate food spending breakouts by income level because food spending patterns by income level are not available at the state or local level.

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Please see Appendix S, page 83, for a full list of the references cited here.

APPENDIX A

Advisory Council Members

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Ron Hale • *NM Alliance of Health Councils*
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APPENDIX B

Stakeholder Involvement in Stages of the HIA

STAKEHOLDER ENGAGEMENT IN SCREENING (MAY–NOVEMBER 2014)

Prior to beginning the health impact assessment, as well as before and during the process of deciding on an HIA topic, NMVC staff also met with a number of stakeholders who have a vested interest in health outcomes in the state and/or who are familiar with the health impact process.

Staff first met with the Bernalillo County Place Matters team coordinator. Place Matters advocates for health in all policies through community and policymaker education and is part of the NM Health Equity Partnership, the main state organization focused on implementing HIAs. The coordinator had constructive advice on the screening process itself as well as the potential value-added from conducting an HIA around this issue, and offered support and expertise on the overall HIA process as well as specific support on the community engagement aspects of the HIA.

The United Way of Central New Mexico strongly agreed that there was value to community health in conducting an HIA on the issue. They offered advice and support on community involvement and community member engagement that will be valuable from the assessment through the reporting phases of the HIA.

Representatives from the New Mexico Department of Health's Public Health Division and from the New Mexico Alliance of Health Councils expressed their strong support for an HIA on a food tax and in a policy area (taxes) that, in their opinion, is too rarely connected to health outcomes in policy discussions. Both offered support in the form of expertise and advice on health research, on the existing public health and HIA landscapes in New Mexico, on the HIA process, and on stakeholder engagement throughout the HIA.

The Center for Civic Policy, a non-profit organization focused on civic engagement in the policy process that conducts work on both health and tax policy, felt that an HIA on the food tax would be exceptionally useful not just to advocates and policy-makers, but also for the New Mexicans who would be impacted by the proposed policy changes.

STAKEHOLDER INVOLVEMENT IN SCOPING (DECEMBER 2014–APRIL 2015)

HIA process requires that "in identifying and evaluating priority health issues, practitioners should consider the expertise of health professionals, the experience of the affected communities, and the information needs of decision-makers" in order to ensure that the scope reflects the diverse experiences, interests, and concerns of a variety of stakeholders.*

NMVC used the following methods to gather stakeholder input and feedback on the proposed scope:

- NMVC convened the HIA Advisory Council (membership outlined in section 6a) of stakeholders who have experience and expertise in the areas of health, tax policy, hunger, racial equity, community engagement, and HIAs for two scoping sessions to solicit input on how the proposed tax on food may affect health. During these meetings, the Council also reviewed the goals and work plan of the HIA, identified data sources and outcome indicators, identified key experts and other important stakeholders and stakeholder groups to be contacted for involvement on the Advisory Council and for interviews during the scoping and assessment stages. The HIA Advisory Council also invited groups and individuals to take part in the HIA training (see below).

- NMVC hosted a full-day HIA training for NMVC staff, community members, nonprofit organizations, and federal, state, and local agencies in April of 2015. Upstream Public Health conducted the training with support from representatives of the Health Impact Project, a collaboration of The Pew Charitable Trusts and the Robert Wood Johnson Foundation, and NMVC. The training introduced participants to the process of HIA, essential steps, HIA tools and methodologies, and common challenges faced while conducting HIAs. The training focused on the first three stages of the HIA process (screening, scoping, and assessment), but included an introduction to all stages of the assessment.

Around 30 individuals attended the training, including representatives from state agencies, universities, youth groups, data organizations, direct service providers,

nonprofit policy organizations, community organizers, policy-makers, HIA practitioners, pediatricians, and community residents. During the training, small groups of attendees developed pathway diagrams, identified research questions, and identified data sources for key health outcomes. NMVC incorporated the results of this group work into the draft scope.

- The HIA Project Coordinator followed up with all members of the Advisory Council who were not able to attend either scoping session. NMVC also responded to multiple requests from community members about the project to provide information about the food tax policy and the HIA process. Input and concerns from these stakeholders expressed in these communications were incorporated into the HIA scope.

STAKEHOLDER INVOLVEMENT IN ASSESSMENT AND RECOMMENDATIONS (MAY–OCTOBER 2015)

Stakeholders on the HIA Advisory Council were involved in the assessment process on multiple levels and in many ways. They guided development of the scope and of the research questions and health determinants and outcomes to be studied; helped select focus group areas; identified and connected potential stakeholders, participants and groups for key stakeholder interviews and focus groups with the NMVC HIA team; were interviewed by the NMVC HIA team as part of the key stakeholder interviews; identified relevant literature and data sources; and conducted parts of the literature review.

Other stakeholders not on the Advisory Council were engaged in various ways during the assessment stage of the HIA. The HIA project team worked with community engagement organizations in three different areas of the state to convene a geographically representative and ethnically diverse group of stakeholder community members for focus groups. NMVC conducted interviews with key stakeholder and subject matter expert stakeholders to gain further understanding about how a tax on food and/or an increase in the cost of food might affect the health of populations that the stakeholders were a part of, worked with, researched, or served. In the fall of 2015, NMVC and partners will work together to conduct limited polling of the general public—all of which are stakeholders because all will be subject to a tax on food—on the food tax issue.

Stakeholders on the Advisory Council also played a key role in formulating policy recommendations. Along with the NMVC HIA team, the Council brainstormed and prioritized policy recommendations based on the assessment findings before giving final approval to the policy recommendations included in the report.

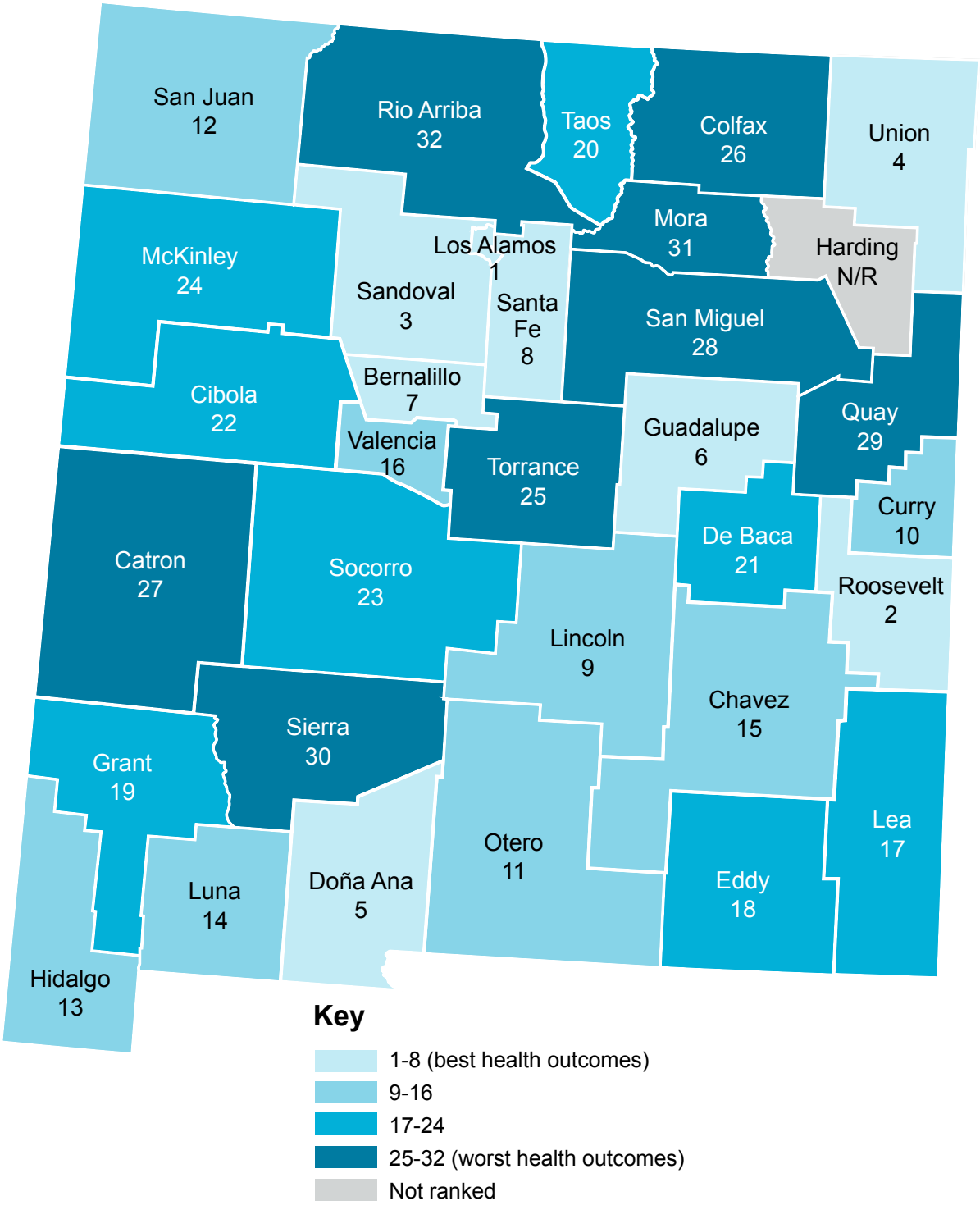
The Health Impact Project—a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts—funded this HIA and provided technical assistance for the duration of the project. Upstream Public Health also served as technical assistance providers for the duration of the HIA. Experts at the Kansas Health Institute, Habitat Health Impact Consulting, and ProMedica provided technical assistance and/or advice for discreet parts of the assessment.

STAKEHOLDER ENGAGEMENT IN REPORTING AND MONITORING (NOVEMBER 2015–MARCH 2016)

During the reporting and monitoring stage, the HIA project team will engage stakeholders primarily through a communications strategy designed to educate stakeholders and decision-makers on the health implications of the potential change in tax policy. Specific engagement strategies will include: distribution of report findings, targeted factsheets, press coverage (obtained through press releases and/or op-eds and letters to the editor), a strong social media presentation of key findings, presentation at public, nonprofit, and legislative hearings or meetings, and one-on-one conversations. The key audiences the HIA team hopes to reach include: opinion leaders, who can further our message by printing editorials or posting blogs in support of the recommendations; community members and the public who will be directly impacted by policy changes and should be aware of potential impacts; other health, advocacy, and policy groups, and public officials that represent affected populations; and ultimately the decision-makers who will vote on the policy changes. Stakeholders on the Advisory Council and groups who are involved in public health and/or community engagement will communicate and distribute HIA findings within their circles of influence.

APPENDIX C

NM County Rankings* by Health Outcomes

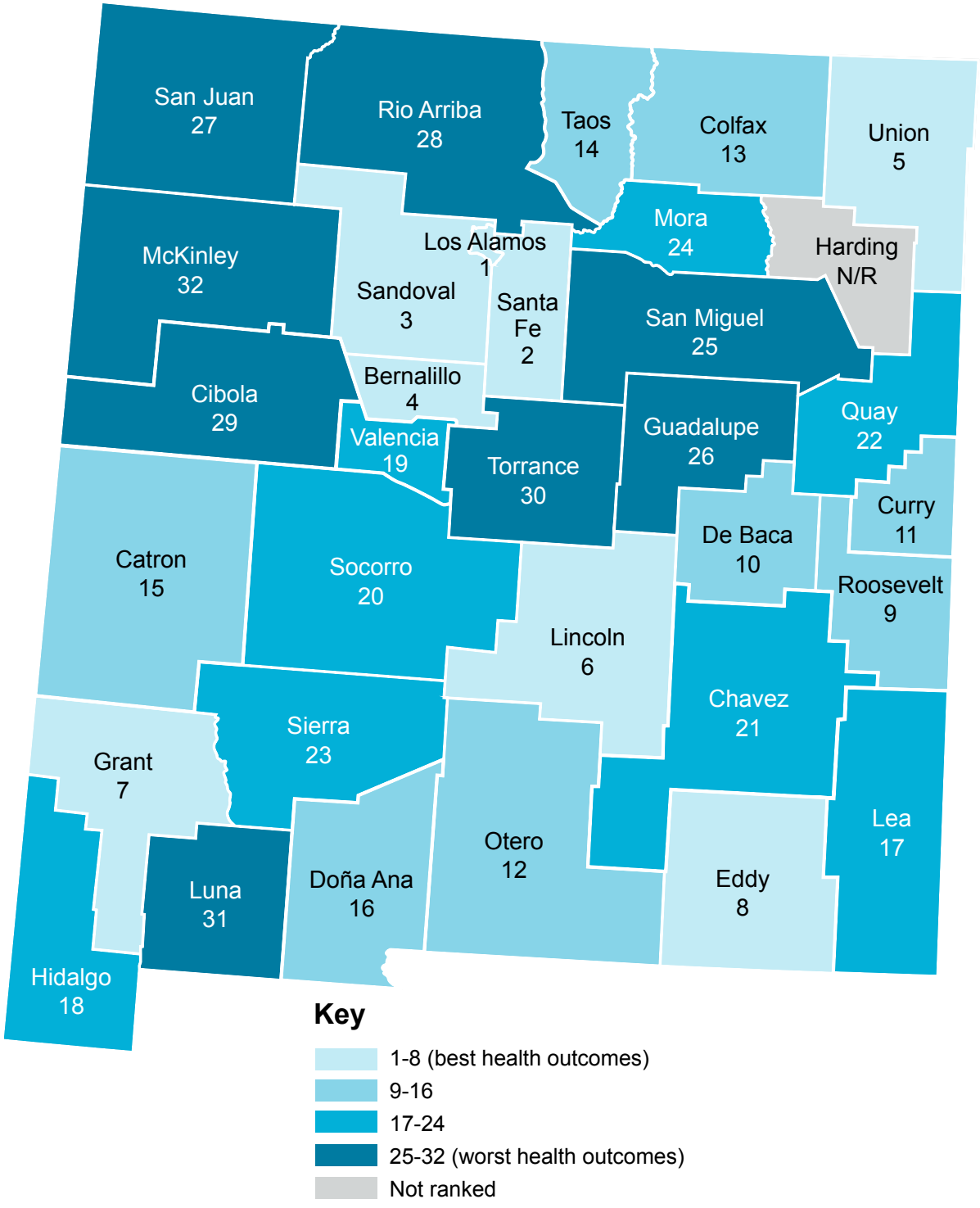


*Rankings are based on an equal weighting of quality and length of life

Source: 2015 County Health Rankings, Robert Wood Johnson Foundation; countyhealthranking.org
NEW MEXICO VOICES FOR CHILDREN

APPENDIX D

NM County Rankings* by Health Factors



*Rankings are based on weighted scores for health behaviors, clinical care, social and economic factors, and the physical environment

Source: 2015 County Health Rankings, Robert Wood Johnson Foundation; countyhealthranking.org
NEW MEXICO VOICES FOR CHILDREN

APPENDIX E

Selected Health Indicators Related to Food and Nutrition, by County

Location	Hospitalizations of diabetics per 10,000 population – age adjusted rates (2014)	Adult prevalence of obesity (2011-2013)	Percent of population with low access to a grocery store (2010)	Percent of children eligible for free lunch (2012)	Food insecurity rates (2013)	SNAP rates (2009-2013)	Child uninsured rates (ages 0-17) (2009-2013)	Adult uninsured rates (ages 18-64) (2009-2013)
U.S.		26.90%		48.1%	15.80%	12.4%	7.6%	20.6%
New Mexico		26.60%		61.6%	17.30%	14.3%	9.5%	27.2%
Bernalillo	128.5	23.50%	21%	57.5%	15.8%	13.4%	8.0%	22.9%
Catron	29.3	23.10%	100%	64.5%	17.2%	8.9%	18.6%	30.6%
Chaves	183.2	34.70%	27%	81.8%	15.3%	17.2%	7.9%	29.7%
Cibola	226.2	33.90%	33%	62.0%	18.0%	19.0%	11.1%	37.6%
Colfax	77	24.10%	51%	56.3%	15.3%	12.8%	8.8%	24.1%
Curry	129.8	33.80%	35%	65.3%	17.2%	15.4%	5.7%	25.0%
De Baca	146.3	34.10%	100%	47.6%	14.9%	9.9%	3.8%	19.4%
Doña Ana	142.1	28.20%	42%	70.1%	15.0%	17.4%	8.2%	30.7%
Eddy	161	35.00%	36%	46.4%	12.7%	14.0%	4.6%	22.8%
Grant	136.6	24.10%	34%	62.6%	15.0%	16.3%	6.0%	19.3%
Guadalupe	193.9	29.00%	38%	95.6%	11.2%	17.5%	3.5%	19.7%
Harding	21.2	N/A	100%	48.3%	13.8%	7.7%	8.7%	21.2%
Hidalgo	149.3	21.70%	31%	54.3%	15.3%	22.3%	2.3%	31.3%
Lea	103.7	38.10%	15%	50.4%	12.5%	11.4%	14.8%	30.3%
Lincoln	118.7	21.10%	40%	52.8%	15.4%	13.3%	5.4%	27.4%
Los Alamos	55.8	19.30%	40%	0.0%	13.3%	2.3%	2.4%	7.4%
Luna	226.1	25.60%	29%	99.1%	20.6%	24.5%	9.5%	38.8%
McKinley	155.1	35.30%	55%	79.0%	24.3%	20.0%	22.9%	48.7%
Mora	120.9	24.90%	33%	96.1%	12.8%	20.6%	18.4%	41.5%
Otero	120.5	27.80%	47%	52.7%	18.1%	16.7%	10.9%	28.5%
Quay	132.7	42.30%	31%	78.7%	15.6%	15.2%	4.0%	23.0%
Rio Arriba	182.5	31.50%	53%	69.3%	12.1%	15.5%	9.1%	30.1%
Roosevelt	74.2	29.00%	23%	52.7%	17.8%	14.3%	7.2%	28.0%
Sandoval	136.5	26.70%	44%	49.5%	15.3%	11.3%	6.5%	20.8%
San Juan	149.4	31.30%	31%	61.9%	19.3%	11.8%	19.3%	37.4%
San Miguel	198.5	24.40%	31%	76.7%	13.4%	19.4%	9.4%	23.7%
Santa Fe	83.4	17.90%	32%	58.3%	13.5%	10.1%	10.8%	27.7%
Sierra	146.2	21.20%	44%	69.1%	18.3%	14.9%	8.3%	41.1%
Socorro	190	25.80%	34%	66.4%	15.4%	21.2%	5.1%	25.8%
Taos	140	20.20%	45%	86.2%	16.3%	16.3%	4.0%	30.9%
Torrance	106.6	30.00%	24%	39.9%	18.1%	15.5%	3.4%	31.7%
Union	60.7	36.80%	27%	56.4%	15.0%	9.3%	3.0%	34.7%
Valencia	130.1	28.50%	46%	70.7%	14.1%	19.1%	4.1%	25.1%

Sources and Notes: Hospitalization for diabetics source: NM Hospital Inpatient Discharge Data, NM Health Policy Commission; accessed through NM DoH IBIS database (accessed on Nov. 1, 2015 at https://ibis.health.state.nm.us/query/result/hidd/HIDD/AgeRate.html); Food access source: U.S. Dept. of Agriculture, Economic Research Service's "Food Access Research Atlas Data File," August 2015; Note on measures of food access: .5 or 1 mile in urban areas; 10 or 20 miles in rural areas to the nearest supermarket for rural areas; Note on "low-income": The tract's poverty rate is 20 percent or greater; or the tract's median family income is less than or equal to 80 percent of the statewide median family income; Free lunch source: National Center for Education Statistics data from 2012 provided by the Robert Wood Johnson Foundation; SNAP rates source: U.S. Census, 2009-2013 American Community Survey, DPO3; Food insecurity source: *Map the Meal Gap, 2015*, Feeding America; Obesity prevalence source: NM-IBIS 2011-2013 Obesity Among Adults - BRFSS data crude rate (accessed Sept. 2015); Uninsured rates source: U.S. Census American Community Survey, 2009-2013, S2701

APPENDIX F

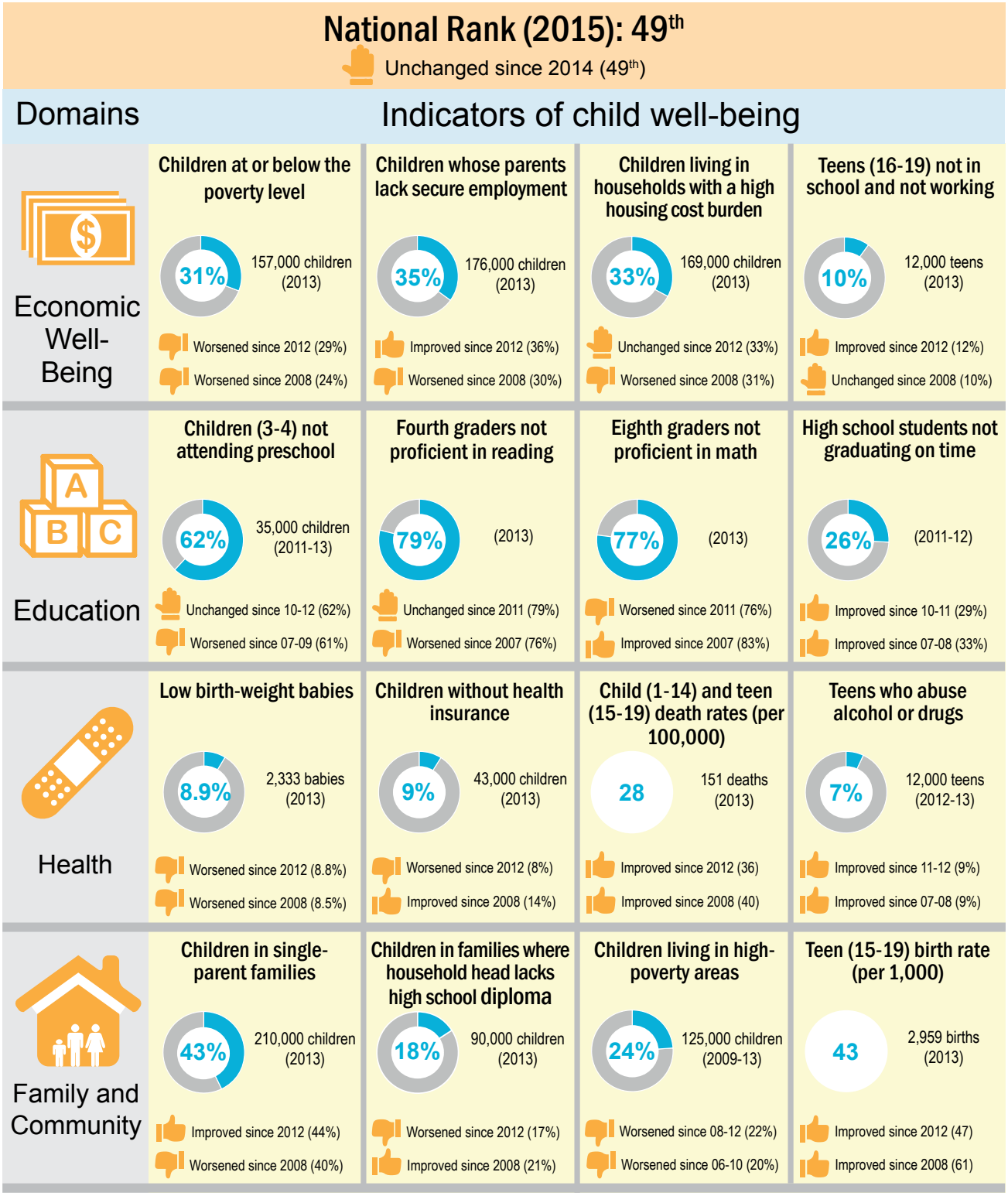
Selected Socio-Demographic Indicators Related to Family Economic Security, by County

		Child population		Adult population					
Location	**Total population**	**Child population (ages 0-17)**	**Young child population (ages 0-4)**	**Adult population (18 and older)**	**Adult non-senior population (18-64)**	**Senior population (65 and older)**	**Median household income (2013)**	**Overall poverty rate (2013)**	**Child poverty rate (2013)**
U.S.							$52,250	16%	22%
New Mexico	2,085,572	501,949	137,133	1,583,623	1,264,768	318,855	$44,026	21%	30%
Bernalillo	675,551	154,745	42,502	520,806	425,036	95,770	$48,053	19%	27%
Catron	3,556	499	114	3,057	1,814	1,243	$32,644	22%	41%
Chaves	65,878	17,917	4,778	47,961	38,227	9,734	$41,388	21%	31%
Cibola	27,349	6,689	2,025	20,660	16,764	3,896	$36,307	32%	43%
Colfax	12,680	2,409	610	10,271	7,269	3,002	$37,152	20%	32%
Curry	50,969	13,760	4,390	37,209	31,332	5,877	$39,186	21%	30%
De Baca	1,825	398	105	1,427	993	434	$33,045	22%	37%
Doña Ana	213,676	54,339	15,478	159,337	129,097	30,240	$36,831	27%	38%
Eddy	56,395	14,805	3,968	41,590	33,726	7,864	$49,865	15%	21%
Grant	29,096	6,063	1,598	23,033	16,028	7,005	$39,220	22%	34%
Guadalupe	4,468	923	221	3,545	2,745	800	$29,924	26%	36%
Harding	683	101	27	582	372	210	$37,520	15%	23%
Hidalgo	4,560	1,064	298	3,496	2,625	871	$32,993	26%	39%
Lea	69,999	21,264	6,016	48,735	41,422	7,313	$53,556	15%	20%
Lincoln	19,706	3,656	973	16,050	10,866	5,184	$40,756	19%	34%
Los Alamos	17,682	4,115	977	13,567	10,627	2,940	$110,930	4%	4%
Luna	24,673	6,399	1,863	18,274	13,149	5,125	$28,040	31%	44%
McKinley	74,098	22,713	6,652	51,385	43,535	7,850	$27,790	40%	48%
Mora	4,592	881	202	3,711	2,669	1,042	$29,263	24%	37%
Otero	65,082	15,770	4,936	49,312	38,671	10,641	$41,960	21%	34%
Quay	8,501	1,801	534	6,700	4,685	2,015	$30,496	26%	40%
Rio Arriba	39,777	9,668	2,824	30,109	23,542	6,567	$36,716	25%	33%
Roosevelt	19,536	4,832	1,476	14,704	12,241	2,463	$35,322	25%	32%
Sandoval	137,608	33,881	7,950	103,727	82,883	20,844	$56,190	15%	21%
San Juan	123,785	33,749	8,986	90,036	73,877	16,159	$44,417	22%	27%
San Miguel	28,239	5,630	1,538	22,609	17,419	5,190	$31,222	32%	43%
Santa Fe	148,164	28,869	7,171	119,295	90,207	29,088	$51,697	18%	27%
Sierra	11,325	1,723	455	9,602	5,752	3,850	$29,680	27%	46%
Socorro	17,310	4,059	1,075	13,251	10,348	2,903	$32,090	28%	44%
Taos	33,084	6,313	1,671	26,771	19,404	7,367	$33,021	26%	38%
Torrance	15,611	3,474	832	12,137	9,330	2,807	$35,046	28%	39%
Union	4,297	795	210	3,502	2,654	848	$37,902	20%	24%
Valencia	75,817	18,645	4,678	57,172	45,459	11,713	$41,412	23%	31%

Notes and Sources: Population estimates: U.S. Census Bureau, 2014 Population Estimates; median household income: U.S. Census Bureau, Small Area Income and Poverty Estimates, 2013; poverty source: U.S. Census Bureau, Small Area Income and Poverty Estimates, 2013; national estimates from 2013 American Community Survey
NEW MEXICO VOICES FOR CHILDREN

APPENDIX G

KIDS COUNT Profile for New Mexico (2015)



Source: *KIDS COUNT Data Book*, Annie E. Casey Foundation, multiple years
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APPENDIX H

NM State and Local Taxes Paid as a Share of Income, by Quintile

Note: Table shows permanent law in New Mexico enacted through December 31, 2014 at 2012 income levels

Source: *Who Pays?*, The Institute on Taxation and Economic Policy, 2015
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APPENDIX I

Food Tax Calculations Methodology

This appendix assesses the distribution of expenditures of food consumed at home in New Mexico and the cost of the deduction to the state by income group, and the distribution of the burden if the gross receipts tax were to be re-imposed on food consumed at home. Projections are based its analysis of expenditures and taxes paid on estimates based on the Consumer Expenditures Survey conducted annually by the US Bureau of Labor Statistics.

According to the New Mexico Taxation and Revenue Department's publication Report 80, the cost of the deduction for food consumed at home and health care services was $5.157 billion in the state fiscal year that ran from July 2014 to June 2015 (FY 15). Of that amount, about three-quarters can be attributed to food consumed at home and one-quarter to health care services.* The amount of the deduction for food consumed at home was therefore about $3.868 billion. In Table I, that amount has been allocated to income deciles using proportions derived from the Current Expenditure Survey conducted annually by the US Bureau of Labor Statistics. The amount of the deduction is the amount spent on food consumed at home by New Mexico consumers not taxed under the state's gross receipts tax. This amount would be taxed if the deduction were to be repealed, as some legislators have proposed. The lowest tenth of consumers would pay about 6 percent ($15.8 million) of the total gross receipts tax of $263 million if the deduction was repealed. The percentage would be 16.2 percent ($42.674 million) for the highest tenth. It is logical that consumer units in the higher consumption deciles pay a larger amount in gross receipts taxes, even though it is a smaller percentage of their overall income.

Table I shows that the total amount of gross receipts tax base for food consumed at home would have been $3.868 billion—that is, if the deduction for food was not in place this amount would have been added to the gross receipts tax base. The average gross receipts base that would have been subject to the tax in the absence of the deduction is computed by dividing the total deduction by the number of households in New Mexico, then multiplying by the average tax rate of 6.9 percent. Table II shows that the average amount of gross receipts tax paid is less in the lower tenths of the income distribution ($210 to $259) than in the higher tenths ($429 to $569). This makes sense because the lower tenths spend less on food and other items because they have less to spend.

TABLE I

Income group	Gross receipts food deduction* (FY15)	Share of gross receipts paid by income tenths	Amount paid in food tax by income tenths
Lowest 10%	$232,572,292	6.01%	$15,814,916
Second 10%	$254,887,143	6.59%	$17,332,326
Third 10%	$284,668,444	7.36%	$19,357,494
Fourth 10%	$326,290,506	8.43%	$22,187,254
Fifth 10%	$347,212,093	8.98%	$23,610,422
Sixth 10%	$370,603,588	9.58%	$25,201,044
Seventh 10%	$404,893,331	10.47%	$27,532,747
Eighth 10%	$469,871,982	12.15%	$31,951,295
Ninth 10%	$549,552,195	14.21%	$37,369,549
Highest 10%	$627,558,888	16.22%	$42,674,004
All consumer units	$3,868,110,462	100.00%	$263,053,030

*The gross receipts food deduction is a proxy for food purchases

Source: Calculations by NM Voices for Children of *Report 80* data, NM Tax and Revenue Dept.
NEW MEXICO VOICES FOR CHILDREN

*Fiscal impact report, Legislative Finance Committee, 2004

The first column of Table II provides an estimate of New Mexico personal consumption expenditures (PCE) in 2014. This estimate is based on the Current Expenditure Survey conducted by the US Bureau of Labor Statistics. Average household personal consumption expenditures were estimated by dividing consumption expenditures by total households.

TABLE II

Income group	Total estimated personal consumption expenditures–PCE	Number of New Mexico households by income tenths	Average household personal consumption expenditures–PCE	Average food tax paid per households	Average percentage of food tax paid by household–PCE
Lowest 10%	$1,499,559,036	76,334	$19,645	$210	1.1%
Second 10%	$1,652,284,526	75,830	$21,789	$232	1.1%
Third 10%	$2,077,467,884	75,938	$27,357	$259	0.9%
Fourth 10%	$2,385,158,466	76,340	$31,244	$295	0.9%
Fifth 10%	$2,785,375,771	76,412	$36,452	$314	0.9%
Sixth 10%	$3,280,952,541	76,562	$42,854	$334	0.8%
Seventh 10%	$3,666,069,532	76,586	$47,869	$365	0.8%
Eighth 10%	$4,359,554,328	75,494	$57,747	$429	0.7%
Ninth 10%	$5,533,503,354	76,400	$72,428	$496	0.7%
Highest 10%	$8,362,415,190	76,040	$109,974	$569	0.5%
All consumer units	$35,606,272,000	761,938	$46,731	$350	0.7%

Sources: US Census Bureau (number of NM Households); US Bureau of Labor Statistics, Current Expenditure Survey
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On Table III, average gross receipts tax on food is carried over from Table II, and then divided by average household PCE to arrive at the percentage of food gross receipts tax paid by decile. Food gross receipts tax is regressive, meaning that the ratio of tax paid to total consumption falls from 1.1 percent of consumption expenditures for the lowest tenth to 0.5 percent for the highest tenth of consumer units.

TABLE III

Income group*	Total food tax paid per income group	Average food tax paid per household	Percent of income paid on food tax
Lowest 10%	$15,814,916	$210	1.1%
Second 10%	$17,332,326	$232	1.1%
Third 10%	$19,357,494	$259	0.9%
Fourth 10%	$22,187,254	$295	0.9%
Fifth 10%	$23,610,422	$314	0.9%
Sixth 10%	$25,201,044	$334	0.8%
Seventh 10%	$27,532,747	$365	0.8%
Eighth 10%	$31,951,295	$429	0.7%
Ninth 10%	$37,369,549	$496	0.7%
Highest 10%	$42,674,004	$569	0.5%
All consumer units	$263,053,030	$350	0.7%

*There are roughly 76,000 households in each income group

Sources: US Census Bureau (number of NM Households);US Bureau of Labor Statistics,Current Expenditure Survey
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APPENDIX J

NM County Tax Rates, Food Deductions, and Rankings (FY 2015)

Existing Conditions				Tax Revenue Projections			Rankings*		
Location	Population	FY 15 tax rate	Total FY 15 food deduction receipts	4% tax rate applied to food deductions	Current local tax rate applied to food deductions	Average per-person yearly tax responsibility at current rate	Rank: per-person tax responsibility	Rank: overall tax rate	Rank: total volume of area's deduction
Bernalillo	675,551	6.85%	$1,502,448,669	$60,097,947	$102,960,994.54	$152.41	29	8	33
Catron	3,556	5.82%	$1,897,887	$75,915	$110,475.83	$31.07	4	1	3
Chaves	65,878	6.98%	$117,435,658	$4,697,426	$8,192,522.24	$124.36	25	9	28
Cibola	27,349	7.60%	$29,829,803	$1,193,192	$2,265,905.10	$82.85	9	24	14
Colfax	12,680	7.38%	$21,272,938	$850,918	$1,570,932.67	$123.89	24	20	11
Curry	50,969	7.54%	$80,021,711	$3,200,868	$6,032,185.09	$118.35	22	23	22
De Baca	1,825	7.16%	$2,558,234	$102,329	$183,251.86	$100.41	14	13	4
Doña Ana	213,676	7.62%	$302,854,470	$12,114,179	$23,066,681.47	$107.95	18	26	31
Eddy	56,395	6.61%	$109,903,268	$4,396,131	$7,259,874.50	$128.73	26	5	26
Grant	29,096	7.18%	$55,044,636	$2,201,785	$3,950,251.37	$135.77	27	14	19
Guadalupe	4,468	7.63%	$3,665,536	$146,621	$279,818.73	$62.63	7	27	5
Harding	683	6.05%	$334,332	$13,373	$20,231.81	$29.62	3	2	1
Hidalgo	4,560	6.77%	$3,794,415	$151,777	$256,893.93	$56.34	6	7	6
Lea	69,999	6.53%	$109,328,589	$4,373,144	$7,142,765.76	$102.04	17	4	25
Lincoln	19,706	7.61%	$32,030,737	$1,281,229	$2,436,388.40	$123.64	23	25	15
Los Alamos	17,682	7.31%	$74,328,810	$2,973,152	$5,430,872.98	$307.14	32	18	20
Luna	24,673	7.30%	$36,703,476	$1,468,139	$2,678,836.30	$108.57	19	17	17
McKinley	74,098	7.67%	$110,986,651	$4,439,466	$8,507,925.85	$114.82	20	29	27
Mora	4,592	6.27%	$993,170	$39,727	$62,314.49	$13.57	1	3	2
Otero	65,082	7.29%	$86,244,187	$3,449,767	$6,289,929.87	$96.65	13	16	23
Quay	8,501	7.94%	$10,197,734	$407,909	$809,260.88	$95.20	12	32	9
Rio Arriba	39,777	7.44%	$42,006,158	$1,680,246	$3,123,514.73	$78.53	8	22	18
Roosevelt	19,536	7.36%	$26,818,143	$1,072,726	$1,974,884.45	$101.09	15	19	13
San Juan	137,608	7.07%	$283,071,737	$11,322,869	$20,021,687.43	$145.50	28	12	30
San Miguel	123,785	7.66%	$36,594,294	$1,463,772	$2,802,415.98	$22.64	2	28	16
Sandoval	28,239	7.20%	$179,232,852	$7,169,314	$12,901,792.77	$456.88	33	15	29
Santa Fe	148,164	7.96%	$376,442,613	$15,057,705	$29,971,723.05	$202.29	31	33	32
Sierra	11,325	7.42%	$17,742,358	$709,694	$1,316,629.00	$116.26	21	21	10
Socorro	17,310	6.75%	$23,184,418	$927,377	$1,563,940.65	$90.35	10	6	12
Taos	33,084	7.88%	$79,359,099	$3,174,364	$6,254,978.53	$189.06	30	31	21
Torrance	15,611	7.06%	$8,346,055	$333,842	$589,607.22	$37.77	5	11	8
Union	4,297	7.00%	$5,822,969	$232,919	$407,379.22	$94.81	11	10	7
Valencia	75,817	7.88%	$97,931,299	$3,917,252	$7,715,428.17	$101.76	16	30	24
Total	2,085,572	N/A	$3,868,426,906	$154,737,076	$278,152,294.87	$133.37	N/A	N/A	N/A

*Rankings are based on current tax rate; 1 is the lowest; 33 is the highest

Source: NM Voices for Children analysis of gross receipts, tax rate, and food deduction receipts by county from State of New Mexico Taxation and Revenue Department Combined Reporting System (July 2014–June 2015)
NEW MEXICO VOICES FOR CHILDREN

APPENDIX K

Selected NM City Tax Rates, Food Deductions, and Rankings (FY 2015)

Existing Conditions				Tax Revenue Projections			Rankings*		
Location	Population	FY 15 tax rate	Total FY 15 food deduction receipts	4% tax rate applied to food deductions	Current local tax rate applied to food deductions	Average per-person yearly tax responsibility at current rate	Rank: per-person tax responsibility	Rank: overall tax rate	Rank: total volume of area's deduction
Alamogordo	31,060	7.78%	$84,752,502	$3,390,100	$6,590,078	$212.17	9	12	12
Albuquerque	557,169	7.00%	$1,556,342,028	$62,253,681	$108,870,547	$195.40	8	2	20
Artesia	11,842	7.42%	$43,804,615	$1,752,185	$3,250,027	$274.45	13	6	5
Carlsbad	28,103	7.42%	$71,169,380	$2,846,775	$5,284,044	$188.02	6	7	8
Clovis	39,860	7.87%	$86,235,068	$3,449,403	$6,789,839	$170.34	3	14	13
Deming	14,605	7.49%	$37,126,368	$1,485,055	$2,782,067	$190.49	7	10	3
Española**	10,130	8.51%	$40,909,242	$1,636,370	$3,480,048	$343.54	14	20	6
Farmington	44,445	7.25%	$239,024,154	$9,560,966	$17,325,272	$389.81	16	4	17
Gallup	22,469	8.30%	$98,490,584	$3,939,623	$8,177,695	$363.95	15	19	14
Grants	9,241	7.90%	$27,704,296	$1,108,172	$2,189,638	$236.95	11	15	2
Hobbs	37,118	6.81%	$85,447,117	$3,417,885	$5,816,879	$156.71	2	1	9
Las Cruces	101,408	7.85%	$306,971,859	$12,278,874	$24,086,313	$237.52	12	13	18
Las Vegas	13,518	8.08%	$37,246,917	$1,489,877	$3,008,161	$222.53	10	16	4
Los Alamos	12,068	7.31%	$82,189,588	$3,287,584	$6,005,419	$497.63	19	5	10
Portales	12,233	7.76%	$27,851,489	$1,114,060	$2,160,570	$176.62	5	11	1
Rio Rancho**	93,820	7.44%	$150,930,366	$6,037,215	$11,229,219	$119.69	1	8	16
Roswell	48,608	7.12%	$120,251,858	$4,810,074	$8,565,075	$176.21	4	3	15
Santa Fe	70,297	8.17%	$346,053,632	$13,842,145	$28,281,822	$402.32	18	17	19
Silver City	10,172	7.48%	$54,060,660	$2,162,426	$4,045,317	$397.69	17	9	7
Taos	5,766	8.18%	$79,118,274	$3,164,731	$6,472,363	$1,122.50	20	18	11

*Rankings are based on current tax rate; 1 is the lowest; 20 is the highest.

**The cities of Española and Rio Rancho cross county lines. This table combines data from Santa Fe and Rio Arriba counties for Española, and Bernaillo and Sandoval Counties for Rio Rancho.

Source: NM Voices for Children analysis of gross receipts, tax rate, and food deduction receipts by county from State of New Mexico Taxation and Revenue Department Combined Reporting System (July 2014–June 2015)
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APPENDIX L

New Mexico Legislative Finance Committee's Tax Policy Principles

1. Adequacy: Revenue should be adequate to fund needed government services.
2. Efficiency: Tax base should be as broad as possible and avoid excess reliance on one tax.
3. Equity: Different taxpayers should be treated fairly.
4. Simplicity: Collection should be simple and easily understood.
5. Accountability: Preferences should be easy to monitor and evaluate.

APPENDIX M

State Food Tax Rates and Exemptions (2015)

State	State tax rate	Tax on food	State	State tax rate	Tax on food
Alabama	4.000%	4.000%	Nebraska	5.500%	—
Alaska	—	—	Nevada*	6.850%	—
Arizona	5.600%	—	New Hampshire	—	—
Arkansas	6.500%	(Local 1.500%)	New Jersey	7.000%	—
California*	7.500%	—	New Mexico	5.125%	—
Colorado	2.900%	—	New York	4.000%	—
Connecticut	6.350%	—	North Carolina	4.750%	(Local)
Delaware	—	—	North Dakota	5.000%	—
Florida	6.000%	—	Ohio	5.750%	—
Georgia	4.000%	(Local)	Oklahoma	4.500%	(Rebate)
Hawaii	4.000%	(Rebate)	Oregon	—	—
Idaho	6.000%	(Rebate)	Pennsylvania	6.000%	—
Illinois	6.250%	1.000%	Rhode Island	7.000%	—
Indiana	7.000%	—	South Carolina	6.000%	—
Iowa	6.000%	—	South Dakota	4.000%	(Rebate)
Kansas	6.150%	(Rebate)	Tennessee	7.000%	5.000%
Kentucky	6.000%	—	Texas	6.250%	—
Louisiana	4.000%	(Local)	Utah*	5.950%	(Local 1.750%)
Maine	5.500%	—	Vermont	6.000%	—
Maryland	6.000%	—	Virginia*	5.300%	2.500%
Massachusetts	6.250%	—	Washington	6.500%	—
Michigan	6.000%	—	West Virginia	6.000%	—
Minnesota	6.875%	—	Wisconsin	5.000%	—
Mississippi	7.000%	7.000%	Wyoming	4.000%	—
Missouri	4.225%	1.225%	Dist of Columbia	5.750%	—
Montana	—	—			

*California: Tax rate may be adjusted annually according to a formula based on balances in the unappropriated general fund and the school foundation fund.
*Nevada: Sales tax rate scheduled to decrease to 6.5% on July 1, 2015.
*Utah: Includes a statewide 1.25% tax levied by local governments.
*Virginia: Includes statewide 1.0% tax levied by local governments.

Source: Compiled by FTA from various sources
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APPENDIX N

Research Questions, Indicators, and Data Sources

Criteria for Prioritizing Scope and Research Questions

The following criteria—which were selected and prioritized by the NMVC HIA team and Advisory Council—were used by the HIA team and Advisory Council to prioritize the research questions that corresponded to each of the outlined health determinants:

Primary Criteria:

- Impacts with the greatest potential health significance, with regards to factors including but not limited to magnitude, certainty, reversibility, and equity
- Topic is of biggest interest/concern to stakeholders and decision makers and/or it will have the most influence on them and the decision
- Impacts the most vulnerable people

Other Criteria:

- Impacts involve the best literature, data, and/or information
- Topic is a definite precursor to other impacts
- Impacts are most direct or most likely
- Impacts the largest number of people

FAMILY ECONOMIC SECURITY PATHWAY RESEARCH QUESTIONS, INDICATORS, AND DATA SOURCES

Existing Condition Research Questions
1. What portion of a total budget do families currently spend on food and on other basic needs?
2. What is the link between low-income families and chronic health conditions?
3. What is the link between income insecurity and stress, mental health?
4. What is the link between income and educational outcomes for children?
5. What is the link between stress, depression, and chronic health conditions?
6. What is the effect of tax pyramiding on the cost of food?
Higher Priority Research Questions
1. Will the portion of a family budget spent on food and on other basic needs change if food purchasing habits are not modified, and if so, how? What would the cost of a tax on food (on average) be by individual, family, income level?
2. If families make spending trade-offs by spending less on other non-food items, what will those trade-offs be?
3. Will or how will this policy influence chronic health conditions in low-income families?
4. Do spending trade-offs (by spending less on other non-food items) impact families' health through other health determinants such as housing, medications, health care deductibles, child care, utilities, etc.?
Lower Priority Research Questions
5. How much more would people have to earn to cover the cost of a tax increase? Would people have to seek additional income?
6. What is the level of income inequality in New Mexico? How will this policy disproportionately affect those of different incomes?
7. Will this policy change educational attainment outcomes (and related health outcomes) for children in low-income families?
8. Will the policy impact income and employment opportunities for populations employed in the farming, food production, food processing, and food selling/distribution sectors, and if so, how?
9. Will the policy increase demand for public assistance government services and programs?
10. Would the policy exacerbate the effects of tax pyramiding on food?

Key Indicators	Data Sources
• Annual expenditures by income quintile • Level of income inequality (Gini coefficient) • Population and socioeconomic statistics by community • State and local hold-harmless tax tables • Educational outcomes • Employment statistics • Fiscal impact by income level of a tax on food • Health determinant and health outcome indicators	• Bureau of Labor Statistics Consumer Expenditure Survey • U.S. Census American Community Survey and Current Population Survey • NM Tax and Revenue Department • NM Workforce Solutions Department • NM Department of Health, Community Data Collaborative • NM Department of Health, Epidemiology Division, IBIS Database • NM Youth Risk and Resiliency Survey • USDA Economic Research Service • NM Department of Health, State of Health Report • Distributional analysis of a tax on food (ITEP)

FOOD INSECURITY, DIET, AND NUTRITION PATHWAY RESEARCH QUESTIONS, INDICATORS, AND DATA SOURCES

Existing Condition Research Questions
1. Who is currently enrolled/using federal, state, and local food support programs (e.g., SNAP, TANF, WIC, free and reduced-price school lunches and breakfast, supper and back packs, summer food programs, food bank programs, meals on wheels)?
2. How much of a family's food is covered by food support programs such as WIC, SNAP, school meals, Meals on Wheels, etc.?
3. What is the current prevalence of food and diet-related illnesses, chronic conditions, and food insecurity in NM?
4. What is the link between nutrition, hunger, and/or food insecurity and school attendance, cognitive development, and/or educational outcomes?
5. What is the price elasticity of food demand?
6. Where are the current food deserts?
7. How are food insecurity and hunger linked to obesity?
8. How do people feel about hunger and about government's role in preventing it?
9. What is the annual public cost of food insecurity, hunger, obesity?
Higher Priority Research Questions
1. If the cost of food goes up, will families (1) buy the same food for more, (2) buy less food, and/or (3) buy cheaper or lower quality food?
2. How much would a tax on food change participation and reliance on food assistance programs? Would people who qualify but don't use them, start using them?
3. What proportion of their food intake would be affected by a tax on food?
4. How will this policy impact food insecurity, hunger, nutrition, diabetes, hypertension, and/or other nutrition-related chronic conditions?
5. Will this policy affect school attendance and/or childhood learning outcomes, and if so, how?
6. If families buy less food, does this impact food insecurity, hunger, nutrition, diabetes, hypertension, and/or other chronic conditions?
7. How will a tax on food impact the demand for food?
Lower Priority Research Questions
8. Will the policy disproportionately affect the food purchasing behaviors or options of people living in food deserts, and if so, how?
9. Would the policy impact food service providers and non-profits ability to provide services?
10. What impact would this have on the quality of food in child care facilities or on the cost of child care facilities?
11. Will this policy impact youth enrollment in school meal programs around the state, and if so, how?

Key Indicators	Data Sources
• Population and socioeconomic statistics by community • Educational outcomes • Enrollment in food-assistance programs • Prevalence of food deserts • Health determinant and health outcome indicators	• U.S. Census American Community Survey and Current Population Survey • NM Department of Health, Community Data Collaborative • NM Department of Health, Epidemiology Division, IBIS Database • NM Youth Risk and Resiliency Survey • Healthy Food Financing Initiative • USDA Economic Research Service • NM Association of Food Banks • Food Research and Action Center (FRAC) • Center on Budget and Policy Priorities analysis of data from USDA food and nutrition services • USDA SNAP state activity report • NM Human Services Department, monthly reports on SNAP in the state • Feeding America • NM Department of Health, State of Health Report

GOVERNMENT SPENDING PATHWAY RESEARCH QUESTIONS, INDICATORS, AND DATA SOURCES

Existing Condition Research Questions
1. How do local governments spend their money? What percentage of revenue do local governments spend on health services and supports?
2. What are the amount of hold-harmless payments to jurisdictions (average, range)?
3. What other states have a food tax?
4. What other options for taxation do governments have?
Higher Priority Research Questions
1. Which health-related public services might suffer as a result of the hold-harmless phase-out and/or which programs might most benefit from food tax revenue?
2. What will the removal of hold-harmless payments cost local governments? Which governments and communities will be hardest hit?
3. What health outcomes are tied to the type of government spending that might be most impacted by a revenue change from a tax on food?
4. How might a food tax impact the need and demand for public assistance and government services?
Lower Priority Research Questions
5. What other things might governments do or tax to raise revenue?
6. Which cities and counties are likely to impose a food tax if given the option to do so?
7. What are the comparable health outcomes for states that have a tax on food? Has a linkage been established between the tax and health outcomes?
8. What are the benefits or costs to the state from the corporate tax cut that caused the hold-harmless payments to be phased out? What are the health benefits of any positive changes?
9. What other options are available at the state-level to pay for the hold-harmless phase-out? Can the hold-harmless phase-out be halted? Would finding another option to pay for the hold-harmless phase-out prevent a tax being placed on food?

Key Indicators	Data Sources
• Municipal, county, and state budget numbers by department and locale • Tax options as outlined in the state tax code • State and local hold-harmless tax tables • Population and socioeconomic statistics by community • Employment statistics • Enrollment in food-assistance programs • Prevalence of food deserts • Health determinant and health outcome indicators	• Bureau of Labor Statistics Consumer Expenditure Survey • U.S. Census American Community Survey and Current Population Survey • NM Tax and Revenue Department • NM Workforce Solutions Department • NM Department of Health: Community Data Collaborative • NM Department of Health: Epidemiology Division, IBIS Database • CCH, State Tax Handbook • Center on Budget and Policy Priorities' analysis of state food taxation • NM Department of Health, State of Health Report

APPENDIX O

Stakeholder Interview Protocol and Questions

PROCEDURE PRIOR TO STAKEHOLDER INTERVIEW

- Set up and confirm phone interview with stakeholder
- Send stakeholder a copy of the interview questions ahead of time
- Collect name, organization, and occupation for each individual (optimally, this should be done prior to interview) and fill in corresponding fields below
- Rename this file to include the name of the interviewee (e.g., Stakeholder Interview-Carlos Navarro)

STAKEHOLDER INTERVIEW PROCEDURE

- Ask stakeholder if he/she would like his/her name and organization to remain confidential
- Ask stakeholder if he/she would feel comfortable being quoted in the report
- Let him/her know that he/she will have a chance to review and edit any quote prior to it being included in the final report
- Take notes on the response to each question:
  - *-Either in the form provided below (the boxes will expand as you type)*
  - *-Or on paper, and then transfer the notes to this form*
- Feel free to ask additional questions or to combine the questions below, depending on the flow of the conversation

STAKEHOLDER INTERVIEW QUESTIONS

1. **Is food insecurity or hunger a problem for the populations that you work with/serve/ research? Is the cost of food a concern for these populations?**

2. **Do you think that the cost of food going up would affect the populations your serve/work with/research? Which vulnerable populations do you think might be most affected? How so?**
   - *a. Do you think it could change people's buying habits? Might they buy less food? Cheaper food?*
   - *b. Do you think it could affect their diet, nutrition, or food insecurity?*
   - *c. Do you think they might save money by spending less in other areas?*

3. **Do you think an increase in the cost of food could impact the health of the populations you work with/serve? Are there specific health issues (determinants or outcomes) or health deficiencies that you are familiar with that might be impacted by an increase in the cost of food?**

4. Different things cause the price of food to go up—droughts cause the price of fruits and vegetables to go up, for example. But what if the price of food went up an average of $300 per year, or $25 per month, and it was because policy-makers decided to put a tax on food? A lot of the taxes on other things have been cut over the past 10 years, but the government still has to be able to pay for things that the people need—and now they are having a hard time finding the money. It is the same story all over the country. Here in New Mexico, lawmakers are thinking of putting a tax on food that would make the average grocery bill go up an average of $300 per household per year. This would cost New Mexico residents more than $200 million total, statewide. Let's pretend that one of those policy-makers thinking of voting yes for a food tax were right there with you now. **Based on your experience, what would you say to that person about the idea of passing a food tax? What would you want that policymaker to know or to be aware of?**

5. **Is there anything else you think we should know about this issue of food, food cost, or the idea of the food tax?**

APPENDIX P

Focus Group Protocol and Questions

FOCUS GROUP RECRUITMENT PROTOCOL

- Three focus group sessions will be held in Las Cruces, Gallup, and Albuquerque
- Each session will involve 6-9 adult participants
- Participants will be recruited by NMVC community collaborators (Doña Ana Place Matters, McKinley Place Matters, and SouthWest Organizing Project) in each location
- Each recruiter must obtain oral consent from each participant at the time of recruitment prior to the Focus Group session. They must explain:
  - *The purpose of the focus group:* "Policy makers are considering passing a law that will increase the cost of food. We want to hear people's experiences about the cost of food to better understand how a change in the price of food could affect them and their families."
  - *The fact that it will be confidential*
  - *The fact that it will be audio-recorded and transcribed*
  - *The fact that they will receive a gift card for $30*
- Target participant criteria

Mandatory Criteria:

a. All participants must be low-income, food insecure, OR SNAP eligible

b. All participants must have primary responsibility for grocery shopping for their household

Other criteria to consider:

a. Females who do the shopping for their families that include children (e.g. mothers or grandmothers who are responsible for raising children and shopping for children) are strongly preferred

b. Individuals of color are preferred

c. It is desirable to have at least 1 senior, though not required

FOCUS GROUP SESSION PROTOCOL

Overview

- Each focus group session will involve 6-9 adults with preference given according to the recruitment criteria discussed above
- Space for focus group sessions will be identified and arranged by community collaborators
  - Focus group sessions will be held at places and times convenient to participants in each community
- Food and drinks will be provided
- Participants will sign for receipt of $30 cash incentive to remunerate them for their time
  - Child care will be provided or participants in need of child care for the event will also receive a stipend to cover child care costs
- Focus group sessions will be led/facilitated by community collaborator groups
- Focus group sessions will be audio-recorded and transcribed by community collaborator groups
- No individually identifying information will be recorded during sessions
- Focus groups will last approximately 1 hour

Logistical Introduction to be conducted at the Beginning of Each Focus Group Session

- Re-explain purpose of focus group: ***"Policy makers are considering passing a law that will increase the cost of food. We want to hear people's experiences about the cost of food to better understand how a change in the price of food could affect them and their families."***
- Re-explain confidentiality and indicate that the focus group session will be recorded and transcribed
- Re-explain the gift cards and any required signature
- Explain ground rules for the session—*letting everyone have a chance to talk, that you want to hear from everyone, that this is not a place to try to convince people of your opinion but rather a place to share your opinion and be heard, that you are sure that everyone will be respectful, but you just need to state that to be clear.*

Content Introduction

We invited you here today to talk a bit about food and the cost of food. We would like to hear about your experiences. We think it is important for public officials making decisions that influence the cost of food to be aware of what is going on in people's kitchens and what is really happening when they shop.

FOCUS GROUP QUESTIONS

1. **When you shop for groceries…**
   - *a. Are you always able to buy enough food for you and your family? Explain.*
   - *b. Are you able to buy the quality of food that you would like? Explain.*
   - *c. How do you feel about the healthiness of the food you are able to buy?*

2. **When you are deciding what food to buy, what factors are most important to you?**

Prompts if necessary:

a. Do you buy things mostly based on price?

b. What other factors influence your grocery shopping?

3. **Is the cost of food a big concern for you? Tell me about that.**

a. Do you feel that you can afford the food you *would like to buy? Explain.*

b. Have you ever gone without food because it was too expensive?

c. Have you ever gone without or bought less:

-Fruits or veggies because they were too expensive?

-Meat, fish or chicken because they were too expensive?

-Milk or eggs because they were too expensive?

4. **Do you ever have feelings of stress, anxiety or depression when shopping for food, making food, or thinking about providing food for you and your family? Tell me about that.**

5. **If tomorrow the cost of food went up by $300 per year or about $25 per month, how would that affect you?**

a. Would you change the way you shop?

-Would you buy less food? Which foods might you buy less of?

-Would you buy different food? Explain.

b. Would you make cuts in other areas (such as rent, utilities, health care, activities for kids, etc.)?

-Where might you cut back?

c. Would it affect the way you feel emotionally? How?

d. Would you be more likely to need or seek food assistance (such as WIC, SNAP, food pantries)?

e. Do you think it would affect your health and/or the health of your family if the cost of food went up? How or why?

6. Different things cause the price of food to go up—droughts cause the price of fruits and vegetables to go up, for example. But what if the price of food went up the amount we have been discussing—$300—and it was because policy-makers decided to put a tax on food? A lot of the taxes on other things have been cut over the past 10 years, but the government still has to be able to pay for things that the people need—but now they are having a hard time finding the money. It is the same story all over the country. But here in New Mexico, they are thinking of putting a tax on food that would make your grocery bill go up by $300. Let's pretend that one of those policy-makers thinking of voting yes for a food tax were here tonight in this group—sitting right there in that chair. **Based on your experience, what would you say to that person about the idea of passing a food tax? What would you want that policymaker to know or to be aware of?**

7. **Is there anything else you think we should know about this issue of food, food cost, or the idea of the food tax?**

APPENDIX Q

Literature Review Methodology

Note: This methodology was adapted from the Kansas Health Institute's (KHI's) literature review methodology. Thanks to experts Tatiana Lin, Sarah Hartsig, and Shawn Chapman at KHI for their advice, example, and assistance in developing this framework.

1. Ensure familiarity with the three topic areas (family economic security; food insecurity/food choices/ nutrition; government spending)

2. Identify the databases to search (see below for some potential databases). Search at least two search engines if possible. However, if continuing the search in a new database does not provide valuable results, stop.
   a. Academic databases are preferred and should be used for every search, but Google Scholar and other search engines are acceptable
   b. Academic databases: PubMed, Cochrane, Social Sciences Index, JSTOR, Campbell, EBSCO Academic Search Complete, JAMA, etc.
   c. Other sources:
      i. Google Scholar
      ii. Bibliographies of identified reports and reviews for additional references
      iii. Staff and Advisory Council recommendations
      iv. Government websites (e.g., USDA, Federal Reserve)
      v. Non-governmental research institutes (e.g., Pew Research Institute, Brookings Institute, Child Trends)

3. Determine keywords. The HIA team will provide a list to start with and terms will be added through a process of experimentation within each database. Steps for this processes include defining text words, identifying synonyms for text words, performing test searches until words provide results, etc.

4. Define search parameters. As you go, identify keywords and parameters that produce a manageable number of hits. Some parameters to being with:
   - Pieces that investigate associations between key constructs in our pathways and/or address specific research questions
   - Systematic reviews or meta-analyses of studies are preferred
   - Time range: published between Jan. 1, 2000, and June 1, 2015, with preference given to more recent articles and to studies conducted in the United States
     - o If search yields insufficient results, search for meta-analyses published prior to 2000
   - Exclude: work that is editorial, using nonhuman animal models, or not published in English

Show strong preference for articles or reports that meet the following conditions:
   - Conducted by or funded by non-advocacy or non-industry entity;
   - The study or text was peer-reviewed (i.e., an article in a journal or a book (or book chapter) published by an academic press);
   - Findings are directly relevant to the research question;
   - Strong methodology and data analysis techniques;
   - Findings or study was directly relevant to the affected population;
   - Covariates were examined;
   - Findings are generalizable to the population of interest;
   - Data consist of more than one time point or are beyond cross-sectional (e.g., longitudinal or with follow-up);
   - Data were collected within the past ten years;
   - Limitations are fully disclosed and are discussed within the text.

5. Review hits for each database (title first, followed by abstracts) and compile a list of articles to download.

6. Read each article, noting the following information in Zotero:
   a. Citation information (save to Zotero)
   b. Study findings and recommendations
   c. Other notable information such as population, geographic location of the study, study design, study limitations, authors' interpretation of findings, additional sources, etc.
   d. The quality score for each article (see Figure 1)
      i. Sources that score lower than 4 ("poor") will not be used in the literature review, though they may be used for context in other areas as long as their limitations are clearly identified (e.g., as an editorial piece).
   e. *When using Zotero, separate files for each major search category, and if using the same article for reference in multiple categories, list it in each separate file. Recommend saving abstract or summary of each article as well as the quality score for it in the notes section of each citation on Zotero.* Zotero download link: https://www.zotero.org/download/

7. Locate and review (1) articles and reports that have been otherwise identified by NMVC and Advisory Council.

APPENDIX R

Literature Review

INTRODUCTION

Food is not only an important part of our daily lives, health, and well-being, but also a basic human right (United Nations, 1948). A food tax could impact New Mexican families in many different ways, but could particularly impact the health of individuals, families, and communities in our state. Because a tax on food is associated not only with how much and what type of food people can buy, but also with family budgets and with potential revenue that governments may collect, a food tax has the potential to impact health on many different levels.

If the cost of purchasing food increased due to a food tax, families would either have to buy less food or buy cheaper food to maintain their current food budget, or they would have to increase their food budget and decrease spending in other areas. Buying less or cheaper food could impact health through a change in food security, diet, and/or nutrition. Having to increase a family's food budget could result in less money to spend in other areas and result in a change in a family's economic security, that is, the ability to maintain a level of spending to support daily living. With less disposable income, a family might have to cut corners in other necessary expenses, such as health care or child care, which could have significant health implications for the entire family. A tax on food would also affect government spending. If governments saw increased revenue due to a food tax, they might chose to spend more money on public services, some of which might have positive public health impacts in New Mexico. These potential positive health impacts would have to be weighed against the negative effects of a family's decreased or compromised food budget and overall economic and food securities.

Of course, not all families would share equally the health benefits and burdens that would come with the potential reinstatement of a food tax, which is why it is important to consider how the health of different population groups in New Mexico would be impacted by this policy change. The purpose of this literature review is to discuss how the reinstatement of a food tax might affect the health of New Mexicans, especially lower-income groups, children, and people of color, in three main health determinant areas: family economic security, food insecurity, and government spending.

BRIEF METHODOLOGY

A literature review was conducted to identify studies that are relevant to this work. We used academic databases like PubMed and JSTOR, as well as search engines like Google Scholar to identify relevant peer-reviewed articles and reports. We selected a number of search parameters—including time frame (published since 2000), peer-reviewed status, English language publication, non-editorial pieces, etc.—to ensure that sources were of sound quality. Using a variety of pre-determined keywords, we identified more than 160 relevant research studies and reports describing the impacts of economic security on health; the impacts of food insecurity, food choices and nutrition on heath; and the impacts of government taxation and spending on health. Key populations of interest for the literature search included low-income groups, children, populations of color, seniors, and people living in food deserts. A more detailed discussion of literature review protocol can be found in Appendix Q (page 70).

A Literature Review of the Impact of Economic Security on Health

Income is one of the most thoroughly documented and most important predictors of health status. This socio-economic "gradient" in health is found across different regions, health determinants, and health indicators of chronic illness, disability, and mortality (Schoeni & Ofstedal, 2010). There is strong evidence that lower socio-economic status is a reliable correlate of poor health outcomes (Matthews & Gallo, 2011; Evans & Kim, 2007; Yen & Syme, 1999; Yarnell, et al., 2005; Berube, Katz & Lang, 2005), with people of color often facing worse health outcomes than their non-minority peers (Williams & Collins, 1999).

Furthermore, research has linked health inequities to income inequality and uneven income distribution (Kawachi & Kennedy, 1996; Kondo, et al., 2009; Lynch, et al., 1998; National Research Council, 2011; Wilkinson & Pickett, 2009). Findings suggest that low-income Americans suffer the results of a negative health cycle—their low-income status is associated with poor health outcomes, unhealthy environments, a lack of health care options, heightened emotional stress levels, and poor health habits.

INCOME AND CHRONIC HEALTH, MORBIDITY, AND OVERALL HEALTH STATUS

Those with annual incomes below $15,000 are much less likely to rate their health as good as or better than people from households with incomes above $50,000 (Centers for Disease Control and Prevention, 2002). Those making less than $24,000 per year suffer from worse emotional and physical health, have poorer health habits, and have significantly less access to medical care than do higher income earners (Gallup, 2010). Low-income Americans are more likely than their high-income counterparts to say they have been diagnosed with each of the chronic conditions Gallup asks about. The differences are largest for depression, high blood pressure, and diabetes, with gaps of 18.7, 12.8, and 9.4 percentage points, respectively. The high level of obesity among low-income Americans—32 percent are obese versus 21.7 percent of those with high incomes—is likely a contributing factor in these differences.

While poverty has been linked to blood pressure problems, cardiovascular disease, and diabetes outcomes (Paulsen, et al., 2012), low socio-economic status is also associated with low birth-weight, chronic illness, and early death, among many other health outcomes (Yen & Syme, 1999; Yarnell, et al., 2005; Berube, et al., 2005). Evidence suggests that poverty and low socio-economic status may have particularly long-lasting and powerful effects on children. Socio-economic status is associated with a variety of poor health, cognitive, and socio-emotional outcomes in children, with effects seen prenatally through adulthood (Bradley & Corwyn, 2002). Many studies link poverty in early childhood with increased morbidity in adulthood (Blane, Bartley & Davey-Smith, 1997; Lawlor, Ronalds, Macintyre, Clark & Leon, 2006).

INCOME AND MORTALITY

People with higher socio-economic status enjoy a higher quality of life due to better health outcomes and they are also more likely to live years or even a decade longer than poorer, less healthy individuals (Haan, Kaplan & Syme, 1989; Lantz, et al., 1998; Marmot, et al., 1991; McDonough, Duncan, Williams & House, 1997; Menchik, 1993; Pappas, Queen, Hadden & Fisher, 1993). A large body of research indicates that poverty is associated with higher likelihood of early death (Yen & Syme, 1999; Yarnell, et al., 2005; Berube & Katz, 2005), and that poverty during early childhood is associated with decreased life span in adulthood (Blane, Bartley & Davey-Smith, 1997; Lawlor, Ronalds, Macintyre, Clark & Leon, 2006).

Analyses of the National Longitudinal Mortality Survey show that people whose family income in 1980 was higher than $50,000 (at that time, the top 5 percent of incomes) had a life-expectancy 25 percent longer than those whose incomes were less than $5,000 (the bottom 5 percent of incomes) (Deaton & Paxson, 2001).

The association between income and premature mortality is strongest at the lower income levels (Cheng & Kindig, 2012), and those who live in high-poverty neighborhoods face additional mortality risks. Overall, residents of high-poverty neighborhoods live about eight fewer years than those in non-poverty neighborhoods; and they also experience higher rates of infant mortality and pedestrian injuries (Acevedo-Garcia, Lochner, Osypuk & Subramanian, 2003). Other research shows that homicides account for the largest number of years of avoidable life lost in many high-poverty areas (Ozer & McDonald, 2006; Perez-Smith, Albus & Weist, 2001). Looking at fetal death in low-income populations, risk factors include food insecurity but also housing insecurity and unstable housing, which are all correlated with poor economic security (Tucker, et al., 2015).

INCOME AND MENTAL HEALTH

In addition to, and/or perhaps because of, worse physical health and less access to health care, people who live in poverty or who are low-income are more likely to suffer from worse emotional and mental health than their higher-income peers.

A Gallup poll of more than 200,000 people (Gallup, 2010) on self-reported health status showed that those making less than $24,000 were much more likely to report poorer levels of emotional and mental health. Low-income people are less likely to say that they experience enjoyment and happiness and are much more likely to report experiencing worry, sadness, stress, and anger "a lot of the day" as compared with people in the middle-class and high-income groups (Gallup, 2010). A large body of research reflects the poll findings, showing that socio-economic status is often associated with differences stress levels that can impact cognitive function (Hackman & Farah, 2009; Adler, et al., 1994; Adler & Rehkopf, 2008; Heckman, 2006).

Again, children may be particularly susceptible to the negative health consequences that result from poverty and its impact on mental health. Research shows that childhood poverty may influence later health outcomes and determinants by influencing the emotion regulatory systems. Chronic stressor exposures that come with poverty are associated with changes that can be seen at least through early adulthood in the regions of the brain

that regulate emotions (Kim, et al., 2013). Poverty is associated with elevated blood pressure in children (Chen, Matthews & Boyce, 2002) and research also indicates elevated stress-response activity levels (in the neuroendocrine systems that control reactions to stress and regulate many body processes, including digestion and the immune system) among children living in low-income households (Evans & English, 2002; Lupien, King, Meaney & McEwen, 2000).

Childhood poverty is also negatively associated with ability to recall information in young adults in a manner that, like emotional regulation, is exacerbated by elevated chronic stress during childhood (Evans & Schamberg, 2009). Early exposure to family instability and turmoil is linked to negative physiological outcomes (Repetti, Taylor & Seeman, 2002) and significantly higher rates of problems regulating emotion are seen among children in low-income households (Slopen, Fitzmaurice, Williams & Gilman, 2010).

The longer children are exposed to the stresses of poverty, the more severe the associated negative health outcomes may be. The effects of childhood poverty on stress dysregulation (both cognitive and cardiovascular) are largely explained by the cumulative stress exposure accompanying childhood poverty (Evans & Kim, 2007).

For children, experiences of household poverty may have far-reaching impacts on numerous domains of life, including cognitive and academic performance, and general health outcomes; each of these factors may further affect emotional and stress regulation mechanisms (Slopen, et al., 2010; Brooks-Gunn & Duncan, 1997; Ashiabi & O'Neal, 2008).

MENTAL HEALTH AND CHRONIC CONDITIONS

It is important to recognize that long-term stress and poor emotional health have negative health consequences in addition to being poor health outcomes themselves. Extended social deprivation and hopelessness can lead to negative impacts on the brain and the immune system that can cause a variety of health problems (Lantz & Pritchard, 2010). Individuals eat more food and tend to gain weight when stressed, which may lead to long-term changes in diet-related health outcomes (Block, He, Zaslavsky, Ding & Ayanian, 2009; Oliver & Wardle, 1999).

Extended exposure to stress overtaxes and wears down the body's mechanisms for coping with stress (Cohen & Wills, 1985) and may lead to "impaired immunity, atherosclerosis, obesity, bone demineralization, and atrophy of nerve cells in the brain" (McEwen, 2004). Long-term exposure to high levels of stress may be particularly problematic and lead to permanent changes in coping and cognitive ability (McEwen & Lasley, 2002; McEwen, 2001; McEwen, 2004; Hackman & Farah, 2009; Adler, et al., 1994; Heckman, 2006). Additionally, "stress and fear within communities are associated with lower levels of social cohesion within the community, which in turn is associated with negative health effects" (Abada, Hou & Ram, 2007).

INCOME, CHILDHOOD COGNITIVE, AND EMOTIONAL DEVELOPMENT

As noted by Heckman (2006), "Cognitive, linguistic, social, and emotional competencies are interdependent, and all are shaped powerfully by the experiences of the developing child; and all contribute to success in the society at large." This perspective is crucial when considering that socio-economic disparities are strongly associated with differences in childhood development and educational outcomes. Research shows that socio-economic status is associated with a wide array of health, cognitive, and emotional outcomes in children, with effects beginning prior to birth and continuing into adulthood (Bradley & Corwyn, 2002; Noble, Norman & Farah, 2005).

Exposure to the effects of poverty may impact children's cognitive and emotional development through different mechanisms including, but not limited to, family economic security, parental well-being, family processes, academic performance, and general health outcomes. Each of these factors may in turn affect other cognitive and emotional outcomes (Slopen, et al., 2010; Brooks-Gunn & Duncan, 1997; Ashiabi & O'Neal, 2008).

Family income in particular is a "strong and consistent predictor of multiple indices of achievement, including standardized test scores, grades in school, and educational attainment" (Evans & Schamberg, 2009). Family income also impacts children's cognitive development (Bradley & Corwyn, 2002; Conger & Donnellan, 2007; McLoyd, 1998), and, as mentioned above, childhood poverty is inversely related to working memory in young adults (Evans & Schamberg, 2009). Similarly, the differences in educational achievement and cognition can be seen in kindergarten and appear to only accelerate over time (Heckman, 2006; Pungello, Kupersmidt, Burchinal & Patterson, 1996).

Recent research indicates that socio-economic status may be directly related to brain structure and surface area. Researchers found that income is associated with brain surface area and that the relationship is particularly

strong in the brain structure of the most disadvantaged children (Noble, et al., 2015). The differences were seen most prominently in regions supporting language, reading, executive functions, and spatial skills (Noble, et al., 2015). Childhood socio-economic status may be an important influence on neurocognitive performance, especially in those areas noted above that support language and executive function (Hackman & Farah, 2009), and by the age of six, socio-economic disparities in the executive attention measure may already be present (Mezzacappa, 2004).

Children from low-income and poor households confront significantly more physical and social risk factors than their wealthier counterparts and tend to endure elevated risk levels of conflict and have greater risks of parental divorce (Taylor, Repetti & Seeman, 1997; Repetti, et al., 2002; Slopen, et al., 2010).

As is seen in emotional and stress-regulation mechanisms, the earlier, more persistent, and more consistent a child's exposure to economic hardship, the worse the achievement levels are (Evans & Schamberg, 2009; National Institute of Child Health, 2005; Korenman, Miller & Sjaastad, 1995). Children who experience poverty during their preschool and early school years have lower rates of school completion than children and adolescents who experience poverty only in later years (Brooks-Gunn & Duncan, 1997). Chronic poverty is also associated with an increased risk of "internalizing, externalizing, and social, attentional, and thought problems" at the age of five (Slopen, et al., 2010). In short, as a landmark study concluded, "virtually every aspect of early human development, from the brain's evolving circuitry to the child's capacity for empathy, is affected by the environments and experiences that are encountered in a cumulative fashion, beginning in the prenatal period and extending throughout the early childhood years" (Shonkoff & Phillips, 2000).

SOCIO-ECONOMIC STATUS, ACADEMIC ACHIEVEMENT, AND HEALTH

In the social cognitive health model, one of the many layers that contribute to a person's health is the social environment they interact with every day. This includes the socio-economic status (SES) of their families as well as the social/cultural norms that define the boundaries of their community. Many times, these norms are overlooked, but they play a key role in an individual's educational attainment, which in turn can impact their health outcomes.

In communities that collectively share a lower socio-economic status, a child may experience psychological impacts because of implied expectations. A child from a lower SES may experience a transference of lowered expectation from a teacher than their peer who is from a more privileged family despite both children having the same cognitive ability (Rouse & Barrow, 2006). A social circle or network may also follow a norm that sets a standard level of education for the community discouraging a child to seek an educational level beyond the customary levels of the community in fear of exclusion from peers. These differences in social and cultural norms caused by systemically constructed expectations lessen the value of school psychologically causing some to drop out (Rouse & Barrow, 2006).

ETHNICITY, SOCIO-ECONOMIC STATUS, AND EDUCATIONAL ATTAINMENT

While wealth is the most significant indicator for African-American youth's academic achievement, SES takes precedence over wealth for Mexican American and Latino immigrant groups. Mexican-American families experience some of the highest levels of poverty in the U.S. (Pew Hispanic Center, 2009) and these high levels of poverty can be at least partially attributed to fewer Mexican Americans completing high school or obtaining college educations (U.S. Census Bureau, 2009). As poverty rates climb and SES drops for Latinos and Mexican-American youth, their dropout rates increase due to an increase in barriers to high school completion. Research shows that Latino's dropout rates are more than double that of African-American students and four times higher than white students (Altschul, 2012).

Following SES, other variables impacting academic achievement for Latino immigrants are language proficiency and family structure (Lutz, 2007). Lower SES and poverty levels among these populations can also be attributed to the child's family structure. Many children residing in single-parent households experience even higher economic hardship and are subject to more housing instability that can influence a student's decision to drop out. Having many children, something that is more common among Mexican American and Latino immigrant families, can also increase the financial strain, leaving fewer financial resources for students to continue high school.

CORRELATION VERSUS CAUSATION ON SOCIO-ECONOMIC STATUS, ACADEMIC ACHIEVEMENT AND HEALTH

After considering the link between SES and academic achievement, it is important to note that link is also tied to the complicated relationship between academic achievement and health. Researchers have studied at length the causal relationship between education and health, but it has proven to be challenging considering that the link between the two can be cyclical; poor health

(as a child) can lead to poor academic achievement during school years resulting in poor health later in life as an adult.

Eide and Showalter (2011) explain this cyclical connection in three ways; higher levels of schooling cause better health, health affects schooling, and both school and health are subject to other variables such as a health condition that can improve during school-age years or that is due to a genetic predisposition.

Researchers acknowledge the difficulty of verifying causation when it comes to educational attainment and health, partly due to "self-reported health" (Groot & Maassen van den Brink, 2007). Self-reported health might not be causal because of three reasons. First, higher-educated people might answer health questions differently than lower-educated people because of literacy levels and differences as to what they consider good and bad health. Second, people may be healthier due to competency levels and level of efficiency for learning. Lastly, there may be an unknown or unidentified variable such as genetics or social background (Groot & Maassen van den Brink, 2007). Given the call for emphasis on distinction for correlation and causation, researchers have been seeking stronger evidence supporting causation between education and health.

ACADEMIC ACHIEVEMENT AND HEALTHY BEHAVIORS

Individuals who are more likely to invest in education are also more likely to invest in health, which supports the causal relationship between education and health. It is theorized that the more educated the individual is, the more likely it is that they will choose a combination of positive inputs that result in positive health outcomes compared to those who are less educated (Altindag, Cannonier & Mocan, 2011).

Some researchers propose that if education increases, so does expected lifetime earnings, making it less likely that an individual will participate in adverse activities for fear of missing work and lowering earnings (Silles, 2009). As an individual acquires more health knowledge and decision-making skills, they are also more likely to engage in positive health behaviors. These decision-making skills include "responses to future costs and benefits of perceived health risks" (Jones, Rice & Dias, 2011).

Research shows that individuals with higher levels of education are less likely to engage in negative health-related behaviors such as smoking, particularly during pregnancy, and consuming an unhealthy diet, while individuals with lower levels of educational attainment are more likely to have poorer mental health status and more long-standing illnesses (Jones, et al., 2011). Research also shows that those with low academic achievement are at higher risk for depression (Huang, 2015). These findings indicate that educational attainment can be a facilitator in determining an individual's health outcomes later in life.

While education has a positive impact on health knowledge and healthy behaviors, the quality of education, cognitive ability, personal preference, and other factors can also alter the impact education has on health status (Altindag, et al., 2011).

INCOME AND FOOD INSECURITY

Research has consistently found a direct and strong relationship between income and food security, and analyses of household expenditures consistently and clearly show that food expenditures increase with gains in income (Bureau of Labor Statistics, 2014). A recent study found that the cost of a healthy diet was only $1.50 more per person per day than the cost of an unhealthy diet, and that even small decreases in income can translate into big barriers for healthy and sufficient eating (Mozaffarian, 2014).

The household characteristics most associated with food insecurity are also directly tied to socio-economic status and include low household income, lack of home ownership, and receipt of government benefits (Loopstra & Tarasuk, 2013; Bhargava, Jolliffe & Howard, 2008; Coleman-Jensen, Nord, Andrews & Carlson, 2012; Huang, Guo & Kim, 2010). Lack of savings and investments has also been associated with greater odds of food insecurity (Loopstra & Tarasuk, 2013; Huang, Guo & Kim, 2010; Guo, 2011).

Job loss and low income have been found to be among the strongest contributors to food insecurity (Chang, Chatterjee & Kim, 2013; Loopstra & Tarasuk, 2013), and research shows that a household's liquidity constraint and asset inadequacy are "linked with increased risk of food insecurity at all income levels, although the association was strongest among poor households and those with incomes slightly above the federal food assistance eligibility threshold" (Chang, Chatterjee & Kim, 2013).

INCOME AND OTHER HEALTH DETERMINANTS

The purchasing power that comes with being economically secure allows for potential investments in other necessities that can lead to improvements in other health outcomes. Health determinants linked with higher incomes include improved housing situations, the

ability to afford health insurance, access to preventive health services, more disposable income, and more free time to engage in activities that are beneficial to health and happiness.

Research shows that many low-income households are regularly forced to make choices between buying food and paying for other basic necessities. In a sample of nearly 100,000 clients who receive some form of food assistance, Feeding America found that 66 percent of those surveyed reported choosing between paying for food and paying for medicine or medical care over the course of one year. A majority of food assistance clients reported choosing between paying for food or paying for utilities (69 percent), transportation (67 percent), or housing (57 percent) at some point in the past 12 months. Though not all of those households surveyed contained school-age children, 31 percent still reported having to make a choice between food and educational expenses (Weinfield, et al., 2014).

Low-income households, especially those consisting entirely of elderly persons, experience substantial seasonal differences in the incidence of very low food insecurity as influenced by heating and cooling costs (Nord & Kantor, 2006).

INCOME AND ACCESS TO HEALTH BENEFITS

Workers earning low wages and their families "are the most likely groups to slip through the gap and fall into the ineligible category to receive either employer-based or government-provided benefits because the low-wage, low-income workers tend to hold jobs with employers that are less likely to provide benefits to its employees and those workers' income is too high to be eligible for public assistance." (Albelda & Carr, 2012).

It could be asserted that low-income Americans are caught in a negative health cycle. While preventive care, effective treatment, and physical activity could all help improve their health, they are the group that can least afford health services and healthy food, and they have the lowest access to basic health services and opportunities for health improvement. Too many low-income Americans are uninsured and don't have enough money for health care. A 2010 poll found that less than 60 percent have a personal doctor, and less than half say they have visited a dentist in the past 12 months. By comparison, more than 80 percent of high-income Americans have a personal doctor and have visited a dentist (Gallup, 2010). While the Affordable Care Act has improved insurance rates, there are still many low-income individuals and families that cannot afford the basic health services they need.

INCOME AND HEALTHY BEHAVIORS

Healthy habits are strongly connected to physical health, and low-income Americans are less likely to eat healthy, exercise frequently, and abstain from risky health behaviors compared to higher-income individuals. As noted previously, people with incomes below $15,000 are much less likely to rate their health as good as or better than people from households with incomes above $50,000 (Centers for Disease Control and Prevention, 2002), and those making less than $24,000 per year report suffering from worse emotional and physical health, have poorer health habits, and have less access to medical care that their higher income peers (Gallup, 2010). Smoking is nearly three times as common among low-income individuals as among high-income Americans (Gallup, 2010). Furthermore, "Those with time pressures from work or domestic life are less likely to participate in leisure time physical activity" (Popham & Mitchell, 2006).

Several studies have isolated neighborhood economic status as it relates to physical activity, finding that residents of low-income neighborhoods have lower activity levels, even when controlling for built environment opportunities for physical activity (Parks, Houseman & Brownson, 2003; Giles-Corti & Donovan, 2002; Kavanagh, et al., 2005; Ross & Mirowsky, 2001; Lee & Marlay, 2007).

INCOME AND PLACE-BASED HEALTH DETERMINANTS

High levels of neighborhood poverty have also been associated with increased crime, high unemployment, a disproportionately high number of single-mother households, and increased social isolation (Basolo & Nguyen, 2005; Brooks-Gunn, Duncan & Aber, 1997; Hannon, 2005; Leventhal & Brooks-Gunn, 2000; Morenoff, Sampson & Raudenbush, 2001; Small & Newman, 2001; Strait, 2006).

Residents of high-poverty neighborhoods experience more pedestrian injuries (Acevedo-Garcia, et al., 2003) and witness much higher rates of robbery, burglary, larceny, and motor vehicle thefts (Fernandez, Holman & Pepper, 2012). As noted previously, poverty is associated with higher likelihood of early death and violence (Yen & Syme, 1999; Yarnell, et al., 2005; Berube, et al., 2005) and, in fact, homicides account for the largest number of years of avoidable life lost in many high-poverty communities (Perez-Smith, et al., 2001; Ozer & McDonald, 2006).

Low-income groups are also at a much higher risk of housing insecurity. Income- and housing-insecurity-related physical risks include unsafe housing, poor neighborhood infrastructure and services, toxins, ambient pollutants, unsafe traffic conditions, noise, and overcrowding (Evans, 2004). In addition to housing insecurity being a powerful physical health determinant in and of itself, it is associated with emotional and mental stress as well, which can precipitate many of the negative health outcomes discussed previously (Pollack, Griffin & Lynch, 2010; Kling, Liebman & Katz, 2001).

Racial and ethnic disparities are also seen in place-based socio-economic health determinants. For example, research has shown that an intersection of structural racism and poverty combine to create a system where poor people of color face greater barriers to overcoming the poverty-related health care, built environment, and social challenges than do their white peers (Cagney, Browning & Wen, 2005; Conley, 1999; Massey & Denton, 1993; Crimmins, Hayward & Seeman, 2004).

A Literature Review of the Impact of Food Insecurity, Choices, and Nutrition on Health

We expect that if families do not react to an increased cost of food by decreasing other parts of their family budget, and instead maintain their current food budget, that they will either buy less food or buy cheaper food. We hypothesize that this could impact food insecurity levels, food choices, and overall diet and nutrition in a number of ways described in the sections below.

As one of the poorest states in the nation, too many of New Mexico's low-income children and adults are already food insecure. One-third of New Mexico's children experience food insecurity, 11 percent of mothers eat poorly during pregnancy, and 27 percent of residents are obese, with rates particularly high among children and minorities (Feeding America, 2014; New Mexico Department of Health, 2014). Many chronic diseases—diabetes in particular—and other health-related issues in New Mexico are partially attributed to poor nutrition.

Research has shown that people who experience severe food insecurity and poor nutrition are more likely to have chronic conditions such as diabetes and other nutrition-related illnesses than those not facing food insecurity (Seligman, Bindman, Vittinghoff, Kanaya & Kushel, 2007; Seligman, Laraia & Kushel, 2010). Children are particularly vulnerable to food insecurity. Nationwide, food insecurity has been shown to be almost twice as common for households with children relative to households without children (15.6 percent versus 8.5 percent) (Nord, Andrews & Carlson, 2007) and multiple studies have linked food insecurity with several adverse health outcomes among children (Cook, et al., 2004; Nord, 2009; Hoynes, 2012).

FOOD DESERTS AND FOOD OPTIONS

Local food environments have been shown to influence the food options that households and individuals have. Several reviews of the literature have found that improved access to healthy foods for those living in food deserts is related to healthier diets, reduced risk of obesity, reduced body mass index (BMI), and lower diabetes rates (Larson & Story, 2011; USDA, 2009; Regents of the University of California & the California Center for Public Health Advocacy, 2008).

Supermarkets generally provide access to a greater variety of cheaper and healthier foods, including fresh fruits and vegetables, than other food outlets like corner stores. Research has found that the presence of a supermarket in a neighborhood predicts higher fruit and vegetable consumption and a reduced prevalence of overweight and obesity (Morland, Roux & Wing, 2006; Inagami, Cohen, Finch & Asch, 2006). Problems of under- and over-nutrition are also often attributed to lack of access to supermarkets (Short, Guthman & Raskin, 2007).

FOOD PRICES, FOOD CHOICES, AND NUTRITION

A recent study found that both the distance from a full service grocery stores and the cost of food items had impacts on healthy food choices, with cost having a more significant impact than grocery store distance (Lin, Ver Ploeg, Kasteridis & Yen, 2014). A longitudinal study found that the higher cost of fresh fruits and vegetables was positively correlated with higher childhood obesity and BMI (Morissey, Jacknowitz & Vinopal, 2014).

Using modeling techniques to predict food choices based solely on cost, a study extrapolated that cost constraints would force low-income families to decrease their intake of more costly meats, dairy, and fresh produce while increasing the proportions of foods containing grains and added sugar and fats (Darmon, Ferguson & Briend, 2002). Such diets were found to have fewer vitamin C and β-carotene and overall lower nutrient densities (Darmon, et al., 2002). Another study finds that food products with added sugars can reduce the nutrient intake and increase the caloric intake, having adverse effects on the quality of the diet (Bhargava & Amialchuk, 2007).

An economic analysis of food costs and diet choices concludes that the low cost of energy-dense foods and the satisfying taste of added sugars and fats, in addition to larger portions and other factors, may explain the higher rates of obesity and diabetes in minority groups and poor populations (Drewnowski, et al., 2005). Food choices are not just dictated by behavioral nutrition but also by economic choices (Drewnowski & Darmon, 2005). A study looking at the 2005 Dietary Guidelines and food prices found that low-income families would need to spend between 43 to 70 percent of their food budget just on produce in order to follow the guidelines (Cassady, Jetter & Culp, 2007).

Two studies using community-based intervention methods found that reducing the prices on targeted food items increased their sales (French, 2003). The first study showed that by reducing the price by 10, 25, and 50 percent on snacks with lower fats at 24 sites (both workplace and schools), these food items had increased sales of 9, 39, and 93 percent respectively (French, 2003). The second study found that reducing the costs of fresh fruits and baby carrots by 50 percent in two school cafeterias resulted in four-fold and two-fold increases in fruit and carrot sales respectively (French, 2003).

Looking at elderly populations, a study found that food-insecure seniors were more than two times more likely to report fair/poor health status and were at higher nutritional risk, including having lower intakes of vitamins, minerals and other necessary nutrients (Lee & Frongillo, 2001). Another study found that lower-income elderly consumed significantly fewer calories than higher-income elderly and that their diets were less nutrient-rich as well (Guthrie & Lin, 2002).

FOOD INSECURITY, SUPPORT BENEFITS, AND HEALTH OUTCOMES

When looking at benefit supports like SNAP (Supplemental Nutrition Assistance Program) for low-income populations, studies indicate that these benefits are associated with increased food security and increased health and/or nutritional outcomes (Mabli & Ohls, 2015). A study looking at inner-city preschoolers found that SNAP benefits were positively associated with increased food security and dietary intake of those children (Perez-Escamilla, et al., 2000). Another study found that the food intake of preschoolers in food insecure families was similar to that of preschoolers in families with food security but that the food intake of other family members in food-insecure families was lower (Rose, 1999). Food insecurity has been found to be positively associated with depression but it was also found that low-income very food insecure SNAP participants had lower magnitudes of depression odds than low-income very food insecure non-SNAP participants (Leung, Epel, Willett, Rimm & Laria, 2015). There is evidence however that SNAP usage correlates with some poorer health outcomes, including increased rates of childhood obesity (Mendoza, Drewnowski, Cheadle & Christakis, 2006).

Looking at pregnant women receiving support benefits like Medicaid, SNAP and WIC (Women, Infant Children), researchers found that these supports were not sufficient to ensure nutritious dietary intake and that low-income women chose unhealthy food in part because of cost and convenience (Reyes, Klotz & Herring, 2013). Using food intake surveys, it was found that the dietary quality of Medicaid-eligible women declined right after child birth and this was attributed to the lower costs of foods high in fat and calories (George, Hanss-Nuss, Milani & Freeland-Graves, 2005).

FOOD INSECURITY IMPACTS ON OBESITY

Numerous studies indicate that there is a seemingly paradoxical link between food insecurity and obesity. A fairly recent literature review showed that while there are limitations to existing studies, there is substantial evidence that food insecurity and obesity risks coexist (Larson & Story, 2011). A literature review looking at the overall role of poverty, obesity, and the energy density of foods finds that obesity rates are highest in populations with the highest poverty rates (Drewnowski & Specter, 2004; Drewnowski, 2009). Since foods that are energy rich (i.e. made with refined grains or with additional sugars or fats) are inversely correlated with food costs, poor individuals are more likely to opt for those to cut on costs (Drewnowski & Specter, 2004). Unfortunately, such high-energy foods made more palatable with added sweets and fats are also associated with increased energy intakes in clinical and laboratory studies (Drewnowski & Specter, 2004). In addition, individuals experiencing food insecurity and living in poverty have low consumptions of fruits and vegetables and have diets of overall lower-quality which compels Drewnowski to indicate that "obesity is the toxic consequence of economic security and a failing economic environment" (Drewnowski & Specter, 2004; Drewnowski, 2009).

One study found that obesity was two times more prevalent in food-insecure women (31 percent) than in food-secure women (16 percent) and that food insecurity was associated with increased likelihood of obesity in minority women (Adams, Grummer-Strawn & Chavez, 2003). Another study found that food-insecure adults of both genders had significantly higher rates of obesity than food-secure adults and that girls with obese parents had more than double the risk of being overweight

themselves (Martin & Ferris, 2007). A newer study shows that when household food insecurity is present without hunger, there are greater odds that children will become obese compared with households that are food secure (Metallinos-Katsaras, Must & Gorman, 2012).

FOOD INSECURITY IMPACTS ON DIABETES AND OTHER CARDIOVASCULAR HEALTH RISKS

Food insecurity is also associated with other negative health conditions including diabetes, hypertension and hyperlipidemia (Seligman, et al., 2010)—all cardiovascular health risks. Researchers found that food insecurity was correlated with self-reporting of hypertension and hyperlipidemia while food insecurity was correlated with laboratory or examination evidence of diabetes and hypertension (Seligman, et al., 2010). Another study looking at the National Health Examination and Nutrition Examination Survey found that the prevalence of diabetes was highest in groups that were the most food insecure, with a 12, 10, and 16 percent prevalence of diabetes in food-secure, mildly food-insecure, and severely food-insecure individuals respectively (Seligman, et al., 2007). Other researchers have noted that type 2 diabetes follows a socio-economic gradient with the highest rates seen in the groups with the lowest incomes and educational attainment (Drewnowski, 2009). Looking at diabetes and hypertension, research also seems to indicate that food insecurity leads to lack of sleep and difficulty falling asleep which are both associated with those chronic health conditions (Gundersen, 2015).

FOOD INSECURITY IMPACTS ON MENTAL HEALTH

While household food insecurity has been found to be positively associated with fair or poor health and with hospitalizations in young children, there is an even greater repercussion when childhood food insecurity is present, as might be expected (Cook, et al., 2006). Food insecurity is also linked with socio-emotional and cognitive difficulties in children (Ashiabi & O'Neal, 2008) as well as iron deficiency anemia (an important health indicator that has negative cognitive, behavioral, and health consequences) in low-income infant and toddlers (Skalicky, et al., 2005). Looking at maternal depression in rural low-income women, a study found a bi-directional causal relationship between food insecurity and depression (Huddleston-Casas, Charnigo & Simmons, 2009). Another study found a similar correlation between food insecurity and depression but also between food insecurity and parenting practices that in turn leads to infant and toddler overweight issues (Bronte-Tinkew, Zaslow, Capps, Horowitz & McNamara, 2007).

Looking at stress, low-income pregnant mothers report that psychological and environmental stress—with economic stress and worries about running out of food and affording suitable housing being the primary stressors—affected their health behaviors including their dietary intake (Thomas, Vieten, Adler, Ammondson, Coleman-Phox, Epel & Laraia, 2014). A recent literature review also found that stress alters physiology and contributes to obesity in pregnancy, which increases risky birth outcomes (Thomas, et al., 2014).

FOOD INSECURITY IMPACTS ON MATERNAL, PRENATAL AND INFANT HEALTH

A number of studies show a strong link between food insecurity and poor maternal health with accompanying increased risks to prenatal and infant health. Studies and focus groups find that low-income pregnant women are more likely than higher-income women to be stressed, have poor access to healthy foods, have too much access to fast food restaurants, and be at risk for excessive gestational weight gain, which is associated with an increased risk of gestational diabetes in mothers and an increased risk of overweight and obesity in offspring (Paul, Graham & Olson, 2014; Goodrich, Cregger, Wilcox & Liu, 2013; Laraia, Vinikoor-Imler & Siega-Riz, 2015). Regarding unplanned pregnancies in low-income women, an early childhood longitudinal study found that these pregnancies often strained family resources and increased the risk for food insecurity (Patel & Surkan, 2014).

For low-income, post-partum mothers, food insecurity increases the stress on mothers, lowers the quality of their nutrition, and makes it difficult to return to pre-pregnancy weight and health, which can have lasting impacts on maternal health (Laraia, et al., 2015). Food insecurity in low-income mothers has also been found to be a risk factor for low birth-weight and preterm births—both of which can have later development and health implications for the child—and also a risk factor for fetal death (Tucker, Berrien, Menard, Herring, Daniels, Rowley & Halpern, 2015).

FOOD INSECURITY IMPACTS ON CHILDHOOD DEVELOPMENT AND EDUCATION

Persistent food insecurity has adverse impacts on child development and is associated with internalizing problems (including social withdrawal, anxiety and depression) and externalizing problems (including anger,

impulsivity and low regulation), even after adjusting for sustained poverty and other potential confounders (Slopen, et al., 2010). Slopen states that "these results implicate food insecurity as a novel risk factor for child mental well-being; if causal, this represents an important factor in the etiology of child psychopathology, and potentially a new avenue for prevention." Another study focused on child development in infants and toddlers (from 4- to 36-months old) found that young children in food insecure households were more likely to be developmentally at-risk (and potentially not be school-ready by age five) than those children in households that were low-income but not food insecure (Rose-Jacobs, et al., 2008).

Children who experience food insecurity are also more likely to suffer from poor academic outcomes like poor school performance (Frongillo, Jyoti & Jones, 2006; Jyoti, Frongillo & Jones, 2005; Ashiabi, 2005). The Early Childhood Longitudinal Study (Kindergarten Cohort) found that children's participation in SNAP over a four-year period from kindergarten through third grade improved their reading and math scores (Frongillo, et al., 2006). That same longitudinal study was used to show that children who experience the effects of food insecurity even at low levels scored lower and learned less throughout the year than children with no food insecurity (Winicki & Jemison, 2003).

A Literature Review of the Impact of Government Taxation and Spending on Health

Research shows that governments can positively impact health through budget choices, particularly in the areas of direct health care services (including food assistance, primary and preventive health care, and emergency health services and programs) and education.

Studies reflect that government spending on primary care and preventive health services helps provide important opportunities for residents with few economic resources and significant social needs to have their health and social needs met. The use of available primary and preventive health services in particular has been shown to contribute to the prevention of hospitalizations and premature death from a number of chronic conditions. Research has specifically found that health outreach in medically underserved areas can lower hospitalization rates for preventable conditions.

Government spending in other areas such as education, transportation, parks, and social and recreational facilities is also correlated with improved health outcomes. Though more research is needed, some studies indicate that government spending through tax exemptions, credits, and supplements can increase income, help move families out of poverty, and contribute to improved health outcomes.

STATE HEALTH AGENCIES AND BUDGET CHOICES

In times of austerity, state health agencies use sets of criteria in making budget choices that focus on public health problems with the biggest ramifications (Leider, et al, 2014). Nationwide, state and local governments are facing increasingly constrained budget scenarios and the long-term outlook is concerning as an aging population demands ever-increasing shares of budget resources. This is important since states and local governments compete over taxing resources, although state governments have an advantage in that they are able to dictate tax policy to local governments. Education and Medicaid already require the majority of resources and projections are that this will increase (Joyce & Pattison, 2013).

Local government, in particular, has a significant investment in the health and well-being of the community through their contribution to the development of infrastructure and the built environment. While physical activity is not considered the core business of local government, there is a clear understanding of the role that local government has in the provision of facilities and infrastructure that support that community's ability to be active (Steele & Caperchione, 2005).

Through their purchasing powers, government agencies can play a critical role in leveraging markets to create healthier foods. In the United States, state and local governments are implementing creative approaches to procuring healthier foods, moving beyond the traditional regulatory relationship between government and vendors (Noonan, Miller, Sell & Rubin, 2013).

GOVERNMENT SPENDING ON THE BUILT ENVIRONMENT

Strong associations between health and neighborhood-level factors such as access to parks and recreational facilities (Frank, et al., 2004), public transportation, and neighborhood walkability are relevant to determinants of chronic disease (Galea, et al., 2005; Frumkin, 2003; Srinivasan, et al., 2003; Papas, et al., 2007). One study found that residents with greater access to physical activity resources and greater street connectivity were more likely to be physically active (Heinrich, et al., 2007). In a later companion study, the number and quality of opportunities for physical activity was negatively correlated with body mass index and with the prevalence of obesity (Heinrich, et al., 2008).

GOVERNMENT SPENDING ON PUBLIC TRANSPORTATION

Spending on public transportation can have positive downstream health impacts. One study found that nearly a third of people who use public transportation to get to work meet their daily requirements for physical activity just from walking to and from public transportation such as busses, subways and trains (Besser & Dannenberg, 2005). Use of public transportation may also have protective health effects such as reduced risk for injury due to accidents (National Safety Council, 2011).

GOVERNMENT SPENDING ON PARKS, RECREATIONAL FACILITIES, AND PHYSICAL ACTIVITY PROGRAMS

Governments can make physical activity more convenient and more likely for residents by providing sufficient and high-quality opportunities for physical activity. For community residents, access to parks is an important element of environments that are supportive of physical activity (Godbey, et al., 1992; Kaczynski & Henderson, 2008). Children who live in close proximity to parks and playgrounds tend to be more physically active as compared to kids who do not have the same access to comparable public amenities (Bauman, et al., 2007). Children benefit from physical activity through reduced childhood obesity and behavioral problems, along with potential long-term physical, mental and social health benefits (Physical Activity Guidelines Advisory Committee, 2008). Though causation was not asserted, one study found that youth who engage in physical activity also show higher levels of educational achievement (Nelson, et al., 2006).

GOVERNMENT SPENDING ON PRIMARY AND PREVENTIVE CARE

Government spending on social and primary care/ preventive health services help provide important opportunities for residents with few economic resources and significant social needs to have their health and social needs met (Allard, 2004).

Use of primary and preventive health services contribute to the prevention of death and hospitalizations from a number of chronic diseases, including asthma and diabetes. Research has specifically found that health outreach in medically underserved areas can lower preventable hospitalization rates (Epstein, 2001).

Proximity to other social services, such as enrollment in SNAP, Medicaid, and CHIP, as well as subsidies for child care and support for workforce training can also have positive impacts on the physical and mental health of neighborhood residents, particularly in low-income areas.

GOVERNMENT SPENDING THROUGH TAX EXEMPTIONS AND SUPPLEMENTS

Income supplementation that moves families out of poverty is associated with a reduction in oppositional defiant disorder and conduct disorder symptoms among youth in those families (Costello, Compton, Keeler & Angold, 2003).

Researchers have found that increasing the EITC (Earned Income Tax Credit) reduced the incidence of low birth-weight babies, due in part to more usage of prenatal care (Hoynes, Miller & Simon, 2012). Specifically, a $1,000 increase in the tax credit was associated with a 6.7 to 10.8 percent decrease in the low birth-weight rate, with larger impacts seen in births to African-American mothers.

The extra income helps families meet their kids' basic needs, which in turn—research has shown—contributes to improved health outcomes (Hoynes, Miller & Simon, 2013), helps children perform better and go farther in school, and gives them a better chance to thrive and succeed as adults (Marr, Huang, Sherman & DeBot, 2014). Evidence shows that the effect is long-lasting. Because higher incomes from refundable tax credits are associated with better health, more education, and higher skills, children in EITC families are more likely to work and earn more as adults (Duncan, Ziol-Guest & Kalil, 2010).

Relevant research on the EITC also finds that eligible households spend more on healthy grocery purchases, including fresh fruit and vegetables, meat and poultry, and dairy products, during the months when most refunds are paid, which may have a positive impact on health during the months following the payouts of tax refunds (McGranahan & Schanzenbach, 2013).

A Discussion on the Impacts of Changes in Food Prices

PRICE ELASTICITY AND INCOME ELASTICITY

Basic economic theory indicates that for normal goods a price increase will result in reduced consumption, all else being equal. Economic theory also indicates that the imposition of a tax will likely alter consumption often in ways that are not immediately evident. One method economists use to analyze the change in consumer behavior is through examining substitution effects. For example, will a consumer buy cheaper hamburger when faced with a proportional price increase in, say, 80 percent lean versus less expensive 60 percent lean meat? The substitution effect is often measured by calculating a price elasticity of demand, such as the own-price elasticity or the cross-price elasticity.

Own-price elasticity is a measure of the change in demand for a product from a change in price; cross-price elasticity measures the change in demand for a good when the price of another good changes (Andreyeva, et al., 2010; Nghiem, et al., 2013; Lundberg & Lundberg, 2012). In a review of price elasticities of demand for food, Andreyeva, Long and Brownell found that food is a normal good and is relatively inelastic, that is, the absolute values of price elasticities of 15 food categories were all less than one, which simply means that a 1 percent increase in price will result in a decline in demand of less than 1 percent.

While these relative elasticities are valuable for public health policies seeking to incentivize or de-incentivize certain food consumption behaviors (Powell, et al, 2013), it is not clear that they can be applied in a scenario when there is a general tax increase and the relative price change between products is minimal (Andreyeva, et al, 2010). As is noted elsewhere in this report, the share of income spent on food declines as income levels increase.

Lundberg and Lundberg (2012) found that in the European Union, food is indeed a normal good and thus we would expect demand to decline when prices increase. They calculate an average income elasticity of 0.18, which implies a drop in demand of .18 percent for each 1 percent drop in income. An income elasticity of 0.18 means that if a person's income drops by $10.00, they will buy 1.8 percent fewer tomatoes. They also report a price elasticity of .45, which suggests that a 4 percent increase in the price of tomatoes would result in a 1.8 percent decline in demand. Likewise Hahn and Davis (2014) determined that the consumption of sodium and saturated fat in lunchmeat, which are associated with cardiovascular disease, can be reduced by 20 percent with a tax imposition that increases the price by 25 percent.

There is a substantial body of literature on the use of taxes to change consumer behavior to achieve specific public health goals, such as increasing tobacco taxes to reduce smoking or increasing taxes on sugar-sweetened beverages to reduce obesity or diabetes (Nghiem, et al., 2013; Powell, et al., 2013).

Changes in food prices had the largest own-price effects in low-income countries. Cross-price effects were more varied and, depending on country income level, were found to be reinforcing, undermining or alleviating own-price effects (Cornelsen, et al., 2014).

PRICE AND FOOD CHOICES

A general tax increase, such as a tax on food, reduces the net disposable income of a household and has implications for the relative quantities of food types purchased. Income elasticity is one measure of gauging changes in demand for different products with changes in income. The income elasticity for a product, however, is not necessarily consistent over a product category, as in the case of meat products where the income elasticity of lamb, pork and poultry is lower than for other meat products (Gallet, 2010).

Wakefield and Inman (2003) argue that income effects on consumer choice are situational and therefore price sensitivity varies for products depending on whether the products fulfill functional needs versus those purchased for hedonic needs. Similar to Gallet's findings, this implies that demand for products within a product category is variable.

The specific food choices that consumers make are informed not just by price but also by what has been referred to as the "marketing mix," which also includes product availability and promotion practices, such as volume discounts. In addition, the availability of time and transportation to shop in other neighborhoods will likely influence the choices consumers make (DiSantis, et al., 2013). Poor urban dwellers may already pay more for food, although the evidence is mixed (Hayes, 2000).Thus, price is not the sole factor in determining food choices. When price, quantity, and health benefits are combined, a general price increase for all foods may make purchasing healthy food even more difficult (DiSantis, et al., 2013).

Adherence to healthy eating norms would involve large reductions in the consumption of fats and oils and large increases in the consumption of fruits, vegetables and cereals. The least educated rather than the poorest will require the largest adjustment and nutrient-based taxes may not be as regressive as commonly believed (Srinivasan, 2007). This suggests that taxes intended to discourage consumption of fats and oils should be accompanied with a healthy-eating education campaign that is focused on the less educated.

APPENDIX S

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