Community Health Workers:
New Jobs and Better Health of Nevadans at More Affordable Cost

Executive Summary

There is overwhelming evidence that Community Health Workers (CHWs) serve as highly effective, cost-efficient, and culturally appropriate linkages between underserved communities and the health care delivery system. Their training and experience enables them to demonstrate core competencies and knowledge to improve health outcomes using interpersonal communication skills, service coordination skills, advocacy and capacity building skills, organizational skills, and teaching skills. States across the nation are considering legislation to define the role of CHWs within the state, establish training and certification programs, ensure quality of care, and support inclusion of CHWs as health-related providers whose services are reimbursable. In Nevada, numerous challenges create a substantial need to train and employ these front-line workers as part of the community health care team, including:

- increasing healthcare costs;
- consistently low government expenditures for health programs;
- healthcare provider shortages;
- racial disparities in health outcomes and access to care; and
- geographic disparities in health outcomes and access to care.

The Patient Protection and Affordable Care Act (ACA) has three specific goals: improve the health of the population, lower healthcare costs, and provide better care for individuals. A significant component of the healthcare law is the inclusion and elevation of CHWs as a crucial partner in achieving these goals. CHWs are members of the healthcare delivery team that have been shown to play a critical role in the following outcomes:

- improving and securing timely access to primary care, behavioral health, and preventive services;
- increasing individual and community capacity by increasing health knowledge and self-sufficiency;
- strengthening ties with community networks;
- helping individuals manage chronic conditions; and
- decreasing healthcare costs and expenditures.

Nevada's health care system performs lower than average compared to the rest of the U.S. healthcare system with serious shortages of primary care providers and poorer health status. Lower cost approaches to improving coordination of preventive health services and earlier health care interventions are necessary to reduce adverse impacts of social determinants of health and primary care provider shortages in Nevada. Enabling training and development of certified community health workers is an important strategy to provide new needed jobs for Nevadans helping Nevadans to achieve better health at lower cost in partnership with Nevada health care providers and community services agencies.

Introduction

Nevada faces many challenges in the delivery of equitable healthcare across the state. This document describes several along with data that shows the disparities. Available literature supports the use of community health workers (CHWs) to address these challenges and mitigate the limitations of our current healthcare system.

Community health workers are compassionate, trained community members who assist needy members in their communities to connect with health, financial, social and other needed services. Their training and experience enables them to demonstrate core competencies and knowledge to improve health outcomes using interpersonal communication skills, service coordination skills, advocacy and capacity building skills, organizational skills, and teaching skills. They work collaboratively with licensed health professionals to provide more "boots on the ground" to reach out and better meet the unmet needs of the communities they serve. Additionally, CHWs are able to address the social determinants of health specific to individuals and the communities where they live.

Community health workers are recognized as valuable contributors to the health of communities around the world. The Centers for Disease Control and Prevention developed a position statement supporting the use of CHWs as critical connections in communities to address health-specific concerns, specifically in relation to management of diabetes. However, the benefit to the public is not limited to those managing diabetes. "The use of CHWs in health intervention programs has been associated with improved health care access, prenatal care, pregnancy and birth outcomes, client health status, chronic disease management, health- and screening-related behaviors, as well as reduced health care costs." (CDC, 2011)

The successful CHW programs have several things in common. These programs have established strategies for CHW recruitment, training, and supervision. Elements that limit the effective use of CHWs include the lack of a consistent, widely accepted definition of who they are and what services they can provide (e.g., scope of practice, qualifications). States across the nation are considering legislation to define the role of CHWs within the state, establish training and certification programs, ensure quality of care, and support inclusion of CHWs as health-related providers whose services are reimbursable.

Problem Statement

Rising Healthcare Costs are Unsustainable

The United States' healthcare system has long been plagued by a disturbing paradox: while healthcare spending reached $2.7 trillion, or $8,600 per capita, in 2011 – by far the highest of all nations – the U.S. continues to fare worse than other wealthy countries in health domains such as life expectancy, birth outcomes, sexually transmitted infections, and chronic diseases (Woolf & Aron, 2013). Key issues driving the highly variable cost and quality of care in the U.S. include nationwide primary care provider shortages, multiple barriers to access, and the increasing burden of chronic diseases. Poorly coordinated chronic disease management networks that lack focus on preventing associated risk factors aggravate these. Higher payments to U.S. physicians drive higher spending for physician services than other countries (Laugeson et al., 2011). The cost per case drives much more of the increasing costs than changes in the prevalence of disease (Roehrig et al., 2011). Only a small number of conditions account for most of the increases in health costs (Thorpe et al., 2004). Most of the variation in per-beneficiary Medicare spending across the country is in the *quantity* of especially post-acute care services (home health agencies, skilled nursing facilities, long-term care hospitals, hospices). The *prices* private insurers pay in different areas-not the quantity of services- are responsible for most of the variation in private spending (Newhouse et al., 2013). Nevada needs lower cost, better-coordinated approaches to delivering preventive services and earlier care interventions to reduce costs and improve outcomes.

Nevada has a Severe Primary Care Provider Shortage

For the most part, residents in isolated and underserved communities have only limited primary care providers, and specialty care is limited to patients willing and able to travel long distances to urban centers for face-to-face consultation and care. Nevada currently ranks 46th among US states in the number of primary care physicians (PCPs) per population with only 50.3 active primary care physicians per 100,000 of the population compared to the national average of 79.4 in 2012 (Griswold, Packham, Etchegoyhen, Marchand, & Lee, 2013). Within Nevada, there are disparities in the number of licensed primary care physicians available to urban versus rural and frontier communities. The glaring disparity in the supply of providers is evident, where there are 51 primary care physicians per 100,000 residents in urban Nevada, the number drops to 45 per 100,000 residents in rural areas (Griswold et al., 2013). Thus, the ratio of PCPs per 100,000 population in Nevada is 37% below the national average and rural Nevada's ratio is 43% below the national average. Nevada's expansive rural regions, high rates of uninsured residents, and poverty make it harder to attract and retain practitioners (Ku, 2011).

Negative Impacts of Social Determinants on Vulnerable Populations

Social and environmental factors such as access to education, income, gainful employment, housing, neighborhood safety, and social connectivity profoundly affect health and are essential to the well-being of a population. The direct linkage between educational attainment, employment, and income dramatically contribute to variations in social support structures and health-seeking behaviors (Marmot, 2005). As education increases, so, too, do options for employment, earned income, access to healthful food, and resources.

The opposite relationship also holds true, where conditions of poverty, lack of access to quality education and secure employment, domestic and community violence, and substandard housing are associated with poorer health outcomes for vulnerable populations. (Payne, R.K., et al. 2009).

Table 1: Racial Disparities Across Selected Social Determinants, NV

Indicator	NV	Hispanic & Latino (NV)	Black / African-American (NV)
% Living at ≤100% Federal Poverty Level ('10-'11)	21	**32**	**34**
% High School Graduation Rate	60.4*	**53.3**	**48.9**
% High School dropout rate	4.2	**5.2**	**5.0**
% Uninsured	25	**47**	--

**=rate for white students only*

As shown in Table 1, racial disparities in Nevada manifest across various social determinants such as poverty, educational achievement, and uninsured rates. While uninsured rates may change because of Medicaid expansion in 2014, racial minorities will likely continue to constitute the large majority of new enrollees. In 2011-2012, Blacks and Hispanics/Latinos accounted for nearly two-thirds (63%) of all non-elderly Medicaid enrollments (Kaiser Family Foundation, 2012).

Growing Health Disparities

Chronic diseases such as heart disease, stroke, cancer, arthritis, and diabetes are among the most prevalent, costly, and preventable of all health problems. (Thorpe et al., 2004) Leading a healthy lifestyle (avoiding tobacco use, being physically active, and eating well) greatly reduces a person's risk for developing chronic disease (Centers for Disease Control and Prevention, 2008). Importantly, health disparities are prominent among underserved and ethnic minority populations because of the greater number of chronic barriers these communities are likely to encounter. Members of these communities tend to have poorer health, shorter life expectancy, and are more prone to certain chronic diseases as compared to their white counterparts (Centers for Disease Control and Prevention, 2010).

As shown in Figures 1 through 3, this pattern emerges prominently in Black and Hispanic and Latino communities where individuals often encounter significant barriers such as language challenges, poverty, and lower rates of educational achievement. More recently, a wave of state laws across the nation targeting undocumented immigrants have put additional strain on Hispanic and Latino students, families, migrant workers, and others. As a result, Hispanics and Latinos in Nevada and the US are disproportionately affected by numerous types of disease morbidity and mortality. For instance, the prevalence of adult diabetes is higher among Hispanics, non-Hispanic blacks, and those of other or mixed races than among Asians and non-Hispanic whites. Prevalence is also higher among adults without college degrees and those with lower household incomes (CDC, 2006 and 2010).

Figure 1: Black/African-American Disparities in NV

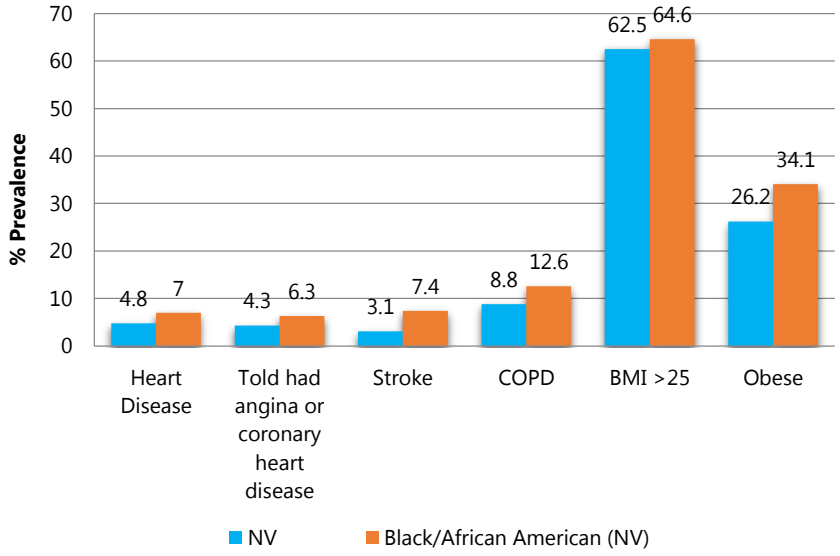


Figure 2: Mortality Per 100,000 Population

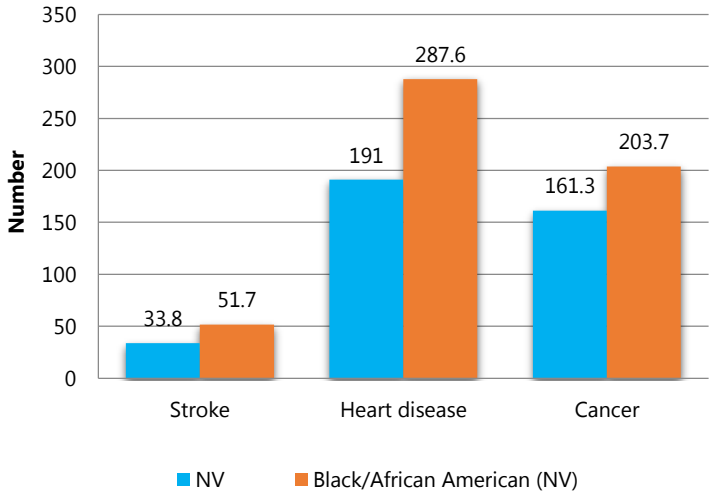
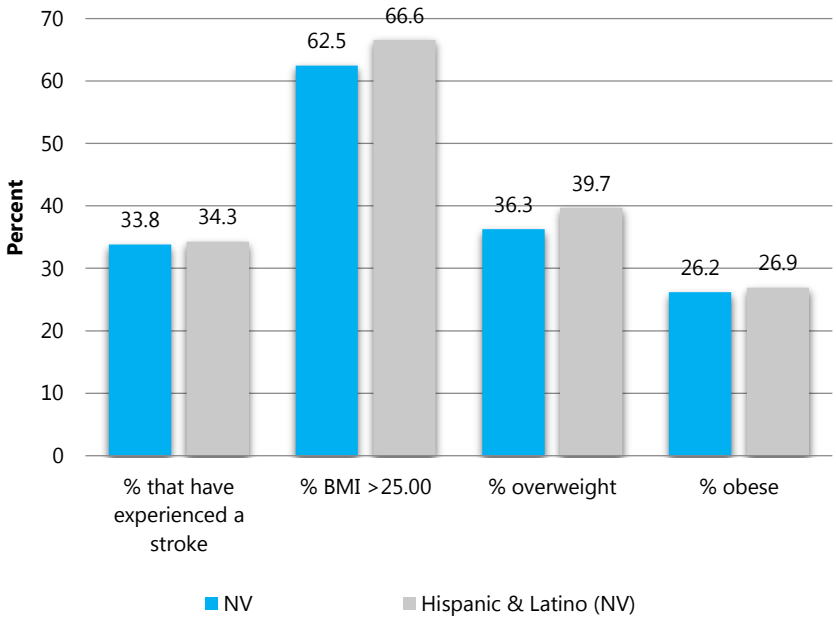


Figure 3: Hispanic & Latino Health Disparities in NV



Health disparities also materialize dramatically based on geography. Rural counties, in particular, face numerous and chronic barriers to accessing health resources that severely affect both health behaviors and mortality rates. Table 4 compares rates of disease morbidity and mortality between Nevada's rural populations versus the entire state.

Table 6: Health Disparities for NV Rural Counties

Indicator	NV	Rural Counties
Prenatal		
% women receiving prenatal care in 1st trimester	61.5	**54.2**
% pregnant women abstaining from alcohol	97.2	**88.1**
% pregnant women abstaining from smoking	91.8	**82.6**
Mortality Per 100,000 Population		
Alzheimer's Disease (age-adjusted)	13.6	**23.1**
Suicide (age-adjusted)	19.7	**22**
Cancer (all)	161.3	**174.7**
Colorectal cancer	17	**18**
Lung/trachea/bronchus cancer (age-adjusted)	46.4	**51.5**
Prostate cancer (age-adjusted)	9.1	**9.8**
Heart disease	191	**227.4**
Stroke	33.8	**38.1**
Liver disease and cirrhosis (age-adjusted)	11.6	**13.3**
Chronic lower respiratory disease (age-adjusted)	48.2	**54**
Influenza and pneumonia	17.2	**18**
Diabetes mellitus (age-adjusted)	13.4	**21.8**
Total (all causes / age-adjusted)	775.6	**790.3**

Barriers to Healthcare Access

While the overall quality of our nation's healthcare is improving, healthcare access remains inadequate and poor across the U.S., particularly for inner city and rural communities, and "persons of color and limited economic means" (Garner et al., 2012). Rural areas, in particular, confront various forms of chronic healthcare access barriers. In addition to health professional shortages, residents in these areas face long distances to available providers, transportation limitations, higher poverty rates than those found in urban areas and higher rates of uninsured or underinsured (Talbot et al., 2013). In Nevada, with 14 out of 17 counties being rural and frontier regions, only an estimated 10.7% of Nevadans are spread out over 87% of the state's land mass (Griswold et al., 2013). These geographical circumstances present tremendous challenges to accessing the healthcare system.

Research indicates that healthcare access and quality is inequitable by numerous social determinants. Differences in healthcare access for underserved populations are particularly pronounced regarding affordability, preventive care, oral care, prescription drug safety, and potentially preventable hospitalization (Schoen et al., 2013). Nationally, as of 2010–11, over half (55%) of the population under 65 years old with incomes below 200% of poverty—nearly 57 million people—were either uninsured or underinsured and spending a relatively high share of their incomes on medical care. The percentage uninsured or underinsured ranged from a low of 36% in Massachusetts to over 60% in 10 states including Nevada (Schoen et al., 2013). As a result, these communities are more likely to forgo necessary healthcare and utilize more costly services such as emergency or urgent care. The following table depicts the proportion of Nevada's and the United States' population that are possibly impacted by critical barriers to healthcare access:

Table 2: Barriers to Care, Nevada vs. United States

Barrier	Measure	NV	U.S.
lack of insurance	% uninsured (2011)	**28.3**	18.9
low socio-economic status	% <200% Federal Poverty Level	31.8	32.7
limited education	% no high school diploma	**15.8**	14.6
lack of a primary source of care	% without a personal doctor (2011)	**37.0**	21.9
legal (e.g., immigration status)	% population undocumented immigrants, state rank	**1**	--
lack of transportation	Mean travel time to work on public transportation in minutes	**54.2**	47.8
linguistic competence (e.g., difficulties in scheduling appointments, limited access to health literature, and lower rates of treatment adherence)	% household language other than English	**28.5**	20.3
cultural (i.e., lack of culturally appropriate provider-patient practices and resources)	--	--	--
discrimination and distrust (i.e., perceptions of racism in the healthcare system)	--	--	--

In addition to these access barriers, the vast majority of rural residents live in federally-designated Healthcare Provider Shortage Areas (HPSA). Table 3 lists the impact of rural geographic isolation away from primary care, dental care, and mental health resources that tend to locate in urban regions.

Table 3: NV Rural Counties' Access Barriers

Indicator	NV	Rural Counties
% of population living in Primary Care HPSA	36	**66.9**
% of population living in Dental Care HPSA	35.4	**56.5**
% of population living in Mental Health HPSA	31.6	**100**
Average distance to nearest hospital (miles)	-	59
Average distance to nearest tertiary/acute care hospital (miles)	-	114.7

Strategies

Community Health Workers

CHWs are members of the healthcare delivery team that have been shown to play a critical role in the following three areas:

- securing access to healthcare;
- coordinating timely access to primary care, behavioral health, and preventive services; and
- helping individuals manage chronic conditions.

As defined by the Affordable Care Act, a CHW is:

> an individual who promotes health or nutrition within the community in which the individual resides: a) by serving as a liaison between communities and healthcare agencies; b) by providing guidance and social assistance to community residents; c) by enhancing community residents' ability to effectively communicate with healthcare providers; d) by providing culturally and linguistically appropriate health and nutrition education; e) by advocating for individual and community health; f) by providing referral and follow-up services or otherwise coordinating; and g) by proactively identifying and enrolling eligible individuals in Federal, State, and local private or nonprofit health and human services programs.

Considerable evidence already shows that CHWs are well positioned for success because they already serve in these roles. CHWs serve as a liaison, link, or intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. CHWs also build individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support, and advocacy (American Public Health Association, 2009).

Sociocultural Benefits

One of the most important features of CHW programs is their ability to strengthen existing ties with community networks. CHWs are uniquely qualified as links because they generally live in the communities where they work and understand the social context of community members' lives (Helseth, 2010). As frontline public health workers who are trusted members among their communities, CHWs serve as intermediaries or "cultural health brokers" to improve the quality and cultural competence of service delivery. They increase community knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy. However, the quality that makes CHWs uniquely effective is their ability to establish profound relationships based on mutual understanding, mutual respect and mutual empathy. By cultivating meaningful relationships, CHWs build community trust, the foundation for engagement in a process of community transformation (National Center for Chronic Disease Prevention and Health Promotion, 2010). In addition, CHWs educate healthcare providers and administrators about the community's health needs and the cultural relevancy of interventions by helping these providers and the managers of healthcare systems to build their cultural competence and strengthen communication skills (American Public Health Association, 2009). They often have personal experience as laypersons with chronic medical conditions who have learned to successfully navigate the complex healthcare system in their community. They may have worked in customer service positions, receiving extensive training on active listening and problem solving.

CHWs are an optimal workforce for outreach to underserved populations. Providing culturally relevant health education and information to native-born and immigrant communities, CHWs are cultural, linguistic and socioeconomic partners to their communities. By allowing the CHW "in the door", patients and CHWs can establish a trusted relationship for information and resource sharing. These bonds, ultimately, influence more favorable health outcomes, chronic disease management behaviors, and a healthier populace at large. CHWs are also highly appropriate for outreach activities geared towards guiding individuals through enrollment in Medicaid and the health marketplace.

Understanding the challenges to promoting chronic disease prevention and health promotion in a particular region requires knowledge of the area's geography and population. This is especially true for Nevada where roughly 10% of the state's population is spread over rural and frontier regions that account for 87% of the state's land mass.

Health Benefits

There is clear evidence that healthcare teams with physicians, nurse practitioners, pharmacists, social workers, and dieticians may better manage chronic conditions. An emerging member of effective care management teams is the community health worker. Furthermore, a growing body of evidence suggests that CHWs reduce healthcare costs and complications for people with chronic diseases. The New England Comparative Effectiveness Public Advisory Council (2013) recently concluded that interventions by community health workers improved various health and related outcomes including:

- Clinical measurements (e.g., BMI, blood pressure, HbA1c)
- Increased immunizations
- Symptoms (e.g., "symptom-free" days)
- Missed work or activity limitations
- Health-related quality of life
- Medication adherence
- "Appropriate" care (e.g., appointments kept, screenings performed)
- Reduced "Unscheduled" care (e.g., ED/urgent care visits, hospitalizations)

Economic Benefits

Integrating CHWs into the health care delivery system yields significant cost savings. For example, a Baltimore program that matched community health workers with diabetes patients in the Medicaid program achieved significant drops in emergency room visits and hospitalization (38% and 30%, respectively) (Goodwin & Tobler, 2008). This drop translated into a 27 percent reduction in Medicaid costs for the patient group. [4] In another study, 590 underserved men were analyzed 9 months before and after interaction with a CHW. The ROI was measured at 2.28:1.00, ($2.28 for every $1 invested in the program) a savings of $95,941 annually (National Fund for Medical Education, 2006). Felix (2011) found that CHWs working with dual-eligible patients in rural Arkansas decreased spending growth by 24% because of lower nursing home expenditures. These data provide evidence of economic contributions that CHWs make to a public safety net system and inform policy makers about the importance of program sustainability.

That Nevada has the highest unemployment rate in the US at 9.5% (U.S. Bureau of Labor Statistics, 2013) shines light on the dire need for workforce development. This, combined with the Silver State's critical shortage of primary care providers, makes the role that CHWs play in the health care system even more necessary. Thus, it is essential to assure a competent public health and health care workforce in order to protect and promote the health of all communities.

Recommendation

The Nevada Division of Public and Behavioral Health (NDPBH) and collaborative partners have prioritized the need to develop infrastructure for a sustainable system to bring CHWs into Nevada's healthcare delivery system. The prevention and management needs of chronic disease and healthcare access in Nevada can best be addressed with a Community Health Worker Model that takes into account the unique needs of the local community, its culture, and resources. Ultimately, CHWs that are embedded within the healthcare system will serve to protect and promote the health of all Nevadans. As such, there is increasing urgency for the Silver State to consider establishing CHWs as a recognized health profession, complete with a standardized certification process, competencies, and evidence-based structured training curriculum. (Community Health Worker Network of NYC, Community Health Worker Training and Certification Program of Texas and others)

The NDPBH seeks to foster training and capacity-building programs to support the infrastructure, development, and sustainability of a strong and effective Community Health Worker (CHW) workforce in Nevada.

Conclusion

The U.S. healthcare system generates much higher per capita costs than any other country but ranks number 37 compared to other countries for overall health system performance. (Murray CJL, et al. Jan 2010) Nevada's health care system performs lower than average compared to the rest of the U.S. healthcare system with serious shortages of primary care providers and poorer health status. Lower cost approaches to improving coordination of preventive health services and earlier health care interventions are necessary to better address social determinants of health and primary care provider shortages. Enabling training and development of certified community health workers is an important strategy to provide needed new jobs for Nevadans helping Nevadans to achieve better health at lower cost in partnership with Nevada health care providers and community services agencies.

References

An Act Entitled The Patient Protection and Affordable Care Act, S. 5313, 111th Congress. (2013).

American Public Health Association. (2009). Support for community health workers to increase health access and to reduce health inequities. Retrieved from http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1393.

Bureau of Labor Statistics. (2013). Local area unemployment statistics: unemployment rates for states monthly rankings. *United States Department of Labor*. Retrieved from http://www.bls.gov/web/laus/laumstrk.htm

Centers for Disease Control and Prevention. (2008). Arizona: burden of chronic disease. Accessed July 20, 2012. Retrieved from: http://www.cdc.gov/chronicdisease/states/pdf/arizona.pdf.

Centers for Disease Control and Prevention (2010): Finding solutions to health disparities. Racial and ethnic disparities in health: the facts. *REACH U.S.*; Available at http://www.cdc.gov/chronicdisease/resources/publications/AAG/reach.htm.

Garner, D.L., Wakefield, M.A., Tyler, T.G., Samuels, A.D., & Cleveland, R. (2012). Health care access and insurance availability in Nevada. *Reports,* University Libraries, University of Nevada, Las Vegas, 33, 1-38.

Griswold, T., Packham, J., Etchegoyhen, L., Marchand, C., & Lee, B. (2013). Nevada rural and frontier health data book: 2013 edition. Nevada Office of Rural Health, University of Nevada School of Medicine.

Hill, L. & Hayes, J. (2013). Just the facts: undocumented immigrants. Public Policy Institute of California. Retrieved from http://www.ppic.org/main/publication_show.asp?i=818.

Helseth, C. (2010) Community health workers playing a bigger role in health care. Accessed July 23, 2012. Retrieved from http://www.raconline.org/newsletter/fall10/feature.php

Ku, L., Jones, K., Shin, P., Bruen, B., & Hayes, K. (2011). The states' next challenge – securing primary care for expanded Medicaid populations. *The New England Journal of Medicine*, 364(6), 493-495.

Laugesen, M.J., & Glied, S.A. (2011). Higher fees paid to U.S. physicians drive higher spending for physician services compared to other countries. *Health Affairs* 30(9): 1647-1656.

Marmot, M. (2005). Social determinants of health inequalities. *The Lancet Volume*, 365(9464) 1099-1104.

Murray, C.J.L., and Frenk, J. (2010). Ranking 37th- measuring the performance of the U.S. health care system. *New England Journal of Medicine*, 362, number 2 (2010): 98-99.

National Center for Chronic Disease Prevention and Health Promotion. (2010). Addressing chronic disease through community health workers: a policy and systems-level approach. Retrieved from http://www.cdc.gov/dhdsp/docs/chw_brief.pdf.

National Fund for Medical Education. (2006). Advancing community health worker practice and utilization: the focus on financing. *UCSF Center for the Health Professions*. Retrieved from http://nnphi.org/CMSuploads/Handouts_HRiA_CHWs.pdf.

Nevada Department of Public and Behavioral Health. (2013). Health care access in Nevada: 2011 BRFSS. *Office of Public Health Informatics and Epidemiology*. Retrieved from http://health.nv.gov/PDFs/healthcareAccessBRFSS.pdf.

Newhouse, J.P., Garber, A.M. (2013). Geographic variation in health care spending in the United States: insight from an Institute of Medicine Report. *The Journal of the American Medical Association*, 310, no. 12 (2013): 1227-1228.

Payne, R.K., DeVol, P., and Smith, T.D. (2009). Bridges out of poverty: strategies for professionals and communities. *Aha! Process*. Retrieved from www.ahaprocess.com.

Pew Hispanic Center. (2013). A nation of immigrants: a portrait of the 40 million, including 11 million unauthorized. Retrieved from http://www.pewhispanic.org/2013/01/29/a-nation-of-immigrants/.

Roehrig, C.S., & Rousseau, D.M. (2011). The growth in cost per case explains far more of U.S. health spending increases than rising disease prevalence. *Health Affairs*, 30 (9): 1657-1663.

Schoen, C., Radley, D.C., Riley, P., Lippa, J.A., bereson, J., Dermody, C., & Shih, A. (2013). Health care in the two Americas: findings from the scorecard on state health system performance for low-income populations,

2013. *The Commonwealth Fund*. Retrieved from http://www.commonwealthfund.org/Publications/Fund-Reports/2013/Sep/Low-Income-Scorecard.aspx?page=all.

Talbot, J.A., Coburn, A., Croll, Z., & Ziller, E. (2013). Rural considerations in establishing network adequacy standards for qualified health plans in state and regional health insurance exchanges. *The Journal of Rural Health*, 29, 327-335.

The New England Comparative Effectiveness Public Advisory Council and The Institute for Clinical and Economic Review. (2013). Community health workers: a review of program evolution, evidence on effectiveness and value, and status of workforce development in New England. Retrieved from http://cepac.icer-review.org/wp-content/uploads/2011/04/CHW-Draft-Report-05-24-13-MASTER1.pdf.

Thorpe, K., Florence, C., and Joski, P. (2004). Which medical conditions account for the rise in health care spending? *Health Affairs* Web Exclusive.

Tilson, H., and Gebbie, K.M. (2004). The Public Health Workforce. *Annual Review Public Health*, 25: 341-356.

U.S. Census Bureau. (2013). 2007-2011 American Community Survey. American FactFinder, U.S. Department of Commerce.

Woolf, S.H. & Aron, L. (2013). U.S. health in international perspective: shorter lives, poorer health. *National Research Council and Institute of Medicine*, Washington, D.C., The National Academies Press, 1-394.