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Analysis on the Influence of Health Insurance on Patient Participation in

Idaho State University Community Health Fairs

By

Alicia K. Wrablik

A thesis

submitted in partial fulfillment

of the requirements for the degree of

Masters of Science in the Department of Medical Laboratory Sciences

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To the Graduate Faculty:

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May 22, 2018
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Sincerely,

Ralph Baergen, PhD, MPH, CIP
Human Subjects Chair

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Analysis on the Influence of Health Insurance on Patient Participation in
Idaho State University Community Health Fairs
Thesis Abstract-Idaho State University (2018)

The purpose of this study is to assess how health insurance influences a person's decision to participate in local community health fairs. Individuals who had their blood drawn for preventive and monitoring reasons at three Idaho State University sponsored community health fairs were asked to partake in a three-page survey. These health fairs provided clinical blood work for 71 patients in the Challis health fair, 41 in Meridian health fair, and 323 in the Pocatello health fair. Survey data was gathered from Challis (n=22), Meridian (n=34), and Pocatello (n=109) participants for a 31%, 83%, and 34% response rate respectively. This survey gathered each participant's demographic education, and health insurance information. Data was also gathered regarding their perception of health fairs, and purpose of participation. The surveys were analyzed to determine if health care insurance played a role in the decision to participate in the local health fairs. The data demonstrated that the majority of health fair participants (92%) carry health insurance. Participants in health care are also educated with 30% having earned a high school degree, 10 percent an associate level degree, 28% a bachelor's level degree, and 22% a graduate level degree. The data suggests that the affordability of reduced-cost health monitoring, and not access or insurance coverage, was the primary indicator of community health fair participation.

KEY WORDS: Community health fairs, Health insurance, Medical Laboratory Science

Chapter 1: Literature Review

ABBREVIATIONS: AMA - American Medical Association, HMO's – health maintenance organizations, AALL - American Association of Labor Legislation, NHE - Nation Health Expenditures, GDP - Gross Domestic Product, COBRA - Consolidated Omnibus Budget Reconciliation Act, HIPAA - Health Insurance Portability and Accountability Act, WHO - World Health Organization, ACA - Affordable Care Act, ACLA - American Clinical Laboratory Association, ISU- Idaho State University, MLS- Medical Laboratory Science/Scientist

INTRODUCTION

I. History of Health Insurance in the United States

Health care delivery and insurance policy has changed significantly since the implementation of the Patient Protection and Affordable Care Act, creating recent controversy. In past decades, the average citizen was less aware of factors (such as smoking) influencing their own well-being, and had limited resources in which to clinically monitor their health. In the late 1800's industrial steel work expanded, resulting in increased job-related injuries (1). With this line of work becoming increasingly popular, worker unions concurrently began to expand and grow. Unions demanded protection for their workers and compensation for loss of wages from these work-related injuries (1). This drive from the unions would be the catalyst for the foundation of today's health care system.

During the turn of the century the health field boomed with 62,000 new doctors (1). With this influx of medical providers, the American Medical Association (AMA) was formed through the next decade, and was responsible for uniting primary care physicians to improve health care delivery (2). In 1945, the AMA worked closely with President Franklin D. Roosevelt to propose

a plan for national health insurance coverage citing the millions of citizens lacking proper medical coverage and protection. While President Roosevelt found the nation's health to be an important issue, it was one that the 26th president could not improve during his time in office (1).

The American Association of Labor Legislation (AALL) was one of the first drafted health care legislation acts brought to government in the early 1900s (2). The AALL transformed our health care system into its recognizable form today, calling for sick pay, maternity benefits and death benefits for working class and low-income citizens (1). AALL met resistance primarily from the private insurance sector; the fear was that if the government offered a form of health insurance there would be less need for an individual to seek out insurance from private providers.

The War Risk Insurance Act was initiated in 1914 at the start of World War I putting into effect compensation to military service members who were injured in the war as well as providing financial support to family members of military men who had died in service (3). After the war, the cost of medical care began to increase, leaving many citizens unable to pay for their health care.

In the 1920's a cohort of faculty from Baylor University developed a plan that allowed patients to pre-pay for their upcoming medical care through the university's hospital (2). This payment plan eventually developed into Blue Cross, a nonprofit program that only applies to hospital services received.

During the Great Depression in the 1930's, it became clear that the older population's needs were not being met. As the Blue Cross and Blue Shield programs spread. President Franklin Delano Roosevelt became increasingly aware that one of the biggest hurdles this country would face was attending to the health of its older citizens (3). Despite President Roosevelt's efforts,

the AMA fiercely opposed his plans for fear of government run health care. The compromise of this debate was the Social Security Act of 1935, which laid out benefits for the older population, giving the state the power to oversee benefits to unemployed and/or disabled residents (2).

Due to the Stabilization Act of 1942, employers were banned from increasing salaries for their employees; this led to businesses seeking out ways to be competitive employers, and they, therefore, started offering employer –sponsored health insurance (1). New legislation was spurred on by World War II in an effort to limit inflation and wage increases in order to support the war. With this new policy, employees no longer had to pay taxes for their benefits and were able to acquire health care services for themselves and their families as well.

Even with the Stabilization Act of 1942 large groups of the population were still left without sufficient health care. Among those uninsured were retirees, unemployed and persons unable to work due to disabilities, as well as those whose employers did not offer employer-sponsored health insurance (3). The Wagner-Murray-Dingell Bill was passed in 1943 implementing a payroll tax that would fund universal health care (2).

In 1945 when Harry Truman became the 33rd President of the United States, he was able to succeed where FDR had not. President Truman's health plan advocated for all Americans, not just the working class or those financially burdened. Even though Truman was re-elected in 1948, his health plan was not as warmly welcomed back. With the start of the Korean War many people began purchasing private health insurance plans, and labor unions fell back on employer-sponsored benefits to try and corner the market (1).

In the 1950's the price of hospital-based care doubled in cost; however, this was not enough for the nation to come together and present a uniformed front against the health insurance

epidemic. In the 1960's the government started to keep track of Nation Health Expenditures (NHE) which they calculated as a percentage of the Gross Domestic Product (GDP). At this time, the NHE accounted for 5% of the GDP, and it was only going to go up after that decade (1).

When John F. Kennedy took office as the 35th President, he quickly began working on health care for senior citizens. However, his bill was met with great opposition and did not pass the legislation process (1). When Lyndon B. Johnson took office, he picked up where President Kennedy left off by expanding the Social Security Act of 1934 (14). President Johnson also spearheaded the Hill-Burton Program where money was given to medical facilities that needed updating in exchange for these facilities providing medical care at affordable cost to the patient (1). President Johnson had better success than his predecessor with the Johnson's plan which focused on providing affordable health care for senior and disabled citizens from hospitals and medical providers (1). In 1965 President Johnson, joined by President Truman, signed into effect the Social Security Act of 1965 which has developed into today's Medicare and Medicaid programs (2).

When President Nixon took office in 1971, he was concerned about the government's reach into Americans personal lives, so he proposed his own health care plan. Nixon's plan detailed that employers had to keep providing health insurance to their employees as well as to provide subsidies to employees who could not financially afford the cost (2). Nixon's plan also outlined that people who were of working age and their immediate family members could have health insurance through the employer. Once the employee retired, they would continue receiving health care insurance through Medicare. Nixon went on to expand Medicare through the Social Security Act of 1972 and Health Maintenance Organization Act of 1973 (HMO) (1).

In 1986 President Reagan approved the Consolidated Omnibus Budget Reconciliation Act (COBRA) which allowed employees to keep their health insurance from their employer even when they retired with one caveat, they had to pay the full premium amount (3). This was an important step forward benefiting the insured person by allowing them to stay insured even with pre-existing conditions, but this burgeoning pool of those with pre-existing health issues was becoming more and more problematic for the health insurance industry.

President Clinton took office and shortly after implemented the Health Security Act of 1993; through the provisions of this act an individual could purchase insurance through state-based cooperatives (3). This act would not allow insurance companies to deny coverage to an individual based on their pre-existing health conditions, a fact that was causing increasing challenges to health insurance companies. Another important aspect of the Health Security Act of 1993 plan was that employers had to offer health insurance plans to all full-time employees (3). However, this bill would not last much longer than the previous pioneering bills. President Clinton went on to sign the Health Insurance Portability and Accountability Act (HIPAA); this particular bill allowed patients to have access to their own personal health records opening the door for patients to have a hand in their own health care (1). HIPAA, as it has come to be known, also put in place strict privacy rules and regulations regarding health care information.

George W. Bush updated Medicare by branching it out into pharmaceuticals and prescription drug coverage. His work would eventually lead to Medicare Prescription Drug Improvement and Modernization act of 2003, also known as Medicare Part D (1).

The 44th President, Barack Obama, developed health plans that were similar to those of President Nixon. Obama's bill, Affordable Care Act, made it a requirement that large employers

provide health insurance to their employees and mandated all Americans to carry health insurance. This was particularly a problem for individuals whose employer did not offer health insurance (1). Furthermore, the bill initiated an open marketplace where insurance companies were not allowed to deny coverage to an individual based on pre-existing conditions. For the low-income citizens that earned less than four times the poverty level, subsidies which they would qualify for would help cover the cost of their health care insurance.

Since President Trump has taken office, he has called for “repealing and replacing” the Affordable Care Act. However, that action seems to be more complex than initially indicated. It remains to be seen what President Trump will do to lead reform in the health insurance saga.

II. Affordable Care Act

The World Health Organization (WHO) declared that the United States spent more money on its health care system than any other developed nation in 2000. However, in 2010 it was estimated by the U.S. Census Bureau that 49.9 million Americans were without health insurance (2). During the 2000 report, the WHO ranked America’s health care system 37th out of 191 nations in the health care provided to its citizens; furthermore, the US was the 72nd in total health of its population.

On March 23, 2010, President Obama implemented the Affordable Care Act (ACA) (5). The ACA is a twofold plan: the Patient Protection and Affordable Care Act and the Education Reconciliation Act with the underlying belief that health care is a right, not a privilege (5). In an effort to reduce the number of uninsured citizens, the new law required all United States residents and employers to have health insurance or face financial penalties (5).

One considerable change that came along with ACA was no lifetime limits for health insurance (4). Along with this improvement came the ruling that a person could not be denied health coverage based on preexisting health conditions, a practice that had long plagued Americans living with a lifelong disease. In addition, it was required that employers offer health insurance to their full-time employees (5).

Additional changes implemented to favor of the commonwealth were increasing the age that dependents could stay on their parent's health care plan. For many decades a dependent could only stay on their parent's insurance until the age of 25 if they were enrolled in college. ACA increased that age to 26 regardless of academic pursuit (4).

In an effort to reach the uninsured population, a "marketplace" approach was put in motion where individual states needed to have available health plans for low-income Americans and their families who were not eligible for Medicaid (4). Exchanges were utilized by the "marketplace" to assist residents in finding affordable health care plans. New plans were made for states to work with each other by offering cross-state insurance sales (4).

In an attempt to motivate the American population to have health care insurance, a penalty would be applied to the uninsured individual's taxes. The penalty's increased for every year the individual did not have insurance. In 2014 the amount penalized was \$95 per individual, increasing to \$350 in 2015 and finally to \$750 in 2016 (4). The exceptions to the penalization were for Native American citizens and those whose annual income were 100% below the national poverty level , incarcerated individuals, and individuals that were uninsured for three months or less during the fiscal year (4).

One element of ACA that is often overlooked is the policy that healthcare facilities and providers must provide good quality care to all patients without inflating the cost of services as well as increased opportunities to access health care, especially services that deal with preventive care. To encourage participation in preventive care, Medicaid was given grants to initiate healthy lifestyle programs to the public (5).

III. Private Health Insurance

In 2016 the largest supplier of health insurance was private companies; most often people obtained this insurance through employment, and this segment comprised 67.5% of the insured population (6). While most Americans get private health insurance through employment, there are a few other agencies that offer the public private, not government run, insurance. Even if private health insurance is obtained by an individual, it must meet at least the requirements set for by the Affordable Care Act, a government run insurance plan. However, government programs accounted for 37.3 % of all types of health insurance coverage with programs such as Medicaid and Medicare (6).

Private health insurance has historically been divided up into three different groups: Blue Cross and Blue Shield, commercial insurers, and independent plans which include union insurance, health maintenance organizations (HMO's), and self-employers (7).

Often individuals have a combination of public or government-run insurance and private insurance plans. For example, many dental and vision plans are through private companies due to the specialties of the services rendered, therefore resulting in a steeper price tag for such coverage.

IV. Deductibles

Twelve percent of 1,079 American adults who were surveyed by Consumer Reports reported that they had annually spent \$5,000 of their own money to pay for health care they had received (8). Of that \$5,000, prescription and health insurance costs were not included. Another 11% claimed to have had trouble paying for health care related bills (8).

Consumer Reports claims that per individual, health care in the United States is twice as expensive as in any other developed country. If the United States health care industry was its own country, it would be the fifth largest economy at three trillion dollars (8). In the Consumer Report article, *Why is Health Care so Expensive?*, it is disclosed that a single Tylenol in a hospital setting can cost up to \$37.50, and a single pill that can treat Hepatitis C can come with a \$1,000 price tag (8).

In 2016 two surveys were conducted in an effort to analyze the state of health care insurance in the United States. One survey was sponsored by the U.S. Census Bureau's Current Population Survey Annual Social and Economic Supplement (CPS ASEC), while the second survey was from the American Community Survey (ACS) (6). According to the 2016 Health Insurance Coverage Census, between 2015 and 2016 there was a 0.3% increase of people obtaining health care insurance indicating that 9.1% of the population did not have health insurance in 2015 which decreased to 8.8% in 2016 without health insurance. These percentages represent 29.0 million and 28.1 million people respectively (6).

Many Americans found that in order to be in compliance with the ACA and have affordable health insurance plans, they were faced with a difficult decision. Either they have to pay more upfront for the services and have a lower deductible, or pay less for the coverage with a higher deductible.

V. Effectiveness of community Health Fairs

In an effort to reach Americans that do not have access to routine health care a wave of community-based health fairs has spread across the nation. These health fairs bridge the health care accessibility gap that many low-income families cannot seem to overcome. In recent years employers have started offering health fairs for their employees with the goal of sharing knowledge about healthy living resulting in a healthier employee population which has a direct correlation between less medical care needed and, therefore, reducing the overall price of employer sponsored health care (9).

One major focus in these health fairs is educating the general population about healthy living, awareness of health services, and preventive medicine (10). Often different health agencies will have a display booth for participants of health fairs to explore services offered in the community.

The cornerstone of health fairs is prevention. Prevention of disease that could have a lasting effect on the quality of one's life such as diabetes is essential for the community as a whole. Prevention reduces the cost of health care. Not only could a long disease state affect the quality of life in Americans, but also expenses for such long-term conditions are taxing our health care system and attribute to the overall cost of health care (10).

One of the most valuable tools for prevention medicine is laboratory testing. In correlation with the education aspect of community health fairs, getting screened for common disease states is one of the biggest draws for the public. By having access to screening tests at health fairs, patients can order their own tests at a reduced price; this allows the community to have some influence in their own health (9).

The price reduction offered at the health fairs alleviates the financial burden on the patient as well as the insurance companies. The tests run at a health fair are strictly screening and not diagnostic due to the fact that the medical doctors are not ordering the specific tests and are not always involved in interpretations of the lab results.

Often participants will get labs drawn at the reduced price and bring those results to their medical provider to discuss. In many instances paying for a few lab tests at a health fair out of pocket is cheaper than the cost of insurance co-pays and deductibles for similar tests (9).

For those who do not have health insurance, attending a health fair where reduced price lab tests are offered allows these citizens to have some form of basic health care (10).

A research survey was handed out at a local health fair in 2010 in southern California that focused on the difficulties and barriers that the Latino community faces (10). In this study 186 health fair participants took part in the survey; two thirds of the 186 indicated that they have never received preventive health checks or had more than two years since their last health checks (10).

The article, *The Reach and Rationale of Community Health Fairs*, states that Latinos make up one third of all uninsured population in the United States (10). Factors that attribute to this include, but are not limited to, cultural, linguistic and financial hardship. The primary reason listed (64.5%) indicated for Latinos not seeking routine health care was money (10). With 57% of Latinos living in southern California at 200% below the federal poverty threshold, health care and insurance costs hinder many from receiving adequate medical attention (10).

VI. Importance of laboratory testing in patient care

Information obtained through laboratory testing allows health care providers and physicians alike to have concrete numerical data that correlates directly to the health of their patient. These values allow doctors a snapshot of their patients down to a cellular and chemical level ensuring the accurate diagnosis and therapeutic decisions are in the best interest of the patient. Primarily working behind the scenes, Medical Laboratory Scientists (MLS) are responsible for the diagnostic analysis of blood, urine, tissue, and other body fluids to detect the presence or absence of disease (11). MLS are a vital part of the health care delivery team, with nearly 70% of primary health care provider's medical decisions being based on laboratory findings (Quest Diagnostics, 2014).

Without laboratory testing, health care providers would not be able to make adjustment to patient treatment plans, medication levels, and length of hospital stay as well as gaining the information to confirm diagnosis. In addition to the direct benefits to patient care, lab testing is the most cost effective and least invasive procedure (11). Laboratory medicine is one of the fastest expanding fields with new technology, instrumentation and discovery of new pathogenic diseases.

Not only does lab testing impact medical treatment, but also it plays a major role in screening and preventive health concerns. No other medical field can identify genetic abnormalities or identification of predisposed patient disease states (11).

The Frequency that Laboratory Tests Influence Medical Decisions article reported that 35% of 72,196 patients in a hospital setting had at least one laboratory test ordered during their visit (12). Ninety-eight percent of the patients in an inpatient setting had lab work performed, 56% in the emergency department and 29% in the outpatient clinic (12). Seventy-five percent of

the time cardiologists and oncologists ordered a test to assist them in forming a diagnosis; however, only 66% of those tests had an actual role in patient care (12).

According to the American Clinical Laboratory Association (ACLA) in 2014 there are 300,000 medical laboratory personnel who perform ten billion blood tests annually ordered by physicians (13). The president of the ACLA proclaimed that 70% of all medical decision is based on laboratory testing (13). A cost comparison analysis was conducted between diabetic patients; one patient was engaged in preventive blood work to monitor his blood sugar levels while the other patient did not engage in routine testing and or monitoring of his diabetes (14). After twenty years, the patient who had routine monitoring and testing had a total health care cost of \$1,684. The patient who did not participate in regular blood sugar monitoring incurred a total expense of \$80,553 which included amputation and dialysis. This comparison shows the importance of routine blood work and monitoring of common diseases and the financial implication of untreated disease states (15).

Even with all the evidence pointing to the un-replaceable value of lab testing in patient care, there is still disconnect between the role of the lab and the monetary value of these tests. Lab tests attribute to less than 5% of the overall cost of the nation's medical costs; however, these tests play a major role in 70% of all medical decisions (14). In order to improve our national health care system, a shift needs to occur from the concern about the bottom dollar amount to episode-of-care cost.

Chapter 2

Health Insurance and Its Effect on Patient Participation in Health Fairs

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Introduction

The purpose of this research is to determine the patient demographic of those participating in Idaho State University (ISU) sponsored health fairs, and specifically how health insurance influences participation in these health fairs.

Significance of the Study

With the recent requirements for all Americans to have health insurance many citizens have found themselves in an unfair dilemma. A large portion of the general public has had to make the decision between a health insurance plan that is affordable, providing adequate health coverage, but is also reasonably priced (7). Many health care insurance plans offset the cost of insurance plans by offering high deductibles, putting many people in a challenging financial situation (7).

In 2014 the president of the American Clinical Laboratory Association, Alan Mertz, stated that 70% of all medical diagnosis are based on lab results (15). Despite the significant role of laboratory testing in patient care, there is a disconnect between the medical value of these tests and affordable access to these tests for patients.

Community health fairs offer a health care accessibility bridge between affordable blood draws and the general population's needs. Many health fairs offer routine blood work at significantly reduced prices. This allows many valuable access to tools that empower them to take control of their own health. A diabetic patient who wants to do so can monitors their blood glucose levels through tests done for \$5 at the ISU health fairs. A simple blood test that is \$5 dollars at a health fair could cost \$70 out-of-pocket if the doctor does not see a reason to order the test clinically.

This study will help the medical community see how large this gap in patient care really is. By researching the need of the local community, the medical community can analyze weakness and fill in the holes that become evident.

Methodology

Participants involved in this study were health fair attendees who had laboratory blood work done at health fairs. The health fairs were all sponsored by Idaho State University and occurred on three different campuses: Meridian, Pocatello and Challis. The people participating did not have to be a student of Idaho State University as these health fairs were targeted to the general public.

In order to get a better of understanding of health fairs, three different types of populations were sampled. One health fair was held in a large urban setting, Meridian Idaho. This is part of a large metro area offering multiple avenues to health care. In a large city setting like this one there are multiple clinics, doctor's offices and several large hospitals in the area. So how does holding a health fair in a large city where there is more access to care affect the influence of participation? Was there competition with services provided by the nearby university, Boise State University?

The second health fair was held in Pocatello Idaho at Idaho State University. This town is different from Meridian, Idaho, in the fact that it is a small rural town. This town is a college town with a few health clinics, fewer doctors' offices and one large hospital. This health fair had the largest turnout of the three ISU sponsored health fairs.

The last health fair where attendees were given a survey was held in Challis, Idaho. This is a small remote tight-knit community with very limited access to care. This

health fair is very well attended by the locals. There is one doctor's office that can handle some minor urgent care needs. This particular health fair is a local outing event for this community.

The design of the survey was a three-page multiple choice questionnaire. Participation was voluntary, and the survey was self-reported. Demographic information including age, race, and highest level of education completed was collected as well as information about each person's health insurance. This allowed a detailed analysis of who is attending these local health fairs, which health insurance providers are popular, the cost of insurance plans locally and how much the community members are paying in deductibles.

Participants were asked how valuable they felt this particular health fair was to the community and why they chose to attend the event.

The survey was constructed in a multiple choice questions with options to not answer specific questions. Other questions choices were in a range format allowing anonymity. Excel was used to help analysis and to keep track of data as well as to generate tables.

Results

I. Challis data

At the Challis community health fair, 71 people participated and 22 filled out a survey, for a 31% response rate. The demographics for the survey showed that 31.8% of the participants were male, and 68.2% were females (see Figure 1). Ninety-five percent of all respondents were Caucasian and 5% preferred not to disclose their race. Seventy-four percent of were between the ages of 50-70, while the 8.7% were between 18-34 years old, and 8.7% were in the age bracket of 35-50 years old (see Figure 2). Seventy years and older participants comprised 4.3% of respondents, while 4.3% preferred not to answer regarding their age. The marital status breakdown included 91% married, 4.5% single and 4.5% were divorced. Ninety percent of the households had one to two people currently living in them while 10% had a household with three to four people.

The education data showed that 72% had completed high school, 4.5% had associate degrees, 4.5% bachelor level education, 4.5% master's degrees, 4.5% post graduate and 10% vocational/trade school training (see Figure 3). Employment questions illustrated that 27% were employed, 41% were retired, 27% were self-employed and 4.5% were unable to work. One hundred percent of the people surveyed were Idaho residents (see Figure 4).

When asked about their annual household income, 13.6% had an income of \$30,000 and below, 13.6% had \$31,000-\$50,000, 36.4% had \$51,000-\$75,000, 13.6% had \$76,000-\$100,000 and 22.7% had other annual household income levels (see Figure 5).

Ninety-one percent of participants had some sort of health insurance leaving 9% who did not have health insurance (see Figure 6). Health insurance provider break down was as follows:

Medicare 4.5%, Blue Cross/Blue Shield 31.8%, Aetna 4.5%, Humana 4.5%, other health care insurance not listed 31.8%, Medicare and Blue Cross/Blue shield 13.6%, 9% do not have health insurance (see Figure 7). The deductible for health insurance plan had a wide range of prices reported: \$100 and below 5%, \$300-\$600 dollars 10%, \$500-\$2,000 dollars 45%, \$21,000-\$30,000 dollars 10%, \$31,000-and above 10% and 20% did not know their deductible amount (see Figure 8). Data about co-payment amount displayed: 30% paid \$20 and below for their co-pays, 15% paid \$21-\$50, 5% at \$101 plus, 15% had no co-pays and 35% did not know their co-pay amount (see Figure 9).

The subjects of this study were asked to do a self-health assessment: 22.7% described their own health as excellent, 50% said they were in good health, 18.2% were of average health, while 9.1% said their health was below average.

Several questions were asked specifically about the Idaho State University health fair, 90% of the subjects had participated in prior years. Of those 90%, 45% had participated in two to three health fairs prior to this year, 31% had been to four to six health fairs and 13.6% had been to seven plus health fairs, leaving 9.1% of the subjects to be at their first ISU health fair. When asked, why they participated in ISU's health fair, convenience was the leading reason for coming to the health fair (36.8%), 21% wanted to see what the health fair had to offer, 15.7% reported health concerns, and 7.9% wanted to stay connected to ISU. A doctor recommending the health fair was the lowest reason reported with only 5.2% of participants selecting this option. Of the surveyed population, 95.5 percent found the community health fair to be very valuable.

In an effort to reach the community more effectively, a series of questions were asked about how the participants found out about the health fair. The data showed radio advertisement

accounted for 2.8%, flyers 8.6%, local news 17.1%, word of mouth 8.6%, newspaper 45.7%, social media 8.6% and other forms of advertisement at 8.6%. Thirty-three percent thought that more advertising could be done in the local newspaper, 27.3% wanted more coverage by the local news, 18.2% for flyers and social media and 3% had other advertising ideas.

To better understand what motivates participants to get their laboratory tests performed at health fairs, they were asked what they planned to do with their results. This is the breakdown of their answers: 37.1 % answered taking test results to their doctor, 25.7% were tracking chronic health issues, 34.3 were monitoring of general health and other made up 2.9% of responses. Ninety percent of subjects had had blood work drawn at an ISU health fair before, 10% had not had blood work done at the health fair previously.

II. Meridian data

At the Meridian health fair there were 41 participants; 34 surveys were filled out and analyzed for a 93% response rate. The demographics for this health fair are as follows: 73.5% of participants were female, 26.5% were males (see Figure 1).with 83.3% classified as Caucasian, while Hispanic/Latino participants accounted for 5.5% and Asian/Pacific islanders represented 11.1%. This health fair had participants with wide range of ages: 14.7% between 18-34 years old, 32.3% of subjects were 35-50 years old, 50-70 years old represented 50% and the remaining 3% was 70 years old or older (see Figure 2). The marital status was represented as 17.6% single, 70.6% married, 3% widowed, 5.9% divorced and 3% separated. The average house hold had one to two people at 58.8%, second was three to four people in the household at 20.5%, four to six people represented 17.6% and last, seven plus people accounted for 3% of the subjects surveyed.

The breakdown of education for this health fair is as follows: 3% had GED, 20.6% had high school education, 14.7% had associate level degrees, 35.3% had completed a bachelors

program, 17.6% had a master's degree and 3 % had post graduate level education, while 5.8% had done other forms of education including vocational and trade school (see Figure 3).

Employment data showed the 55.8% were actively employed, 2.9% were homemakers, 26.6% were retired, 5.8% were students and 8.8% had other forms of employment. One hundred percent of participants were residents of Idaho (see Figure 4).

Annual household income showed that 20.6% had an income of \$30,000 and below, 8.8% had \$31,000-\$50,000, 17.6% had \$51,000-\$75,000 income, 20.6% had \$76,000-\$100,000, 17.6% \$101,000 plus, and 14.7% answered other about their annual income (see Figure 5).

Participants who currently had health insurance totaled 88.3%, leaving 11.7% without health insurance (see Figure 6). Of those, 11.7% had Medicare as their health care insurance agency, 5.8% had United Health insurance, 3% used the Veterans Affairs agency as their health insurance provider, 47% used Blue Cross/ Blue Shield, 17.6% had health care insurance through other providers, while 3% did not know who their insurance provider was (see Figure 7).

The deductible for these health insurance plans were reported as follows: \$500-\$2,000 deductible accounted for 35.3%, 11.8% had a \$2,100-\$3,000 deductible. Another 14.7% paid \$3,100 and above. 17.6% did not know their deductible amount, 24.7% had another amount and 5.8% had no deductible (see Figure 8).

Co-payment amounts varied within this population: 17.6% had a co-payment of \$20 and below, while the majority, 41.2% paid between \$2 and \$50, still others (11.7%) had no co-payments. Furthermore, 6% paid anywhere from \$51 to \$100 and above, 11.7% had other co-payment amounts (see Figure 9).

Of the 23 people who filled out the surveys, 27.3% reported their health as excellent, 55% were in good health, 15.2% self-reported average health and 3% described their health as below average.

Previous participants comprised 24.3% in an ISU health fair, while 75.7% were participating in their first health fair. Of those attending previously, 72.2% had participated in one prior ISU health fair while 27.3% had been to two to three health fairs.

Convenience was the number one reason why the subjects participated in the ISU health fair at 47.6% followed by a recommendation from a friend at 14.3%. Wanting to stay connected to Idaho State University accounted for 7.2% of participants as well as wanting to see what the health fair had to offer and low lab work cost. Health concerns brought 9.5% of participants into the health fair. Doctor recommendation influenced 2.3% of the participants while other reasons brought in 4.7%. Of respondents, 82.4% said that the ISU health fair is very valuable to the community.

When asked how the participants heard about the health fair the data indicated the following: flyers 24.3%, social media 27%, word of mouth 21.6% and personal phone call 13.5%, with the local newspaper, television news and radio accounting for 2.7%, and an email reminder influenced 5.4% of the subjects. When asked where more advertising could be done for the health fairs, participants replied with flyers 4.7%, local news 35.7%, newspaper 16.7%, social media 40.5% and radio 2.4%.

Nearly 76% of participants had their blood drawn for the first time this year at the ISU health fair, leaving 24.2% who are returning clients. 50% of those who had their blood drawn were monitoring their own general health, 43.2% of people were taking their laboratory results to

a doctor, 4.5% were tracking their own chronic health issues and 2.3% were getting lab work done for recent health concerns.

III. Pocatello data

The Pocatello ISU health fair was the largest of the three with 323 getting lab work done and 109 of those who also participated in my research survey, for a 34% response rate. Of those 109 survey participants 26.6% were males and 73.4% were females (see Figure 1). Ethnicity results were 83.5% were Caucasian, 5.5% Hispanic/Latino, 2.7% Asian/Pacific Islander, 1.8% Native American/American Indian, African Americans and Basque each attributed to 1% of the population surveyed, and 1.8% preferred not to disclose their race. Age break down at this health fair was: 2.7% 0-17 years old, 18-34 year old's represented 11%, 35-50 year old were 14.7%, 51.4% of the population were between the ages of 50-70 and 20.2% were 70 plus years old (see Figure 2). Marital status at this location showed 14.7% single, 61.5% married, 10% widowed, 12.8% divorced, and 1% classified their relationship status as other. Household demographics show that 72.4% had a household that was comprised of one to two people, 21.1% of the population had three to four household members, 5.5% had four to six and 1% had seven plus members in their house.

Education data collected showed that 1.8% got their GED, 23% high school graduate, 9.2% associate degree, 31.2% had their bachelor degree, 18.3% master's degree, 6.4% had reached a doctorate level degree and 6.4% had some other kind of education. Vocational/trade school represented 1%, as did post graduate schooling and 6.4% has some college school (see Figure 3).

Employment data showed that 41.3% were employed, 13.7% self-employed, 32.1% retired, homemakers accounted for 6.4%, students 4.6% and out of work 1.8%. One hundred percent of the participants were Idaho residents (see Figure 4). Annual household income data broke down into six different categories \$30,000 and below at 23.8%, \$31,000-\$50,000 at 16.5%, \$51,000-\$75,000 at 30.2%, \$76,000-\$100,000 at 14.6%, \$101,000 plus was at 9.1% and other made up the balance at 5.5% (see Figure 5).

Of those who participated in the survey, 92.6% had health insurance, leaving 6.4% without and 1% who did not know if they had health insurance (see Figure 6). The most common health insurance provider was Blue Cross/Blue Shield at 45% of the participants, next Medicare at 14.7%, Medicaid accounted for 2.7%, Pacific Source and Aetna both were at 1.8%. Combination of more than one insurance agency applied to 17.4%, while 4.6% did not have health insurance, 10% had other providers and 1.8% did not know who their health insurance provider was (see Figure 7). Deductible for health insurance plans ranged from zero dollars at 3.7%, \$350 at 1.8%, \$500-\$2,000 at 55%, \$2,100-\$3,000 8.3%, \$31,000-and above 8.3%, 2.7% had other, and 20.2% did not know deductible amount (see Figure 8). Co-payment amounts in Pocatello varied: 8.3% had a zero co-payment, 38.5% paid \$20 and below, 22% at \$21-\$50, 2.8% paid between \$50-\$100, 5.5% at \$101 plus, 1.8% had another co-payment, 21.1% did not know their co-pay (see Figure 9).

When asked to evaluate their own level of health, 29.6% described their health as excellent, 51% said they were in good health, 17.6% were in average health and 1.8% identified with below average health.

Of those surveyed, 73.4% had previously participated in an ISU health fair; 26.6% were attending for the first time. Of those utilizing the health fair, 25.6% of participants were participating in their first ISU health fair. 31.2% had attended two to three ISU health fairs in prior years, 30.2% had been to four to six health fairs and 23% had been to seven plus health fairs.

When asked why the participants come to ISU health fair, 29.3% said convenience, 15% had health concerns, 8.6% had a friend's recommendation, 9.2% were recommended by a doctor, 8% wanted to see what the health fair had to offer, 8% view this health fair as a way to stay connected to ISU, 13% wanted to see what the health fair had to offer the community, 6.8% of participants came for blood work and 9.7% had other reasons for attending.

A large majority of respondents, 83.3%, described the ISU health fair as very valuable, 14.8% as valuable, and 1.9% found it moderately valuable to the community.

Participants found out about the health through a few different avenues: 4.6% radio advertisement, 6.6% flyers 9.2% local news, 15% word of mouth, 23.7% newspaper, 15.7% social media and 25% other. When asked where more advertising could have been done for the health fairs response categories were; 11.9% flyers, 33% local news, 22% newspaper, 23.7% social media, 3% none and 6% other

Of the research subjects, 64.2% have had blood work drawn at an ISU health fair before. Subjects who had blood work done were asked what they were going to do with their laboratory results: 36.8% are taking test results to their doctor, 9.8% are tracking chronic health issues, 5.5% have had recent health concerns, 43% were monitoring general health, and 3.6% answered other.

Discussion

From the data presented it is clear that the large majority ISU health fair participants have health insurance. It was hypothesized that a significant portion of these participants would not have health insurance and would, therefore, utilize reduced-cost testing available at these events, specifically clinical blood work. Even though the participants have health insurance they may still be left with general health monitoring at a bare minimum. The ISU community health fairs are most often utilized by individuals that have questions about their health. By coming to the health fair, patients are allowed to play a role in monitoring and screening their health. It appears that even though not having health insurance was not necessarily a driving force to partake in the health fair, data suggests the cost of deductibles and co-pays did play a role in their decision.

According to Figure 1, more women than men participated in health fairs. This is consistent with data that suggests that more women than men utilize their primary care providers, suggesting they seek medical advice more often than men. With the largest health fair located in Pocatello at the main ISU campus, one might assume that college-aged participation would be prevalent. However, this was not the case. The majority of health fair participants were in the 50-70-year age bracket, followed by the 35-50 age participants, with the 18-34-year-old bracket at a distant third. This suggests that regardless of insurance status, college-aged individuals may not be as concerned about monitoring their health as the aging population. Furthermore, it might be assumed that more highly educated individuals would seek out medical screening and monitoring. Interestingly, this study demonstrates the majority of participants only held a high school degree, followed by a bachelor's level degree. This may be an indication of the population and culture of those in the state of Idaho.

When assessing the patient demographics in terms of annual income, one might assume that those with lower income might be more apt to seek reduced cost medical services. However, our data demonstrates that there was nearly equal participation between the \$30,000 to \$75,000 annual income range, representing the majority of the participants. In addition, the majority of participants reported the lowest deductible bracket of \$500-\$2000, generally with copays between \$20-\$50. This suggests that despite the level of income, deductible, or co-pay, health fair participants are motivated by reduced-cost laboratory services.

Regardless of an individual's socioeconomic status, education level or household income the community sees a great value in the services offered at these health fairs. When questioned about the importance within the local community regarding health fairs participants unanimously agreed that the services offered are very beneficial. One participant commented, "I feel the health fair is very important. Great information, testing, hands on learning -education. Very good for low income, uninsured people and elderly people. Fun to speak to the vendors and gain info and free samples! Keep up the good work!" A complete list of comments left from participants can be located in Appendix C.

Some limitations in conducting a self-reporting survey can be skewed or partial information reported. Participants may unintentionally give false information regarding income values, or the cost of their health insurance and deductibles amounts. Another limitation is a potential for different interpretation of the questions. Skipped questions can create a problem when it comes time to analysis the data. Another common limitation of this type of survey for research is the willingness of people to fill out the survey. Many people do not want to disclose any personal information especially when it comes to any form of financial information. Some subjects might find it hard to express feelings and emotions in this type of survey design.

While the future of health insurance is guaranteed to be pressing, community health fairs are aiding in bridging the affordability and accessibility gap within the health care system. There is no question that community health fairs will become increasingly popular and continually utilized in coming years. With the growth of community health fairs, the laboratory profession is bound to become more synonymous with medical care. As the landscape of health care delivery and insurance continues to shift in our country, combined with changes in laboratory reimbursement models, further studies will be needed to assess how this affects patient care, and perhaps how health fair utilization can contribute to providing improved health services to local communities.

FIGURES

Figure 1. Health Fair Participant Demographic- Sex: Self-selected sex as reported on survey by health fair participants.

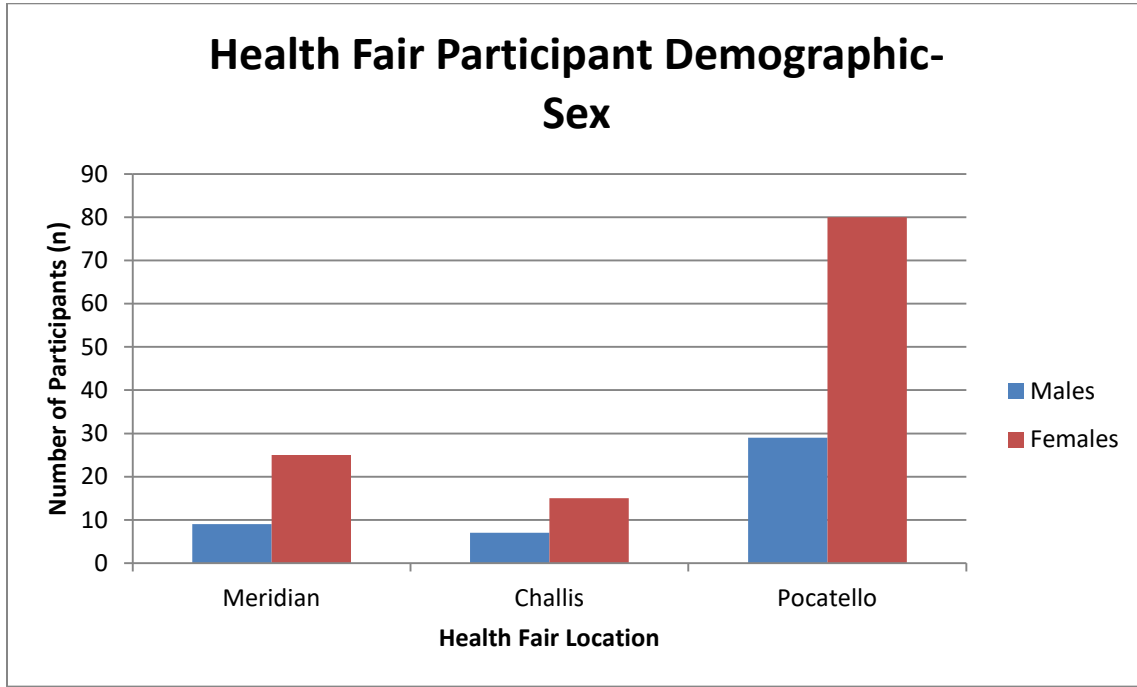


Figure 2. Health Fair Participant Demographic- Age: Self-selected age range as reported on survey by health fair participants.

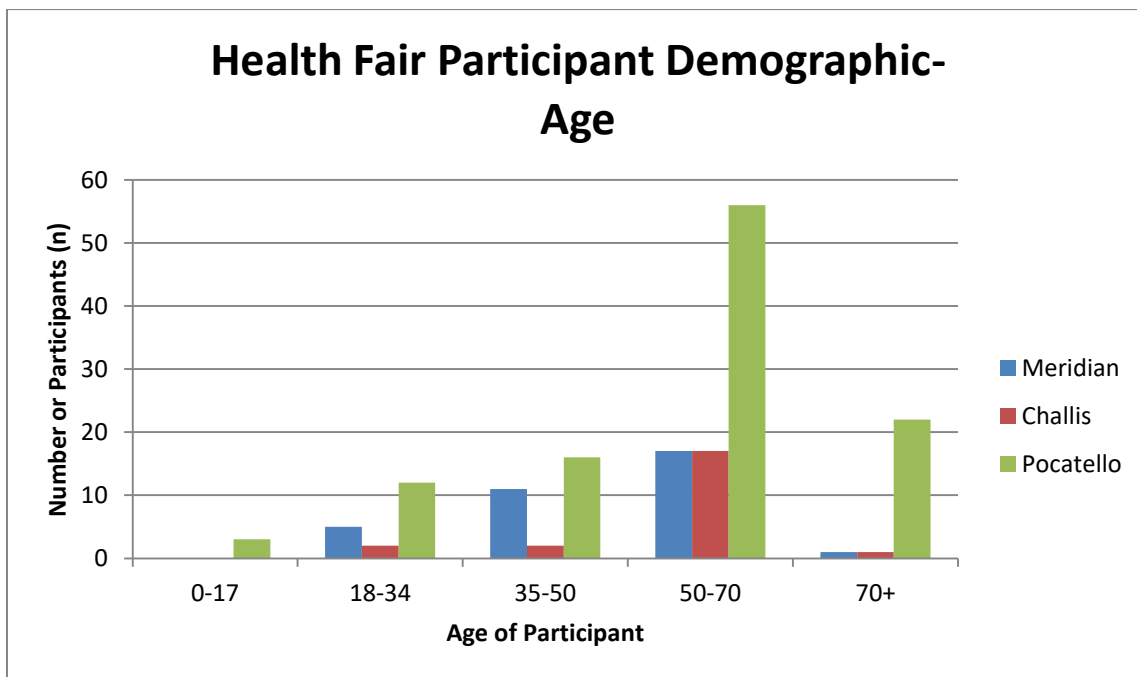


Figure 3. Health Fair Participant Demographic- Education level: Self-selected highest education level as reported on survey by health fair participants.

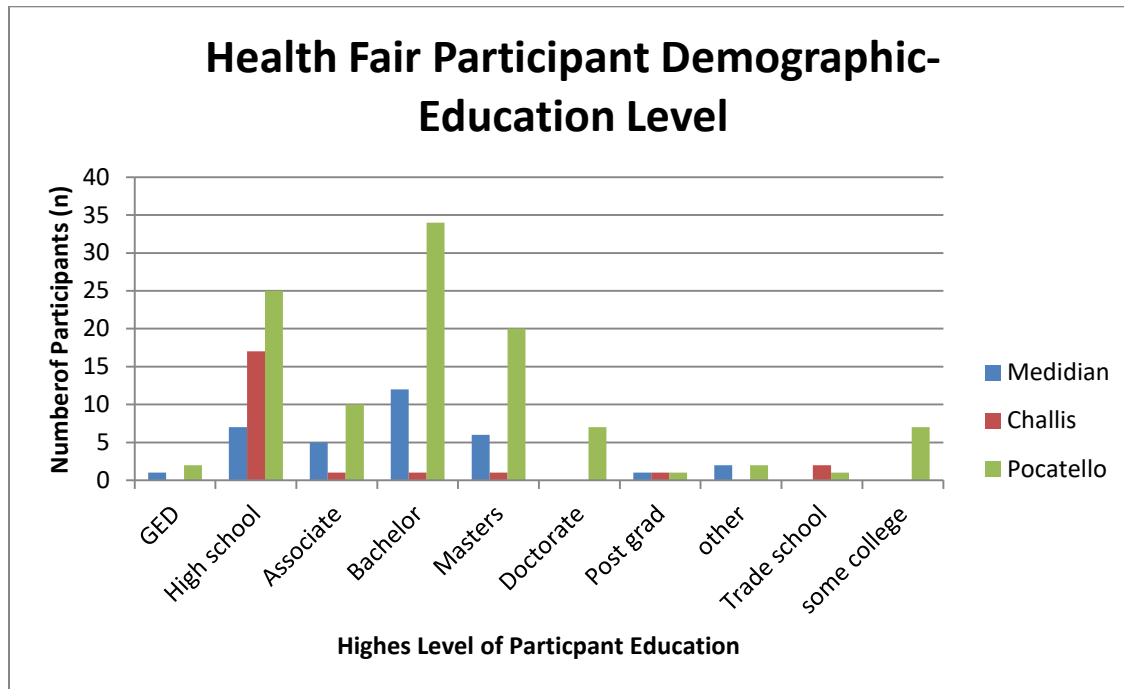


Figure 4. Health Fair Participant Demographic- Employment status: Self-selected employment status as reported on survey by health fair participants.

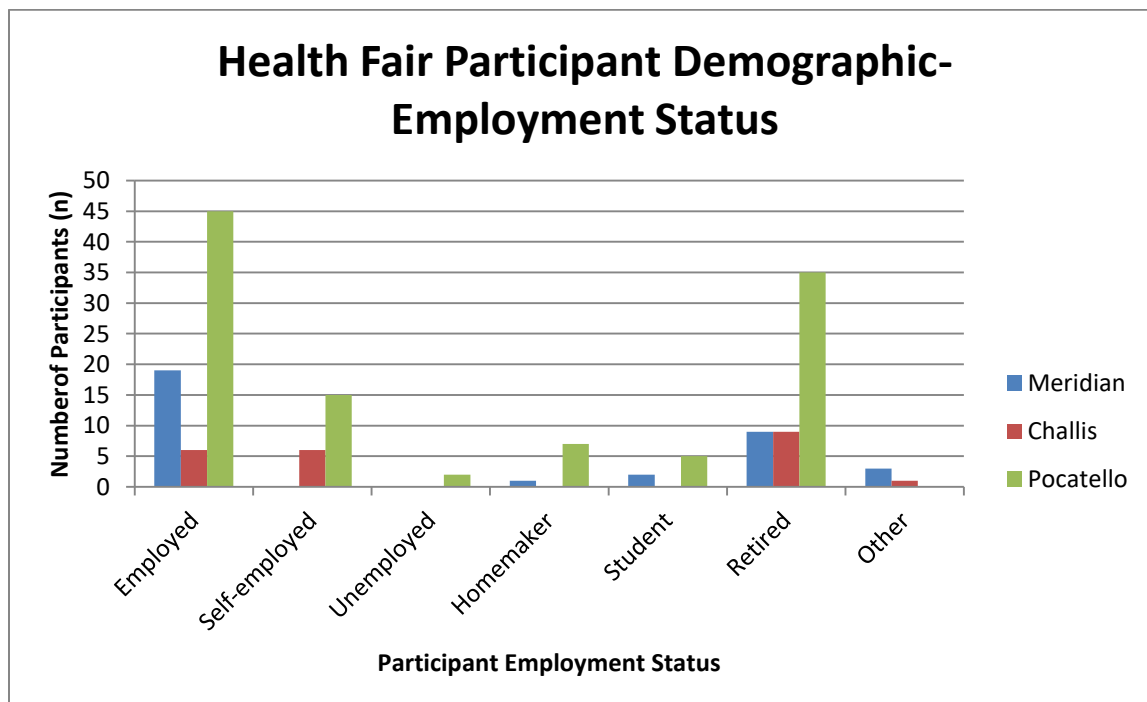


Figure 5. Health Fair Participant Demographic- Annual Income: Self-selected annual income as reported on survey by health fair participants.

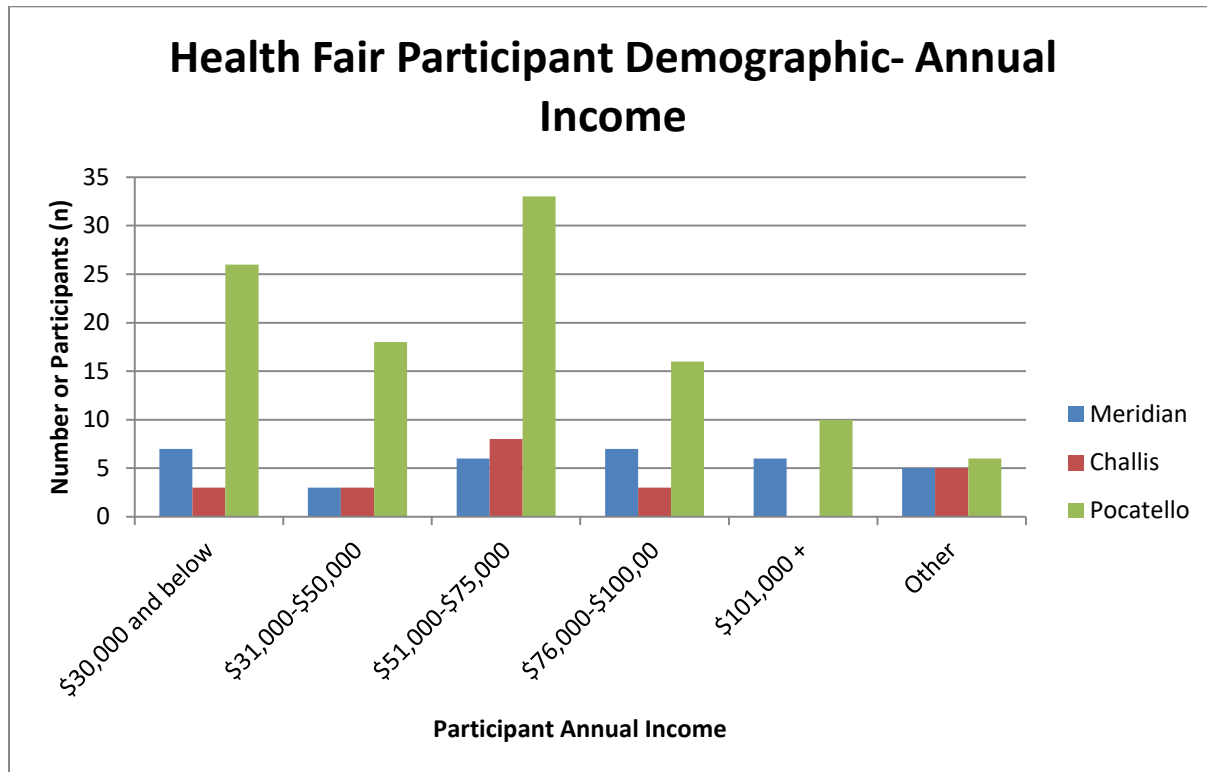


Figure 6. Health Fair Participant's Insurance Status- Sex: Self-selected insurance status as reported on survey by health fair participants.

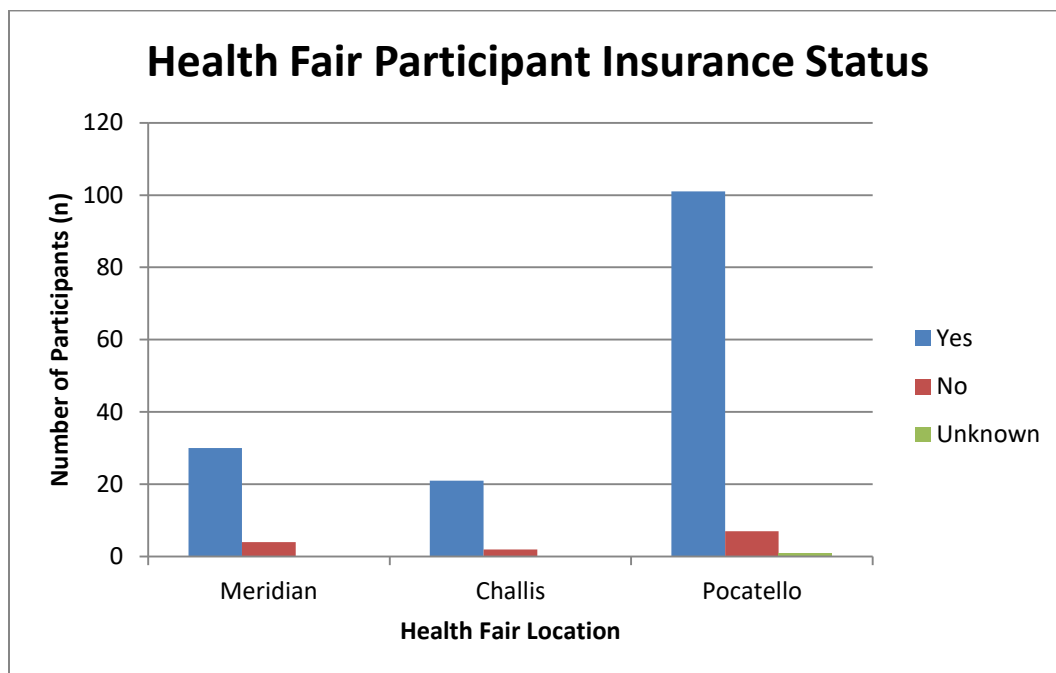


Figure 7. Health Fair Participant's Health Insurance Provider: Self-selected health insurance provider as reported on survey by health fair participants.

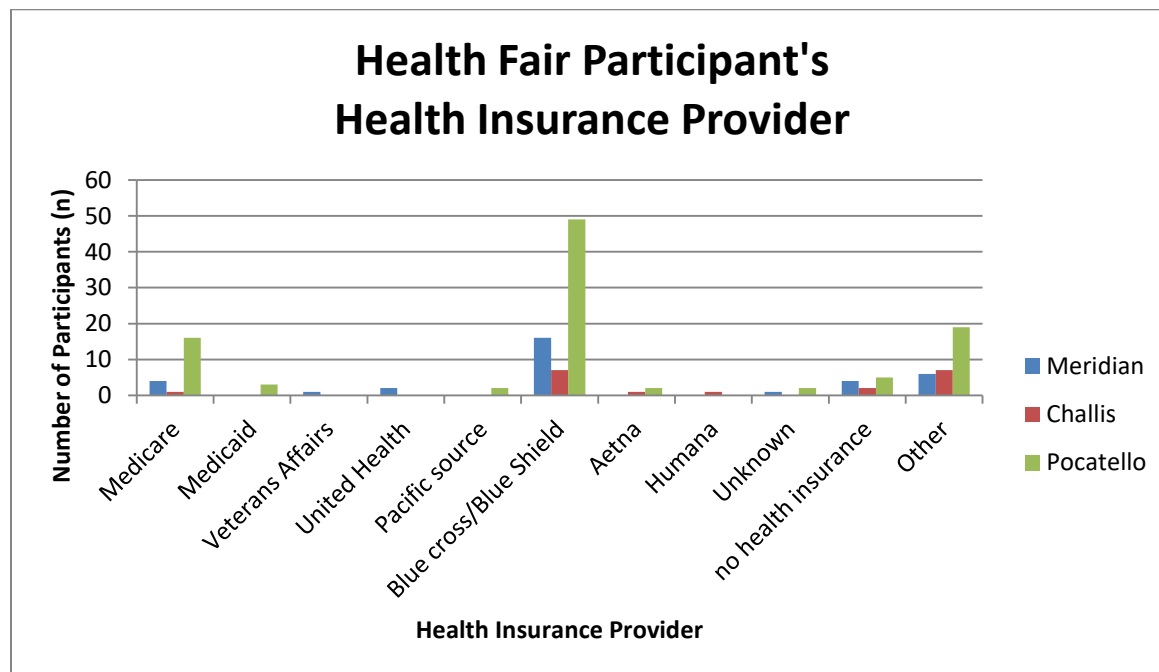


Figure 8. Health Fair Participant's Annual Insurance Deductible: Self-selected annual insurance deductible as reported on survey by health fair participants.

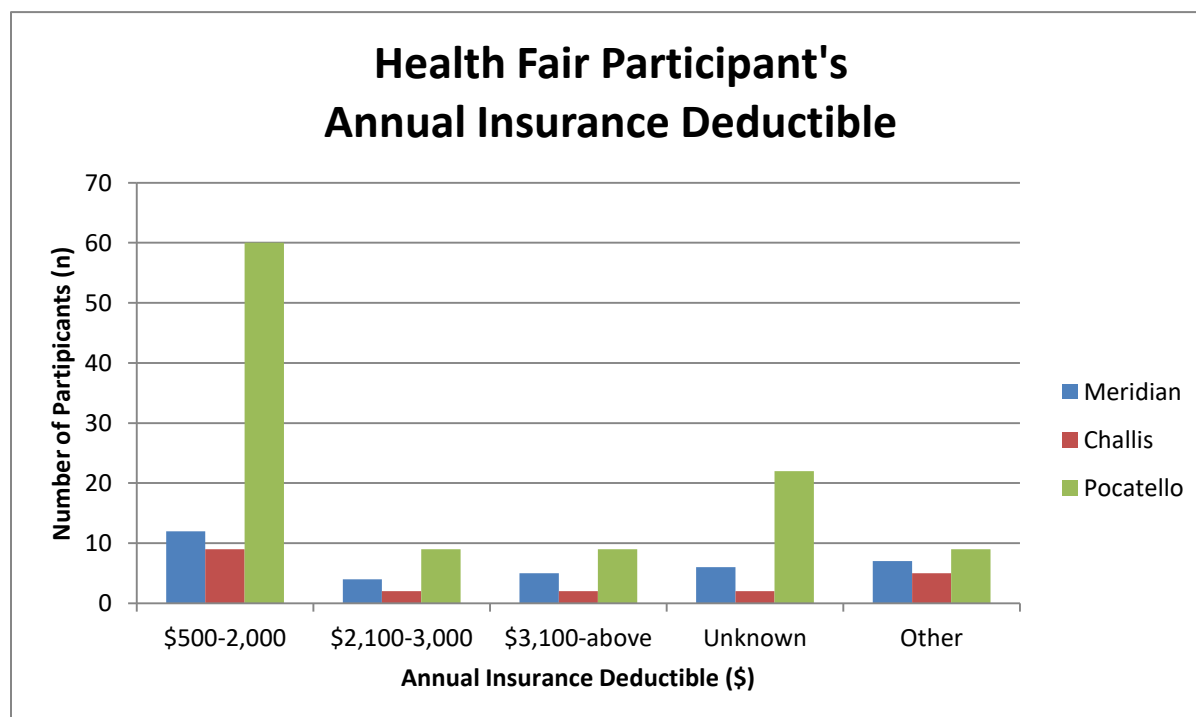
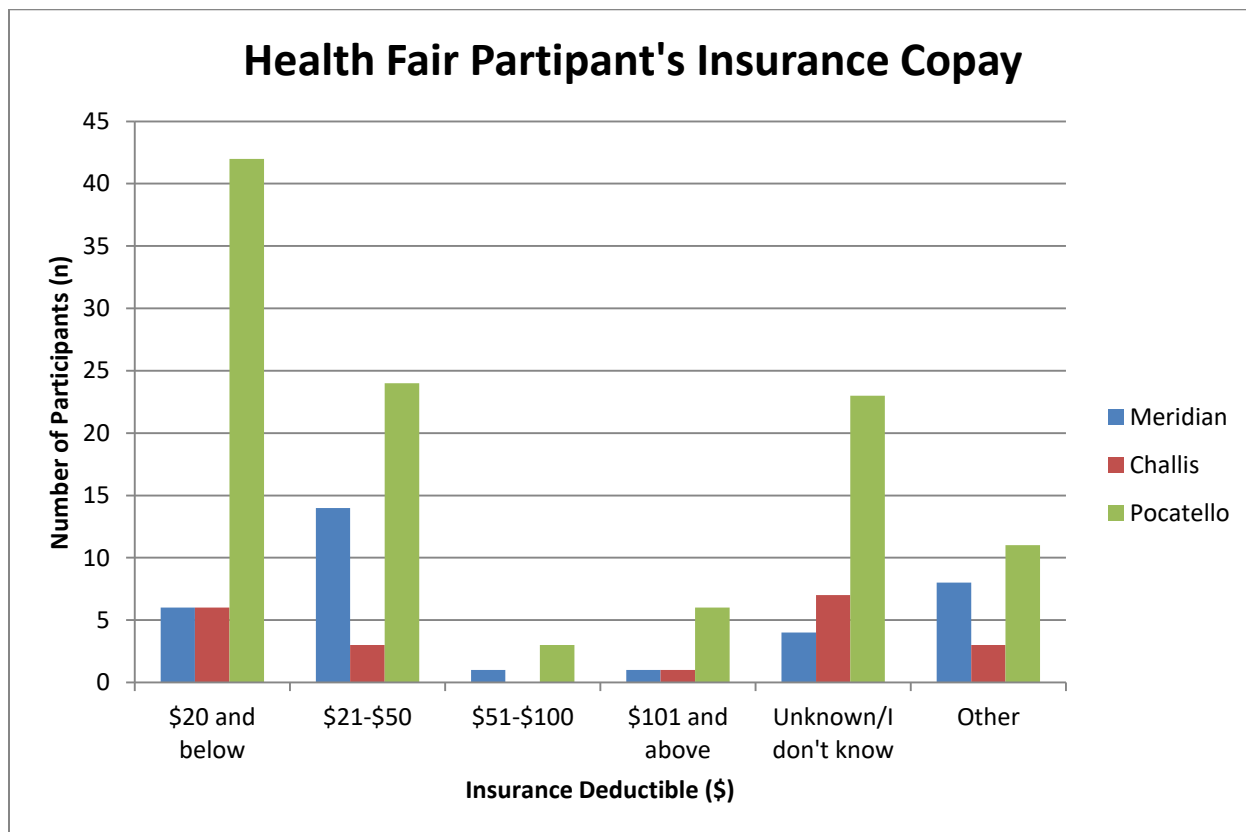


Figure 9. Health Fair Participant's Insurance Copay: Self-selected insurance copay as reported on survey by health fair participants.



References

- 1) Griffin, J. (n.d.). The History of Healthcare in America. Retrieved May 3, 2018, from https://www.griffinbenefits.com/employeebenefitsblog/history_of_healthcare
- 2) Timeline: History of Health Reform in the U.S. Retrieved June 14, 2018
<https://kaiserfamilyfoundation.files.wordpress.com/2011/03/5-02-13-history-of-health-reform.pdf>
- 3) Morrissey, M.A. History of Health Insurance in the United States. Retrieved July 1, 2018
https://www.ache.org/pubs/Morrissey2253_Chapter_1.pdf
- 4) Rak, S., & Janis Coffin DO, F. A. A. F. P. (2013). Affordable care act. *The Journal of medical practice management: MPM*, 28(5), 317.
- 5) Obamacare Explained - ACA Requirements And Penalties. (n.d.). Retrieved April 5, 2018, from <https://obamacare.net/obamacare-explained/>
- 6) Barnett, J. C., & Berchick, E. R. (2017, September 12). Health Insurance Coverage in the United States: 2016. Retrieved June 7, 2018, from <https://www.census.gov/library/publications/2017/demo/p60-260.html>
- 7) Arnett, R. H., & Trapnell, G. R. (1984). Private health insurance: New measures of a complex and changing industry. *Health Care Financing Review*, 6(2), 31–42.
- 8) Why is Health Care so expensive? (n.d.). Retrieved May 27, 2018, from <https://www.consumerreports.org/cro/magazine/2014/11/it-is-time-to-get-mad-about-the-outrageous-cost-of-health-care/index.htm>
- 9) Health Fair | American Institute for Preventive Medicine. (n.d.). Retrieved July 3, 2018, from <https://healthylife.com/template.asp?pageID=64>

- 10) Murray, K., Liang, A., Barnack-Tavlaris, J., & Navarro, A. M. (2014, March). The Reach and Rationale for Community Health Fairs. Retrieved June 8, 2018, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3909725/>
- 11) Value of Clinical Laboratory Services in Health Care. (n.d.). Retrieved May 5, 2018, from <http://www.ascls.org/position-papers/177-value-of-clinical-laboratory-services/153-value-of-clinical-laboratory-services>
- 12) Ngo, A., Gandhi, P., & Miller, W. G. (2016, November 08). Frequency that Laboratory Tests Influence Medical Decisions. Retrieved May 14, 2018, from <http://jalm.aaccjnls.org/content/early/2016/11/08/jalm.2016.021634/tab-article-info>
- 13) Forsman, R. W., (1996, May 01). Why is the laboratory an afterthought for managed care organizations? Retrieved June 1, 2018, from <http://clinchem.aaccjnls.org/content/42/5/813.long>
- 14) F. (1996, May 01). Why is the laboratory an afterthought for managed care organizations? Retrieved June 1, 2018, from <http://clinchem.aaccjnls.org/content/42/5/813.long>
- 15) The '70% claim': What is the evidence base? (n.d.). Retrieved May 27, 2018, from <http://journals.sagepub.com/doi/full/10.1258/acb.2011.011177>

Appendix A: Health Fair Participant Survey

1. Would you like an email reminder for next year's ISU Health fair?

- ☐ No
☐ Yes

2. Which location did you participate in this ISU Health Fair?

- ☐ Meridian/Boise
☐ Pocatello
☐ Challis
☐ Other: _____

3. What gender do you identify with?

- ☐ Male
☐ Female
☐ Prefer not to disclose
☐ Other: _____

4. What ethnicity do you identify with?

- ☐ Caucasian/White
☐ African American /Black

☐ Native American/ American Indian
☐ Hispanic/Latino
☐ Asian/ Pacific Islander
☐ Middle Eastern
☐ Prefer not to disclose
☐ Other: _____

5. Which age bracket do you fall under?

- ☐ 0-17
☐ 18-34
☐ 35-50
☐ 50-70
☐ 70+
☐ Prefer not to disclose

6. What is your marital status?

- ☐ Single, never married
☐ Married
☐ Widowed
☐ Divorced
☐ Separated
☐ Other: _____

7. How many people live in your household, including yourself children, parents and dependents?

- ☐ 1-2
☐ 3-4
☐ 4-6
☐ 7+

8. What is your highest level of education?

- ☐ GED
- ☐ High school
- ☐ Associates degree
- ☐ Bachelor degree
- ☐ Masters degree
- ☐ Doctorate
- ☐ Post Graduate
- ☐ Prefer not to disclose
- ☐ Other:_____

9. What is your current employment status?

- ☐ Employed
- ☐ Self-employed
- ☐ Out of work/ looking for work
- ☐ A homemaker
- ☐ Student
- ☐ Military
- ☐ Retired
- ☐ Unable to work
- ☐ Other:_____

10. Are you a resident of the state of Idaho?

- ☐ No
- ☐ Yes

11. What is the total annual household income?

- ☐ \$30,000 and below
- ☐ \$31,000 - \$50,000
- ☐ \$51,000 - \$75,000
- ☐ \$76,000 - \$100,000
- ☐ \$101,000 plus
- ☐ Other:_____

12. Do you currently have health insurance?

- ☐ Yes
- ☐ No
- ☐ Unknown/ I don't know

13. Who is your health insurance provider?

- ☐ Medicare
- ☐ Medicaid
- ☐ Veteran Affairs
- ☐ United Health Care
- ☐ Pacific Source
- ☐ Blue Cross/Blue Shield
- ☐ Aetna
- ☐ Humana
- ☐ Unknown/ I don't know
- ☐ I don't have health insurance
- ☐ Other:_____

14. What is your deductible for your health insurance plan?

- ☐ \$500-\$2,000
- ☐ \$2,100-\$3,000
- ☐ \$3,100 and above
- ☐ Unknown/ I don't know
- ☐ Other:_____

15. What is your co-pay?

- ☐ \$20 and below
- ☐ \$21 -\$50
- ☐ \$51 -\$100
- ☐ \$101 +
- ☐ Unknown/ I don't know
- ☐ Other:_____

16. What general overall health condition do you feel reflects your current health status?

- ☐ Excellent
- ☐ Good
- ☐ Average
- ☐ Below average
- ☐ Poor

17. Have you participated in an ISU health fair in prior years?

- ☐ Yes
- ☐ No

18. Including today, how many times have you attended an ISU health fair?

- ☐ 1
- ☐ 2-3
- ☐ 4-6
- ☐ 7+

19. Why did you come to today's ISU health fair? Select all that apply

- ☐ Convenience
- ☐ Health concerns
- ☐ Friend recommended attending
- ☐ Doctor recommended attending
- ☐ Stay connected to ISU
- ☐ Wanted to see what the health fair has to offer
- ☐ Other: _____

20. How valuable do you feel an ISU health fair is to the community?

- ☐ Very Valuable
- ☐ Valuable
- ☐ Moderately valuable
- ☐ Of Little value
- ☐

Non-valuable

21. How did you find about today's health fair? Select all that apply

- ☐ Radio advertisement
- ☐ Flyers
- ☐ Local News
- ☐ Word of mouth
- ☐ News paper
- ☐ Social Media
- ☐ Other: _____

22. Where would you like to see MORE advertising for the ISU health fair? Select all that apply

- ☐ Flyers
- ☐ Local news
- ☐ News paper
- ☐ Social media
- ☐ Other: _____

23. Have you had your blood work done at an ISU health fair before?

- ☐ Yes
- ☐ No

24. How are you using the Laboratory results from the health fair? Select all that apply

- ☐ Taking to doctor
- ☐ Tracking chronic health issues
- ☐ Recent health concerns
- ☐ General health monitoring
- ☐ Other: _____

[illegible]

Appendix B: Health Fair Patient Order Form



Bengal Laboratory
970 South 5th Ave., Bldg. 8, Pocatello, ID 83209
Phone: 208.251.6260
Fax 208.282.4190

Walk-in Patient

The laboratory tests that you are having performed today fall under a special category as follows:

- Initial _____
1. Cash, Check, Credit card payment is required at the time of service. Insurance companies, Medicare and Medicaid will **not** accept billing for self-directed testing.
 2. Tests can be sent to a physician if requested and fax number provided. Only the patient requesting the tests will be given the test results. Tests may be mailed to the address provided.
 3. Notice of privacy practices have been disclosed to me
 4. You are responsible to consult a physician for interpretation and care if results are abnormal.
 5. You are responsible to contact a physician for further care if the test results are normal and symptoms continue. The lab staff cannot diagnose or treat patients

I consent to having these tests done. I have read the above statements and consent to have my blood drawn. I had an opportunity to ask questions if needed and understand their meaning.

Signature _____ Date _____

Name: _____ Phone # _____

Address: _____ Zip Code: _____

Date of Birth: _____ SEX: _____ PHYSICIAN: _____

All self-directed testing will have a \$10.00 venipuncture draw fee

Test Requested

Please Check all tests Desired

- ☐ **Combination: Cholesterol, CMP, CBC, and TSH**.....\$45.00
- **12-14 hours fasting required for these tests.**
 - Cholesterol (Coronary Risk Profile)..... \$15.00
 - (HDL, LDL, VLDL, Coronary Risk Interpretation)
 - (Cholesterol and Triglycerides)
 - **12-14 hours fasting required for this test**
 - Comprehensive Metabolic Panel (CMP)..... \$15.00
 - (Blood Sugar, Liver, Kidney, Muscle and Heart Function)
 - **12-14 hours fasting required for this test**
 - Complete Blood Count (CBC)..... \$5.00
 - Thyroid Stimulating Hormone (TSH).....\$15.00
- ☐ Thyroid Function Screen (Free T4).....\$15.00
- ☐ Iron.....\$10.00
- ☐ Uric Acid.....\$5.00
- ☐ A1C/Glycated Hemoglobin.....\$10.00
- ☐ Prostate Specific Antigen (PSA).....\$15.00
- ☐ Vit D 25, Hydroxy.....\$15.00
- × **Venipuncture**.....**\$10.00**

Payment Type:

Cash _____ Check # _____ Credit Card _____ Total _____

Appendix C: Survey Participant's Comments

- Challis Health Fair Comments
 - Fast, Professional, Efficient- Thank you!
- Meridian Health Fair Comments
 - Thank you for doing this.
 - Thank you for this. I would probably wait longer to get blood screening done otherwise
 - Thank you very much for providing the service
 - Would like to see it advertised in the Idaho Stateman
 - Need to have newspaper add. Need more training to be able to draw blood right-1st time. Last year and today I had to have test done 2 times before they did it right.
- Pocatello Health Fair Comments
 - Great community service!
 - Thank you!
 - Thank you so much for providing this opportunity to community.
 - Thank you!
 - Thank you! I always like to attend this event
 - I feel the health fair is very important. Great information, testing, hands on learning -education. Very good for low income, uninsured people and elderly people. Fun to speak to the vendors and gain info and free samples! Keep up the good work!
 - Great service for community

- Good Luck!
- Love to come
- Look forward to this ISU health fair, so much to offer. Please
continue.
- Don't change a thing.
- Thank you for the health fair!
- Great opportunity to get some medical help/advice. Well run
event/lots of fun
- Friendly, fun, knowledgeable MLS students
- So far so good.
- Thank you for providing lab work and health information to the
community.
- Thank you