Real Iowans Research Initiative

Iowans Speak Out on Their Health

The Rural-Urban Divide

The University of Iowa
College of Public Health

HEALTHIER WORKFORCE CENTER FOR EXCELLENCE

SPPG State Public Policy Group

DPL&A David P. Lind & Associates

ACKNOWLEDGEMENTS AND SPONSORS

Iowans Speak Out on Their Health—The Rural-Urban Divide is the second in a series of reports based on a collaborative study, the Real Iowans Research Initiative, funded through the University of Iowa Healthier Workforce Center for Excellence (HWCE) by the National Institute for Occupational Safety and Health, Centers for Disease Control. The Real Iowans Research Initiative was a joint effort of the HWCE, David P. Lind & Associates L.L.C. (DPL&A) and State Public Policy Group (SPPG).

The Healthier Workforce Center for Excellence and David P. Lind & Associates express our appreciation to the thousands of participants in the several surveys which allowed the preparation of summary statistics to assess findings and trends among employees and employers from every rural and urban county in Iowa. The 2010 *Real Iowans Health Survey* allowed us to sample health behaviors, health outcomes and utilization of health insurance and primary health care among nearly 1200 employed Iowans. DPL&A, in conjunction with Data Point Research, Inc., has conducted an annual *Iowa Employer Benefits Study*© since 1999. Annual data from the 2004-2010 surveys, from a sample of hundreds of employers each year, are summarized in the report that follows.

The HWCE and DPL&A express appreciation to Andrew Williams, and Data Point Research, Inc. for their assistance in summarizing and presenting the *Iowa Employer Benefits Study*© statistical data, and for technical review of this report. The HWCE and DPL&A express our thanks to Arlinda McKeen, President and Tom Slater, Founder and CEO of SPPG for their counsel and collaboration in the preparation and dissemination of this report.

The HWCE also expresses its thanks to Charles F. Lynch, MD, University of Iowa Professor of Epidemiology and Director of the Iowa Agricultural Health Study, Ellen Heywood and Tanner Wenzel, and to their staff for the thousands of phone calls they made to survey over 1600 Iowans. We also express our thanks to Alison Amendola, MBA, the former HWCE Coordinator and Outreach Director for her overall management of the survey. We also thank Dan McMillan and Patti O'Neill of the College of Public Health Communications and External Relations Office for their editing, design and production of this report. Finally, the HWCE thanks members of its External Advisory Committee for their peer review of the survey instrument and to Larissa Luckel, College of Public Health MHA candidate, for her care in preparation of the *Real Iowans Health Survey.*

This research and report were funded by the National Institute for Occupation Safety and Health (Grant 5U19 OH008868), and by David P. Lind & Associates, L.L.C.

James A. Merchant, MD, DrPH, Director
Kevin M. Kelly, PhD
Leon F. Burmeister, PhD
Matthew Lozier, PhD
Healthier Workforce Center for Excellence
University of Iowa College of Public Health

David P. Lind, CEBS, President
David P. Lind & Associates, L.L.C.

IOWANS SPEAK OUT ON THEIR HEALTH

EXECUTIVE SUMMARY

Iowans Speak Out on Their Health—The Rural-Urban Divide is the second report from the Real Iowans Research Initiative (RIRI), a collaboration between the University of Iowa Healthier Workforce Center for Excellence, and two Iowa employers–David P. Lind & Associates, L.L.C. and State Public Policy Group. The RIRI involved structured interviews with 20 stakeholder organizations, eight focus groups with under-represented Iowans, and the 2010 *Real Iowans Health Survey* of over 1600 Iowa registered voters. Our 2010 report *Iowans Speak Out on Their Health* provided an overview of RIRI findings and may be found on the Healthier Workforce Center for Excellence web site www.hwce.org.

Iowans Speak Out on Their Health—The Rural-Urban Divide extends analyses of the *Real Iowans Health Survey* of nearly 1200 employed rural and urban respondents. These survey findings are joined with new analyses of the 2004-2010 *Iowa Employer Benefits Study*©, representing seven statewide annual surveys of employers, from David P. Lind & Associates L.L.C.; together these surveys contain complementary information relevant to both Iowa employers and their employees. This report reviews and compares health outcomes, primary health care utilization, preventive services, insurance coverage and insurance costs among Iowans working for rural-based employers and urban-based employers. The differences are striking. We call it *The Rural-Urban Divide*.

The *Real Iowans Health Survey*

Major rural-urban findings among employed respondents in the *Real Iowans Health Survey* are summarized here; presentation of data and analyses may be found in the full report and multivariate models of these analyses may be found in Appendix A (see www.hwce.org).

- Important characteristics of rural respondents, which did not differ between rural strata, did differ from those of urban respondents. Rural respondents were more likely to be women, to be older, to have a college degree, to work in a smaller organization, to be self-employed and to be obese; but were less likely to have attended graduate school and to have a household income over $75,000 (Table 1).
- Rural employed Iowans' self-assessed general health status was poorer than that of urban employed Iowans (Table 6). However, rural-urban living status *per se* was not associated with these differences. Rather male gender, older age, a household income of less than $35,000 annually, and a higher BMI were associated with poorer general health status; while being self-employed, attending college, being a never or ex-smoker, and having an annual household income of more than $75,000 annually were associated with a better general health status (Table 3).
- Rural respondents reported better self-assessed mental health status compared to urban respondents. Two-thirds of rural Iowa employees reported there were no days in the last 30 when their mental health was not good, and over 85 percent of rural employees reported that there were no days in the last 30 when poor physical or mental health kept them from doing their usual activities. Rural employed Iowans had significantly better self-assessed mental health while accounting for other factors (Tables 7 & 8).
- Significantly more rural employees (89 percent) reported having a primary care doctor than urban employees (85 percent), and a higher proportion of rural employees had seen their doctor in the last 12 months; but these differences were associated with other factors than rural living (Figures 3 & 4).
- Rural employed Iowans had a slightly lower rate of health insurance (92 percent) than urban employed Iowans (93 percent), but this difference was associated with factors other than rural-urban living status (Figure 6).

- Nearly three-quarters of rural employees reported they paid increasing rates for health insurance. One-quarter of rural employees stated that their health insurance premiums were "increasing dramatically." Only one in seven urban employees reported the same (Table 12).
- Rural employed Iowans reported making significantly more sacrifices due to cost of health insurance (53 percent), compared to urban employees (47 percent). This difference for making sacrifices was related to household income, but was not related to rural-urban living status (Table 13).
- Rural employees making sacrifices consistently made greater accommodations than urban employees making sacrifices because of having to pay more for health insurance. Rural employees reported making greater modifications in all questions dealing with insurance plans and in reducing their utilization of medications, doctors and hospitals (Table 14).
- Prevention behaviors varied between rural and urban employees. Rural employees had higher flu vaccine rates (despite having fewer wellness programs at work,) suggesting better primary care practice, and consumed less alcohol (Figure 7, Table 16). Urban employees more often exercised five or more days each week (Table 17). These behavioral differences were associated with factors other than rural-urban living status.
- One prevention behavior, however, was significantly associated with rural living–less seat belt use, a health behavior also associated with being self-employed, male gender, never smoking and having a higher BMI (Figure 8).

Iowa Employer Benefits Study©

Since 1999 the *Iowa Employer Benefits Study*© has measured and tracked the use and costs of health insurance coverage and other employee benefits directly from Iowa employers. The results of these studies are derived from statistically valid samples of Iowa employers with 2 or more employees from all major industries. Since 2004 an average of 850 Iowa employers have participated in this study each year. This work has produced a wealth of information on key employee benefits. This section of the report reviews the health care costs to working Iowans, and projects what those expenses might be if Iowa remains on its current path. Further, this report reviews the differences in health insurance costs between Iowans working for urban-based employers compared to those working for rural organizations.

- Virtually all Iowa employers with more than 50 employees offer health insurance coverage, compared to about 60 percent of organizations with 2 to 9 employees (Table 19). There are approximately 75,000 employers with 2 to 9 employees in Iowa.
- About 90 percent of urban-based employers offer health insurance compared to three-quarters of rural employers. This gap is growing (Figure 9).
- Smaller organizations are consistently taking the brunt of health insurance rate increases. Smaller employers often see increases that are twice that of larger organizations (Table 20).
- Smaller employers appear to respond to premium increases by changing to plans with higher deductibles and co-pays (Tables 21, 22, 25 & 26).
- In 2010, the average employed Iowan paid $68 per month for single coverage and $347 for family coverage. For Iowans living in rural counties, the cost is $7 less per month for single coverage and an extra $24 per month for family coverage. Rural Iowans pay higher costs for weaker family insurance coverage (Tables 23 & 24, Figures 14 & 15).
- Iowa employers continue to shift costs to their employees through plan design changes such as higher deductibles. Employee deductibles have *doubled* since 2005. Further, rural employees have significantly higher deductibles. An Iowan working for a rural-based employer can expect an annual deductible of almost $3,300 per year for family coverage. The deductible for their urban counterpart is currently $2,255 (Tables 25 & 26, Figures 18 & 19).
- This rural-urban divide is even more striking depending on organization size. A rural worker with family coverage working for a small employer can expect a deductible of over $4,300 per year. By comparison, the deductible of their urban colleague is $2,000 less. (Figure 21)
- Another important aspect of the cost of health insurance is the maximum that an employee would pay for their health care over the course of a year, called the out-of-pocket maximum. The average out-of-pocket maximum has increased for both

single and family coverage every year since 2004. In fact, out-of-pocket maximums have increased by nearly $900 for single coverage, and nearly $2,000 for family coverage (Tables 27 & 28).

- Rural employees continue to be hard-pressed when paying out-of-pocket maximums. Rural workers with single coverage currently pay over $300 more per year compared to urban workers. The figures are more alarming for those trying to insure their families: The rural out-of-pocket maximum for family coverage was $5,950 in 2010, $1,100 higher than an urban-based family (Figures 22 & 23).
- Rural employees have consistently paid higher co-payments for medical provider visits. In every year examined (2004 to 2010), rural workers have paid higher office co-pays (Figure 26).

Looking Ahead

- **Health Insurance Premiums and Household Income.** Since 2006, health insurance premiums in Iowa increased an average of 10.4 percent annually. In 2010, the average annual family premium for a rural employee was 10 percent of their income – slightly higher than for the urban employee (8 percent). Assuming an annual growth rate of 2 percent for household income for the next 10 years and 10.4 percent for health insurance premiums, the projected premium to income ratio *would more than double* to 17 percent for the urban employee and 22 percent for the rural employee (Figure 27). Projected employer contribution for family health insurance would also *more than double* from 17 percent to 38 percent for urban employees and from 18 percent to 40 percent for rural employees (Figure 28).
- **Health Insurance Deductibles and Household Income.** Health insurance deductibles have increased dramatically from 2004 to 2010, rising by an annual average of 17 percent per year. As health insurance premiums increase, employers have continued to offset such increases by raising the deductibles paid by the employee and their dependents. If this trend continues, the annual deductible for rural-based employees would *quadruple* to a staggering 29 percent of household income in 2020. By comparison, deductibles for urban employees are projected to rise to 14 percent of income by 2020 (Figure 29).

Conclusions

From the wealth of information from these large and complementary statewide surveys, we draw three major conclusions:

1. Nearly three-quarters of rural employed Iowans report increasing rates paid for health insurance premiums, nearly 10 percent more report premiums "increasing dramatically", as compared with urban employed Iowans. As a result, rural employed Iowans more frequently adjust their health insurance coverage and health care behaviors.
2. Iowans working for rural organizations are now paying significantly more for higher-deductible, higher co-pay and higher out-of-pocket maximum health insurance coverage, when compared to Iowans working for urban organizations.
3. Since 2004, the cost of Iowa health insurance for employers has risen an average of over 10 percent annually, while the coverage has deteriorated. If Iowa continues its current trend, by 2020 projected employee and employer combined health care premiums would exceed half of household income. Another 15-30 percent of income would be consumed by higher deductibles. In both cases, rural Iowa employers and employees would pay a disproportionally higher percentage of their incomes than urban Iowans.

While the impact of the Patient Protection and Affordable Care Act remains uncertain, it is clear than unless substantial changes are soon made in the way Iowans receive health insurance and health care, their financial future is untenable—especially for small employers and those living and working in rural counties. As Iowa seeks to build new and better jobs, Iowa employers are paying over 10 percent annually in rising insurance premiums, an unsustainable burden increasingly borne by their employees and their families.

INTRODUCTION

The University of Iowa Healthier Workforce Center for Excellence is one of three national WorkLife Centers funded by the National Institute for Occupational Safety and Health of the Centers for Disease Control (www.hwce.org). The goals of this center are to: 1) implement, evaluate and compare employee health protection and health promotion programs primarily among small and midsized Iowa employers, 2) to establish an electronic learning network through education and translation research and its outreach program, and 3) to serve as an Iowa and national information, education, and policy resource on employee health programs. Through addressing these goals, the HWCE seeks to help Iowa become the healthiest state in the Union.

As the HWCE sought to develop partnerships with Iowa stakeholders, it developed a collaboration with David P. Lind & Associates, L.L.C., which has established a nationally recognized record of using evidence-based data through its annual *Iowa Employer Benefits Study*©, and State Public Policy Group which has a long association with the University of Iowa College of Public Health on public health program development, evaluation and dissemination. While DPL&A had developed robust data on health benefits, including assessment of employer wellness programs, corresponding data regarding Iowa employee views on their health status, primary health care, insurance coverage, wellness, and disease and injury prevention and employment, were not available. The need to develop a research program to seek this information from a broad cross-section of Iowa employees led to the development of a supplemental HWCE grant from NIOSH, the Real Iowans Research Initiative (RIRI). The RIRI sought to develop the necessary input to design a suitable survey instrument, to introduce the HWCE to, and seek information from, several key Iowa employers and their respective associations: labor organizations, health care associations and organizations, health care providers, health insurance companies and state government stakeholders. The RIRI also sought the views of under-represented Iowans by carrying out eight focus groups with black and Latino Iowans, those with disabilities, those with mental health concerns, the elderly and with those who are uninsured or underinsured. The findings from 20 stakeholders meeting and 8 focus groups

informed the development of the *Real Iowans Health Survey* instrument (See Appendix B). An overview of the entire RIRI project is contained in the November, 2010 report *Iowans Speak Out on Their Health* (1) (see www.hwce.org).

As was noted in *Iowans Speak Out on Their Health*, Iowa was ranked among the very best states in health system performance across all dimensions by the Commonwealth Fund in 2009—tied with Hawaii for second overall and ranked in the first quartile in Access, Prevention and Treatment, Equity and Healthy Lives (2). Similarly, Iowa has good health insurance coverage relative to 2010 national health insurance data compiled by the Kaiser Family Foundation (3). The DPL&A survey data found a higher proportion of Iowa employers offer health insurance, and both single and family overall insurance premiums were lower in Iowa than nationally. However, despite Iowa's relatively good health system performance and good employer health insurance coverage, disparities in health care are well-recognized and were noted in *Iowans Speak Out on Their Health*. Further analyses of the *Real Iowans Health Survey* and new analyses of 2004-2010 annual *Iowa Employer Benefits Study*© (4) data, present and interpret differences in rural and urban health outcomes, health behaviors, primary health care utilization and health insurance costs, coverage and trends utilizing analyses from these complementary surveys. We call this report *Iowans Speak Out on Their Health—The Rural-Urban Divide*.

Real Iowans Health Survey

SURVEY METHODS

The *Real Iowans Health Survey* used a stratified random sample of 1,602 adult Iowans. The sampling frame was a current list of registered voters in Iowa. Counties were stratified into four groups (strata) from most rural to urban based on population density, then a simple random sample of voters with listed telephone numbers was drawn within each stratum. Telephone surveys were conducted from May to August 2010. For the purposes of this report, the three most rural strata are defined as 79 "rural counties", while the most urban strata, which correspond to 20 Iowa MSA counties, are defined as "urban counties". Definitions of rural and urban counties were based on Beale Codes (Appendix A). One adult in each sampled household was randomly selected to respond to the 25 minute telephone survey, until at least 400 voters in each strata had responded to the survey. The maximum margin of error in the estimation of proportion for statewide estimates is +/- 2.5 percent. Estimates for rural counties were computed by weighting responses based on the proportion of the population aged 18-65 in each stratum. The survey's margin of error for rural counties is +/- 3.3 percent, and for urban counties it is +/- 5.7 percent. The margins of error reflect differences in sample sizes. The margin of error for analyses that involved all Iowa employees participating in this study is +/- 3.3 percent.

The *Real Iowans Health Survey* instrument was constructed from survey items publicly available and cited in several published studies. Particular attention was given to instruments that have been used in Iowa or that are considered national or internationally cited survey instruments (5-13). A complete copy of the *Real Iowans Health Survey* may be found in Appendix B (see www.hwce.org).

There are several potential sources of bias in this study. Not all Iowans are registered to vote; some did not list telephone numbers or had changed to cell phones or otherwise changed numbers since registering to vote. Response rates to telephone surveys are typically low, in this case 14.2 percent of the contacted voters agreed to participate. There was no difference in response rates between strata. Respondents were more likely than non-respondents to be older, a woman, or a registered member of Iowa's two major political parties similarly distributed between Republican and Democratic.

TABLE 1. Characteristics of Sample Interviewed

Gender	Male	Female
Rural (n=896)	35.2%	64.8%
Urban (n=299)	41.1%	58.9%
Overall (n=1,195)	38.7%	61.3%

Urban vs Rural: p <0.0001

Age	18 to 30 yrs	31 to 45 yrs	46 to 55 yrs	56 to 68 yrs
Rural (n=896)	8.9%	21.6%	37.0%	32.4%
Urban (n=299)	15.4%	27.1%	36.1%	21.4%
Overall (n=1,195)	12.7%	24.8%	36.5%	26.0%

Urban vs Rural: p <0.0001

Highest Grade of School Completed	Grade 12, GED or Less	Some College, no degree	College Degree Courses	Post Grad Degree or
Rural (n=895)	26.9%	35.1%	26.4%	11.5%
Urban (n=299)	18.7%	32.1%	31.8%	17.4%
Overall (n=1,194)	22.1%	33.4%	29.6%	14.9%

Urban vs Rural: p <0.0001

Household Income	Less than $25,000	Between $25,000 and $50,000	Between $50,001 and $75,000	Greater than $75,000
Rural (n=827)	9.9%	26.7%	28.0%	35.3%
Urban (n=291)	7.9%	23.7%	22.7%	45.7%
Overall (n=1,128)	8.7%	24.9%	24.9%	41.5%

Urban vs Rural: p <0.0001

Self-employed	Yes	No
Rural (n=896)	21.0%	79.0%
Urban (n=299)	15.0%	85.0%
Overall (n=1,195)	17.5%	82.5%

Urban vs Rural: p <0.0001

Organization Size	1 to 19	20 to 49	50 to 249	250 plus
Rural (n=876)	40.2%	12.2%	21.6%	26.2%
Urban (n=295)	28.8%	13.6%	20.7%	36.0%
Overall (n=1,171)	33.5%	13.0%	21.0%	32.5%

Urban vs Rural: p <0.0001

Smoking History	Never Smoked	Ex-smoker	Current Smoker
Rural (n=885)	61.2%	25.5%	13.3%
Urban (n=296)	61.8%	24.3%	13.8%
Overall (n=1,181)	61.6%	24.8%	13.6%

Urban vs Rural: p <0.0001

Body Mass Index	Underweight (<18.5)	Normal (18.5-24.9)	Overweight (25-29.9)	Obese (≥30)
Rural (n=876)	0.2%	29.5%	37.5%	32.8%
Urban (n=288)	0.7%	31.6%	39.3%	28.5%
Overall (n=1,165)	0.5%	30.7%	38.5%	30.3%

Urban vs Rural: p <0.0001

STATISTICAL METHODS AND RESULTS

Important differences in the composition of the rural and urban samples of employed Iowans are shown as weighted averages in Table 1. The rural respondents were more likely to be women, to be older, and to have a college degree, but less likely to have attended graduate school. Rural residents were also less likely to have a household income over $75,000 per year. Rural respondents were more likely to work in a smaller organization. The smoking histories of rural and urban respondents were quite similar. Rural respondents were more likely to be obese. There were no meaningful differences between the three rural strata respondents in regard to the characteristics summarized in Table 1.

To account for differences in population density between strata, all subsequent data shown in tables and figures are weighted to be representative of the populations within rural and urban counties. To account for the effects of factors shown in Table 1, multivariable linear regression analyses were applied to explore factors that may be associated with the health behaviors and health outcomes presented in subsequent tables and figures. The final statistical models, which include factors that are positively (risk factors) and negatively (protective factors) associated with these outcomes, are presented in Appendix A (see www.hwce.org). To assist the reader in understanding these models, the first health outcome question is provided as an example:

TABLE 2. Would you say that, in general, your health is...

	Excellent/ Very Good	Good/ Fair/ Poor
Rural	65.4%	34.6%
Urban	68.1%	31.9%
Overall	67.0%	33.0%

TABLE 3. Odd Ratios Associated with the Question: Would you say that, in general, your health is: Excellent/Very Good vs Good/Fair/Poor?

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male Gender	1.464	1.103	1.942
Age	1.028	1.015	1.042
Self-employed	0.690	0.485	0.982
Attended College	0.693	0.506	0.950
Never Smoked	0.442	0.297	0.656
Ex-smoker	0.620	0.399	0.963
Income Less than $35,000	1.559	1.066	2.282
Income more than $75,000	0.609	0.444	0.834
Body Mass Index	1.102	1.075	1.130

When the probability modeled is "no", male gender, increasing age, higher BMI and having a household income of less than $35,000 were identified as risk factors. Being self-employed, having attended college, having never smoked or being an ex-smoker, and having a household income of more than $75,000, were found to be protective factors.

TABLE 4. Percent Self-Employed by organization size

	1 to 19	20 to 49	50 to 249	250 plus
Rural	96.6%	1.0%	2.4%	0.0%
Urban	90.9%	4.6%	0.0%	4.6%
Overall	93.8%	2.8%	1.2%	2.2%

Urban vs Rural: p<0.0001

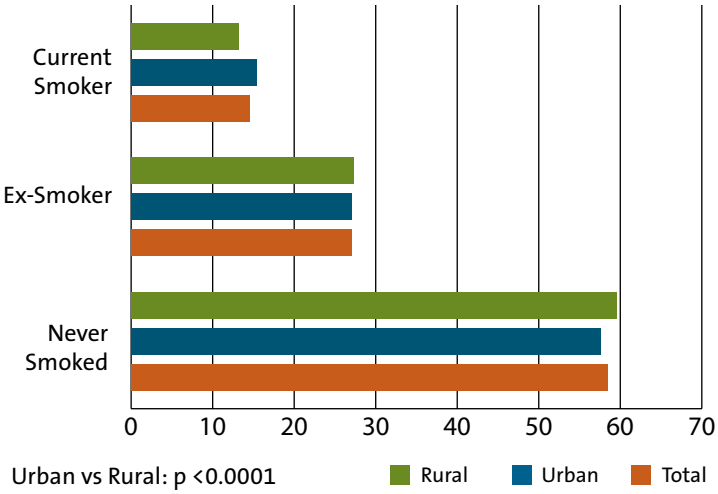
TABLE 5. Employment Status

	Self-employed	Employed by someone else	Unemployed	Homemaker	Retired	Student	Disabled	Other
Rural	15.4%	57.9%	4.4%	6.8%	10.7%	0.8%	3.8%	0.1%
Urban	11.3%	63.7%	6.5%	5.0%	6.3%	3.5%	3.5%	0.2%
Overall	13.0%	61.2%	5.6%	5.8%	8.2%	2.4%	3.6%	0.2%

Urban vs Rural: p<0.0001

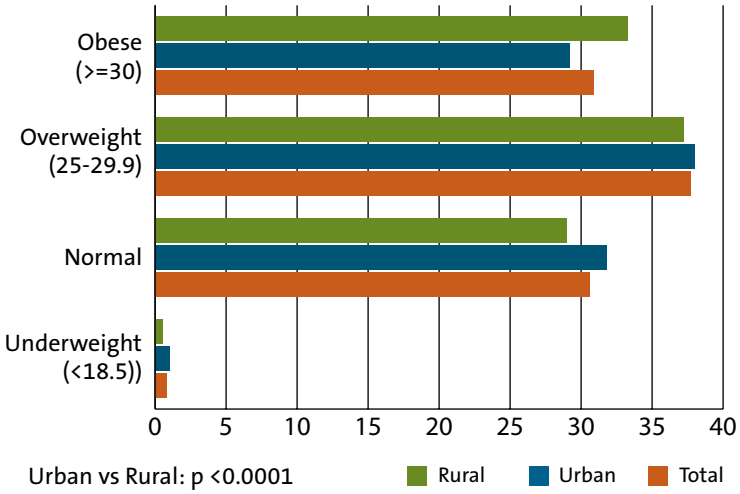
A higher proportion of rural respondents were self-employed. Our first *Iowans Speak Out on Their Health* report found that those identifying themselves as self-employed were healthier by several quality of life measures, including general health, physical health, mental health, sleep, smoking and obesity. We further assessed the distribution of these employed respondents by organization size, and found nearly 97 percent to be in organizations with 1-19 employees, while more of the urban self-employed worked for larger organizations (Table 4). This report focuses on employed Iowans which constituted nearly three-quarters of the sample of respondents (Table 5).

FIGURE 1. Smoking History



Smoking rates vary slightly, but significantly, by rural-urban status (Figure 1). Both rural (13.3 percent) and urban (13.8 percent) employed respondents smoked less than the 2009 statewide estimate (17.2 percent) for current smokers (14). Many epidemiological studies show that those with farming backgrounds smoke less often, which may contribute to the lower smoking rates among rural employees (15).

FIGURE 2. BMI category



Weighted BMI rates, as displayed in Figure 2, show higher rates of obesity among rural respondents, and an overall prevalence of obesity similar to that from the 2009 statewide BRFFS survey (29.7 percent), which placed Iowa among 12 states with the highest (>40 percent) proportion of adults with obesity associated arthritis (16,17). The most recent CDC urban-rural regional data observed that Midwestern men living in the most rural counties were more often obese (18). Modeling of these survey data found in addition to rural living, male gender, increasing age and having a household income between $35,000-50,000, were also risk factors independently associated with being overweight or obese, whereas having attended college was associated with a lower probability of being overweight/obese.

TABLE 6. Would you say that, in general, your health is . . .

	Excellent	Very good	Good	Fair	Poor
Rural	20.2%	45.3%	28.1%	5.8%	0.6%
Urban	23.2%	45.0%	25.8%	5.0%	1.0%
Overall	21.9%	45.1%	26.8%	5.4%	0.8%

Urban vs Rural: p<0.0001

While self-assessed excellent general health status among rural living respondents was lower than that of urban dwelling respondents, rural living *per se* was not a significant risk factor. Rather, as previously summarized, male gender, aging, being overweight or obese, and those with household incomes of less than $35,000 were associated with lower general health status. Those who were self-employed, had at least a college degree, had never smoked or were ex-smokers, and had household incomes of more than $75,000 were associated with higher rates of excellent or very good general health. Both rural and urban employed respondents reported much lower rates of fair/poor general health status compared to the 2009 Iowa BRFSS survey (11.4 percent) (14). This reflects the healthy worker effect typically seen in employed populations (19).

TABLE 7. How many days during the past 30 days was your mental health not good?

	None	1 to 5 days	6 to 10 days	11 or more days
Rural	66.9%	21.3%	4.5%	7.3%
Urban	61.9%	27.1%	4.0%	7.0%
Overall	63.9%	24.7%	4.2%	7.1%

Urban vs Rural: p<0.0001

Nearly two-thirds of those living in rural counties reported no days in the last month in which their mental health was not good, indicating better overall mental health among rural dwellers. Multivariate modeling confirmed that rural living, male gender, and having an income of greater than $75,000 were all factors associated with better mental health status; while having at least a college degree, being a current smoker, having a household income of less than $35,000 and having a higher BMI, were all factors associated with poorer self-assessed mental health status.

TABLE 8. During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

	None	1 to 5 days	6 to 10 days	11 or more days
Rural	85.1%	10.1%	2.1%	2.7%
Urban	79.9%	14.4%	2.3%	3.3%
Overall	82.1%	12.6%	2.2%	3.1%

Urban vs Rural: p<0.0001

More than 85 percent of those living in rural counties reported no health-related limitation in their usual activities, significantly more than those living in urban counties. Modeling again confirmed that rural living

was a protective factor, as were male gender, never smoking and having a household income of more than $75,000. BMI was the only negatively associated physical or mental health-related risk factor.

TABLE 9. During the past 30 days, for about how many days have you felt sad, blue, or depressed?

	None	1 to 5 days	6 to 10 days	11 or more days
Rural	66.5%	25.0%	2.9%	5.6%
Urban	63.8%	25.8%	6.0%	4.4%
Overall	64.9%	25.5%	4.7%	4.9%

Urban vs Rural: p<0.0001

Two-thirds of those living in rural counties reported no days in the last month in which they felt sad, blue, or depressed, but responses to this item varied between rural and urban for other responses. Multivariate modeling found that rural living status *per se* was not associated with this quality of life indicator–rather BMI was a risk factor for being sad, blue or depressed, while having an income of $50,000-$75,000, and greater than $75,000 (independently) were protective of feeling sad, blue or depressed.

TABLE 10. During the past 30 days, for about how many days have you felt worried, tense, or anxious?

	None	1 to 5 days	6 to 10 days	11 or more days
Rural	40.3%	38.2%	8.4%	13.0%
Urban	40.5%	38.5%	9.8%	11.4%
Overall	40.4%	38.4%	9.2%	12.0%

Urban vs Rural: p<0.0001

Similar percentages of rural and urban participants reported not feeling worried, tense or anxious in the last 30 days. Modeling found male gender and having an income of greater than $75,000 were protective of feeling worried, tense or anxious.

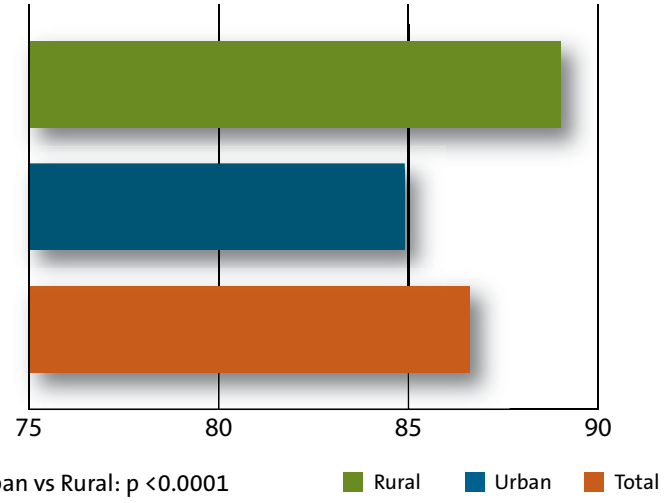
TABLE 11. During the past 30 days, for about how many days have you felt you did not get enough rest or sleep?

	None	1 to 5 days	6 to 10 days	11 or more days
Rural	22.1%	37.1%	14.5%	26.3%
Urban	16.0%	37.1%	18.1%	28.8%
Overall	18.6%	37.1%	16.6%	27.8%

Urban vs Rural: p<0.0001

No sleep loss days was more often found among those living in rural counties, but modeling did not find rural living *per se* to be a significant factor in getting enough sleep. Rather, BMI and currently smoking were found to be risk factors, while increasing age was negatively associated (protective) with no sleep loss days. As reported previously in *Iowans Speak Out on Their Health,* 37.8 percent of all respondents reported getting less than 7 hours of sleep in a typical workday night, a slightly higher figure than the 35.3 percent of adult respondents (all ages) to a 12 state survey asking about average sleep duration in 24 hour period (20). The National Sleep Foundation suggests that healthy adults need 7-9 hours of sleep per day (21).

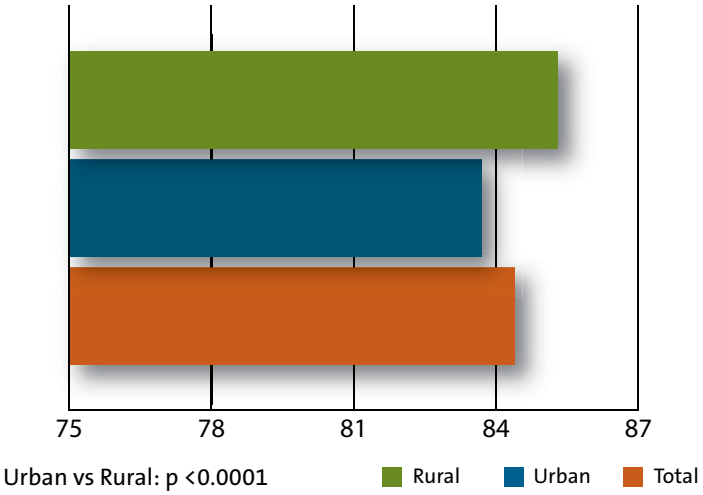
FIGURE 3. Percentage of Respondents who have a primary care doctor



Significantly more rural employees (89 percent) reported having a primary care doctor than urban employees (85 percent), both exceeding the most recent statewide estimate of 79.9 percent for adults having a primary source of primary care (14). However, modeling did not confirm rural living *per se* to be a factor explaining this difference. Rather,

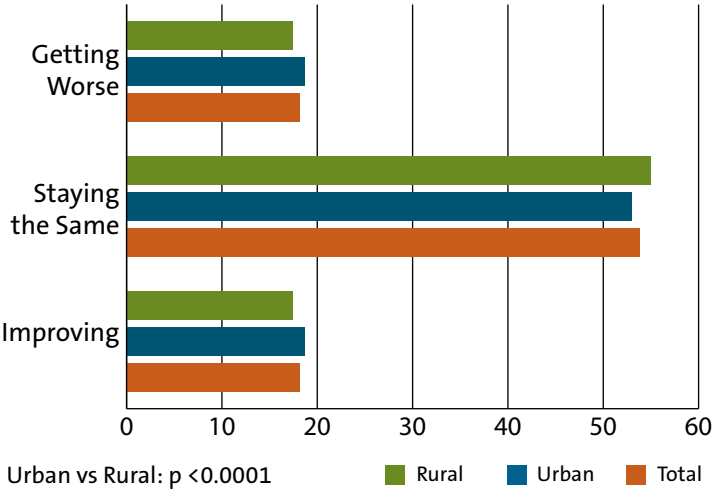
male gender, being self-employed, being a current smoker and having a household income of less than $35,000 were associated with not having a primary care doctor, while increasing age and working in an organization of less than 20 employees was associated with more often seeing a primary care doctor for medical help.

FIGURE 4. Visited your primary care doctor in the past 12 months



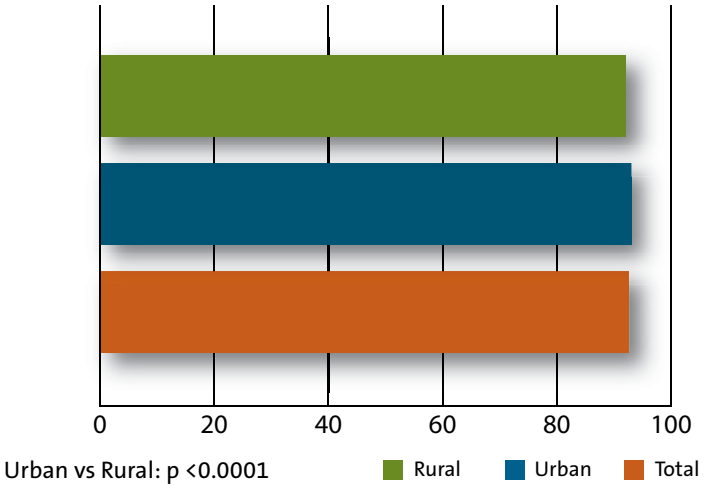
There was little difference between urban and rural living respondents in regard to the proportions who reported seeing their primary care doctor in the last 12 months. Modeling found that male gender was associated with seeing their doctor less often, while increasing age and being employed by an organization of at least 250 employees were factors associated with more often visiting their doctor.

FIGURE 5. Compared to last year, would you say your personal financial situation is . . .



Nearly equal proportions of employed respondents reported that their financial situation was getting worse and getting better, with no clear differences between rural and urban living status. Modeling of this item found increasing age and current smoking were positively associated (risk factors) with this item, while household incomes of $50,000-$75,000 and $75,000 and above were independently and negatively associated (protective).

FIGURE 6. Currently have health insurance coverage



Rural employed Iowans were found to have a somewhat lower rate of health insurance coverage (92.1 percent) than urban employed Iowans (93 percent). However, living in a rural county was not a significant factor in multivariate modeling of this question. Items significantly associated with not having health insurance coverage were: having a household income of less than $35,000, having an income between $35,000-$75,000, working for an organization of less than 20 employees, working for an organization employing between 20-49 employees and currently smoking.

Respondents were more likely to have health insurance as age increased. This sample of employed Iowans was somewhat better insured (92.6 percent) than a statewide sample of all adult Iowans in 2009 (90.1 percent). (14)

TABLE 12. Is the cost you or your spouse pay personally for your health insurance premium...

	Increasing	Increasing dramatically	Decreasing	Decreasing dramatically	Staying the same?
Rural	49.9%	23.2%	1.2%	0.4%	25.4%
Urban	55.3%	13.9%	2.6%	0.8%	27.4%
Overall	53.0%	17.8%	2.0%	0.6%	26.6%

Urban vs Rural: p<0.0001

Rural employees reported significantly greater increased rates paid for health insurance, nearly 10 percent greater among rural respondents for premiums 'increasing dramatically". Multivariate modeling for this response confirmed that living in a rural county was a significant factor for increasing premiums, as was current smoking, having an income between $35,000-$50,000, working for an organization employing less than 20, or for an organization employing 20-49 workers (both contribute to the model). Being self-employed was associated (protective) with premiums decreasing or staying the same.

TABLE 13. How much effect does this increasing cost have on your household budget? As a result of having to pay more for health insurance, are you...

	Making major sacrifices	Making minor sacrifices	Not really sacrificing
Rural	10.2%	42.9%	46.8%
Urban	10.3%	36.4%	53.3%
Overall	10.3%	39.2%	50.5%

Urban vs Rural: p<0.0001

Similarly, rural employees reported making significantly greater sacrifices because of having to pay more for health insurance (53 percent) compared to urban employees (47 percent). Modeling of this item for making sacrifices vs not really sacrificing did not find that rural living *per se* was associated with these differences. Rather, income less than $35,000 and income between $35,000-50,000 (independently) were associated with making sacrifices, while working for an organization of 250 or more employees or having never smoked were negatively (protective) of making any sacrifices.

TABLE 14. Different people do different things to cut back on health care expenses. Please tell me if you have done any of the following: (among those making any sacrifices, n=348-389)

	Rural	Urban	Overall
Decided not to go to the doctor when you felt you needed to because of cost*	45.4%	35.1%	39.9%
Stopped taking medication to avoid the cost of prescription drugs*	22.9%	16.3%	19.3%
Cut back the dose of prescription drugs to help make the drugs last longer*	20.8%	16.3%	18.4%
Decided not to fill prescriptions given to you by your doctor because of cost*	23.4%	18.5%	20.7%
Not scheduled tests your doctor has suggested in order to save on cost	27.8%	28.7%	28.3%
Waited longer to see a doctor when you are sick with hopes you will get better on your own*	70.5%	66.3%	68.3%
Switched doctors or hospitals in order to save money*	8.3%	6.4%	7.2%
Minimized how often you use your health insurance in order to keep the overall cost of premiums for everyone in your group from rising*	37.7%	29.8%	33.4%
Switched health insurance to a plan with higher deductibles and co-payments in order to save money*	44.4%	31.8%	37.5%
Switched health insurance to a plan with fewer participating doctors and hospitals to save money*	13.2%	3.7%	8.1%
Switched health insurance to a plan with fewer benefits to save money*	24.9%	18.5%	21.5%

* Urban vs Rural: p<0.0001

Table 14 presents a clear pattern of increased accommodations rural employed Iowans were making to deal with rising health care expenses. All but one question in Table 14 were found to be significantly greater among the rural employed than among the urban employed, the exception being "not scheduled tests your doctor has suggested in order to save on cost". All four items dealing with modification of health insurance plans found that rural employees significantly more often made changes to cut back on health care expenses. Multivariate modeling revealed varying factors associated with household changes to cope with rising health care expenses. In addition to rural living being associated with "decided not to go to the doctor", "switched health insurance to a plan with higher deductibles/co-payments" and "plans with fewer participating doctors/hospitals", current smoking and increased BMI were factors identified for those who "stopped taking medication to avoid the cost", "cut back the dose of prescription drugs" (BMI), and "decided not to fill prescriptions" (current smoking). These accommodations suggest these two important behavioral risk factors were leading to other unhealthy choices. Other risk factors included age and household income less than $35,000 ("not scheduled tests doctor suggested"), and working for organizations employing less than 20 ("switched insurance plan with higher deductibles/co-payments"). These survey findings are consistent with those of Selzer and colleagues from their 2005 survey of Iowa consumers for the Iowa Department of Public Health (7). See Appendix A for full models for items summarized in Table 14 (www.hwce.org).

TABLE 15. Which of the following would you be willing to do to help keep down the cost that you or your spouse would pay for health insurance? Would you... (among those making any sacrifices, n=396-417)

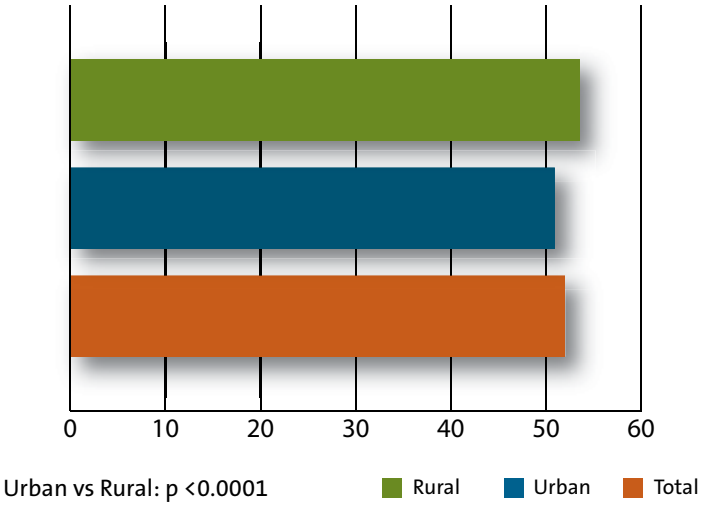
	Rural	Urban	Overall
Choose a policy with a higher deductible	66.8%	69.6%	68.3%
Choose a policy with higher co-pays for doctor visits and prescription drugs	64.6%	62.5%	63.5%
Reduce the number of doctor's visits made by members of your household	49.9%	41.8%	45.6%
Make more use of clinics staffed by nurses and physician's assistants rather than doctors	71.1%	78.2%	75.0%
Choose a policy with fewer participating doctors and hospitals	34.3%	42.9%	38.8%

Each item, Urban vs Rural: $p<0.0001$

Different households vary in regard to behaviors they adopt to keep down the cost they would pay for health insurance (See Table 15). Differences are observed between rural employed Iowans and urban employed Iowans, but not consistently. Rural-urban living status was not significantly associated with any of the responses to these items. Fewer rural employees would be willing to "choose a policy with a higher deductible" which, in multivariate modeling, was only positively associated with being self-employed. Rural employees were more often willing to pay "higher co-pays for doctor visits and prescription drugs", but modeling found only being self-employed was positively associated, while having a household income of less than $35,000 was negatively associated with this item. Significantly more rural employees were willing to "reduce the number of visits to the doctor", which was positively associated with employment in an organization of 50-249 in size, and negatively associated with being a male and having an income of more than $75,000. Urban employed Iowans were significantly more often willing to "make use of clinics staffed by nurses and physician assistants", which may reflect availability of these mid level health care providers in urban counties, but was only found to be positively associated with increasing BMI and negatively associated with working for an organization employing

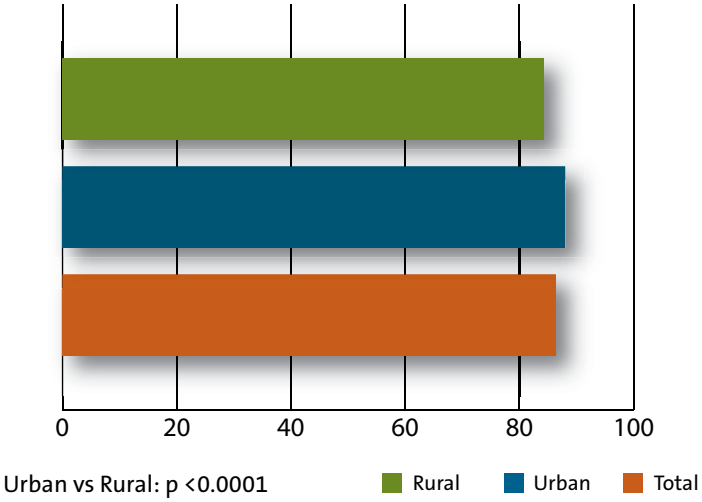
250 or more. Urban employees were much more likely to "choose a policy with fewer participating doctors and hospitals", which again may reflect more options available to urban Iowa employees, but none of the several factors considered in our modeling were associated with this item.

FIGURE 7. In the past 12 months, have you had either the flu shot injection or the nasal mist?



An unexpected finding was that rural employed Iowans more often received a flu vaccine in the last 12 months than did urban employed Iowans, who more often work for larger organizations which more often have company wellness programs (*Iowans Speak Out on Their Health, 2010 Iowa Employer Benefits Study©)*. This is consistent with rural Iowa employee respondents reporting having greater access and utilization of primary care providers, but also suggests that rural primary care providers are actively incorporating prevention into their primary care. Modeling found that increasing age and BMI were both associated with higher flu vaccine rates, while male gender, being self-employed, working for an employer with fewer than 20 employees and having an income of less than $35,000, were all factors associated with lower vaccination rates.

FIGURE 8. Do you always wear seatbelts when you ride in a car?



It is well recognized from epidemiological studies of farmers, and others living in more remote rural areas, that rural seat belt use is less common than seat belt use in urban communities (22). Figure 8 shows this is also the case among rural employed Iowans participating in this survey. This finding is confirmed by modeling, which found that for those living in rural counties, being self-employed, male gender, never smoking, and BMI were also factors associated with lower seat belt use.

TABLE 16. During the past 30 days, how many days did you have at least one drink of any alcoholic beverage?

	None	1 to 9	10 to 20	21 or more
Rural	32.6%	52.4%	10.4%	4.6%
Urban	27.5%	51.3%	15.4%	5.7%
Overall	29.6%	51.8%	13.3%	5.3%

Urban vs Rural: p<0.0001

Rural employed Iowans more often abstain from drinking alcohol, and if they drank, consumed fewer drinks per month. However, modeling found that rural living *per se* was not a factor associated with alcohol consumption, whereas having an income of $75,000 or more and male gender were associated with greater alcohol consumption. Having an income of less than $35,000, never smoking, increasing age and BMI were all associated with less alcohol consumption.

TABLE 17. In a typical week, how often do you exercise continuously for at least 20 minutes at a level where your heart rate and breathing rate noticeably increases? Would you say...

	Less than once a week	1-2 days a week	3-4 days a week	5 or more days a week
Rural	23.7%	25.8%	28.5%	22.0%
Urban	17.9%	29.0%	24.1%	29.0%
Overall	20.4%	27.6%	26.0%	26.1%

Urban vs Rural: p<0.0001

Continuous exercise for at least 20 minutes at least 3 days a week varies between rural and urban employed Iowans, but was somewhat higher than that of the 2009 BRFSS statewide estimates (49.7 percent) (14). Rural-urban living status was not a significant factor associated with exercise behavior, whereas having at least a college degree was positively associated with greater exercise. BMI was the only factor significantly associated with less weekly exercise.

The Iowa Employer Benefits Studies©

SURVEY METHODS

Since 1999, David P. Lind and Associates, L.L.C. and Data Point Research, Inc. have conducted the annual *Iowa Employer Benefits Study*©. The results of these studies are derived from statistically valid yearly samples of Iowa employers with 2 or more employees from all major industries. The results are stratified to allow comparisons between different sizes of organizations, as well as between urban and rural employers.

The results presented in this report include an investigation of trend data collected by the *Iowa Employer Benefits Study*© since 2004. Table 18 shows the number of Iowa organizations who took part in each annual study since 2004. Note: Dollar figures shown in this report are not adjusted for inflation, they are the dollars reported for each year of the study. All differences shown between rural and urban employees are valid for the year collected.

Iowa has a large number of small- and medium-sized employers and relatively few large employers. If the results in this study were simply reported by averaging across all organizations, the responses from the larger employers would count much less than the responses of the smaller employers. Thus, the actual number of employees for each employer is used to weight the results for that employer. This means that one larger organization with 500 employees influences the results of the study the same amount as five smaller organizations with 100 employees. Therefore, the averages can be interpreted as reflecting the true results for all employees of Iowa regardless of the size of the organization for which they are employed.

TABLE 18. Number of Participating Organizations

Study Year	ParticipatingOrganizations
2004	619
2005*	744
2006	945
2007	822
2008	973
2009**	891
2010	985

* Beginning in 2005 the study was expanded to include employers with 10 or more employees.
** Beginning in 2009 the study was expanded to include employers with 2 or more employees.

In addition to the employee-size adjustment, the final sampling weights used in calculating the tables and figures in these studies also take into account the varying sampling rate and non-response level for each size category. This stratified weighting approach is the accepted method for statistically analyzing this type of survey data.

The results reported in these surveys provide estimates of all Iowa employers. The confidence level varies with the number of organizations which take part. For 2010, the employee-size weighted percentages are all accurate to within plus or minus 3.1 percent, at the 95 percent confidence level. That is, the reader can be 95 percent certain that the 2010 percentages presented are equal to those of all Iowa employers plus or minus 3.1 percent.

IOWA EMPLOYERS OFFERING HEALTH INSURANCE

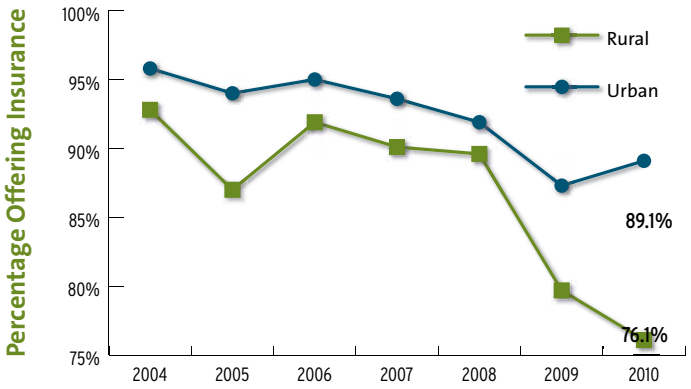
For the past seven years the percentage of employers offering health insurance has remained relatively stable among Iowa's larger employers. However, more smaller organizations (those with less than 20 employees) are now offering health insurance to their employees (Table 19). Note that the drop seen in the overall percentage for the last two years is due to the inclusion of smaller organizations, which are less likely to offer health insurance benefits.

In 2010, on average, 83 percent of Iowa organizations offered health insurance. However, every larger employer surveyed in 2010 offered insurance, whereas only 59 percent of employers with fewer than 10 employees did so. This differential has a greatly amplified effect in Iowa given the very large number of small organizations in the state (see section on Methods).

Figure 9 below shows the percent of Iowa employers who offer health insurance split between rural and urban-based organizations. Notice that urban employers historically are more likely to offer health insurance. The difference between urban and rural employers was small until 2009, when it more than doubled to 7.6 percent, and then nearly doubled again in 2010 to a 13 percent difference in employers offering insurance.

Looking specifically at 2010, almost nine in ten urban organizations offer health insurance compared to three-quarters of rural employers.

FIGURE 9. Percentage of Iowa Employers Offering Health Insurance, Urban versus Rural



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

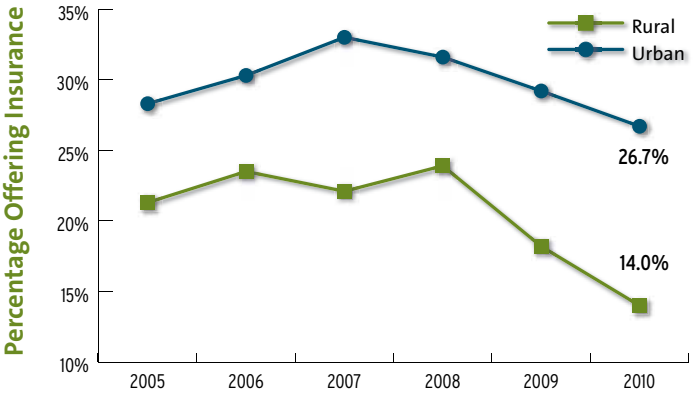
TABLE 19. Percentage of Iowa Employers Offering Health Insurance

Number of Employees	2004	2005	2006	2007	2008	2009	2010
2 to 9	N/A%	N/A%	N/A%	N/A%	N/A%	54%	59%
10 to 19	N/A	67	77	74	72	82	85
20 to 49	91	84	90	87	84	90	95
50 to 249	95	95	96	95	95	98	98
250 to 999	95	97	96	96	97	99	100
1,000+	100	100	100	100	96	100	100
Overall	94%	91%	94%	92%	91%	84%	83%

Source: Iowa Employer Benefits Study© David P. Lind & Associates. Organizations with 10 to 19 employees were added to the study in 2004. Those with 2 to 9 employees were added in 2009.

With respect to part-time employees, Figure 10 shows a significantly smaller percentage of rural employers provide this benefit than do urban employers. In 2010, more than 25 percent of urban employers offered health insurance for part-time employees, whereas fewer than 15 percent of rural employers did so.

FIGURE 10. Percentage of Iowa Employers Offering Health Insurance for Part-Time Employees, Urban versus Rural



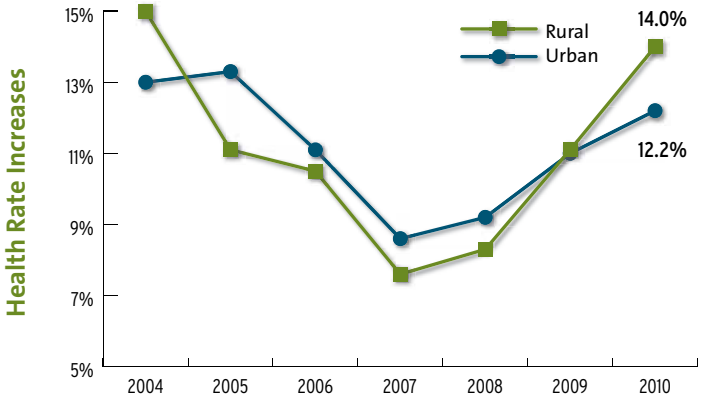
Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

HEALTH INSURANCE RATE INCREASES

As seen nationally, health insurance rates have typically increased over time, and these increases differ depending on organization size (Table 20). For example, organizations with fewer than 250 employees had, on average, a 15 percent increase in rates in 2010, with larger organizations only having an increase of about half that amount. These data show that smaller organizations have now been taking the brunt of health insurance increases for many years.

Insurance rate increases have also fluctuated considerably over time (Figure 11). Although percentage increases fell from 2004 through 2007, they have since increased nearly two-fold. Interestingly, rural and urban employers have had nearly identical increases in rates. However, one indication of a potential shift in this pattern is present in the results from 2010, as this was the first time rate increases for rural employers surpassed those for urban employers in the last five years. In 2010 the average health insurance increase for rural organizations was 14 percent compared to 12 percent for urban employers.

FIGURE 11. Health Insurance Rate Increases (Percentage Increase), Urban versus Rural



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

TABLE 20. Health Insurance Rate Increases (Percentage Increase)

Number of Employees	2004	2005	2006	2007	2008	2009	2010
2 to 9	N/A%	N/A%	N/A%	N/A%	N/A%	13%	14%
10 to 19	N/A	15	15	12	13	16	17
20 to 49	18	14	12	10	11	14	17
50 to 249	13	12	11	6	8	10	13
250 to 999	13	11	8	9	7	8	9
1,000+	13	12	11	10	8	8	8
Overall	14%	12%	11%	8%	9%	11%	13%

Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

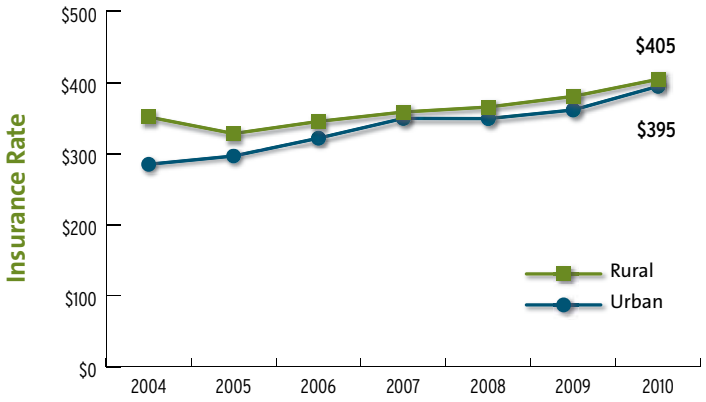
HEALTH INSURANCE RATES

Tables 21 and 22 show the overall health insurance premiums for single and family health insurance coverage. The tables also show that health insurance rates have increased by approximately 30 percent over the last six years.

In 2010 Iowa's largest organizations paid about 10 percent more for both single and family coverage premiums compared to smaller organizations. Comparing these data with those from Table 20 above, smaller employers with lower overall insurance premiums are showing faster increases in insurance rates compared to larger organizations with higher premiums. This pattern suggests that smaller employers may be trying to save costs by purchasing lower cost health insurance products, only to then be forced to accept steep premium increases once enrolled.

Figure 12 illustrates the costs of single coverage to rural and urban organizations since 2004. A clear increase in rates for both rural and urban employees is seen. However, the larger differences paid by rural and urban organizations in 2004 are now muted. In 2010 rural employers and employees with single coverage paid only $10 more per month.

FIGURE 12. Health Insurance Rates – Single Coverage, Urban versus Rural



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

TABLE 21. Health Insurance Rates – Single Coverage

Number of Employees	2004	2005	2006	2007	2008	2009	2010
2 to 9	N/A	N/A	N/A	N/A	N/A	$413	$401
10 to 19	N/A	$255	$287	$289	$299	$363	$392
20 to 49	$353	$274	$302	$320	$324	$334	$348
50 to 249	$298	$318	$334	$352	$345	$353	$395
250 to 999	$327	$339	$352	$387	$396	$386	$420
1,000+	$266	$313	$343	$368	$390	$383	$449
Overall	$314	$309	$331	$353	$356	$370	$399

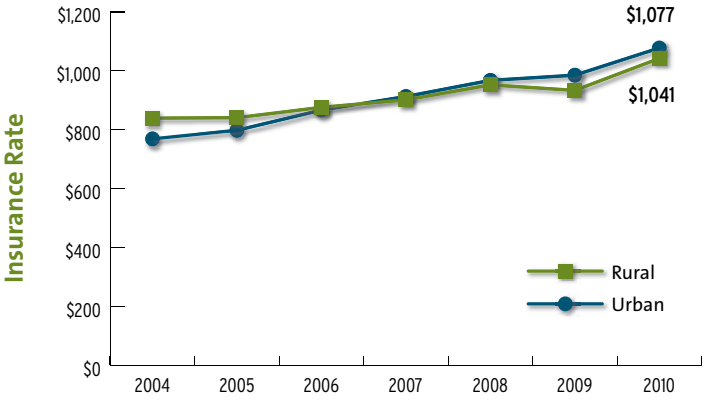
Table 22. Health Insurance Rates – Family Coverage

Number of Employees	2004	2005	2006	2007	2008	2009	2010
2 to 9	N/A	N/A	N/A	N/A	N/A	$1,024	$1,062
10 to 19	N/A	$645	$735	$753	$793	$884	$990
20 to 49	$836	$763	$802	$871	$890	$900	$968
50 to 249	$775	$819	$849	$876	$925	$923	$1,055
250 to 999	$825	$861	$932	$986	$1,030	$1,015	$1,116
1,000+	$750	$863	$936	$950	$1,082	$1,059	$1,188
Overall	$799	$814	$870	$907	$960	$963	$1,064

Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

Figure 13 shows a distinct shift from rural employers paying higher rates for family coverage in the early 2000s to their urban counterparts paying more for family coverage as we approach 2010. In 2010 urban-based employers and their employees paid an average of $36 more each month for family coverage.

FIGURE 13. Health Insurance Rates – Family Coverage, Urban versus Rural



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

EMPLOYEE CONTRIBUTIONS TO HEALTH INSURANCE

Because the financial burden of health insurance is shared by the employer and the employee, it is important to consider the actual cost of insurance to the employee separately. Tables 23 and 24 show the average cost to Iowa employees for both single coverage and family coverage across organizational size. In 2010, the average Iowan paid $68 per month for single coverage and $347 per month for family.

These tables also show how employee contributions to health insurance have increased over the last seven years. In the past decade employees of the largest and smallest organizations have contributed the least to their insurance, while employees of medium-sized organizations with 20 to 49 employees paid nearly 30 percent more towards their coverage. These same medium-sized organizations have some of the lowest insurance rates overall, but also some of the fastest increases in rates over time. This pattern suggests that medium-sized employers in Iowa may be struggling to find the right balance between affordable products, cost to employees, and increasing rates.

TABLE 23. Employee Contribution – Single Coverage

Number of Employees	2004	2005	2006	2007	2008	2009	2010
2 to 9	N/A	N/A	N/A	N/A	N/A	$54	$62
10 to 19	N/A	$58	$65	$47	$51	$59	$69
20 to 49	$52	$65	$69	$66	$59	$71	$81
50 to 249	$51	$59	$72	$58	$65	$66	$74
250 to 999	$52	$57	$47	$47	$59	$70	$61
1,000+	$48	$52	$45	$50	$69	$59	$57
Overall	$51	$59	$60	$54	$62	$65	$68

Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

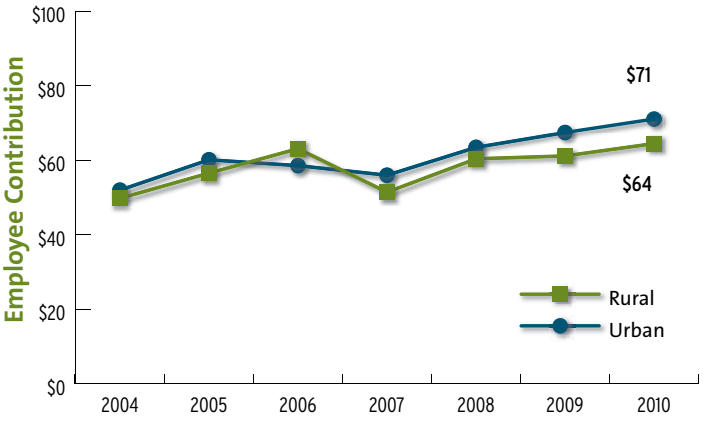
TABLE 24. Employee Contribution – Family Coverage

Number of Employees	2004	2005	2006	2007	2008	2009	2010
2 to 9	N/A	N/A	N/A	N/A	N/A	$271	$298
10 to 19	N/A	$317	$284	$306	$301	$346	$364
20 to 49	$299	$299	$305	$300	$311	$414	$433
50 to 249	$281	$307	$311	$350	$333	$302	$375
250 to 999	$247	$253	$283	$232	$283	$343	$326
1,000+	$191	$192	$166	$224	$274	$229	$215
Overall	$267	$281	$277	$289	$306	$319	$347

Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

Figure 14 illustrates the differences in employee contributions for health insurance. Historically there has been little difference in the employee contributions between rural and urban employers for single coverage. In 2010, urban-based employees paid an average of $7 more per month for single coverage

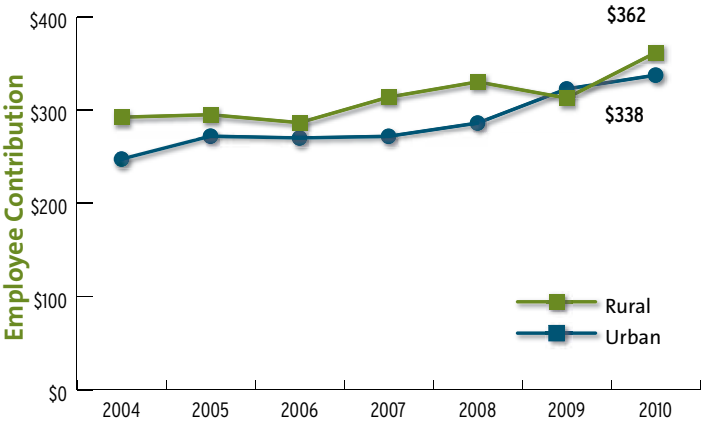
FIGURE 14. Employee Contribution – Single Coverage, Urban versus Rural



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

Figure 15 shows the same as Figure 14, but for family coverage. Here it can be seen that employees working in rural-based organizations have consistently paid more for their family coverage. The gap, which closed in 2009 has re-opened to a difference of $24 per month in 2010.

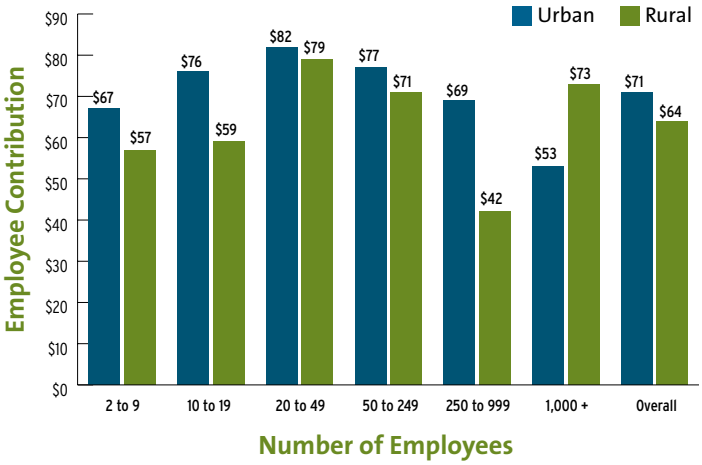
FIGURE 15. Employee Contribution – Family Coverage, Urban versus Rural



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

Figure 16 examines employee contributions to single coverage health insurance by employer size and metro status. This graphic shows that rural employees consistently contribute slightly less than their urban counterparts when working for organizations of any size, *except* those working for the largest employers.

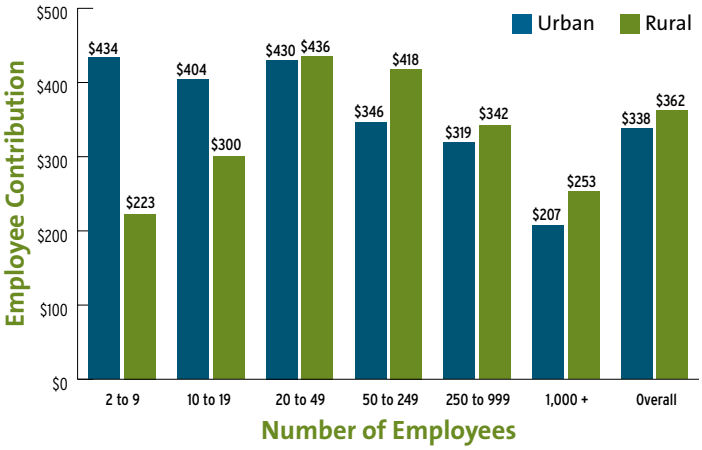
FIGURE 16. Employee Contribution 2010 – Single Coverage



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

Figure 17 is similar to Figure 16 above, but this graphic focuses on employee contributions to *family* coverage. This figure shows an interesting interaction. The overall bar indicates that rural employees contributed, on average, $24 more per month for family coverage compared to their urban peers, yet this entire difference is made up by those working in organizations with more than 20 employees. In those organizations with less than 20 employees, urban workers contributed far more for their family coverage than their rural counterparts.

FIGURE 17. Employee Contribution 2010 – Family Coverage



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

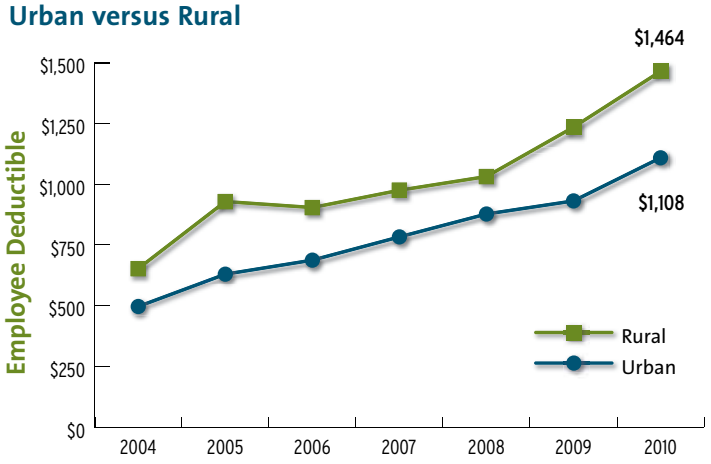
TABLE 25. Employee Deductible – Single Coverage

Number of Employees	2004	2005	2006	2007	2008	2009	2010
2 to 9	N/A	N/A	N/A	N/A	N/A	$1,233	$1,634
10 to 19	N/A	$1,270	$1,291	$1,315	$1,289	$1,315	$1,499
20 to 49	$734	$1,069	$1,140	$1,194	$1,171	$1,604	$1,679
50 to 249	$549	$733	$801	$910	$1,076	$1,029	$1,236
250 to 999	$515	$547	$592	$678	$713	$911	$867
1,000+	$442	$435	$390	$499	$584	$529	$531
Overall	$656	$750	$776	$862	$946	$1,061	$1,247

EMPLOYEE DEDUCTIBLE

As employers try to reduce health insurance costs, deductibles for both single and family coverage have steadily risen over the past six years, doubling since 2004 (Tables 25 & 26). When comparing different sizes of organizations in 2010, deductibles for the smallest employers are found to be three times as high as for the largest employers. Small and medium-sized employers offer the lowest premiums, but then include higher deductibles, likely to offset costs. Consumer-Driven Health Plans (CDHP) permit employers to allocate a sum of money annually to offset employees' portions of a high-deductible plan. According to the *Iowa Employer Benefits Study*©, in 2005 one in twenty Iowa employers offered a CDHP. In 2010, one in four Iowa employers offer a CDHP (4).

FIGURE 18. Employee Deductible – Single Coverage, Urban versus Rural



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

Figure 18 illustrates the climb in employee deductibles for single coverage for those working for rural versus urban-based employers. Clearly, employees working in rural areas have consistently paid higher deductibles for their single coverage for the past seven years. This gap is not closing. On the contrary, it has continued to increase over the past few years to a point where in 2010 rural-based employees were paying over $350 more per year in single coverage deductibles.

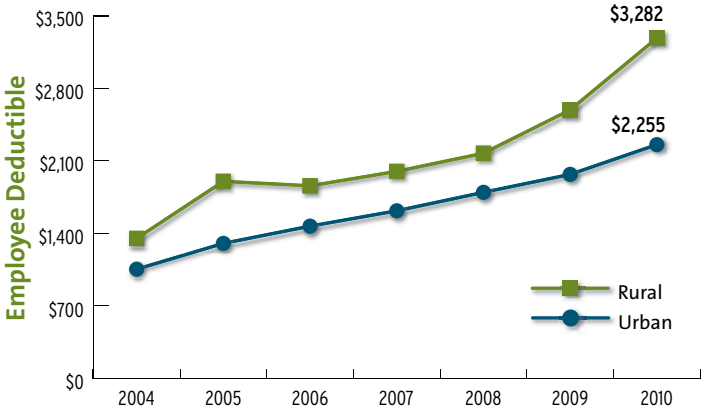
TABLE 26. Employee Deductible – Family Coverage

Number of Employees	2004	2005	2006	2007	2008	2009	2010
2 to 9	N/A	N/A	N/A	N/A	N/A	$2,622	$3,486
10 to 19	N/A	$2,614	$2,710	$2,661	$2,741	$2,689	$3,097
20 to 49	$1,544	$2,193	$2,431	$2,541	$2,468	$3,496	$3,794
50 to 249	$1,138	$1,520	$1,690	$1,892	$2,252	$2,159	$2,627
250 to 999	$1,071	$1,125	$1,228	$1,326	$1,466	$1,924	$1,792
1,000+	$1,017	$913	$812	$1,065	$1,183	$1,113	$1,135
Overall	$1,185	$1,547	$1,629	$1,773	$1,963	$2,230	$2,644

Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

Figure 19, like Figure 18, shows that the increases in the employee deductible over the last six years has impacted rural employees more than urban employees, especially in deductibles for family coverage. In fact, employees of rural organizations have a family deductible more than $1,000 higher than their urban counterparts in 2010. Once again, the divide between rural and urban organizations has increased over the last three years, likely in response to the recent economic conditions.

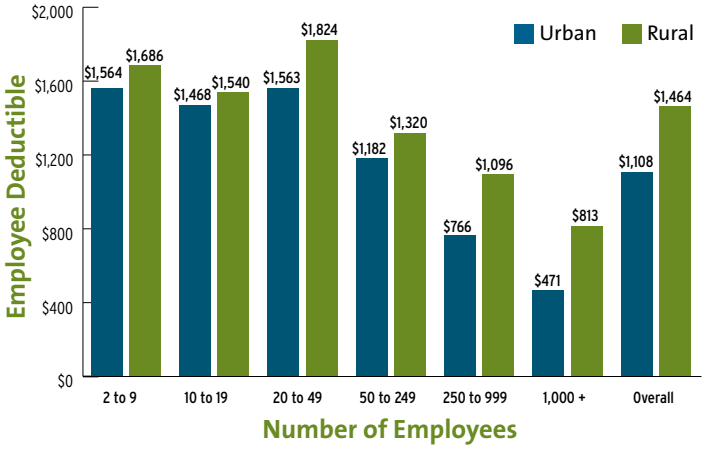
FIGURE 19. Employee Deductible – Family Coverage, Urban versus Rural



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

Figure 20 illustrates the deductibles employees paid in 2010 for single health insurance coverage sorted by organization size. This graphic clearly shows that across the board, rural employees have higher deductibles than their urban colleagues, regardless of organization size.

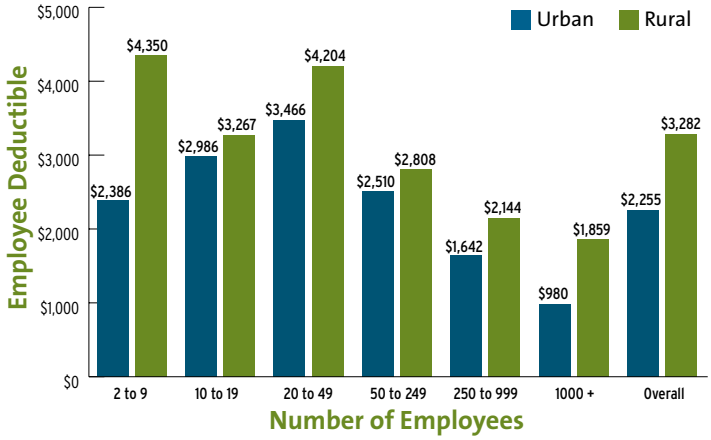
FIGURE 20. Employee Deductible 2010 – Single Coverage



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

Figure 21 collaborates with 20 above. Regardless of organizational size, rural workers are paying higher deductibles for their family health care coverage when compared to their urban counterparts.

FIGURE 21. Employee Deductible 2010 – Family Coverage



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

EMPLOYEE OUT-OF-POCKET MAXIMUM

Another important aspect of the cost of health insurance is the maximum that an employee would pay for their health care over the course of a year, called the out-of-pocket maximum. Not surprisingly, the average out-of-pocket maximum has increased for both single and family coverage every year since 2004 (Tables 27 & 28). In fact, out-of-pocket maximums have increased nearly $900 for single coverage, and nearly $2,000 for family coverage. Note that employee contributions to insurance premiums are not applied to the out-of-pocket maximum.

When looking specifically at 2010, the data show that the largest organizations have the lowest out-of-pocket maximums, while the smallest employers have maximums more than twice as high for both single and family coverage. Again, the lower premiums for the products paid by small and medium-sized organizations are made possible by shifting cost to employees through higher out-of-pocket maximum and higher deductibles.

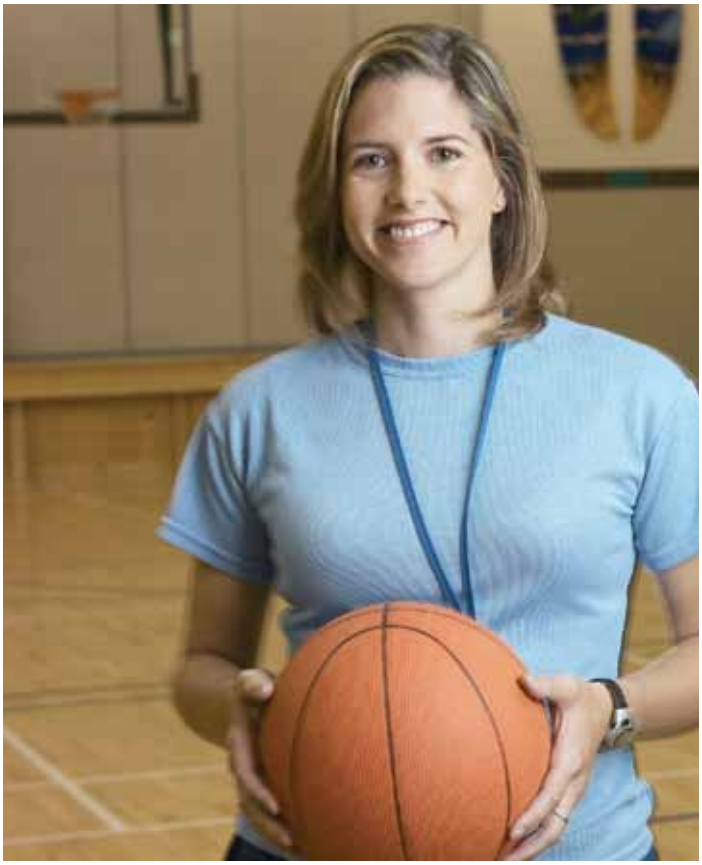


TABLE 27. Employee Out-of-Pocket Maximum – Single Coverage

Number of Employees	2004	2005	2006	2007	2008	2009	2010
2 to 9	N/A	N/A	N/A	N/A	N/A	$2,404	$3,213
10 to 19	N/A	$2,897	$2,787	$2,494	$2,587	$2,560	$2,798
20 to 49	$2,167	$2,452	$2,697	$2,554	$2,501	$1,933	$3,132
50 to 249	$1,578	$1,765	$1,841	$1,949	$2,134	$2,104	$2,427
250 to 999	$1,420	$1,542	$1,537	$1,629	$1,720	$1,962	$2,027
1,000+	$1,499	$1,386	$1,411	$1,739	$1,464	$1,805	$1,498
Overall	$1,633	$1,850	$1,890	$1,954	$2,032	$2,210	$2,524

Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

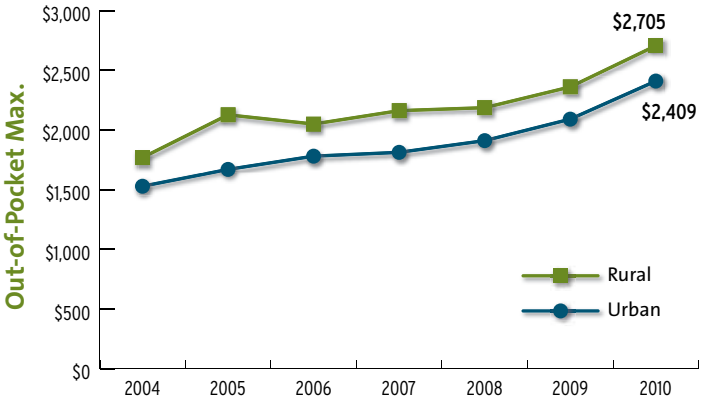
TABLE 28. Employee Out-of-Pocket Maximum – Family Coverage

Number of Employees	2004	2005	2006	2007	2008	2009	2010
2 to 9	N/A	N/A	N/A	N/A	N/A	$4,939	$7,260
10 to 19	N/A	$5,749	$5,590	$5,040	$5,299	$5,503	$5,929
20 to 49	$4,303	$4,780	$5,191	$5,349	$5,589	$6,229	$6,953
50 to 249	$3,078	$3,608	$3,800	$3,831	$4,371	$4,320	$5,015
250 to 999	$2,914	$3,126	$3,129	$3,235	$3,474	$3,991	$4,025
1,000+	$3,401	$2,912	$2,803	$3,321	$2,895	$3,575	$3,021
Overall	$3,280	$3,734	$3,795	$3,885	$4,194	$4,544	$5,274

Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

Figure 22 shows the extent to which rural employees have been paying significantly higher out-of-pocket costs for their single coverage. This difference has been consistent over the past seven years. In 2010 the out-of-pocket maximums for rural employees were almost $300 higher than their urban colleagues.

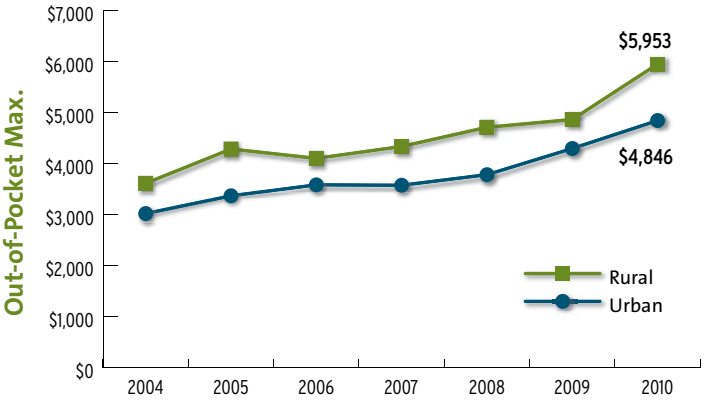
FIGURE 22. Employee Out-of-Pocket Maximum– Single Coverage, Urban versus Rural



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

In data that parallels Figure 22 above, Figure 23 again shows the difference for family coverage out-of-pocket maximums is substantial. A rural employee with family coverage in 2010 can expect to have an out-of-pocket maximum that is $1,100 *more* than their urban counterpart.

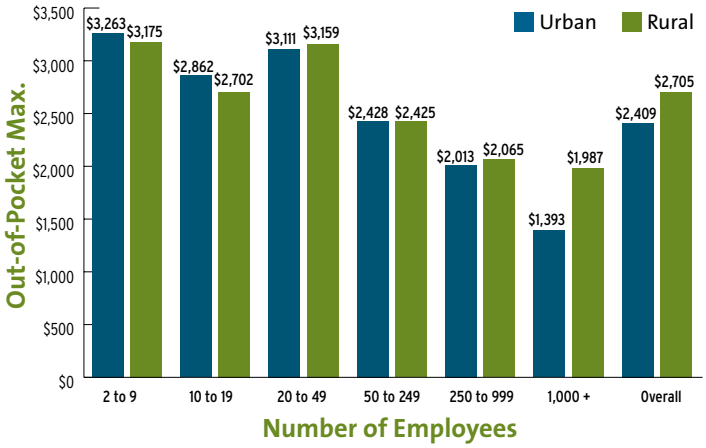
FIGURE 23. Employee Out-of-Pocket Maximum – Family Coverage, Urban versus Rural



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

Figure 24 more closely examines these data by distributing the 2010 out-of-pocket maximums across organizational size. This histogram shows that while rural employees tend to pay higher out-of-pocket maximums, there is variability by organization size. For example, those rural Iowans working for small organizations pay about $90 less per year in out-of-pocket fees. However, rural Iowans working for the state's largest employers pay almost $600 more per year in single coverage out-of-pocket costs.

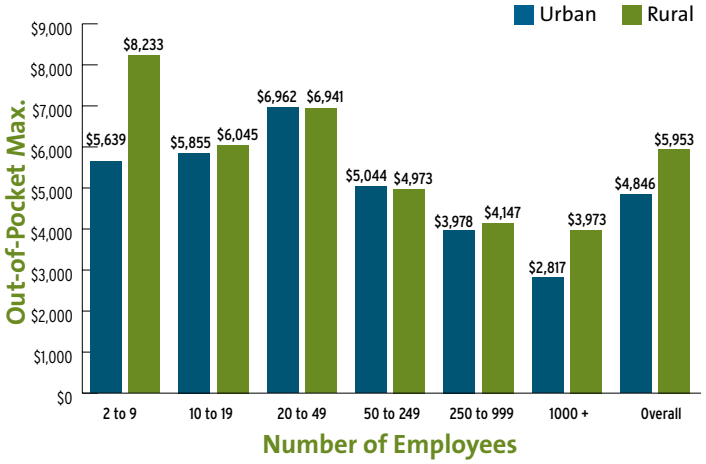
FIGURE 24. Employee Out-of-Pocket Maximum 2010– Single Coverage



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

When it comes to paying out-of-pocket maximums for family coverage, Iowans working for rural-based organizations pay significantly more. Figure 25 illustrates that virtually across the board, rural Iowans pay higher out-of-pocket costs regardless of employer size.

FIGURE 25. Employee Out-of-Pocket Maximum 2010 – Family Coverage



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

DOCTOR OFFICE CO-PAYMENTS

Employees also have to make co-payments for office visits to their provider. These co-pays have risen steadily with the average employee paying almost $21 for each visit in 2010, compared to $15.50 per visit in 2004 (Table 29).

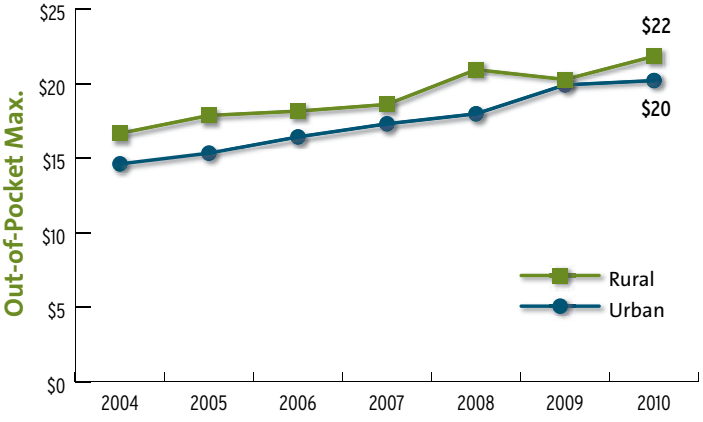
TABLE 29. Office Co-pays

Number of Employees	2004	2005	2006	2007	2008	2009	2010
2 to 9	N/A	N/A	N/A	N/A	N/A	$21.88	$22.75
10 to 19	N/A	$17.85	$20.19	$18.08	$20.71	$20.07	$23.27
20 to 49	$15.79	$19.87	$18.81	$18.65	$19.85	$21.68	$22.16
50 to 249	$14.70	$15.20	$16.94	$18.26	$19.04	$19.17	$20.20
250 to 999	$16.22	$15.76	$16.56	$16.92	$18.32	$20.16	$19.49
1,000+	$16.21	$14.92	$14.89	$17.37	$19.90	$18.61	$16.50
Overall	$15.46	$16.29	$17.09	$17.84	$19.29	$20.08	$20.83

Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

Office co-pays for both rural and urban employees have seen similar, steady increases, but rural employees continue to pay more for each office visit than employees at urban organizations (Figure 26). For example, in 2010 rural employees paid $1.63 more than employees of urban organizations per office visit. These differences add up to a substantial amount over many office visits across several years, especially when added to higher deductibles and out-of-pocket maximums.

Figure 26. Office Visit Co-pays for 2010



Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

TABLE 30. Prescription Drug Co-pays

Tier	2004	2005	2006	2007	2008	2009	2010
Generic Drug	$10.22	$10.53	$10.89	$10.47	$10.03	$10.24	$9.73
Preferred Name Brand	22.61	23.44	24.94	25.45	26.97	28.46	29.30
Non-Preferred Name Brand	36.36	38.47	40.03	40.42	43.09	43.73	46.25

Source: *Iowa Employer Benefits Study*© David P. Lind & Associates

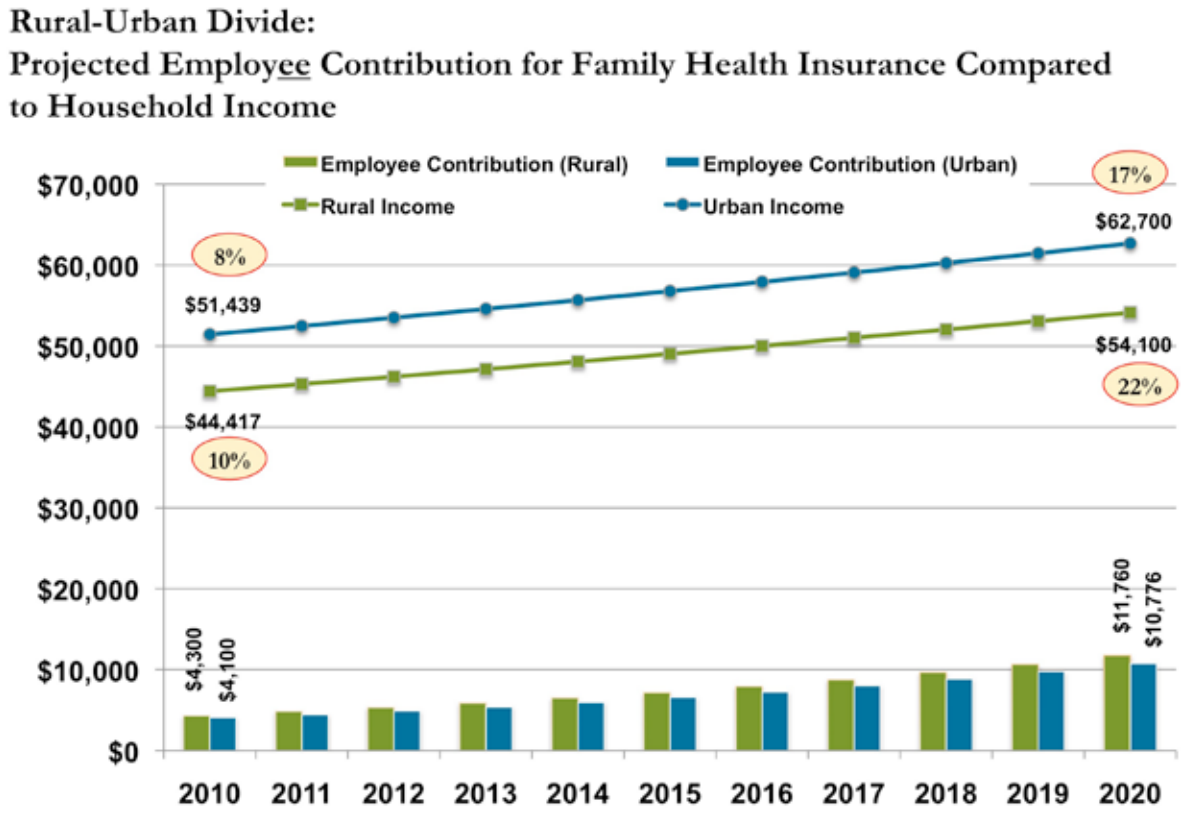
PRESCRIPTION DRUG CO-PAYMENTS

Prescription drug co-payments have dipped slightly for generic medications, but have increased for name-brand medications over the last seven years. Iowa employees actually paid $0.49 *less* in 2010 compared to 2004 in co-pays for generic drugs, but they paid $6.69 more for preferred name brands and $9.89 more for non-preferred medications. Interestingly, prescription drug co-pays did not vary widely by organization size, nor did they differ between urban or rural organization. Table 30 shows the overall prescription drug co-pays since 2004.

LOOKING AHEAD: PROJECTED CONTRIBUTIONS TO HEALTH INSURANCE PREMIUMS AND HOUSEHOLD INCOME

Since 2006, health insurance premiums in Iowa have increased an average of 10.4 percent annually. If this trend continues, the projected health insurance premium for Iowans with family coverage will become untenable. Figure 27 illustrates the projected employee contribution for years 2011 to 2020. Several key factors are: projected median income for rural and urban Iowans, the projected employee contribution of rural and urban Iowans for family coverage, and the percentage of household income that the contributions represent.

FIGURE 27.



Health insurance premiums projected for 2011-2020 assume the average growth in premiums between 2006 and 2010 (10.4% before benefit plan changes) continues and assume 2% Annual Income Growth (Rural employees contribute 35% and Urban employees contribute 31% of total premium). Using Iowa median household income of $44,417 for Rural and $51,439 Urban (U.S. Census 2005-2009 American Community Survey 5-Year Estimates).

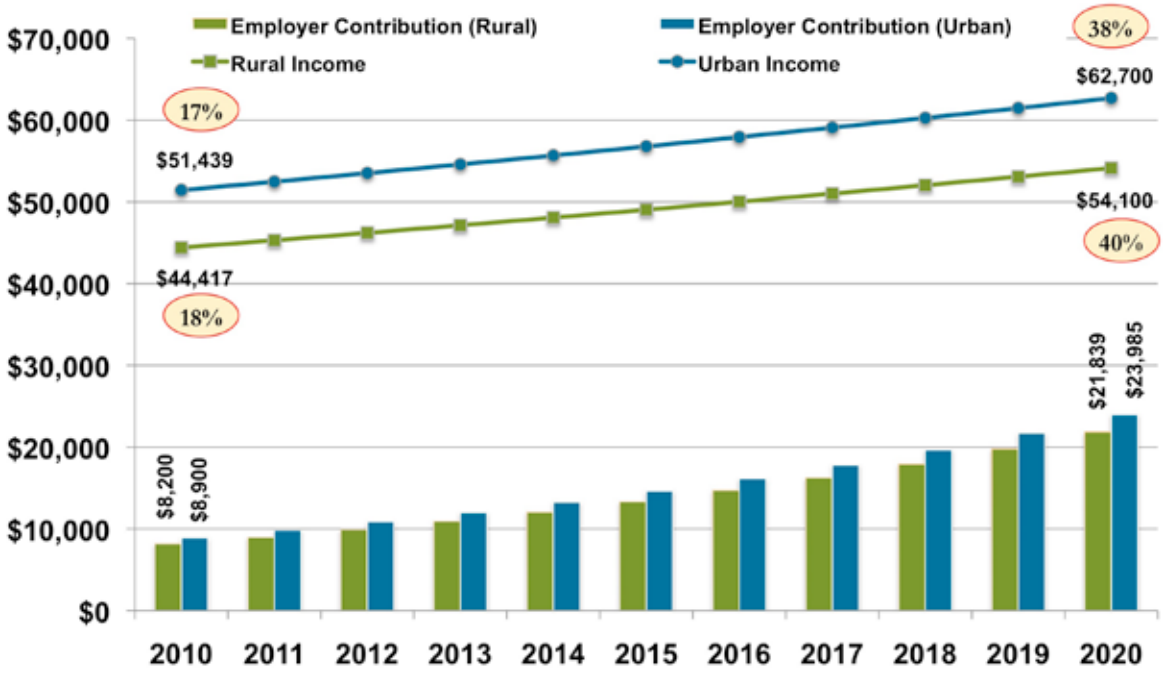
 1

Figure 27 shows that in 2010, the average annual employee contribution for family health insurance for a rural employee is 10 percent of their income – slightly higher than for the urban employee (8 percent). Assuming an annual growth rate of 2 percent for household income for the next 10 years and continuing 10.4 percent for annual average premium increase, the projected employee contribution to income ratio *would more than double* to 17 percent for the urban employee and 22 percent for the rural employee.

Figure 28 shows a similar trend over the next decade for the increase of the employer contribution for family health insurance plans. In 2010 employers contributed $8,200 (18 percent of the average rural household income) to rural employees' family health insurance plans, compared to $8,900 (17 percent of the average urban household income) to urban employees' family health insurance plans. Assuming an annual growth rate of 2 percent for household income for the next 10 years and continuing 10.4 percent for annual average premium increase, the projected employer contribution to income ratio *would more than double* to 38 percent for the urban employee and 40 percent for the rural employee. Together, projected increases in employee and employer health insurance premiums would exceed half of household income by 2020.

FIGURE 28.

Rural-Urban Divide:
Projected Employer Contribution for Family Health Insurance Compared to Household Income



Health insurance premiums projected for 2011-2020 assume the average growth in premiums between 2006 and 2010 (10.4% before benefit plan changes) continues and assume 2% Annual Income Growth (Rural employers contribute 65% and Urban employers contribute 69% of total premium). Using Iowa median household income of $44,417 for Rural and $51,439 Urban (U.S. Census 2005-2009 American Community Survey 5-Year Estimates).

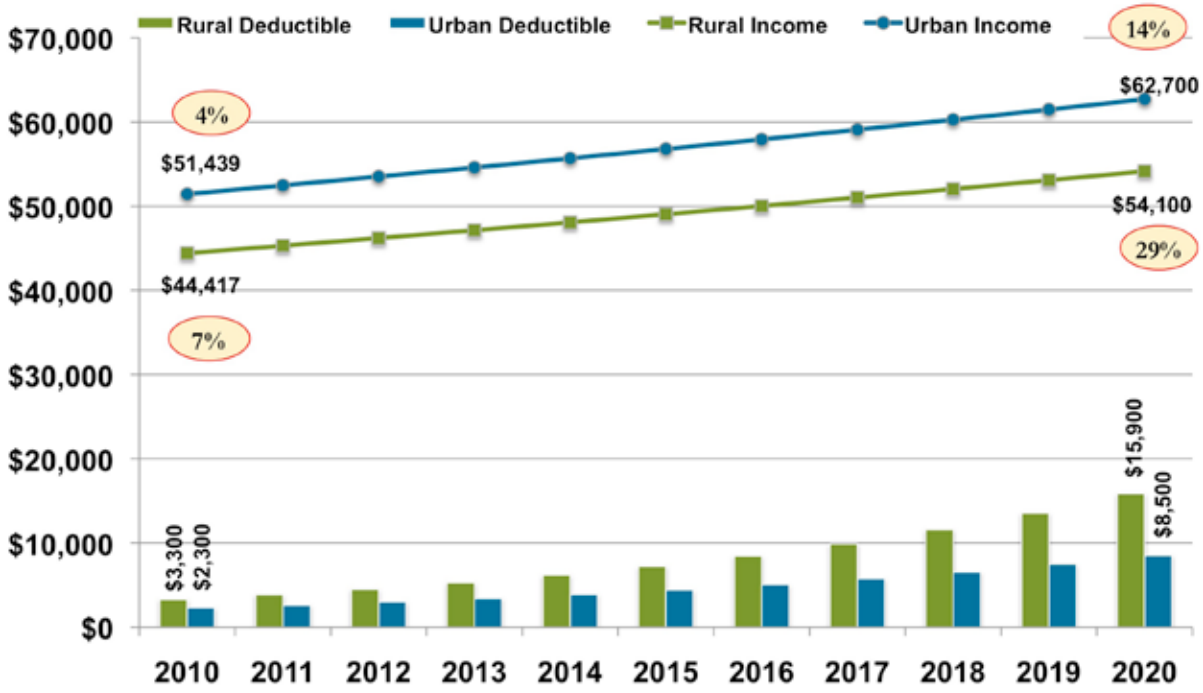
2

LOOKING AHEAD: PROJECTED HEALTH INSURANCE DEDUCTIBLES AND HOUSEHOLD INCOME

Health insurance deductibles in Iowa have increased dramatically from 2004 to 2010, rising by an annual average of 17 percent per year. As health insurance premiums increase, employers have continued to offset such increases by raising the deductibles paid by the employee and their dependents. Figure 29 projects Iowa deductibles and household income from 2011 to 2020. Projecting these trends forward, the annual deductible for rural-based employees will *quadruple* to an astounding 29 percent of household income in 2020. By comparison, deductibles for urban employees rise to 14 percent of income by 2020.

FIGURE 29.

Rural-Urban Divide: The Next 10 Years for Rural vs. Urban Iowans. Family Health Deductibles and Household Income



Health insurance deductible projected for 2011-2020 assumes the average annual increase between 2004 and 2010 (12% for Urban employers and 17% for Rural employers) continues. Assume 2% Annual Income Growth - Using Iowa median household income of $44,417 for Rural and $51,439 Urban (U.S. Census 2005-2009 American Community Survey 5-Year Estimates)

3

References

1. Merchant JA. et al. Iowans Speak Out on Their Health. University of Iowa Healthier Workforce Center for Excellence, 2010. www.hwce.org.
2. Commonwealth 2008. D. McCarthy, S. K. H. How, C. Schoen, J. C. Cantor, D. Belloff, Aiming Higher: Results from a State Scorecard on Health System Performance, 2009, The Commonwealth Fund, October 2009.
3. The Kaiser Family Foundation, Health Research & Educational Trust, and National Opinion Research Center. Employer Health Benefits: 2010 Annual Survey. Menlo Park, California: The Kaiser Family Foundation. http://ehbs.kff.org/pdf/2010/8085.pdf. Accessed May 2, 2011.
4. Lind DP. Iowa Employer Benefits Study©. Clive, Iowa: David P. Lind & Associates, LLC, 2004-2010. www.dplaconsulting.com
5. Centers for Disease Control and Prevention (CDC). Health-Related Quality-of-Life 14-Item Measure. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2000. 28-Jan-10 http://www.cdc.gov/hrqol/hrqol14_measure.htm
6. Agency for Healthcare Research Quality, American Institutes for Research, Harvard Medical School, Rand Corporation. The Consumer Assessment of Healthcare Providers and Systems (CAHPS®) Clinician and Group Survey: Submission to National Quality Forum. http://www.aqaalliance.org/October24Meeting/PerformanceMeasurement/CAHPSCGtext.doc. Accessed August 26, 2009.
7. Selzer and Company Inc. Department of Public Health 2005 Survey of Iowa Consumers, September 2005. 28-Jan10http://www.legis.state.ia.us/lsadocs/IntComHand/2008/IHPAF037.PDF. (Modified)
8. Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Questionnaire. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2008. 28-Jan-10 http://www.cdc.gov/brfss/questionnaires/pdf-ques/2008brfss.pdf. (Modified)
9. Board of Trustees of the Leland Stanford Junior University. Stanford Health and Lifestyle Assessment (SHALA). 2005.
10. US Department of Commerce, Economics and Statistics Administration, Bureau of the Census. 2000 Census, C. Income and Employment. 1998. 28-Jan-10 http://www.census.gov/dmd/www/pdf/04c_in.pdf
11. Kessler RC, Barber C, Beck AL, Berglund PA, Cleary PD, McKenas D, Pronk NP, Simon GE, Stang PE, Üstün TB, Wang PS. The World Health Organization Health and Work Performance Questionnaire (HPQ). Journal of Occupational and Environmental Medicine. 2003, 45 (2), 156-174. 28-Jan-10. http://www.hcp.med.harvard.edu/hpq/ftpdir/absenteeism%20presenteeism%20scoring%20050107.pdf
12. Fort Martin/Albright Region. Worksite Wellness. 2000. 28-Jan-10 Http: //www.welcoa.org/freeresources/pdf/dc_allegheny_needs.pdf. (Modified)
13. Wellness Council of America. Needs and Interest Survey. 2005. 28-Jan-10 http://www.welcoa.org/freeresources/pdf/ni_survey.pdf. (Modified)
14. Iowa Department of Public Health. Health in Iowa—Annual Report, Behavioral Risk Factor Surveillance System, 2009.
15. Merchant JA, Stromquist AM, Kelley KM et al. The Epidemiology of Chronic Disease and Injury in an Agricultural County: The Keokuk County Rural Health Cohort Study. J Rural Hlth 18(4):521-535, 2002.
16. CDC. Vital Signs: State-specific obesity prevalence among adults—United States, 2009. MMWR 2009; 59:951-5.
17. CDC. Prevalence of Obesity Among Adults with Arthritis—United States, 2003-2009. MMWR 2011: 60:509-513.
18. Eberhardt MS, Ingram DD, Makuc DM, et al. Urban and Rural Health Chartbook. Health, United States, 2001. Hyattsville, Maryland: National Center for Health Statistics. 2001.
19. Wen CP, Tsai SP, Gibson RL. Anatomy of the Healthy Worker Effect: A Critical Review. JOM 1983: 25: 283-289.
20. CDC. Unhealthy Sleep-Related Behaviors—12 States, 2009. MMWR 60: 233-242.
21. National Sleep Foundation. How much sleep do we really need? Washington, DC: National Sleep Foundation; 2010. Available at http://www.sleepfoundation.org/article/how-sleep-works/how-much-sleep-do-we-really-need.
22. University of Iowa Injury Prevention Research Center. IPRC Child Passenger Safety Survey Reports. www.public-health.uiowa.edu/iprc/resources

Appendices

Appendix A. Rural and Urban Classification and Multivariable Model

Appendix B. Real Iowans Health Survey Questionnaire

HEALTHIER WORKFORCE CENTER FOR EXCELLENCE

The University of Iowa College of Public Health

UI Research Park, IREH #102

Iowa City, IA 52242

Phone: 319-335-4200

Fax: 319-335-4225

hwce@uiowa.edu

www.hwce.org

Real Iowans Research Initiative

Iowans Speak Out on Their Health

The Rural-Urban Divide

Appendix A

Rural-Urban Classification and Multivariable Models

The University of Iowa College of Public Health

Healthier Workforce Center for Excellence

SPPG State Public Policy Group

DPL&A David P. Lind & Associates

Rural-Urban Classification

Iowa's 99 counties were divided into rural and urban strata using the 2003 USDA Rural-Urban Continuum Codes. This classification system distinguishes metropolitan counties by population size and non-metropolitan counties by their degree of urbanization and proximity to metropolitan counties. The codes divide the continuum into three metropolitan and six non-metropolitan categories. Two of the three metro categories and all six non-metro categories are found in the State of Iowa. The two metro categories were defined as "Urban" and the six non-metro categories were defined as "Rural" for all analyses in this report.

Rural Counties

County Name	2003 Rural-urban Continuum Code	2000 Population	County Name	2003 Rural-urban Continuum Code	2000 Population
Adair County	8	8,243	Jackson County	6	20,296
Adams County	9	4,482	Jasper County	6	37,213
Allamakee County	6	14,675	Jefferson County	7	16,181
Appanoose County	7	13,721	Keokuk County	8	11,400
Audubon County	8	6,830	Kossuth County	7	17,163
Boone County	6	26,224	Lee County	5	38,052
Buchanan County	6	21,093	Louisa County	8	12,183
Buena Vista County	7	20,411	Lucas County	6	9,422
Butler County	8	15,305	Lyon County	8	11,763
Calhoun County	9	11,115	Mahaska County	7	22,335
Carroll County	7	21,421	Marion County	6	32,052
Cass County	6	14,684	Marshall County	4	39,311
Cedar County	6	18,187	Mitchell County	7	10,874
Cerro Gordo County	5	46,447	Monona County	6	10,020
Cherokee County	6	13,035	Monroe County	7	8,016
Chickasaw County	6	13,095	Montgomery County	6	11,771
Clarke County	6	9,133	Muscatine County	4	41,722
Clay County	7	17,372	O'Brien County	7	15,102
Clayton County	8	18,678	Osceola County	7	7,003
Clinton County	4	50,149	Page County	7	16,976
Crawford County	6	16,942	Palo Alto County	7	10,147
Davis County	9	8,541	Plymouth County	6	24,849
Decatur County	9	8,689	Pocahontas County	9	8,662
Delaware County	6	18,404	Poweshiek County	7	18,815
Des Moines County	5	42,351	Ringgold County	9	5,469
Dickinson County	7	16,424	Sac County	9	11,529
Emmet County	7	11,027	Shelby County	6	13,173
Fayette County	6	22,008	Sioux County	6	31,589
Floyd County	7	16,900	Tama County	6	18,103
Franklin County	7	10,704	Taylor County	9	6,958
Fremont County	8	8,010	Union County	6	12,309
Greene County	6	10,366	Van Buren County	9	7,809
Hamilton County	6	16,438	Wapello County	5	36,051

Hancock County	7	12,100	Wayne County	9	6,730
Hardin County	6	18,812	Webster County	5	40,235
Henry County	7	20,336	Winnebago County	7	11,723
Howard County	7	9,932	Winneshiek County	7	21,310
Humboldt County	7	10,381	Worth County	9	7,909
Ida County	8	7,837	Wright County	7	14,334
Iowa County	8	15,671			

Urban Counties

County Name	2003 Rural-urban Continuum Code	2000 Population	County Name	2003 Rural-urban Continuum Code	2000 Population
Benton County	3	25,308	Linn County	3	191,701
Black Hawk County	3	128,012	Madison County	2	14,019
Bremer County	3	23,325	Mills County	2	14,547
Dallas County	2	40,750	Polk County	2	374,601
Dubuque County	3	89,143	Pottawattamie County	2	87,704
Grundy County	3	12,369	Scott County	2	158,668
Guthrie County	2	11,353	Story County	3	79,981
Harrison County	2	15,666	Warren County	2	40,671
Johnson County	3	111,006	Washington County	3	20,670
Jones County	3	20,221	Woodbury County	3	103,877

‡Source: USDA Economic Research Service. Rural-Urban Continuum Codes

http://www.ers.usda.gov/Data/RuralUrbanContinumCodes/

2 = County in metro area of 250,000 to 1 million population

3 = County in metro area of fewer than 250,000 population

4 = Non-metro county with urban population of 20,000 or more, adjacent to a metro area

5 = Non-metro county with urban population of 20,000 or more, not adjacent to a metro area

6 = Non-metro county with urban population of 2,500-19,999, adjacent to a metro area

7 = Non-metro county with urban population of 2,500-19,999, not adjacent to a metro area

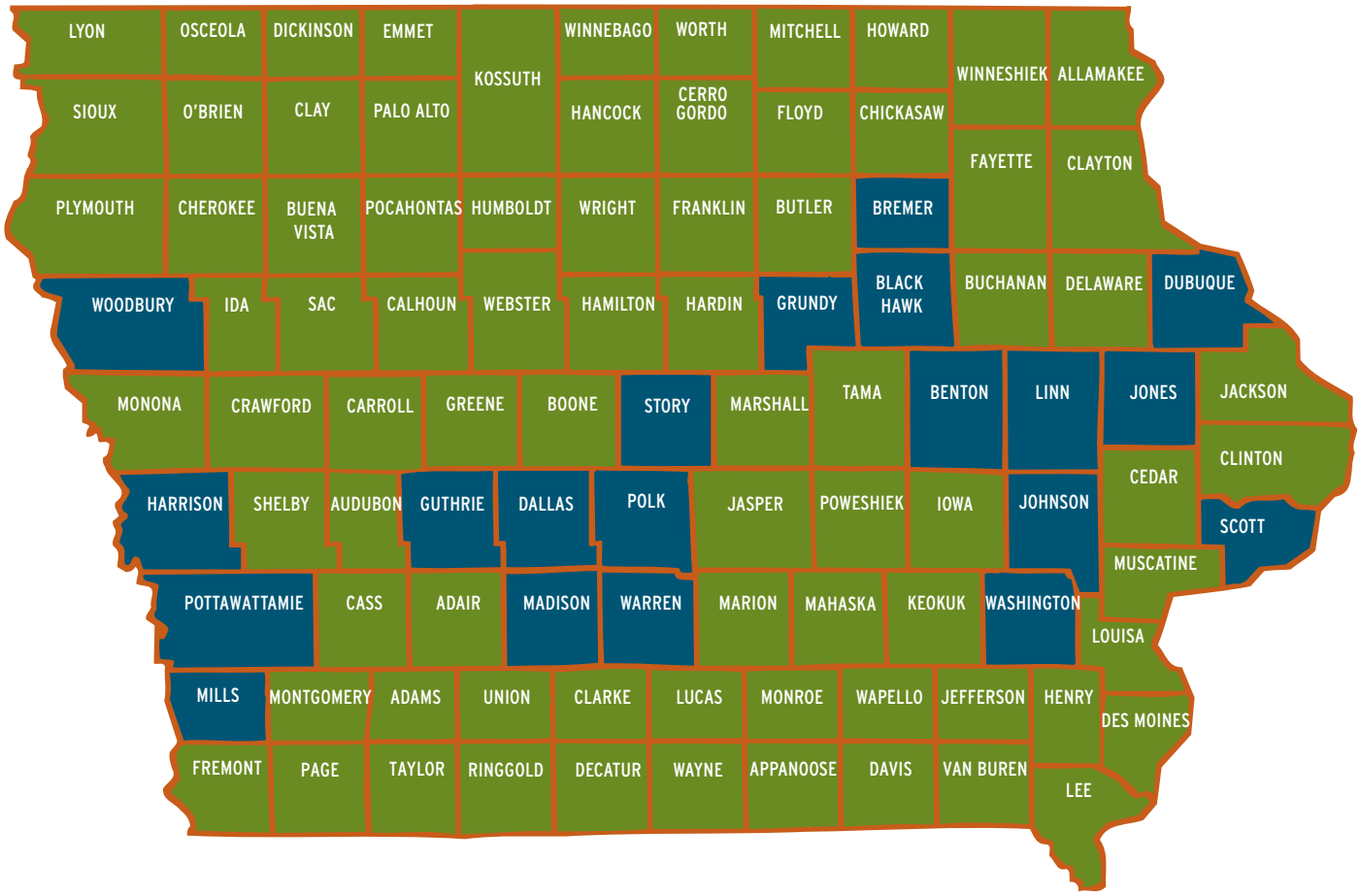
8 = Non-metro county completely rural or less than 2,500 urban population, adj. to metro area

9 = Non-metro county completely rural or less than 2,500 urban population, not adj. to metro area

IOWA STATE MAP

(Color Coded for Rural-Urban Counties)

Rural Counties Urban Counties



MULTIVARIABLE MODELING

Associations between independent (predictor) behavioral and demographic variables and the dependent (response) variables displayed in the tables and figures and described in the text were evaluated using stepwise logistic regression analysis. While the tables in the full report show all possible responses, the dependent (response) variables were dichotomized in order to perform logistic regression. The analysis sequentially selects from among a list of potential predictor variables. The strength and direction of those effects are summarized as odds ratio estimates. Odds ratio can be interpreted as follows: for a one unit change in the predictor variable, the probability for a modeled response is expected to change by the respective "point estimate," given the other variables in the model are held constant. Thus an odds ratio greater than one means the response is more likely; whereas an odds ratio less than one means the response is less likely (i.e, the predictor is protective). All analyses were conducted with SAS, version 9.2 (SAS Institute, Inc., Cary, NC).

Table 6. Would you say that, in general, your health is excellent/very good?

Response	Total Frequency	Percent
No	366	34.2%
Yes	704	65.8%

Probability modeled is 'No'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male gender	1.464	1.103	1.942
Age (years)	1.028	1.015	1.042
Are you self-employed?	0.690	0.485	0.982
Have you attended college?	0.693	0.506	0.950
Have never smoked	0.442	0.297	0.656
Ex-smoker	0.620	0.399	0.963
Household income less than $35,000	1.559	1.066	2.282
Household income $75,000 or more	0.609	0.444	0.834
Body Mass Index	1.102	1.075	1.130

Table 7. In the past 30 days have there been days when your mental health was not good?

Response	Total Frequency	Percent
No	370	34.7%
Yes	697	65.3%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male gender	0.564	0.428	0.743
Resident of a rural county	0.676	0.503	0.909
Do you have a college degree?	1.487	1.115	1.983
Current Smoker	1.666	1.150	2.414
Household income less than $35,000	1.455	1.010	2.097
Household income $75,000 or more	0.661	0.486	0.899
Body Mass Index	1.031	1.009	1.054

Table 8. In the past 30 days have there been days when your health kept you from usual activities?

Response	Total Frequency	Percent
Yes	173	16.2%
No	897	83.8%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male gender	0.616	0.429	0.883
Resident of a rural county	0.581	0.402	0.840
Have never smoked	0.677	0.483	0.949
Household income $75,000 or more	0.586	0.402	0.854
Body Mass Index	1.056	1.030	1.084

Table 9. In the past 30 days have there been days in which you felt sad, blue or depressed?

Response	Total Frequency	Percent
Yes	373	35.0%
No	692	65.0%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Is your household income between $50,000 and $75,000?	0.622	0.451	0.857
Household income $75,000 or more	0.508	0.376	0.687
Body Mass Index	1.024	1.002	1.046

Table 10. In the past 30 days have there been days in which you felt worried, tense or anxious?

Response	Total Frequency	Percent
Yes	639	59.9%
No	428	40.1%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male gender	0.679	0.527	0.874
Household income $75,000 or more	0.634	0.491	0.818

Table 11. In the past 30 days have there been 6 or more days in which you did not get enough sleep?

Response	Total Frequency	Percent
Yes	470	43.9%
No	600	56.1%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Is your household income between $50,000 and $75,000?	0.622	0.451	0.857
Household income $75,000 or more	0.508	0.376	0.687
Body Mass Index	1.024	1.002	1.046

Figure 3. Do you have a primary care doctor, or doctor you usually see when you need medical help?

Response	Total Frequency	Percent
No	138	12.9%
Yes	928	87.1%

Probability modeled is 'No'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male gender	2.084	1.425	3.048
Age (years)	0.953	0.938	0.968
Are you self-employed?	3.039	1.600	5.769
Current smoker	2.645	1.674	4.179
Household income less than $35,000	1.839	1.169	2.892
Is your organization size less than 20 employees?	0.469	0.265	0.832

Figure 4. Did you visit your primary care doctor in the past 12 months?

Response	Total Frequency	Percent
No	141	15.2%
Yes	784	84.8%

Probability modeled is 'No'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male gender	1.807	1.252	2.607
Age (years)	0.979	0.964	0.995
Is your organization size 250 employees or more?	0.635	0.410	0.985

Figure 5. Is your personal financial situation getting worse?

Response	Total Frequency	Percent
Yes	260	24.4%
No	806	75.6%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Age (years)	1.019	1.005	1.032
Current smoker	1.608	1.095	2.363
Is your household income between $50,000 and $75,000?	0.576	0.407	0.815
Household income $75,000 or more	0.295	0.206	0.423
Body Mass Index	1.056	1.030	1.084

Figure 6. Do you currently have health insurance coverage?

Response	Total Frequency	Percent
No	72	6.7%
Yes	997	93.3%

Probability modeled is 'No'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Age (years)	0.962	0.941	0.984
Current smoker	3.097	1.711	5.606
Household income less than $35,000	14.784	7.202	30.348
Is your household income between $35,000 and $50,000?	6.684	3.116	14.334
Is your organization size less than 20 employees?	6.550	3.345	12.827
Is your organization size between 20 to 49 employees?	2.732	1.112	6.715

Table 12. Cost of Health insurance is increasing dramatically

Response	Total Frequency	Percent
Yes	210	22.1%
No	742	77.9%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Resident of a rural county	1.949	1.284	2.958
Current smoker	1.773	1.123	2.798
Are you self-employed?	2.073	1.322	3.251
Is your household income between $35,000 and $50,000?	1.501	1.024	2.200
Is your organization size less than 20 employees?	2.071	1.347	3.184
Is your organization size between 20 to 49 employees?	1.771	1.076	2.914

Table 13. As a result of health insurance cost increases, are you making sacrifices?

Response	Total Frequency	Percent
Yes	358	51.8%
No	333	48.2%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Have never smoked	0.630	0.456	0.871
Household income less than $35,000	3.870	2.236	6.697
Is your household income between $35,000 and $50,000?	1.807	1.218	2.680
Is your organization size 250 employees or more?	0.613	0.436	0.862

Table 14. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Decided not to go to the doctor when you felt you needed to because of cost

Response	Total Frequency	Percent
Yes	166	42.7%
No	223	57.3%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Resident of a rural county	1.707	1.013	2.874
Household income $75,000 or more	0.407	0.252	0.655
Is your organization size between 50 and 250 employees?	2.042	1.229	3.393

Table 14. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Stopped taking medication to avoid the cost of prescription drugs

Response	Total Frequency	Percent
Yes	79	20.8%
No	300	79.2%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male gender	0.449	0.250	0.807
Do you have a college degree?	0.502	0.279	0.905
Current smoker	2.062	1.098	3.869
Is your organization size less than 20 employees?	0.469	0.266	0.826
Body Mass Index	1.100	1.050	1.152

Table 14. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Cut back the dose of prescription drugs to help make the drugs last longer

Response	Total Frequency	Percent
Yes	74	19.5%
No	306	80.5%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male gender	0.370	0.201	0.681
Is your organization size less than 20 employees?	0.487	0.276	0.860
Body Mass Index	1.090	1.041	1.141

Table 14. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Decided not to fill prescriptions given to you by your doctor because of cost

Response	Total Frequency	Percent
Yes	86	22.6%
No	294	77.4%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Current smoker	1.902	1.066	3.394

Table 14. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Not scheduled tests your doctor has suggested in order to save on cost

Response	Total Frequency	Percent
Yes	107	27.9%
No	277	72.1%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Age (years)	1.025	1.003	1.049
Household income less than $35,000	1.782	1.026	3.093
Household income $75,000 or more	0.540	0.304	0.958

Table 14. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Waited longer to see a doctor when you are sick with hopes you will get better on your own

Response	Total Frequency	Percent
Yes	276	71.9%
No	108	28.1%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Household income $75,000 or more	0.357	0.223	0.571

Table 14. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Switched doctors or hospitals in order to save money

Response	Total Frequency	Percent
Yes	27	7.0%
No	356	93.1%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Current smoker	2.961	1.292	6.788

Table 14. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Minimized how often you use your health insurance in order to keep the overall cost of premiums for everyone in your group from rising

Response	Total Frequency	Percent
Yes	120	34.5%
No	228	65.5%

Probability modeled is 'Yes'.

Odds Ratio Estimates		
Effect	Point Estimate	95% Wald Confidence Limits
No significant effects		

Table 14. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Switched health insurance to a plan with higher deductibles and copayments in order to save money

Response	Total Frequency	Percent
Yes	150	42.5%
No	203	57.5%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Resident of a rural county	1.772	1.027	3.058
Is your organization size less than 20 employees?	2.212	1.427	3.428

Table 14. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Switched health insurance to a plan with fewer participating doctors and hospitals to save money

Response	Total Frequency	Percent
Yes	38	10.9%
No	310	89.1%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Resident of a rural county	3.658	1.093	12.239

Table 14. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Switched health insurance to a plan with fewer benefits to save money

Response	Total Frequency	Percent
Yes	84	21.3%
No	265	78.7%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Is your organization size btw 20 to 49 employees?	0.378	0.144	0.994

Table 15. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Choose a policy with a higher deductible

Response	Total Frequency	Percent
Yes	274	68.2%
No	128	31.8%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Are you self-employed?	2.085	1.251	3.474

Table 15. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Choose a policy with higher co-pays for doctor visits and prescription drugs

Response	Total Frequency	Percent
Yes	257	66.4%
No	139	33.6%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Are you self-employed?	1.923	1.167	3.167
Household income less than $35,000	0.473	0.292	0.767

Table 15. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Reduce the number of doctor's visits made by members of your household

Response	Total Frequency	Percent
Yes	194	46.7%
No	221	53.3%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male gender	0.599	0.399	0.901
Household income $75,000 or more	0.622	0.396	0.976
Is your organization size between 50 and 250 employees?	1.983	1.205	3.265

Table 15. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Make more use of clinics staffed by nurses and physician's assistants rather than doctors

Response	Total Frequency	Percent
Yes	310	74.3%
No	107	25.7%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Is your organization size 250 employees or more?	0.530	0.319	0.879
Body Mass Index	1.041	1.001	1.084

Table 15. Different people do different things to cut back on health care expenses. Please tell me if you have done the following: Choose a policy with fewer participating doctors and hospitals

Response	Total Frequency	Percent
Yes	156	39.1%
No	243	60.9%

Probability modeled is 'Yes'.

Odds Ratio Estimates		
Effect	Point Estimate	95% Wald Confidence Limits
No significant effects		

Figure 7. In the past 12 months, have you had either the flu shot injection or the nasal mist?

Response	Total Frequency	Percent
Yes	556	52.0%
No	513	48.0%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male gender	0.482	0.371	0.626
Age (years)	1.025	1.013	1.037
Are you self-employed?	0.631	0.424	0.938
Household income less than $35,000	0.639	0.451	0.904
Is your organization size less than 20 employees?	0.592	0.429	0.817
Body Mass Index	1.023	1.001	1.045

Figure 8. Do you always wear seatbelts when you ride in a car?

Response	Total Frequency	Percent
No	187	17.5%
Yes	882	82.5%

Probability modeled is 'No'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male gender	1.977	1.419	2.756
Are you self-employed?	2.559	1.788	3.664
Resident of a rural county	1.633	1.080	2.470
Have never smoked	1.783	1.249	2.546
Body Mass Index	1.038	1.011	1.066

Table 16. During the past 30 days, have you had at least one drink of any alcoholic beverage such as beer, wine, or liquor?

Response	Total Frequency	Percent
Yes	732	68.5%
No	337	31.5%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Male gender	1.375	1.033	1.828
Age (years)	0.961	0.949	0.974
Have never smoked	0.683	0.513	0.909
Household income less than $35,000	0.679	0.469	0.983
Household income $75,000 or more	2.283	1.667	3.125
Body Mass Index	0.966	0.944	0.988

Table 17. Do you typically exercise 20 minutes per day at least 3 days a week?

Response	Total Frequency	Percent
Yes	531	50.6%
No	518	49.4%

Probability modeled is 'Yes'.

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Do you have a college degree?	1.472	1.145	1.892
Body Mass Index	0.955	0.935	0.976

Real Iowans Research Initiative

Iowans Speak Out on Their Health

The Rural-Urban Divide

Appendix B

Real Iowans Health Survey Questionnaire

The University of Iowa College of Public Health

Healthier Workforce Center for Excellence

SPPG State Public Policy Group

DPL&A David P. Lind & Associates

I. QUALITY-OF-LIFE MODULE "Healthy Days Core"

HEALTHDAY1 Let's begin by talking about your health. Would you say that, in general, your health is . . .

1 Excellent,
2 Very good,
3 Good,
4 Fair, or
5 Poor
88 DON'T KNOW
99 REFUSED

HEALTHDAY2 Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

— — NUMBER OF DAYS [PERMITTED RANGE 0-30]
88. DON'T KNOW
99. REFUSED

HEALTHDAY3 Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?

— — NUMBER OF DAYS [PERMITTED RANGE 0-30]
89. DON'T KNOW
99. REFUSED

HEALTHDAY4 During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

— — NUMBER OF DAYS [PERMITTED RANGE 0-30]
89. DON'T KNOW
99. REFUSED

"Activity Limitations"

ACTLIM1 Are you ***limited*** in any way in any activities because of any impairment or health problem?

1. YES
2. NO GO TO SYMPDAYS1
88. DON'T KNOW
99. REFUSED

ACTLIM2 What is the major impairment or health problem that limits your activities?

TEXT BOX [500 CHARACTER LIMIT]
88. DON'T KNOW
99. REFUSED

ANSWERS TO BE CODED BY DATA EDITOR ONCE ALL INTERVIEWS COMPLETED.

ACTLIM3 For how long have your activities been limited because of your major impairment or health problem?

— — UNITS
1. days
2. weeks
3. months
4. years
88. DON'T KNOW
99. REFUSED

ACTLIM4 Because of any impairment or health problem, do you need the help of other persons with your personal care needs, such as eating, bathing, dressing, or getting around the house?

1. YES
2. NO
88 DON'T KNOW
99 REFUSED

ACTLIM5 Because of any impairment or health problem, do you need the help of other persons in handling your routine needs, such as everyday household chores, doing necessary business, shopping, or getting around for other purposes?

1. YES
2. NO
88. DON'T KNOW
99. REFUSED

Healthy Days Symptoms

SYMPDAYS1 During the past 30 days, for about how many days did pain make it hard for you to do your usualactivities, such as self-care, work, or recreation?

— — DAYS [PERMITTED RANGE 0-30]
88 DON'T KNOW
99 REFUSED

SYMPDAYS2 During the past 30 days, for about how many days have you felt sad, blue, or depressed?

— — DAYS [PERMITTED RANGE 0-30]
88 DON'T KNOW
99 REFUSED

SYMPDAYS3 During the past 30 days, for about how many days have you felt worried, tense, or anxious?

— — DAYS [PERMITTED RANGE 0-30]
88 DON'T KNOW
99 REFUSED

SYMPDAYS4 During the past 30 days, for about how many days have you felt you did not get enough rest or sleep?

— — DAYS [PERMITTED RANGE 0-30]
88 DON'T KNOW
99 REFUSED

SYMPDAYS5 During the past 30 days, for about how many days have you felt very healthy and full of energy?

— — DAYS [PERMITTED RANGE 0-30]
88 DON'T KNOW
99 REFUSED

SYMPDAYS6 How many hours of sleep do you get in a typical workday night?

— — HOURS [PERMITTED RANGE 0-23]
— — DAYS [PERMITTED RANGE 0-59]
88 DON'T KNOW
99 REFUSED

GENDER1. Are you male or female? ASK IF NECESSARY [USE THIS VARIABLE FOR PROSTATE/MAMMOGRAM QS.]

1. Male
2. Female

II. Health System Performance Module

Now I'd like to ask you some questions about your doctor.

HSP1. Do you have a primary care doctor or doctor you usually see when you need medical help?

1	YES	
2	NO	GO TO HI1
88	DON'T KNOW	GO TO HI1
99	REFUSED	GO TO HI1

HSP2. Did you visit your primary care doctor in the past 12 months?

1	YES	
2	NO	GO TO HI1
88	DON'T KNOW	GO TO HI1
99	REFUSED	GO TO HI1

HSP3. These next questions are about visits you made to your doctor in the past 12 months. For each question, please chose one of the following answers: never, almost never, sometimes, usually, almost always, or always.

PROBE FIRST TIME, THEN AS NECESSARY: "Would you say never, almost never, sometimes, usually, almost always, or always.

	ITEM	NEVER	ALMOST NEVER	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS	DK	REF
a	How often did your doctor explain things in a way that was easy to understand? Would you say never, almost never, sometimes, usually, almost always, or always.	1	2	3	4	5	6	88	99
b	How often did your doctor listen carefully to you?	1	2	3	4	5	6	88	99
c	How often did your doctor give you easy-to-understand instructions about how to resolve the health problems or concerns that were bothering you?	1	2	3	4	5	6	88	99
d	How often did your doctor seem to know the important information about your medical history?	1	2	3	4	5	6	88	99
e	How often did your doctor spend enough time with you?	1	2	3	4	5	6	88	99
f	How often did your doctor show respect for what you had to say?	1	2	3	4	5	6	88	99

g	In the past 12 months, how often did your doctor seem *informed and up-to-date* about the care you got from specialist doctors?	1	2	3	4	5	6	88	99
h	When your doctor sent you for a blood test, x-ray, or other test, how often did someone from the doctor's office follow up to give you the test results?	1	2	3	4	5	6	88	99
i	In the last 12 months, when you called your doctor's office to get an appointment for care *you needed right away*, how often did you get an appointment as soon as you thought you needed it?	1	2	3	4	5	6	88	99
j	When you made an appointment for a *check-up or routine care* with your doctor, how often did you get an appointment as soon as you thought you needed it?	1	2	3	4	5	6	88	99
k	When you called your doctor's office with a medical question *during regular office hours*, how often did you get an answer to your question that same day?	1	2	3	4	5	6	88	99
l	When you called your doctor's office *after regular office hours*, how often did you get the medical help or advice you needed?	1	2	3	4	5	6	88	99

m	How often did your visits at the doctor's office start within 15 minutes of your appointment? [IF ASKED, WAIT TIME INCLUDES TIME SPENT IN WAITING ROOM AND EXAM ROOM]	1	2	3	4	5	6	88	99
n	In the last 12 months how often were clerks and receptionists at your doctor's office as helpful as you thought they should be?	1	2	3	4	5	6	88	99
o	How often did clerks and receptionists at your doctor's office treat you with courtesy and respect?	1	2	3	4	5	6	88	99

III. Health Insurance Module

Now let's talk about health insurance.

HI1. Compared to last year, would you say your personal financial situation is . . .

1. Improving,
2. Staying the same, or
3. Getting worse
88. DON'T KNOW
99. REFUSED

HI2. Do you currently have health insurance coverage?

1	YES	
2	NO	GO TO HI4
88	DON'T KNOW	GO TO HI4
99	REFUSED	GO TO HI4

HI3. What is the source of the insurance, is it through...

1. Your employer,
2. Your spouse's employer,
3. Medicare,
4. A private policy, that is not through an employer,
5. Medicaid,

6. The VA,
7. Champus,
8. CHIP/Hawkeye, or
9. Some other source. SPECIFY: _____ [TEXT BOX 200 CHARACTER LIMIT]
88. DON'T KNOW
99. REFUSED

FOR ALL RESPONSES TO HI3, GO TO HI7

HI4. For how long have you not had coverage? Has it been...

1. Less than a year,
2. One to two years,
3. Longer than two years, or GO TO HI10
4. Never had coverage GO TO HI10
88. DON'T KNOW GO TO HI10
99. REFUSED GO TO HI10

HI5. People do not have insurance for a variety of reasons, I am now going to read a list of statements, for each one please tell me whether it explains why you do not currently have health insurance. Here is the first one . . .

	ITEM	YES	NO	DK	REF
a	Your employer does not have a health insurance plan	1	2	88	99
b	You are not eligible for your employer's health insurance plan	1	2	88	99
c	You lost your job and coverage	1	2	88	99
d	Your spouse lost (his/her) job and coverage	1	2	88	99
e	Your spouse's employer dropped its health insurance plan	1	2	88	99
f	Your spouse is not eligible for (his/her) employer's health insurance plan	1	2	88	99
g	Your cost for insurance coverage went up and it was too expensive	1	2	88	99
h	You have been in good health and did not think the cost was worth paying	1	2	88	99

HI6. Do you believe you would benefit from having health insurance coverage, or do you think you do not need it at this time?

1. Would benefit GO TO HI9
2. Do not need it at this time GO TO HI9
88. DON'T KNOW GO TO HI9
99. REFUSED GO TO HI9

HI7. Is the cost you or your spouse pay personally for your health insurance premium...

1. Increasing,
2. Increasing dramatically,
3. Decreasing, GO TO PREVN1
4. Decreasing dramatically, or GO TO PREVN1
5. Staying the same? GO TO PREVN1
88. DON'T KNOW
99. REFUSED

HI8. How much effect does this increasing cost have on your household budget? As a result of having to pay more for health insurance, are you...

1	Making major sacrifices,	
2	Making minor sacrifices, or	
3	Not really sacrificing	GO TO PREVN1
88.	DON'T KNOW	GO TO PREVN1
99.	REFUSED	GO TO PREVN1

HI9. Different people do different things to cut back on health care expenses. Please tell me if you have done any of the following:

PROGRAMMER ROTATE ITEMS
IF HI2 = 2, THEN SKIP HI10H THROUGH HI10K

	ITEM	YES	NO	DK	REF
a	Decided not to go to the doctor when you felt you needed to because of cost	1	2	88	99
b	Stopped taking medication to avoid the cost of prescription drugs	1	2	88	99
c	Cut back the dose of prescription drugs to help make the drugs last longer	1	2	88	99
d	Decided not to fill prescriptions given to you by your doctor because of cost	1	2	88	99
e	Not scheduled tests your doctor has suggested in order to save on cost	1	2	88	99
f	Waited longer to see a doctor when you are sick with hopes you will get better on your own	1	2	88	99
g	Switched doctors or hospitals in order to save money	1	2	88	99
h	Minimized how often you use your health insurance in order to keep the overall cost of premiums for everyone in your group from rising	1	2	88	99
i	Switched health insurance to a plan with higher deductibles and copayments in order to save money	1	2	88	99
j	Switched health insurance to a plan with fewer participating doctors and hospitals to save money	1	2	88	99
k	Switched health insurance to a plan with fewer benefits to save money	1	2	88	99

HI10. Which of the following would you be willing to do to help keep down the cost that you or your spouse would pay for health insurance? Would you...

	ITEM	YES	NO	DK	REF
a	Choose a policy with a higher deductible	1	2	88	99
b	Choose a policy with higher co-pays for doctor visits and prescription drugs	1	2	88	99
c	Reduce the number of doctor's visits made by members of your household	1	2	88	99
d	Make more use of clinics staffed by nurses and physician's assistants rather than doctors	1	2	88	99
e	Choose a policy with fewer participating doctors and hospitals	1	2	88	99

IV. Prevention Behavior Module

We are halfway through! Now let's talk about your health habits.

PREVN1. Do you now smoke cigarettes . . .

1. Every day,
2. Some days, or
3. Not at all
88. DON'T KNOW
99. REFUSED

PREVN2. Have you smoked at least 100 cigarettes in your entire life? [NOTE: 5 PACKS = 100 CIGARETTES]

1. YES
2. NO
88. DON'T KNOW
99. REFUSED

PREVN3. During the past 12 months, have you stopped smoking for one day or longer because you were trying to quit smoking?

1. YES
2. NO
88. DON'T KNOW
99. REFUSED

PREVN4. A flu shot is an influenza vaccine injected into the arm. The vaccine FluMist can be sprayed in the nose. In the past 12 months, have you had either the flu shot injection or the nasal mist?

1. YES
2. NO
88. DON'T KNOW
99. REFUSED

PREVN5. How often do you use seat belts when you drive or ride in a car? Would you say . . .

1. Always,
2. Nearly Always,
3. Sometimes,
4. Seldom, or
5. Never
6. Never drive or ride in a car
88. DON'T KNOW
99. REFUSED

PREVN6. During the past 30 days, have you had at least one drink of any alcoholic beverage such as beer, wine, or liquor?

1. YES
2. NO GO TO PREVN8
88. DON'T KNOW
99. REFUSED

PREVN7. During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage?

— — UNITS -- UNIT/FREQUENCY DESIGN:
1. DAYS
2. WEEKS
88. DON'T KNOW
99. REFUSED

PREVN8. Now, thinking about your eating habits in the past 30 days, how often do you eat...

	ITEM	LESS THAN ONCE A WEEK	ONCE A WEEK	2 TO 3 TIMES A WEEK	4 TO 6 TIMES A WEEK	ONCE A DAY	TWO TIMES A DAY	DK	REF
a	Any fresh, frozen, or canned fruit, not counting juice?	1	2	3	4	5	6	88	99
b	Any fresh, frozen, or canned vegetables?	1	2	3	4	5	6	88	99
c	Any whole grain foods such as whole wheat bread, whole grain cereal, popcorn, brown rice, corn tortillas?	1	2	3	4	5	6	88	99

PREVN9. Now let's talk about exercise. During the past month, other than for your regular job, did you participate in any physical activities or exercises such as running, golf, gardening, or walking for exercise?

1. YES
2. NO
88 DON'T KNOW
99. REFUSED

PREVN10. In a typical week, how often do you exercise continuously for at least 20 minutes at a level where your heart rate and breathing rate noticeably increases? Would you say...

1. Less than once a week,
2. 1 day a week,
3. 2 days a week,
4. 3 days a week,
5. 4 days a week, or
6. 5 or more days a week?
88 DON'T KNOW
99 REFUSED

V. Employment Module

The next section is about employment.

EMP1. What do you consider your main current employment status at the present time? Would it be...

1.	Self-employed,	GO TO EMP3
2.	Employed by someone else,	GO TO EMP3
3.	Unemployed,	
4.	Homemaker,	GO TO WELLNESS
5.	Retired,	GO TO WELLNESS
6.	Student, or	GO TO WELLNESS
7.	Disabled? DESCRIBE_____	GO TO WELLNESS PROGRAMMER: TEXT BOX 60 CHARACTERS
8.	OTHER, DESCRIBE_____	GO TO WELLNESS PROGRAMMER: TEXT BOX 60 CHARACTERS
88.	DON'T KNOW	GO TO WELLNESS
99.	REFUSED	GO TO WELLNESS

PROGRAMMER: ONLY SHOW EMP2 WHERE EMP1 = 3

EMP2. Which of these statements describes your situation . . .

1.	I'm out of work right now, but I am usually employed, or	GO TO EMP4
2.	I have never had a paying job	GO TO WELLNESS
88	DON'T KNOW	GO TO EMP4
99	REFUSED	GO TO EMP4

EMP3. Approximately how many people work in your organization? Would you say . . .

1.	1,
2.	2 to 9,
3.	10 to 19,
4.	20 to 49,
5.	50 to 249,
6.	250 to 999, or
7.	1000 or more
88.	DON'T KNOW
99.	REFUSED

EMP4. What kind of business or industry [are you currently working in IF EMP1 = 1 OR 2] [did you work in IF EMP1=3 THROUGH 8 AND EMP2=1] as your primary job? Please be specific. For example, hospital, newspaper publishing, elementary school, auto repair shop, etc.

_____ [TEXT BOX 600 CHARACTERS.]

EMP5. What [are IF EMP1 = 1 OR 2] [were IF EMP1=3 THROUGH 8 AND EMP2=1] your usual activities or duties at this job? Please be specific. For example, patient care, directing hiring policies, teaching students, repairing automobiles, etc. Please tell me your three most important duties.

_____ [TEXT BOX 500 CHARACTERS.]

_____ [TEXT BOX 500 CHARACTERS.]

_____ [TEXT BOX 500 CHARACTERS.]

EMP6. In addition to your primary job, [do IF EMP1 = 1 OR 2] [did IF EMP1=3 THROUGH 8 AND EMP2=1] you do any other work for pay?

1. YES
2. NO GO TO EMP9
88. DON'T KNOW GO TO EMP9
99. REFUSED GO TO EMP9

EMP7. What kind of business or industry [is IF EMP1 = 1 OR 2] [was IF EMP1=3 THROUGH 8 AND EMP2=1] this second job? Please be specific in your answer.

_____ [TEXT BOX 500 CHARACTERS.]

EMP8. What [are IF EMP1 = 1 OR 2] [were IF EMP1=3 THROUGH 8 AND EMP2=1] your usual activities or duties at this second job?

_____ [TEXT BOX 500 CHARACTERS.]

_____ [TEXT BOX 500 CHARACTERS.]

IF EMP1 = 3. Unemployed GO TO WELLNESS

EMP9. About how many hours altogether did you work in the past 7 days?

— — HRS [SOFT RANGE CHECK IF OVER 60 HOURS, VERIFY RESPONSE]
88 Don't know
99 REFUSED

EMP10. How many hours does your employer expect you to work in a typical 7-day week? [IF IT VARIES, ESTIMATE THE AVERAGE

— — HRS [SOFT RANGE CHECK IF OVER 60 HOURS, VERIFY RESPONSE]
88 Don't know
99 REFUSED

EMP11. Now please think of your work experiences over the past 4 weeks. Indicate the number of days you spent in each of the following work situations.

In the past 4 weeks, how many days did you...

	ITEM	NUMBER OF DAYS	DK	REF
a	Miss an entire work day because of problems with your physical or mental health? Please include only days missed for your own health, not someone else's health.	— — —	888	999
b	Miss an entire work day for any other reason, including vacation?	— — —	888	999
c	Miss part of a work day because of problems with your physical or mental health? Please include only days missed for your own health, not someone else's health.	— — —	888	999
d	Miss part of a work day for any other reason, including vacation?	— — —	888	999
e	Come in early, go home late, or work on your day off?	— — —	888	999

PROGRAMMER: RANGE CHECK ON DAYS PLEASE. 0 TO 28 PERMISSIBLE.

EMP12. About how many hours altogether did you work in the past 4 weeks?

— — NUMBER OF HOURS
88 DON'T KNOW
99 REFUSED

CALCULATING TABLE

- 40 HOURS PER WEEK FOR 4 WEEKS = 160 HOURS
- 35 HOURS PER WEEK FOR 4 WEEKS = 140 HOURS
- 40 HOURS PER WEEK FOR 4 WEEKS WITH 2 8-HOUR DAYS MISSED = 144 HOURS
- 40 HOURS PER WEEK FOR 4 WEEKS WITH 3 4-HOUR PARTIAL DAYS MISSED = 148 HOURS
- 35 HOURS PER WEEK FOR 4 WEEKS WITH 2 8-HOUR DAYS MISSED AND 3 4-HOUR PARTIAL DAYS MISSED = 112 HOURS

EMP13. Now think about people who do jobs similar to yours. On a scale from 1 to 10 where 1 is the worst job performance anyone could have at your job and 10 is the best performance anyone could have, how would you rate the usual performance of most workers in a job similar to yours?

— — PROGRAMMER RANGE 1 THROUGH 10
88 DON'T KNOW
99 REFUSED

EMP14. Using the same 1 to 10 scale, how would you rate your usual job performance over the past year or two?

— — PROGRAMMER RANGE 1 THROUGH 10
88 DON'T KNOW
99 REFUSED

EMP15. Using the same 1 to 10 scale, how would you rate your overall job performance on the days you worked during the past 4 weeks?

— — PROGRAMMER RANGE 1 THROUGH 10
88 DON'T KNOW
99 REFUSED

VI. Wellness Module

This next section is about some things people do to stay well.

WELL1. Please indicate whether you have had the following screenings or examinations in the past 12 months. Have you had a...

PROGRAMMER OVERLAY SCREENS

	ITEM	YES	NO	DK	REF
1	Blood Pressure Check	1	2 GO TO Q2	88 GO TO Q2	99 GO TO Q2
1b	Did you have a blood pressure check at work?	1	2	88	99
2	Blood Sugar Check	1	2 GO TO Q3	88 GO TO Q3	99 GO TO Q3
2b	Did you have a blood sugar check at work?	1	2	88	99
3	Cholesterol Check	1	2 GO TO Q4	88 GO TO Q4	99 GO TO Q4
3b	Did you have a cholesterol check at work?	1	2	88	99
4	Hearing Check	1	2 GO TO Q5	88 GO TO Q5	99 GO TO Q5
4b	Did you have a hearing check at work?	1	2	88	99
5	Lung Function Check	1	2 GO TO Q6	88 GO TO Q6	99 GO TO Q6
5b	Did you have a lung function check at work?	1	2	88	99
6	Vision Check	1	2 GO TO Q7	88 GO TO Q7	99 GO TO Q7
6b	Did you have a vision check at work?	1	2	88	99
7	Cardiovascular Exam or EKGs	1	2	88	99
8	Colon/Rectal Exam	1	2	88	99
9	Prostate Exam [ASK IF GENDER1 = 1]	1	2	88	99
10	Stool Check	1	2	88	99
11	Mammogram [ASK IF GENDER1 = 2]	1	2	88	99

WELL2. Please indicate how likely you would be to participate in each of the following programs during the next year, if they were offered at work. Please tell me if you would be extremely likely, likely, somewhat likely, or unlikely to participate.

.

PROGRAMMER: ASK WELL2 THROUGH WELL6 ONLY THOSE EMPLOYED [EMP1 = 1 OR 2].
UNEMPLOYED GO TO DEM1.
SHOW GRID OF QUESTIONS RATHER THAN ONE PER SCREEN.

	ITEM	Extremely	Likely	Somewhat	Unlikely
1	**EDUCATIONAL PROGRAMS**				
a	Musculoskeletal pain prevention or Ergonomics	1	2	3	4
b	Cancer prevention	1	2	3	4
c	Heart disease prevention	1	2	3	4
d	Cholesterol reduction	1	2	3	4
e	Workplace safety and health	1	2	3	4
f	Substance abuse	1	2	3	4
g	Workplace hazard control, such as injury, noise, dust, or toxins	1	2	3	4
h	Cold/flu prevention and treatment	1	2	3	4
i	Workplace violence/bullying	1	2	3	4

2	**EMPLOYEE ASSISTANCE PROGRAMS**				
a	Depression treatment	1	2	3	4
b	Job stress management	1	2	3	4
c	Managing chronic conditions, including diabetes, hypertension, etc.	1	2	3	4
d	Managing chronic pain, including neck & shoulder injuries, back injuries, etc.	1	2	3	4
e	Controlling anger/emotions	1	2	3	4
3	**FITNESS PROGRAMS**				
a	Fitness membership	1	2	3	4
b	On-site, low-impact exercise equipment	1	2	3	4
c	Prescribed exercise programs	1	2	3	4
d	Walk-fit programs	1	2	3	4
4	**IMMUNIZATION PROGRAMS**				
a	Flu shots	1	2	3	4
b	Tetanus shots	1	2	3	4
5	**NUTRITION PROGRAMS**				
a	Healthy cooking	1	2	3	4
b	Eating to optimize health	1	2	3	4
c	Weight management cutting edge ideas	1	2	3	4
d	On-site vending machines with healthy choices	1	2	3	4
e	Eating out - exploring choices	1	2	3	4
6	**SCREENING PROGRAMS**				
a	Blood pressure check	1	2	3	4
b	Blood sugar check	1	2	3	4
c	Cholesterol check	1	2	3	4
d	Hearing check	1	2	3	4
e	Lung function check	1	2	3	4
f	Vision check	1	2	3	4
7	**SMOKING CESSATION PROGRAMS**	1	2	3	4
8	**STRESS REDUCTION PROGRAMS**	1	2	3	4
9	**TIME MANAGEMENT PROGRAMS**	1	2	3	4
10	**VISITING ON-SITE HEALTHCARE NURSE**	1	2	3	4

WELL3. Please indicate how likely you would be to participate in wellness programs during the following times. Would you be extremely likely, likely, somewhat likely, or unlikely to participate at these times...

	ITEM	Extremely	Likely	Somewhat	Unlikely	DK	REF
	Health Promotion Programs	1	2	3	4	88	99
a	Before Work	1	2	3	4	88	99
b	During Lunch at Work	1	2	3	4	88	99
c	After Work	1	2	3	4	88	99
d	During work time	1	2	3	4	88	99

WELL4. Are wellness programs offered where you work?

1. YES
2. NO GO TO DEM1
88. DON'T KNOW
99. REFUSED

WELL5. Do you participate in a Wellness program at work?

1. YES GO TO DEM1
2. NO
88. DON'T KNOW
99. REFUSED

WELL6. Some people would like to be involved in wellness programs at work but for a variety of reasons do not participate in them. I am going to read a list of some incentives that may encourage people to take part. For each one, please tell me whether or not it would motivate you to participate in a workplace wellness program.

Would you take part in a workplace wellness program if...

PROGRAMMER: ROTATE ORDER OF A TO E. LEAVE F AT END OF SECTION

	ITEM	YES	NO	DK	REF
a	You were paid a one-time cash bonus of $100 for taking part	1	2	88	99
b	You received a one time $100 reduction in your insurance premium for taking part	1	2	88	99
c	You were paid your hourly rate to participate in wellness activities	1	2	88	99
d	You were given a free fitness center membership	1	2	88	99
e	There was a program where you could form a team with your co-workers	1	2	88	99
f	You received nothing extra. Increased wellness is motivation enough for you	1	2	88	99

VII. Demographics Module

These last few questions are about you.

DEM1 About how tall are you without shoes?

____ FEET ____ CENTIMETERS
____ INCHES

ACCEPT EITHER FEET/INCHES OR CENTIMETERS, NOT BOTH

88. DON'T KNOW
99. REFUSED

DEM2 About how much do you weigh without shoes?

____ POUNDS ____ KILOGRAMS

ACCEPT EITHER POUNDS OR KILOS, NOT BOTH

88 DON'T KNOW
99 REFUSED

DEM3 How old are you today?

____ YEARS
88. DON'T KNOW
99. REFUSED

DEM4 Are you currently . . .

1. Married,
2. Divorced,
3. Widowed,
4. Separated,
5. Never married, or
99. REFUSED

DEM5 What is the highest grade or year of school you completed?

1. Never attended school or only attended kindergarten
2. Grades 1 through 8
3. Grades 9 through 11
4. Grade 12 or GED
5. College 1 year to 3 years, no Bachelor's degree
6. College 4 years, BA, BS, or equivalent
7. POST-Graduate Course Work OR DEGREE
88. DON'T KNOW
99. REFUSED

DEM6 Are you of Hispanic, Latino, or Spanish origin?

1. YES
2. NO
88. DON'T KNOW
99. REFUSED

DEM7 What is your race? [STATE ANSWER CATEGORIES IF NEEDED: Are you . . .]

1. White,
2. Black or African American,
3. Asian,
4. American Indian/Alaska Native,
5. Some other race or multi-racial: [SPECIFY] _____

TEXT BOX WITH 50 CHARACTER LIMIT.
ANSWERS TO BE CODED BY DATA EDITOR ONCE ALL INTERVIEWS COMPLETED.

88. DON'T KNOW
99. REFUSED

DEM8 Is your annual household income from all sources less than or greater than $35,000?

1	LESS THAN $35,000	GO TO DEM9
2	GREATER THAN $35,000	GO TO DEM10
88	DON'T KNOW	
99	REFUSED	

[EXPLAIN IF NECESSARY: Income is important in analyzing the information we collect. For example, this information helps us learn whether persons in one income group use certain types of medical care services or have certain medical conditions more or less often than those in another group.]

DEM9 Is your annual household income from all sources...

1 Less than $10,000,
2 Between $10,000 and $15,000,
3 Between $15,000 and $20,000,
4 Between $20,000 and $25,000,
5 Between $25,000 and $30,000, or
6 Between $30,000 and $35,000

[EXPLAIN IF NECESSARY: Income is important in analyzing the information we collect. For example, this information helps us learn whether persons in one income group use certain types of medical care services or have certain medical conditions more or less often than those in another group.]

PROGRAMMER: GO TO CLOSING

DEM10 Is your annual household income from all sources ...

1 Between $35,000 and $50,000,
2 Between $50,000 and $75,000, or
3 Greater than $75,000?
88 DON'T KNOW
99 REFUSED

[EXPLAIN IF NECESSARY: Income is important in analyzing the information we collect. For example, this information helps us learn whether persons in one income group use certain types of medical care services or have certain medical conditions more or less often than those in another group.]