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HEALTH INSURANCE COVERAGE
FOR PENNSYLVANIA
DAIRY FARM MANAGERS

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Health Insurance Coverage for Pennsylvania Dairy Farm Managers

The current debate over comprehensive health insurance coverage brings to light the lack of health insurance coverage for many residents of rural America. Dairy farm profit margins have tightened in recent years, often leaving little income for family living expenses. Further, health insurance for the self-employed is expensive, and farmers as an occupation pay higher premiums because of the relative health risk in their profession (Frenzen; Jensen and Saupe; and Kralewski, et al.).

A 1992 survey of 1,237 Pennsylvania dairy farm managers indicated that almost 20 percent of the farm managers did not have health insurance (Gripp, et al.). In order to address the lack of health insurance on many of these farms, it is instructive to examine what farm and farm manager characteristics are likely to indicate who has health insurance coverage. The research presented in this paper analyzes these determinants of having health care coverage and whether the farm operation may or may not provide it. This analysis will provide valuable information for policy makers on how to best meet the health care needs of dairy farm families.

Sources of Health Insurance

In a telephone survey conducted in December of 1992 (Gripp, et al.), Pennsylvania dairy farm managers were asked if they had health insurance and, if they did, how it was provided. The survey covered a broad range of topics of interest to the dairy industry and only two questions related directly to health insurance coverage. Respondents could indicate more than one source of health insurance. Each respondent was categorized as either having no insurance, a single source, or several sources of health insurance (Table 1).

Table 1. Health Insurance Provisions for Each Respondent

Type of Provision	Number of Respondents	Percent of Total*	Percent of Total With Insurance*
No Health Insurance	243	19.7	---
Farm Operation	664	53.9	67.1
Off-Farm Job	136	11.0	13.8
Other Provider	117	9.5	11.8
Medicare/Medicaid	38	3.1	3.8
Two Sources of Providers	24	1.9	2.4
Have Insurance But Did Not Specify Provider(s)	10	0.8	1.0
Total Usable Answers	1232	100%	100%

*May not add to 100 due to rounding.

Overall, 19.7 percent of the farm managers did not have health insurance which is higher than previous studies. A 1989 study of Minnesota farm families found only 6.6 percent with no insurance and 2.7 percent who had some household members uncovered (Kralewski, et al.). Another study of Wisconsin farm families found 12 percent of the farm population had no health insurance (Slesinger and Monson). These results from Pennsylvania, Minnesota, and Wisconsin are below a national estimate of 25.9 percent of the rural agricultural population being uninsured (Kralewski, et al.).

Of those with health insurance in the current study, the farm operation was the only source of health insurance for 67.1 percent of all farm managers, while 13.8 percent had health insurance provided through off-farm employment, 11.8 percent had coverage through other means, and 3.8 percent received health coverage from federal insurance programs. Only 24 farm managers (2.4%) had two sources of health insurance. The distribution of the provisions for health insurance coverage in Wisconsin was quite different from that found in

Pennsylvania as 16.1 percent[1] had coverage through a farm organization and 36.3 percent had private coverage through an employer compared to 53.7 percent and 11.0 percent, respectively, in Pennsylvania (Slesinger and Monson).

Of the 24 respondents who had two sources of health insurance, 23 had coverage through the farm operation in addition to another source. Seventeen farm managers had additional coverage through Medicare/Medicaid, and five had additional insurance through off-farm employment.

Characteristics of Those Respondents With and Without Health Insurance

The group of farm managers with health insurance was compared to the group without health insurance through a simple comparison of average characteristics. A simple t-test of the equality of sample means for each group was performed on the set of variables presented in Table 2. A statistically significant difference in means implies the rejection of the null hypothesis that the means of each of these variables are the same for each group. Sample means and t-statistics are presented in Table 2 for each group.

The mean age and education levels of the respondents with and without health insurance were significantly different. The group with health insurance had a higher average age than the group without insurance as would be expected because the group with health insurance includes those respondents who qualify for Medicare. The group with health

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[1]This calculation includes those who do not have health insurance. These percents should be compared to the "Percent of Total" column in Table 1.

Table 2. Means and T-tests of Those Groups with and without Health Insurance

Variable	Farms With Health Insurance		Farms With No Health Insurance		T-Ratio
	Number of Respondents	Mean	Number of Respondents	Mean	
Age	986	46.8	242	40.8	6.9340*
Education (Categorical**)	988	4.3	243	3.2	13.1059*
Years as the Principal Operator	989	19.2	243	11.2	6.2894*
Income (Categorical***)	839	3.3	185	3.3	-0.2706
Off-Farm Job (1=Yes and 2=No)	986	1.7	242	1.9	-6.6990*
Off-Farm Income - (Above $5,000=1 and Below $5,000=2)	272	1.2	24	1.3	-1.2190
Member of a Milk Marketing Cooperative - (1=Yes and 2=No)	980	1.3	235	1.5	-3.2563*
Number of Full-Time Workers	987	2.2	243	2.0	1.7158
Number of Part-Time Workers	985	1.1	241	1.0	0.4736

*The null hypothesis that the means are equal was rejected at $\alpha = 0.05$.
**The educational categories are: 1 = Elementary School, 2 = Jr. High School, 3 = Some High School, 4 = Completed High School, 5 = Some Post High School Work, 6 = Completed Technical/Business School, 7 = Completed College Degree, and 8 = Started/Completed Graduate Degree.
***The income categories are: 1 = Under $5,000, 2 = $5,000 to $14,999, 3 = $15,000 to $24,999, 4 = $25,000 to $49,999, 5 = $50,000 to $74,999, 6 = $75,000 to $99,999, and 7 = $100,000 and Over.

insurance had a mean education level slightly above the high school diploma category[2] while

the group without health insurance had a mean of just above the 1 to 3 years of high school

category. The mean number of years as the principal operator for each group was also

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[2]The educational categories are: 1 = Elementary School, 2 = Jr. High School, 3 = Some High School, 4 = Completed High School, 5 = Some Post High School Work, 6 = Completed Technical/Business School, 7 = Completed College Degree, and 8 = Started/Completed Graduate Degree.

significantly different from one another. Since the respondents with health insurance had a higher mean age, it also is sensible that, on average, they had been operating their farms longer.

The mean income levels[3] of the two groups in 1991 were not significantly different. However, the means of whether or not the respondent or a spouse worked off-farm were significantly different for the two groups although only 25 percent of the sample worked off-farm. On average, those respondents with health insurance were more likely to work off-farm than those who did not have health insurance. However, there was no statistical difference between the means of off-farm income levels for the two groups.

The means of whether or not the respondents were members of a milk marketing cooperative were also significantly different from one another. The farm managers with health insurance were more likely, on average, to be a member of a cooperative than those who did not have health insurance. Many cooperatives offer health insurance coverage to their members (Jensen and Saupe). No significant difference between the two groups was found for either the mean number of full-time workers or the mean number of part-time workers.

These results were similar to other bivariate analysis done by Jensen and Saupe, and Coward, Clarke, and Seccombe. Jensen and Saupe found that farm families with no health insurance coverage were younger and had lower incomes while Coward, et al. found that nonmetropolitan workers were less educated and earned lower incomes than metropolitan

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[3]The income categories are: 1 = Under $5,000, 2 = $5,000 to $14,999, 3 = $15,000 to $24,999, 4 = $25,000 to $49,999, 5 = $50,000 to $74,999, 6 = $75,000 to $99,999, and 7 = $100,000 and Over.

workers. However, our analysis did not find significant income differences.

The survey respondents with health insurance were more likely to have an off-farm job which contradicts results from the Slesinger and Monson Wisconsin study. Approximately 63 percent of the farm households in the Wisconsin study had at least one person in the household employed off-farm (Slesinger and Monson). Having at least one person work off-farm did not increase the likelihood of having health insurance coverage for all members of the household but did increase the likelihood that the farm household would have private health insurance coverage (Slesinger and Monson).

Statistical Methods and Model Development

A simple comparison of the means of characteristics of the two groups of dairy farm managers (those with and without health insurance) does little to predict the likelihood of whether a farm manager with particular characteristics will have health insurance coverage. Regression analysis is needed to clarify the intercorrelations among all of the variables and their relationships to health insurance coverage.

A logistic regression model was developed to relate the farm characteristics described previously to the likelihood that a dairy farm has health insurance coverage. Logistic regression is a well-documented statistical technique (Maddala; Judge, et al.) that is based on equation 1.

$$\frac{P(y)}{1 - P(y)} = e^{x\beta} \tag{1}$$

The probability of event y occurring, P(y), divided by the probability of it not occurring, 1 - P(y), is related to the natural logarithm, e, raised to the power of the linear relationship, $x\beta$, where x is a vector of independent variables and β is the vector of parameters relating them to the left-hand side of the equation. Regressing the ratio of the probabilities (the odds ratio) in logs on the vector of x's results in estimates of β.

Two logistic regression models were developed to predict the existence of health insurance coverage for dairy farm managers. The first model relates several farm manager and farm characteristics to the respondent having any type of health insurance coverage. The binary dependent variable, INSURANC, takes the value of one if the respondent has health insurance and zero if not. The second model relates the same characteristics to the provision of health insurance coverage through the farm operation as opposed to having coverage through an off-farm source, another provider, or Medicare/Medicaid. The dependent variable is FARMOPER, where a 1 indicates that the farm operation provides the health insurance and a 0 indicates that the farm operation does not provide the health insurance for the respondent. All the dependent and independent variable names, descriptions, values, and means are presented in the Appendix.

The same set of regressors is used for both logistic regression models. The first two variables relate the farm manager's age to having health insurance. AGE is the age of the dairy farm manager, while OVER65 is a dummy variable equal to one if the farm manager is aged 65 or older. The earlier comparison of respondents with and without health insurance, found that the mean age of those with health insurance was higher. Therefore, a positive parameter estimate for the age variable is expected in both models. Because individuals who

are 65 or older qualify for Medicare, this variable is expected to have a positive sign in the first equation predicting having health insurance, while it may have a negative sign in the second equation which predicts whether the farm operation provides the health insurance.

The level of education of the farm manager is also expected to have a positive relationship with having health insurance coverage. The a priori expectation of the relationship between the level of education and the farm provision of health insurance is ambiguous. Certainly, it is expected that better educated farm managers will have health insurance, but it also may be the case that better educated farm managers or their spouses will hold higher paying off-farm jobs that provide health benefits.

The variables FULLTIME and PARTTIME reflect the number of full-time and part-time workers employed on the farm, respectively. A positive coefficient for these variables is expected because the farm operation might qualify for cheaper, group rates with more workers. Further, larger farms would perhaps offer a more attractive benefits package in order to attract and retain quality personnel. This would be especially true for the full-time workers and even more so in the second model, where the dependent variable is whether or not the farm operation provides health insurance. However, benefits are rarely paid to part-time workers.

The income level of the dairy farm manager is the fourth set of variables that was entered into the logistic regression model. The income variables were a series of dummy variables, where INCOME1 indicated a net farm income of under $5,000, INCOME2 indicated a net farm income of $5,000 to $14,999, continuing to INCOME7, which indicated a net farm income of $100,000 and over. These income variables are categorical dummy

variables as described in the Appendix. The first variable, INCOME1 is omitted from the model to provide a base level for estimation. The respondents with the higher incomes are expected to have a greater probability of having health insurance than those in the lower income categories. Although the variable examined in the means comparison was a single categorical variable, these more discrete divisions are used to provide more explanatory power to the model.

Off-farm income is included in the two regression models through the variables, UNDER5 and ABOVE5; a respondent or spouse with an off-farm job who earned under $5,000 or who earned above $5,000. These also are dummy variables and the variable representing those with no off-farm job was omitted from the logistic regression model for the base case. The earlier means comparison indicated that those respondents with health insurance were more likely to work off-farm than those who did not have health insurance. The survey data indicated that 91 percent of the farm managers who worked off-farm had health insurance coverage. More specifically, 54 percent of the farm managers or spouses earning over $5,000 had health insurance coverage through their off-farm job, while 31 percent relied on the farm operation to provide their coverage. The situation is reversed for those earning under $5,000, as only 13 percent of the farm managers had health insurance coverage through their off-farm job, while 63 percent relied on the farm operation for coverage. Therefore, a positive coefficient on both variables, UNDER5 and ABOVE5, is expected in the first model of whether the farm manager has health insurance coverage. However, negative coefficients are expected for these variables in the second model, as having an off-farm job might decrease the probability of the farm operation providing the

health insurance especially if over $5,000 is earned.

The variable COOPMEMB is a dummy variable representing whether or not the respondent is a member of a milk marketing cooperative. The first model should yield a positive coefficient as a cooperative is another means of acquiring health insurance coverage. The second model is also expected to have a positive coefficient.

Finally, the last set of variables included in the model is a series of dummy variables describing the business organization of the dairy farm. PARTNER represents a partnership, FAMCORP represents a family corporation, and NONFAMCO represents a non-family corporation. The sole proprietorship is the base case that is omitted from the model. It is expected that the more formal the business organization of the dairy farm is, the more likely it is that the farm will provide health insurance to its employees.

Model Results

The first logistic regression model relates the set of farm/farm manager characteristics to whether or not the respondent had health insurance. The signs of the estimated parameters were consistent with a priori expectations, with the exception of the income dummy variables which had negative coefficients. However, none of the parameter estimates for the income variables was significantly different from zero. Overall, there were five statistically significant parameters estimated in this first model. The logistic regression results for both models are presented in Table 3.

The model results indicate that higher age and educational levels increase the probability that the respondent will have health insurance. In addition, respondents have a

Table 3. Logistic Regression Results

Independent Variables	Dependent Variable	
	MODEL 1: Whether or Not the Respondent Has Health Insurance	MODEL 2: Whether or Not the Farm Provides the Health Insurance
	Parameter Estimate	Parameter Estimate
INTERCEPT	-4.3740	0.3729
AGE	0.0476*	0.0089
OVER65	0.4018	-1.5710*
EDUCATE**	0.9300*	0.0003
FULLTIME	0.0174	0.2166*
PARTTIME	-0.0728	0.0251
INCOME2***	-0.4844	0.0955
INCOME3***	-0.3419	0.9894*
INCOME4***	-0.0343	0.2234
INCOME5***	-0.0712	0.4745
INCOME6***	-0.4192	-0.1408
INCOME7***	-0.0300	-0.0898
UNDER5	0.3590	-0.7224*
ABOVE5	1.5874*	-2.2447*
COOPMEMB	0.4221*	0.0713
PARTNER	0.5685*	-0.0405
FAMCORP	-0.1808	0.0875
NONFAMCO	0.3382	0.1208
Pseudo R^2	.2216	.1844
- 2 Log Likelihood	715.92****	830.93****

*Wald statistic is significant at $p < 0.05$.

**The educational categories are: 1 = Elementary School, 2 = Jr. High School, 3 = Some High School, 4 = Completed High School, 5 = Some Post High School Work, 6 = Completed Technical/Business School, 7 = Completed College Degree, and 8 = Started/Completed Graduate Degree.

***The income categories are: INCOME2 = $5,000 to $14,999, INCOME3 = $15,000 to $24,999, INCOME4 = $25,000 to $49,999, INCOME5 = $50,000 to $74,999, INCOME6 = $75,000 to $99,999, and INCOME7 = $100,000 and Over.

****Chi-square is significant at $p < 0.05$.

higher probability of having health insurance if they or their spouse have an off-farm job with an earned income of over $5,000. Being a member of a milk marketing cooperative also increases the respondents' likelihood of having health insurance. Finally, this model indicated that partnership farm business organizations are more likely to indicate health insurance coverage than the base case of having a sole proprietorship business organization, which is consistent with a priori expectations.

These results indicate that if the dairy farm manager has several choices of where to acquire health insurance, such as from an off-farm job or a milk marketing cooperative, then the farm manager will be more likely to have health insurance coverage. However, the effect of the number of full-time workers was not statistically significant in this model. A priori expectations suggest that if the farm employs a large number of workers, health insurance would be provided to both the workers and the family. These results, however, suggest that this is not necessarily the case.

Again, the results were consistent with previous multivariate analyses. Although other variables in addition to age and education were used, Jensen and Saupe found higher incomes significant in explaining which farm managers had health insurance coverage. Coward, et al. found that age, education, and income were significant, among other variables, in explaining those with health insurance coverage. The results presented in the current study found a statistically significant positive relationship between health insurance coverage and the farm manager's age and education, but farm income was statistically insignificant.

The Jensen and Saupe analysis included a dummy variable of whether or not the farm was a dairy operation (67 percent were dairy operations). Because this variable was not significant in the regression, they suggested that dairy milk marketing cooperatives do not have the special access or rates to offer health insurance to dairy farm managers. This is contradictory to the results in this paper that suggest that being a member of a cooperative, which was directly entered into the statistical model, increases the farm manager's likelihood of having health insurance coverage.

Whether or not health insurance was provided by the farm operation was the dependent variable in the second logistic regression model. Again, most of the estimant parameter signs were as expected. The signs of the two highest income categories were negative, suggesting that those farms with significantly higher farm incomes either also have insurance from off-farm employment, or are wealthy enough to purchase private health insurance outside the farm business. These parameter estimates were not significantly different from zero, however.

The second model had five significant parameter estimates. If the farm manager has health insurance coverage, age and education play no significant explanatory role in whether the farm business provides that health insurance. However, an exception is being age 65 or older. This is consistent with a priori expectations, since those 65 or older qualify for Medicare. One income category, between $15,000 and $25,000, has a significant and positive effect on whether the farm provides health insurance. This income category represents most single-family, Pennsylvania dairy operations (Ford).

The number of full-time workers, FULLTIME, was significant in the second logistic regression model. The positive coefficient indicates that as the number of full-time workers increases, the greater likelihood of the farm operation providing health insurance coverage of those farms having coverage. This is consistent with the a priori expectations discussed earlier.

Off-farm income also has a significant and negative effect on whether the farm provides health insurance coverage. Making under $5,000 or making over $5,000 in an off-farm job reduces the likelihood that the farm operation will provide the health insurance, when compared to the base case of not working off-farm. As indicated in the variable discussion and in the first model, off-farm jobs can provide an alternative source of health insurance coverage for the farm family. Farm business organization and coop membership did not significantly affect the probability of the farm providing health insurance coverage.

The results from the second logistic regression model indicate that the income category representing most single-family, Pennsylvania dairy operations has a positive effect on whether the farm operation provides health insurance coverage. In addition, as more full-time workers are employed, the probability that the farm operation provides the health insurance increases. Being 65 years of age or older decreases the probability of the farm operation providing the health insurance. Finally, having an income from any off-farm job, either earning under $5,000 or above $5,000, has a negative effect on whether the farm operation provides the health insurance coverage as health insurance coverage is likely provided through an off-farm employer.

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Sensitivity of the Models to Changes in Farm Characteristics

The sensitivity of the probability of whether the farm manager has health insurance or whether the farm provides it can be evaluated with respect to the levels of the independent variables in the regression. The change in the probability of the dependent variable resulting from a change in an independent variable can be determined by evaluating the probability of the event occurring before and after the change. The probability of the event occurring is calculated with the following equation:

$$P(y) = \frac{1}{1 + e^{-x\beta}} \qquad (2)$$

The variables in equation 2 are as described for equation 1. By increasing the mean value of each variable by one unit (one variable at a time), a new probability can be calculated and compared to the base probability. Sample means and changes in probability for one-unit increases in the independent variables are presented in Table 4.

All changes in the independent variables result in only marginal changes in the probability of having health insurance (Model 1). However, note that increasing the probability of having health insurance by five percent reduces the probability that a farm manager is uninsured by 20%, because of the large number of farm managers in the sample that are insured. Changes in probabilities are calculated for all variables, so care must be taken when interpreting the calculated changes for those variables with statistically insignificant parameter estimates. Of the significant variables, a change from off-farm income of less than $5,000 to off-farm income of greater than $5,000 results in a 13.29

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Table 4. Changes in Probability of Having Health Insurance and Farm Provision of Health Insurance

		Dependent Variable	
		MODEL 1: Whether or Not the Respondent Has Health Insurance	MODEL 2: Whether or Not the Farm Provides the Health Insurance
Independent Variables	Sample Mean	Marginal Change in Probability (%)	Marginal Change in Probability (%)
AGE	45.6	0.52*	0.22
OVER65	0.07	3.90	-46.83*
EDUCATE**	4.09	7.16*	0.01
FULLTIME	2.17	0.19	5.17*
PARTTIME	1.06	-0.83	0.63
INCOME2***	0.18	-5.43	3.05
INCOME3***	0.24	1.92	21.94*
INCOME4***	0.30	3.42	-14.88
INCOME5***	0.08	-0.36	6.58
INCOME6***	0.03	-3.93	-16.39
INCOME7***	0.05	4.51	1.81
UNDER5	0.05	4.65	-15.46*
ABOVE5	0.20	13.29*	-59.30*
COOPMEMB	0.63	5.04*	1.83
PARTNER	0.21	5.51*	-1.04
FAMCORP	0.15	-2.33	2.17
NONFAMCO	0.01	3.58	2.97

*Variables found to be significantly different from zero in the previous logistic regression analysis.
**The educational categories are: 1 = Elementary School, 2 = Jr. High School, 3 = Some High School, 4 = Completed High School, 5 = Some Post High School Work, 6 = Completed Technical/Business School, 7 = Completed College Degree, and 8 = Started/Completed Graduate Degree.
***The income categories are: INCOME2 = $5,000 to $14,999, INCOME3 = $15,000 to $24,999, INCOME4 = $25,000 to $49,999, INCOME5 = $50,000 to $74,999, INCOME6 = $75,000 to $99,999, and INCOME7 = $100,000 and Over.

percent increase in the probability that a farm operator would have health insurance.

In Model 2, the probability that the farm operation provides health insurance is affected most by off-farm income and whether the farm manager is over 65. The probability that the farm operation provides health insurance is reduced by 59.30 percent if the farm manager has an increase in off-farm income from less than $5,000 to more than $5,000. If the net cash farm income increases from income category 2 to 3, then the probability of the farm operation providing health insurance increases almost 22 percent.

Larger changes in some of the explanatory variables result in larger increases in the probabilities explored in this analysis and are presented in Table 5. In model 1, those farm operators with a college education are 12.6 percent more likely to have health insurance than those with only a high school education. Large differences in age also increase the probability of having health insurance coverage for older farm managers, especially in model 1. An increase in the number of full-time workers from one to five increases the probability that the farm operation will provide health insurance by 21.3 percent.

Table 5. Percentage Changes in the Probability of Having Health Insurance Over a Range for Selected Variables

Selected Independent Variables	Base Value	New Value	MODEL 1: % Change in Probability	MODEL 2: % Change in Probability
Education	High School	College	12.6	0.02
Age	35	55	11.7	4.62
Age	35	65	14.9	6.77
Number of Full-Time Workers	1	5	0.80	21.3

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Summary and Implications

Although 80.3 percent of all the sampled dairy farm managers indicated having health insurance, the 19.7 percent with no insurance is slightly lower than the national estimates of rural agricultural populations without health insurance coverage (Kralewski, et al.). Two-thirds of those farm managers with health insurance had it provided solely by the farm operation, while another 13.8 percent had it provided through an off-farm job.

Many significant differences existed between those who had health insurance and those who did not. On average, those who had health insurance were older, possessed a higher education level, were more likely to work off-farm, and be a member of a milk marketing cooperative.

The logistic regression analysis results indicated that age, education level, making over \$5,000 on an off-farm job, being a member of a milk marketing cooperative, and having a partnership farm business organization are characteristics likely to indicate the farm manager of a dairy operation having health insurance. The second logistic regression model predicted which farm operations provided the health insurance. Having net cash farm income between \$15,000 and \$25,000 and having full-time workers have significant positive effects on the likelihood of the farm operation providing health insurance. Being older than 65 and having off-farm income reduces the likelihood of the farm providing health insurance to the farm manager.

The analysis indicates that having several sources from which health insurance can be obtained, especially from well-paying off-farm employment, increases the probability of a dairy farm family having health insurance. Because insurance provided by off-farm

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employment is often subsidized by the employer, having an off-farm job decreases the probability of the farm operation providing the health insurance, since it becomes more affordable through the off-farm employer.

Several important observations have surfaced from this research. First, although 20 percent of Pennsylvania dairy farm managers have no health insurance, 67 percent have insurance provided through the farm business, indicating some degree of ability on the part of the farms in the survey sample to meet family living expenses. Second, income levels have very little effect on the likelihood of having health insurance coverage. Thus, it doesn't appear that increases in dairy farm income through farm policy instruments will have a significant impact on the acquisition of health insurance coverage. Finally, off-farm employment has a far larger impact on health insurance coverage than any increase in farm income according to the results from this research. Therefore, any policies aimed at improving health insurance coverage for dairy farm families, and consequently family well-being, should likely be directed at off-farm employers of farm family members.

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APPENDIX

Variable Names, Descriptions, Values, and Means

Variable	Description	Values	Means
	Dependent Variables:		
INSURANC (Model 1)	Whether or Not the Respondent Has Health Insurance	1=Yes, 0=No	1.20
FARMOPER (Model 2)	Whether or Not the Health Insurance Is Provided Through the Farm Operation	1=Yes, 0=No	1.31
	Independent Variables:		
AGE	Age of the Principal Operator	Continuous	45.6
OVER65	Age of the Principal Operator	1=Yes, 0=No	0.07
EDUCATE	Education Level of the Principal Operator	Categorical*	4.09
FULLTIME	Number of Full-Time Workers	Continuous	2.17
PARTTIME	Number of Part-Time Workers	Continuous	1.06
INCOME2	Net Farm Income-$5,000-$15,000	1=Yes, 0=No	0.18
INCOME3	Net Farm Income-$15,000-$25,000	1=Yes, 0=No	0.24
INCOME4	Net Farm Income-$25,000-$50,000	1=Yes, 0=No	0.30
INCOME5	Net Farm Income-$50,000-$75,000	1=Yes, 0=No	0.08
INCOME6	Net Farm Income-$75,000-$100,000	1=Yes, 0=No	0.03
INCOME7	Net Farm Income-Over $100,000	1=Yes, 0=No	0.05
UNDER5	Had Off-Farm Income Under $5,000	1=Yes, 0=No	0.05
ABOVE5	Had Off-Farm Income Over $5,000	1=Yes, 0=No	0.20
COOPMEMB	Member of a Milk Marketing Cooperative	1=Yes, 0=No	0.63
PARTNER	Partnership Organization	1=Yes, 0=No	0.21
FAMCORP	Family Corporation Organization	1=Yes, 0=No	0.15
NONFAMCO	Non-Family Corporation Organization	1=Yes, 0=No	0.01

*The educational categories are: 1 = Elementary School, 2 = Jr. High School, 3 = Some High School, 4 = Completed High School, 5 = Some Post High School Work, 6 = Completed Technical/Business School, 7 = Completed College Degree, and 8 = Started/Completed Graduate Degree.