

Insurance Coverage for Victims of Farm Accidents

by

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Agriculture ranks as one of the most dangerous occupations in the United States. Agriculture is unusual in that it involves persons of both sexes and all ages who are working in an uncontrolled environment, and often without ready access to medical care. The hours are often long and the worker alone. However, because agricultural workers typically look to emergency services for care when they are injured, the emergency department is in a unique position to evaluate and reduce the burden of agricultural trauma.

Beginning November 1, 1986, the Emergency Medicine Section of Marshfield Clinic and Saint Joseph's Hospital began to prospectively identify and collect data on all cases of agricultural injuries seeking emergency care. The Injury Surveillance is ongoing, but analysis is being reported on the first two full years of data. The ages associated with injuries¹ and spectrum of emergency care² have been previously described.

In the present analysis, we reviewed the insurance in place at the time of the initial accident. Insurance data was obtained from the Clinic charge file.

Marshfield Clinic/Saint Joseph's Hospital is a referral center in Central Wisconsin. This series involves predominantly patients initially seen in Marshfield, but also a small number who were evaluated and stabilized before transfer.

Marshfield Clinic owns and manages a large prepaid (HMO) health care plan. However, at the time of initial presentation for emergency care, the attending medical personnel do not know whether or not the patient has insurance, nor whether the insurance includes the clinic-owned HMO.

Results

During the 2-year period from November 1, 1986 through October 31, 1988, 913 victims with agricultural injuries were encountered. Although all ages were involved, from 1 to 85, 27 percent were less than 19 and only 4.6 percent were greater than 65. In addition, injuries did occur throughout the year, but the highest injury rate was in June through September. The diagnoses were primarily contusions, abrasions, lacerations and fractures. Several modes of emergency department care were required, but the most common procedure was diagnostic x-ray, followed by wound care and dressing. In addition, 100 of the 913 patients (11 percent) were admitted from the emergency department for further in-patient treatment.²

Of the 913 patients previously identified, the type of insurance in place at the time of seeking help could be ascertained in 911. The insurance type in place at the time of the injury is shown in Table 1 (for the whole emergency department and for the fiscal year 1988, 43.6 percent of the emergency department charges were related to the HMO, and 13.4 percent were related to Medicare/Medicaid). Some patients had more than a single type of coverage and the primary carrier could not be ascertained. In Table 1, the number (and percent) of patients having only that type of coverage ("exclusive coverage") or having that coverage ("any coverage") is shown.

The insurance type (whether exclusive or not) was tested against several variables, using Pearson chi-square to test for independence.

In Table 2 are shown the variables not found to be related to insurance type.

The sex of the victim was noted to be related to insurance type, specifically Worker's Comp, as shown in Table 3.

Whether or not a delay was present in seeking help was also found to be related to insurance type, again, specifically Worker's Compensation, as shown in Table 4.

All insurance types were related to the age of the victim at the time of injury, as shown in Table 5. The age range of 19-25, followed by the age range of 26-45 consistently showed the lowest percent of coverage.

The relationship of the victim to the owner operator was also related to insurance type, as shown in Table 6.

Limitations

There are limitations to this study regarding insurance data which are as follows:

1. Farming type in Central Wisconsin is primarily family owned and operated dairy farms; and the type and amount of insurance coverage may be affected by the type of farming.
2. The presence of a dominant insurance force in the local market, as well as a single large source of medical care, may affect the type of insurance that people purchase.
3. Although the analysis shows the type of insurance that was in place at the time of the accident, it does not address the adequacy of the insurance nor the cost of the medical care.
4. It is not known if the lack of coverage affected people's willingness to seek medical care.

Summary

The following points can be noted in summary:

1. Greater than 90 percent of the victims did have insurance in place at the time of injury.
2. The agriculture employees, often employees of a farm service business, were much more likely to be male and seemed more likely to postpone their care to later in the same day.
3. The injury victim least likely to have coverage is the young adult family member no longer covered under his/her parent's policy, but who apparently does not yet have coverage of his/her own.
4. In all but one case, individuals over 65 had Medicare coverage. However, greater than 80 percent also have supplementary insurance ("wrap-arounds").

Table 1.

Type of insurance coverage for 911 victims of agricultural trauma from November 1, 1986 through October 31, 1988.

<u>Insurance Type</u>	<u>Exclusive Coverage</u>		<u>Any Coverage</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
HMO	514	(56.4)	576	(63.2)
Worker's Comp	37	(4.1)	47	(5.2)
Medicare/Medicaid	34	(3.7)	78	(8.6)
Private	174	(19.1)	198	(21.7)
Any Type	759	(83.3)	829	(91.0)*
Multiple Coverage	70	(7.7)		
None	82	(9.0)	82	(9.0)
Total	911	(100.0)	911	(100.0)

*This is not a sum of the above, since some victims had more than one type of coverage at the time of the accident.

Table 2.

Variables not found to be related to insurance type for 911 victims of agricultural trauma from November 1, 1986 through October 31, 1988.

1. Day of week of injury
2. Injury on holiday?
3. Day of week of seeking help
4. Sought help on a holiday?
5. Study year
6. Time of day of seeking help
7. Agent associated with injury
8. Injured part
9. Admitted to the hospital

Table 3.

Sex and type of insurance of 911 victims of agricultural trauma from November 1, 1986 through October 31, 1988.

<u>Insurance Type</u>	<u>Male</u>		<u>Female</u>		<u>χ^2</u>	<u>p</u>
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>		
HMO	436	(62.1)	140	(67.0)	1.44	.2294
Worker's Comp	45	(6.4)	2	(1.0)	8.71	.0032
Medicare/Medicaid	63	(9.0)	15	(7.2)	.45	.5001
Private	152	(21.7)	46	(22.0)	.00	.9885
Any	636	(90.6)	193	(92.3)	.41	.5244
Total	702	(100)	209	(100)		

Table 4.

Delay in seeking help by insurance type for 911 victims of agricultural trauma from November 1, 1986 through October 31, 1988.

<u>Insurance Type</u>	<u>No</u>		<u>Same Day</u>		<u>Days Later</u>		<u>χ^2</u>	<u>p</u>
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>		
HMO	327	(60.7)	83	(65.4)	166	(67.8)	3.93	.1404
Worker's Comp	29	(5.4)	12	(9.4)	6	(2.4)	8.51	.0142
Medicare/Medicaid	51	(9.5)	7	(5.5)	20	(8.2)	2.12	.3470
Private	123	(22.8)	23	(18.1)	52	(21.2)	1.39	.4987
Any	489	(90.7)	116	(91.3)	224	(91.4)	.12	.9404
Total	539	(100)	127	(100)	245	(100)		

Table 5.

Age of victim by insurance type for 911 victims of agricultural trauma from November 1, 1986 through October 31, 1988.

<u>Insurance Type</u>	<u>0-5</u>		<u>6-15</u>		<u>16-18</u>		<u>19-25</u>		<u>26-45</u>		<u>46-65</u>		<u>>65</u>		<u>X²</u>	<u>p</u>
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>		
HMO	32	(66.7)	86	(65.6)	45	(67.2)	61	(49.2)	186	(56.9)	132	(76.7)	34	(81.0)	36.38	.0000
Worker's Comp	0	(0.0)	0	(0.0)	3	(4.5)	16	(12.9)	25	(7.6)	3	(1.7)	0	(0.0)	35.51	.0000
Medicare/Medicaid	5	(10.4)	5	(3.8)	3	(4.5)	2	(1.6)	10	(3.1)	12	(7.0)	41	(97.6)	451.74	.0000
Private	9	(18.8)	31	(23.7)	13	(19.4)	30	(24.2)	84	(25.7)	31	(18.0)	0	(0.0)	17.25	.0084
Any	44	(91.7)	119	(90.8)	61	(91.0)	106	(85.5)	290	(88.7)	167	(97.1)	42	(100)	18.73	.0047
Total	48	(100)	131	(100)	67	(100)	124	(100)	327	(100)	172	(100)	42	(100)		

Table 6.

Relationship to the owner by the insurance type for 911 victims of agricultural trauma from November 1, 1986 through October 31, 1988.

<u>Insurance Type</u>	<u>Owner</u>		<u>Spouse</u>		<u>Juvenile Child</u>		<u>Adult Child</u>		<u>Employee</u>		<u>Other</u>		<u>X²</u>	<u>p</u>
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>		
HMO	266	(68.9)	66	(69.5)	158	(69.3)	46	(46.9)	19	(28.8)	21	(55.3)	56.46	.0000
Worker's Comp	15	(3.9)	1	(1.1)	2	(0.9)	6	(6.1)	23	(34.8)	0	(0.0)	134.25	.0000
Medicare/Medicaid	46	(11.9)	5	(5.3)	11	(4.8)	1	(1.0)	5	(7.6)	10	(26.3)	33.44	.0000
Private	81	(21.0)	22	(23.2)	47	(20.6)	27	(27.6)	13	(19.7)	8	(21.1)	2.53	.7720
Any	362	(93.8)	90	(94.7)	211	(92.5)	78	(79.6)	55	(83.3)	33	(86.8)	27.04	.0001
Total	386	(100)	95	(100)	228	(100)	98	(100)	66	(100)	38	(100)		

References

1. Stueland DT, Lee BC. Agents Associated with Agricultural Injuries in Central Wisconsin: An Initial Evaluation. Presented at the National Institute for Farm Safety Summer Meeting, June 1989, Monterey, California (NIFS Paper No. 89-001).
2. Stueland D, Zoch T, Stamas P Jr., Krieg G, Boulet W. The Spectrum of Emergency Care of Agricultural Trauma in Central Wisconsin. Am J Emerg Med, Vol 8, 1990 (in press).