

## An Analysis of Workers' Compensation Data



### US Agriculture

- Ranks among most dangerous industries
- Tractors leading cause of fatalities
- Machinery, livestock-handling (LH) & falls leading causes of non-fatal injury

## **Study Purpose**

To identify costs, characteristics and contributing factors associated with livestock-handling injuries through an analysis of workers' compensation data

## **WC Data Analysis**

- Utilized in other industries
  - Construction, health care, retail
- Agriculture  
(Villarejo 1998; Beaumont 1995; Demers & Rosenstock 1991; Heyer 1992; Belville 1993)
- Limitations exist
- Wealth of information

## **Workers' Compensation**

- State regulated
- All businesses with 1 or more employees required to maintain WC coverage

## **Data Source**

- Collaborative partnership
- Largest WC provider in Colorado
  - Market share of more than 50% (all industries)
- Leading WC provider for agriculture in state

## WC Data

### Policy Holder

- Annual payroll

### Claimant

- Age, gender, experience

### Injury

- Cause, source, location, nature

### Cost

- Medical and indemnity

### Accident Descriptions

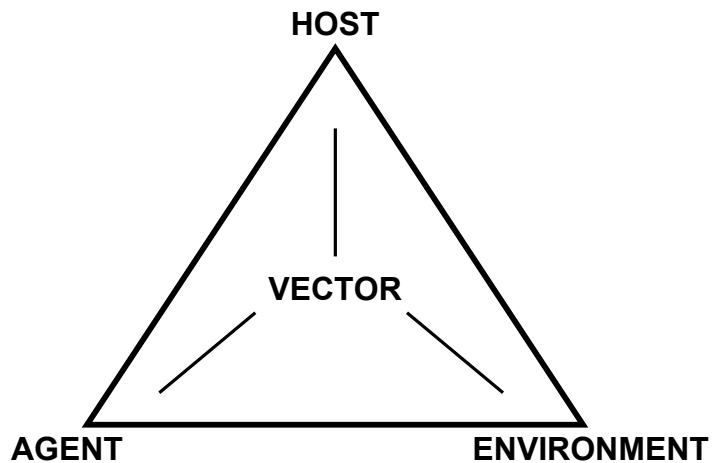
- Description of injury event as reported on FRI

## Methods

- Dairy farms, cattle dealers & cattle/livestock raisers
- 10-year policy period
- Descriptive statistics
- Injury rate estimation
- Narrative analysis



## CLASSIC EPIDEMIOLOGICAL MODEL



## Results



	Dairy Farms	Cattle/Livestock Raisers	Cattle Dealers
Total claims	988	2,168	1,265
Total LH claims	307	471	336
Overall injury rate*	9.39 (8.79-10.03)	8.35 (8.00-8.71)	10.32 (9.76-10.91)

\*Injury claims per 100 Full Time Equivalent (FTEs) or 200,000 work hours

## Results



- LH injuries: highest proportions among all injury causes
  - 31% Dairy Farms
  - 22% Cattle/Livestock Raisers
  - 27% Cattle Dealers
- LH injuries represented the highest proportions of **high cost & high severity** injuries in all three sectors

## Results



	Dairy Farms	Cattle/Livestock Raisers	Cattle Dealers
<b>% male</b>	88%	80%	92%
<b>Mean age</b>	32.2 yrs	34.7 yrs	36.8 yrs
<b>Mean experience</b>	2.4 yrs	2.5 yrs	3.1 yrs
<b>% large operation</b>	87%	57%	67%
<b>Injury location</b>	26.7% wrist, hand, fingers	17.4% wrist, hand, fingers	24.4% wrist, hand, fingers
<b>Injury nature</b>	69.7% contusions	39.1% contusions	57.4% contusions

## **Results: Cattle Dealers and Livestock Raisers**

### **Cattle/Livestock Raisers**

- 38% riding horse
- 20% bucked or thrown off horse
- 15% horse fall while riding

### **Cattle Dealers**

- 27% riding horse
- 12% bucked or thrown off horse
- 9% gate kicked into worker
- 8% involved corral gate
- 5% involved squeeze chute



## **Conclusions & Recommendations: Cattle Dealers and Livestock Raisers**

- Increased risk for injury during livestock-handling activities
- Research: equipment/facility design
- Livestock behavior education



## Results: Dairy Farms

### Dairy livestock-handling injury claims

Gender

88% male

Age

26.1% aged 16-24

41.8% aged 25-34

22.8% aged 35-44

Experience

**43.6% 0-6 months experience**

## Results: Dairy Farms

48% of LH claims in dairy parlor



## Results: Dairy Farms

- 47.9% while milking
- 21.2% kicked while milking
- 10.1% kicked while attaching cluster
- 8.1% stepped on while milking
- 14.0 % injured while pushing cows



## Results: Dairy Farms

### Cow Action

- 41.0% cow kick
- 14.0% cow stepped on worker
- 10.1% cow pushed worker
- 3.5% cow swung head
- 3.3% cow pinned worker

### Equipment

- 15.3% involved milking unit
- 5.2% involved milking rail

## Conclusions & Recommendations: Dairy Farms

- High proportion of parlor injuries
- Dairy parlor research
  - Posture
  - Repetition
  - High loads
- Parlor design
- Milking routine
- Protective equipment
- Worker education



## Strengths & Limitations

### Strengths

- Information not found in other data sources
- Economic data
- Narrative descriptions of injury events
- Not available or easily accessible

### Limitations

- Underreporting
- Underestimation of costs
- State reporting variations
- Population & time at risk

## **Study Support**

- The High Plains Intermountain Center for Agriculture Health & Safety (HICAHS)
- Colorado Injury Control Research Center
- Mountain & Plains Education & Research Center

## **Questions**

