

# Farmer Health...it IS y(our) business....



Lisa Schiller, PhD, RN, APNP, FNP-BC









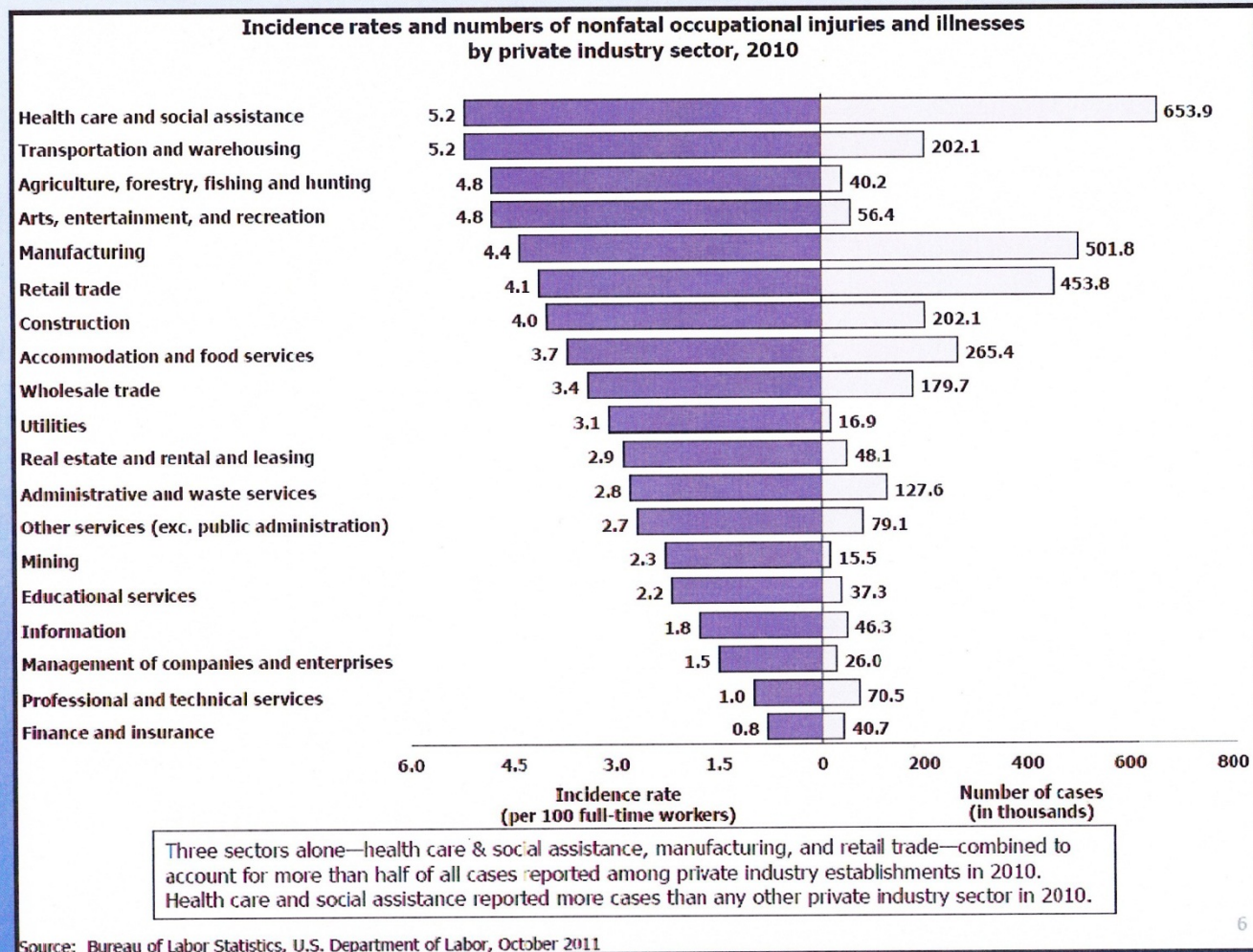


# The state of farmer health in the U.S.

- Agriculture is the most hazardous industrial sector in the U.S. based on fatality rates (U.S. Department of Labor, 2012)
- High rates of uninsurance and underinsurance
- Lack of access to preventive care - rural
- Lack of occupational health and safety delivery
- Advancing age associated with chronic disease - Cardiovascular
- Lack of governmental regulation and reporting systems
- Home and workplace are the same
- High risk of respiratory disease, diseases of the skin, hearing loss, mental health



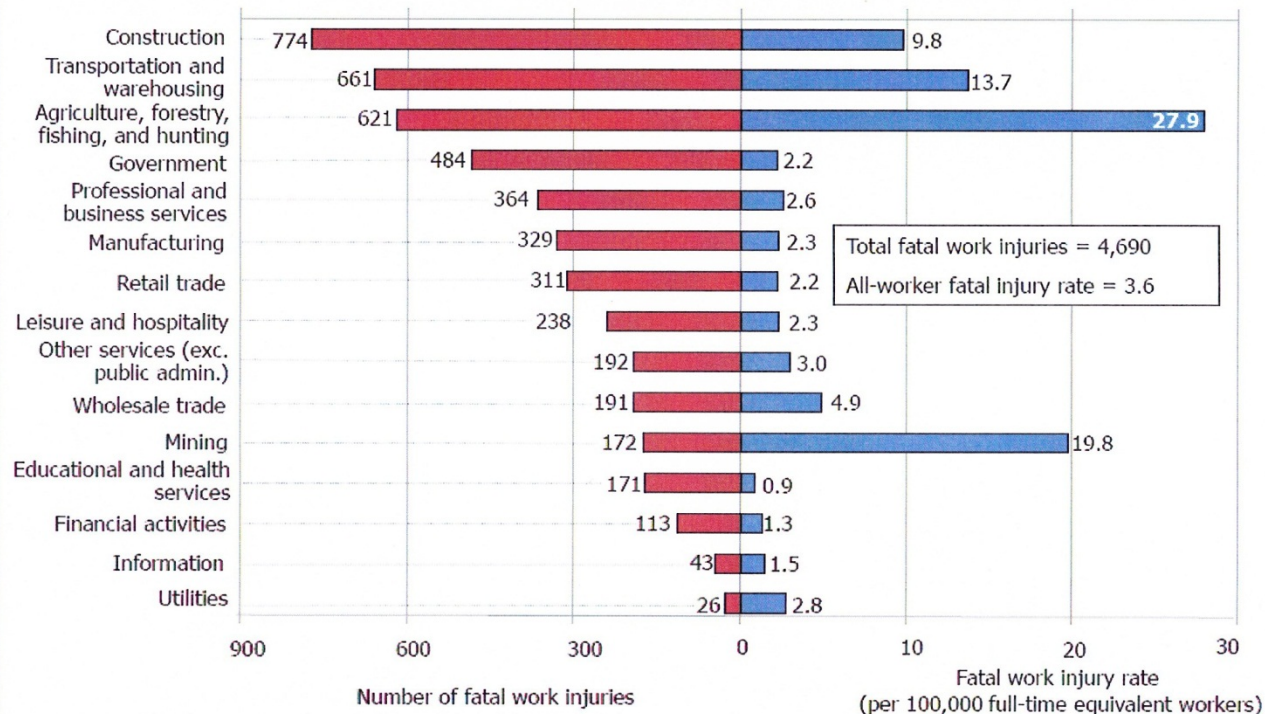
# U.S. Injuries (Adults)





# U. S. Fatalities (Adults)

Number and rate of fatal occupational injuries, by industry sector, 2010



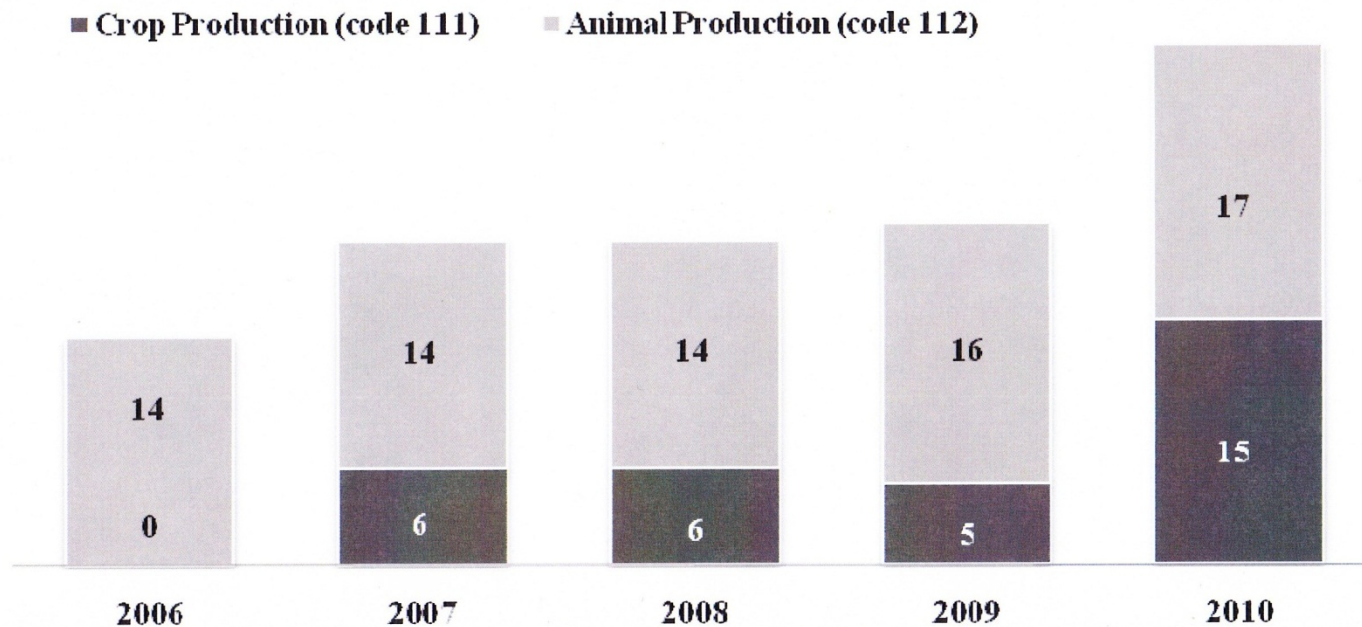
Construction had the highest number of fatal injuries in 2010. The agriculture, forestry, fishing, and hunting sector had the highest fatal work injury rate.

NOTE: All industries shown are private with the exception of government, which includes fatal injuries to workers employed by governmental organizations regardless of industry. Fatal injury rates exclude workers under the age of 16 years, volunteers, and resident military. The number of fatal work injuries represents total published fatal injuries before the exclusions. For additional information on the fatal work injury rate methodology changes please see <http://www.bls.gov/iif/oshnotice10.htm>.  
SOURCE: U.S. Bureau of Labor Statistics, U.S. Department of Labor, 2012.



# WI Agricultural Fatalities (Adults)

Chart 2. Fatal agricultural incident counts by industry sector, 2006-2010

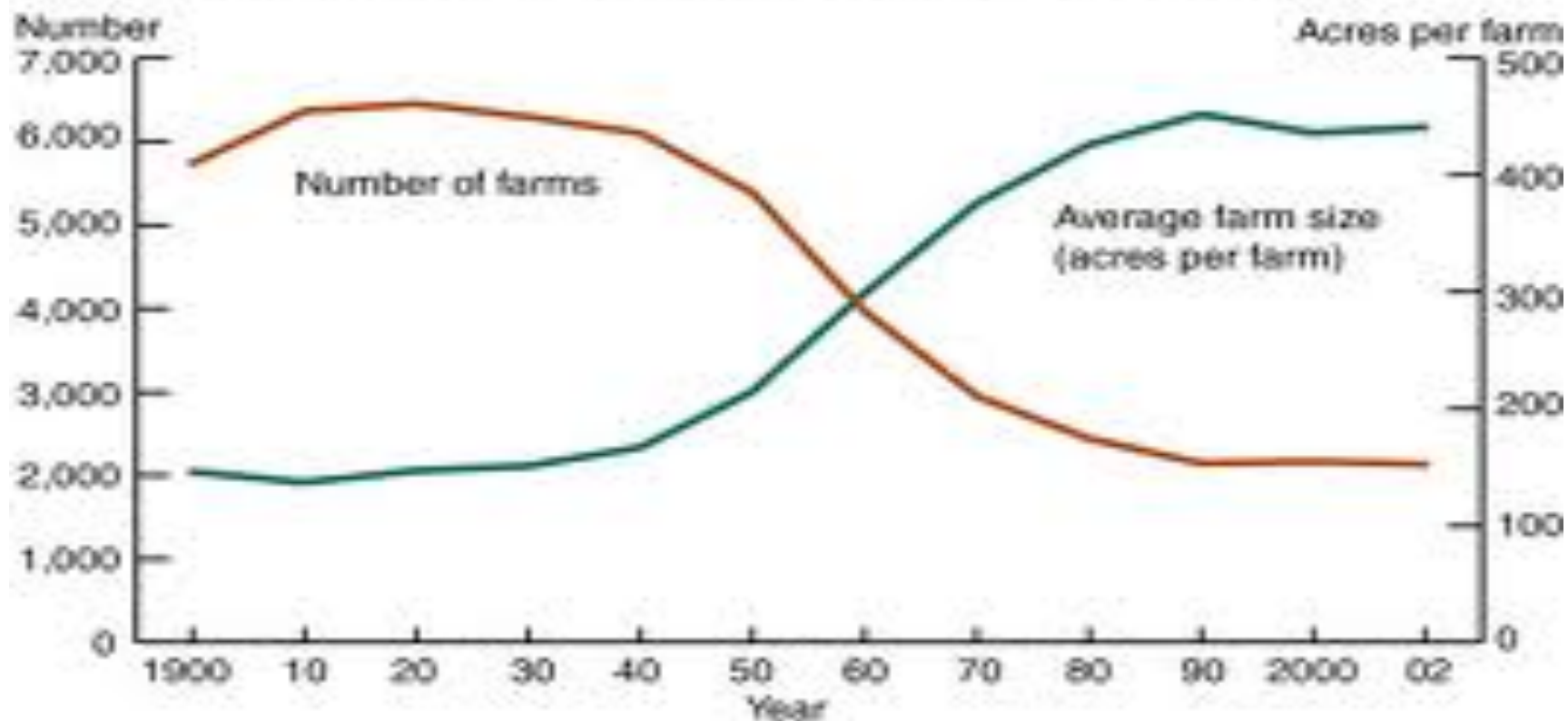


Source: Wisconsin Census of Fatal Occupational Injuries in 2010 (UW Madison, WLSH).

# The state of farming in the U.S.

Figure 3

**As the number of farms declined, their average size increased**

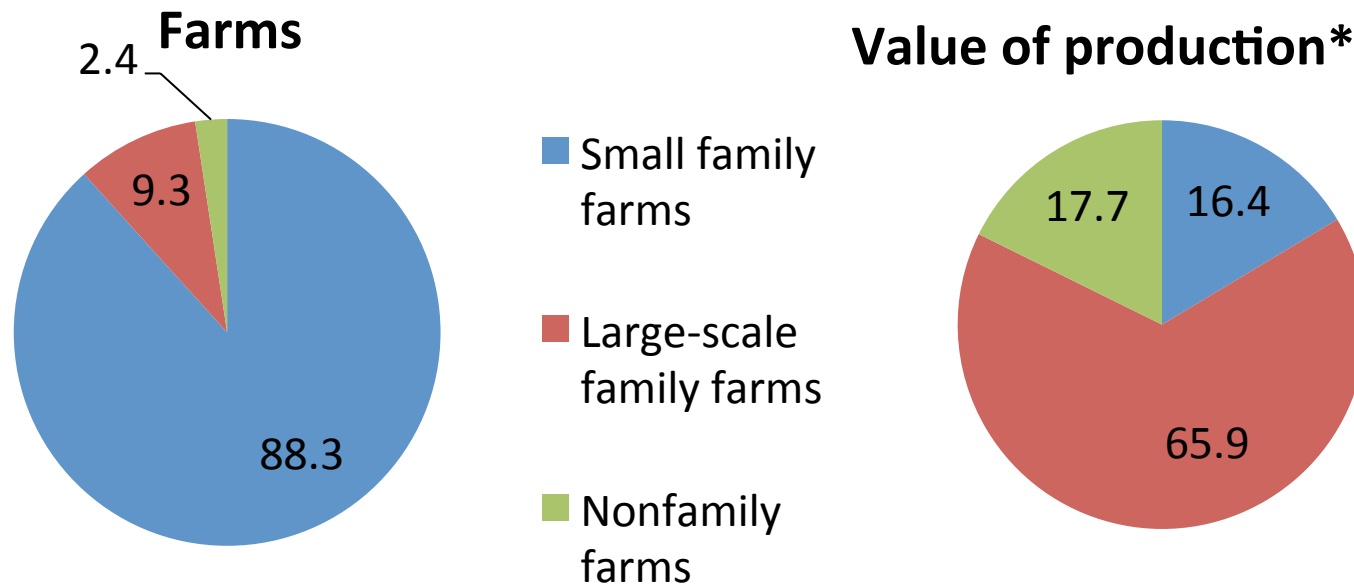


Source: Compiled by Economic Research Service, USDA, using data from *Census of Agriculture*, *Census of Population*, and *Census of the United States*.



# Share of total farms and value of production by farm type, 2007

Large-scale family farms account for 66 percent



\*Value of production measures the value of commodities produced in a given year without the effects of inventory change. It is calculated by multiplying the quantity of each commodity produced by the price of the commodity.

Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2007 Agricultural Resource Management Survey, Phase III

# The state of farming in Wisconsin



- Dairy production has increased with a decline in number of herds and shift to larger farms
- Large influx of Hispanic immigrants to fill demand for dairy workers
  - 2000-2010 Percent Hispanic workers increased from 5% to 40% (60% on farms with more than 300 cows) (UW-Madison Program on Agricultural Technology studies)
  - 2010 Census shows increase in several Northwestern Wisconsin Counties greater than 175%



# Addressing Farmer Health in the U.S.

- Centers for Disease Control (CDC)
  - National Institute for Occupational Health and Safety (NIOSH)
    - National Occupational Research Agenda (NORA)
      - Agricultural, Forestry, and Fishing Program (AFF)
        - » 7 Regional Centers for Agricultural Centers for Disease and Injury Research, Education, and Prevention and National Children's Center for Rural and Agricultural Health and Safety
- Funding is in jeopardy
- Occupational Health and Safety Administration (OSHA): Farms with less than 11 employees exempt

# Addressing Farmer Health in the U.S.

## Not for Profits / Grass Roots Efforts

- **AgriSafe**

- Education for health care professionals – Certification
- Occupational Health Screenings (Certified Safe Farm - CSF)
- Resources for development of health and safety programs
- PPE



- **Rural Health Initiative (RHI)**

- Makes 'house calls' to families at the farm – nurse or wellness coach
- Farmers are accustomed to services being delivered at the farm originally introduced to farmers by trusted provider (milk hauler, veterinarian, etc.)
- Health Risk Assessments / PPE – Resource / Referrals
- Supported by local health care systems, agribusiness, public health, community – Shawano County
- Expanded to Outagamie and Waupaca Counties
- Pilot introducing CSF on farm safety checks 2008





This just isn't enough...Who's business  
is it anyway?

**Yours!**

(Mine, Ours)

- Health Care Providers
- Health Care Systems
- Academia – HCP Educators
- Communities
- Businesses – Not just agribusiness
- Farmers – peers / family



# Role of Health Care Provider / Health Care Systems

- **Integrative approach**
  - Often a family business – ideal for family practice.
  - Incorporate occupational health with primary care
    - Feasible and cost effective
  - Awareness of lifestyle, culture, economics, and risks
  - Awareness of resources
  - Provision of resources





# Integration of Agricultural Health and Safety into Your Business

- Primary care
  - Well visits
  - Prenatal visits
  - Acute visits
  - Mental health
- Secondary / Tertiary Care
  - Emergent care
  - Inpatient care
- Occupational health
  - Many farmers taking jobs off the farm



# The Role of Nurses in Farmer Health

- Largest sector of health care profession
- Uniquely positioned across the continuum of health care – often in rural areas
- Viewed as trusted and credible sources of health care information
- Integrate agricultural health and safety into the curriculum – graduate and undergraduate level – Making it academia's business....

# Domestic Intercultural Immersion (DII) Experience

- University of Wisconsin – Eau Claire
  - 10,600 students
- College of Nursing and Health Sciences
  - Traditional BSN program (40 students at UWEC with 16 at a satellite in Marshfield, WI)
- Funding via differential tuition – Blugold commitment
- Started Summer 2011 with funding through Spring 2013
- Objectives:
  - Engage learners first hand with various cultures, populations, and environments in the U.S.
  - Deepen learners understanding of intercultural dynamics as it relates to UWEC liberal education goals





# Local Cultural Experience

- Hispanic workers experience significant barriers to health care
- Lack of insurance with high cost of health care and poor access to preventive care and other health care services (e.g. dental, mental health)
- Communication issues
- Transportation

(Cristancho, Gapres, Peters, and Mueller, 2008; Goertz, Calderon, and Goodwin, 2007)

- Communication is cited as a primary concern related to employer – employee relationships (Valentine, 2005)



# Nursing Student Dairy Immersion Project

- Faculty: 2 nurse practitioner faculty, one certified in agricultural occupational health and 2 Spanish translators / interpreters- Sue Peck, Lisa Schiller, Dale Omtvedt-Gable, Jen Rombalski, Shaun Judge Duvall
- Senior nursing students in the traditional BSN program with a minor in Spanish
- Engage students in learning rural culture, Hispanic culture, and agricultural health and safety.
- Enhance communication skills of students, farm owners, and farm workers
- Provide education for farmworkers in both Spanish and English
- Provide health and safety screening at dairy farms in Northwestern WI which employ Hispanic workers





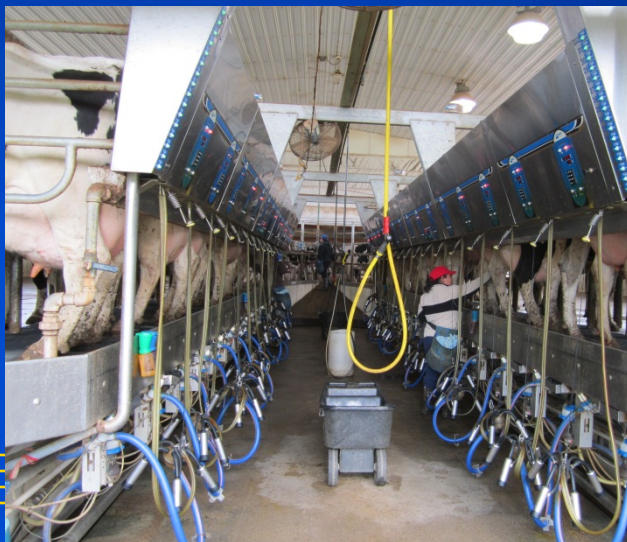
# Collaboration

- Buffalo County / Pepin County Public Health
- Puentes / Bridges – Shaun Duvall
- Mexican Consulate
- Local pharmacy
- Farm peers
- Neighbors



# Where did we go?

- Northwest Wisconsin – **Buffalo**, Pepin, Dunn County
- Milking: mean = 685, range 300-1000
- Young stock (half) with mean 600
- All with parallel or herringbone parlors
- None pastured





# What did we do?

- Students / faculty met once a week for 5 weeks to discuss topics of rural and Hispanic immigrant culture and agricultural health and safety.
- Visit to Mexican Consulate / Local farm show
- Topics chosen by student / faculty through discussion process / readings and researched by students
- Students developed a teaching plan, working in pairs, which included a script in English and Spanish (3 new topics / session)
- Students solicited materials for 'goodie bags' which included dental hygiene materials, condoms, etc.
- Respiratory and hearing PPE were provided



- 6 or 7 students per semester / 3 in summer session – 16 students
- 8 farms visited over three semesters – Summer 2011, Fall 2011, Spring 2011
- Majority of farms visited more than once (2 were not as were new to the program)
  - Range 1 to 7 visits
  - Of those involved all 3 semesters, visited a mean of 4.3 times
- 2 – 3 farms per day for 5 days
- Topics of discussion / education: Blood pressure, Diabetes, Alcohol, Tobacco, Hearing protection, Respiratory health (PPE), Diet (BMI, cholesterol, DM, soda consumption), Ergonomics, Dermatitis





# What did we do?

- Screening: Cholesterol, BP, Glucose
- Set up teaching stations in various settings
- Immunizations in collaboration with public health
  - Fall 2011
    - ✦ Tdap / Td = 42
    - ✦ Influenza = 26
  - Spring 2012
    - ✦ Tdap = 6









# Who did we see?

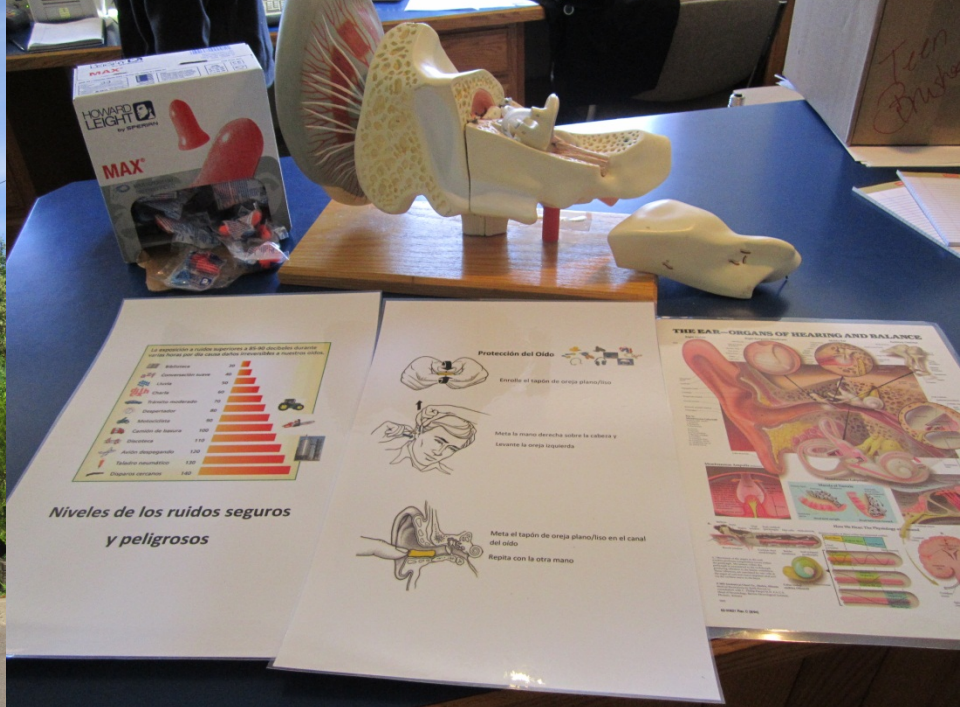
- Total:  $n = 110$  (mean=13.75 per farm, range = 6 – 26)
- Hispanic workers:  $n = 82$  (mean 10.25 per farm, range = 6 – 17); mean age = 30.4, range = 18-56
- Local workers / family:  $n = 28$  (mean = 3.5 per farm, range = 0 – 12); mean age = 43.8 (range = 16-76)
- 224 contacts
- Most immigrant workers are from Veracruz Mexico
- Few women, one child













# Results

- Screening results to be analyzed
- Students kept daily journals which will be qualitatively analyzed
- Positive screens were referred to medical care and followed through the public health department
- Lack of insurance / transportation in the Hispanic population is problematic
- Chippewa Valley Free Clinic available





# Student Journals

- All expressed their language and cultural skills improved with a greater understanding of both rural and immigrant culture
- Most had never been on a farm before and did not understand the safety risks associated with farming or the complexity of farming—voiced new respect for farmers and knowledge needed to farm
- Several voiced ethical concerns regarding some farming practices
- Ethical issues arose related to treatment of Hispanic immigrant workers in rural areas e.g. concerns about lack of traditional Mexican foods and highly processed food items at local grocery stores; housing concerns; communication concerns; social outlets / resources
- Concerns regarding access to care for immigrant workers
- Impressed with owners dedication to workers adjustment e.g. language classes, participation

**“Eye opening experience”**



# Farm Owner Surveys

- Services / topic which were most valuable among returned surveys (3/7)
  - Healthy diet / weight
  - Respiratory protection / masks
  - Resource for referrals
- Suggestion to include:
  - Occupational therapy and prevention exercises
- “I can have a party or have food or have a pretty girl here but nothing gets all my employees to participate like the health thing”



# What next with this project?

- Develop assessment plan to evaluate student and participant learning
- Expand program to include Environmental Public Health students / faculty at UWEC
- Consider development of multimedia teaching resources
- Expand program to surrounding counties', including collaboration with public health
- Explore relationship with UW Clinics, collaborate with Mexican consulate
- NP Students?
- Explore local rural resources





# Integration of Farmer Health in Everyone's Business

- Health care providers, Health care systems, Academia
- **Communities**
  - Education
  - Support policy that addresses farmer health
- **Businesses**
  - Agribusiness
  - Lending institutions
  - Insurance companies
  - Local suppliers – e.g. hardware stores
- **Farmers – peers / family**
  - Support health as a necessary element of a sustainable business



# How do we create a culture of health and safety?

- **Make it our business!**
- In times of economic crisis, the economics of farmer health and safety must be stressed – **it is good business**
- **Integration** of agricultural health and safety into existing systems is feasible and cost effective
- **Advocate** for farmers in practice and politics
- **Practice** safety and health – be an example
- Success depends upon addressing the issue on **multiple** levels, by **multiple** individuals, **multiple** times

Questions?





- Cristancho, S., Garces, D. M., Peters, K.e. & Mueller, B.C. (2008). Listening to rural Hispanic immigrants in the Midwest: A community-based participatory assessment of major barriers to health care access and use. *Qualitative Health Research*. 18(5), 633-645.
- Donham, K.J. & Thelin, A. (2006). *Agricultural Medicine: Occupational and Environmental Health for the Health Professions*. Ames: Blackwell Publishing.
- Goertz, H.D., Calderon, V.J. & Goodwin, S. (2007). Understanding health needs of migrant workers in America's heartland. *Urologic Nursing*, 27(5), 429-436.
- Hoppe, R. and Banker, D. (2010). Structure and finance of U.S. farms: Family farm report, 2010 edition. Retrieved from [http://www.ers.usda.gov/media/184479/eib66\\_1\\_.pdf](http://www.ers.usda.gov/media/184479/eib66_1_.pdf)
- Kushner, J. (2009). Immigrants now 40 percent of dairy workforce in Wisconsin: Dairy farmers face challenges hiring immigrant workers. *Wisconsin Center for Investigative Journalism*. Retrieved from <http://dairylanddiversity.wordpress.com/>

- Valentine, B.E. (2005). Uniting two cultures: Latino immigrants in the Wisconsin dairy industry. *The Center for Comparative Immigration Studies – University of California – San Diego*. Retrieved from <http://www.ccis-ucsd.org/PUBLICATIONS/wrkg121.pdf>
- Wisconsin Farm Bureau (2006). *Wisconsin farmers care about health care*. Retrieved from [http://www.wfbf.com/health\\_care/Health%20care%20survey%20report.pdf](http://www.wfbf.com/health_care/Health%20care%20survey%20report.pdf)
- Zheng, X. & Zimmer, D. (2008). Farmers' health insurance and access to health care. *American Journal of Agricultural Economics*, 90(1), 267-279.