Hand in extra credit internet assignment: 
- For your favorite species, the description of an interesting disease in Cornell Consultant
- For this same disease, 3 abstracts from PubMed (drop next year!)
- Find the same disease, the page in the on-line Merck Veterinary Manual

2014 Class
- 0 freshman, 8 sophomores, 15 juniors, 7 seniors
- 5 from out of state (Alaska, CA, ID, HI, North Dakota)
- 9 have significant animal experience
- Careers - 10 veterinarians, 2 vet tech, 17 in 13 other careers
  - Beef & dairy production, animal behavior, day trader, fiction novelist, nutritionist, pilot, reproductive specialist, service dog trainer, zoo

“Free” career advice from a non-adviser
- All careers:
  - Look up the BLS Occupation Profile and Occupational Outlook
    - http://www.bls.gov/ooh/
  - Do a summer internship if available in an area you’re considering
- For those anticipating a veterinary career:
  - Take the courses VetMed doesn’t do well but Animal Science does
    - nutrition, reproductive physiology, agribusiness management
  - From “jmgay” index page for those interested in food animals:
    - AVS 101 Orientation: Large animal vet medicine
    - “How to get there from here?” in: Introduction to Herd Production Medicine
      - http://www.vetmed.wsu.edu/courses-jmgay/PMIntroduction.htm#How_to_get_there_from_here

How much does the median DVM make? 
$87,000 per year

All DVM's 
$41.66 / hr  
(Median) 
2,080 hrs / yr

Depends on:  
- Practice type  
- Geographic area  
- Individual competency  
- Employee vs. Owner

http://www.bls.gov/oes/summary.htm  
http://www.onetonline.org/
Use BLS Occupational Employment Statistics for comparing a DVM with your Plan B career

What is the median starting salary for new graduates in private practice?

$69,000 per year

Employment, starting salaries, and educational-indebtedness of year-2013 graduates of US veterinary medical colleges

Published every fall

The agricultural animal medicine VCPR is different from the domestic pet veterinary medicine VCPR

VCPR: Veterinarian - Client - Patient - Relationship + Government

+ Consumers

Internet information access changes the VCPR

Veterinarian is less information provider and more information interpreter
- Being sales targets, managers need information assessment by independent expert
- Determining study validity and applicability to the producer’s operation

V Veterinarian is not replaced
- Not cost effective use of the producer’s time
- Unique vocabulary:
  - Specialized medical terminology doubles a veterinary student’s vocabulary
- Experience provides basis for comparison

How is the VCPR different on a 50-cow operation compared to a 1,500 operation?

Number of All Cattle and Beef Cattle Operations, United States, 1992-2012

Declining herd numbers, increasing herd size, increasing production per cow

Long run minimum cost of production curve shifts to larger herd sizes (the right) over time

Note: Each dot represents an observation on average total economic cost. The efficiency of each farm can be measured by the vertical distance between the dot and the minimum average cost curve (bold line).

Economic costs decrease with farm size and exceed average revenues for small dairies

Average revenue and total economic cost ($ per hundredweight of milk)

Average revenue per hundredweight of milk

Average cost per cow

Average total cost

Marginal cost

Economic margins drive veterinary service delivery and & consumption by commercial producers

**Economic facts:**
- 6% of livestock-producing farms generate 71% of livestock sales
- 3% of the dairies produced more than 50% of the milk

**Large producers drive livestock industry evolution down the long run cost curve,**
- Incorporating new technology reducing man-hours per animal
- Improving employee training and management practices
- Advantage of single-source suppliers

**Large producers determine the future of agricultural animal practice**
- Smaller producers can’t afford higher costs per animal


Operation size effects the VCPR

**Suppose 1 cow is affected every 300 cow years:**
- 30-cow dairy has ~1 case every 10 years
- 300-cow dairy has ~1 case per year
- 3,000-cow dairy has ~10 cases per year

**As size increase, employees:**
- Specialize in specific tasks, becoming more skilled
- Handle a broader range of conditions
- Specific health events become more frequent for the employee
  - Better at recognizing the problem earlier
  - More likely to develop the skills to handle it

Larger operations are hiring their own veterinarian

**Example advertisement (2005):**
- California dairy is looking for a veterinarian / manager
- Expanding to 4,000 cows, raising replacement heifers
- Set up management systems, train employees, and monitor performance
- Provide veterinary services (palpation, regulatory work, prescriptions) and oversee the delivery of medical care to the cows
- Evaluate new products and technologies
- A year or more of experience and palpation proficiency
- Knowledge of practical nutrition and feeding management
- Ability to speak Spanish
- Pay: 80-120K cash plus benefits, car, CE, cell phone, etc, depending on experience

Prevention beats a cure every time

All animal feeds, biologics, drugs, pesticides, and veterinary medical devices are federally regulated

**FDA - all manufactured drugs, veterinary medical devices, feed**
- FDA Office of Food & Veterinary Medicine – Center For Veterinary Medicine
  - “NADA XXX-XXX”

**USDA – all biologics (vaccines) and diagnostic tests**
- USDA Veterinary Biologics
  - Veterinary Biological Products – Licensees and Permittees
  - “U.S. Veterinary License No. XXX”

**EPA – all pesticides, environmental residues of drugs**
- Storage and Disposal instructions
  - “EPA Reg. No. XXXXXX EPA Est. No. XXX-XX-X”

Federal regulatory process is complex

- Focus is on products used in food-producing animals
- Some regulations impact the VCPR
- Enabling legislation establishes regulatory requirements
  - Separate from funding legislation, which is the mechanism that politicians use to control enforcement
- States have varying regulatory roles depending on the state
  - State programs must meet or exceed Federal standards
  - Compounded drugs are regulated by the states

USDA - United States Animal Health Association

- Meets annually, publishes proceedings, daily issue alert
- Members:
  - Federal agencies – USDA, USHS, USDI, USGS, USDOE, USDHHS
  - State Veterinarians, State Agriculture Departments
  - National Allied Organizations – breed associations, industry association (NCBA, NMPF, PRCA, . . .)
  - Academic scientists with issue expertise
- 25 standing committees focused on animal disease and animal-origin food issues
  - Ex: Johnes Committee – 64 members

Web Notes - Read:

Conditions for Producers’ Use of Livestock Drugs
http://www.vetmed.wsu.edu/courses-jmgay/VMDProducerDrugs.htm

Sanitation in the control of livestock infectious disease
http://www.vetmed.wsu.edu/courses-jmgay/FDUSanitation.htm

Epidemiology Concepts for Disease in Animal Groups
http://www.vetmed.wsu.edu/courses-jmgay/EpiMod2.htm

Google "jmgay index"