One Health Approach to Solving Neurocysticercosis in Tibetan Children: A ‘Farm’ to ‘Field’ Enterprise in Experiential Learning, Seeing and Doing

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“I hear and I forget. I see and I remember. I do and I understand.” - Chinese proverb

Background

- The “Talent”- Julia Tsai [BS ’16 (Earth Systems), MS ’17 (Laboratory Animal Science)]
- Master’s in Laboratory Animal Science (Comp. Med.)
- International, interdisciplinary, multi-institutional “one health”-focused team (incl. 4 Stanford faculty/instructors- John Openshaw*, Scott Rozelle, Steve Luby and Steve Felt)
- Funding- Stanford Institute for Innovation in Developing Economies (SEED), the Global Development and Poverty Initiative (GDP); CDC (China); Comp Med
- A zoonotic tapeworm of pigs

HUSBANDRY:

- Pigs are allowed to roam freely and likely have access to human feces
- Preparations-
  - (boiled) daily and fed 1-3X/day

VETERINARIANS:

- Breeding is mostly unplanned
  - Wealthy- buy pigs (to raise)
  - Poor- breed pigs
  - Boar(s)- free roam village while the sows roam during day only
- “Intra-village pig network”- extra piglets shared with neighbors

Project Goals

- Understand the pig husbandry practices (farmer’s perspective)
- Understand the role of veterinarians
- Identify sites within study area for follow-on pig-based intervention pilot studies

Results

- Conduct Field Interviews in Yajiang County (Sichuan, China)- September 2017

- Farmers- capable of manual restraint (slaughter and veterinary procedures)
  - Ropes- only restraint equipment
  - Some farmers who live close to Animal Prevention Station (APS) work directly w/ and bypass village vet altogether.

- “Pro-poor policy” in effect
  - Income (2000 RY/yr)
  - Education- varying (none-primary); none have gone to college
  - No township veterinarian(s) in Yajiang
  - APS performs disease surveillance activities in 134 villages in the county on select swine diseases only (e.g., SF, FMD, PRRS)
  - Less than 50% of village vets had attended any kind of formal veterinary training
  - Hires w/in last 2 years
  - Most had scheduled training
  - No restraint equipment
  - No clinical equipment (surgical, diagnostic, etc.)
  - Pharmacy- vaccinations and dewormers only
- “Cold Chain”- not being consistently practiced