Teaching One Health Principles Through Case Studies

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Educational Challenges

- Students tend to filter out “non-clinical” information
- Team taught courses are more difficult to design
- How can we create opportunities for application of One Health knowledge?

Case Study Approach

- Promotes student-centered learning
- Integrates into team-taught courses
- Uses real-world scenarios to demonstrate the relevance of public health
How Case Studies Work
How do case studies fit within the course hierarchy?
Sample Case: Zoonotic Outbreak On a Dairy Farm

Case Study: Salmonella

Introduction

You've been called out to an 800-cow Holstein dairy to investigate an outbreak of diarrhea. This progressive operation is owned by one of your long-time clients and is characterized by excellent management and high production.
Case Format

- History
- Physical exam
- Diagnostic testing
- Treatment plan
- Outcome
Student Participation

interactivity = engagement
Poll Results

Decision 2

Mode: Anonymous

(*)Answers are required to starred questions.

Based on your history and physical examination findings, which of the diseases shown below would remain on your list of differential diagnoses? (Select all that apply.)

- Bovine Virus Diarrhea
- Coccidiosis
- Dietary diarrhea
- Salmonellosis
- Winter dysentery

Submit your answers

Cancel
Feedback & Discussion

Instructor Delivery

Guest Delivery

% of Cases Caused by Enteric Pathogens Typically Transmitted through Food (CDC, 2013)

- Salmonella
- Campylobacter
- Shigella
- Cryptosporidium
- STEC
- Vibrio
- Yersinia
- Listeria
Learning Outcomes

98% students surveyed who preferred case-based teaching over conventional lecture methods.

"It was a great way to get away from just straight lecture and I think I learned more by applying than just listening. It was easy to stay focused and pay attention, and class periods flew by. It was nice to have a change from the normal lecture format."

Categories of positive student feedback:

- Content mastery
- Content retention
- Attention level
- Learn by doing
- Application to patient care
- Career applicability
Why Case Studies Work

- Bridge the gap between theory and application
- Popular with students & holds their attention
- Easy to develop
- Accommodates any topic
Building a Case Study
Defining Learning Goals

• List the major routes of *Salmonella* transmission from cattle to humans
• List the zoonotic pathogens that can be transmitted via unpasteurized milk
• Explain the importance of pasteurization to food safety
• Develop an effective communication plan to minimize zoonotic infections on farms.
Authoring

Develop a web-based application to address learning objectives.
Production

Produce Images

Produce Videos

Publish to HTML Player

Mount on LMS
Feasibility

Time
- Faculty authoring = 15 hours
- Project management & Instructional design = 17 hours
- Media production = 18 hours

Cost
- Approximately $1,600

Personnel
- Faculty author
- Instructional designer
- Multimedia specialist
- LMS coordinator
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