

# International Collaborations: Lessons Learned



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# Why international sources?

- Global economy; foods from all over the world coming into the US
- Exports from the US going all over the world
- Multiple examples of outbreaks associated with imported foods
- May become especially useful for environmental organisms such as Salmonella



# “The Real World”

- Geography
- Language
- Politics
- Differences in laboratory standards
- Shipping materials internationally
  - Cost issues
  - Safety issues
  - Permits



# Ecuador/Canada Collaboration

- Developed through recommendation from FDA
- Involves collaborators in Ecuador and Canada
- Salmonella from a variety of environmental sources

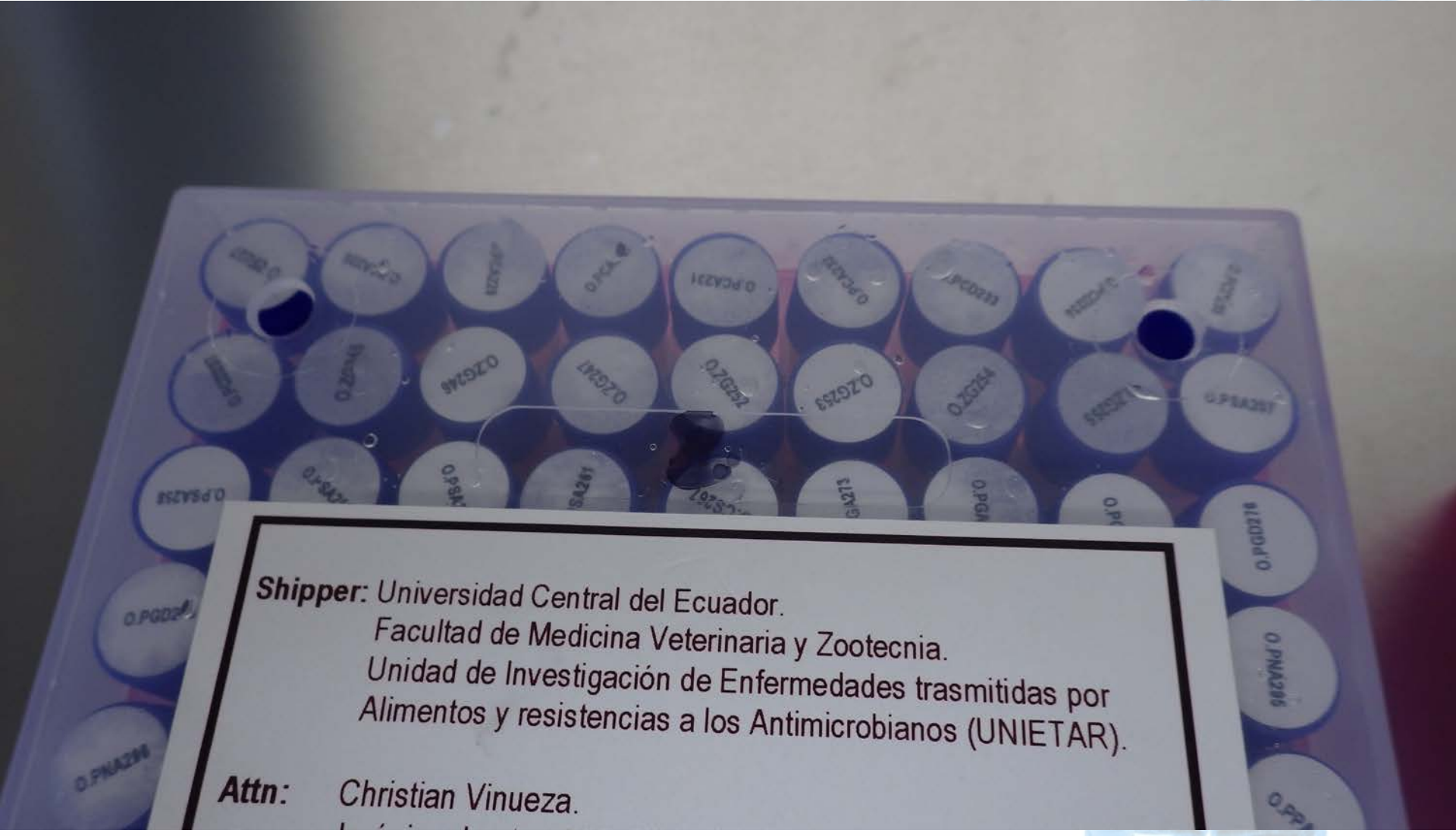


# Isolate Shipment #1

- Many discussions on how to ship/costs
- Collaborator decide to ship 1ml of broth culture in cryovials in cryovial boxes (not ideal)
- Shipment held several days at customs
- Arrived by nonstandard carrier to our front reception desk
- When opened we found this...



# Isolate Shipment #1



**Shipper:** Universidad Central del Ecuador.  
Facultad de Medicina Veterinaria y Zootecnia.  
Unidad de Investigación de Enfermedades transmitidas por  
Alimentos y resistencias a los Antimicrobianos (UNIETAR).

**Attn:** Christian Vinueza.

# Isolate Shipment #2

- With 1<sup>st</sup> shipment 4/5 boxes PCR positive for Salmonella DNA
- Painstaking decon and inventory of whole shipment
- After situation with 1<sup>st</sup> shipment; we convinced them to ship on agar slants
- Slants were received non-leaking
- Minimal amount of agar in each tube
- Concerns about long-term viability in refrigerator storage

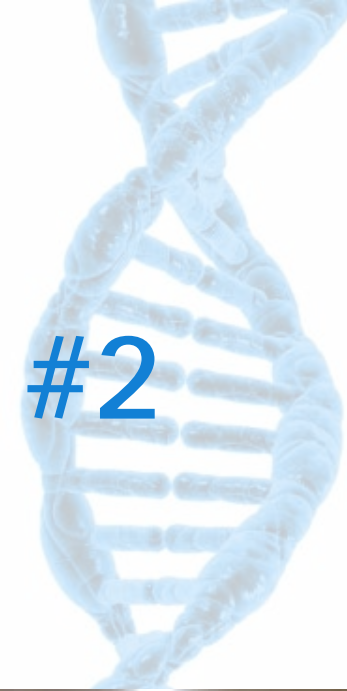


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# Isolate Shipment #2

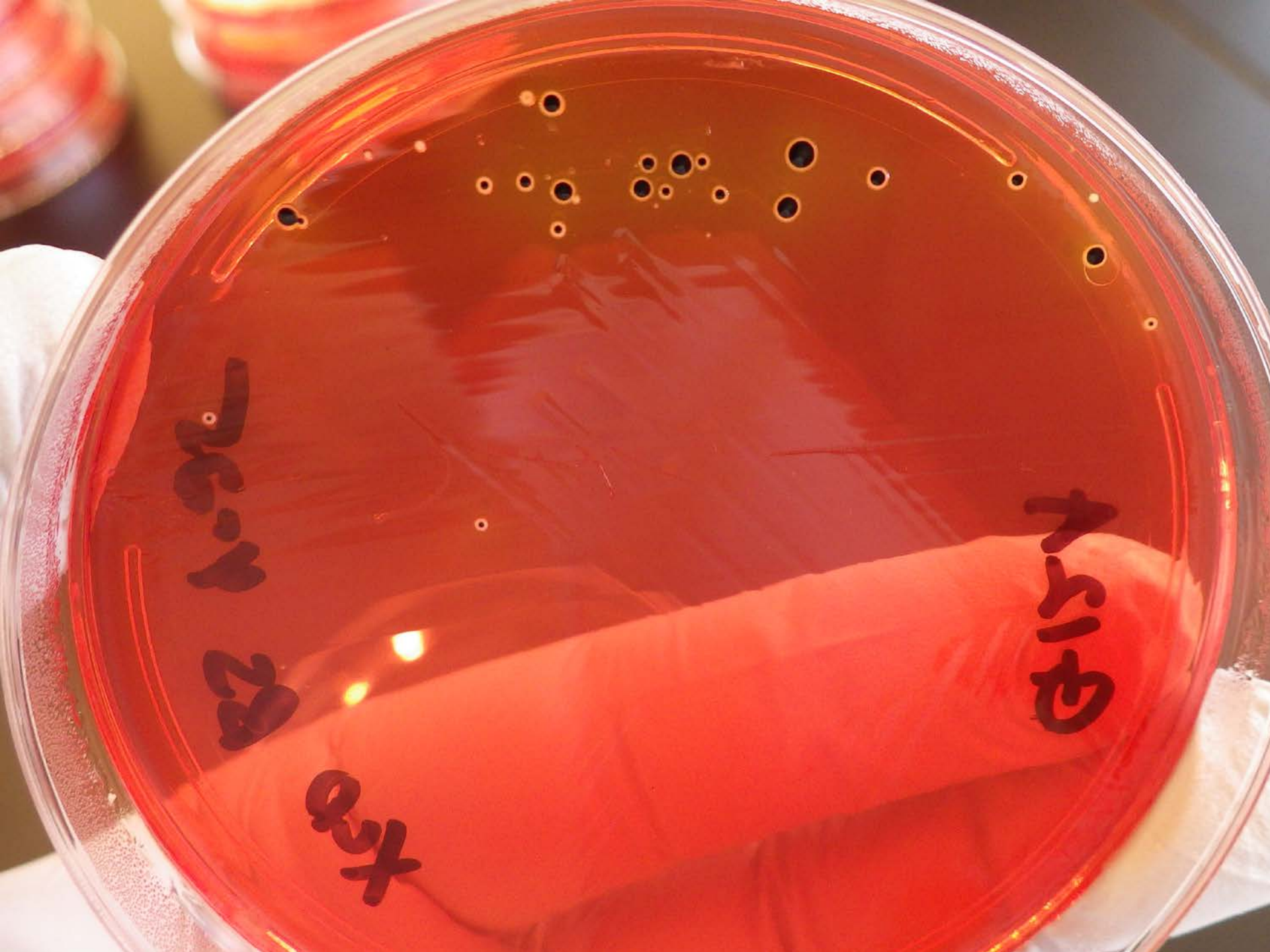




# Isolate Shipment #2 - Mixed Results

- Over 300 isolates received
  - 125, did not grow
  - Many samples with mixed appearance
  - Implemented use of XLT4 agar
  - ~10 identified as other organisms
  - Implemented a procedure to plate for purity, VITEK, then Sequence





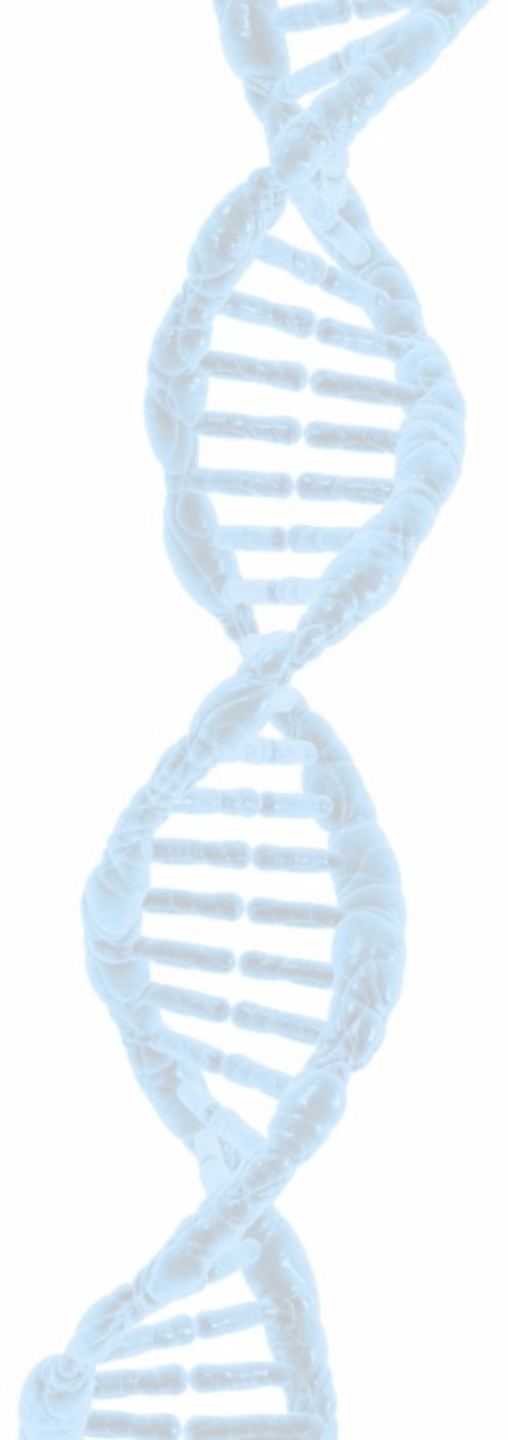
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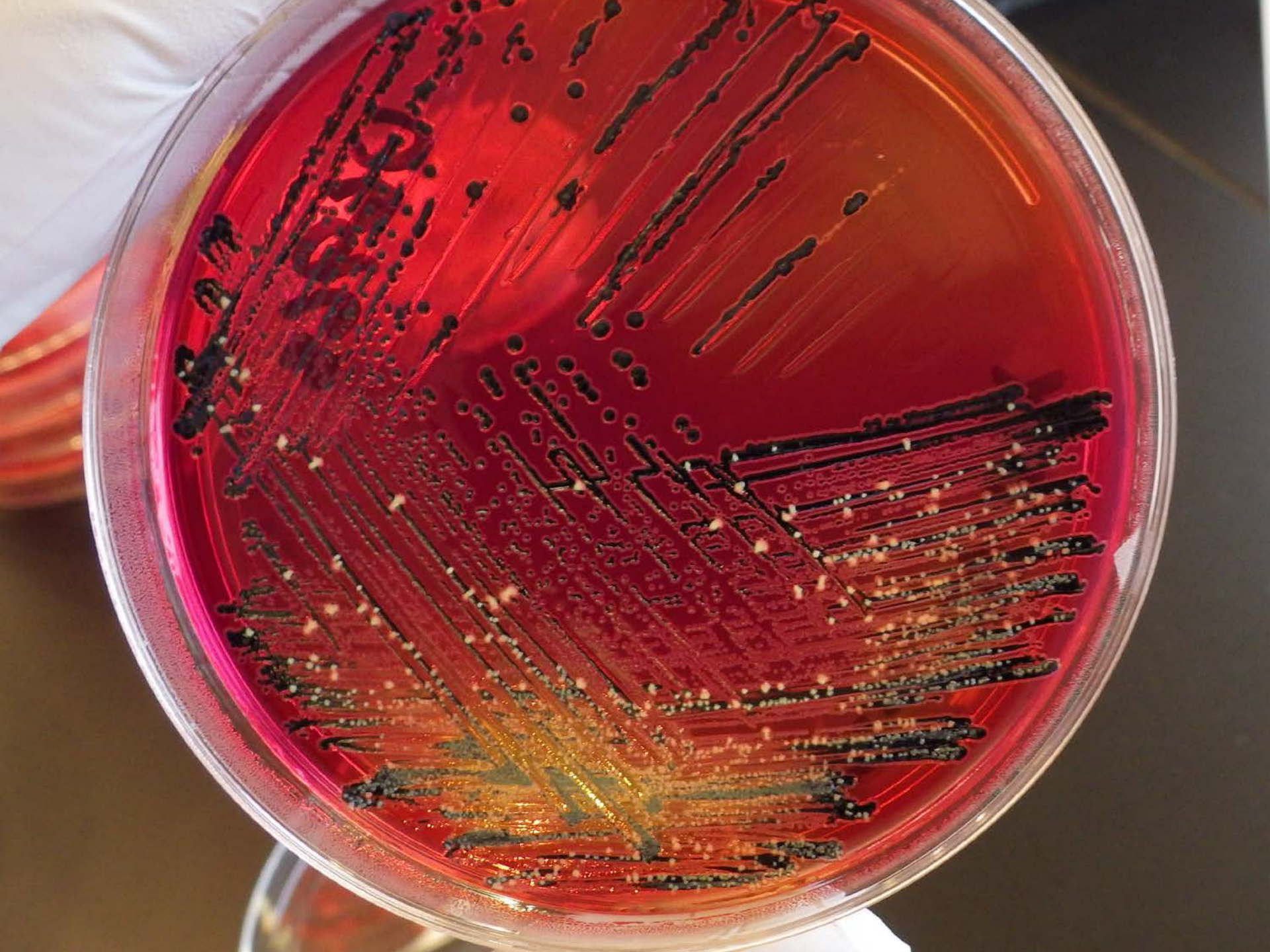
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# Would you do it again?

- Yes! BUT, we now have a much deeper understanding of what questions to ask and what not to assume
- Initial findings have led to initiation of multiple publications
- One interesting finding was that CDC noted that several of the isolates share a MDR profile with *Salmonella infantis* that CDC has been tracking for a few years. Initially the strain was seen from travelers returning from South America, but is now seen in domestic chickens as well.
- So where do we go from here?



E. coli

vs.

El. coli

