

The Foodborne Data Linking Project

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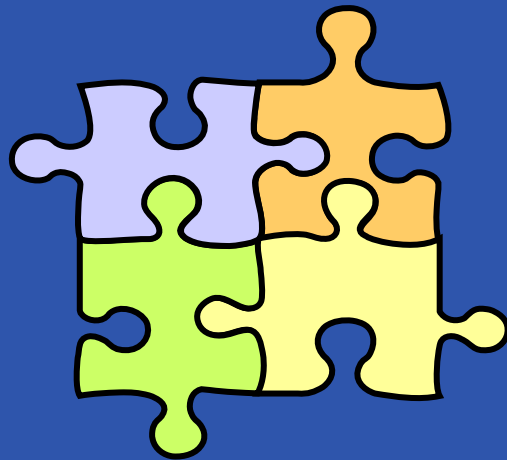
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What is Linking?

Objective:

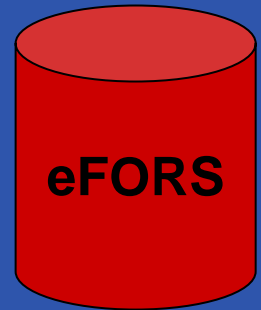
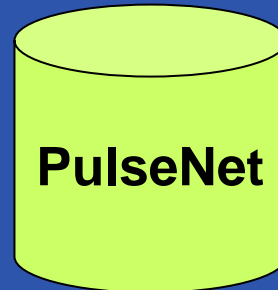
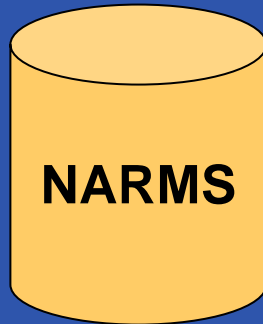
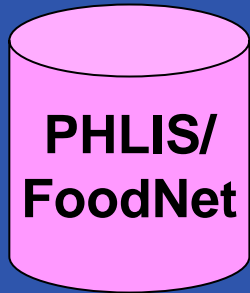
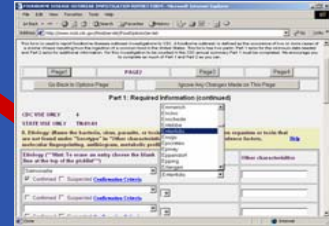
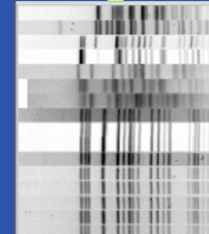
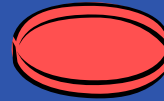
- To link the data between surveillance systems in order to address research questions and increase the capacity for surveillance.



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Positive Culture



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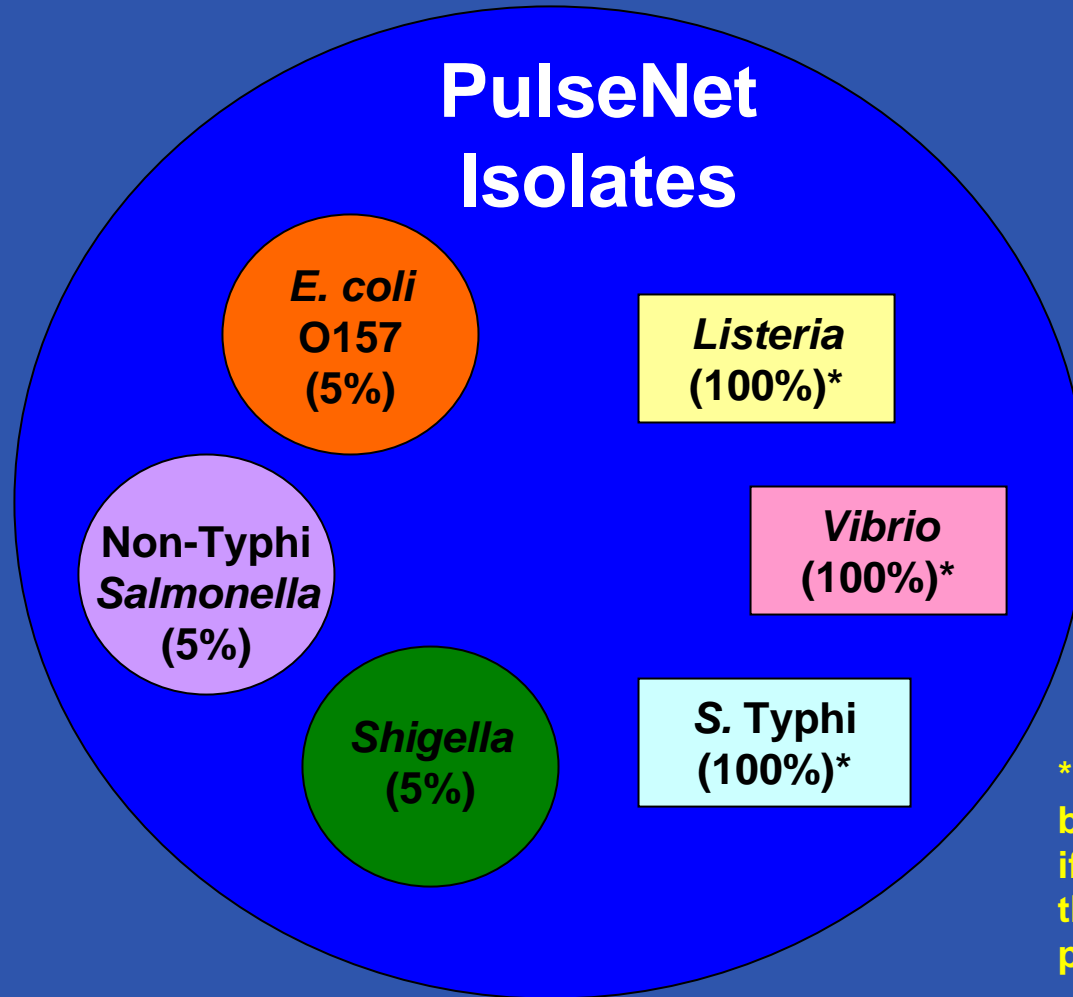
How do we link?

- Use a common identifier with a standard format
- State laboratory isolate ID currently found in NARMS and PulseNet
 - ◆ **NY example – BAC0000253**
 - ◆ **TN example – 052649**
 - ◆ **CA example – 05X0468**
- Assigned by state public health laboratory
- Acts as a unique identifier in all surveillance systems



New Guidance for PulseNet and NARMS

**NARMS
Isolates**
(sampling %)



* Percentages may be less than 100% if there is more than one isolate per patient

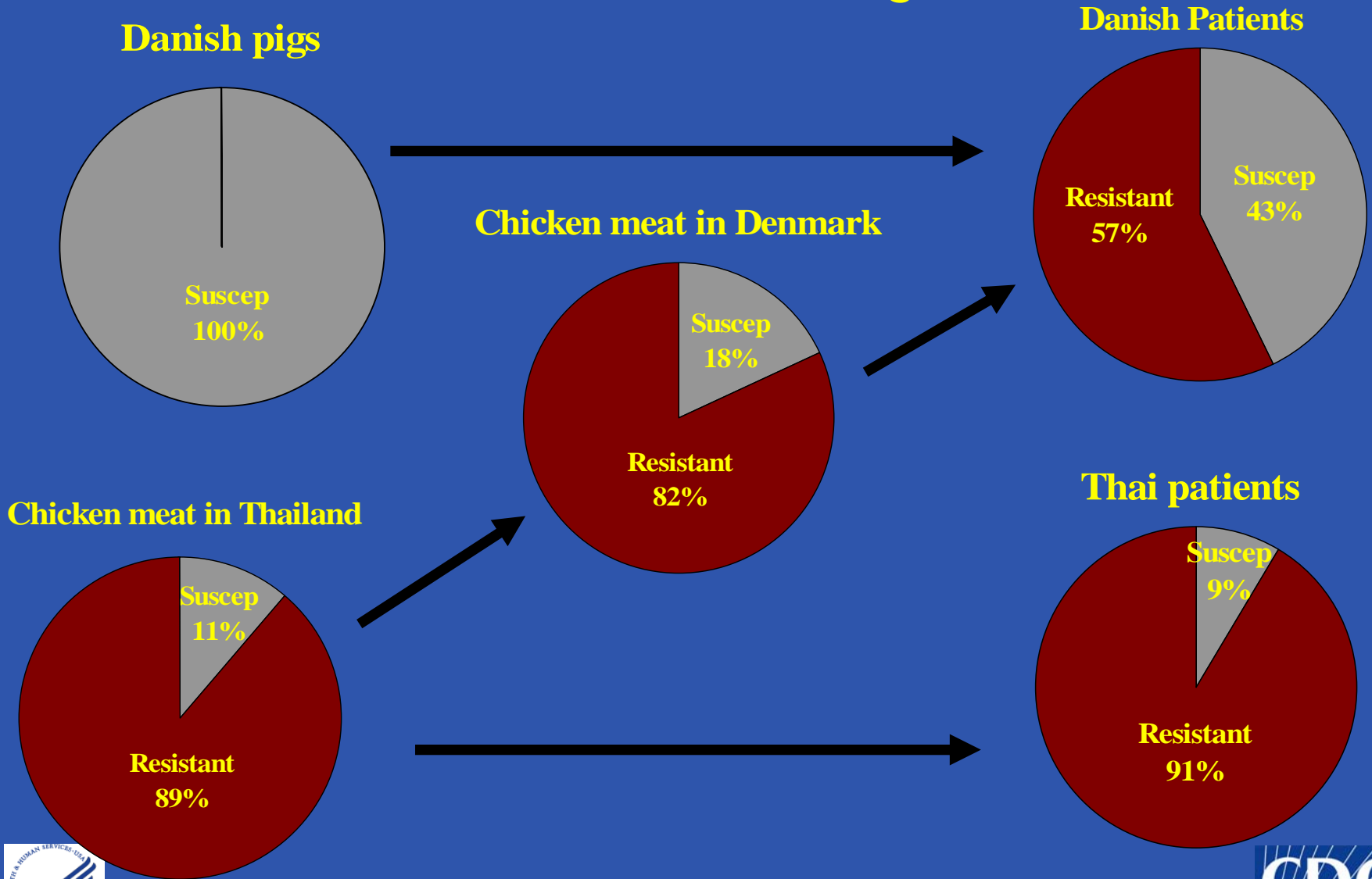


Benefits of Linking PulseNet and NARMS

- Evaluate trends in diversity of PFGE patterns for specific resistance phenotypes
- Describe differences in diversity of PFGE patterns between outbreak and sporadic isolates



Denmark - Quinolone resistance among *Salmonella* Schwarzengrund



Salmonella Schwarzengrund – Denmark Study Results

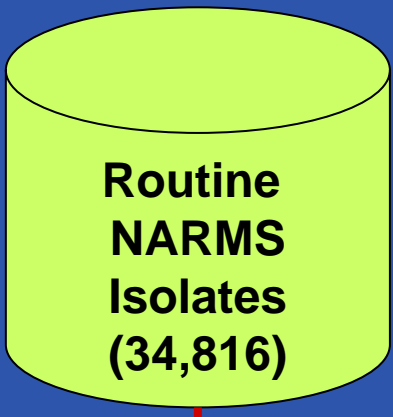
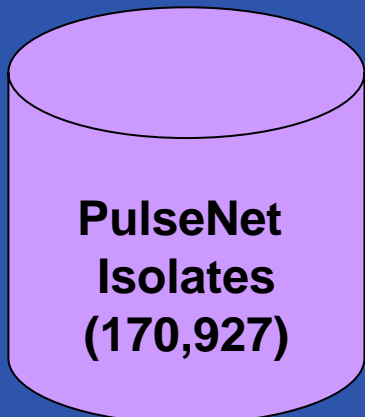
- Human infections in Thailand caused by isolates from domestic chicken
- Human infections in Denmark caused by imported chicken and domestic swine
- Human infections in US caused by imported products and domestic swine and travel-associated



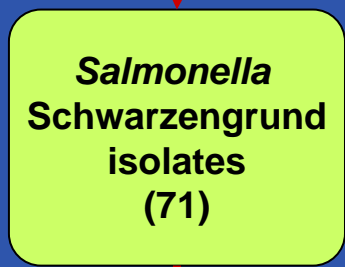
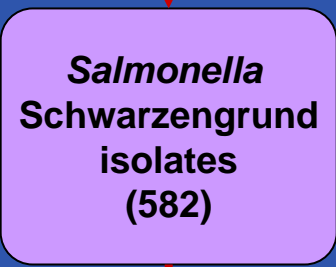
US *Salmonella* Schwarzengrund

- Objective to determine number of *Salmonella* Schwarzengrund isolates with both PFGE patterns and susceptibility results
- Linked PulseNet and NARMS data by state laboratory isolate ID





US *Salmonella* Schwarzengrund Isolates



Linked US *Salmonella* Schwarzengrund Isolates

- 40 isolates represented by 23 XbaI patterns
- 13 isolates pansusceptible to 13 antimicrobial agents:
 - amoxicillin-clavulanic acid, ampicillin, ceftiofur, ceftriaxone, chloramphenicol, ciprofloxacin, gentamicin, kanamycin, nalidixic acid, streptomycin, sulfamethoxazole, tetracycline, and trimethoprim-sulfamethoxazole
- 15 isolates resistant to ≥ 5 antimicrobials



The Future of the Linking Project

- Nearly 10 years worth of national data:
 - Susceptibility results (NARMS)
 - PFGE patterns (PulseNet)
 - Outbreaks (eFORS)
 - Epidemiology (PHLIS and case report forms)
- Linking offers many opportunities for surveillance and research



Use of unique state public health laboratory ID is the key!



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