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"Free Riders" and Weak Economic Incentives to Control Foodborne Pathogens

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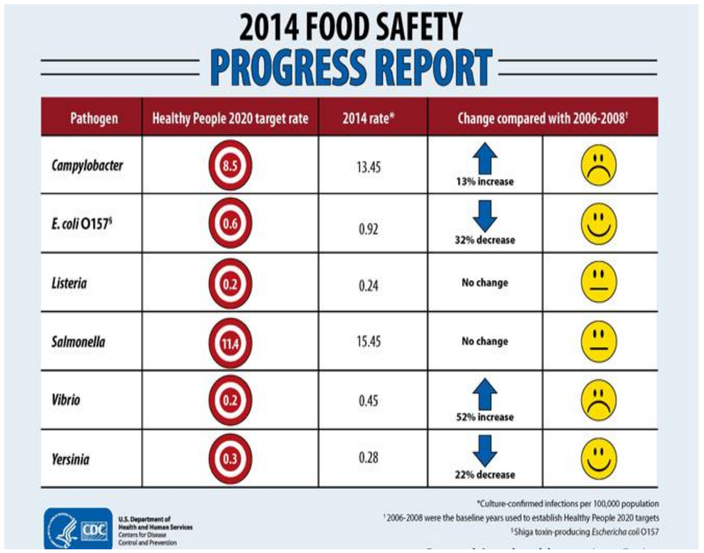
PURPOSE

Free riders ". . . destroy markets for wholesome, not adulterated, and properly labeled and packaged meat and meat food products, and result in sundry losses to livestock producers and processors of meat and meat food products, as well as injury to consumers" (GPO, 21 USC 602; 2006).

Why haven't scientific innovations to control pathogens from farm to fork been uniformly adopted by US companies? This poster explores the issue and shows how **stronger economic incentives** can reduce pathogens in U.S. food.

Private market incentives for food safety are weak, because the causative pathogen and the food company are rarely linked to the 47.8 million U.S. acute foodborne illnesses each year. CDC reported cases of acute foodborne illness average only 10,000 acute illnesses per year**. Only 0.05% of all acute foodborne illnesses can be linked to the food and its company** (Roberts 2013). This is a VERY small percentage of cases and provides minimal economic incentives, except for the rare large outbreak where a company can be identified. Even when a company can be identified, USDA has shown reluctance to take action, as in the Foster Farms' *Salmonella* outbreaks (2012-2013 and 2013-2014), both of which lasted over a year.

Healthy People 2020 pathogen targets are in jeopardy of NOT being met ---- Figure 1 shows increases for two pathogens in 2014, compared to the 2006-2008 baseline, and NO change for two other pathogens of major concern.



METHODS

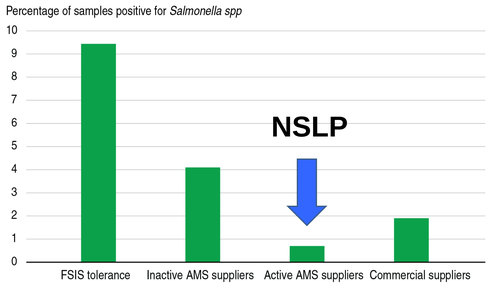
Economic policy analysis evaluates public health benefits vs costs of options to reduce the **burden of disease due to foodborne pathogens in the US, estimated at $56-93 Billion annually** (Scharff 2015).

Advances in testing have created new options for pathogen identification, linkage to human illness, linkage to companies, and measuring the impact of pathogen controls. McGill University researchers tested supermarket poultry and found the same *E. coli* serotypes that had caused urinary tract infections in the local population (Raicot-Bergeron et al. 2012). The US could require farm-to-fork pathogen tests as a condition for selling food in the US market. This would enable Federal agencies to:

- link pathogens to more food packages and companies,
- increase the accountability of companies selling contaminated food, and
- reduce the "free rider" problem.

The National School Lunch Program (NSLP) has improved food safety by requiring stricter pathogen standards (figure 3). The NLSP active suppliers' *Salmonella* levels are 1/10th of the FSIS tolerance level.

Figure 3
In ground beef supplied to the National School Lunch Program, active AMS suppliers had fewer samples test positive for *Salmonella spp* than did commercial suppliers in ground beef supplied to the commercial market



Note: Under the FSIS *Salmonella spp* standard, ground beef establishments must have no more than 5 of 53 samples test positive for *Salmonella spp* (9.4 percent) over a test period that depends on the frequency of production runs. The differences in *Salmonella spp* levels for inactive U.S. Department of Agriculture (USDA), Agricultural Marketing Service (AMS) suppliers and commercial suppliers and for active AMS suppliers and commercial suppliers are statistically significant at the 0.01 level. "AMS suppliers" includes both active (bidding on contracts) and inactive suppliers. *Commercial suppliers* supply ground beef only to the commercial market.
Source: USDA, Economic Research Service estimates based on *Salmonella spp* data from USDA, Food Safety and Inspection Service (FSIS).

Reference: Ollinger, Guthrie, Bovay 2014

RESULTS

Free riders are companies who cause foodborne illness and are NOT held accountable for the damage they inflict on US consumers. This "free ride" hurts companies that are good-actors who invest in superior pathogen control.

Pathogen tests from farm to fork are the building blocks of a system to increase economic incentives and accountability of food companies for pathogens (NAS 2011, below). All these types of pathogen test results and other data should be included in a unified Federal database:

1) Pathogen tests from farm to fork, required as a condition for access to the US market
2) Require Federal access to all private pathogen tests
3) Set strict Federal pathogen performance standards and require yearly improvement
4) Record all legal liability cases and out-of-court settlements involving foodborne pathogens
5) Identify and quantify human illnesses for CDC's "unknown" foodborne pathogens (80% of acute cases) & Long Term Health Outcomes of all cases
6) Expand CDC's PulseNET data to integrate all sources of test results into a nationwide database that links pathogens and food products to the company/plant

NAS's 2011 report, The Potential Consequences of Public Release of FSIS Establishment-Specific Data identified these economic incentives for better pathogen control via public release of data:

- Protect brand reputation in food safety
- Enhance customer base and profitability
- Allow downstream users to identify companies with performance records below/above industry average
- Create economic pressure to improve food safety
- Provide insights into strengths/weaknesses of different processing practices
- Enhance performance benchmarking
- Improve consistency of inspector performance

"The committee concluded that public release of FSIS establishment-specific data, by themselves or in combination with other privately or publicly available data, could yield valuable insights that go beyond the regulatory uses for which the data were collected."

CONCLUSIONS

1. Expand CDC's PulseNET data to integrate all sources of test results into a nationwide database to link pathogens and food products to the company/plant. Keep serotype identification of pathogens as a necessary link in the farm-to-fork food chain to identify human illnesses (acute and long term health outcomes) and to identify companies supplying contaminated food.

- Food companies will have **much stronger** economic incentives to control pathogens.
- The costs to expand PulseNET and FoodNET are expected to be much less than the $56-93 Billion annual US public health burden due to foodborne pathogens causing both acute illness and Long Term Health Outcomes.

2. Congressional funding for PulseNET and FoodNET should increase substantially to accomplish this expanded mission, including the incorporation of legal liability cases and out-of-court settlements**.**

3. All Federal regulatory agencies should set strict pathogen performance standards for food and demand continual improvement to protect markets and consumers, as detailed in **21 USC 602.**

References:

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Roberts (2013) Lack of information is the root of US foodborne illness risk**,** *Choices,* www.choicesmagazine.org/magazine/pdf/cmsarticle_300.pdf
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US Code, Suppl 4, Title 21, Section 602 (2006) – Food and Drugs – Congressional statement of findings. http://www.gpo.gov/fdsys/pkg/USCODE-2010-title21/pdf/USCODE-2010-title21-chap12-subchapI-sec602.pdf

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