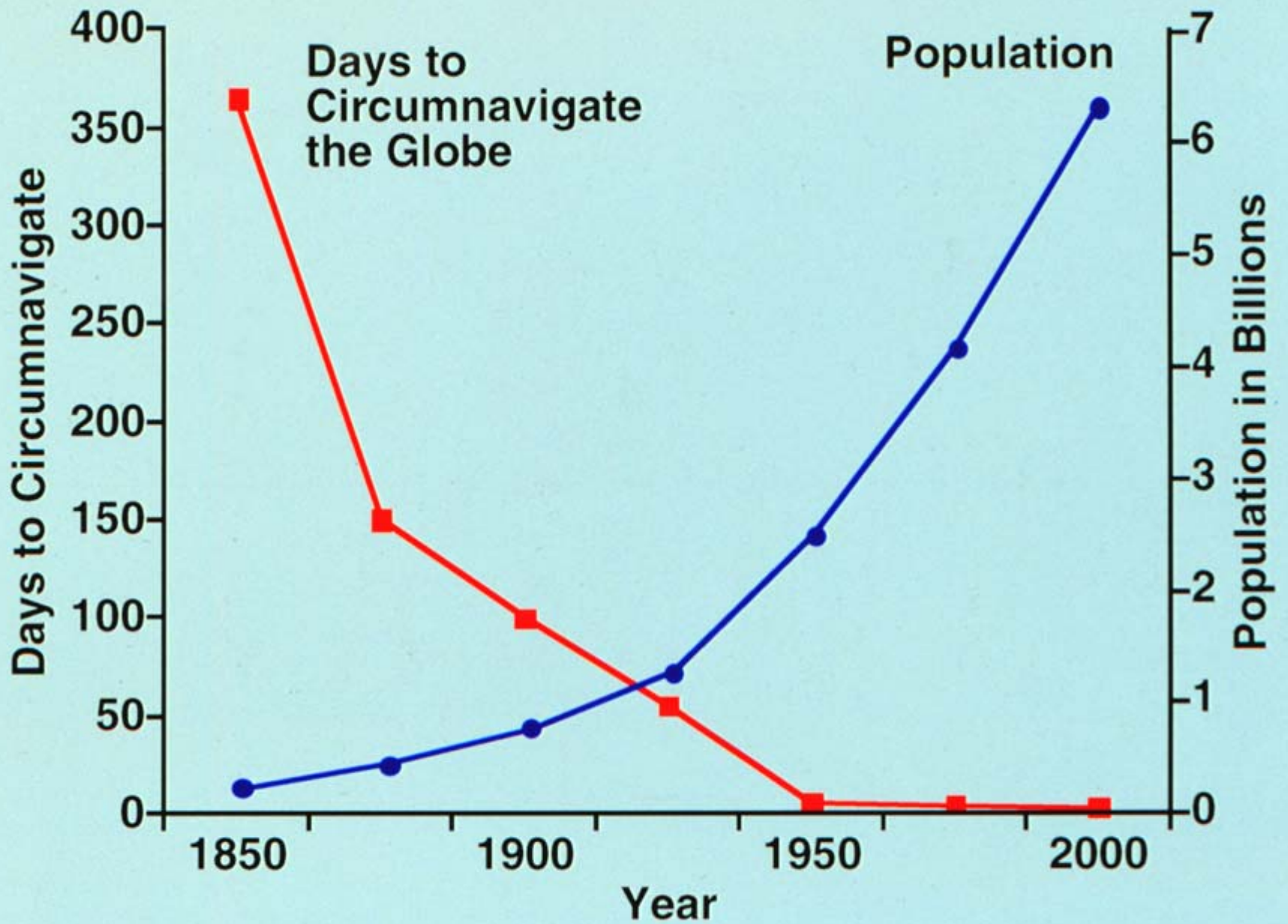


The Globalization of Our Food Supply; Implications for Emerging Infections

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Definition of Emerging Infections:

New, reemerging or drug-resistant infections whose incidence in humans has increased within the past two decades or whose incidence threatens to increase in the near future.

Food-Related Illness and Death in the United States

Mead et.al., EID 1999

- Estimated that annually foodborne diseases cause approximately
 - 76 million illnesses
 - 325,000 hospitalizations
 - 5,000 deaths
- Known pathogens only account for 14 million illnesses (18%)

Vehicles Implicated in Confirmed Foodborne Disease Outbreaks Minnesota, 1990-2000

Vehicle	No. (%) Outbreaks
Fresh produce	62 (23)
Meats and poultry	37 (14)
Combination foods	44 (17)
Multiple food items	42 (16)
Other	44 (17)
<u>Unknown</u>	<u>35 (13)</u>
Other	264 (100)

Changes in the Factors that Contribute to the Epidemiology of Foodborne Disease

- Diet
- Commercial food service
- New methods of food production
- New or reemerging infectious agents
- “High-risk populations”

Master Grocer





CHUCK
ROAST
22¢

ROUND
STEAK
31¢

LARD

PORK
SAUSAGE
23¢

LAMB
LEGS
24¢

SHIRAZ
29¢

SLIPPER
SAUSAGE
21¢

STEWING
HENS
18¢

18¢

POULTRY
COMPLETE SELECTION OF
FRESH DRESSED POULTRY

FISH
FRESH IN BOX
SEA FOODS - SMOKED

SECTION 5
CANNED
PORK BEANS
DRIED BEANS



BYERLY'S
SPECIAL EDITIONS
\$2.99

Per Capita Consumption in Pounds of Selected Foods, U.S., 1970-1999

	Pounds of Food		% Change
	1970	1999	
Whole milk	219	72	-67%
Red Meat	132	118	-11%
Low-fat milk	50	131	+162%
Cheese	11	30	+173%
Poultry	34	68	+100%
Fresh vegetables	79	129	+63%
Fresh fruit	97	126	+30%

Foods From Around The World

HERBS



Factors Associated with the “Globalization” of Foodborne Diseases

- Water
- Animal feeds and manures
- Workers
- Transportation
- Rodents, other wildlife, insects
- Food processing

Percent of Selected Produce Items from Mexico Sold in the United States, by Quarter, 2000

Quarter	Cantaloupe	Green Onions	Cucumber	Tomato
Jan-Mar	25%	96%	74%	50%
Apr-Jun	14%	95%	42%	17%
July-Sep	<1%	91%	24%	7%
Oct-Dec	16%	95%	61%	18%
Total	17%	95%	51%	23%

Source: USDA, AMS

Cyclosporiasis and Raspberries 1995, 1996, 1997 and 2000

- Outbreaks each year associated with consumption of Guatemala raspberries
- Association of raspberries with illness in 1995 recognized retrospectively











95 9 29



95 9 58.

Outbreaks of *Shigella sonnei* Infection Associated with Eating Fresh Parsley – U.S. and Canada, 1998

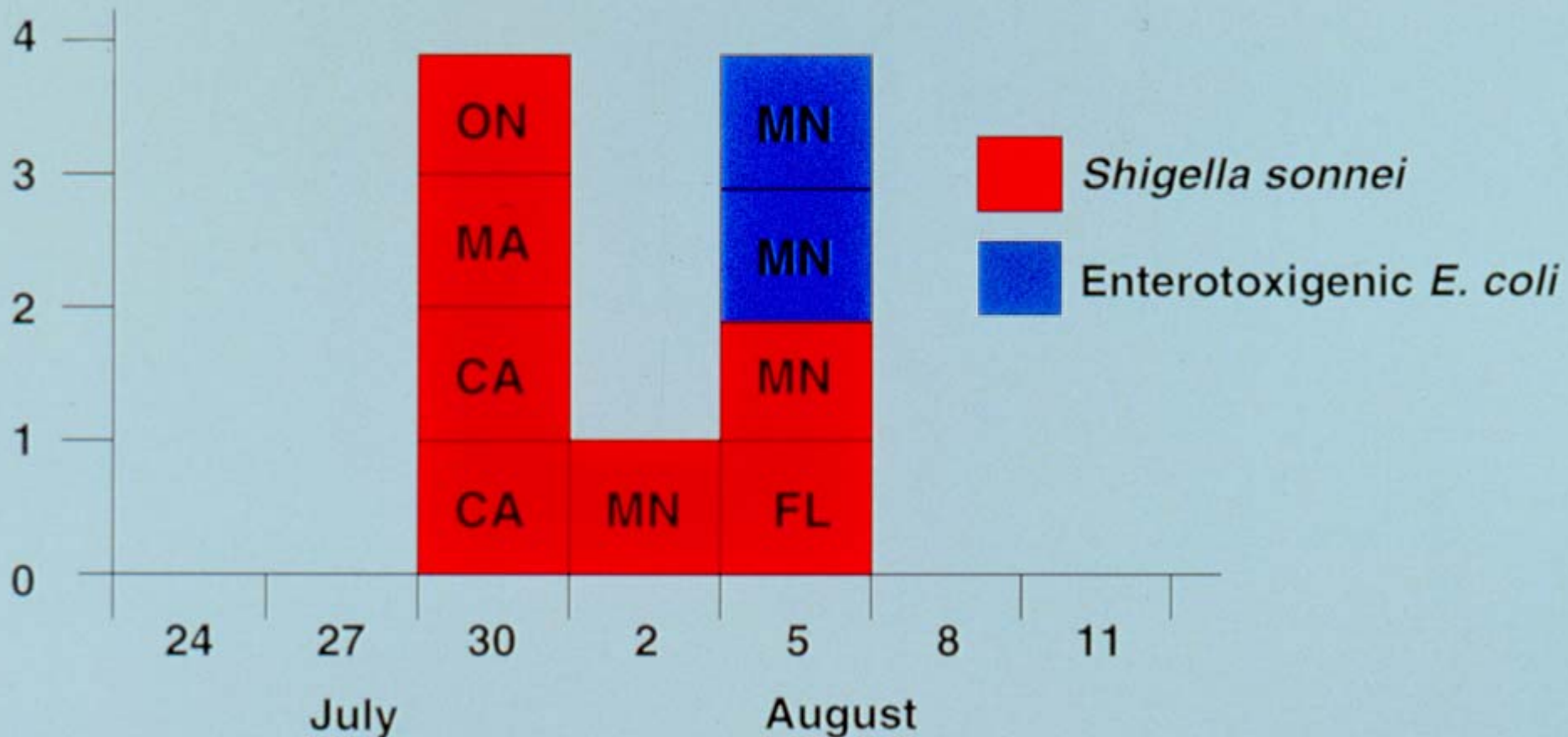
MMWR April 14, 1999

- In August, 1998, the Minnesota Department of Health confirmed outbreaks of multidrug-resistant *Shigella sonnei* infection among patrons of two different restaurants.
- Isolates were resistant to ampicillin, trimethoprim-sulfamethoxazole, tetracycline, sulfasoxazole and streptomycin and had the same PFGE pattern

Outbreaks of *Shigella sonnei*

- Parsley implicated as vehicle
- With additional investigation by the MDH, outbreaks identified in LA County, Massachusetts, Florida and Ontario
- Traceback by MDH implicated parsley from Mexico

Outbreaks of *Shigella sonnei* and Enterotoxigenic *Escherichia coli* Infections Associated with Parsley in North America, July-August 1998



National Restaurant Association 2000 Restaurant Industry Facts

- Sales \$399 billion
- Locations 844,000
- Employees 11.3 million
- Restaurant share of
the food dollar 46%

The Economist

MARCH 30TH - APRIL 5TH 1996

ODDITIES
pages 29 and 36

EUROPE'S
FUTURE
pages 18 and 47-49



Made ~~in~~
in
Britain



**“If you don’t know where
you’re going, any road will
get you there.”**

- Lewis Carroll