

Presenter: Scott Frank, MD, MS

Affiliation: Case Western Reserve University

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Organization Holding Meeting: Association of Ohio Health Commissioners

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Direct Observation of Local Public Health

The Role of Local Health Departments in Prevention of Foodborne Outbreaks

Scott Frank, MD, MS

Principle Investigator, DOLPH

Director, Shaker Heights Health Department

Director, Case Western Reserve University Master of Public Health Program



Ohio Research Association
for Public Health Improvement

Public Health Practice-Based Research Network

 No financial disclosures

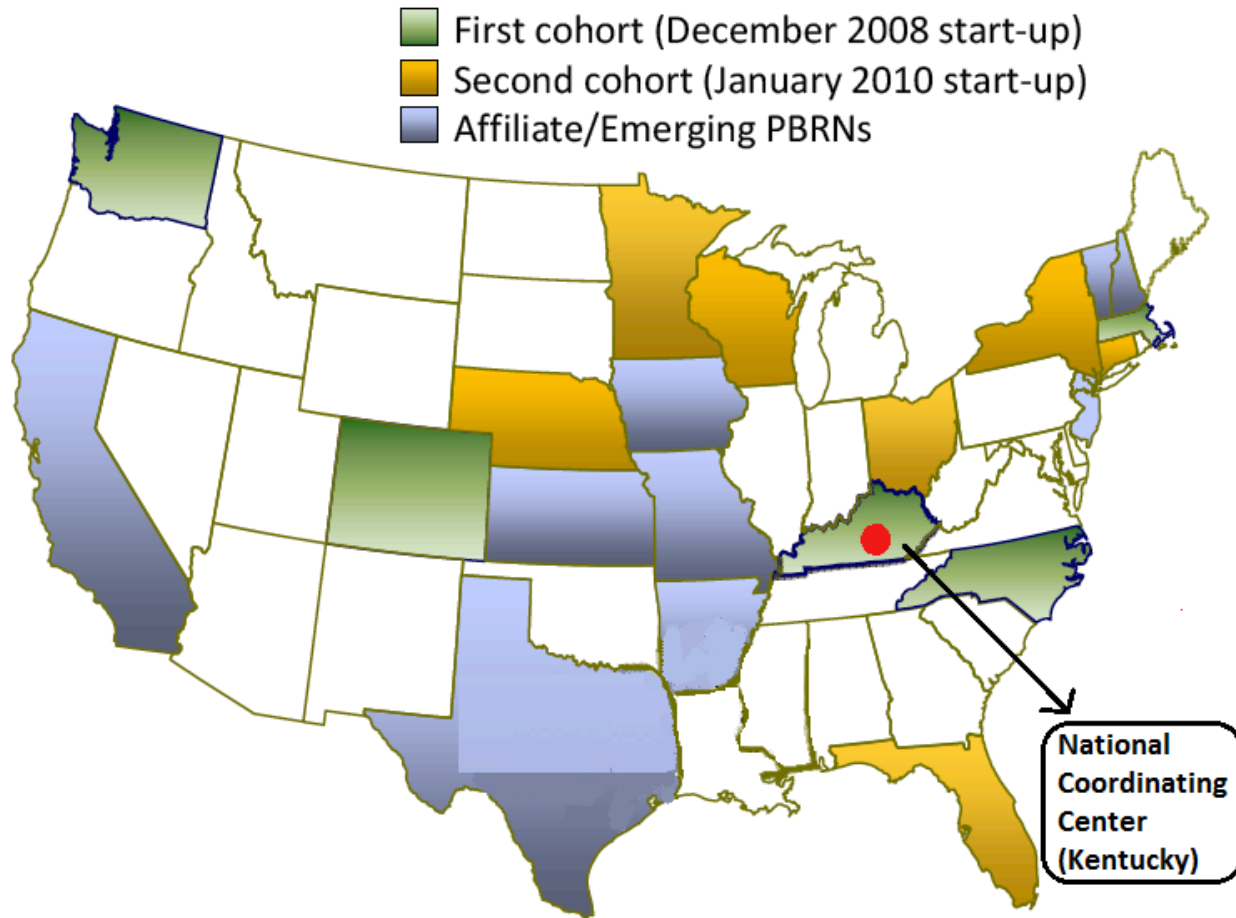


What is RAPHI?

- 🌳 RAPHI is a Public Health Practice-Based Research Network (PH PBRN)
- 🌳 Organized group of Ohio public health agencies
- 🌳 1 of 12 funded PH PBRNs and 12 affiliate PH PBRNs nationally (total 24)
- 🌳 PH PBRNs support the development & dissemination of evidence-based public health practices
- 🌳 Funded by the Robert Wood Johnson Foundation (RWJF)—December 2009 through 2013



RWJF Public Health PBRN Program



Purpose of RAPHI?

- Ongoing collaborations with public health research centers
- Conducts rigorous, applied studies
- Identify ways of improving the organization, financing and delivery of public health services in real world community settings





Ohio RAPHI Coordination

- 🌳 PI—Scott Frank, MD, MS, Case Western Reserve University
- 🌳 Co-PI (former)—Matthew Stefanak, MPH, RS (former Health Commissioner, Mahoning County District Board of Health)
- 🌳 Co-PI (new)--Gene Nixon, MPA, RS, Health Commissioner, Summit County Public Health
- 🌳 Project Coordinator—Michelle Menegay, MPH




Direct Observation of Local Public Health: **Rationale**

-  Lack of credible evidence regarding the types and levels of workforce, infrastructure, related resources, and financial investments in public health
-  Offer evidence to provide a rational approach to changing the public health system in the face of health reform



Direct Observation of Local Public Health Purpose

-  **Purpose:** Seek to characterize public health practice—structure, process, and outcome of the local health department (LHD) role in foodborne illness prevention, investigation, and intervention

Direct Observation of Local Public Health Research Structure

- 🌳 Seven academic public health programs
 - DOLPH liaison(s) at each program
 - Regular conference calls
- 🌳 3 to 5 local health departments per program
 - Regular contact with liaison to report on progress and assure opportunity for feedback
- 🌳 3 to 5 student observers
 - Statewide and local training



DOLPH Academic Research Sites



SCHOOL OF MEDICINE
CASE WESTERN RESERVE
UNIVERSITY



DOLPH Co-Investigators



Case Western Reserve University

- Michelle Menegay, MPH



University of Cincinnati

- William Mase, DrPH, MPH, MA



Kent State University

- Scott Olds, MS, PhD



Consortium of Eastern Ohio, NEOMED

- Amy Lee, MD, MBA, MPH
- Tom Albani, MPH



Ohio State University

- Michael Bisesi, MS, PhD



Northwest Consortium, University of Toledo

- Barbara Saltzman, PhD, MPH
- Brian Fink, PhD, MPH



Wright State University

- Sylvia Ellison, MA



Participating Health Departments (20)

-  Athens City-County
-  Clark County
-  Cleveland Public Health
-  Cincinnati Public Health
-  Cuyahoga County
-  Columbus Public Health
-  Dayton & Montgomery County
-  Franklin County
-  Greene County
-  Kent City
-  Lake County
-  Lucas County
-  Mahoning County
-  Montgomery County
-  Norwood City
-  Portage County
-  Stark County
-  Summit County
-  Warren County
-  Wood County

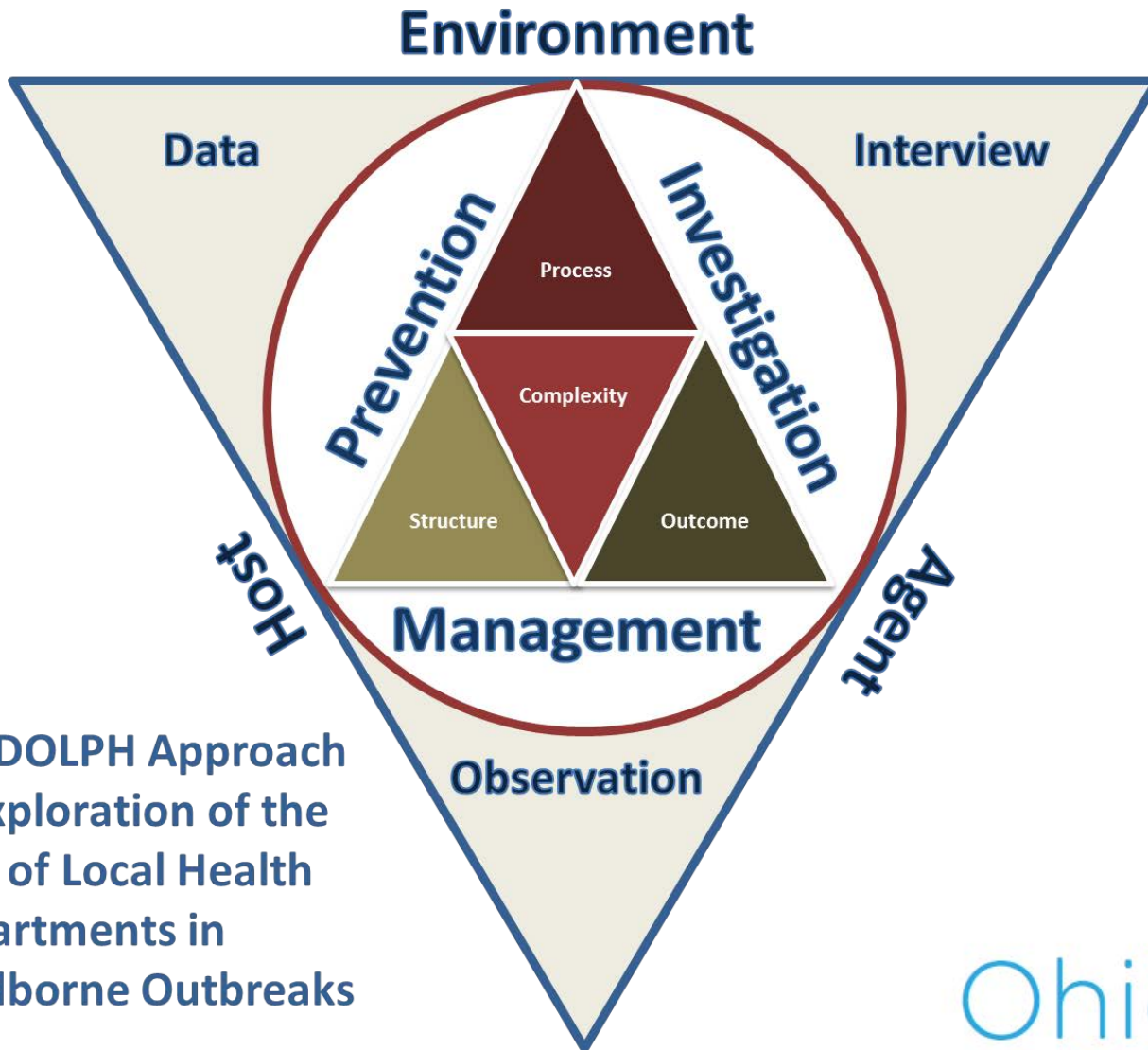
36 Current Participating Registered Sanitarians



Direct Observation of Local Public Health Methods

- 🌳 Mixed methods approach
 - Qualitative and quantitative interview, observation data
 - Secondary data (health department, jurisdictional profiles)
- 🌳 Combines original qualitative and quantitative data with existing statewide quantitative databases
- 🌳 Ohio statewide databases for public health services and systems research:
 - Socio-demographic census data
 - Ohio Annual Financial Report data
 - Local health department performance standards data

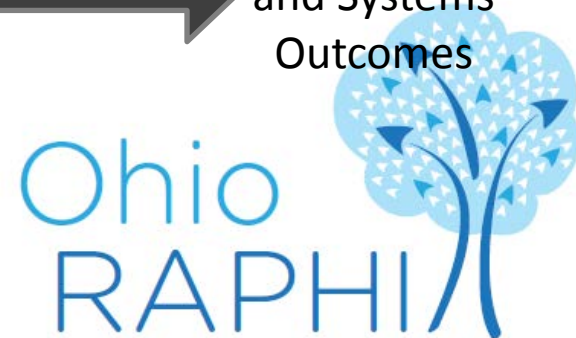
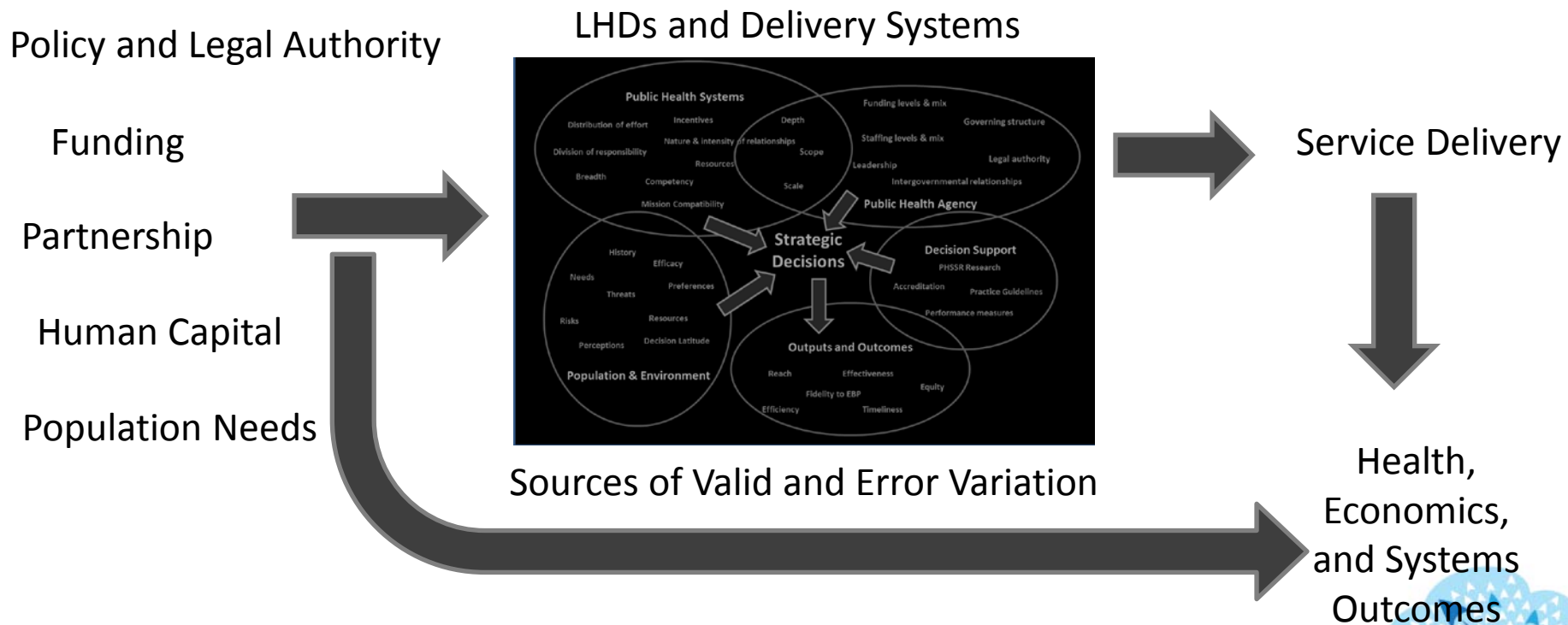




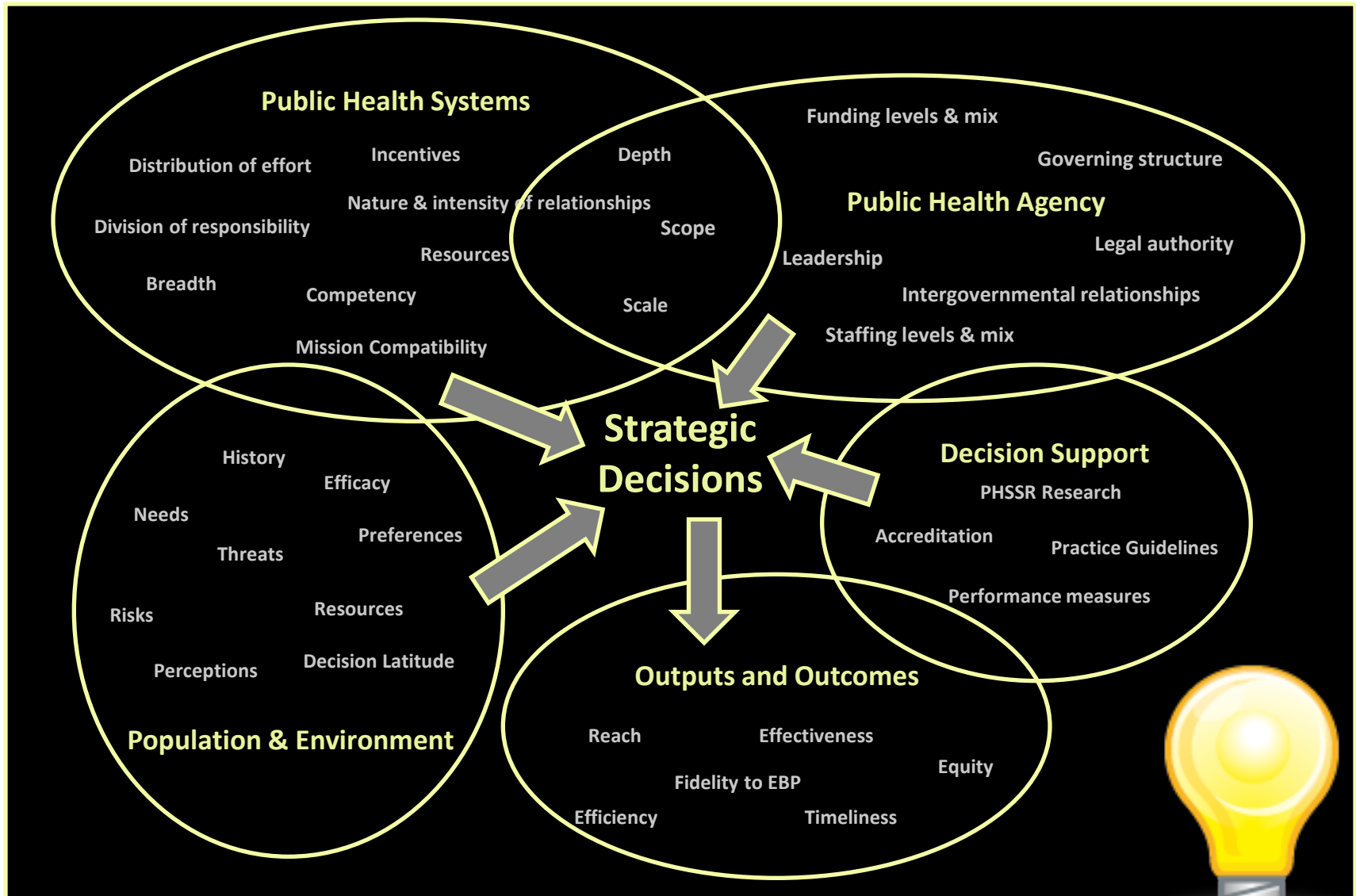
The DOLPH Approach
to Exploration of the
Role of Local Health
Departments in
Foodborne Outbreaks



Black Box of Local Public Health



Illuminating the Black Box of Local Public Health



DOLPH Tools

-  LHD Profile
-  Sanitarian Profile
-  LHD Disease Investigation Team Profile
-  Jurisdictional Profile
-  Direct Observation Protocol

DOLPH Observational Protocol Validity and Inter-Rater Reliability

Variable	N	Percent Correct	Gold Standard
RS admits uncertainty	27	85.2%	(Not at all)
PIC uses humor	27	55.6%	(Not at all)
RS uses humor	27	85.2%	(More than once)
PIC interrupts RS	27	74.1%	(Not at all)
RS uses unexplained jargon	27	100%	(Not at all)
Argumentation occurs	27	96.3%	(Not at all)
RS gives Positive Feedback	27	96.3%	(More than once)
RS gives Negative Feedback	27	88.9%	(Not at all)
RS threaten punitive action	27	100%	(No)
Favors offered to RS	27	96.3%	(No)
RS gave clear feedback	27	92.6%	(More than once)
RS discuss improvement plan	27	85.2%	(More than once)

N=Number of Trained Observers

PIC=Person in Charge; RS=Registered Sanitarian



DOLPH Observational Protocol Validity and Inter-Rater Reliability

Variable	N	Percent Correct	Gold Standard
RS accompanied by PIC	25	88.9%	(No)
PIC voiced raised	27	96.3%	(No)
RS voiced raised	26	92.6%	(No)
PIC cooperative	27	100%	(Yes)
PIC engagement	27	96.3%	(Engaged)
PIC thank RS	26	96.3%	(Yes)
RS thank PIC	26	96.3%	(Yes)
PIC question RS judgment	27	96.3%	(No)
PIC question RS fairness	27	100%	(No)
PIC question RS authority	27	100%	(No)
Electronic record used	24	88.9%	(No)

N=Number of Trained Observers

PIC=Person in Charge; RS=Registered Sanitarian



Registered Sanitarian Profile (n=29)

- 🌳 Average age 38 years
- 🌳 52% male
- 🌳 10% African American
- 🌳 8 years in current position
- 🌳 11 years working as a Sanitarian
- 🌳 66% Generalist
 - Among those with experience in both roles 60% preferred functioning as a generalist

Registered Sanitarian Profile

Time allocation

- 61% of time spent conducting food inspections
- 21% of time with paperwork
- 10% Nuisance inspection
- 6% School inspection
- 7% Swimming pool
- 4% Water/Septic
- 9% other

Registered Sanitarian Profile

- 🌳 83% have experience with suspected foodborne outbreaks
- 🌳 70% have experienced verified foodborne outbreaks
- 🌳 45% consider their job very demanding
- 🌳 64% perceive limitation in food inspection time because of competing demands

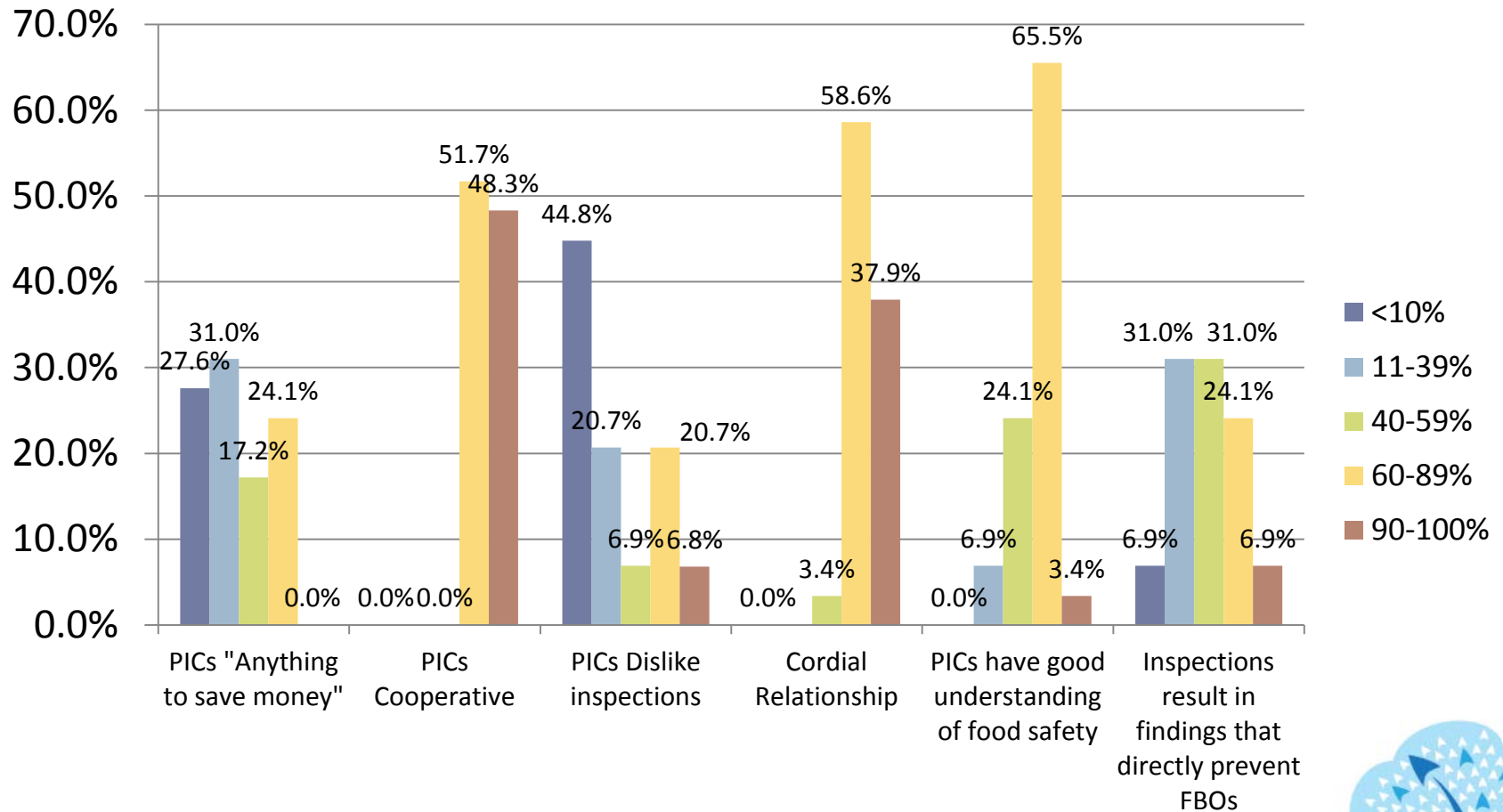
Registered Sanitarian Profile

- 🌳 Perception of Food Service Establishment Person(s) in Charge (PIC)
 - 72% believe more than 10% of PICs that will do “anything to save money”
 - 45% believe fewer than 10% of PICs dislike food inspections

Registered Sanitarian Profile

- 🌳 25% like investigating FBOs
- 🌳 59% don't mind paperwork (0% like)
- 🌳 59% like conducting food inspections
- 🌳 69% like interacting with PICs (0% dislike)
- 🌳 76% like doing food safety education during inspections
- 🌳 69% like doing continuing education

Sanitarian Perceptions of PICs



Pre-Inspection Interview

- 🌳 92% had inspected this FSE previously
- 🌳 66% of those related a positive history (4% negative)
- 🌳 7.1% “Heart Sink” inspections
- 🌳 FSE risk category
 - 1 or 2: 10%
 - 3: 40%
 - 4: 50%

Starting the Inspection

- 🌳 58.5% addressed the PIC by name or title
- 🌳 66% introduced themselves (85.5% by first name)
- 🌳 40% shook hands
- 🌳 91% washed hands before the inspection started
- 🌳 90% interacted with more than just the PIC
- 🌳 20% interacted with patrons
- 🌳 88% spent 1 to 5 minutes speaking with the sanitarian to start the inspection
- 🌳 10% of the time PICs appeared to be stalling the start of inspections






RS-PIC Interaction: RS Behavior

- 🌳 Admitted uncertainty 11% (15)
- 🌳 Used humor 60% (81)
- 🌳 Interrupted the PIC 29% (39)
- 🌳 Used unexplained jargon 4% (6)
- 🌳 Offered positive feedback 73% (92)
- 🌳 Offered feedback in negative fashion 14% (20)
- 🌳 Threatened punitive action 4% (6)
- 🌳 Accepted no favors

RS-PIC Interaction: PIC Behavior

- 🌳 Admitted uncertainty 48% (67)
- 🌳 Used humor 68% (94)
- 🌳 Interrupted the PIC 22% (30)
- 🌳 Argumentation/conflict 3.5% (5)
- 🌳 Feedback occurred privately 62% (85)
- 🌳 Feedback interrupted 9% (12)
- 🌳 Offered “favors” 14% (19)

Inspection Tools Utilized

-  Flashlight 13%
-  Probe thermometer 83%
-  Laser thermometer 58%
-  pH paper 54%
-  Educational handouts 16%

Areas Inspected

- 🌳 Shelves/cupboards 83%
- 🌳 Sinks 96%
- 🌳 Preparation area 94%
- 🌳 Cooking area 87%
- 🌳 Trash 89%
- 🌳 Water temperature 87%
- 🌳 Food labels 86.5%

Sanitarian Actions

- 🌳 Squat or bends 4.2/inspection (14% not at all)
- 🌳 Looks under or behind 2.6/inspection (12.5% not at all)
- 🌳 Check cold temperatures 8.0/inspection (6% not at all)
- 🌳 Check hot temperatures 1.9/inspection (47% not at all)
- 🌳 Gives advice or direction 2.8/inspection (10% not at all)

Sanitarian Actions: Checked...

- 🌳 Refrigeration 100%
- 🌳 Dishwasher 75%
- 🌳 Ice machine 73%
- 🌳 Food storage 100%
- 🌳 Food holding time or temp 89%
- 🌳 Sanitizing fluids 84%
- 🌳 Hand washing facilities 97%
- 🌳 Cleanliness of cloths, surfaces, sponges 98%
- 🌳 Date stamping 83.5%
- 🌳 Cross contamination control measures 90%
- 🌳 Disposal of food waste 70%



Check out

- 🌳 Spoiled foodstuff discarded 16%
- 🌳 Clear feedback and assessment 99%
- 🌳 Discuss improvement plan 91%
- 🌳 Offer food safety education 78%
- 🌳 Elicit questions 85%
- 🌳 Violations dealt with:
 - During inspection 58%
 - Follow up schedule 23%%
 - No follow up schedules 19%



Check out

- 🌳 Citation given in 66% of inspections
- 🌳 Verbal corrections given in 89% of inspections
- 🌳 PIC voice raised in anger 1%
- 🌳 RS voice raised in anger 2%
- 🌳 PIC Cooperative 99%
- 🌳 PIC Engaged 12.8%
- 🌳 PIC thanked the RS 92% of the time
- 🌳 RS thanked the PIC 89% of the time

Check Out

- 🌳 PIC questioned RS knowledge 2%
- 🌳 PIC questioned RS judgment 3%
- 🌳 PIC questioned RS fairness 1%
- 🌳 PIC questioned RS authority 1%
- 🌳 Hand on the doorknob syndrome 12.3%

Check Out

Duration of checkout

- 1-5 minutes 47%
- 6-10 minutes 36%
- 11-20 minutes 14%
- 21-40 minutes 1.5%

Post Inspection Interview

- 🌳 How hard was the inspection?
 - Difficult 8%
 - Average 21%
 - Easy 45%
 - Very Easy 26%
- 🌳 How hard were the interpersonal interactions
 - Very difficult 1%
 - Difficult 8%
 - Average 17%
 - Easy 39%
 - Very Easy 35.5%

Post Inspection Interview

How satisfied?

- Very dissatisfied 2%
- Dissatisfied 4%
- Average 15%
- Satisfied 57%
- Very satisfied 22%

How concerned?

- Very 5%
- A little 22%
- Not 73%



Limitations

- 🌳 Student observer influence actions 7%
- 🌳 Preliminary findings
- 🌳 Tests of association not done

Strengths

- 🌳 Good inter-rater reliability
- 🌳 Different approach
- 🌳 Detailed data available
- 🌳 Geographic spread
- 🌳 Ability to combine original research with publicly available data in the future
- 🌳 Decreased error variation

 Thanks!

 And, Questions or Comments

