Presenter Disclosures

Debbie Humphries

- **The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:**

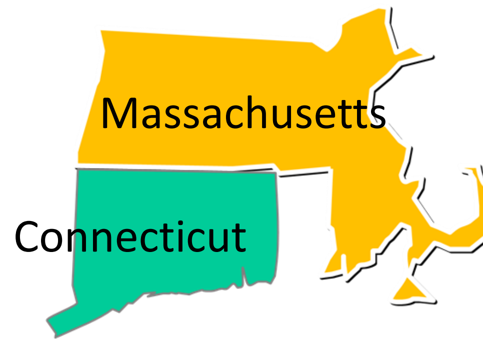
None

Acknowledgements

Funder: Robert Wood Johnson Foundation through t**he** Systems for Action National Coordinating Center – DIRECTIVE Grant #72054

Grant Title: The Effects of Cross-Jurisdictional Resource Sharing on the Implementation, Scope, and Quality of Public Health Services

Effects of Cross-Jurisdictional Resource Sharing on the Implementation, Scope and Quality of Public Health Services



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CADH Connecticut Association of Directors of Health

Overview

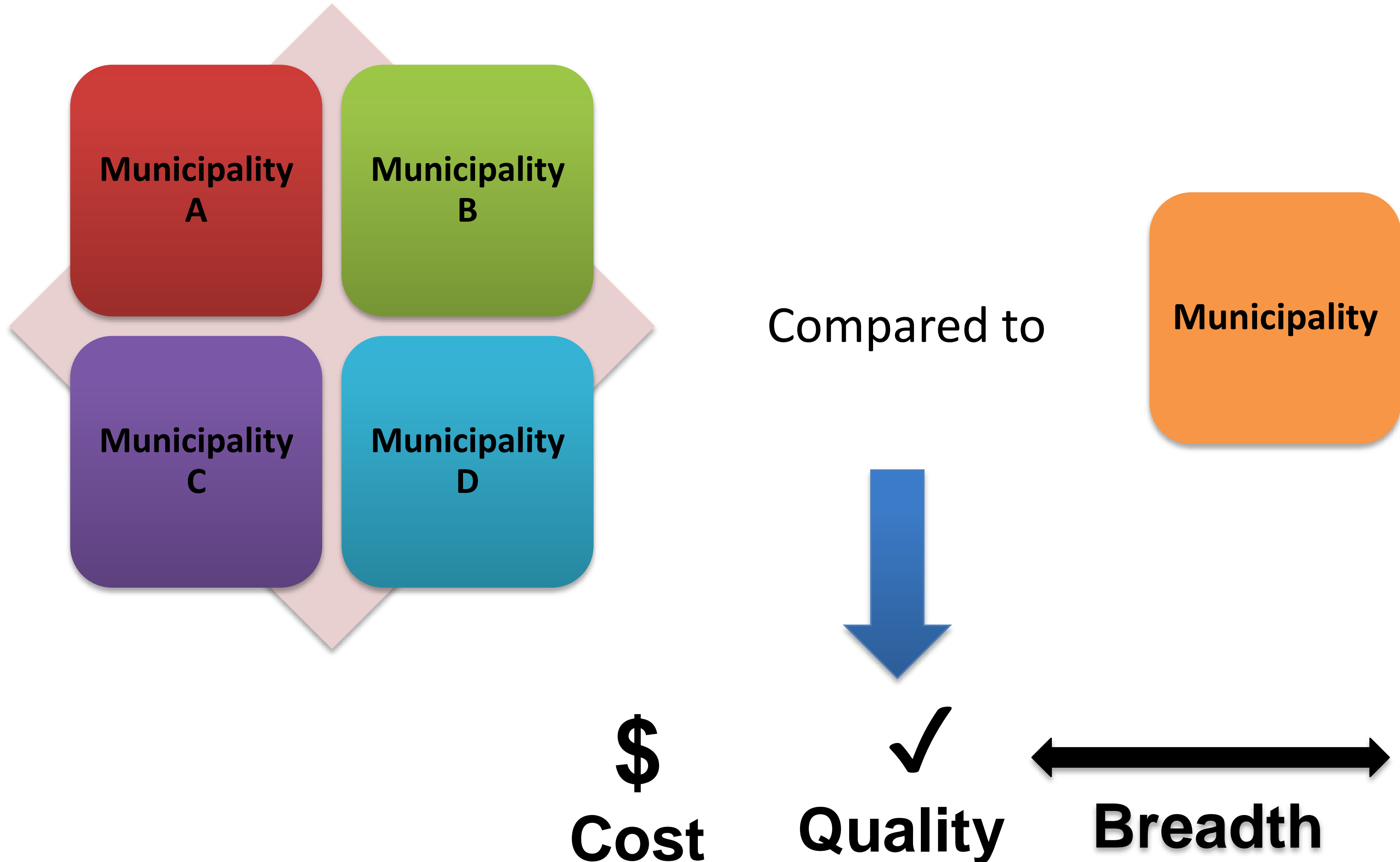
- Connecticut and Massachusetts
  - Both home rule states
  - Municipal responsibility for local public health
- Shared concern with equitable delivery of local public health services
- Mix of service delivery models
  - Independent
  - Partial and Comprehensive shared service
  - Districts

CT and MA at a glance:

	Massachusetts	**Connecticut**
Population	6.7 million	3.6 million
Number of towns/municipalities	351	169
Number of Health Departments/ Boards of Health	351	74
Type of Departments	Municipal 292 (83.2%) Multi-jurisdictional 9 (16.8%)	Municipal 53 (31.4%) Full time 29 Part-time 24 District 21 (68.6%)

Key Research Question

How do different organizational models impact the quality, breadth, and cost of local public health services?



Methodology

Mixed Method Study

- Census data
  - Municipal characteristics
- State (and local) reported data
  - Retail food inspections
- In-person semi-structured interviews, conducted separately in MA and CT
  - Health Directors or their designees

Sampling

- Stratified to identify independent jurisdictions that had similar population sizes to sharing jurisdictions
  - MA: All comprehensive shared service departments were recruited for participation
  - CT: Randomly selected eight districts covering 39 municipalities
  - Final sample: 15 sharing; 54 independent

Three focus areas for presentation

Highlight similarities and differences by service delivery model

- Core Public Health Services
- Public Health staff
- Retail Food Safety (standard required service)

Core Public Health Services

18 core services assessed

- Slightly more core services *provided by public health staff* in independent health departments than sharing health departments (16.8 vs. 15.5; $p=0.099$)

Public Health Staff

Sharing departments have lower public health staff FTE/1000 population than independent departments

- Shared 0.14 FTE/1000;
- Independent 0.22 FTE/1000; p value 0.07).

Training varies significantly (p=0.01):

- Directors of shared service models more likely to have public health training and MPH degrees (93.3% vs. 50%);
- Directors in independent models more likely to have a bachelor's degree (33.3% vs.6.7%) or
- MD/PhD (16.7% vs. 0%).

Food Safety Inspections

- No significant differences in number of inspections per 1000 population in either CT or MA
  - More food service establishments (FSE) per 1000 population in MA.
- In CT, independent jurisdictions have a higher proportion of required inspections conducted (97% vs. 67%);
- In MA, no differences in the number of required inspections conducted

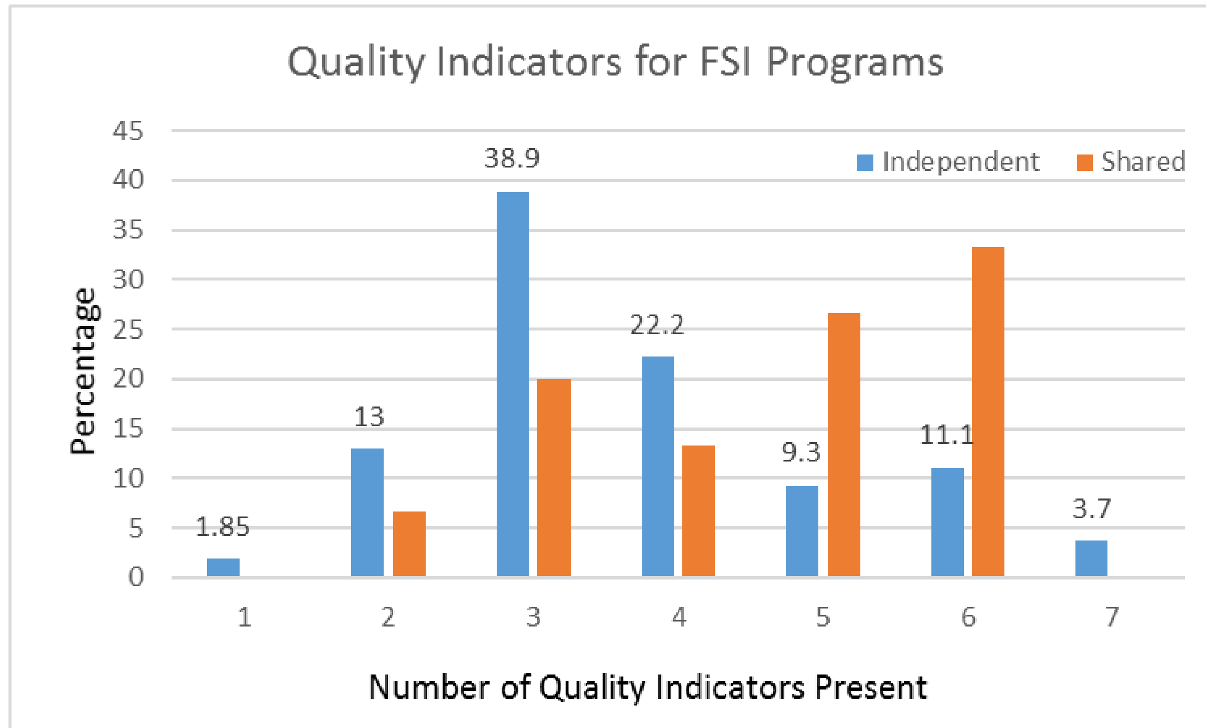
Quality of Food Safety Inspections

Quality indicators included:

- * Formally trained food safety inspectors;
- Opportunities for and requirements to take part in ongoing training on food inspections;
- * Use of a standard inspection reporting form;
- Written standard operating procedures;
- Written policies for responding to complaints;
- * Equipment needed for food inspections;
- Annual inspection program evaluation

* Most common across both models

Food Safety Inspection Quality



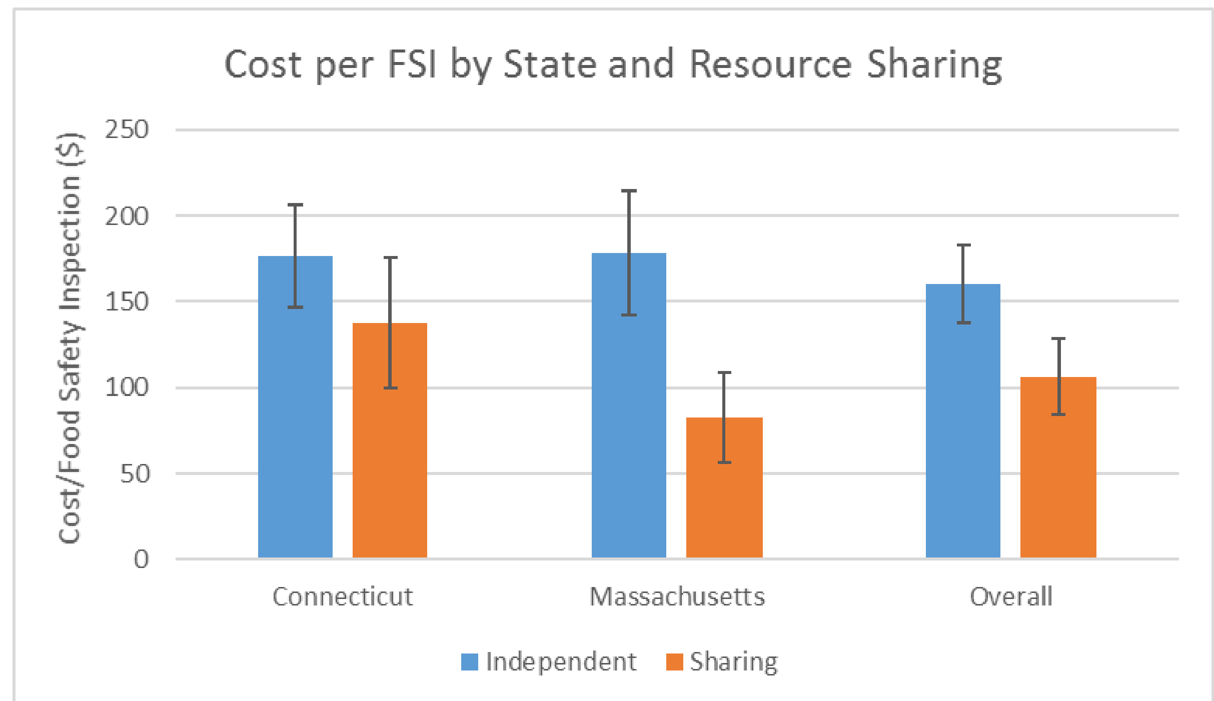
Sharing departments are more likely to have 5 or more of the quality indicators (p= 0.064) (73% vs. 46%)

Food Service Cost Model

- Questions asked:
  - Staff Costs
  - Indirect Rate
  - Overhead Rate
- Answered by all respondents:
  - Staff costs

Cost Estimates

- The total number of inspections for Sharing and Independent departments is significantly different ($p<0.001$).
- The cost per FSI is not significantly different for Sharing and Independent departments.



Predictors of Total FSI Staff Cost

- Ordinary Least Squares regression with total staff cost for food safety inspections (FSI) as dependent variable

	Coefficient	p value	95% CI	
# of FSI	79.3	<0.0001	41.3	117.2
(# of FSI)^2	-0.0201	0.001	-0.032	-0.008

- State and resource sharing were insignificant in the model
- Other significant control variables included unemployment and population density

Conclusions

- Sharing departments have fewer staff 1000 population, and are more likely to have directors with public health training
- Sharing departments have more indicators of higher quality inspections.
- Primary driver of inspection staffing costs is the total number of inspections being conducted
  - There is a non-linear relationship between cost per inspection and number of inspections;
  - Minimum cost per inspection is reached above the total number of inspections conducted by all but one of jurisdictions sampled
  - Service sharing status is not significant other than as a contributor to total number of inspections.

Contributions to the Field

- This adds to limited research on effective and efficient service delivery models for small and mid-size jurisdictions
- This extends previous research on cost of local public health services by exploring potential variations in cost by jurisdiction size and service delivery model

Research Team

	Connecticut	Massachusetts
Principal Investigators	Jennifer Kertanis	Justeen Hyde
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