The Privatization of Environmental Health Services: A National Survey of Practices and Perspectives in Local Health Departments

Christopher Keane, ScD[a]
John Marx, PhD[b]
Edmund Ricci, PhD[a]

SYNOPSIS

Objectives: This article presents nationally representative data on environmental health (EH) services privatized by local public health departments, enforcement and assurance mechanisms for privatized services, and administrators' views about EH services that should not be privatized.

Methods: A national sample of 380 local public health departments, stratified by jurisdiction size, was drawn from a universe of 2,488 departments. Telephone interviews were conducted with 347 administrators of departments. Results were weighted to be nationally representative.

Results: Approximately one-quarter of departments had privatized at least one EH service, almost always to for-profit organizations. The two most common reasons given for privatizing EH services were cost savings or increased efficiency and lack of capacity or expertise to carry out the service. The most rigorous, although infrequent, technique of enforcement and assurance of EH standards when services were privatized was double-testing of samples. Departments more commonly relied on state licensing and certification of contractors. When asked what services should not be privatized, 27% of respondents cited EH services. Many respondents argued against privatizing environmental services that have inherent regulatory functions. They expressed concern that privatization would fragment the public health infrastructure by impairing communication, diminishing control over performance, or weakening health departments' capacity to respond to environmental and other health crises.

Conclusion: These findings raise serious concerns about the privatization of EH.

[a]Graduate School of Public Health, University of Pittsburgh, Pittsburgh, PA

[b]Department of Sociology and the Graduate School of Public Health, University of Pittsburgh, Pittsburgh, PA

Address correspondence to: Christopher Keane, ScD, 211 Parran Hall, 130 DesSoto St., Pittsburgh, PA 15261; tel. 412-624-3128; fax 412-624-5510; e-mail <crkcity+@pitt.edu>

INTRODUCTION

In late September 2000, federal prosecutors concluded that the nation's second largest environmental laboratory company regularly mishandled and falsified thousands of tests at laboratories across the nation. From January 1994 through December 1997, Intertek Testing Services Environmental Labs, Inc., a for-profit organization, conducted as many as 250,000 tests such as analyses of air, soil, liquids, pesticides, and nerve gas agents, for government agencies as well as private environmental consulting and engineering firms.[1] According to an article in *Environmental Health News*, federal prosecutors described routine fudging of data as well as short-cutting of test protocols due to profit-driven pressures for fast results.[1]

The event raises several serious questions about contracting out environmental health (EH) services to private organizations, particularly for-profit organizations. How often do local public health departments contract out EH services? How often are those environmental services contracted to for-profit organizations? When services are contracted out, do health departments have reliable ways of assessing the quality of performance of the private organizations? What are administrators' views regarding contracting out EH services, and specifically regarding contracting out EH services to for-profit organizations? We pursued these questions using data from a survey of a sample of local public health departments that was conducted prior to the surfacing of the Intertek scandal.

We determined what specific EH services had been contracted out to private organizations, the reasons for privatizing services; the types of organizations contracted with; and the ways local public health departments monitored, evaluated, and regulated the services contracted out. We also asked administrators about services they believed should not be privatized.

METHODS

For the survey of local public health departments, we drew a random sample of 380 from a universe of 2,488 departments listed in the 1997 database of the National Association of County and City Health Officials (NACCHO).[2] The sample was stratified by size of jurisdiction served by the health department to assure adequate sample size of larger health departments, which, though small in number, serve a large proportion of the total U.S. population. We randomly selected 76 local health departments from each of five strata based on jurisdiction size. We linked our data with a Census database indicating metropolitan vs. non-metropolitan status for each county. We aggregated county data for departments that serve multiple counties and classified each department as serving a rural, urban, or mixed jurisdiction. Departments that serve both urban and rural counties were included in our analysis as urban. The definition of metropolitan status was developed by the U.S. Office of Management and Budget (OMB).

All data were weighted to be representative of local public health departments in the United States. The weighting was specific to the size of jurisdiction, the only variable for which we stratified.

We interviewed 347 directors or other administrators of local public health departments, a 91.3% response rate. Only 3.9% of the sample refused the interview, and 4.8% never responded or could not be reached. Almost all respondents were directors of departments; approximately 5% were in second-in-command positions such as Deputy Director, Assistant Director, or Deputy Administrator. The interviews were completed by experienced interviewers from July 1998 through February 1999.

We asked directors to describe all services, beginning with EH services, contracted out to private organizations ("privatized'). We indicated to respondents that our definition of EH services excluded personal health services, health education services, and outreach services. We provided respondents with the following examples of EH services: "services such as animal control, hazardous waste management, public water supply safety, environmental emergency response, indoor air quality, radiation control, solid waste management, groundwater pollution control, noise pollution, occupational safety and health, private water supply safety, vector control, sewage disposal system, and surface water pollution. This category also includes inspections and/or licensing of facilities such as restaurants, food and milk control, swimming pools, private water systems, public water systems, health facilities, nursing homes, mental health facilities, laboratories, veterinary hospitals/clinics, recreational facilities, tanning salons, tattoo salons, tattoo parlors, pet shops, barber/beauty shops."

We also asked respondents to give detailed narrative accounts of specific aspects of the privatization of services, including their views about which types of public services should not be contracted out to private sector organizations. These responses were quantified and then weighted to be nationally representative.

This article focuses on the privatization of EH services. Elsewhere, we have reported on the privatization of other public health services.[3]

RESULTS

Privatization of environmental health services

Almost a quarter (23.5%) of local health departments had privatized at least one EH service (Table 1). About one-fifth (17.7%) reported having contracted out the direct performance of least one EH service that had formerly been performed by the department, while 10.8% have contracted out at least one EH service from the inception of the service. Differences by size of jurisdiction were statistically significant.

The majority of privatized environmental services were contracted out to for-profit organizations. About one-fifth (19.9%) of health departments had contracted out at least one EH service to a for-profit organization. A comparison of the "Local health departments that have privatized at least one EH service" column with the "Proportion of privatized services contracted to for-profit organizations column" in Table 1 reveals that many specific EH services were contracted out (privatized) almost exclusively to for-profit organizations. Table 2 shows that privatization of EH services was less likely among departments serving non-metropolitan jurisdictions than among those serving metropolitan jurisdictions (odds ratio [OR] = 0.4; 95% confidence interval [CI] 0.2, 0.6), even after adjustment for size of jurisdiction (OR = 0.3; 95% CI 0.2, 0.6).

The two most common reasons given for privatizing EH services were cost savings or increased efficiency and lack of capacity or expertise to carry out the service within the department (Table 3).

Enforcement and assurance when EH services are privatized

Table 4 provides examples of respondents' descriptions of how their departments enforced and assured EH standards when services were privatized. The most rigorous technique involved double-testing of samples by sending samples to two different laboratories. Some departments conducted regular site visits, while others conducted site visits intermittently or in response to complaints. Less stringent monitoring techniques included the use of regular quality reports written by the contractor. One of the most commonly reported methods of assuring performance standards involved contracting only with organizations that were licensed or certified by the state. A few administrators explained that they took an educational and partnership approach with their contractors, rather than employing strict, formal monitoring and enforcement approaches.

Respondents' views regarding what services should not be privatized

When asked "Which aspects of any local public health department's services, including EH services, personal health services, data management, or outreach and education, do you think local health departments should not delegate out to a non-governmental organization?" a very common response, especially among the largest departments, involved regulatory or enforcement functions and EH services. About a quarter (24.2%) said that no EH services should be privatized, while 31.6% indicated that some environmental services should not be privatized (Table 5). And 20.7% of all departments claimed that regulatory and enforcement functions as well as overall control must be maintained by local public health departments; this proportion rose to 47.3% among health departments serving jurisdictions of 350,000 or more.

A pervasive concern of respondents' was that privatizing services would result in a loss of health departments' capacity to respond to environmental disasters and other crises. Another common theme was that privatization reduced control and would hamper relevant communication. Most respondents contended that health departments must maintain authority over the performance of services.

Respondents' views about what services should not be privatized to for-profit organizations

Following the question regarding what services should not be privatized, we asked: "In addition to these, are there any services or parts of services which shouldn't be delegated to a for-profit organization?" One view was that there are no significant practical differences between profit and non-profit health-related organizations: "I don't see much of a difference between for-profit and non-profit organizations. All health providers are profit-driven whether they call themselves for-profit or non-profit." Other respondents believed that for-profit organizations do not have a commitment to public health, that for-profit providers "have to be very concerned with their stakeholders," and that "profit could be placed ahead of the goals of public health." A very different way of thinking about this issue was expressed by a respondent who thought that profitable services should be kept within a health department because the extra funds could be shifted to less profitable, but vital, public health functions.

The importance of a well-written contract was frequently mentioned, although some respondents doubted whether any contract could successfully specify all necessary health standards. As one respondent put it: "A contract cannot capture everything; will they go

Table 1. Proportions of local health departments that privatized one or more environmental health services (by size of jurisdiction)[a,b,c]

	Size of jurisdiction of local health department					*Proportion of LHDs that have privatized any EH services*	*Proportion of LDHs that have privatized any EH services to for-profit organizations*
	<25,000	*25,000–49,999*	*50,000–99,999*	*100,000–349,999*	*350,000+*		
Any environmental health service							
≥1 service privatized	23.5%	13.2%	23.9%	35.2%	31.5%	23.5%[b]	19.9%
≥1 formerly in-house service privatized	20.6%	5.9%	13.4%	29.6%	21.9%	17.7%[c]	14.2%
≥1 service privatized from inception	7.4%	8.8%	16.4%	15.5%	17.8%	10.8%	9.3%
≥1 formerly in-house service privatized in last 5 yrs	11.8%	1.5%	9.0%	18.3%	9.6%	9.9%[b]	7.5%
Specific environmental health services							
Waste, hazardous substances and septic systems							
Septic system/sewage disposal (including tests)	7.4%	4.4%	7.5%	11.3%	2.7%	7.0%	6.2%
Solid waste management	1.5%	1.5%	1.5%	1.4%	1.4%	1.5%	1.5%
Hazardous substances	2.9%	2.9%	6.0%	9.9%	13.7%	5.0%	4.8%
Water services							
Any type of water service/testing	7.4%	5.9%	9.0%	16.9%	9.6%	8.8%	8.4%
Water–drinking	4.4%	4.4%	3.0%	5.6%	4.1%	4.4%	3.3%
Water–source/groundwater, including tests	0.0%	5.9%	3.0%	2.8%	2.7%	2.3%	2.3%
Recreational water testing	0.0%	1.5%	0.0%	2.8%	0.0%	0.7%	0.7%
Other environmental services							
Food/restaurant inspections	7.4%	2.9%	1.5%	1.4%	2.7%	4.4%	2.6%
Indoor air quality–testing	0.0%	2.9%	0.0%	2.8%	2.7%	1.2%	0.9%
Environmental lab/toxicology	1.5%	2.9%	4.5%	4.2%	9.6%	3.1%	3.0%
Animal control	5.9%	1.5%	6.0%	8.5%	11.0%	5.6%	3.7%
Retail inspections (test if tobacco sold to minors)	1.5%	0.0%	0.0%	1.4%	2.7%	1.0%	0.8%

[a]Service categories are not mutually exclusive.

[b]Differences by size of jurisdiction were statistically significant at the $p<0.05$ level.

[c]Differences by size of jurisdiction were statistically significant at the $p<0.005$ level.

LHD = local health department

EH = environmental service

Table 2. Adjusted and unadjusted odds ratios for privatizing one or more environmental health service by size of jurisdiction and metro/non-metro status of jurisdiction

	Percent privatizing at least one environmental health service	*Unadjusted odds ratio*	*95% CI*	*Adjusted odds ratio*	*95% CI*
Size of jurisdiction					
0–24,999	23.5	Reference	—	—	—
25,000–49,999	13.2	0.5	0.2, 1.1	0.4[a]	0.2, 0.8
50,000–99,999	23.9	1.0	0.5, 2.2	0.7	0.3, 1.5
100,000–349,999	35.2	1.8	0.9, 3.5	0.9	0.4, 2.0
≥350,000	31.5	1.5	0.5, 4.1	0.6	0.2, 1.9
Metro/non-metro					
Metro county/counties	33.9	Reference	—	—	—
Non-metro county/counties	15.5	0.4[b]	0.2, 0.6	0.3[b]	0.2, 0.6

[a]$p<0.05$

[b]$p<0.0005$

CI = confidence interval

the extra mile? A for-profit will do the minimum amount required by the contract if their mission is to make money. One must be very careful."

DISCUSSION

Almost a quarter of departments had privatized at least one environmental service. In the vast majority of instances, those services are contracted with for-profit providers. This raises many serious concerns, given the Intertek scandal; as many as 250,000 environmental tests at Intertek (a for-profit organization) may have been tainted by improper instrument preparation and doctoring of data.[1] As reported by the *Environment News Service*, the Justice Department concluded: "These fraudulent acts were committed with the specific intent to save time and money that would otherwise have been spent on properly maintaining the testing equipment" or repeating failed tests.[1] Similar problems might occur among other private environmental testing organizations.

Some local public health departments implemented double-checking of private environmental testers, periodically taking split samples and comparing results with those of other labs. However, many departments depended exclusively or primarily on state licensing and certification to assure EH standards. The Intertek incident demonstrates the inadequacy of this practice.

Table 3. How administrators described their rationale for privatizing environmental services, expressed as a proportion of all environmental services privatized[a]

Response category	*Weighted percent*
Cost or efficiency	35.8
LHD does not have the capacity/expertise	34.2
Low volume	10.2
Flexibility/get around rules	6.5
Reduces work/burden for LHD	6.5
State pressure/influence	6.1
LHD lacks the personnel/can't hire	6.1
Outside pressure/influence	5.9
Focus on core functions/priorities	3.8
Desire for collaboration/not compete	2.7

[a]Response categories are not mutually exclusive.

LHD = local health department

Table 4. Selected quotations from respondents' descriptions of how their local health departments enforced and assured standards when environmental services were privatized[a]

Site visits — 25.3%
- Individual is assigned to monitor each contract and do monthly on-site visits. We have gone to end-site users to assure waste is properly disposed of. Fairly intensive oversight.
- Health department director conducts occasional site visits.

State licensing or certification — 24.5%
- Environmental labs and hazardous waste haulers are licensed by state and certified as capable.
- May do split samples in future but not part of standard regulatory process. Our lab, MICROBAC, is an FDA-approved laboratory.
- [Private company name] is certified by the state of Ohio Department of Health and the state EPA. [Private company name] by reputation—we get documentation of forms completed by [private company name] quality control inspector.
- We do not do assurance. They are licensed by state as a reputable laboratory.
- We depend on their licensing.

Relies on local, state or federal laws or guidelines — 16.7%
- We have minimum standards by law. How to enforce is an area of discussion.
- We use state and EPA guidelines.

Quality reports or questionnaire — 11.8%
- Quality assessment questionnaire; visit sites regularly and in response to complaints. We publish on the net our restaurant list. Inspectors give a printout from their computers to inform restaurants of their score.
- By having working relationships with those folks on almost a daily basis. We get reports on their activities.

Another organization does the enforcement or assurance — 9.8%
- We work with the Environment Department who does the enforcement.

Double testing or split samples — 9.1%
- Engineers—we give permit to review plans. Labs—use double samples or repeat tests. We exercise oversight of sample-taking occasionally.
- We take aerial photos of illegal dumps. Occasionally we send samples to two labs.
- We rely on their certification mainly. We also split samples with our own microbiology water lab.
- They are all certified, all controlled by state regulations and licensed by the state. We do double testing and we contaminate samples to see if labs catch it.

Review paperwork or written tests/monitor contracts — 8.7%
- They monitor the contracts. The contracts are all very specific about the expectations for all contracts.

Works with contractor as partner/takes an educational approach — 3.5%
- We are moving to a philosophy of teaching rather than strict enforcement. We explain science, enforcement, and logic.

Other — 18.8%

[a]Coded from open-ended question as weighted proportion of departments privatizing at least one environmental service. The categories are not mutually exclusive.

That the vast majority of EH services that were privatized were contracted to for-profit organizations is striking. Only about half of non-EH services, such as personal health services, were contracted to for-profit organizations. This might be because there are proportionally fewer non-profit organizations available to provide EH services relative to other health services. But it is clear that with respect to EH services, privatization amounts to a "for-profitization." And this, in turn, suggests potential problems.

Some respondents believed that it was just as safe to privatize environmental services to a for-profit organization as to a not-for-profit organization. As one respondent stated, "You have the price and an objective to be filled; whoever can do the best job gets the contract." But the practice of contracting to for-profit

Table 5. Local health department administrators' views of environmental and regulatory services that should not be privatized[a]

	Percent in agreement
Environmental health inspections should not be privatized.	6.4
Other specific environmental health functions should not be privatized.	6.0
At least some environmental health services should not be privatized.	31.6
No environmental health service should be privatized.	24.2
Regulatory or enforcement functions should not be privatized.	20.7
No public health services of any type should be privatized.	11.2

[a]Coded from open-ended question and expressed as weighted proportion of respondents mentioning service. The categories are not mutually exclusive.

organizations conflicted with the beliefs of those respondents who were, as one described himself, "leery about for-profits taking over public health functions due to their differing philosophies about patient care and regulatory functions, e.g., that profit could be placed ahead of the goals of public health."

While nearly a quarter of departments had actually privatized some EH services, a similar proportion of respondents said that EH services should never be privatized. Many argued against privatizing environmental services that have inherent regulatory functions. They expressed concern that privatization would fragment the public health infrastructure by impairing communication, diminishing control over performance, or weakening health departments' capacity to respond to environmental and other health crises.

Some theorists argue that certain services lack the incentives necessary for private sector performance and, therefore, must be provided by government.[4–6] Environmental health services are a prime example of a "public good," in the sense that the benefits of the services cannot be limited to an individual user of that service.[6] It is difficult to exclude anyone from the benefits of clean air and water. By contrast, a "private good" generally takes the form of many separate and individually consumable products or services.[6] Many of the most purely public goods, such as EH activities involving water and air regulations, benefit everyone; one does not have to seek out these services in order to benefit.

Future studies should examine privatization in other EH organizations such as environmental health agencies at both the local and state levels.[7] Perhaps the most critical need is for a systematic empirical investigation of the impact of privatization on local and state health departments' ability to maintain the capacity to perform routine environmental health functions as well as respond to unanticipated environmental health crises.

The authors thank the National Association of City and County Health Officials for its support and advice.

This study was funded by the Centers for Disease Control and Prevention through a cooperative agreement with the Association of Schools of Public Health.

REFERENCES

1. Environment News Service. Environment news index. September 2000 news index [cited 2001 Oct 9]. 13 Indicted in Biggest Lab Fraud in American History. http:// ens.lycos. com/
2. Fraser M, Vogel S. National Association of County and City Health Officials 1997 profile of local health departments datafile: data codebook: April 1998. Washington: National Association of County and City Health Officials; 1998.
3. Keane C, Marx J, Ricci E. Privatization and the scope of public health: a national survey of local health department directors. Am J Public Health 2001;91:611-7.
4. Donahue J. The privatization decision: public ends, private means. New York: Basic Books; 1989.
5. Starr P. The new life of the liberal state: privatization and the restructuring of state–society relations. In: Suleiman EN, Waterbury J, editors. The political economy of public sector reform and privatization. San Francisco: Westview Press; 1990.
6. Sclar E. You don't always get what you pay for: the economics of privatization. Ithaca: Cornell University Press; 2000.
7. Burke T. Strengthening the role of public health in environmental policy. Policy Stud J 1995;23:76-84.