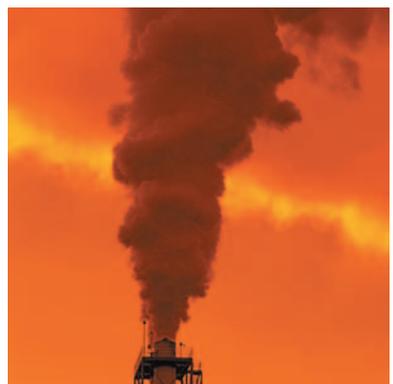
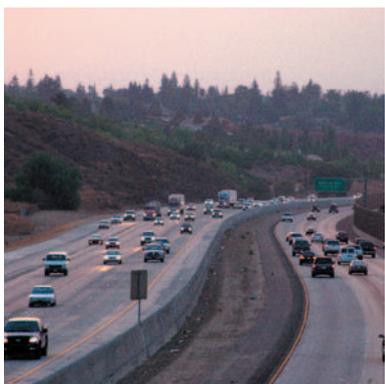




**California's County
and City Environmental
Health Services
Delivery System**

 *Summary Version*



**Loma Linda University School of Public Health
Office of Public Health Practice & Workforce Development**





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Executive Summary

The CDC publication *A National Strategy to Revitalize Environmental Health Services* presented a sober characterization of environmental health (EH) delivery systems in the United States. Significant concerns pivoted around seven major conditions including the state of the practitioner labor pool, service delivery capacity, information management, and stakeholder engagement.

Purpose

The purpose of our research was to assess the current status of county and city environmental health service delivery in California with the aim to:

- Provide a foundation for informed decision making around EH service delivery; and
- Identify opportunities for the Loma Linda University School of Public Health Regional Academic Center to partner with California service providers to enhance the capacity of environmental health service delivery.

Methods

Standardized interviews were conducted March 2005 to May 2005 with 55 of the 62 (88%) county and city directors of environmental health, representing 90% of the state's population and 94% of the landmass. Relevant databases and other publicly available information germane to project goals were also evaluated.

Findings

Interviewed directors reported a total of 2477 professional EH staff employed in county and city agencies complemented by 520 support personnel. A review of California's Registered Environmental Health Specialist (REHS) database revealed that approximately 3181 active REHSs reside in California, with a vast majority employed in the public workforce at the federal, state or local level. Sixty-seven percent (67%) of directors reported difficulty in recruiting qualified applicants. Technical training needs were greatest in the Certified Unified Program Agency (CUPA) activities (60%), dairy programs (57%) and septic systems (55%), while non-technical training would be beneficial in conflict resolution (55%), written/oral communication (49%), and problem solving (49%). Fifty-six percent (56%) of respondents were familiar with the 10 essential services while only 11% collect health outcome measures to demonstrate agency efficiency and effectiveness. The agencies reported providing anywhere from 8 to 19 separate technical services with retail food facility inspections being the most common.

Conclusions and Recommendations

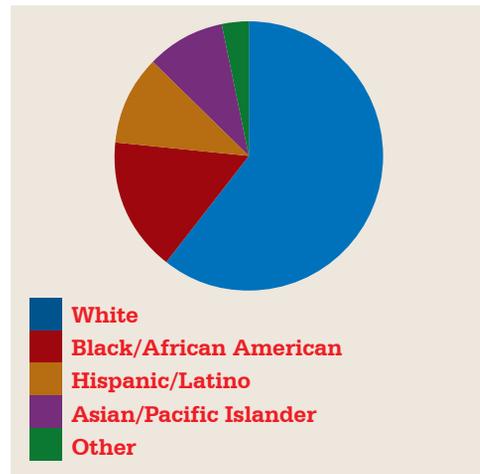
The study team concluded that environmental health services are largely provided at the local level as a reflection of local need, however, this tendency towards customization leads to stakeholder confusion about EH service purpose and value when multiple service agencies are compared and contrasted. This lack of clarity may contribute to the erosion of political and financial support reported by some directors. The team tendered eight recommendations, many of which apply to the nation at large, to enhance EH service delivery in California. These include the sharing of best practices between counties, implementation of a standardized learning management system accompanied by required continuing professional education for REHS, enhancing awareness and visibility of the EH profession, increased financial support to assist in service integration while supporting salaries commensurate with the cost of living, and the identification, routine collection and systematic dissemination of health and financial outcomes measures valued by key stakeholders.

Major Findings

Demographic Breakdown of workforce

Demographic information was collected for EH professional and paraprofessional staff only. While gender projections were comparatively accurate, many directors approximated the ethnic origin and age of the professionals. More than half of professionals and paraprofessionals (55%) were male. Regarding ethnic origin, Figure 1 illustrates that a majority (61%) of those employed as professionals or paraprofessionals in EH Departments were identified as Caucasian (white). The next two largest groups were Hispanic/Latino (16%) and Asian/Pacific Islander (11%). The majority of professional staff (97%) was in either the 25-44 (52%) or 45-64 (45%) age category.

Figure 1—Environmental Health Workforce Demographics

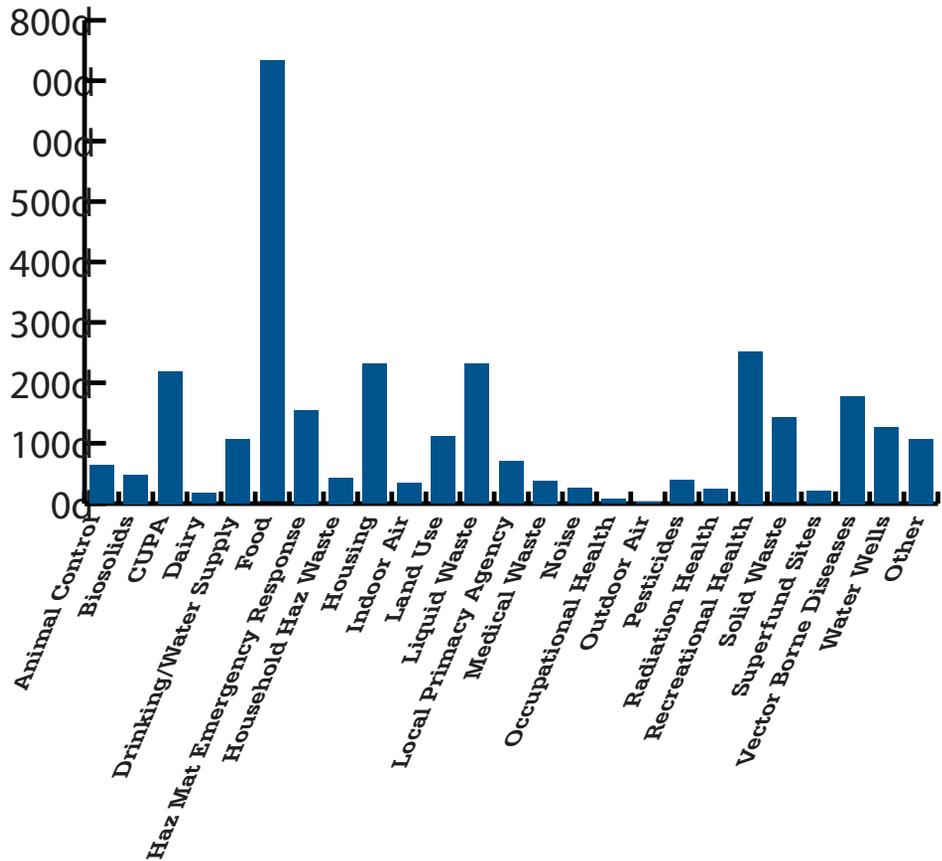


Workforce Breakdown by Service Area

Figure 2 presents a breakdown of the total number of professionals and paraprofessionals that were reported per service area. The number of professionals and paraprofessionals providing services in food quality (733) towers over all other programs, and constitutes almost 25% of the total reported workforce. Recreational health follows as the service area with the second highest number of reported employees (252), followed by housing (232) and liquid waste (231).

Programs that employ the most professionals appear to be substantially, or completely, fee supported.

Figure 2—Total number of reported professionals/paraprofessionals by the assessed environmental health service areas



Service Delivery Challenges

Directors were asked about major challenges faced by their department regarding the workforce and the filling of vacancies. Table 1 summarizes their responses. The most frequently reported challenge was a lack of adequately qualified applicants. A majority of directors explained that there were currently not enough qualified applicants to fill vacant posts and that recruiting REHS was a difficult process. Compensation and retention were also challenges reported by more than half of the respondents. It was noted throughout the interview process that compensation and retention are linked.

Table 1—Percent of respondents who indicated facing major challenges in their EH department

Major Challenges Faced by EH Department	Indicated Challenge Applied % (n)
Lack of adequately qualified applicants	67 (37)
Applicants lack relevant experience	35 (19)
Retention	52 (29)
Compensation	58 (32)
Competition	35 (19)
Other	27 (15)

Training Needs

Technical Training

In each category of service delivery, at least 25% of the respondents who provided a particular service noted the need for staff training. The area where the need for training was the highest was the CUPA program (60%), followed by dairy (57%) and liquid waste programs (55%).

Additional Training

The survey assessed the need for training in core competency areas as delineated by the CDC National Center for Environmental Health’s *Environmental Health Competency Project* (2001). Table 2 summarizes the training needs as reported. Training needs in written/oral communication, conflict resolution, problem solving and project management were the greatest. A majority of participants identified face-to-face (69%) training as the preferred delivery method, followed by web-based (31%) and satellite (13%) communication. Several directors explained that while face-to-face training was preferred, it was difficult to access from their remote location and often required expensive and time consuming trips to major



metropolitan areas. In these cases, web-based training may offer a practical alternative.

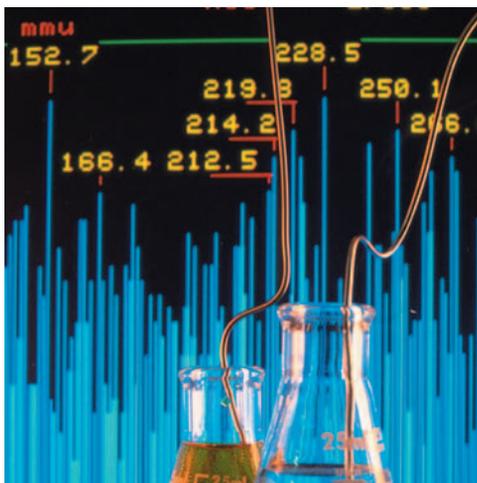
Table 2—Additional training needs reported by respondents in communication and management

Please indicate the need for additional training in the following areas:	Indicated there is a training need % (n)
Communication	
1 Health Education	31 (17)
2 Written/Oral	49 (27)
3 Conflict Resolution	55 (30)
Management	
4 Problem Solving	49 (27)
5 Org. Knowledge and Behavior	27 (15)
6 Project Management	47 (26)
7 Computers and IT	38 (21)
8 Reporting/Record Keeping	40 (22)
9 Collaboration	36 (20)

Measuring Success and Best Practices

There was a genuine interest in the development of a systematic and accurate way to measure success in EH, with most directors reporting the use of process measures. Respondents expressed the difficulties in assessing success in field that focuses on prevention. The quotes

below convey EH director sentiment regarding measuring and monitoring success in this field:



- *Measuring success is hard to do since our thing is prevention*
- *We don't have a good way to measure success; we would like to see a model*
- *There is a need for objective tools, but this requires someone to brainstorm through it*

Enhancing EH Service Delivery, Key Needs, and Challenges

EH directors' thoughts on the key needs and challenges associated with enhancing EH service delivery were collected. These needs are presented in Table 3.

Forty percent (40%) of EH directors identified the need for increased resources in order to enhance or better provide EH services. The next most noted response was the increased advocacy for the EH profession (31%), training (18%) and lastly securing a source of funding that is not fee-related (13%). EH directors noted that increases in non-categorical, general fund and grant money are needed to provide more flexibility in the programs and services that could be offered by the department. Several directors indicated that funds for research and to augment the expanding scope of certain mandated programs are necessary, since fee generated funds cannot be used for these purposes.

Table 3—Key needs identified by EH directors to enhance EH services

Key Needs	% (n)
Resources—Funding and Staffing	40 (22)
Increased Advocacy/Understanding of EH Profession	31 (17)
Training, Funding for Training	18 (10)
Funding Not Generated by Fees	13 (7)

In addition to assessing key needs to enhance the delivery of EH services, significant barriers to improving EH service delivery were also examined. The most reported barriers to improving EH services are presented in Table 4. Fifty-six percent (56%) of respondents identified lack of resources as being a main barrier to improving EH services. Poor marketing of EH profession was identified as a main barrier by 33% of respondents. Sixteen percent (16%) of respondents reported



pipeline issues (i.e., lack of qualified applicants) or lack of political support for EH profession as main barriers to improving EH services.

Table 4—Most Significant Barriers to Improving EH Services Identified by EH Directors

Barrier	% (n)
Resources—Funding and Staffing	56 (31)
Poor Marketing of EH Profession	33 (18)
Pipeline: Lack of Qualified Personnel	16 (9)
Lack of Political Support for EH Profession	16 (9)

The barrier of poor marketing of the EH profession revealed a circular theme. Poor marketing of the profession results in a lack of public and political understanding of EH. Consequently, this lack of understanding translates into a lack of appreciation and support for EH programs and activities.

Discussion and Recommendations

Diversified EH System

At the local level, California possesses a diversified EH services delivery system that reflects public and political demand for effective and visible EH services. At the same time, some view the system as fragmented, illustrated by vertically aligned service delivery with limited integration between agencies. Proponents of the latter point to California's 62 EH departments, 35 air quality management districts, 21 water quality management districts, 55 county agricultural commissioners, and 23 Cal/OSHA enforcement districts as evidence for their contention. These entities oversee separate and sometimes overlapping EH areas, and with few exceptions, work independently from each other creating uncertainty among EH professionals and their customers about which agency is providing which service.

RECOMMENDATION

We recommend standardization of EH terms and definitions to enhance communication among and between EH entities and with those outside the profession.

This trend is continued in local EH departments, where a standard framework for service delivery is absent. Counties and Cities reported delivering anywhere from eight to 19 services with retail food facility inspections being the one common service provided by every EH office. The lack of a standard set of services coupled with the inconsistent use of EH service delivery terminology was observed by the research team.

While it is understandable that different jurisdictions provide services differently, this lack of cohesiveness can contribute to confusion within the profession as well as for those not familiar with the EH field. As a result, consumers and politicians can become cautious in supporting EH departments when they do not understand the range of services, or what these services actually entail. This places EH in a continuous cycle, where lack of understanding for the profession results in lack of support, translating into reduced or limited resources. However, to break the cycle, marketing the field must begin with a clear and consistent definition of what EH is, what its role in public health is, and the value it represents.

Best Practices

Because the EH field is highly technical, professionals in this field have generally suffered from a reputation of not being “people friendly”.

RECOMMENDATION

We recommend California develop an inter-county system for sharing of best EH practices.

However, contrary to this perception, this study found that many respondents pride themselves in their department’s relationship with the public. In fact, the three most reported non-services best practices involve internal and external relationships around customer service or education. Unfortunately, a system that encourages sharing of best practices within California does not currently exist.

RECOMMENDATION

We recommend that the EH profession, perhaps spearheaded by the National Environmental Health Association (NEHA), develop, collect, and catalog customer-focused outcomes and performance measures, which demonstrate health and financial benefits of EH services.

Measures of Success

The majority (62%) of interviewed EH directors conveyed the use of process measures (e.g., number of inspections scheduled vs. number completed) as the cornerstone of their success reporting system. The absence of measures that demonstrate public health value (e.g., reduction in food borne illnesses over time translated into health care cost savings)

is problematic, as accountability and return on investment principles appear to be gaining momentum at the federal level.

A step toward addressing this matter is reporting successes in EH in a manner that communicates the field's significance. By adopting measurable outcome measures, EH departments may communicate the value of EH in a much more effective fashion. Our study shows that most EH departments utilized process measures to assess success, and only 11% measured any type of outcomes. Integrating measurable, health impact components to current programs is vital to the future of the profession.

Dealing with unanticipated EH threats

Though a majority of EH directors (53%) reported that the frequency of response to unexpected events has not changed over the past two years, 35% perceived that the frequency of events has increased. With over one-third of EH departments sensing that the need to respond to unexpected events is on the rise, it is imperative that these departments be adequately prepared. Unfortunately, nearly 42% of respondents self-scored their department's potential to respond to unexpected events average or below average (7/10 or lower). Of these, 16% self-scored their department's potential as a five out of 10.

RECOMMENDATION

We recommend that EH personnel systematically participate in local, regional, and national emergency preparedness, response, and recovery plans.

There are steps that directors can take to enhance their department's potential to respond to these emergencies. Findings from this study revealed three issues as barriers and/or enabling mechanisms: training, interagency collaboration and proper communication.

Integration of Services

Key stakeholders throughout the nation are calling for a shift in EH service delivery from traditional services that focus on the relationship

between agents and disease, to more comprehensive programs that take into account local environments and communities and how these affect the public's health. To accomplish this, stakeholders have suggested integrating the ten *Essential Services* of environmental health into routine practice.

Our study evaluated each EH director's familiarity with the ten *Essential Services*. Forty-two percent of respondents indicated that they are not familiar with the *Essential Services*. We also found that while a large percentage of EH directors lack familiarity with the terminology "Essential Services," many nonetheless reported providing many of these. Although some departments are attempting to transition to a more integrated service delivery approach, our data

RECOMMENDATION

We recommend that the California legislature increase funding to support non-fee based EH activities. Increasing general support will maximize service provision flexibility and the option to support applied research, community outreach, and the provision of comprehensive services, with the ultimate aim of integrating these services to maximize the health benefits for all Californians.

supports that in California, the emphasis of EH remains principally focused on providing fee generating, traditional, stovepipe services. All respondents (100%) indicated providing Essential Service Six (enforce laws and regulation that protect health and ensure safety) "routinely." On the other hand, 22% reported "never" for Essential Service Ten (conduct research for new insights and innovative solutions to EH problems and issues). One contributing factor for this is the fee-based structure of California EH service delivery.

As EH departments become progressively more fee-supported, service delivery is being limited to providing permits and enforcing regulations. Thus, while several directors reported an interest in conducting research and launching innovative programs, their ability to do so is dictated by their reliance on a fee-for-service structure. The most reported key need to providing services is increased resources

(40%) and conversely, the most reported barrier is lack of resources (56%). EH directors reported that securing non-fee generated funding is a key need to enhance EH services (Table 3).

Training

EH departments are expected to be prepared to respond to emergencies and emerging EH issues. However, this is an unrealistic expectation when we consider that in all assessed service areas, at least 25% of directors reported that their department would benefit from additional training. Departments have limited resources – in fact, when asked to indicate the optimal number of employees to carry out regulatory obligations, 48 of the 55 reported that they need additional staff. Being understaffed results in a level of training that barely prepares staff to fulfill daily operations. Not surprisingly, 36% of EH directors reported that lack of training is a barrier in responding to unexpected events. Similarly, 18% identified training as a key need to provide enhanced EH services.

EH directors also reported a substantial training need in communication and management competencies. The areas of written/oral communication, problem solving, project management and conflict resolution are those in which directors (>45%) reported the highest need for training (Table 2). While these training needs are considerable, it is promising that EH directors recognize that non-technical aspects in EH service delivery must be addressed.

Marketing the EH Profession

An identified barrier to enhancing EH services is the lack of marketing of the EH profession. As previously noted, 31% of

RECOMMENDATION

We recommend that CCDEH consider the development of a statewide strategy to provide training in priority areas such as written/oral communication, problem solving, project management, and conflict resolution.

An overall learning management system may provide the backbone for a statewide approach to training in these areas as well as in other service areas.

California DHS should develop and implement a continuing professional education requirement for all Registered Environmental Health Specialists.

EH directors reported that increased advocacy and marketing of the profession is essential to enhancing EH service delivery. Similarly, 33% stated that poor marketing of the profession is a barrier to improving service delivery. Directors differ in their opinions about who is principally responsible for marketing EH, and specific responses identified the state, academia and/or EH departments as parties that should provide leadership in raising awareness about the profession.

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Directors noted several reasons to support their need for additional marketing. Respondents expressed that EH is an invisible profession leading to reduced funding and a dwindling REHS pipeline. Also, several directors indicated that EH lacks political status resulting in funds being diverted to other areas perceived as more important.

RECOMMENDATION

We recommend a national EH marketing strategy be developed and implemented to promote the profession, its services, the value it provides, and career opportunities, with emphasis on recruiting underrepresented minorities. Such a strategy would require the articulation of core customers, priority issues, appropriate messaging, and communication vehicles, among others.

Because there is limited knowledge in the general population about the EH field, few people appear to be choosing EH as career track. Data from this study shows that nearly half of the workforce is mid-career or older, and 73% of respondents indicated that because of retirement, staff has been lost in the last five years. Sixty-seven percent of EH directors reported that finding adequately qualified applicants is a major concern. With an aging workforce and a lack of qualified applicants, particularly among Hispanics and African Americans, EH directors are concerned about the profession's future; many insist that promoting the EH field is essential to address these challenging issues.

Lastly, directors reported difficulty

in gaining support for the profession because it is one based on prevention. Directors expressed frustration about how to communicate to decision makers that they are effectively executing their duties. CDC presented the same issue in the *Revitalize* document:

A successful environmental public health program becomes invisible. If environmental public health is done right, nobody take notice. As a result, it's hard to gain support for more resource. The public only know you're there when you are not doing you job well. When things are going well, policy makers think: "Well they don't need all that money, there are no public health problems there." If the budget is cut, then the public health problems result (p.24).

Pipeline Issues

California's EH workforce can be characterized as aging, and lacks the racial diversity of California at large. EH Health Directors reported that the new employee pipeline is inadequate to meet existing and emerging needs for professional staff. Alternately, the DHS REHS program, at the time of the survey, possessed a database of over 400 qualified applicants. Some within the state believe the issue is one of compensation (providing a living wage relative to cost of living), not an issue of qualified applicants. Informally, several EH directors revealed many entry-level employees must commute considerable distances to secure affordable housing.

RECOMMENDATION

We recommend CCDEH and the California DHS reconcile the perception of an inadequate labor pool, and consider efforts to recruit applicants, which reflect the racial diversity of California's population.

Efforts to increase compensation for EH professionals should be considered, in light of California's cost of living.

Obtaining a Complete Copy of the Report

A complete version of this report is available for download at:
<http://www.llu.edu/llu/sph/ophp/pgrants.html>

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