Regional Data Standards Build Capacity for Health Departments

Editor’s Note: A need exists within environmental health agencies to increase their capacity to perform in an environment of diminishing resources. With limited resources and increasing demands, we need to seek new approaches to the business of environmental health.

Acutely aware of these challenges, NEHA has initiated a partnership with Accela (formerly Decade Software Company) called Building Capacity. Building Capacity is a joint effort to educate, reinforce, and build upon successes within the profession, using technology to improve efficiency and extend the impact of environmental health agencies.

The Journal is pleased to publish this bimonthly column from Accela that will provide readers with insight into the Building Capacity initiative, as well as be a conduit for fostering the capacity building of environmental health agencies across the country.

The conclusions of this column are those of the author(s) and do not necessarily represent the views of NEHA.

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The origins of our state and local health departments, like most other modern administrative institutions, reflect the wisdom and need of the times. Most state and local health departments created in the late 19th century rapidly broadened their authority to protect and promote the health of people in the U.S. in response to the public health needs of the moment.

Tobey (1947) characterized those early moments in his authoritative book as follows:

It can be assumed now from the unanimity of professional opinion and the practical attitude of local government that the delivery of the half-dozen essential, basic, or primary services of public health should continue to be, as has been the case in the past in this country, an important function of units of local government responsive intimately, and it may be said personally, to the needs of the families of each community, and provided for chiefly if not wholly through tax resources appropriated by the elected officers of local government, except in instances where the lack of financial resources of local jurisdiction makes aid from state and federal sources imperative.

Zoom in on one state and advance to the current century. The state of Colorado, the Centennial State, boasts over 50 local public health agencies. This is a familiar model capitulating to local authority in light of local needs. One would expect that each agency prioritized and implemented health programs according to need and priority in their communities. With certainty, each introduced and advanced technical tool sets some time later and without a shared vision.

Leap ahead to 2011 and we observe five different inspection data collection systems throughout the state. Even among health departments using the same software system, i.e., the same named software product, the implementations differed. These differences occurred because each project was born and raised in its own local silo. Inspection checklists—some captured electronically while some still recorded on paper—were not the same. And the regulated community and the food facility operators knew consistency was lacking. This was, as they say, the problem statement which defined the leadership opportunity to move forward.

In this time frame, the Centers for Disease Control and Prevention (CDC) published its Winnable Battles (www.cdc.gov/winnable-battles), seeking quick wins by defining clear targets. Food safety is listed as a winnable battle with foodborne illness affecting one in six citizens each year.

In concert, the state of Colorado launched its 10 Winnable Battles, also intended to address public health and environmental...
priorities—many in common with CDC, Food and Drug Administration (FDA), and U.S. Environmental Protection Agency priorities, and others unique to Colorado—with known and effective solutions that could be implemented in five years (Colorado Department of Public Health and Environment [CDPHE], n.d.). Like CDC, Colorado listed safe food was one of its key winsable battles.

Separately, but destined to coalesce, Colorado’s Lean statewide initiative was demonstrating that a “customer-focused culture is possible in the public sector” (Colorado Office of State Budget and Planning, n.d.). Lean is a formalized method of problem solving and project management that prioritizes customer value and systematically eschews waste.

Citing 10 Winnable Battles as the tip of the spear, the safe food battle prompted a unique multiagency, multisoftware vendor, cross-departmental task force charged with using data to further support food safety managers and staff. The charge was to make policy and inspections more consistent and precise across Colorado through measurement and improvement. The ultimate goal was, of course, safer food as expressed by CDPHE (n.d.) in the following:

Standardize statewide retail food inspection data by: continuing to work towards statewide data sharing, expanding data standardization to include additional compliance factors for comparison, and determining new and innovative ways to collect and use data for continual improvement of the statewide food safety program.

Using Lean and a trained facilitator, the workgroup ultimately standardized the way each agency’s data system collects, codes, describes, and reports foodborne illness risk factor violations. The makeup was purposeful, representing and being considerate of each of the five data systems. Most were commercial systems with one being “homegrown.” Where possible, one vendor’s change could benefit many health agencies. Regardless, the local health departments had to direct their vendors to respond, which took some planning and cost forecasting.

One might assume that the strategy was largely operational. The effort actually involved great leadership, communication, and financial support, all with an eye on maintaining the integrity of one of the most important health programs in the state.

Defining a routine inspection presented the first challenge. General agreement took 15 minutes. The next two hours covered all the special circumstances. Facility type (e.g., restaurants with food preparation, restaurants without food preparation, fast-food, mobile, grocery, institutions, etc.) also prompted lots of discourse. Sidebars referencing the FDA Food Code kept them grounded and served as a tiebreaker in some cases.

The team was coached to not get slowed down by “terminal uniqueness,” the belief that a particular technique, method, or need is too unique to be replaced or discarded, which shuts down the process altogether. Everyone had to be willing to change. Once these basics were ironed out, data collection and transfer required the cooperation of several different software vendors and local IT.

After aggregating all health departments’ violation codes and comments in one place, the team split into two dynamic working groups to separately study all the variants, compare their findings, and select the style best suited for statewide consolidation.
five days they winnowed down hundreds of violation numbers and descriptions. For example, for “cross-contamination” they narrowed 17 violation descriptions down to two predefined violation code descriptions. “Hygiene” went from 97 descriptions down to just eight! The end result across all 15 violations was a clean list of 74 predefined violation code descriptions. See Table 1 for a select list of these violation codes. The team also defined routine inspection and facility type codes and definitions.

Once common coding was accomplished, the group moved its attention to cross-department reporting. While it was tempting to ask for a new system with sweeping requirements, leadership wisely opted for something very approachable: monthly Excel files e-mailed to a state health department coordinator for consolidation and re-reporting to local departments. Said more plainly, every health department e-mails (most systems allowed for this to be automated) their year-to-date inspection data in an agreed upon format. The coordinator recipient tracks missing reports and combines with very little effort the files into a statewide data set. The consolidated data set is like gold! Everybody wants to tease out their own data as it compares to neighboring health departments. It’s fascinating to observe how a new resource gains attention and is put to use in different ways.

Today, the local health agencies’ food program managers now have data driven reports assessing violations and compliance. The team approached the traditional data assessment in a very prescriptive way. While most reports look at the number of violations per inspection, Colorado’s reports calculate what percentage and total number of times a foodborne illness risk factor checklist item was marked IN and OUT of compliance (Figure 1).

Incremental customer value is a Lean project measure of success. To the state and the locals, food safety managers and policy makers reference these reports as a standing agenda item. In legislative negotiations and for operators, the data and the project awareness raise credibility for the program’s good work and its mission to be consistent across inspectors and jurisdictions. Local health agencies now have measurable improvements in their inspection data quality; not just in the violations checked but in the numbers, types, and time spent.

Additional iterations should be expected … that’s the nature of Lean programs. Partners meet monthly to allow the team to deliver calculated tweaks and revisions to improve efficiency. The team has already committed to adding nonfoodborne illness risk factor critical violations and is observing similar moves in the state to standardize child care inspections. The effectiveness of this project is prompting other regions to launch their own state/local partnerships for pragmatic data consolidation.

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**References**


*Ensuring food safety has been an integral function of NEHA credential holders since 1937. Building upon this core knowledge to encompass the modern-day, global food delivery system challenges gave impetus to the Certified Professional - Food Safety (CP-FS) credential and the Certified in Comprehensive Food Safety (CCFS) credential. Learn more about both credentials at neha.org/professional-development/credentials.*