Public Health Shared Services Model: Applying Public Health Standards to Health Department Services and Functions
Dina Dickerson, MPH Oregon Health Authority, Division of Public Health, Maternal and Child Health, Assessment, Evaluation and Informatics
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**Background**
Information management of public health programs is characterized by database silos that were created to address a single programmatic need without the intention of sharing data or technological resources. Within each silo, the program or organization developed its own method for identifying people and things, and their own vocabulary, workflow and reporting tools. With nonstandard data residing in silos and not linked at the level of the individual, practitioners and policy makers cannot make timely interventions with evidence-based practices, nor can they coordinate care across programs. Moreover, this process is burdensome to the front line user who must enter data redundantly into multiple systems, often without the benefit of support for workflow or care coordination. Further, nonstandard, duplicative data is difficult for research and policy analysts to combine and interpret. To achieve the best outcomes it is essential that these programs coordinate and cooperate by sharing information.

An alternative to the siloed approach is a shared services model that is based on the ten essential services and core functions of Public Health as defined by the Institute of Medicine along with the standards and measures for those services and functions that are specified by the Public Health Accreditation Board. The common core set of services reflect the practice of Public Health.

**Methods**
To identify the common core set of services, a qualitative analysis was undertaken in the State of Oregon Division of Public Health between 2009 and 2011. Key informants from 41 programs were interviewed about their databases from which 142 database silos were identified. Each of the 142 database silos was classified according to content and functionality provided. From that analysis, 38 common services that support programmatic functions were derived. Those common core services were aligned visually with the IOM and PHAB models to create the shared services model.

**Results**
Results of the analysis reveal the depth of duplicative effort that is common in Public Health departments, with each service independently developed and operated an average of 25 times accounting for 923 occurrences of discrete functionality created and maintained in support of the 36 common services.

**Discussion**
The proliferation of public health database silos with nonstandard and redundant data and functionality is burdensome to the users, expensive to develop and maintain, and is a barrier to improving outcomes and addressing care coordination. Moreover, the lack of standards for data and for client and provider identification makes it difficult to put the data together in a meaningful and cost-effective way. However, it will not be possible to transition away from silos or components of silos until viable alternatives exist. The shared services model offers an alternative approach to streamlining Public Health practice and information, but it will require collaboration and shared governance across programs to make it happen.

**Public Health Practice Models**

**Public Health Shared Services Model:**
Assessment: 161 occurrences for 7 services
Average occurrence per service: 23

Policy Development: 179 occurrences for 7 services
Average occurrence per service: 25.6

Assurance: 312 occurrences for 13 services
Average occurrence per service: 24

**Current Public Health Practice**

**Public Health Practice Models (IOM & PHAB)**

**Assessment:**
1. Conduct & evaluate the community
2. Identify & disseminate health issues & functions
3. Inform & educate about public health
4. Assure health law compliance
5. Develop public health policies and plans
6. Enforce rules & regulations
7. Promote public health
8. Maintain a competent workforce & education
9. Evaluate service quality & performance
10. Make recommendations & decisions regarding services
11. Maintain administrative & management capacity

**Policy Development:**
1. Conduct & evaluate the community
2. Identify & disseminate health issues & functions
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11. Maintain administrative & management capacity
12. Implement business continuity
13. Monitor health

**Assurance:**
1. Conduct & evaluate the community
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10. Make recommendations & decisions regarding services
11. Maintain administrative & management capacity
12. Implement business continuity
13. Monitor health
14. Policy development
15. Research & System Management
16. Governing Board Information
17. Governing Board Advice & Consultation
18. Governing Board Strategic Planning
19. Governing Board Budget & Finance
20. Governing Board Performance
21. Governing Board Policy Development
22. Governing Board Administration

**Program Design & Evaluation**

**Programs, Interventions & Processes**
- Office of Public Health Laboratories
- Office of Public Health Director
- Office of Environmental Health
- Office of Family Health
- Office of Environmental Health
- Office of Family Health
- Office of Environmental Health
- Office of Family Health
- Office of Environmental Health
- Office of Family Health

**Health Promotion & Chronic Disease Prevention**
- Emergency Medical Services and Trauma
- Immunizations
- WIC Supplemental Nutrition Program
- Laboratory Response Network
- Newborn Screening
- General Microbiology

**Health Care Licensure & Certification**
- Health Promotion
- Disease & Injury

**Emergency Response & System Management**
- Inspections & Compliance Reviews
- Conduct Research and Evaluation
- Administer and Manage Grants Management
- Query & Report
- Assure
- Empower

**Assurance:**
- Conduct Research and Evaluation
- Administer and Manage
- Query & Report
- Assure
- Empower

**Institute of Medicine 1994 Public Health Accreditation Board Standards & Measures, 2011**

**SHARED SERVICES**

**PHAB**

**IOM**

**Assessment: 312 occurrences for 13 services
Average occurrence per service: 24

Policy Development: 179 occurrences for 7 services
Average occurrence per service: 25.6

Assurance: 161 occurrences for 7 services
Average occurrence per service: 23

Research & System Management: 271 occurrences for 7 services—Average occurrence per service: 38.7

Governing & Incomplete Data

Adopting a standards-based framework could help streamline Public Health practice

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