

# Public Health Shared Services Model: Applying Public Health Standards to Health Department Services and Functions

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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. Farther upstream, 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, 36 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.

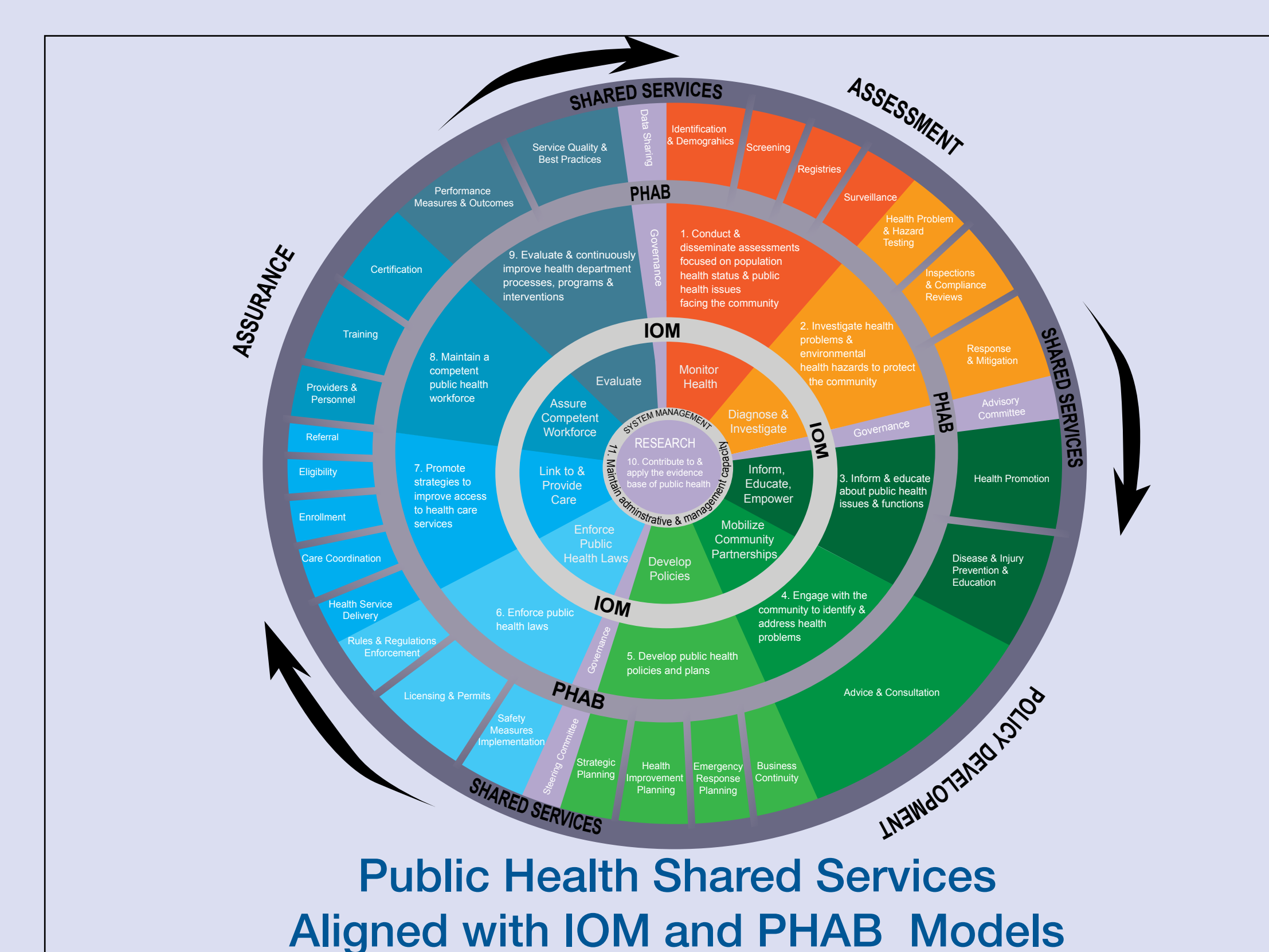
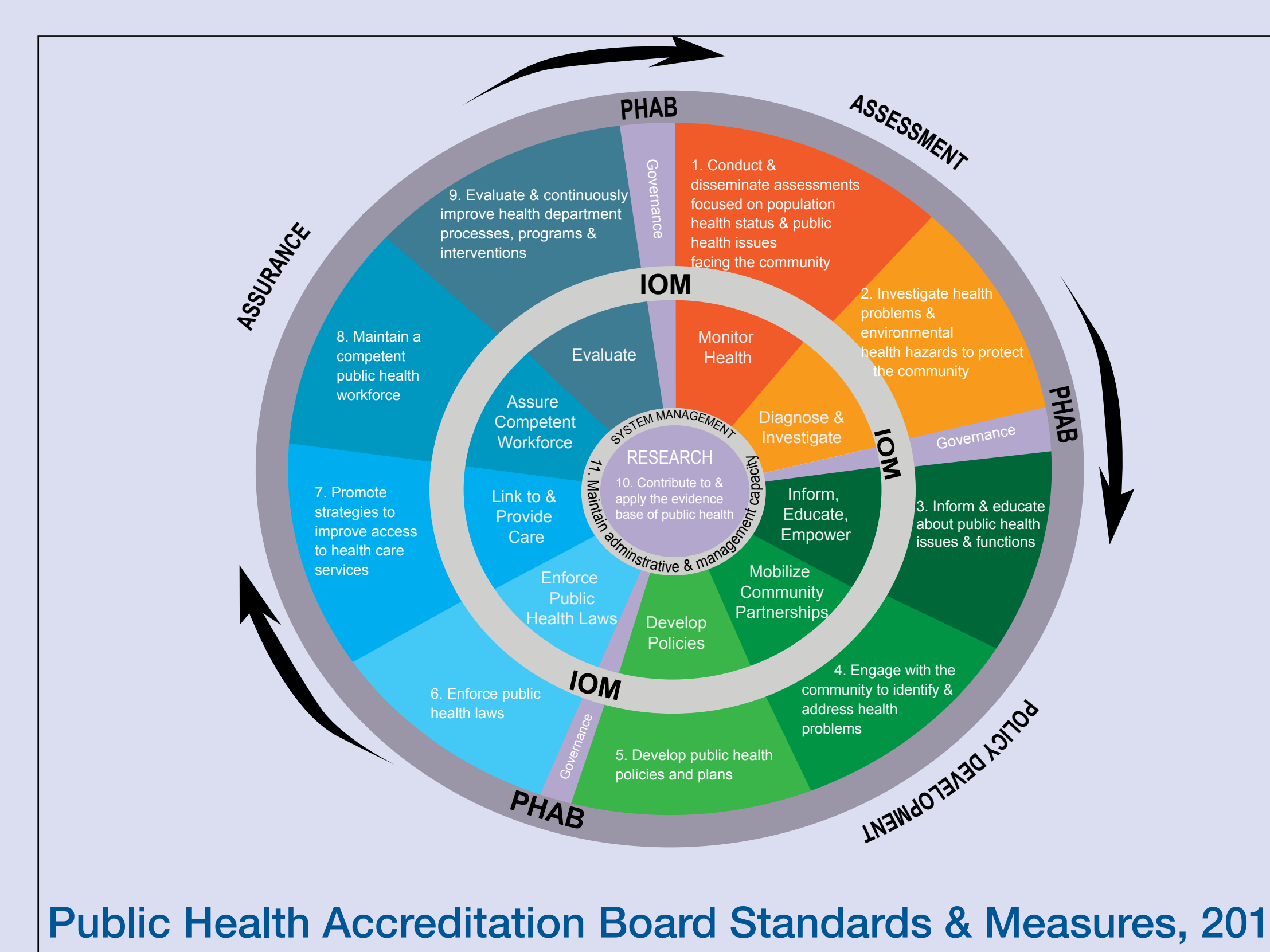
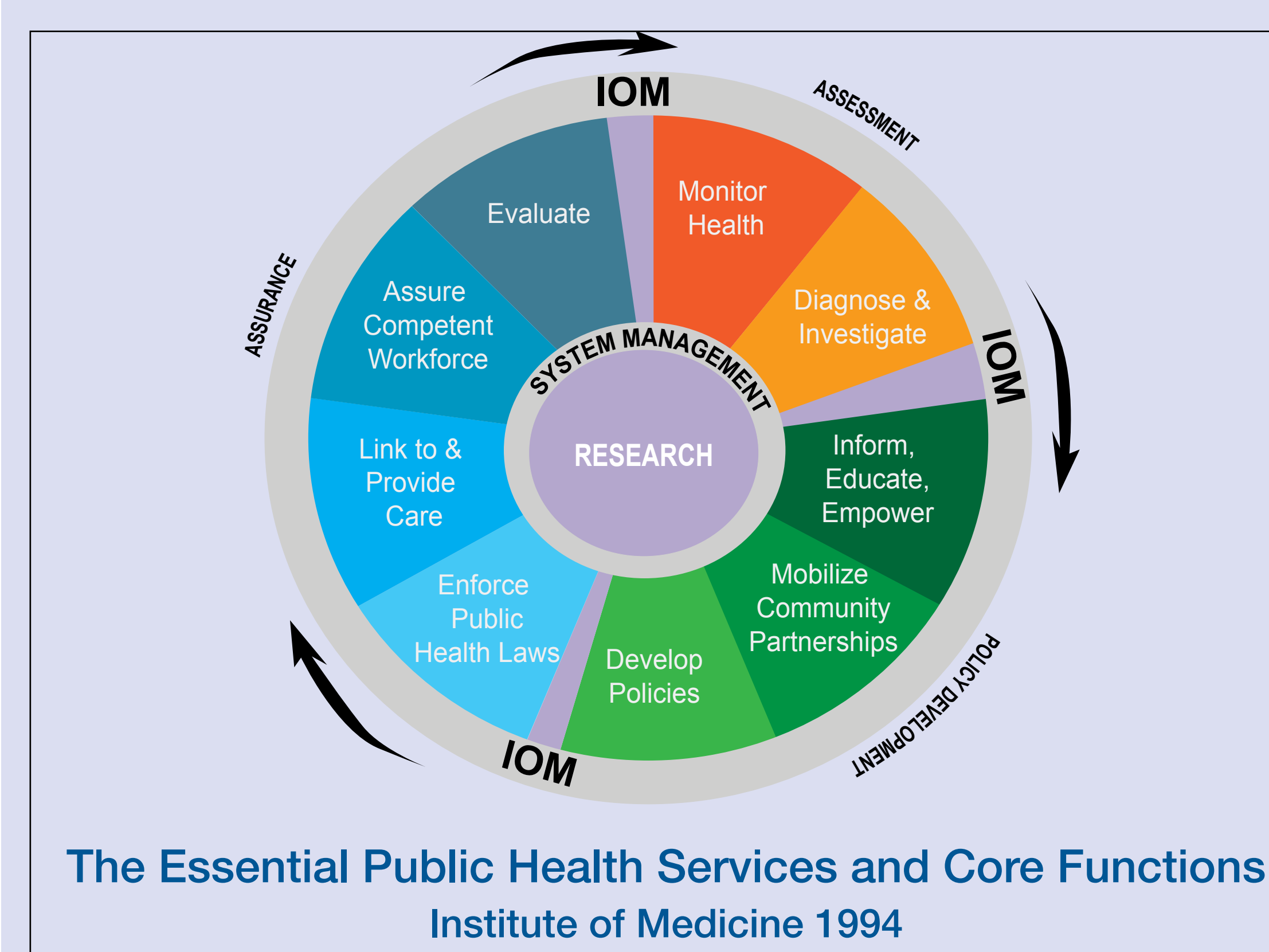
## Results

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.

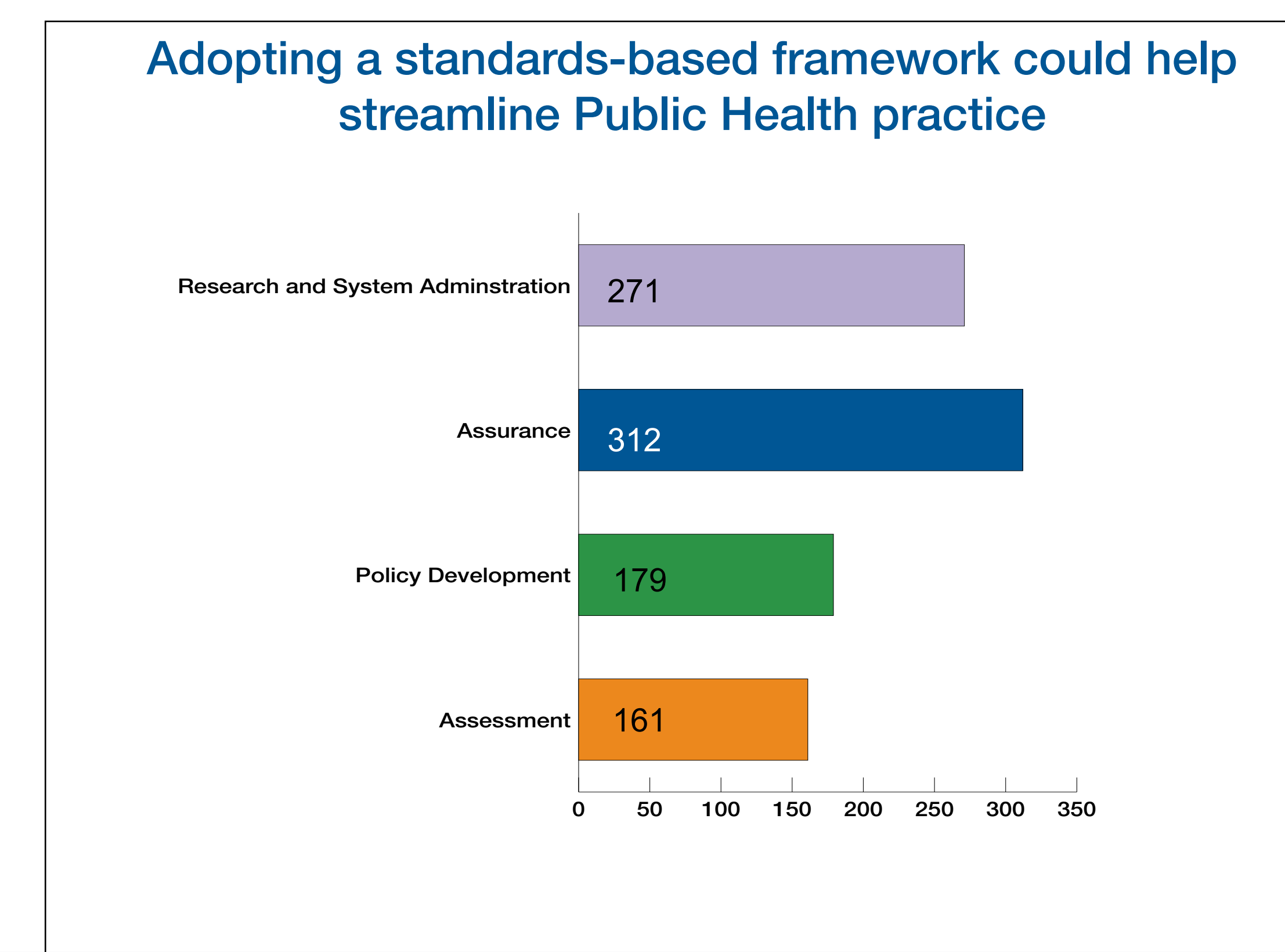
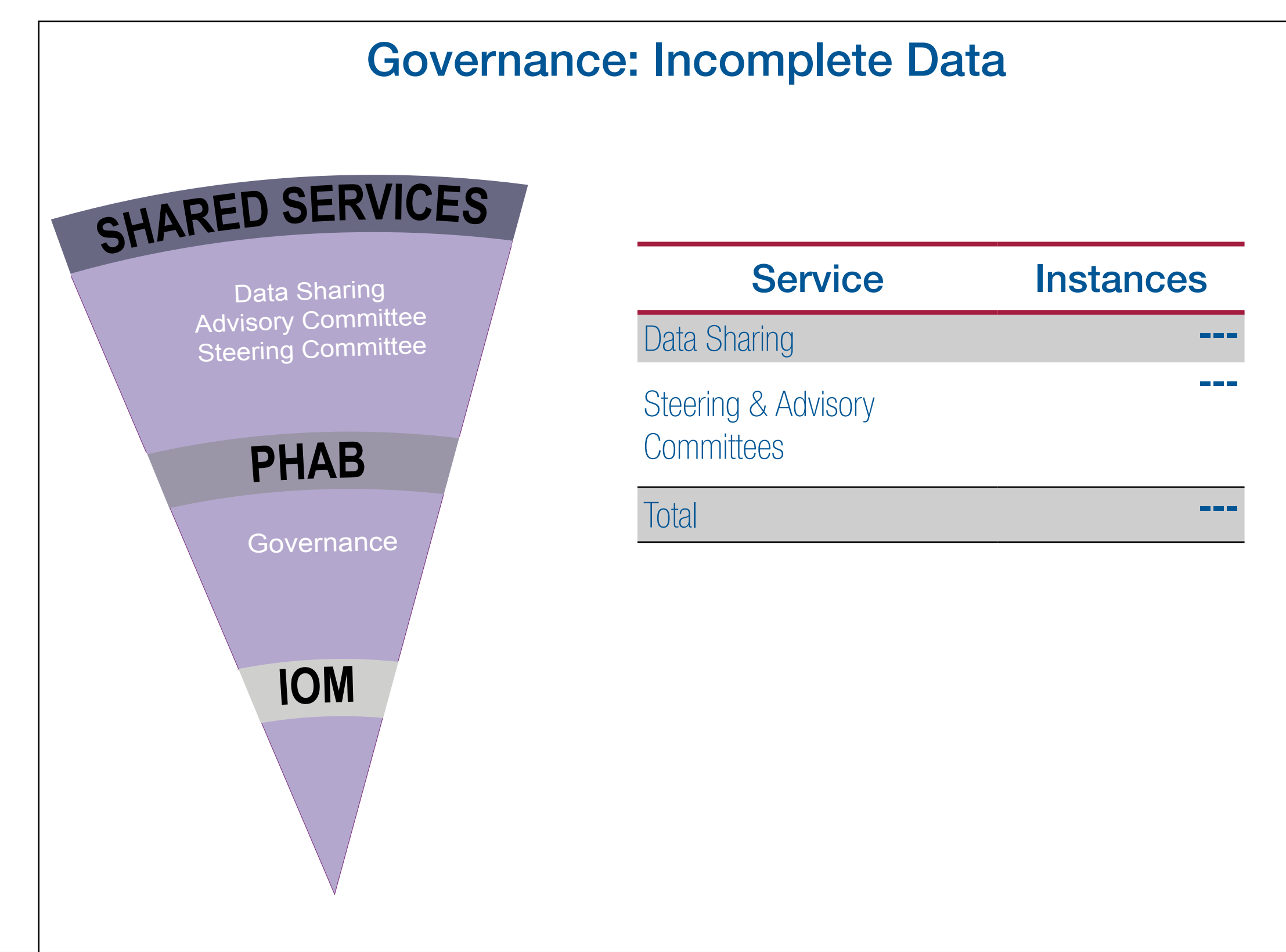
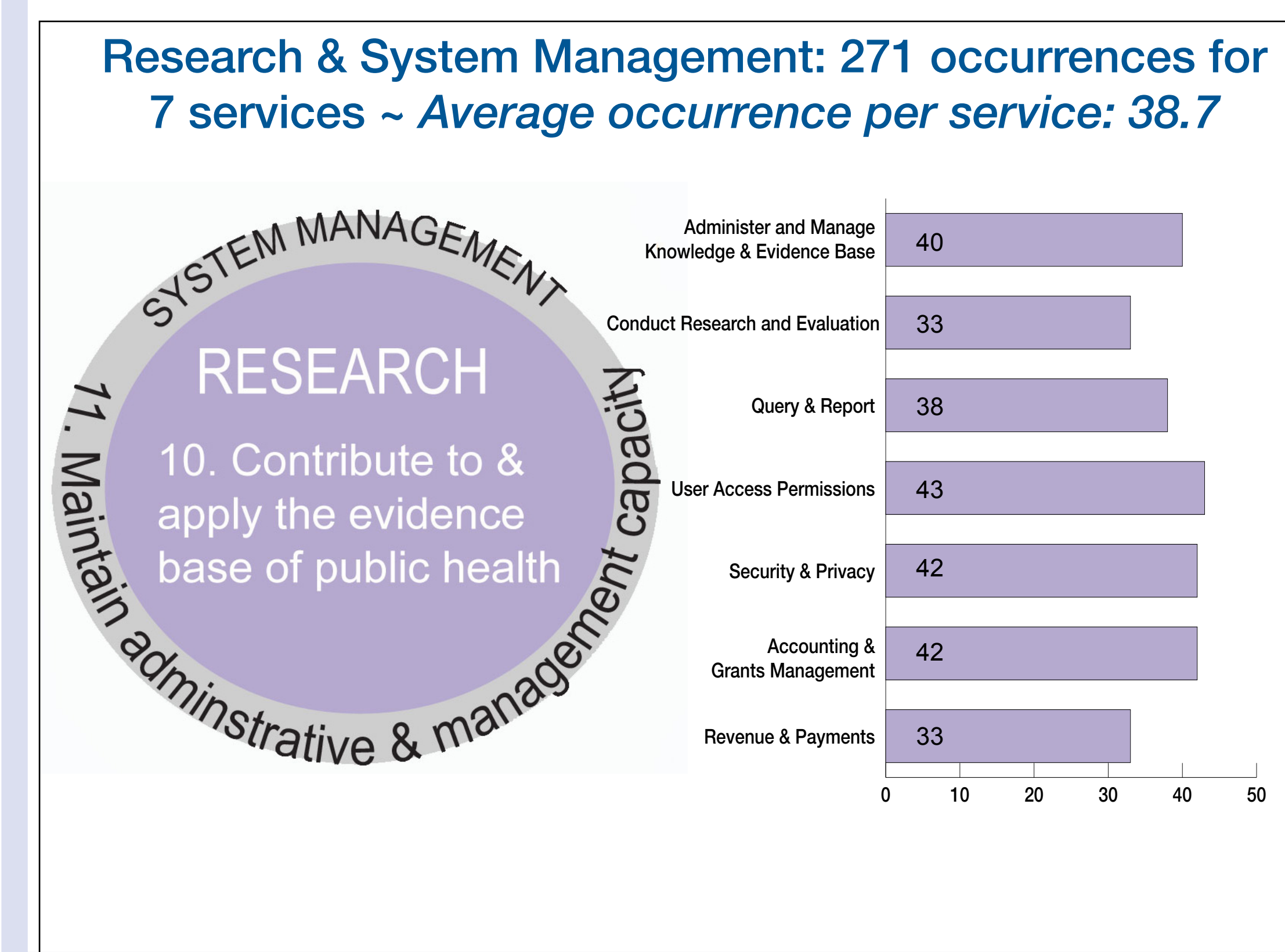
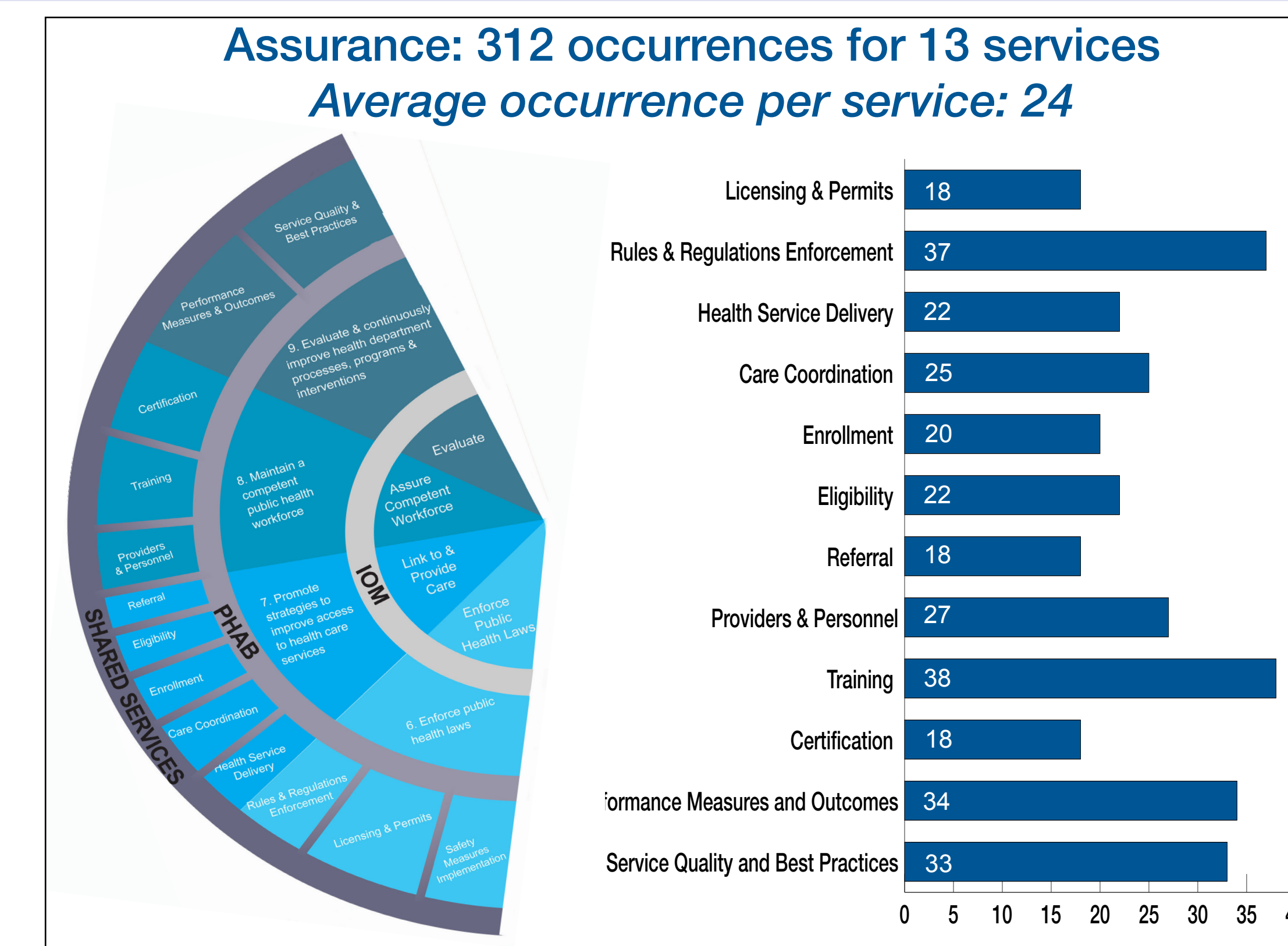
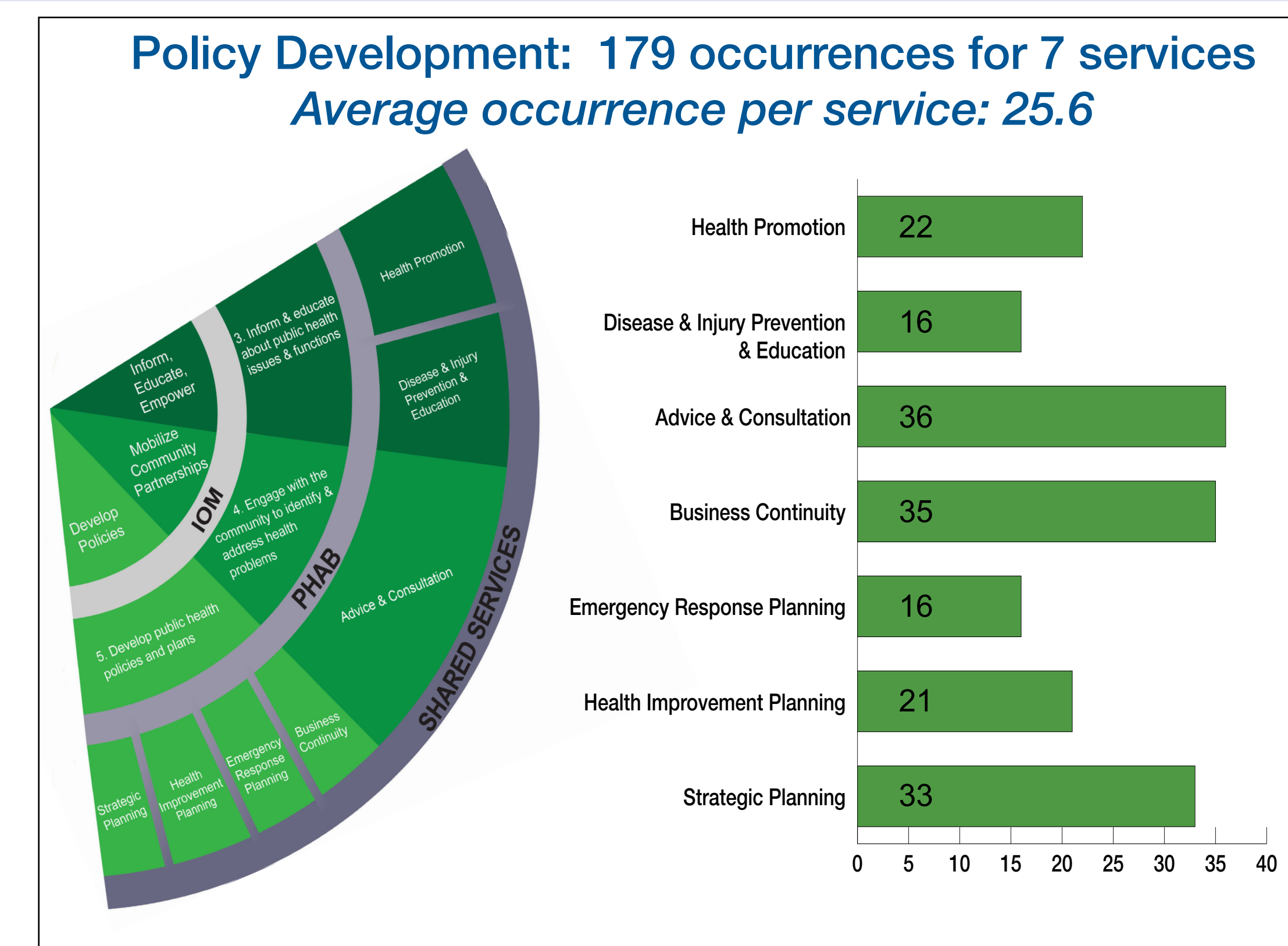
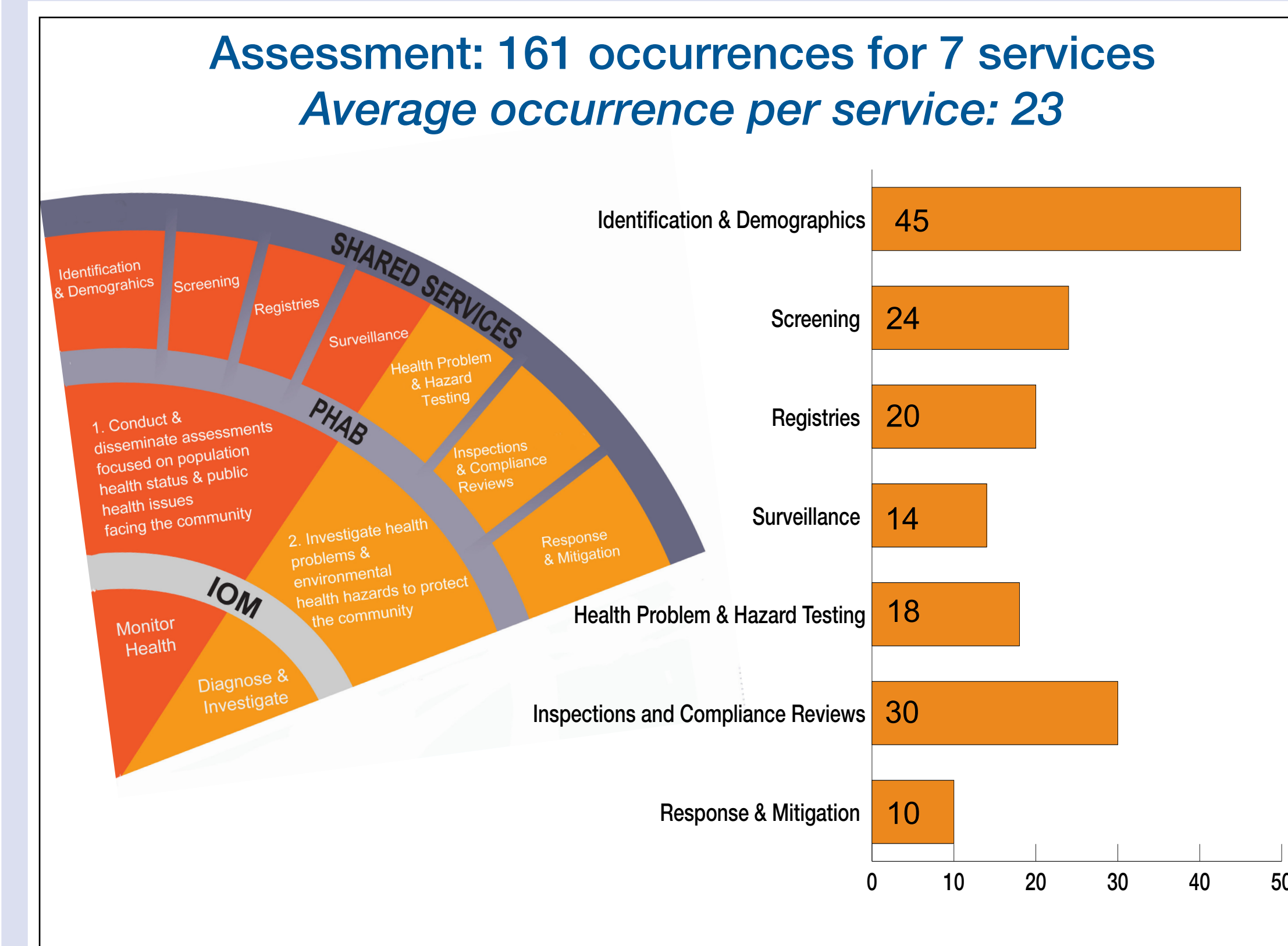
## Discussion

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



### Current Public Health Practice



## Acknowledgements

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Subset of the Inventory of 142 Oregon Public Health Database Silos

IOM Ten Essential Public Health Functions	Monitor Health				Diagnose & Investigate			Inform, Educate & Empower		Mobilize Community Partnerships		Develop Policies		
	Identification & Demographics	Screening	Registries	Surveillance	Test for Health Problems or Hazard	Conduct Inspections & Compliance Reviews	Response & Mitigation	Health Promotion	Disease & Injury Prevention & Education	Advice & Consult	Strategic Planning	Health Improvement Planning	Emergency Response Planning	Business Continuity
Public Health Accreditation Board (PHAB) Domains														
Programs, Interventions & Processes														
Office of Public Health Director														
Public Health Emergency Preparedness	x													
Community Liaison														
Program Operations														
Office of Public Health Laboratories														
Laboratory Compliance and QA														
General Microbiology		x												
Virology/Immunology		x												
Newborn Screening		x												
Laboratory Operations		x												
Environmental Testing		x												
Safety and QA		x												
Technical Assistance to LHDs		x												
Laboratory Response Network		x												
Office of Family Health		x												
WIC Supplemental Nutrition Program		x												
Immunization		x												
Women's & Reproductive Health		x												
Adolescent Health & Services		x												
Maternal & Child Health		x												
Oral Health		x												
Substance Use		x												
Office of Environmental Health														
Radiation Protection Services		x												
Ford, Peck & Lodge Health Safety		x												
Drinking Water Program		x												
Research & Education		x												
Office of Community Health & Health Planning														
Emergency Medical Services and Trauma		x												
Health Care Licensure & Certification		x												
Health Systems Planning		x												
Certificate of Need		x												
Medical Marijuana		x												
Facilities Planning		x												
Office of Disease Prevention & Epidemiology		x												
Air and Communicable Diseases		x												
Injury Prevention		x												
PHOTIS		x												
Health Promotion & Chronic Disease Prevention		x												
Health Assessment & Evaluation		x												
Health Statistics		x												
Occurrences	20	14	14	12	14	20	10	24	14	21	21	14	14	20

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