

The Adaptive Response Metric: New Developments in Measuring Adaptive Response

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Public Health Adaptive Systems Studies

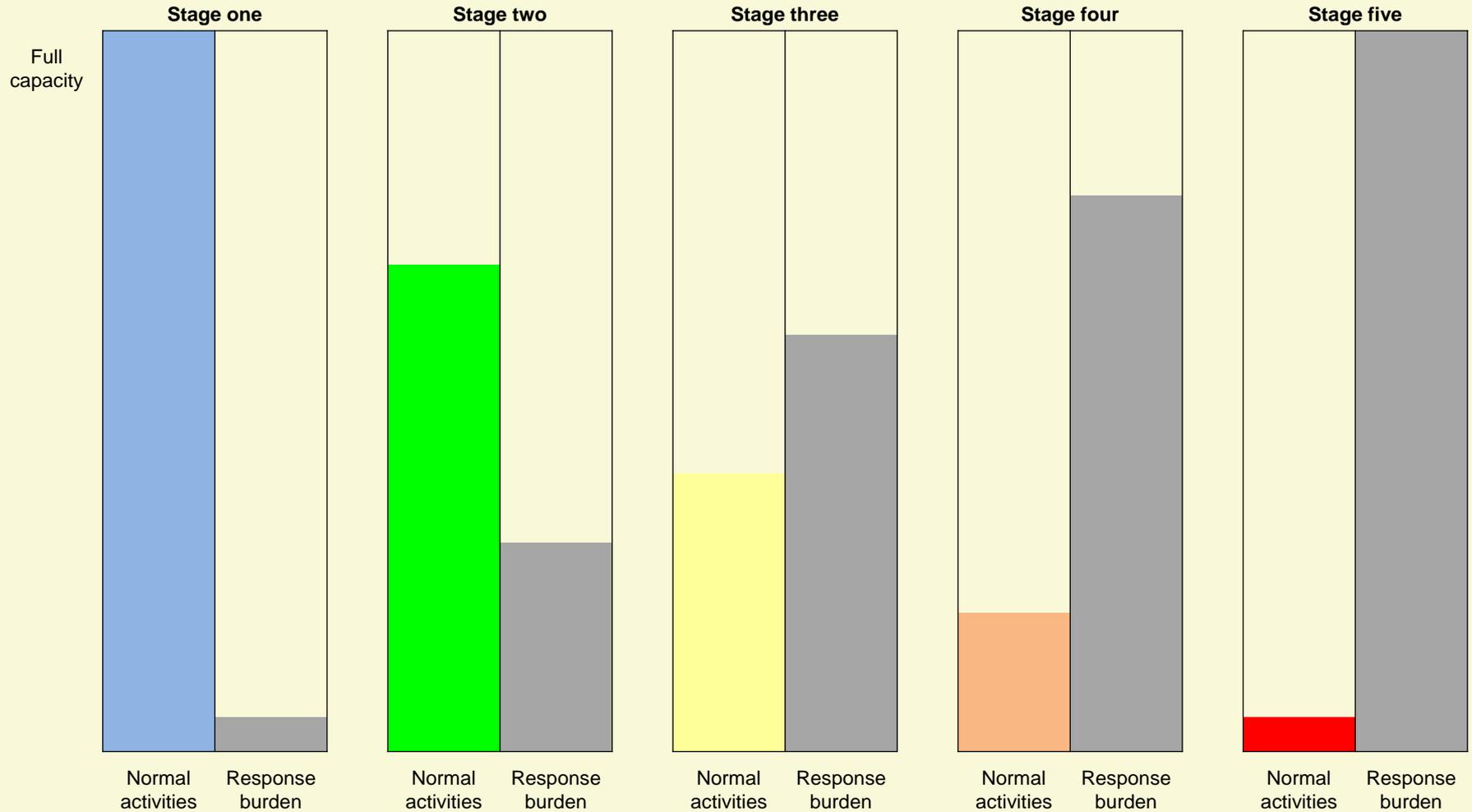
Public Health System Indicators Project

- University of Pittsburgh
 - Margaret Potter
 - Russell Schuh
 - Leslie Fink
 - Michelle Basque
- Health Officers Association of CA
 - Bruce Pomer
 - Kat DeBurgh
- CA Advisory Committee
 - State and local representatives

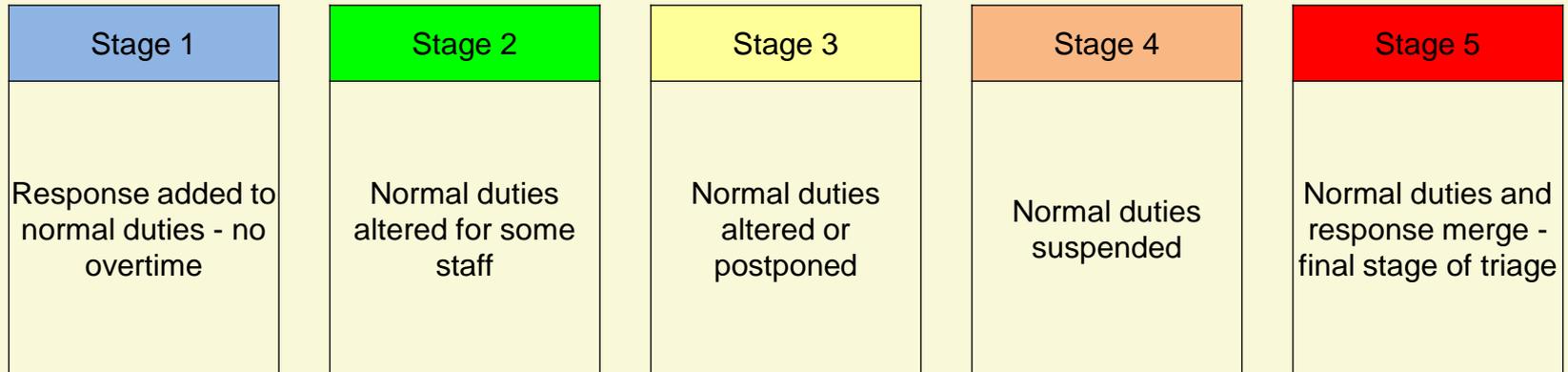
The following counties have been integral to the development of the Adaptive Response Metric:

- Berkeley
- Butte
- Colusa
- Franklin, NC
- Humboldt
- Imperial
- Riverside
- Sacramento
- San Diego
- San Mateo
- Santa Barbara
- Santa Clara

Burden of Adaptive Response



Stages of Adaptation



Original Scoring Rubric

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
	Response added to normal duties - no overtime	Normal duties altered for some staff	Normal duties altered or postponed	Normal duties suspended	Normal duties and response merge
Staffing adaptation indicators	Senior staff involved in activation of ICS or EOS a few hours per week. Normal duties maintained.	Work hours above normal required by response and maintenance of normal duties.	Normal work hours of function personnel reduced by deployment. Normal duties affected.	Most function personnel diverted from normal activities.	All available personnel deployed. Normal duties merge with response.
A. Skilled or professional personnel availability	< 20% function personnel involved in initial response	20% to 39% personnel involved in response	40% to 59% personnel involved in response	60% to 79% personnel involved in response	80% + Or Unpredictable, all who are able to respond
B. Support personnel availability	< 20% function personnel involved in initial response	20% to 39% personnel involved in response	40% to 59% personnel involved in response	60% to 79% personnel involved in response	80% + Or Unpredictable, all who are able to respond
	Normal activities maintained with response cross-subsidized.	Function staff expanded by adding time to existing staff (OT).	Function staff availability doubled by adding additional skilled personnel.	Function staff expanded to quadruple or more than normal.	All available personnel deployed. Normal duties merge with response.
Alterations to function intervention or service delivery	Interventions or output delivery unaltered by response.	Outputs maintained but production or delivery may be take longer (e.g. wait-times longer, deadlines missed or extended).	Outputs redefined to exclude or delay some noncritical services. Quality of some outputs may be diluted (e.g. reports not as detailed as normal or filed late.	Critical triage of services begins in order to maximize resources for response.	Acute triages targeting only those requiring and benefiting from services. Services may vary by location.
		Discontinue or delay some non-critical output.	Discontinue most non-critical output. Retain core.	Discontinue all non-critical output. Limit core.	Core & response interventions merge.
Infrastructure adaptation	Existing infrastructure adequately supports response.	Increasing hours of operation.	Equipment from outside agencies or jurisdictions obtained to preserve normal operations.	Heavy use of outside and ad hoc resources such as out-sourcing.	Creative use of whatever is available or serviceable required.
	Overtime use of equipment or facilities.	Increase hours of operation.	Staggered shifts + added hours of operation.	Revert to fixed shifts.	
		Fixed shifts added hours of operation.	Fixed shifts + operating days increased.	24 hr/ 7 days per week operation.	Shift discipline breaks down - operation as possible.

Example Visual Display of LHD Response Burden by Function



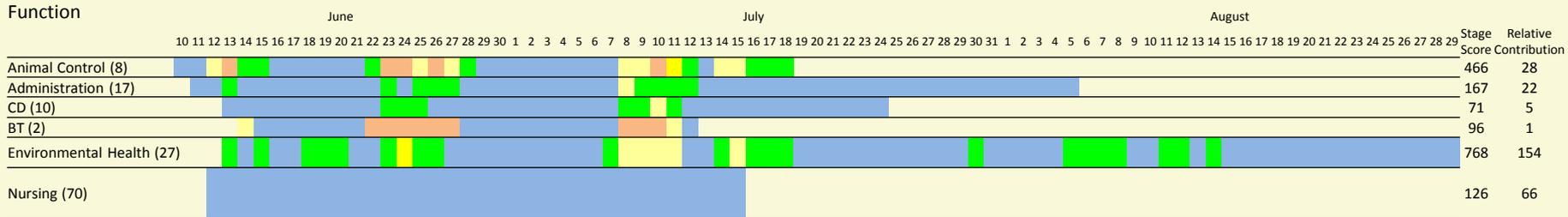
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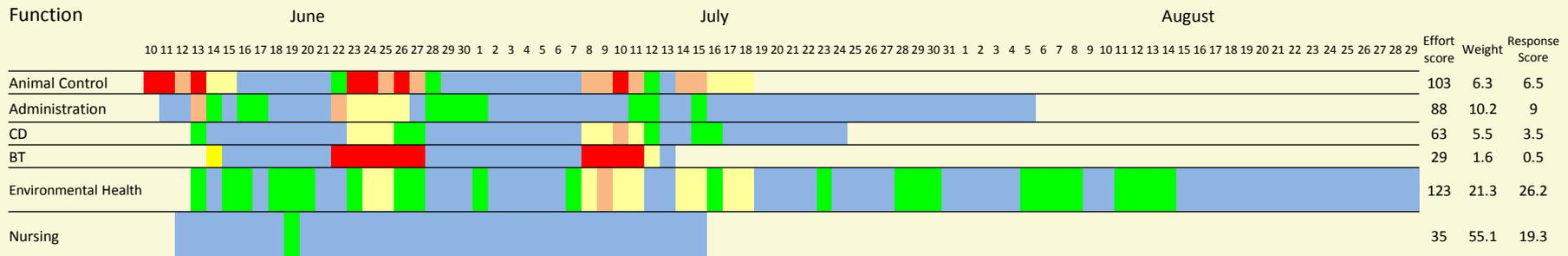
Revised Scoring Rubric

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
	Response added to normal duties - no overtime	Normal duties altered for some staff	Normal duties altered or postponed	Normal duties suspended	Normal duties and response merge - final stage of triage
Personnel deployment	< 20% function personnel involved in initial response	20% to 39%	40% to 59%	60% to 79%	80% + 0r Unpredictable, all who are able to respond
Infrastructure adaptation	< 20% rated capacity	20% to 39% rated capacity	40% to 59% rated capacity	60% to 79% rated capacity	80% + 0r Unpredictable, all who are able to respond
Example - operational hours	< 9.6	9.6 - 11.1	11.2 - 12.7	12.8 - 14.3	14.4 <

Original



Recalibration



Two Scores Obtained

1. **Stress Score for each function**
2. **Relative contribution to total LHD**

Health Department Level Response to Wildfires

Original Calibration



Stage criteria

- Stage 1: 0% to 19%
- Stage 2: 25% to 49%
- Stage 3: 50% to 74%
- Stage 4: 75% to 100%
- Stage 5: All available

Stress = Stage X Duration

**Function Contribution = Proportion of LHD
Total Response**

Function/Weight Worksheet

County Health Department FY 2012-13

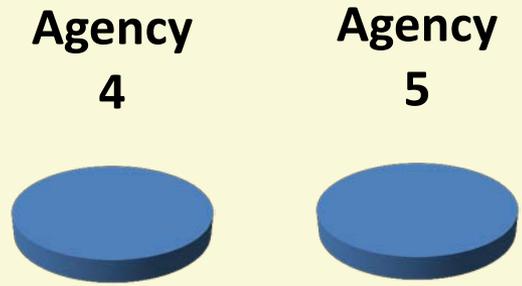
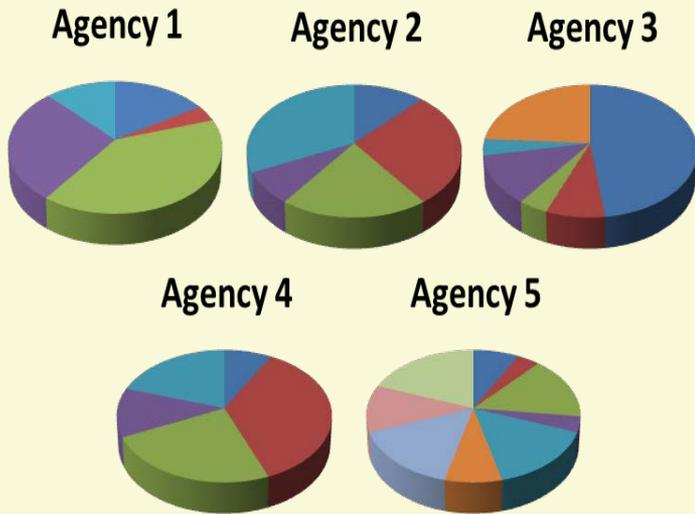
Function	budget	FTE
Health Department totals	63,581,262	601
Administration	2,413,245	10
Clinic Management	0	0
Disease Control	3,023,572	18.5
Public Health Nursing	2,544,711	60.3
Family Planning	875,623	8
Public Health Laboratory	2,582,594	14
Maternal Child and Adolescent Health	324,849	23.3
WIC Program/Nutrition Services	17,845,110	202.3
Children's Medical Services	1,974,469	18.2
California Children's Services Program	16988393	137.8
Industrial Hygiene	0	0
Immunization Program	1,065,637	7.7
HIV/AIDS Program	5,045,832	43.8
Emergency Medical Services Agency	3,295,902	15
Epidemiology and Program Evaluation	307,939	3.3
Vital Records	972,590	10
Community Outreach and Volunteer Services	184,887	1.6
Public Health Emergency Preparedness and Response	4,951,109	21.6
Injury Prevention	1,237,238	12.6
Professional Development	360,807	3

Considering Patterns of Response

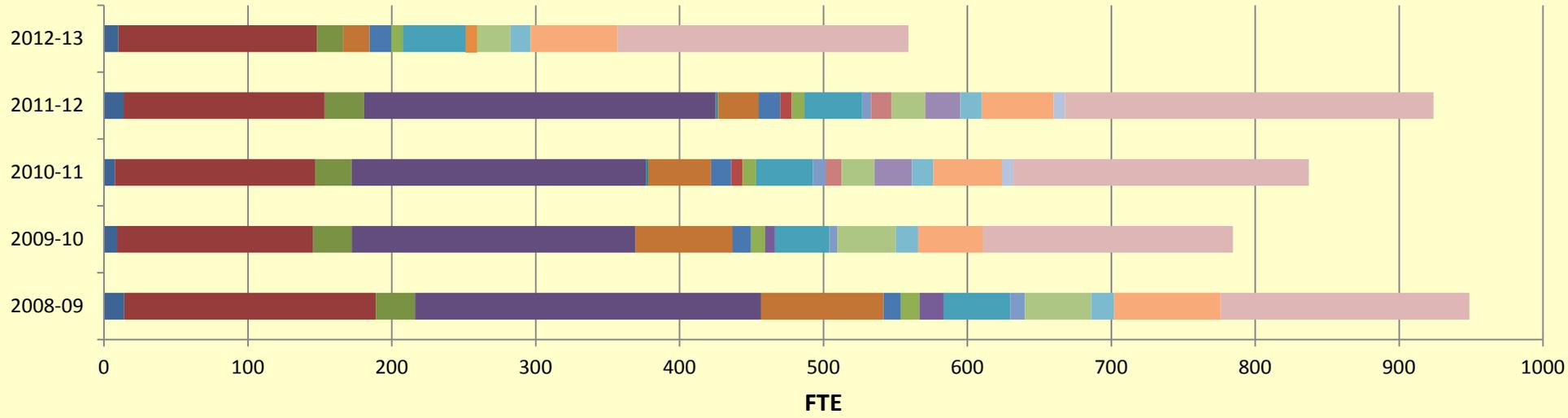
Function level

Organizational level

Agency-level development scores can make health departments appear identical

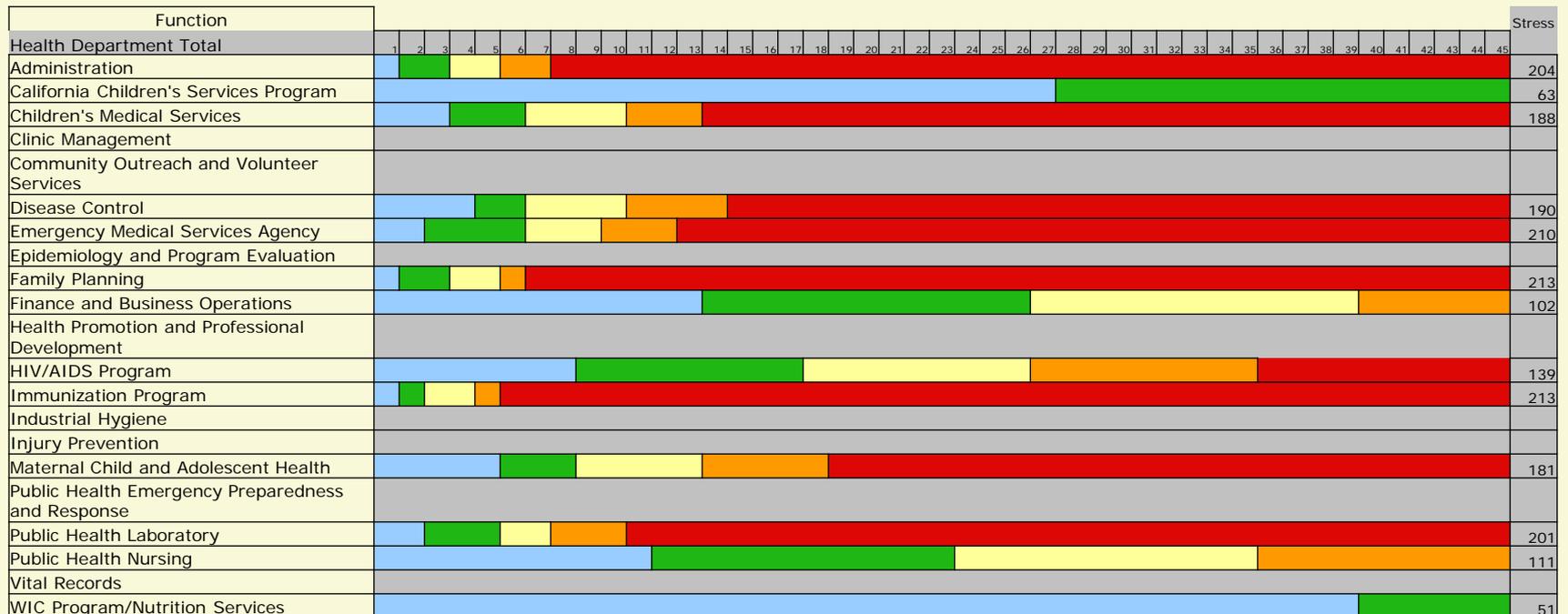


Until function-level internal development scores reveal internal structural and developmental variation



- Administration
- California Children's Services Program
- Children's Medical Services
- Clinic Management
- Community Outreach and Volunteer Services
- Disease Control
- Emergency Medical Services Agency
- Epidemiology and Program Evaluation
- Family Planning
- Health Promotion and Professional Development
- HIV/AIDS Program
- Immunization Program
- Industrial Hygiene
- Injury Prevention
- Maternal Child and Adolescent Health
- Public Health Emergency Preparedness and Response
- Public Health Laboratory
- Public Health Nursing
- Vital Records
- WIC Program/Nutrition Services

Simulated effects of budget on response patterns



Policy Research vs Implementation Research

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Thank you

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