**Supplemental Digital Content 1**

Tennessee Department of Health initiatives that exemplify use of Baldrige framework categories to promote performance improvement

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| **Baldrige criteria** | **Examples of TDH Actions** |
| **Senior Leadership and Governance** | Adoption was planned over multiple years with consistent leadership, using standardized governance structures and processes initiated by participatory development of a Mission, Vision and Values statements. Competencies seen as unique to public health were generated including teamwork, integrity, and adaptability. These assured congruence of expectations about the importance of state and local public health leadership in addressing population health issues. Continuous improvement cycles embedded in programs and support operations reinforced this approach. TDH workforce surveys (2014 and 2017) documented improvements in measures, exceeding national comparisons, to indicate employees knew how their work relates to the organization’s goals and priorities. |
| **Strategic Development and Implementation** | The TDH strategic planning process, now in its sixth year, integrates organization-wide input throughout its annual cycle. The Plan aligns Departmental action with the Tennessee State Health Plan and intentionally draws on the National Academy of Medicine’s Vital Signs1 to measure public health success. TDH conducted statewide listening sessions and cycles of development with citizens and staff to fundamentally re-examine Vital Signs to create a more Tennessee-relevant product. An annual calendar has been developed that now efficiently integrates multiple state (budget, legislation, etc.), Federal (grants and reporting) and internal processes and timelines.  |
| **Customer Focus and Engagement** | TDH reconceptualized categories of public health customers into three groups (direct, indirect and general) and more frequently asks for the voice of the customer to identify levels of satisfaction, dissatisfaction and engagement using multiple collection methods (e.g., daily surveys now being conducted in 54 counties using iPads). This reconceptualization has also propelled pursuit of new partnerships framed as customer engagement to extend and expand public health capacity in counties. |
| **Measurement, Analysis and Knowledge Management**  | TDH encouraged openness to and use of data to help drive improvement within the organization. OPM, for example, produced a statewide statistical analysis, “Drive Your County to the Top Ten,” to report each county’s rankings and develop action items specific to each of thirty-four health measures presented in the Robert Wood Johnson County Health Rankings and Roadmap. The product both challenges performance improvement and celebrates county-specific success to achieve the healthiest status for a specific measure. Following field training, counties began to share planning, operations, and evaluation processes and results through a common SharePoint site. |
| **Workforce Engagement** | Implementation of a statewide Electronic Public Health Information System (EPI) required extensive workforce use of rapid improvement cycles and continuous improvement of health department work flows. Both proved challenging and successful. Implementation cycle times decreased from six months between the first and second health departments to one week between the 69th and 70th health departments, resulting in better clinic service during “go live.” Discussions have refocused on quality and patient safety using new tools available in EPI. |
| **Process and Systems Focus** | The QI section transitioned from a culture of “gotcha” to a culture of “that’s a good catch; now let’s find a way to fix it.” This culture change required trust developed through small steps and collaborations with regional and frontline staff. This has resulted in significant increases in early detection of potential problems which are quickly reported, assessed, and remedied. |
| **Results** | Broad collaborations are necessary within state government (other departments, Legislature, Governor) and professional associations to address the epidemic of opioid misuse, abuse, and overdose deaths. TDH modified its Incident Command Structure previously used in communicable disease outbreaks to address opioids with measurable successes: (1) increased use of the prescription drug monitoring program from 1 in 14 prescriptions having been preceded by a check of the PDMP in 2010 to 1 in 2 prescriptions in 20172; (2) 43% decrease in the amount of opioid medications dispensed in TN (2012 through June to 2018); (3) 48% decrease in “pain medicine clinics” and increase in quality of care of the remaining clinics; (4) 76% decrease in “doctor shoppers” (2011 to 2017); (5) partnerships with academia and the State resulted in formation of a Commission which identified 12 “core competencies” for all healthcare trainees across the state; (6) establish a public-private interprofessional “healthcare collaborative” to implement effective practices state wide; and (7) improve timely access to aggregate opioid related community-based data. |

References:

Institute of Medicine. Vital Signs: Core Metrics for Health and Health Care Progress. Washington, DC: National Academies Press, 2015.

Tennessee Department of Health. Controlled Substance Monitoring Database 2018 Report to the 110th Tennessee General Assembly. <https://www.tn.gov/content/dam/tn/health/healthprofboards/csmd/2018%20Comprehensive%20CSMD%20Annual%20Report.pdf>.