Veteran Suicide Prevention

Goal Leaders:

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Overview

Goal Statement

- The Veterans Health Administration (VHA) will proactively identify and provide interventions for at-risk Veterans, both those using VHA care and those using other care systems, to prevent suicide and overdose death. VHA will increase the use of interventions for Veterans at-risk for suicide through the use of predictive modeling and enhanced engagement strategies.

  - By **September 30, 2019**, the percent of **Veterans targeted through predictive modeling algorithms** within the VHA system that receive core recommended interventions **will increase to 90%** from the baseline of **57%. FY19Q2 value: 87% (up from 78% in FY19Q1)**

  - By **September 30, 2019**, **VA** has partnered with Health and Human Services **(HHS)**/Substance Abuse and Mental Health Services Administration **(SAMHSA)** and **17 cities in a "Mayor's Challenge" to develop community plans** to end Veteran suicide outside the VHA system. **FY19Q2 value: 24 cities and 7 states.**

Overview

Challenge

- While interventions to reduce the likelihood of suicide and overdose have been developed, they do no good unless they reach the people who need them at the right time.

Opportunity

- VA is using advanced analytics combined with clinical interventions to identify people most likely in need of preventive intervention and connect them with services.

    - Within VA, we mine electronic medical record data to identify patients at greatest risk of overdose or suicide events or death. Computer systems are used to provide lists of patients estimated to be at high risk paired with key information about the patient's clinical case and suggestions for interventions to address risks. Clinicians and care coordinators use these computer systems to target clinical interventions and outreach to those with high estimated risk.

    - To help Veterans not enrolled in VA care, we are examining data to identify the Veteran populations at greatest risk and the organizations with which they engage. Partnering with Health and Human Services/SAMHSA and 17 cities through the Mayor's Challenge and Governor's Challenge, VA is working collaboratively based on data to develop community action plans to end Veteran suicide.

Goal Structure for Targeting Patients <u>Receiving</u> VA Health Care:

- Within VA, efforts to target interventions to high risk patients focus on use of two predictive models:

  1. Recovery Engagement and Coordination for Health – Veterans Enhanced Treatment (REACH VET), which identifies patients at statistical risk of death by suicide in the next month; and

  2. The Stratification Tool for Opioid Risk Mitigation (STORM), which identifies patients at statistical risk of overdose or suicide-related health care events or death in the next year.

- Patients identified as within the top risk tier at their facility based on the REACH VET model are expected to receive a care review and outreach intervention from a personally assigned care provider.

- Patients receiving opioid prescriptions who are identified as very high risk based on the STORM model are expected to receive guideline recommended risk mitigation interventions, including written informed consent, Prescription Drug Monitoring Program checks, and urine drug screening.

Strategies for Targeting Patients <u>Receiving </u>VA Health Care:

- Improve clinical implementation of core recommended interventions for patients predicted to be at high risk of suicide or overdose.

- Improve predictive models to more reliably and accurately identify Veterans at risk.

- Enhance data systems to enable more complex data mining and analysis and higher performance clinical decision support systems.

- Expand clinical capacity for provision of risk intervention through the Mental Health Hiring Initiative and restructuring of care practices.

Goal Structure for Targeting Veterans <u>Not Receiving</u> VA Health Care:

- Veteran suicide is an important public health issue impacting Veterans and communities nationally. Of Veterans who die by suicide, 70% are not recently engaged in VHA health care. Ending Veteran suicide will take coordinated, bundled, up stream approaches that fit the unique needs and opportunities within communities and are beyond the scope of VA alone.

- SAMHSA is uniquely positioned and empowered to work directly with states and communities to address suicide. We have partnered with SAMHSA to host a Mayor's and Governor's Challenge aimed at developing local action plans focused on ending Veteran suicide.

Strategies for Targeting Veterans <u>Not Receiving</u> VA Health Care:

- As part of the Mayor's and Governor's Challenges, we will develop community strategic action plans that can be implemented at the local level to end Veteran suicide.
  - Integrate Veteran suicide prevention into the values, culture, leadership, and work of a broad range of organizations and programs with a role in supporting suicide prevention activities.
  - Establish effective, sustainable, and collaborative suicide prevention programs for Veterans at the national, state/territorial, tribal, and local levels.
  - Pursue and sustain public-private partnerships to advance Veterans suicide prevention.
  - Develop, implement, and evaluate communication efforts designed to reach Veterans.

Summary of Progress – FY 19 Q2 (1 of 2)

- VA continues to expand Suicide Prevention programming to benefit all Veterans
  - In June 2018, VA released the National Strategy to Prevent Veteran Suicide
- Key indicators are on target:
  - The Mayor's Challenge launched in 7 initial cities, added 16 more, for total of 24 cities
    - Cities: Albuquerque, NM; Atlanta, GA; Austin, TX; Billings, MT; Charlotte, NC; Clarksville, TN; Columbus, OH; Detroit, MI; Helena, MT; Hillsborough County, FL; Houston, TX; Jacksonville, FL; Kansas City, MO; Las Vegas, NV; Los Angeles, CA; Manchester, NH; Oklahoma City, OK; Phoenix, AZ; Reno, NV; Richmond, VA; Suffolk County, NY; Topeka, KS; Tulsa, OK; Warwick, RI
    - States: Arizona, Colorado, Kansas, Montana, New Hampshire, Texas, Virginia
  - VA is hiring additional mental health clinicians to serve Veterans in need
    - Met goal of net increase of 1000 FTE by end of CY18
    - Continuing hiring efforts to address on-going growth in patient demand

Summary of Progress – FY 19 Q2 (2 of 2)

- VA continues to expand Suicide Prevention programming to benefit all Veterans

- Key indicators are on target:

  - VA is steadily increasing the clinical use of predictive analytics

    - Predictive analytics are utilized as part of the STORM and REACH-VET clinical programs throughout the VHA.

  - Predictive analytics are being continuously improved

    - VHA has multiple initiatives aimed at developing additional predictors and is finalizing second-generation REACHVET and STORM predictive models.

    - Partnering with DoD to incorporate relevant DoD information as predictors and to develop novel outreach focused predictive analytics in support of Presidential Executive Order 13822.

- Improve clinical implementation of core recommended interventions for Veterans predicted to be at high risk of suicide or overdose

Milestone Summary					
Key Milestones	Milestone Due Date	Milestone Status	Change from Last Quarter	Owner	Anticipated Barriers or Other Issues Related to Milestone Completion
Provide guidance and tools on models of care delivery using predictive model-based targeting of at risk patients	March 2018, and on-going	Implemented on schedule with ongoing support and updates		OMHSP	None at this time.
Provide technical assistance and clinical facilitation to VA health care systems to improve implementation of practices	March, 2018 and on-going	Implemented on schedule with ongoing support and updates		OMHSP	None at this time.
Develop and disseminate provider educational materials and programs on recommended interventions	April, 2018 and on-going	Implemented on schedule with ongoing support and updates		OMHSP	None at this time
Provide implementation monitoring tools to help facilities track and trouble-shoot practice implementation	June, 2018 and on-going	Implemented on schedule with ongoing support and updates		OMHSP	None at this time.

- Improve predictive models to more reliably and accurately identify Veterans at risk

Milestone Summary					
Key Milestones	Milestone Due Date	Milestone Status	Change from Last Quarter	Owner	Anticipated Barriers or Other Issues Related to Milestone Completion
Update REACH VET model on more recent outcome data	Sept, 2018 and on-going	On Track		OMHSP	Multiple models have been developed and are being refined and optimized for clinical implementation.
Update STORM model on more recent outcome data	June, 2018 and on-going	On Track		OMHSP	Multiple models have been developed and are being refined and optimized for clinical implementation.
Define and calculate new candidate predictors for REACH VET and STORM models	Sept, 2018 and on-going	On Track		OMHSP	New candidate predictors based on VA/DOD clincal practice guidelines for SP and Opioid Safety have defined and calculated. Ongoing efforts to identify additional predictors continues.
Recode REACH VET and STORM decision-support systems to utilize updated models	Dec, 2018	In Progress	April 2019	OMHSP	Redesigning coding and databases to facilitate Implementation of predictive models generally for use in clinical care. This will improve performance and reduce maintenance for both REACH VET and STORM, and enable OMHSP to implement other predictive models more rapidly and efficiently. Coding predictors for second-generation REACHVET models into decision support.

- Enhance data systems to enable more complex data mining and analysis and higher performance clinical decision support systems

Milestone Summary					
Key Milestones	Milestone Due Date	Milestone Status	Change from Last Quarter	Owner	Anticipated Barriers or Other Issues Related to Milestone Completion
Development and reporting platform for VA decision-support systems	Sept, 2018	Complete		OIT	Authority secured. Updates ongoing
Migrate REACH VET and STORM to a customized platform	June 30, 2018	Complete		OMHSP	Platform ready.
Develop a platform for data analysis and decision support processing on the Dept of Energy supercomputer	Sept, 2018	In Progress		OMHSP	Data is being provided nightly to Dept of Energy with complex predictors calculated at DoE. Data return and expansion of processing is being finalized. The ISA is done and signed by DOE, awaiting VA signatures in order to go live.
Incorporate newly derived data elements from the supercomputer environment into VA suicide prevention decision support systems	March 2019	On Track		OMHSP	Data return and expansion of processing is being finalized. Awaiting approval of ISA to approve data transfer. Technical set-up is complete.

- Expand clinical capacity for provision of risk intervention through the MH Hiring Initiative and restructuring of care practices.

| Milestone Summary					
Key Milestones	Milestone Due Date	Milestone Status	Change from Last Quarter	Owner	Anticipated Barriers or Other Issues Related to Milestone Completion
Provide strategic planning support for facilities to guide mental health and suicide prevention team staffing plans	Feb, 2018	Complete		OMHSP	None at this time.
Provide technical assistance to facilities with recruitment and retention challenges	Feb, 2018 and on-going	Initiated on time and ongoing		OMHSP	Competing priorities for technical assistance staff may limit available resources. Due to facilities with staffing challenges, providing technical assistance will be ongoing.
Monitor progress towards net gain of 1000 MH Full Time Equivalent (FTE), with focus, on SPT, PCMHI, and outpatient clinical FTE	Feb, 2018	Complete		OMHSP	Net Mental Health FTE reached 1000.

- As part of the Mayor's Challenge develop community strategic action plans that can be implemented at the local level to end Veteran suicide for all Veterans.

| Milestone Summary					
Key Milestones	Milestone Due Date	Milestone Status	Change from Last Quarter	Owner	Anticipated Barriers or Other Issues Related to Milestone Completion
Select initial 8 cities	January 2018	Complete		OMHSP	None at this time.
Conduct Policy Academy for city teams	March 2018	Complete		OMHSP	None at this time.
Develop community specific plans to end suicide	March 2018-June 2018	Complete		OMHSP	None at this time.
Implement plans and submit follow up reports	March -August 2018	Complete		OMHSP	Initial plans implemented and reports complete. Overall implementation is continuously improved and ongoing.
Launch second wave of cities in the Challenge	June 2018	Complete		OMHSP	16 cities selected, for total of 24 cities within the Mayor's Challenge
Complete second wave of cities and added states in Governor's Challenge	February 2019 and ongoing	On Track		OMHSP	24 cities and 7 states in progress for next few years of training and technical assistance. Policy Academy completed in Feb. 2019 for 7 Governor's Challenge states. Policy Academy completed for 15 of 24 Mayor's Challenge cities.

Key Indicators

Percent of Veterans targeted through predictive modeling algorithms within the VHA system that receive core recommended interventions
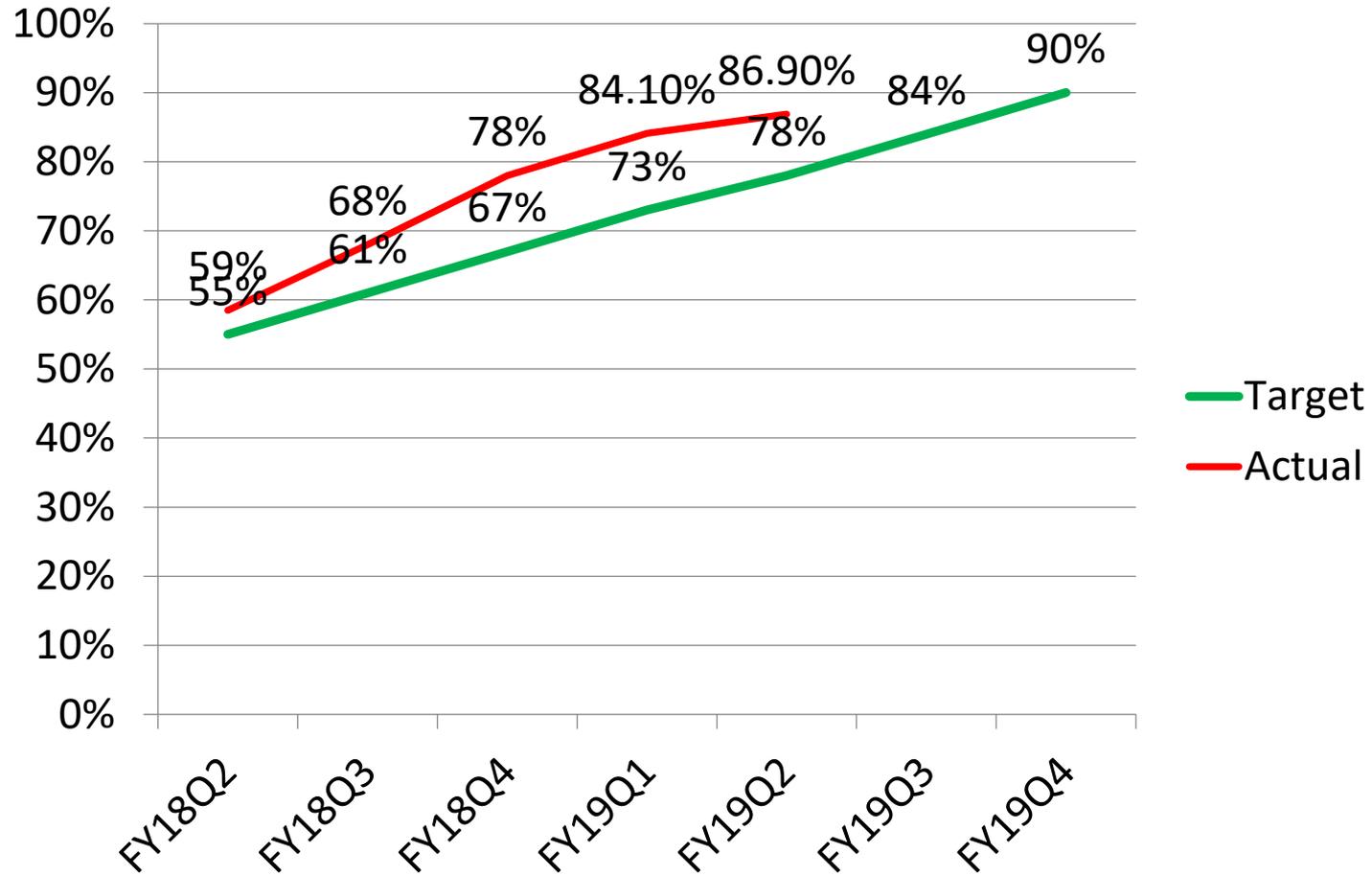
Key Indicators

of cities partnering as part of the Mayor's Challenge to develop community plans to end Veteran suicide outside the VHA system
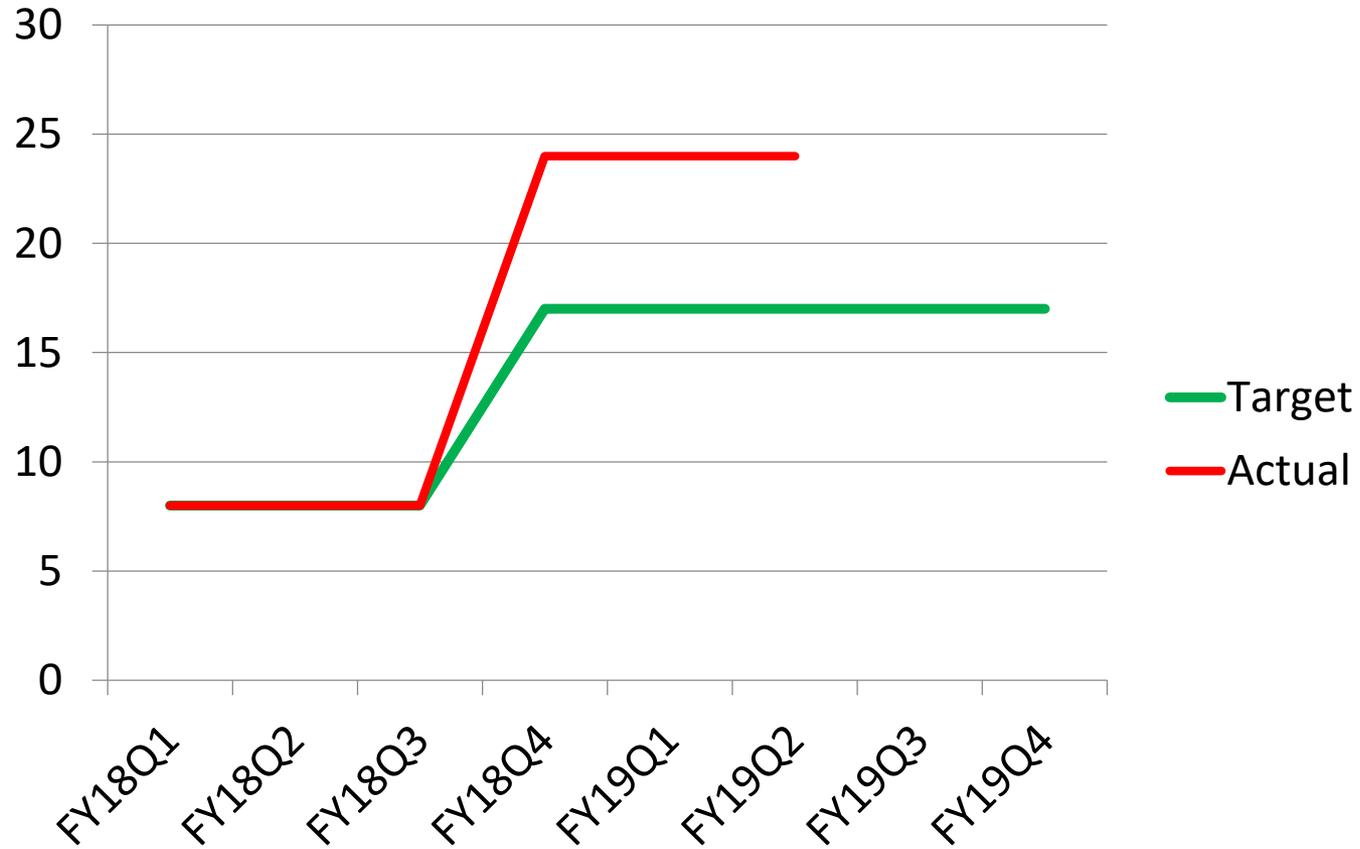
Data Accuracy and Reliability (1 of 2)

Data on whether targeted patient populations receive recommended interventions are based on data elements within the VA Corporate Data Warehouse (CDW). Data from CDW is extracted nightly from the VA's Electronic Health Record (EHR), and includes information entered by clinicians regarding the care delivered to Veterans during health care encounters. This includes prescriptions written, procedures conducted and diagnoses treated.
VA has on-going data quality validations underway to ensure proper data transmission and accuracy of the data tables.

However, data is limited by accuracy and completeness of clinical coding; if clinicians make errors in documenting care in the medical record (e.g. picking an incorrect diagnostic code or procedure code in their data entry), the database will reflect those errors. Likewise, some interventions are supposed to be documented in the EHR using specific structured notes or documentation templates.

If care is delivered but documented using generic clinical notes, these interventions may not be identified in the data warehouse. VHA employs clinical coding experts that work with clinical staff to improve clinical coding, and provides trainings to encourage use of standardized documentation practices to mitigate these data limitations.

High risk patients are identified using predictive models developed on VA data. Information on the validation and limitations of these models have been published:

Kessler, R.C., Hwang, I., Hoffmire, C.A., McCarthy, J.F., Petukhova, M.V., Rosellini, A.J., Sampson, N.A., Schneider, A.L., Bradley, P.A., Katz, I.R., Thompson, C., & Bossarte, R.M. (2017, September). Developing a practical suicide risk prediction model for targeting high-risk patients in the Veterans Health Administration. *International Journal of Methods in Psychiatric Research, 26*(3). doi: 10.1002/mpr.1575.

McCarthy, J.F., Bossarte, R.M., Katz, I.R., Thompson, C., Kemp, J., Hannemann, C.M., Nielson, C., & Schoenbaum, M. (2015, September).   Predictive modeling and concentration of the risk of suicide: Implications for preventive interventions in the US Department of Veterans Affairs. *American Journal of Public Health,105(9*),1935-1942. doi: 10.2105/ajph.2015.302737.

Oliva, E.M., Bowe, T., Tavakoli, S., Martins, S., Lewis, E.T., Paik, M., Wiechers, I., Henderson, P., Harvey, M., Avoundjian, T., Medhanie, A., & Trafton, J.A. (2017, February). Development and applications of the Veterans Health Administration's Stratification Tool for Opioid Risk Mitigation (STORM) to improve opioid safety and prevent overdose and suicide. *Psychological Services,*14(1), 34-49. doi: 10.1037/ser0000099.

Leadership

Oversight and Program Management
Dr. David Carroll, Executive Director, Office of Mental Health and Suicide Prevention (OMHSP)
Dr. Keita Franklin, Director for Suicide Prevention, OMHSP

Internal Milestones Lead
Dr. Jodie Trafton, OMHSP

Data Lead
Dr. Susan Strickland, OMHSP

External Milestones Lead
Wendy Lakso, OMHSP

Additional Information

<u>Contributing Programs</u>

Organizations:

- Cities participating in the Mayor's Challenge

Regulations:

- Comprehensive Addiction and Recovery Act of 2016

Policies:

- VHA Directive 1306, Querying State Prescription Drug Monitoring Programs
- VHA Directive 1005, Informed Consent for Long-term Opioid therapy for Pain
- VHA Handbook 1160, Uniform Mental Health Services

Other Federal Activities:

- Health and Human Services/SAMHSA
- Department of Defense
- Department of Energy
- Department of Homeland Security

Additional Information

Stakeholder / Congressional Consultations

- Congressional consultations
- The Veteran
- Veteran Service Organizations
- Community Partners