The Veterans Health Administration Quality Enhancement Research Initiative Model: Using Rapid Response Teams to Inform a National COVID-19 Vaccination Program

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• The views expressed in this presentation are the presenters and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the US government.

• No conflicts related to this presentation.
LEARNING OBJECTIVES

1. Describe the Veterans Health Administration (VHA) Quality Enhancement Research Initiative (QUERI) Model for implementing evidence-based practice.

2. Discuss the purpose of rapid response teams in the context of the QUERI model.

3. Describe the use of rapid response teams in informing a COVID-19 vaccination program.
• VHA as a learning health system organization
• Background on QUERI
• Overview of rapid response teams
• Experiences of CARRIAGE QUERI in COVID-19 vaccine roll-out
• Veterans Health Administration (VHA) is the largest integrated healthcare system in the U.S.
• Part of Department of Veterans Affairs (VA)
• Serves 9 million U.S. military Veterans
• 171 medical centers, 1000+ outpatient clinics
• 320,000+ employees

Kilbourne and Braganza, QUERI Strategic Plan, 2020; VHA https://www.va.gov/health/; VHA GIS Maps
VA Research by the Numbers
(For Fiscal 2021)

Active research sites nationwide
102

Published research articles authored or co-authored by VA investigators
13,873

Total congressional appropriation for VA medical and prosthetic research
$795M

Active funded research projects (including VA funding and other sources)
7,304

Active funded principal investigators
3,642

Total research budget (including other VA and non-VA sources, such as NIH)
$2.09B

Infographic by VA Research Communications, January 2021. Illustrations: © iStock/Olena Chemenka, Andrew_rybalko, all_is_magic, sesame, Misha Shutkevych.

<table>
<thead>
<tr>
<th>Element from IOM model for LHS</th>
<th>Example of VA component (Adapted from Atkins et al., 2017)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real-time access to knowledge</td>
<td>Electronic Health Record</td>
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<tr>
<td>Digital capture of care experience</td>
<td>Corporate Data Warehouse of clinical and administrative data; Surveys of patient experience</td>
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<tr>
<td>Engaged, empowered patients</td>
<td>My HealtheVet Patient portal</td>
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<tr>
<td>Incentives aligned for value</td>
<td>Salaried clinicians; Financial incentives tied to limited clinical quality goals.</td>
</tr>
<tr>
<td>Full transparency</td>
<td>Public reporting of data on quality; Clinical dashboards; Independent researchers</td>
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<tr>
<td>Leadership-instilled culture of learning</td>
<td>Academic affiliations; Dual appointments; Training programs across multiple disciplines</td>
</tr>
<tr>
<td>Supportive system competencies</td>
<td>System redesign and “Lean” training; Implementation Science</td>
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IOM, 2013; Atkins et al., Annu Rev Public Health 2017;38:467-487
WHAT IS QUERI?

- VA Quality Enhancement Research Initiative (QUERI)  
  https://www.queri.research.va.gov/

- Launched in 1998 as part of a system-wide transformation aimed at improving the quality of healthcare for Veterans.

- QUERI mission is to improve the health of Veterans by accelerating the adoption of evidence-based practices (EBPs) into routine health care settings using implementation science methods.

Kilbourne et al. Medical Care, 2019;57:10:S286-S293
QUERI IMPLEMENTATION ROADMAP

PRE-IMPLEMENTATION
Data to Knowledge

- What is the problem?
- Who are the stakeholders?
- What are the best practices?

IMPLEMENTATION
Knowledge to Performance

- What implementation strategies will be used?
- What adaptations or resources are needed for local fit?
- What are benchmarks of success?
- How do Veterans benefit?
- What is the impact on clinicians and the system?
- Who owns the process?

SUSTAINMENT
Performance to Data

Kilbourne et al. Medical Care, 2019;57:10:S286-S293
1. Implement

QUERI Programs develop strategies and tools to support the scale-up and spread of effective practices

QUERI-VISN Partnered Implementation Initiatives (PIIs) deploy effective practices that address time-sensitive regional priorities

2. Evaluate

Partnered Evaluation Initiatives (PEIs) evaluate a policy or program affecting Veterans

Partnered Evidence-based Policy Resource Center (PEPReC) performs data analysis for VA policy, planning, and management initiatives

3. Disseminate & Sustain

Implementation Strategy Learning Hubs provide training in implementation and quality improvement strategies

Center for Evaluation and Implementation Resources (CEIR) develops resources and provides guidance to support implementation efforts

Kilbourne and Braganza. Cyberseminar. 11/4/2021
• **Combating Antimicrobial Resistance through Rapid Implementation of Available Guidelines and Evidence (CARRIAGE) QUERI Program**

• **Goal:** To use implementation strategies to support uptake of evidence-based practices and policies focused on prevention and spread of antimicrobial

• **3 current projects focused on:**
  – Implementing strategies to improve terminal room disinfection through automated Ultraviolet-C (UVC) devices
  – Implementing a tracking tool to rapidly identify patients with high priority resistant pathogens admitted to the hospital
  – Improving antimicrobial use through audit-feedback strategies
Kilbourne and Braganza. Cyberseminar. 11/4/2021
QUERI PROGRAM STRUCTURE

QUERI Program Component

- Effective Practices
- Implementation Strategies and Playbook
- Data Driven Evaluation Plan
- Mentoring for Early Career Investigators

Key Stakeholder Panel

Rapid Response Team

Implementation Team

Health System Impact

- Transform Veteran Care: Improve quality of care
- Drive Culture of Data and Learning: Empower providers and managers
- Scale-up and Spread Best Practices: Decrease unwanted clinical variation and reduce costs
- Sustain research-operations partnerships: Develop long-term capacity for partnered initiatives

Kilbourne and Braganza. Cyberseminar. 11/4/2021
• Groups of embedded researchers collaborating with VA clinical and policy partners to rapidly facilitate a goal.

• Projects are time sensitive (3-6 month project), high priority, high profile issues that come from VA national leadership and clinical offices.

• QUERI programs are charged with doing 1-2 rapid response projects per year.
  – Work on retainer (program funds and additional funds provided)
  – Expected to include team members with clinical, mixed methods, and quantitative data expertise
• RRT requests can come directly from partners or be submitted by QUERI programs in collaboration with a clinical partner

• Memorandum of understanding between the requester and the QUERI program

• First rapid response teams focused on the roll-out of COVID-19 vaccines
  – Request by VA National Center for Health Promotion and Disease Prevention (NCP) (November 2020)
  – Selection of QUERI Programs to deploy RRTs to conduct rapid studies
• Three Rapid Response Teams launched in December 2020 to focus on COVID-19 vaccination
  – Three Rapid response teams (RRT-3) from CARRIAGE, Bridge, and Function QUERIs deployed to conduct small-scale studies to establish a baseline assessment of intentions and beliefs of Veterans and employees regarding COVID-19 vaccines and evaluate vaccine messaging.

• Knowledge gained from these rapid response teams was used to promptly assist VA partners (NCP) in identifying key targets for improving vaccine acceptance
<table>
<thead>
<tr>
<th>Questions</th>
<th>Methods</th>
<th>Sites</th>
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</thead>
</table>
| 1) What are **Veteran** attitudes toward COVID-19 vaccination? What factors are associated with vaccine hesitancy? How do they change over time with the education and communication campaign? (CARRIAGE; BRIDGE) | • Veteran surveys  
• Qualitative focus groups and interviews | • National surveys  
• Sites TBD |
| 2) What are **VA employee** attitudes toward COVID-19 vaccination? What factors are associated with vaccine hesitancy? How do they change over time with the education and communication campaign? (FUNCTION; BRIDGE) | • Employee surveys | • Durham VA Health Care System  
• Other sites TBD |
| 3) Can the CERT **implementation strategy** for risk communication to Veterans and employees be adapted and refined for use in the case of COVID-19 vaccine distribution and deployment? (BRIDGE) | • Mixed methods interviews/ focus groups of Veterans & employees | • Sites TBD |
RAPID RESPONSE TEAM ACTIONS

• Progress updates, preliminary findings to date, and ongoing activities were shared in biweekly reports to NCP, QUERI and VA central office
  – Emphasis on findings such that might be more actionable for tailoring communication strategies, such as reasons for not getting a COVID-19 vaccine
  – Refine strategies and procedures based on stakeholder feedback
• RRT-3 were invited on weekly national VA Vaccine Education Workgroup calls
  – Workgroup responsible for the education, training, and communication strategy for COVID-19 vaccine
  – Reported findings and updates each week
  – Education materials/infographics for Veterans were developed and revised iteratively as new information emerged
  – Learned about the current state of COVID-19 vaccination roll-out in the VA and rapid learning of other RRT findings
• 6-month Rapid Response quality improvement project

• Timeframe: December 30, 2020-June 30, 2021

• Partnered with the VA National Center for Health Promotion and Disease Prevention (NCP)

• Goals: To assess Veteran COVID-19 vaccine intentions and receipt and inform NCP ongoing efforts to increase vaccine uptake across the VA Healthcare System
• **Design and Sample:**
  – **Online survey (May 8-June 6, 2021)**
    • Leveraged monthly patient satisfaction survey with MyHealtheVet to add 5 questions about vaccination (ForeSee)
  – **Two cross-sectional paper surveys of Veterans in facilities with low vaccination rates:**
    • First survey fielded in March 2021
    • Second survey fielded in May 2021
• 7,881 Veterans responded (78%)
• 5 items about COVID-19 vaccination:
  • COVID-19 vaccination intentions/status
  • Reasons for getting a COVID-19 vaccine
  • Reasons for *not* getting a COVID-19 vaccine
  • Perceived COVID-19 vaccine safety
  • Trusted sources of information about COVID-19

As of May 2021, around 4 in 5 My HealtheVet visitors had already received the COVID-19 vaccine.
Characteristics of Unvaccinated My HealtheVet Visitors (Vaccine Unfavorable vs. Vaccine Favorable)

- **Female**
  - >80 years: 75.0%
  - 70-79 years: 81.1%
  - 60-69 years: 78.2%
  - 50-59 years: 73.0%
  - <50 years: 67.8%

- **Male**
  - >80 years: 25.0%
  - 70-79 years: 18.9%
  - 60-69 years: 21.8%
  - 50-59 years: 27.0%
  - <50 years: 32.2%
Characteristics of **Unvaccinated** My HealtheVet Visitors (**Vaccine Unfavorable** vs. **Vaccine Favorable**)
Beliefs Among Vaccine Unfavorable My HealtheVet Visitors

- The COVID-19 vaccine is unsafe
- The COVID-19 vaccine will not work well
- I will not get COVID-19 or get very sick from it
- The COVID-19 outbreak is not as bad as some say
## Sample selection criteria

<table>
<thead>
<tr>
<th>Sample selection criteria</th>
<th>WAVE 1</th>
<th>WAVE 2</th>
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<tbody>
<tr>
<td>User of VA facilities with &lt;4% vaccination rates as of 2/1/2021*; &lt;1/3 of Veterans vaccinated as of 4/26/2021**</td>
<td>X*</td>
<td>X**</td>
</tr>
<tr>
<td>No long-term care admissions in the past 2 years</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Complete US mailing address</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Complete data on race/ethnicity</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>500 Veterans/Strata: Non-Hispanic White, Non-Hispanic Black, Hispanic, American Indian/Alaska Native, all other racial/ethnic categories</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>100 Veterans (50 men and 50 women) per racial/ethnic category strata</td>
<td></td>
<td>X</td>
</tr>
</tbody>
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CROSS-SECTIONAL SURVEY RESULTS (WAVE 1 & 2)

Vaccination Status Wave 1
N=818

- Yes: 40%
- No: 60%

Vaccination Status Wave 2
N=262

- Yes: 80%
- No: 20%
CROSS-SECTIONAL SURVEY RESULTS (WAVE 1 & 2)

Wave 1

- Believe vaccines are unsafe
- Believe vaccines are ineffective
- Negative attitudes towards vaccines in general
- Trust science experts like Dr. Fauci
- Trust their doctor or healthcare provider

Wave 2

- Believe vaccines are unsafe
- Believe vaccines are ineffective
- Negative attitudes towards vaccines in general
- Trust science experts like Dr. Fauci
- Trust their doctor or healthcare provider

Not vaccinated | Vaccinated
SUMMARY OF FINDINGS

- Vaccine uptake increased
- Highlight the roles of perceived vaccine efficacy, perceived risks of COVID-19 vs. vaccines, and trust in medical experts in COVID-19 vaccination uptake
- Consistent with other findings

Guidry, 2020; Reiter, 2020; Pogue, 2020; Malik, 2020; Reinhart, 2020
LESSONS LEARNED

• Use methods that are fast and flexible

• Ensure availability of staff and adequate time

• Take advantage of existing evaluation opportunities and infrastructure

• Manage expectations and develop realistic plans
Have questions before you get your COVID-19 vaccine?

This page offers advice from VA providers, Veterans, and other resources to help you learn more.

Learn how to get your vaccine at VA
ACKNOWLEDGEMENTS

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• CARRIAGE QUERI PIs:
  M. Rubin (SLC); C. Evans (Hines); E. Perencevich (Iowa); M. Jones (SLC)

• The CARRIAGE QUERI RRT:
  Hines: Kevin Stroupe; Frances Weaver; Ibuola Kale; Howard Gordon; Geneva Wilson; Bridget Smith; Cara Ray; Jessica Gardner; Swetha Ramanathan; Charlesnika T. Evans
  Salt Lake City: Susan Zickmund
  Iowa City: Aaron Scherer

• Bridge and Function QUERI RRT leads:
  Rani Elwy and Nina Sperber
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  Shannon Peters

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  Richard “Chip” Harman and Verint Inc.


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