The Future of Healthcare is Now

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WHO ARE WE?

- **4 Statutory Missions**: Health Care, Education and Training, Research, Emergency Management

- **2017 Vitals**:
  - 9.1 Million Enrollees
  - 6.3 Million Unique Patients Receiving Care
  - 84.2 Million Outpatient Visits
  - 577,470 Hospital Discharges
  - 146 Million Prescriptions Filled

- **Over 65%** of all US-trained physicians, and **nearly 70%** of VA physicians have had VA training prior to employment
WHERE ARE WE? - VA SITES OF CARE

- 172 VA Medical Centers
- 134 Extended Care/VA Community Living Centers
- 23 Health Care Centers
- 211 Multi-Specialty Community-Based Outpatient Clinics
- 514 Primary Care Community-Based Outpatient Clinics
- 314 Other Outpatient Services Sites
- 300 Vet Centers
- 80 Mobile Vet Centers
VA is one of the largest civilian employers in the federal government and one of the largest health care employers in the world.

335,000+ Total VHA Employees

214,000+ Clinical Employees

100,000+ Veteran Employees
PRIMARY CARE, MENTAL HEALTH AND SPECIALTY CARE
EFFORTS TO OPTIMIZE ACCESS

- Same Day Services for Care Needed Right Away in Primary Care and Mental Health at all Clinic Locations
- Time to Complete an Urgent Referral to a Specialist decreased from 19 days in FY 2014 to 2 days in FY 2018. Still decreasing in FY 2019
- Time sensitive follow-up appointments are completed no later than the provider recommend date 95% of the time
- Patient Directed Self-Scheduling
  - Optometry, Audiology, Podiatry and Nutrition
  - Tobacco Cessation, Social Work, Obesity Reduction, Screening Mammography, Clinical Pharmacy, Oncology and Prosthetics in progress
- VEText Clinic Appointment Text Reminders
- VA On Line Scheduling
VA’s INTEGRATED CLINICAL CARE MODELS

- **Patient Aligned Care Teams (PACT)**
  - Patient-centered, team-based care medical home model in which all Veterans are assigned to Patient Aligned Care Teams
  - Focuses on a personalized, integrated, comprehensive, and coordinated approach to health care
  - Model shown to improve several chronic disease outcomes over time
  - Specialized PACT includes Women’s Health, Geriatrics, Homeless, Infectious Disease
  - Decreased use of Opioids by 41% since 2012

- **Primary Care-Mental Health Integration (PCMHI)**
  - Integrates mental health staff into PACT
  - Direct treatment of mental health issues
  - Decreases risk of no show for first mental health appointment

- **Behavioral Health Interdisciplinary Program (BHIP)**
  - Model includes a specific staffing ratio per panel of Veterans in general outpatient mental health services and incorporates interdisciplinary team-based concepts
  - Goal is to ensure timely access to care using population-based guidance
GERIATRICS AND EXTENDED CARE
In the next 10 years:

- Half of Veterans are over age 65
- VA enrollees over age 75 to increase 38%
- Number of VA users with dementia will increase 20% to over 300,000

Number of potential family caregivers per older adult in America declining. Will decrease from seven to four by 2034
Continuum of Care

Independence | Dependence | End of Life

<table>
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<tr>
<th>Ambulatory Care</th>
<th>Home &amp; Community Based LTSS*</th>
<th>Inpatient Acute</th>
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<td>Geriatric Evaluation &amp; Management, Geriatric Primary Care (Geri-PACT), Outpatient Palliative Care</td>
<td>Adult Day Health Care, Home Based Primary Care, Homemaker &amp; Home Health Aide, Community Residential &amp; Medical Foster Care, Respite, Skilled Home Care, Veteran Directed Care</td>
<td>Geriatric Evaluation and Palliative Care Units, Geriatric and Palliative Care Consults</td>
<td>VA Community Living Centers, Community Nursing Homes, State Veterans Homes</td>
<td>VA Inpatient and VA-paid in the community</td>
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Family / Caregiver Support

Dementia Care; Transitional Care; Telehealth; Healthcare Workforce Development; Geriatric Research, Education, and Clinical Centers (GRECCs); GEC Field Programs and Resource Centers

LTSS = Long term services and supports; Red = purchased community care; Blue= both VA and purchased community care
HELPING VETERANS REMAIN AT HOME

- **Home Based Primary Care**
  - Provide comprehensive longitudinal primary care for those too infirm to go to clinic
  - Interdisciplinary team: nurse, physician, social worker, rehab therapist, dietician, psychologist, and pharmacist
  - In home visits supplemented with telehealth visits
  - Associated with 35% reduction in hospital and long-term institutional costs

- **VA Medical Foster Home**
  - Person takes dependent Veteran into their personal home - daily supervision and personal assistance
  - Alternative to nursing home for those without strong family caregiver, supported by VA Home Services

- **Choose Home Initiative**
2016: 77% of VA inpatient decedents received palliative care consult prior to death.
- 2004: 33%

Since 2014: More Veterans die in VA hospice beds than in ICU and acute hospital combined
- 2004: 67% ICU + Hospital, 13% inpatient hospice
WAR-RELATED INJURIES AND ILLNESS
WAR RELATED ILLNESS AND INJURY

- National VA program devoted to post deployment veterans and their unique health care needs from all conflicts.
  - Sites located in Palo Alto, CA, Washington, DC, and East Orange, NJ

- WRIISC consists of physicians, nurses, specialists in exposure, psychologists, social workers, chaplains, and health education specialists.

- Wide array of research including environmental exposures, medically unexplained symptoms, symptom prevalence, traumatic brain injury, PTSD
VA TELEHEALTH
VA TELEHEALTH PROGRAMS

- Clinical Video Health
  - TeleMental Health
  - TelePrimary Care
  - TeleSpecialty Care

- Store-and-Forward Telehealth
  - Teleradiology
  - Retinal Imaging
  - Pathology

- Home Telehealth (Remote Monitoring) for chronic disease management
WHERE WE ARE TODAY (2018)

• >2.3 million episodes of care

• >780,000 (13%) of Veterans received
  • 45% of these Veterans in rural locations

• >900 VA sites of care

• >50 specialty areas

• 88-93% Satisfaction

• > $1 Billion Congressional funding
WHERE WE ARE GOING - ANYWHERE TO ANYWHERE TELEHEALTH

**Enhancing Quality**

*Ex: Telehealth National Expert Consultation*

**Enhancing Capacity**

*Ex: Telehealth Resource Hubs*

**Enhancing Accessibility**

*Ex: Telehealth Care to Home, TeleUrgent Care*
VA RESEARCH
VA’s VETERAN-SPECIFIC RESEARCH MISSION

- VA Research is **focused on the unique care needs of Veterans**
  - Blast-associated injury, PTSD, spinal cord injury, military exposures, complex comorbidities, access to and quality of Veteran healthcare
- VA Research **creates the innovations that improve Veterans lives**
  - New prostheses, tele-health, improved treatments for mental health and substance use
- Clinician-researchers identify the **best ways to improve Veterans care**
  - New models of care, improved health record, safer practices, faster adoption of beneficial practices
Two research scientists with the U.S. Department of Veterans Affairs (VA) were recently named to TIME Magazine’s list of the 50 most influential people in health care in 2018

- Dr. Ann McKee
  - Pioneer in identifying and understanding the repercussions of chronic traumatic encephalopathy (CTE) — a degenerative condition caused by repeated traumatic blows to the head.
  - CTE has been associated with repetitive, mild traumatic brain injury in military service members.

- Dr. Tony Wyss-Coray
  - Studies the effects of aging and immune responses on the brain and the role Alzheimer's disease plays in brain degeneration and memory loss.
- Suggests that mitochondrial DNA damage may serve as biomarker of Gulf War Illness.

- New clinical trial to investigate the neurosteroid DHEA (dehydroepiandrosterone) as a promising new therapeutic for PTSD.

- Primary care intervention to reduce prescription opioid overdoses- used biobehavioral strategies for pain coping.
**Osseointegrated Prothesis for Above-Knee Amputees (left)**
- Direct skeletal docking system for prosthetic limbs directly into the remaining bone following above knee amputation.

**Exoskeleton-Assisted Walking and Mobility Program (right)**
- Walked 4-6 hours/week for 3-5 mos.
- Found improvements in mental-emotional health and body composition
VA’s Million Veteran Program (MVP)

- Collects DNA samples and health information
- Foster discoveries and bring precision medicine to the forefront of VA care – can be used to better tailor therapy to individual patients
- MVP is now well more than halfway past its enrollment goal of 1 million Veterans

Sample Research Highlights:

- Identification of genetic influences on development of PTSD and shared genetic risks between PTSD and other psychiatric disorders.
- Identification Alzheimer’s disease risk in younger populations
ARTIFICIAL INTELLIGENCE AND ROBOTICS

- ReachVET
  - First ever program that uses predictive analytics to identify and reach out to Veterans at highest-risk of suicide.

- Robots for Hospital Wayfinding
  - Robots is a tenable approach for navigating in hospitals.

- Robotic Surgery
  - Robotic surgical system helps physicians perform advanced surgeries on Veterans.
  - 40% of surgical programs
  - Urology, Colorectal, Ears, Nose and Throat, Thoracic and Gynecology
Today’s 3D Printing Applications at VA:

- 3D Printing for Pre-Surgical Planning
  - Decreased blood loss
  - Decreased surgical duration
  - Decreased anesthesia time
  - Decreased surgeon fatigue

- Used in Jaw, kidney, hip, hand surgeries

- 3D Printing as Art Therapy and Job Training

- 3D Printing Application Development – training of staff at other VAs