MILLION VETERAN PROGRAM
A Partnership with Veterans

MVP: Update on Omics and Future Plans

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VA Boston Healthcare System

DISCOVERY ★ INNOVATION ★ ADVANCEMENT
Veterans Health Administration (VHA)

The Largest Integrated Healthcare Network in the Country

VHA Points of Care (1,748)
- Integrated Healthcare Networks: 21
- Major Medical Centers: 152
- Outpatient Clinics: 990
- Vet Centers: 370
- Domiciliaries: 102
- Community Living Centers: 134

Patient Population
- Enrollees: 8.8M
- Active Patients: 6M
- All Time Patients: 22M
- FY15 Outpatient Visits: 84M
- FY15 Inpatient Admissions: 703K
The EHR data available in the CDW and other data sources is among the best in the world.

**Patients: 22 M**

- Lab Results: 7.7B
- Clinical Orders: 4.5B
- Immunizations: 71M
- Appointments: 1.4B
- Pharmacy Fills: 2.2B
- Clinical Notes: 3.2B
- Health Factors: 2.2B
- Encounters: 2.4B
- Radiology Proc: 202M
- Vital Signs: 3.3B
- Consults: 315M
- Admissions: 17M

Domains: 15/68

**CDW Analytic Ecosystem (2015)**

- **Governance Board**
  - Strategy
  - Policy
  - Priorities
  - Requirements

- **CDW System Facts**
  - Source system:
    - VISTA: 130
    - Other Major Systems: 7
  - Data facts:
    - Domains of Information: 58
    - Rows of data: 2 + Trillion
    - Columns of data: 22,000+
    - Tables of data: 840+
    - Active Users: 30,000/Month
    - Vibrant user community
    - Active governance process
    - Data quality program

- **CDW Sample Data Facts**
  - Unique Veterans: 22 million
  - Outpatient encounters: 2.4 billion
  - Inpatient admissions: 17 million
  - Clinical orders: 4.5 billion
  - Lab tests: 7.7 billion
  - Pharmacy fills: 2.2 billion
  - Radiology procedures: 202 million pictures
  - Vital signs: 3.3 billion
  - Test notes: 3.2 billion

- **CDW Analytic Capabilities**
  - Primary/Secondary/Data Mart Structures
  - Data Standardization
  - Metadata Services
  - Business Intelligence Reporting & Dashboards Tools
  - Geospatial Mapping Tools and Images
  - SAS/Grid High Performance Compute Grid
  - Natural Language Processing Engines
  - Hadoop Cluster

- **CDW Analytic Enclaves**
  - GP: General Purpose
  - BI: Business Intelligence
  - AN: Analytics and Informatics
  - RD: Health Services R&D (VINCI)
  - FR – Field Reporting
Million Veteran Program (MVP)

- Goal: Enroll up to one million users of the VHA into an observational mega-cohort
  - Collect health and lifestyle information
  - Blood collection for storage in biorepository
  - Access to electronic medical record
  - Ability to recontact participants
MVP at a Glance

~14M total mailings to Over 5.5M Veterans
14% enrollment rate
< 1% withdrawal rate

839,377 Baseline Surveys Completed
784,038 Enrolled
344,588 Lifestyle Surveys Completed
462,397 Specimens Genotyped
482,954

61 Active Sites; 86 Satellites
Who’s in MVP?

Key health and demographic stats

Below are selected statistics from a recent review of the demographic, military, and health characteristics of Veterans enrolled in VA's landmark Million Veteran Program, which has become one of the world's largest databases of health and genomic information. The researchers concluded that the demographic make-up of the MVP cohort—which has nearly 700,000 Veterans enrolled to date—is similar to that of VA patients on the whole.

90.4% of the MVP cohort is male

The average age is 61.9

73.9% of the cohort is White, 19% Black, and 6.5% Hispanic

The most common self-reported disease among men is hypertension (64.6%)

The most common self-reported disease among women is depression (47.5%)

38.2% of the MVP cohort is obese, and 42.3% is overweight

PTSD was reported by 18.3% of men, and 26% of women

Tinnitus was reported by 34.2% of men, and 20% of women

New Initiatives

- Saliva Collection
- Specimen Collection Expansion
- MVP Online
- Eligibility Expansion
- Follow-Up Survey
- Engagement/Feedback
“When I was young, the service gave me a reason. Today, my reason is to help answer those questions yet to be asked……”

“I’m participating in the Million Veteran Program so that I can do my part to help future generations of not just Veterans, but everyone who can benefit from this research.”

“I believe that the data collected from me and other Veterans in the Million Veterans Program will someday provide better ways to diagnose and treat patients. I volunteered to participate in the MVP because I want to do my part to make this a reality one day.”

“I have always known someone in the family with Diabetes or Hypertension. I eagerly volunteered to participate in MVP so I can help medical researchers better understand how genes influence diseases. One blood draw is all it took… yet the potential to contribute to scientific discoveries is enormous!”
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