Care Coordination/Home Telehealth to Support the Care of Veteran Patients with Chronic Conditions

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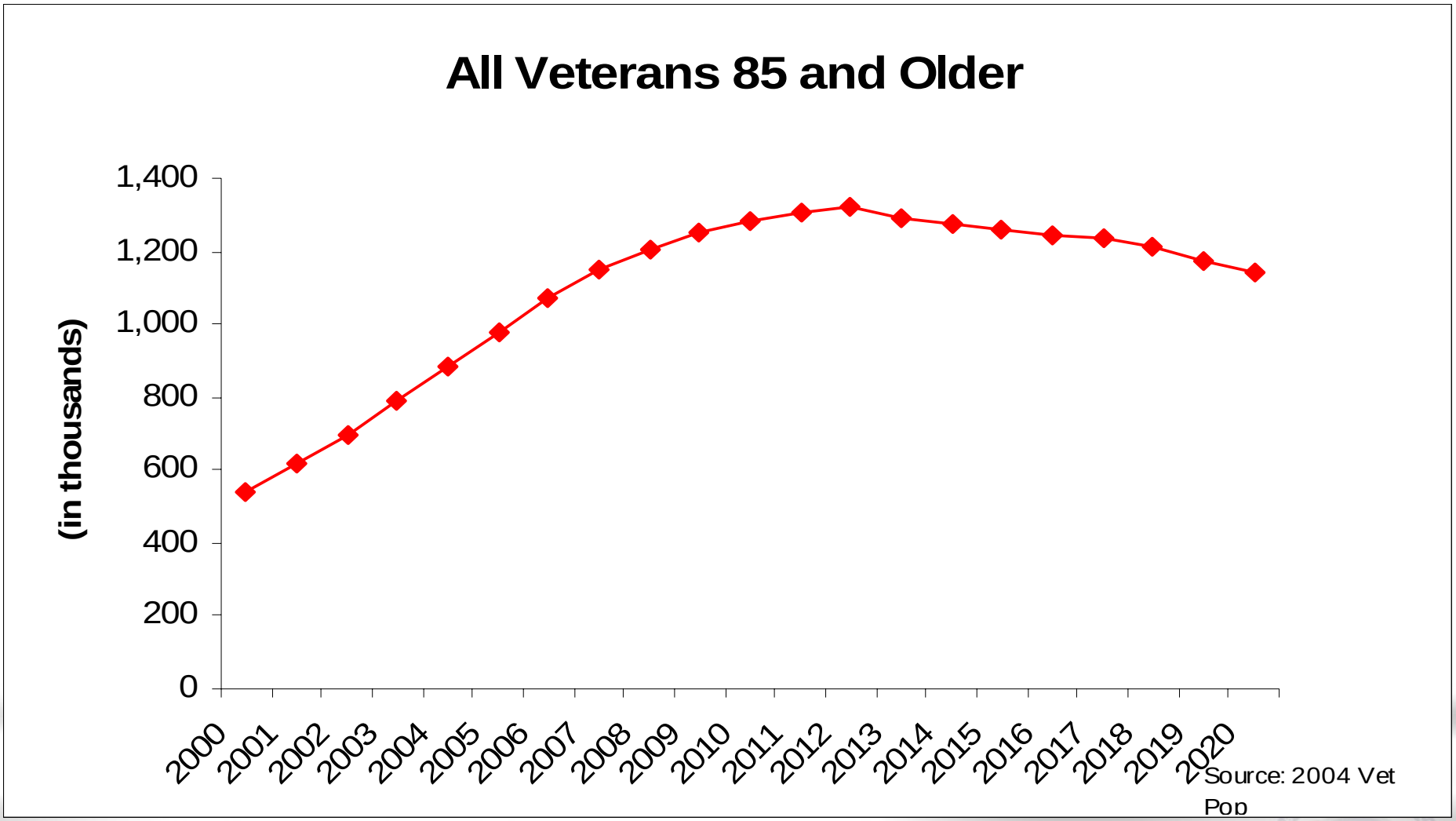
Adam Darkins, Chief Consultant for Care Coordination, The Department of Veterans Affairs

Yr 2000 Changing Trends in Long-term Care

- Mortality rates decreasing by 1% p.a.
- Nursing home utilization 0.7% lower p.a.
- Disability rates decreasing by 2.2% p.a.
- Over 65's increasing by 1.5% p.a.
- Over 85's increasing by 2.2% p.a.
- 2% of patients 20-30% of costs
- Complex needs unmatched to service delivery
- Patients falling through the cracks in system

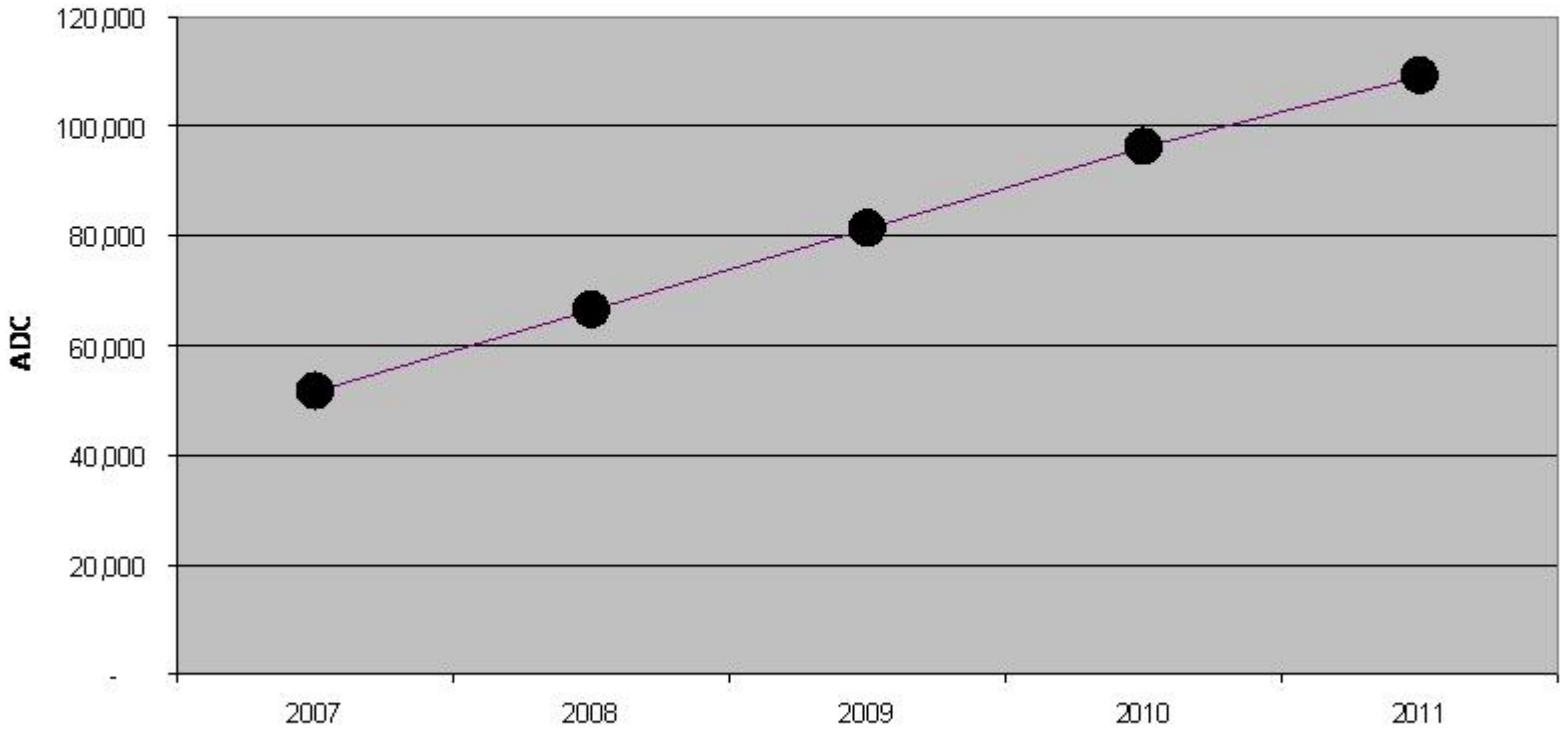
Veteran Population Age 85 and Over 2000-2020



AUTHORITY AND ELIGIBILITY NON – INSTITUTIONAL CARE

- VA is authorized by statute (Eligibility Reform Act, Millennium Act) to provide non-institutional home and community-based extended care services to all enrolled veterans who need such care as an alternative to nursing home care
- Eligibility is not restricted by age
- VA policy is to provide care in the least restrictive setting that is safe for the veteran
- VA policy is to provide non-institutional services to all enrolled veterans who need them
- VA is expanding capacity in non-institutional services to meet the goal of serving all veterans who need such care

Projected Non-Institutional Care Provision FY2007-2011



ADC = Average Daily Census

Institute of Medicine 2003

Priority Areas for National Action: Transforming Health Care Quality

- Poorly coordinated care
- Inadequate implementation of IT in health care

Hypothesis for Transformational Change

- Effectiveness of routine clinic visits in CCM?
- Prevent patients deteriorating and thereby needing access to urgent care in extremis?
- Logic of just-in-time over just-in-case?
- Patient involvement and self-management?
- Optimizing use of care/case management
- Coordinate care and utilize home telehealth

Care Coordination/Home Telehealth

- **Mission**: To ensure the right patient receives the right care in the right place at the right time.

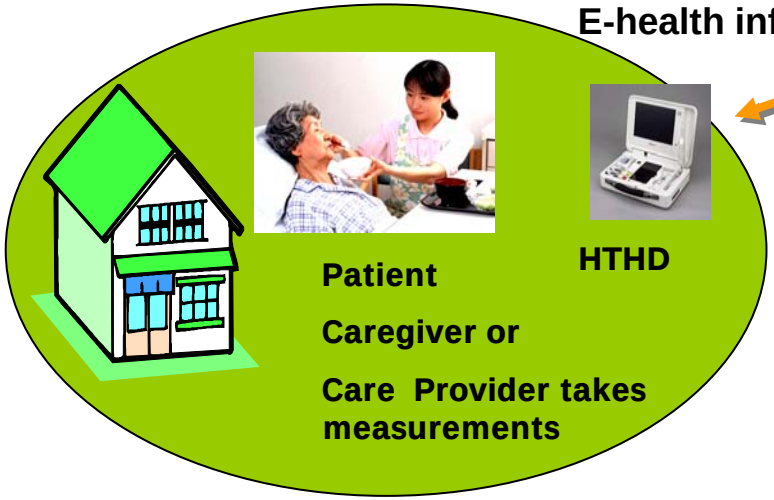
- **Vision**: To change the location of care whenever safe, appropriate and cost-effective with the intent of making the home and local community the preferred place of care for veteran patients if this is their preference.

VHA Definition Care Coordination/Telehealth

"*The use of health informatics, disease management and telehealth technologies to enhance and extend care and case management to facilitate access to care and improve the health of designated individuals and populations with the specific intent of providing the right care in the right place at the right time*".

Care Coordination/Home Telehealth

HOME



Patient

Caregiver or

Care Provider takes measurements

HTHD

Vital sign data

Disease management data

E-health information

Ethernet

56k

DSL

Cable

Firewall

Encryption

PKI

National VHA Care Coordination Infrastructure

Telecom server

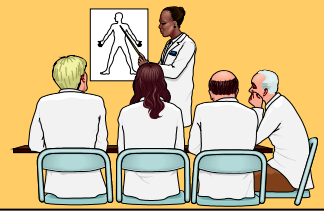
Databases

Health data repository

Data is linked to Intranet and sent to VistA

Internet

Intranet



Hospital

Identified Chronic Care Needs

- Diabetes
- Chronic Heart Failure
- Chronic Obstructive Airways Disease
- Depression
- Hypertension

Care Coordination/Home Telehealth (CCHT)

- Patient-centric
- Designed to fill a gap in the system
- Contingent on collaboration with providers
- Expands patient and provider relationship into home
- Uses home telehealth, health informatics and DM
- Expandable from current chronic disease entities
- Enhances and expands care/case management

Evaluation Framework

	Structure	Process	Outcome
Families	•Acceptability of program structure	•Impact on family •Satisfaction with care	•Quality of life •Functional status •Family costs
Clinicians	•Satisfaction with role change	•Work-flow satisfaction •Quality of care	•Re-admissions •Adverse events
Health Service Agencies	•Infrastructure •Integration •Feasibility	•Set-up time •Duration of care •Incident log	•System costs •Utilization of health services

Care Coordination/Home Telehealth (CCHT)

- Piloted FY 2000-FY2003
- Census 1,500 patients in 3 VISNs
- Veteran Patients with Chronic Diseases at Risk of Needing Long-term Institutionalized Care
- 30% Reduction in Bed Days of Care
- 30% Reduction in ER Visits
- Satisfaction Levels > 90%
- No diminution of health status with change in location of care

CCHT Expansion to National Program

- Determining levels of patient need
- Systematizing clinical, technology and business processes
- Clinical coding and workload credit
- Determining size of caseload
- Assessing clinical complexity and defining NIC
- Organizational development and management structure
- Quality management
- Accreditation of programs
- Training a CCHT competent workforce
- Clinical risk management
- Contracting for technology
- Health information systems including privacy, confidentiality and cyber security

Information Technology Challenges

Create a secure national Home Telehealth IT infrastructure to support quality care for the patient that is:

- Integrated, secure and easy to use
- Redundancy and is tolerant of component failure
- Flexible and adaptable to changes
- Capable of transferring home telehealth (HT) data into VHA medical information systems => elimination of data islands
- Has the same patient identification information in vendor and VHA systems
- Store HT data in VHA Health Data Repository (HDR)
- Display data in VHA VistAWeb for Healthcare Providers
- Display data in VHA EHR for Healthcare Providers (CPRS)
- Display data in VHA Care Management Dashboard for Care Coordinators

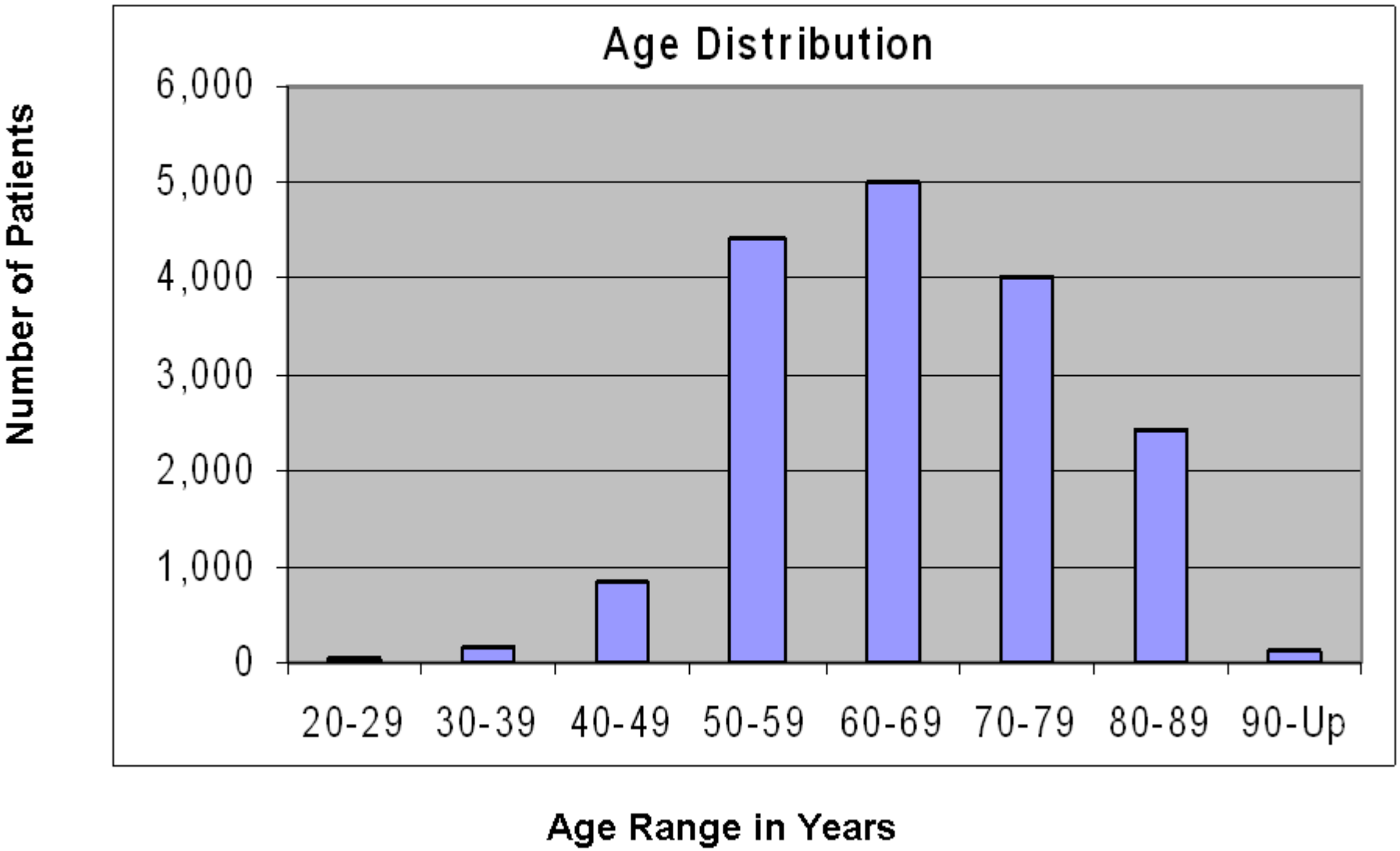
Care Coordination Patient Census (Point Prevalence) by Year with Percentage Change Over Preceding Year FY03-7

Year	Census	Change From Previous Year
FY03	2,000	n.a.
FY04	4,430	121%
FY05	8,922	101%
FY06	21,572	142%
FY07	31,570	46%

Reasons for CCHT Care by Disease Management Protocol (DMP)

Condition (DMP)	Number of Patients	Percentage of Total Patients
Diabetes	21,047	48.4%
HTN	17,528	40.3%
CHF	10,800	24.8%
COPD	5,069	11.6%
Depression	1,039	2.3%
PTSD	498	1.1%
Other Mental Health (Not PTSD or Depression)	545	1.2%
Single Condition	28,948	66.6%
Multiple Conditions	14,484	33.3%
No Condition	0	0%

Age Distribution of CCHT Patients (Outcomes Analysis Cohort)



Reduction in Utilization by Patient Location (Urban, Rural or Highly Rural Area)

Location	Number of Patients	% Decrease in Utilization
Urban	9880	29.2
Rural	6782	17
Highly Rural	294	50.1
Unknown	60	101

Reduction in Utilization by condition monitored (single and multiple diagnoses)

Condition	Number of Patients	% Decrease in Utilization
Diabetes	8954	20.4
Hypertension	7447	30.3
Chronic Heart Failure	4089	25.9
Chronic Obstructive Pulmonary Disease	1963	20.7
Post Traumatic Stress Disorder	129	45.1
Depression	337	56.4
Other Mental Health Condition	653	40.9
Single Condition	10885	24.8
Multiple Conditions	6140	26.0

SUPPORTING INFRASTRUCTURE

Program	Training	COPs	Dashboard	IT (Home)	IT (VHA)
CCHT	6,000 Staff	21 VISNs	21 VISNs	COTS	Enterprise

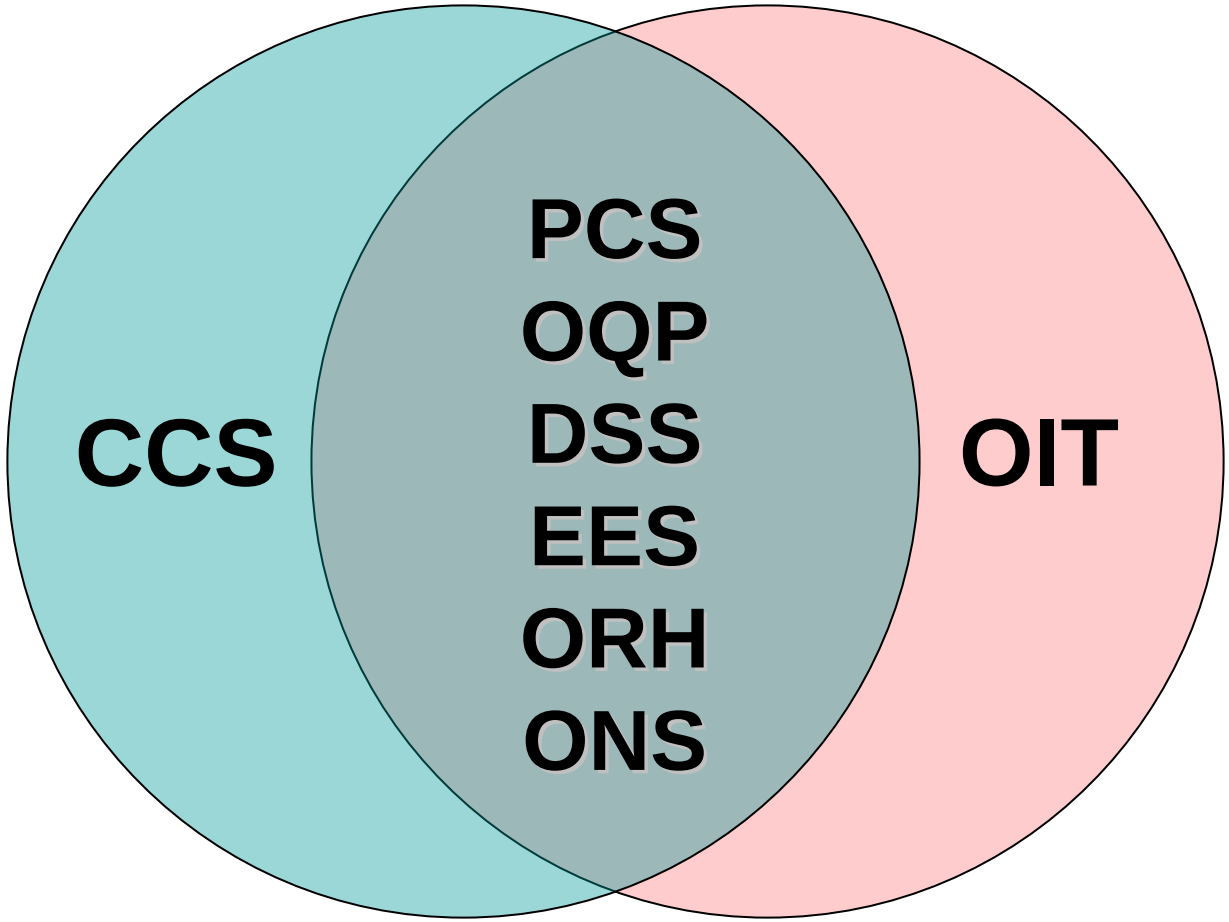
Summary Outcomes

Program	Admissions	BDOC	Health Status	Satisfaction	Cost
CCHT	↓ 20%	↓ 25%	VR12	86%	$1,600 p.a

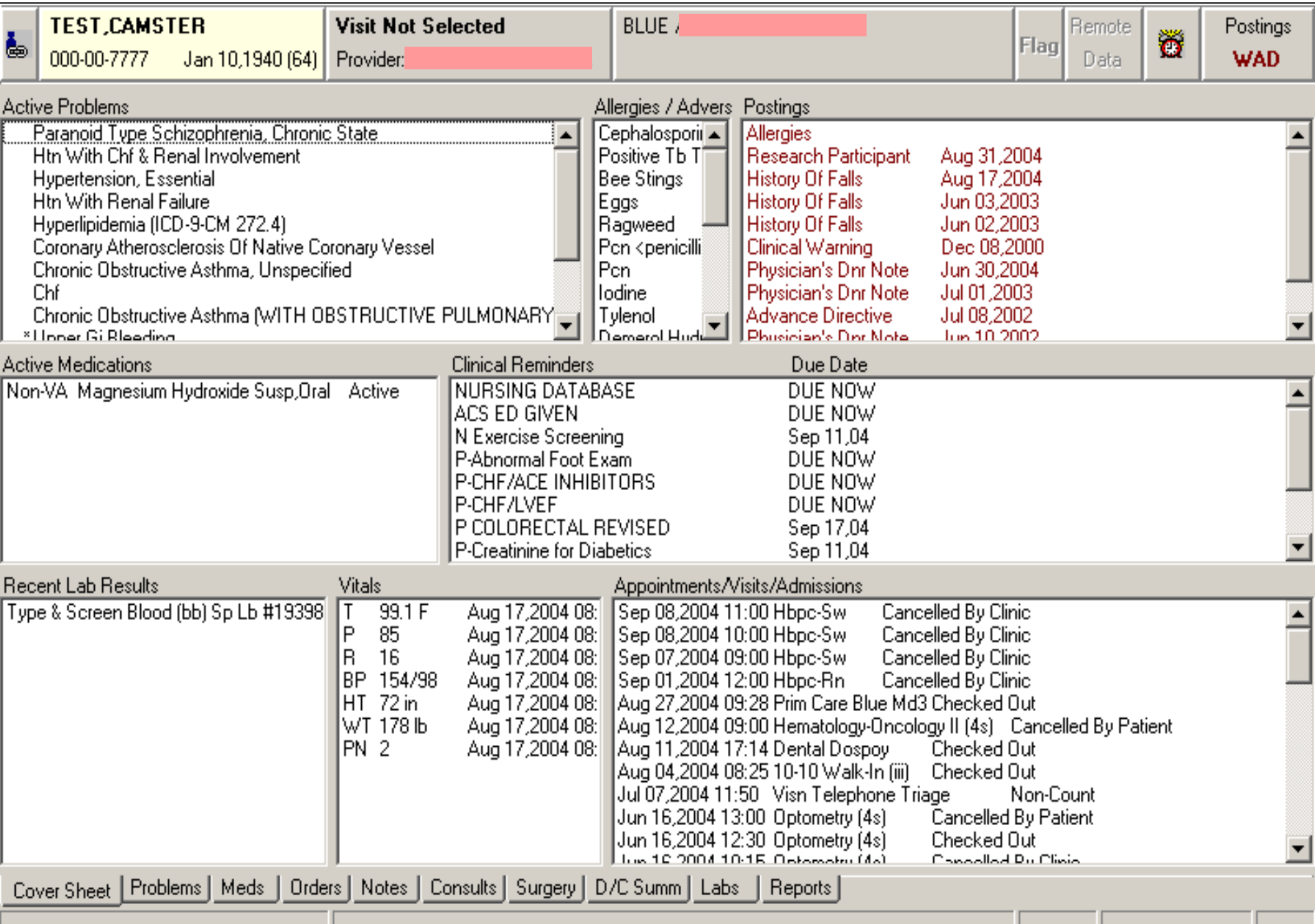
National CCHT Program

- Currently Over 38,000 Patients Receiving Care
- National VHA program accreditation process
- Dedicated national technology infrastructure
- National training process
- Systematic outcomes measurement
- In development major identified areas of risk – technology related
- Cost analyses and determination of resource allocation methods

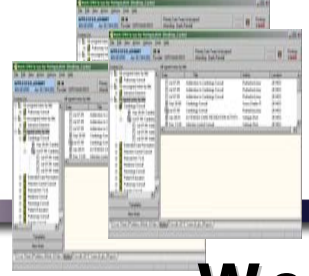
COLLABORATIONS



COMPUTERIZED PATIENT RECORD SYSTEM (CPRS)



Care Coordination



Web Info

HOME

Patient

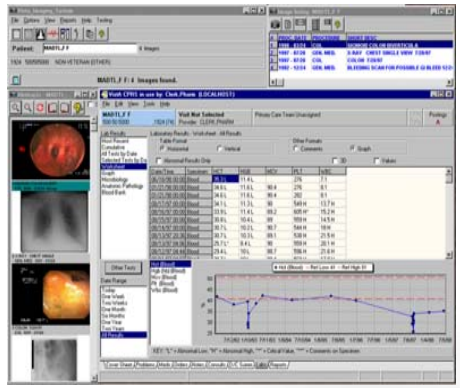
Caregiver or

Care Provider takes measurements

VSB

Telehealth

Patient Held Record



Just-in-time

vs

Just-in-case