



VA Health Information System

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“They push the human race forward.”

- *Steven Paul Jobs, co-founder of Apple, Inc.*

Agenda

- VA Health Care System
- VA Health Information System Today (VistA)
 - Demonstration (CPRS)
- History of VA Health Information System
- Reasons for its Success
- Future of VA Health Care System



VA HEALTH CARE SYSTEM

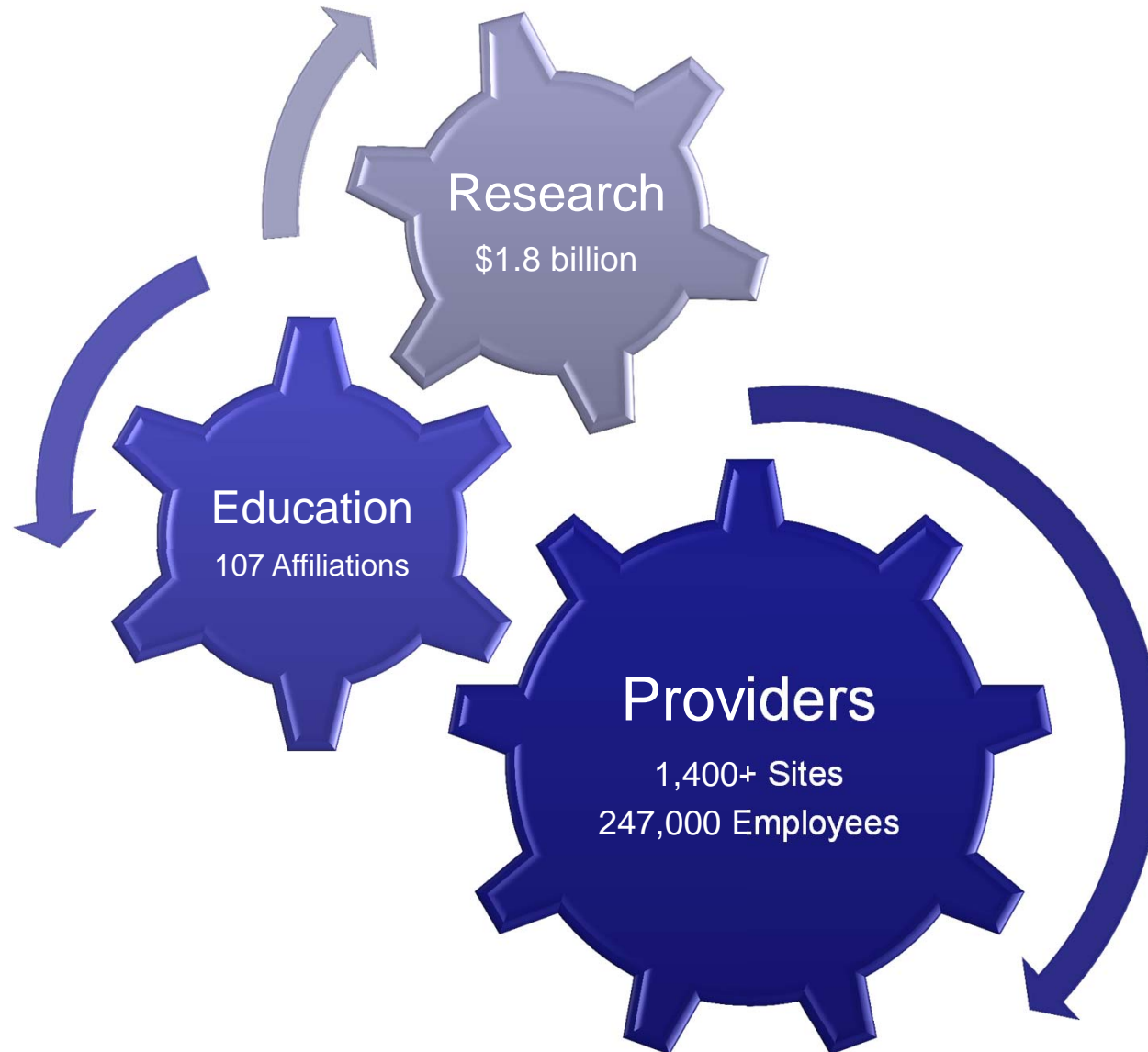


Department of Veterans Affairs (VA)

- It is responsible for providing federal benefits to veterans and their families.
- It is the second largest cabinet department with \$93.4 billion budget (2009).
- Veterans Health Administration (VHA) is its largest component with \$40 billion budget.
 - 5.5 million patients and 7.8 million enrollees (2008).
 - 773,600 inpatients treated.
 - 60 million outpatient clinic visits.



VA Health Care System





VA HEALTH INFORMATION SYSTEM TODAY

The 2006 Winner of Innovations in Government Award presented by the Ash Center at Harvard Kennedy School.

VistA (Veterans Health Information Systems and Technology *Architecture*)



CPRS (Computerized Patient Record System)



Computerized Patient Record System

version 1.0.28.24

Department of Veterans Affairs

Veteran's Administration OI&T Office of Enterprise Development staff have made every effort during the design, development and testing of this application to ensure full accessibility to all users in compliance with Section 508 of the Rehabilitation Act of 1973, as amended. If any issues are encountered while running this application, please contact your local help desk for support.

CPRS (Computerized Patient Record System)

Vista CPRS in use by: Doctor, Beth (SLCacct)

File Edit View Tools Help

CPRSPATIENT, TEN **ANC Mar 19, 01 14:00** HBPC / CPRSDOCTOR, FIVE

000-89-9863 Aug 21, 1949 (55) Provider: CPRSDOCTOR, TWO **Flag** Remote Data **Postings AD**

Active Problems	Allergies / Adverse Reactions	Postings
<ul style="list-style-type: none"> Unspecified Fall (ICD-9-CM E888.9) Urinary Retention Ventral Hernia Nec (ICD-9-CM 553.2) Hyponatremia (ICD-9-CM 276.1) Depression Low Back Pain Hypertension 	<ul style="list-style-type: none"> Ibuprofen Topamax 15mg Capsule Garlic Oil 	<ul style="list-style-type: none"> Allergies Hbpc Dnr Feb 04, 2004 Hbpc Dnr Jun 12, 2003 Hbpc Dnr Nov 13, 2002 Hbpc Advance Directives Implementation

Active Medications	Clinical Reminders	Due Date
<ul style="list-style-type: none"> Artificial Tears Methylcellulose Active Lubricating (pf) Oph Oint Active Calcium 500mg/Vitamin D 200unt Tab Active Docusate Na 100mg Cap Active Tamsulosin Hcl 0.4mg Cap Active Potassium Chloride 10meq Sa Tab Active Cyanocobalamin 1000mcg Tab Active Salmeterol 50mcg/Blstr Po Inhl Diskus 60 Suspended Mirtazapine 30mg Tab Active Furosemide 40mg Tab Active Sennosides 8.6mg Tab Active Non-V/A Magnesium Oxide 420mg Tab Active 	No data found	

Recent Lab Results	Vitals	Appointments/Visits/Admissions
No data found	<ul style="list-style-type: none"> T 99.7 F Feb 07, 2004 17:26 (37.6 C) P 69 Feb 07, 2004 17:26 R 18 Nov 18, 2003 10:57 BP 125/69 Feb 07, 2004 17:26 HT 68 in Nov 18, 2003 10:57 (172.7 cm) WT 217 lb Nov 18, 2003 10:57 (98.6 kg) PN 6 Feb 07, 2004 17:26 	No data found

[Cover Sheet](#) [Problems](#) [Meds](#) [Orders](#) [Notes](#) [Consults](#) [Surgery](#) [D/C Summ](#) [Labs](#) [Reports](#)

BCMA (Bar Code Medication Administration)

Medsphere OpenVista® CIS [DEMO] - Connected as GOOD,LAURIE (demo.medsphere.com)

File Edit View Actions Options Tools Help

GASS,PATSY Wt: 49.895 kg MED2 5N502-1 Admitted: 3/29/2009 3:19:17 PM Postings: **A** Care Team
 MRN: 222222222 Ht: 157.5 cm Provider: GOOD,LAURIE Acct #: Alerts: Admitting MD: KETCHERSIDE,JOE
 Age/Sex: 74 (Female) BMI/BSA: 20.1 (1.48) Admit Dx: Weakness Attending MD: KEEP,NOLAN

Active Orders (includes Pendi) View as Tree Expand Tree Collapse Tree
 Current Orders (Active & Pen
 Expiring Orders
 Unsigned Orders
 Recently Expired Orders

Service	Status	Order	Start/Stop	Ve
Infusion	Active	*POTASSIUM CHLORIDE INJ,SOLN 40 MEQ in DEXTROSE 5% INJ,SOLN 1000 ml 100 ml/hr	Start: 3/30/2009 4:11:00 PM Stop: 4/27/2009 11:59:00 PM	
Home Med	Unreleased	HOME MEDICATIONS FUROSEMIDE TAB 40MG [GEQ: LAS TAKE ONE TABLET BY MOUTH EVERY DAY Medication pre		
Inpt. Meds	Pending	AZITHROMYCIN TAB [GEQ: ZITHROMAX] 500MG ORAL DAILY	Start: 4/28/2009 9:00:00 AM	
Inpt. Meds	Active	ACETAMINOPHEN TAB [GEQ: TYLENOL] 500MG ORAL Q6H	Start: 4/27/2009 1:45:00 PM Stop: 5/25/2009 12:00:00 AM	
Lab - Chemistry	Pending	CARDIAC PROFILE GREEN-PL PLASMA STAT WC ONCE LB	Start: 3/29/2009 4:36:00 PM	
Lab - Chemistry	Pending	URINALYSIS, DIPSTICK URINE STAT WC ONCE LB #302	Start: 3/29/2009 4:36:00 PM	
Lab - Chemistry	Pending	MAGNESIUM TIGER SERUM STAT SP ONCE LB #303	Start: 3/29/2009 4:36:00 PM	
Lab - Chemistry	Pending	BRAIN NATRIURETIC PEPTIDE PURPLE-WB BLOOD STAT \	Start: 3/29/2009 4:36:00 PM	
Lab - Chemistry	Pending	TSH TIGER SERUM STAT WC ONCE LB #302	Start: 3/29/2009 4:36:00 PM	
Lab - Chemistry	Pending	CHEM 20 TIGER SERUM WC ONCE LB #302	Start: 3/29/2009 4:36:00 PM	
Lab - Chemistry	Pending	CBC PURPLE-WB BLOOD STAT WC ONCE LB #302	Start: 3/29/2009 4:36:00 PM	
Imaging - Radiology	Pending	CHEST 2 VIEWS PA&LAT STAT	Start: 3/29/2009	
Imaging - Radiology	Pending	SMALL BOWEL MULT FILMS	Start: 1/6/2009 7:00:00 AM	
Imaging - Radiology	Pending	UPPER GI AIR CONT W/O KUB	Start: 1/2/2009	
Imaging - Ultrasound	Pending	ULTRASOUND ABDOMEN COMPLETE	Start: 1/5/2009 9:00:00 AM	

Write Orders
 Nursing Orders
 Activity Orders
 Consults
 Diet Orders
 Imaging Orders
 Laboratory
 Meds: Outpatient
 Meds: Inpatient
 Meds: IV Fluids
 Home Medications
 Write Delayed Orders

Patient Summary Problem List Medications Orders Clinical Notes Consults/Procedures Discharge Summary Vital Signs Lab Results Chart Inquiries

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BCMA (Bar Code Medication Administration)



VistA Achievements

- More than 2/3 of the recommended protocols are followed, in comparison to 50% in private sector.
- VA's prescription related accuracy is greater than 99.997% compared to up to 8% of prescription-related errors in private sector.
- Health care cost of \$5,000 per patient compared to the national average of \$6,300.

Performance Measures

Clinical Indicator	VA 2003	Medicare 03	Best Not VA or Medicare
Advised Tobacco Cessation (VA x3, others x1)	75	62	68 (NCQA 2002)
Beta Blocker after MI	98	93	94 (NCQA 2002)
Breast Cancer Screening	84	75	75 (NCQA 2002)
Cervical Cancer Screening	90	62	81 (NCQA 2002)
Cholesterol Screening (all pts)	91	NA	73 (BRFSS 2001)
Cholesterol Screening (post MI)	94	78	79 (NCQA 2002)
LDL Cholesterol <130 post MI	78	62	61 (NCQA 2002)
Colorectal Cancer Screening	67	NA	49 (BRFSS 2002)
Diabetes Hgb A1c checked past year	94	85	83 (NCQA 2002)
Diabetes Hgb A1c > 9.5 (lower is better)	15	NA	34 (NCQA 2002)
Diabetes LDL Measured	95	88	85 (NCQA 2002)
Diabetes LDL < 130	77	63	55 (NCQA 2002)
Diabetes Eye Exam	75	68	52 (NCQA 2002)
Diabetes Kidney Function	70	57	52 (NCQA 2002)
Hypertension: BP \leq 140/90	68	57	58 (NCQA 2002)
Influenza Immunization	76	P	68 (BRFSS 2002)
Pneumococcal Immunization	90	P	63 (BRFSS 2002)
Mental Health F/U 30 D post D/C	77	61	74 (NCQA 2002)

“The Best Health Care in the United States.”



THE HISTORY

“VA Takes the Lead in Paperless Care.”

Time Table 1977-2010

1977: Health information system conceptualized.

1978: VA Computer Assisted System Staff (CASS) begins development of FileMan

1981: Decentralized Hospital Computer Program (DHCP) launched

1985: DHCP deployed in 169 VA medical facilities



1990: DHCP Integrated Imaging System operational at Washington, DC

1994: DHCP renamed VistA

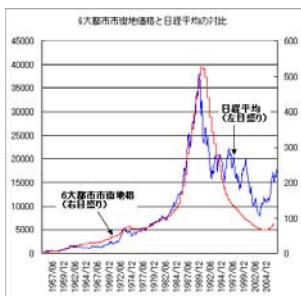
1995: DHCP receives the Computerworld Smithsonian Award for best use of IT in Medicine

1997: CPRS introduced

1999: National release of Bar Code Medication Administration (BCMA)



2010: VA successfully exchanges patient data between VA, KP and DoD



2000: BCMA fully implemented

2001: VistA /CPRS used by 180,000 medical personnel in 163 hospitals, over 800 clinics, and 135 nursing homes, serving 4 million Veterans

2001: Health Data Repository (HDR) development begins

2003: VA Under Secretary for Health mandates the use of CPRS for provider order entry

2003: HealtheVet Desktop and Care Management implemented

2009: VA begins Nationwide Health Information Network (NwHIN) pilot to exchange electronic health information between San Diego VAMC and Kaiser Permanente (KP)



WHAT SETS VA APART

“It was developed by clinicians for clinicians.”

- Dr. Kenneth Kizer, the CEO of Medsphere System Corporation (former Undersecretary for Health in the Department of Veterans Affairs).

“Our whole motivation was to make the system work for the patient.”

- Dr. Kenneth Kizer

“Everything was made to fit together to begin with.”

- Dr. Kenneth Kizer

“A fully integrated medical record with CPOE and all inpatient and outpatient notes available in all the VA facilities across the country.”

- Dr. Peter Kaboli, a hospitalist at Iowa City VA Hospital.

Heavy investment in quality improvement and health service research.

- Dr. Sanjay Saint, Professor of Medicine at University of Michigan and a hospitalist at Ann Arbor VA Hospital.

Its 247,000 providers in 1,400 sites of care.

100% use of EMR since 1985 compared to only 1.5% in the rest of the country in 2008.

“Ability to customize locally without changing the language.”

- Dr. Laura Kroupa, the VISN 15 Chief Informatics Officer.



THE FUTURE

My HealthVet



My HealthVet is the VA's Personal Health Record. It was designed for Veterans, active duty Servicemembers, their dependents and caregivers. My HealthVet helps you partner with your health care team. It provides you opportunities and tools to make informed decisions.

Telehealth Programs

Clinical Video Telehealth



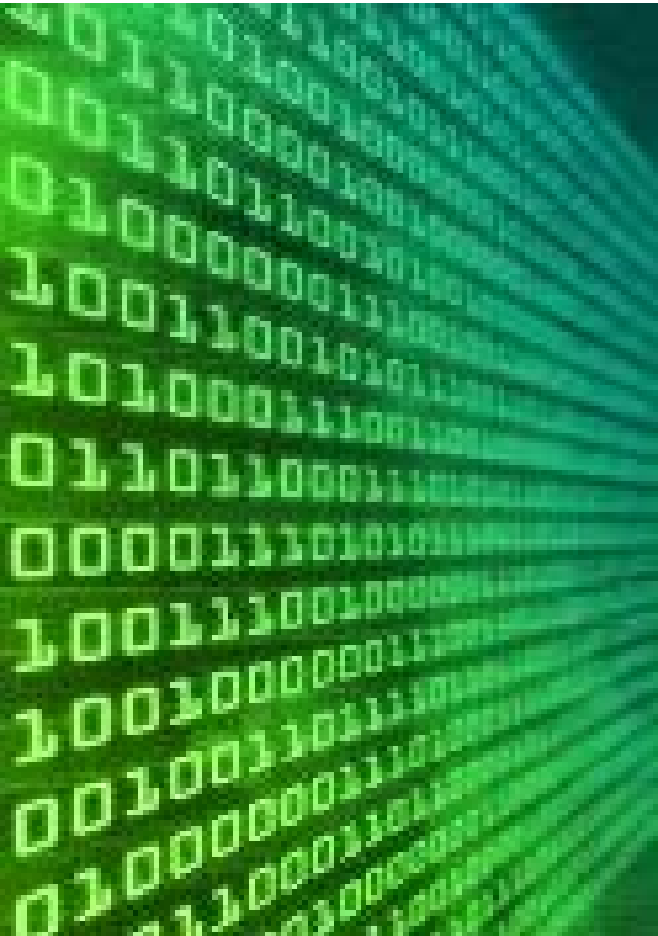
Home Telehealth



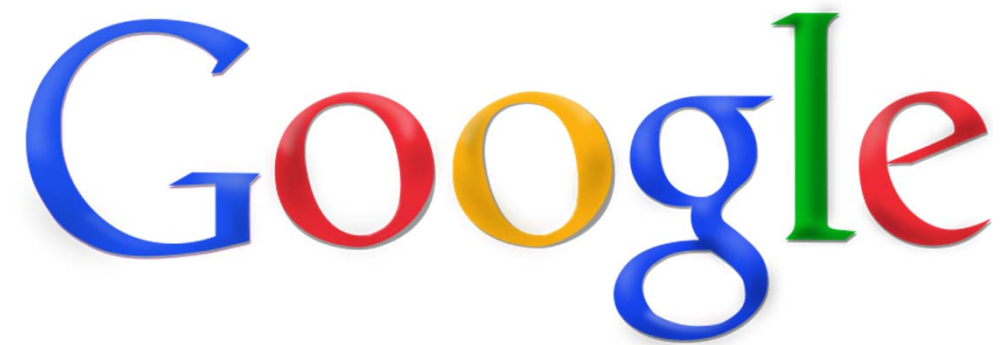
Data Warehouse



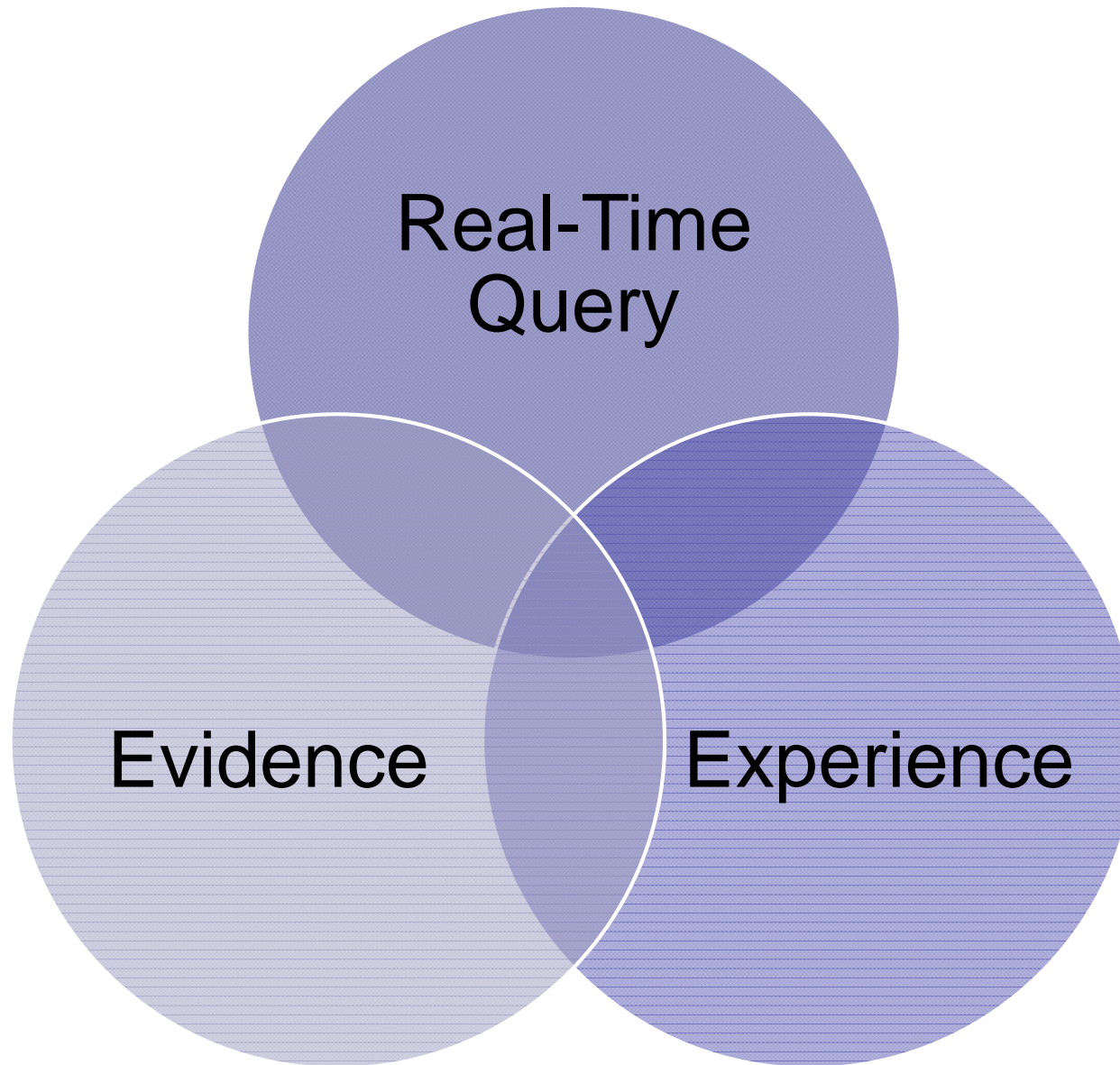
Data Warehouse



Sharing & Searching Patient Health Information



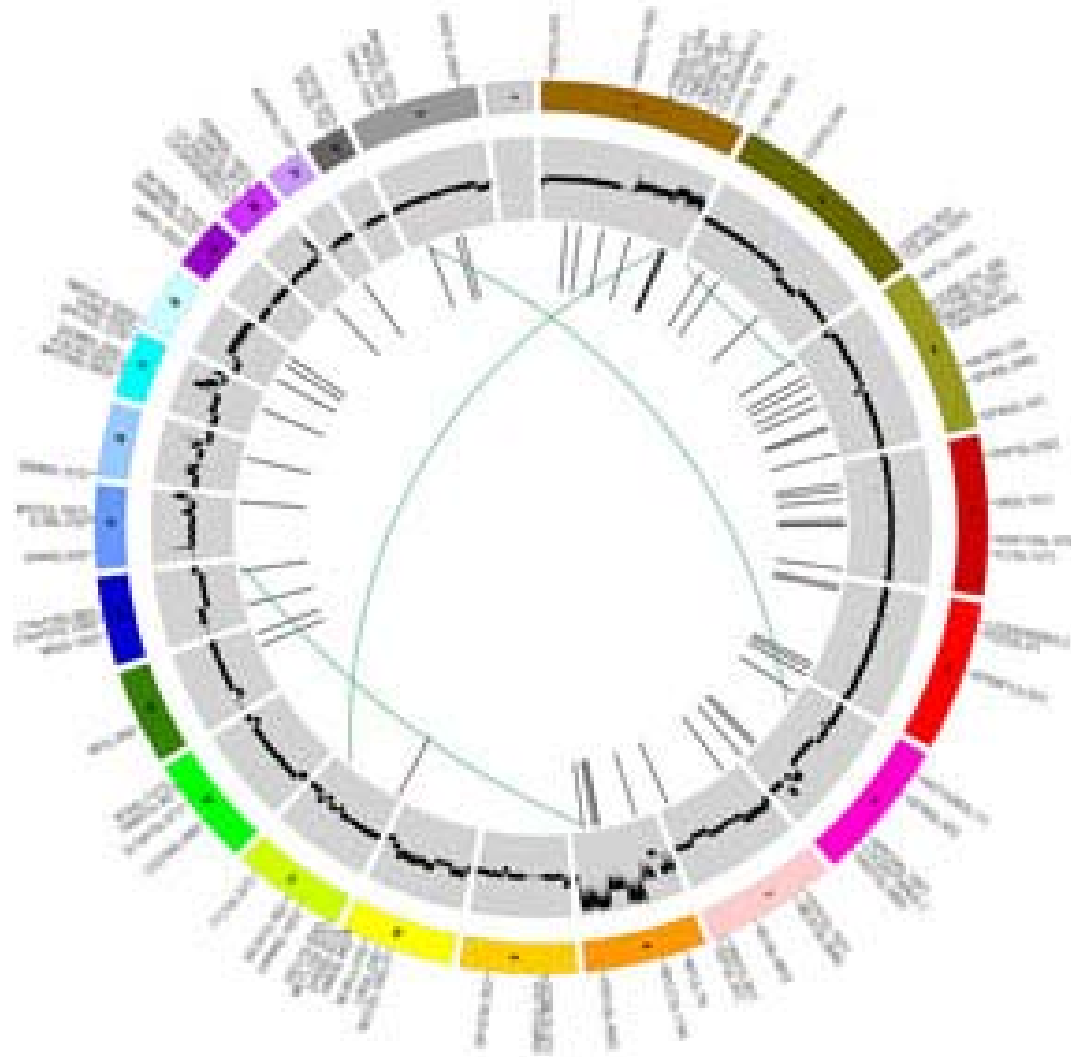
Improving Patient Care



“A novel process that is likely to become much more standard with the widespread adoption of EMRs and more sophisticated informatics tool.”

- The staff at Stanford Translational Research Integrated Database Environment (STRIDE).

Genomic Medicine



“The history of medicine is that what was inconceivable yesterday and barely achievable today often becomes routine tomorrow.”

- Dr. Thomas Starzl, “the modern-day father of organ transplantation.”

The End

THANK YOU!