



**The Department of Veterans Affairs
Point of Care Clinical Trial and Precision Oncology Programs:
Using Electronic Medical Record Systems and Health System
Data in Support of Learning Healthcare System Activities**

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MAVERIC

The VA Cooperative Studies Program

VISN 1 Clinical Trial Network

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The Healthcare Value Gap



The NEW ENGLAND
JOURNAL of MEDICINE

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Perspective

Ranking 37th — Measuring the Performance of the U.S. Health Care System

Christopher J.L. Murray, M.D., D.Phil., and Julio Frenk, M.D., Ph.D., M.P.H.

N Engl J Med 2010; 362:98-99 | January 14, 2010 | DOI: 10.1056/NEJMp0910064

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Article

References

Citing Articles (14)

Letters

Evidence that other countries perform better than the United States in ensuring the health of their populations is a sure prod to the reformist impulse. The World Health Report 2000, *Health Systems: Improving Performance*, ranked the U.S. health care system 37th in the world¹ — a result that has been discussed frequently during the current debate on U.S. health care reform.

The conceptual framework underlying the rankings² proposed that health systems should be assessed by comparing the extent to which investments in public health and medical care were





The Pharmaceutical Innovation Gap

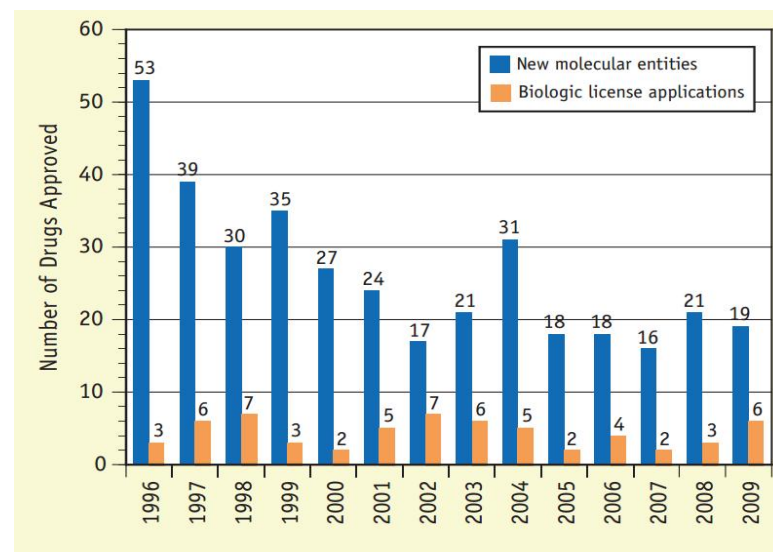
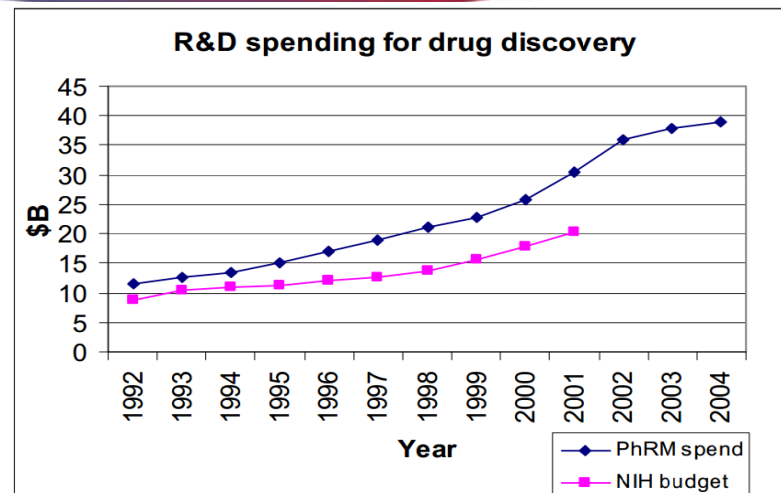


Figure 1. Novel drugs approved by the FDA in 2009.



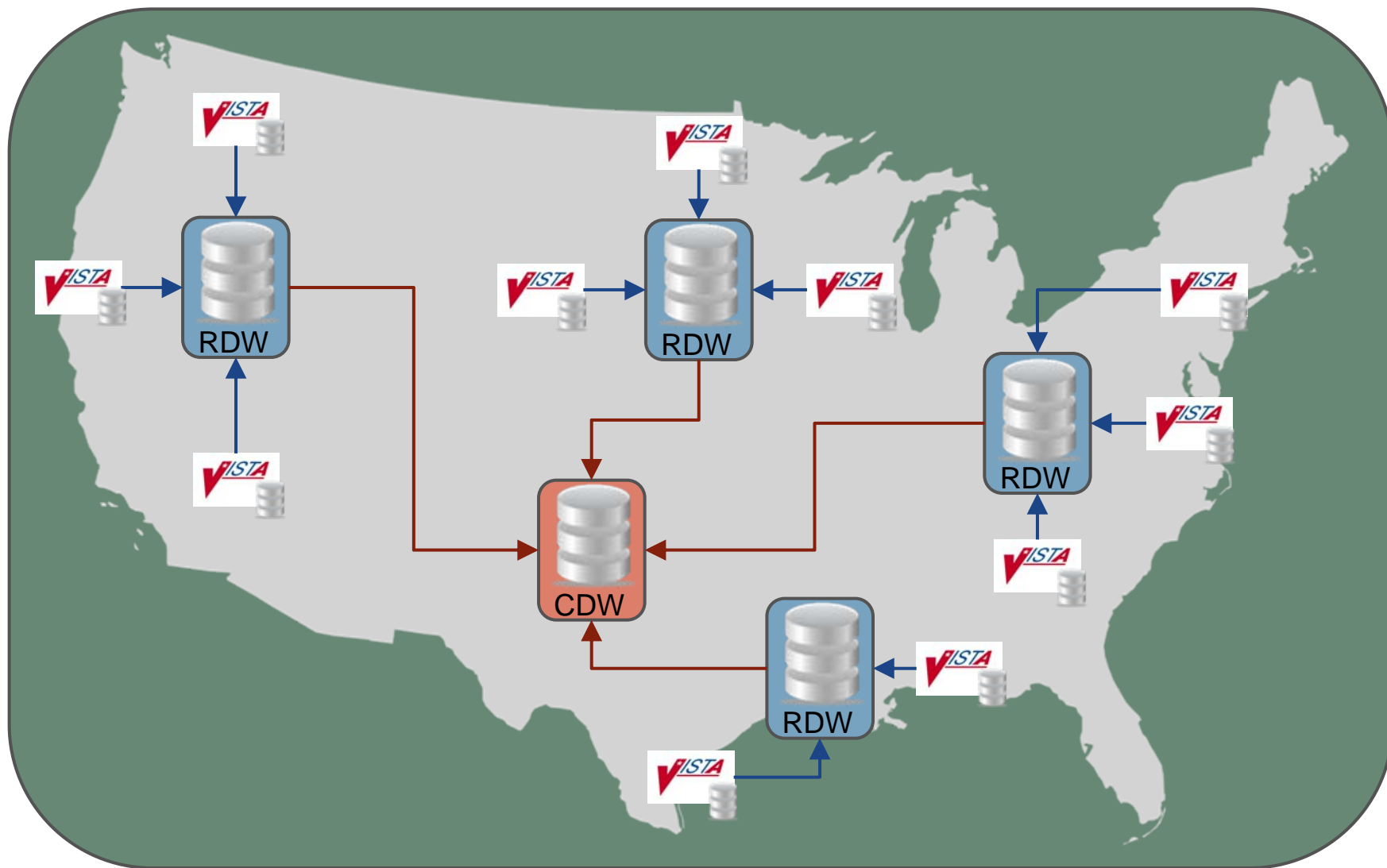


Healthcare System Silos





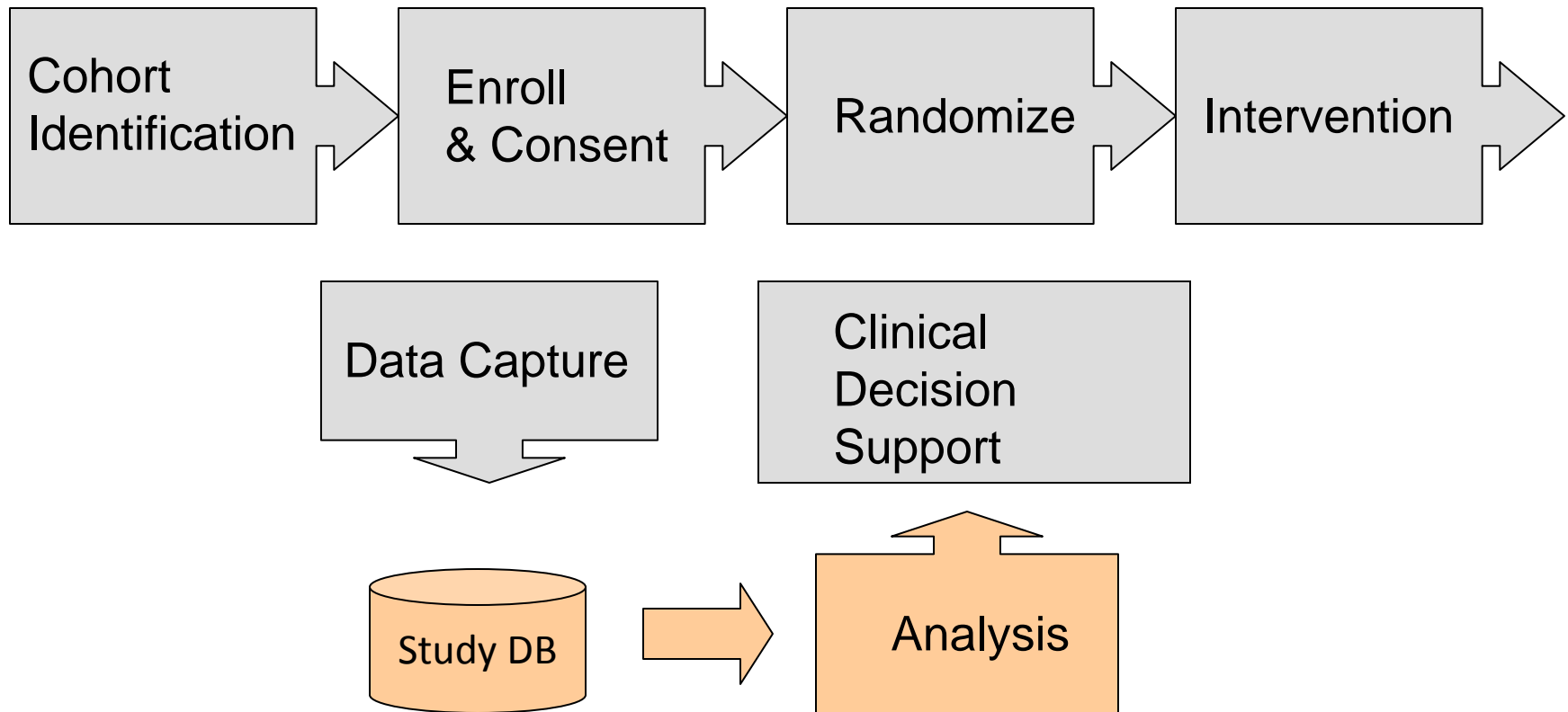
The VA VistA/CPRS National EHR







Point of Care Clinical Trials



Study team using traditional scientific tools





Endocrine Medication Menu

Done

Diabetes Medications

Insulin Options:

1. No preference for insulin regimen. Consider enrollment in an inpatient study of Weight Based vs. Sliding Scale protocols.
To choose option 1 ****Click HERE****

2. Weight Based insulin protocol.
Weight Based Insulin protocol ****Click HERE****

3. Sliding Scale or other inpatient insulin regimen.
Other Inpatient Insulin Orders ****Click HERE****

Portland Protocol (ICU Patients)
Portland Protocol ****Click HERE****

Oral Hypoglycemics
Oral Diabetes Medications Menu ****Click HERE****

Thyroid Medications
Thyroid Medications Menu ****Click HERE****

Steroids (under construction)



VA Activities in Support of LHS and Precision Medicine



'OMICS

Build a cohort

Make data accessible

Discover

Actionable Results

Validate

Implement

Million Veteran Program
& GenISIS

Point of Care Research &
Precision Oncology



U.S. Department of Veterans Affairs

Precision Oncology Program

Precision cancer care as unique as your DNA

The Crossroads of Clinical Care and Research



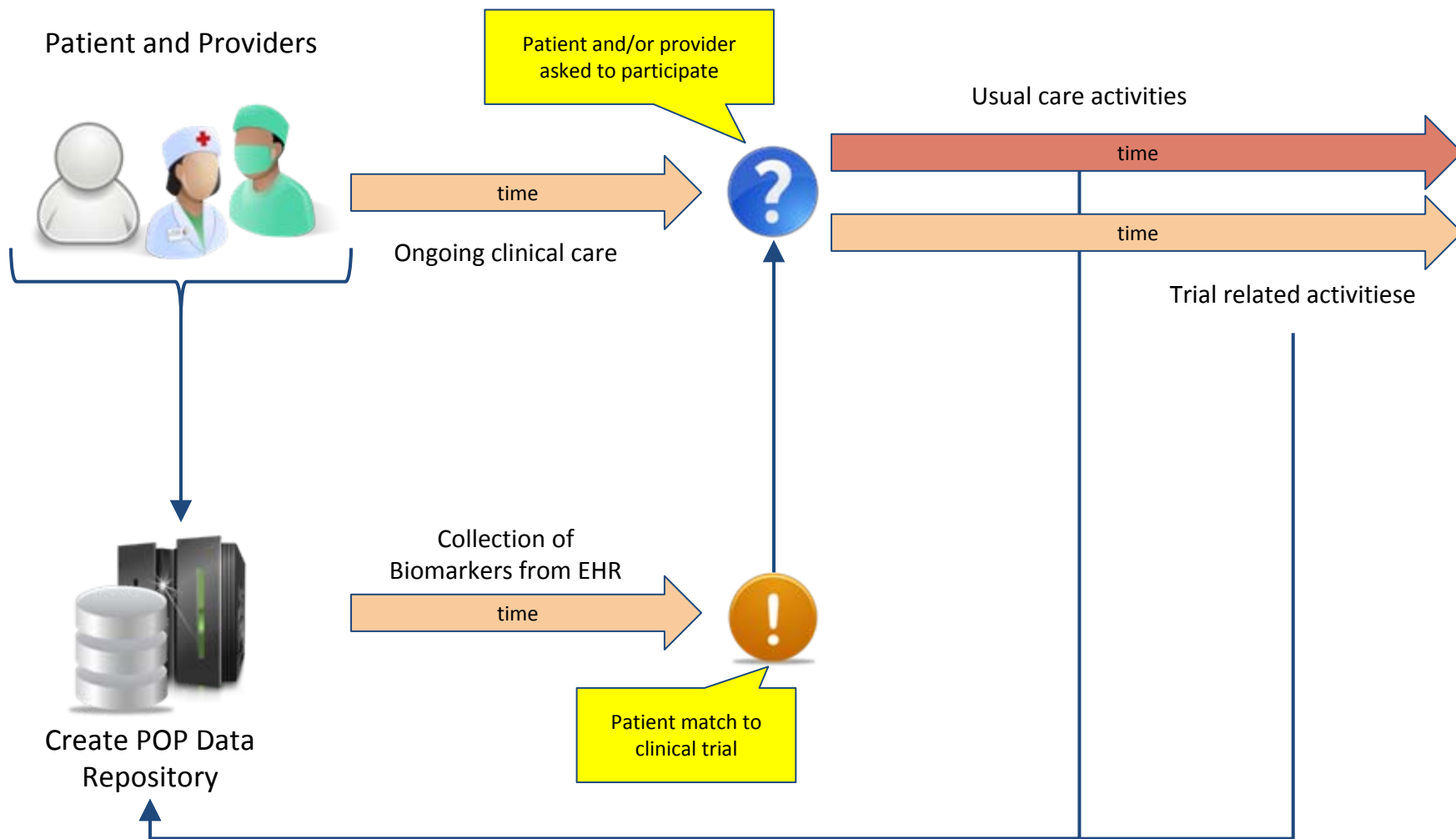
What is Precision Oncology?

- Perform genomic test on a cancer specimen
- Determine driver mutations in the cancer
- Deliver therapy based on identified target

But.....

- Several targets in a given patient
- Different targets across patients
- Same targets in different cancer types
- Few patients with any given target at one site







POP Clinical Care Component

- Molecular profiling for all NSCLC patients as routine care and ordered by their treating clinician
 - Provide opportunities for participation in traditional clinical trials
 - Provide local learning opportunities through analytics and randomization into point of care clinical trials





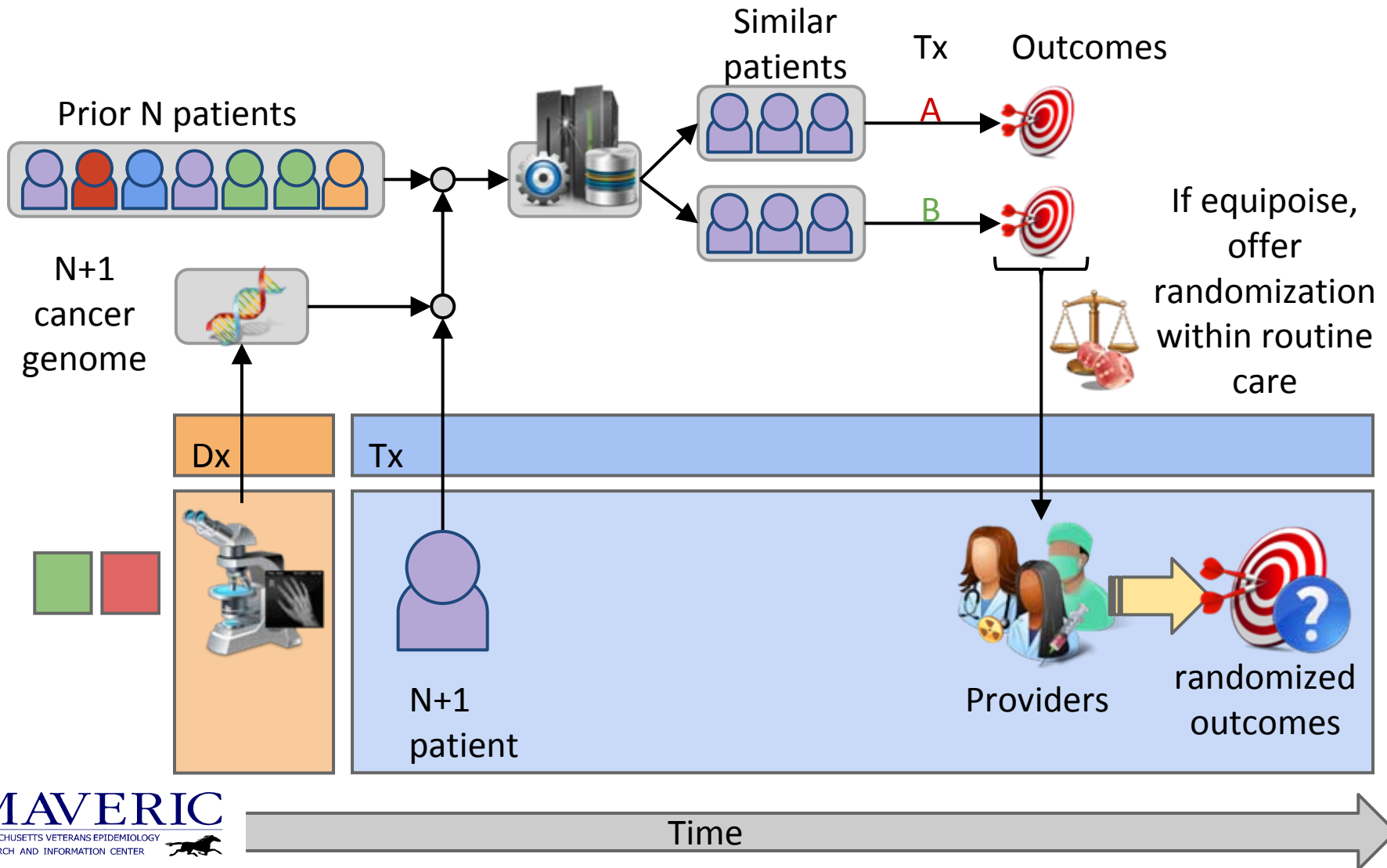
Traditional Clinical Trial Opportunities

- ASCO TAPUR Study
- NCI sponsored intergroup projects
 - SWOG VA Consortium – Storefront Mechanism
- Pharma sponsored trials
- VA sponsored trials



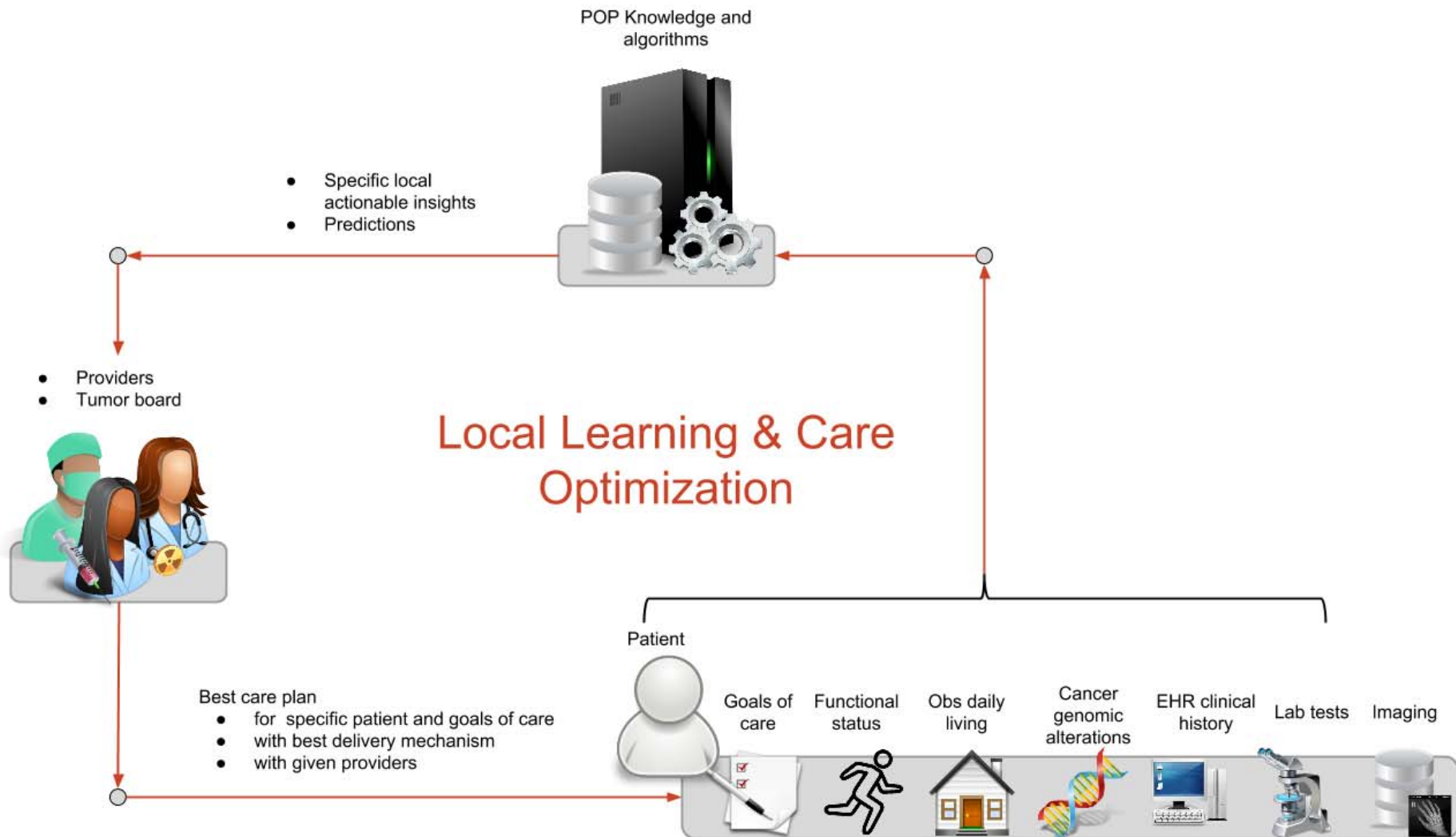


Local Learning Through Experiments





Local Learning and Care Optimization





POP Research Component

- Patients consented for broad data sharing, re-contact and reuse of tissue
- Research data and (virtual) tissue repositories created
 - Biomarker discovery and validation
 - Shared resource with VA and non-VA stakeholders





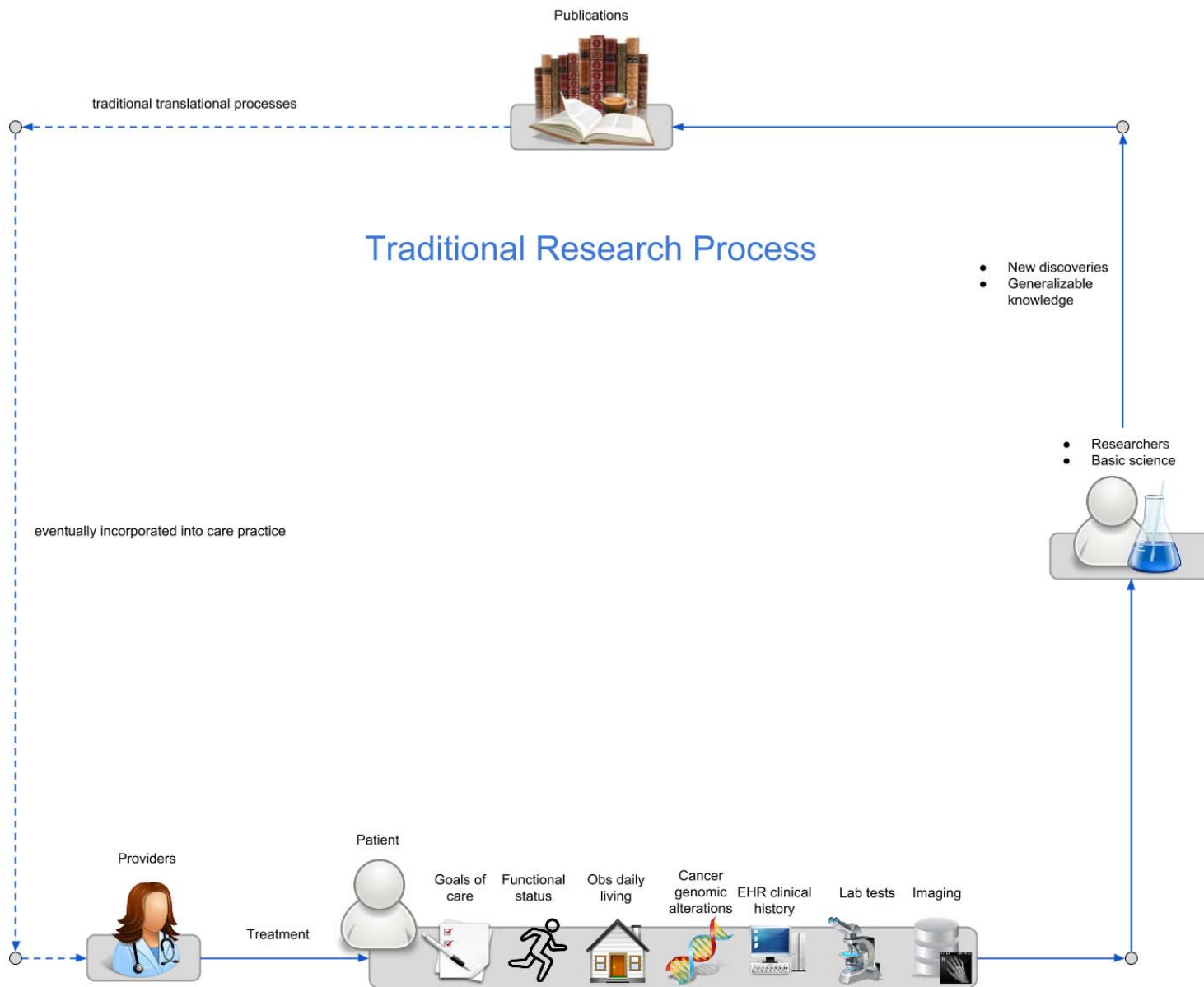
POP Research Questions

- Clinical population-based knowledge generation
 - In combination with germ-line data from MVP
- Basic science research
 - Proteogenomics, other



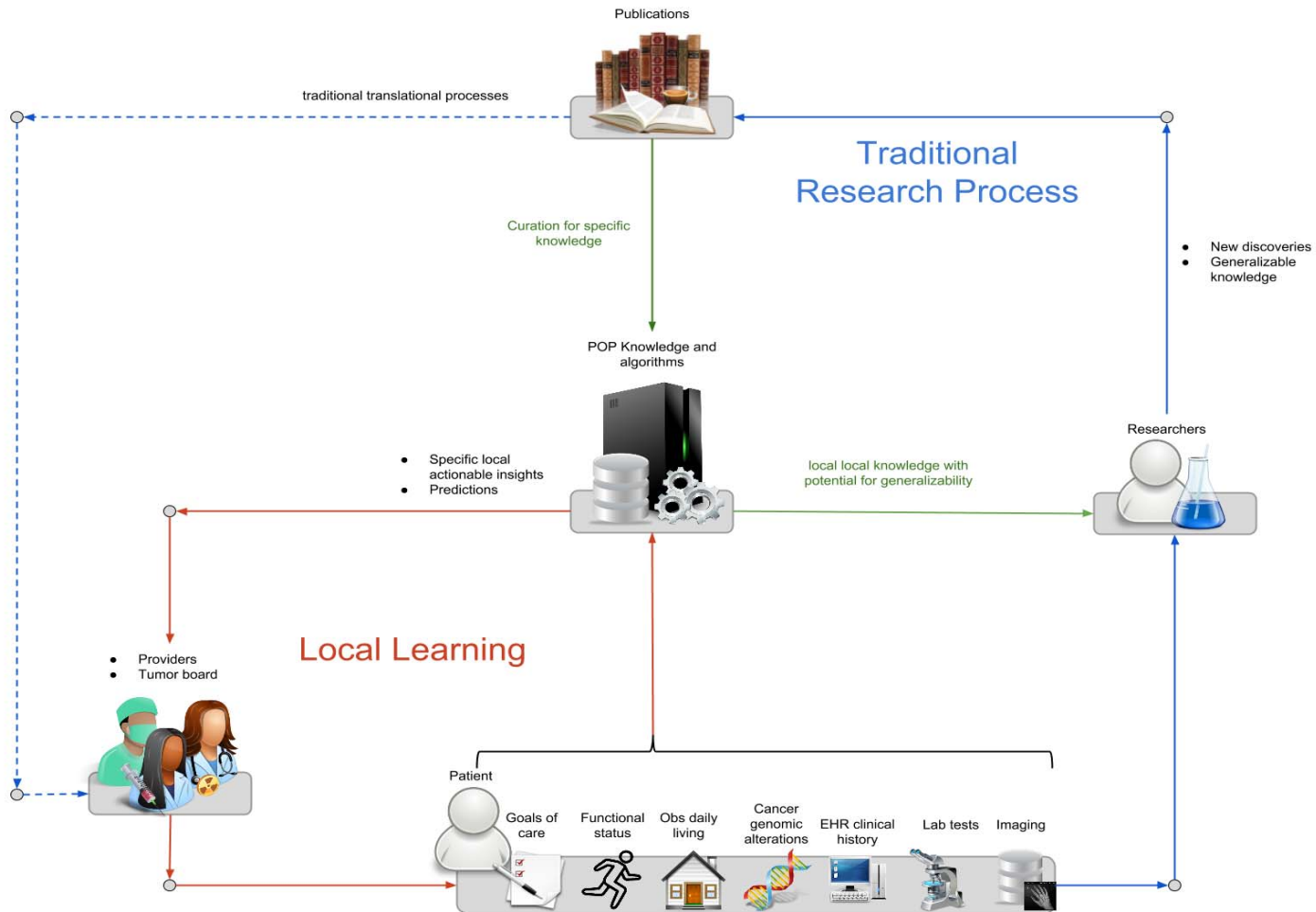


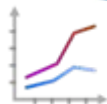
Traditional Research Process





Learning Healthcare System





Kaleid launched



CDW for
widespread use



IOM - Envisioning
transformed clinical
trials enterprise



VA POC DCP
launched



VA EHR national
deployment



VA POC Insulin
pilot launched
(closed 2014)



VA POP Clinical
& Research
program created

1985

2010

2012

2015

2016



VA CDW
established



VA POC DCP
funded



Murray & Frenk- "US
Healthcare 37th in quality



VISN 1 POP
created



POC presented
to VA CSP



MVP created