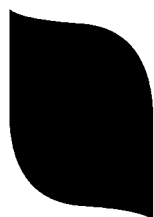


# HMO Research Network

The research partner of choice for those seeking to shape public health and health care delivery

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Center for  
Health  
Research

**Presentation to the CTSA  
CAPP Work Group**

July 24, 2008

**Mark C. Hornbrook, PhD**

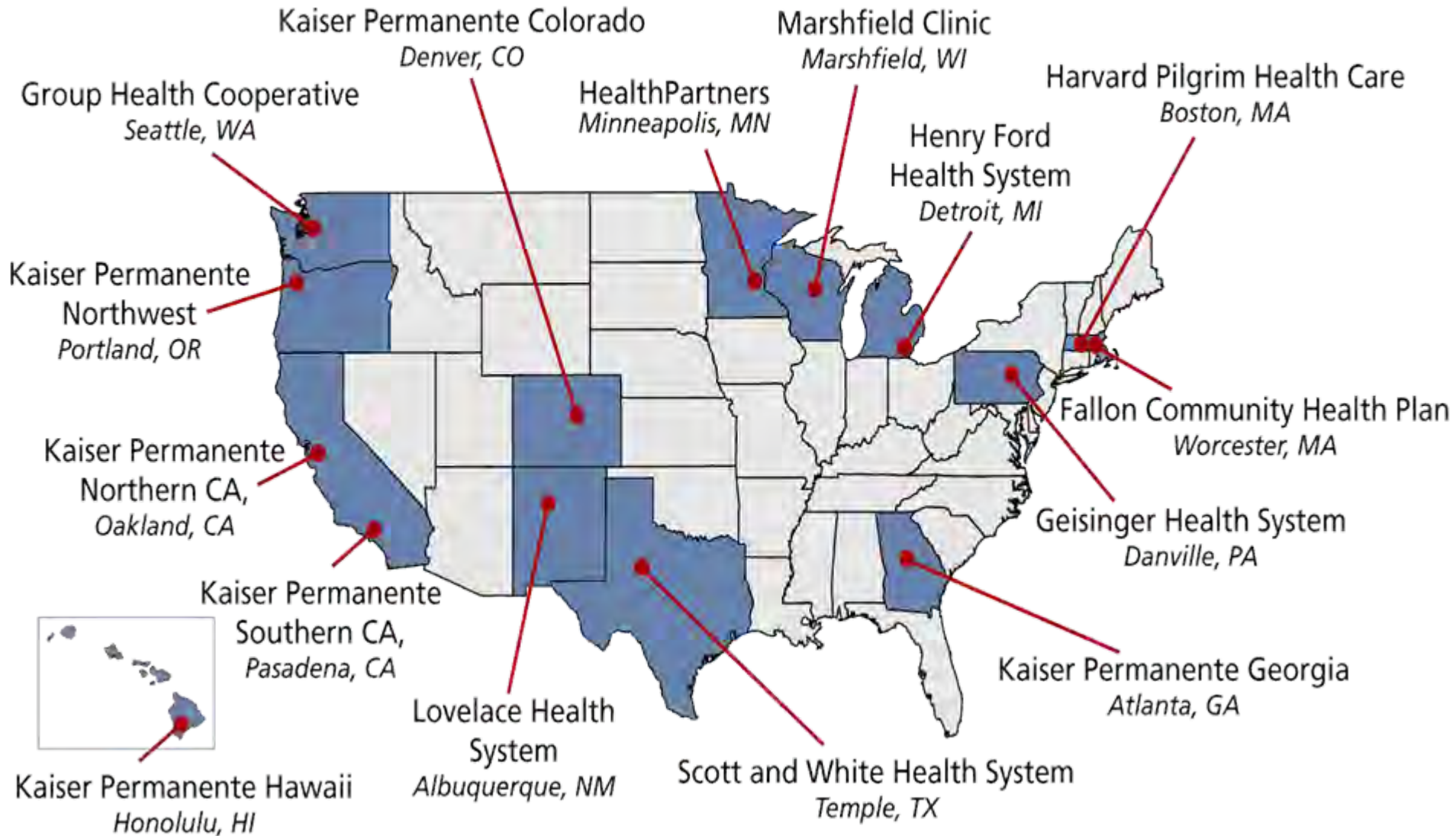


# Who We Are and What We Offer

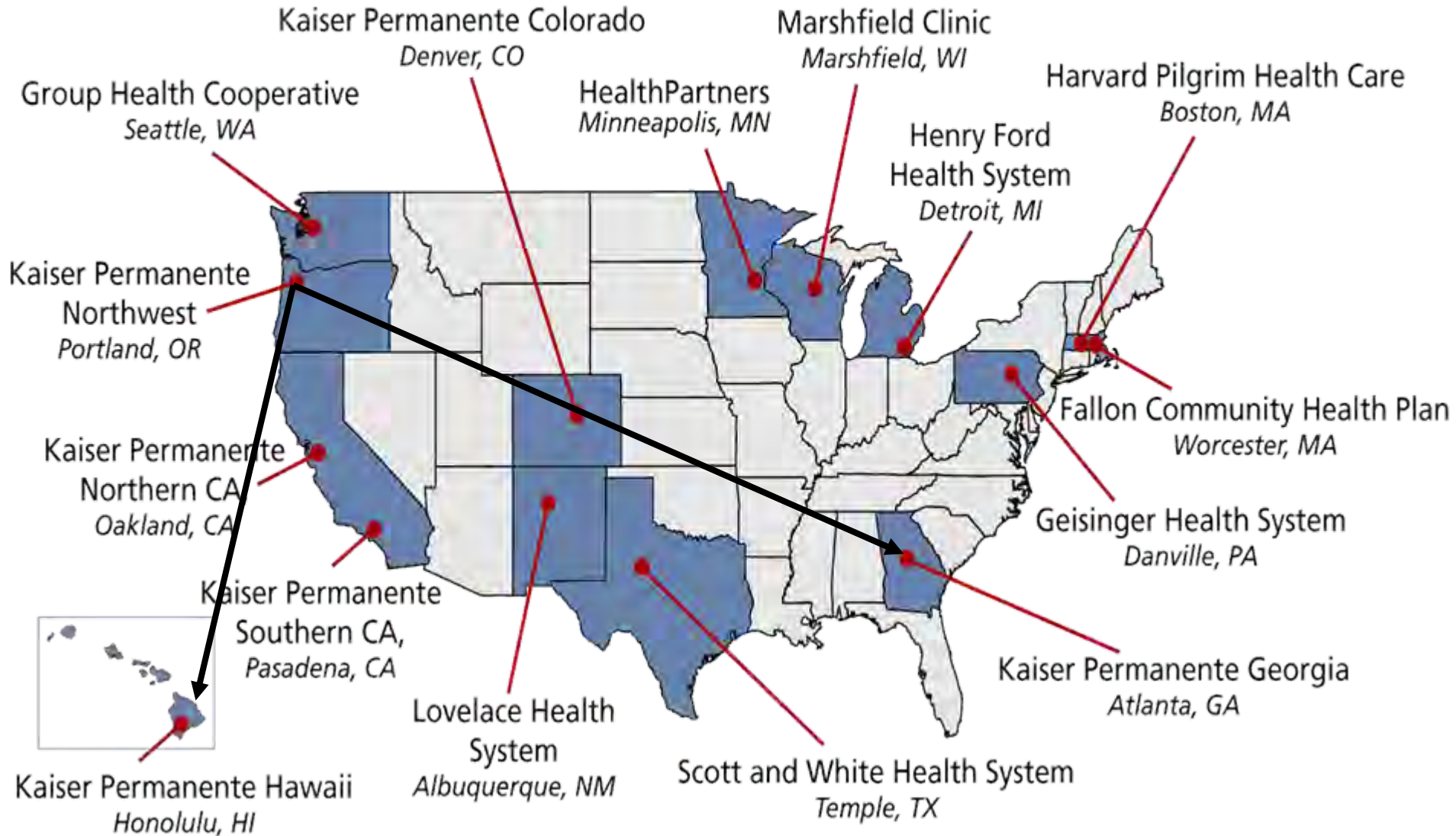
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- 15 HMO organizations
  - Group, network and IPA model health plans
  - Integrated delivery systems
  - > 15 million members
  - Comprehensive electronic medical records
- Formal research and development programs
  - More than 250 researchers
  - ~ 1,500 active research projects
  - In-house survey research programs and research clinics
  - Standardized data sets

# HMO Research Network Members



# The KP Center for Health Research, NW|HI|GA





# Goal

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- Transform health care practice through population-based research
- Foster research collaborations
- Enhance awareness of research interests, resources, and capabilities
- Share methodologies, best practices, and consultative expertise
- Leverage the HMORN's strengths and intellectual capital

# Building a National CTSA Consortium

## FY06 Grantees

The Rockefeller University

University of Texas Health Sciences Center at Houston

University of California, Davis

University of Pittsburgh

**University of California, San Francisco/KP No. California**

University of Rochester School of Medicine and Dentistry

Duke University

University of Pennsylvania

Columbia University

Mayo Clinic

**Oregon Health and Science University (partnering with Kaiser Permanente Northwest)**

Yale University

## FY07 Grantees

**Emory University (partnering with Morehouse College)/KP Georgia**

Case Western University

Washington University

Weill Cornell Medical College (partnering with Hunter College)

**University of Wisconsin Madison/Marshfield Clinic**

Johns Hopkins

**University of Washington/Group Health**

University of Michigan At Ann Arbor

University of Texas Southwestern Medical Center – Dallas

University of Chicago

University of Iowa

Vanderbilt University (partnering with Meharry Medical College)

## FY08 Grantees

Albert Einstein College of Medicine

Boston University Medical Campus

**Harvard University/Harvard Pilgrim Health Care**

Indiana University-Purdue University at Indianapolis

Northwestern University

Ohio State University

Scripps Research Institute

Stanford University

Tufts University Boston

University of Alabama at Birmingham

**University of Colorado Denver/HSC Aurora/KP Colorado**

University of North Carolina Chapel Hill

University of Texas Health Science Center San Antonio

University of Utah

**CTSA-HMORN Partnerships & Affiliations**

**CTSA** Clinical & Translational Science Awards



# Building Pacific NW Regional CTSA Consortium

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- University of Washington
- Group Health Cooperative
- Oregon Health & Science University
- Kaiser Permanente Northwest
- University of California, San Francisco
- Kaiser Permanente Northern California
- University of California, Davis



## HMORN is...

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- Committed to public domain research that advances population health
- Addressing clinical and health policy questions relevant to every market segment
- Experienced with a wide range of pioneering trials
- Offering unparalleled opportunities for longitudinal, cross-sectional epidemiological, cost-effectiveness, and clinical studies



# HMORN & NIH Roadmap

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- HMORN founded with a series of multi-site studies
- HMORN Roadmap Grant—Cooperative Clinical Studies Network—standardized our research procedures and tools
- HMORN has committed to core funding to maintain its research infrastructure
- Now we have become the population-based research network of choice for the country through collaboration with the CTSA's



## HMORN is...

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- Health care delivery systems
- Population-based medicine
- Clinical, health services, implementation, and translational research
- Sophisticated IT systems
- Model for affordable, high-quality health care for all communities



# Advantages to Linked Integrated Delivery Systems

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- Alignment of incentives
- Comprehensive health services to all market segments
- Close linkages among providers, financing, administration, and patients



# CTSAs Require Translational Research Laboratories

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- Already have academic health centers
- Need population-based comprehensive health care systems with varying incentives
  - Fee-for-service
  - Prepaid capitation
- Also need practice-based research networks (primary care, urban/rural underserved areas)



# Advantages to Linked Integrated Delivery Systems

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- Extraordinary administrative and clinical data resources to support research (e.g., EMRs, disease registries, biospecimens)
  - Facilitate the tracking of therapies delivered and factors associated with differential treatments
  - Assess the consequences of adoption or non-adoption of therapies within “real world” patient populations
  - Strong research-operations partnerships
  - Research teams include operational members

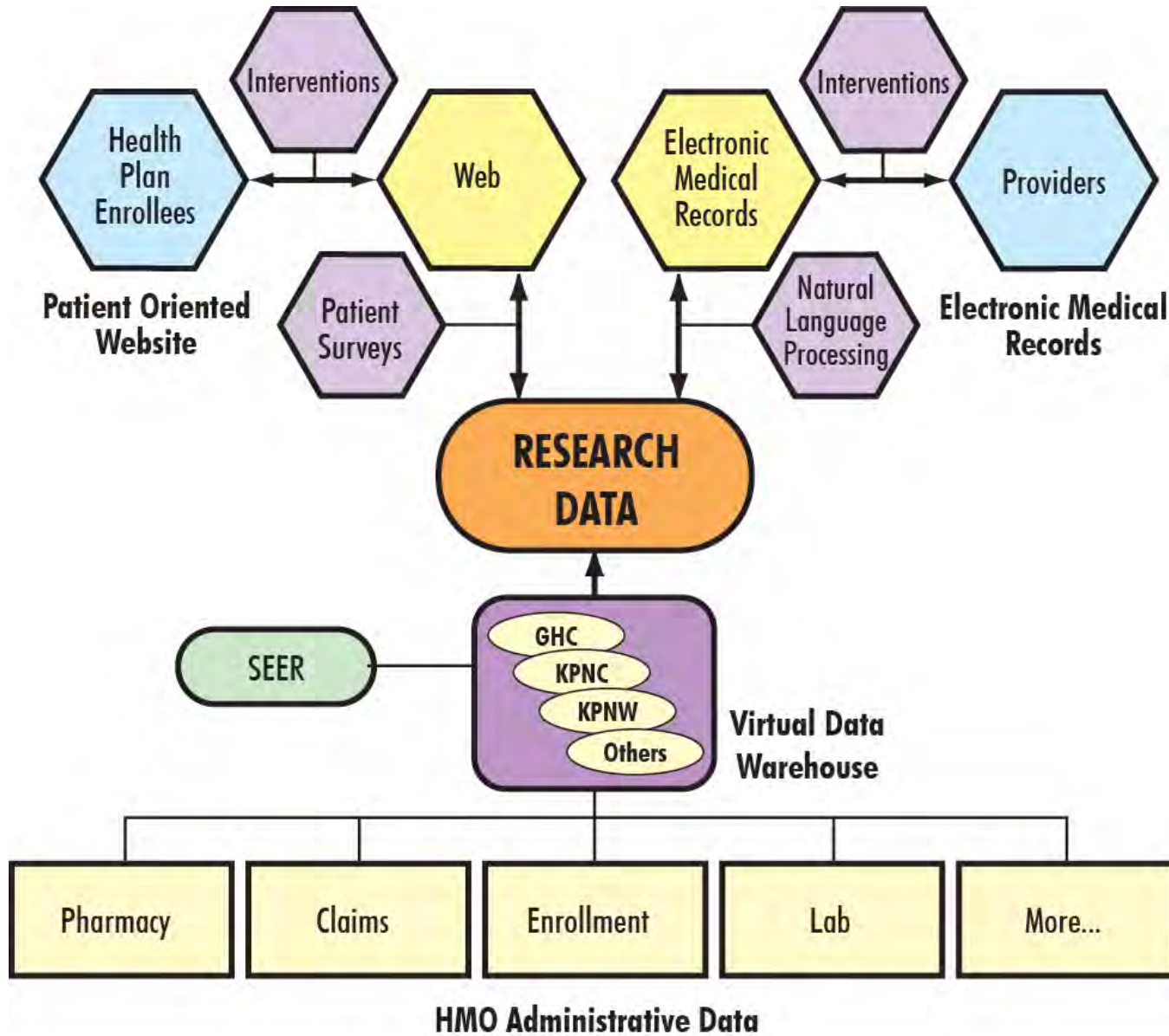


# Population-based Research

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- Produces more generalizable and relevant research
- Supports comparisons of study participants, refusers, and target population

# Interconnected Data Resources



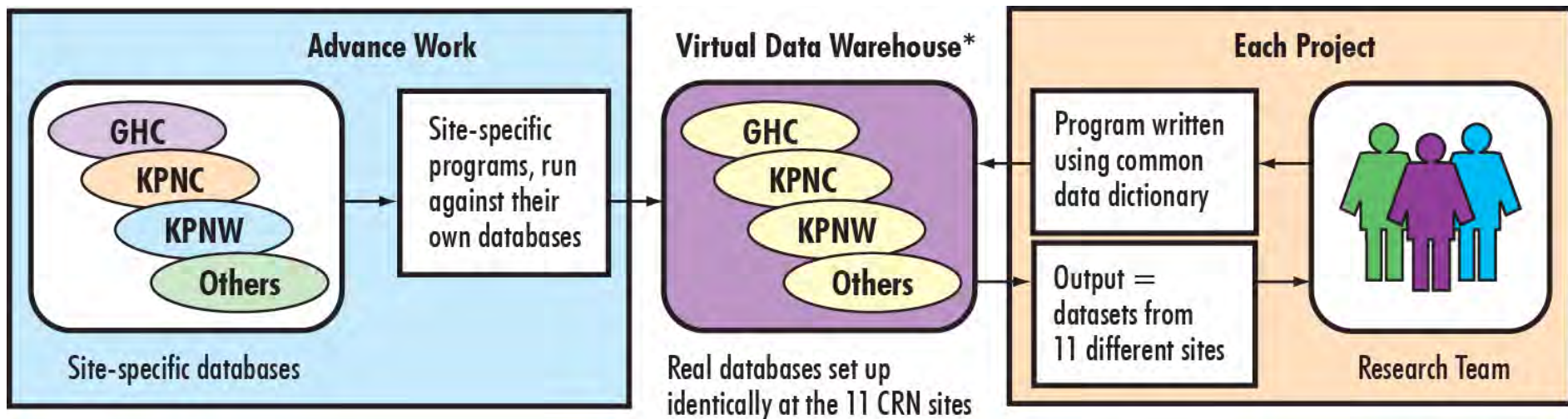


# Virtual Data Warehouse

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- Standardized SAS datasets across all HMORN sites
  - EMR, hospital discharge abstract, claims, dispensings, membership, tumor registry
  - VDW files stored locally but can be run in parallel across multiple sites
  - VDW is accessible for preparatory-to-research purposes

# Virtual Data Warehouse (VDW)



**The VDW is populated by automated data from the following sources:**

- Tumor registry
- Enrollment
- Demographics
- Pharmacy
- Utilization
- Geocoding
- Laboratory
- Chemotherapy
- Radiology
- Pathology



# Data Models

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- VDW (HMORN)

- Decentralized
- Interoperable
- Identified
- Every data export by local sites must be approved by IRB and HIPAA officer

- Open Source (caBIG™)

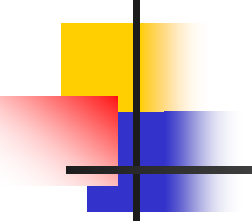
- Centralized
- Interoperable
- “De-identified”
  - Attribute identification through linkage to identified public use datasets



# Cancer Research Network (CRN)

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- Increase the effectiveness of interventions for major cancers
- Funded by NCI, the CRN includes 14 HMORN sites
- CRN has catalyzed nearly four dozen research projects that have generated more than \$80 million in research support



# Cardiovascular Research Network (CVRN)

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- CVRN addresses CVD epidemiology, optimal management, and associated clinical outcomes
- Funded by NHLBI, CVRN includes 14 HMORN sites
- Three current studies



# Centers for Education and Research on Therapeutics (CERTs)

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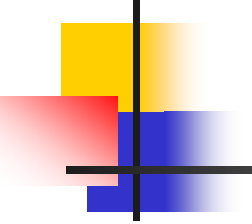
- CERTs' mission is to advance population health through acquisition and widespread dissemination of knowledge about best therapeutics practices
- HMORN CERT site includes 13 sites
- KPNW is the CERTs Coordinating Center
- Since 2000, the HMORN CERT has received more than \$30 million in grants from AHRQ, NIH, FDA, and industry supporting over 30 multi-center studies



# Vaccine Safety Datalink (VSD)

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- Population-based evaluations of vaccine safety in the U.S.
- Collaborative effort of CDC and HMORN scientists
- Developed an automated rapid detection surveillance system for vaccine related adverse events
- Model for improving post-marketing surveillance of all medications



# Coordinated Clinical Studies Network (CCSN)

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- CCSN streamlined multi-site research by building infrastructure and creating Network-wide resources
- Funded by NCRR as part of the NIH Roadmap's "Re-engineering" initiative
- Web-based "Collaboration Toolkit"
- Pilot tested and implemented simplified model of multi-site IRB review of data-only studies



# Unique Potential of the HMORN

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- Research networks in functioning delivery systems offer unrivaled opportunities
  - Understand the care experiences of entire population
  - Contribute to a learning health care system
- Abundant examples of contributions from such research networks already exist



# Unique Potential of the HMORN

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- Advantages offered when multiple delivery systems partner for research
  - Insights into patient-, provider- and system- level factors
  - Unique ability to study rare disorders
  - Examination of the myriad aspects that influence translating research into practice



# Unique Potential of the HMORN

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- Potential exists to make networks like the HMORN a mainstay of clinically relevant, patient/public benefit ready research



# HMORN Collaboration Toolkit

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- Comprehensive guide to the practical steps and strategic considerations involved in a multi-site project
  - Finding collaborators and developing a grant
  - Working through administrative start-up processes
  - Standardizing recruitment and primary data collection across sites
  - Utilizing the virtual data warehouse (VDW)
  - Closing out a project and translating results into practice



# Proposal Development & Post-Award Administration

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- Multi-site budget estimation tool
- Formal ties among HMORN business offices facilitate budget development, proposal submission, and post-award administration



# PRISM Readability Toolkit

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- Background information on health literacy, plain language usage, and why both are important
- Editing checklist for participant materials
- Model consent forms and HIPAA authorizations



# Regulatory Compliance

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- HIPAA
  - Boilerplates for Data Use Agreements with HMORN health plans
- Human Subjects
  - Inter-IRB agreements on delegated review and oversight of multi-HMO projects



# Improving Clinical Effectiveness Research through Research Networks

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- Redesigning the clinical effectiveness research paradigm
- Translation from clinical practice to research

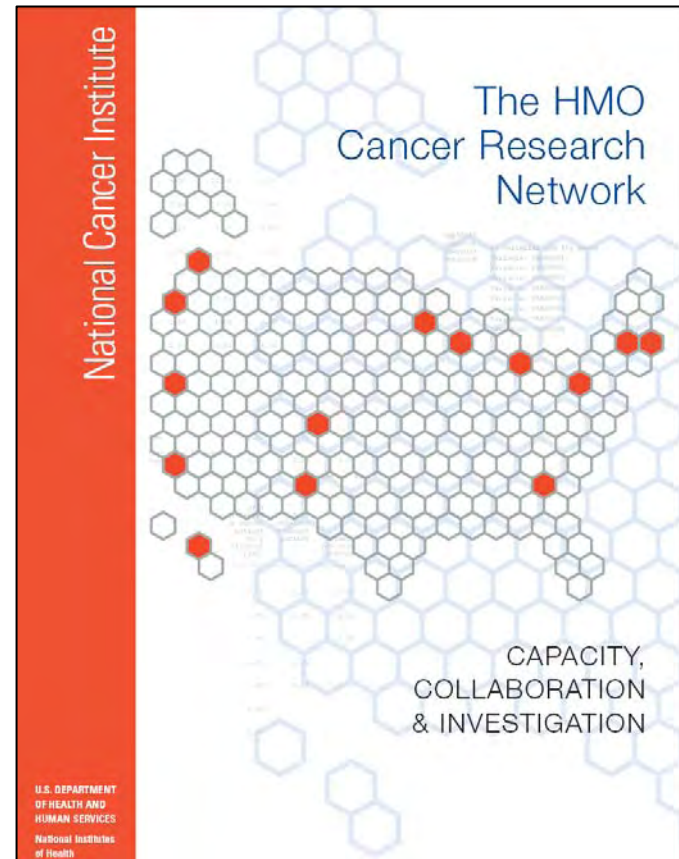
# A Vision to Guide the Next Generation of Studies

- Research is bi-directional and associated with follow-up in both the research 'lab' and the learning health care organization
- Research is characterized by afferent and efferent limbs that are connected and continuously working together



# Supplemental Materials

- **HMORN Brochure**
- **HMORN Collaboration Tool Kit**
- **HMORN CRN brochure**





Questions?

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