

ClinGen: Sharing Data. Building Knowledge. Improving Care.

ClinGen: High quality genomic resources
accessible at the point of care through
the EHR

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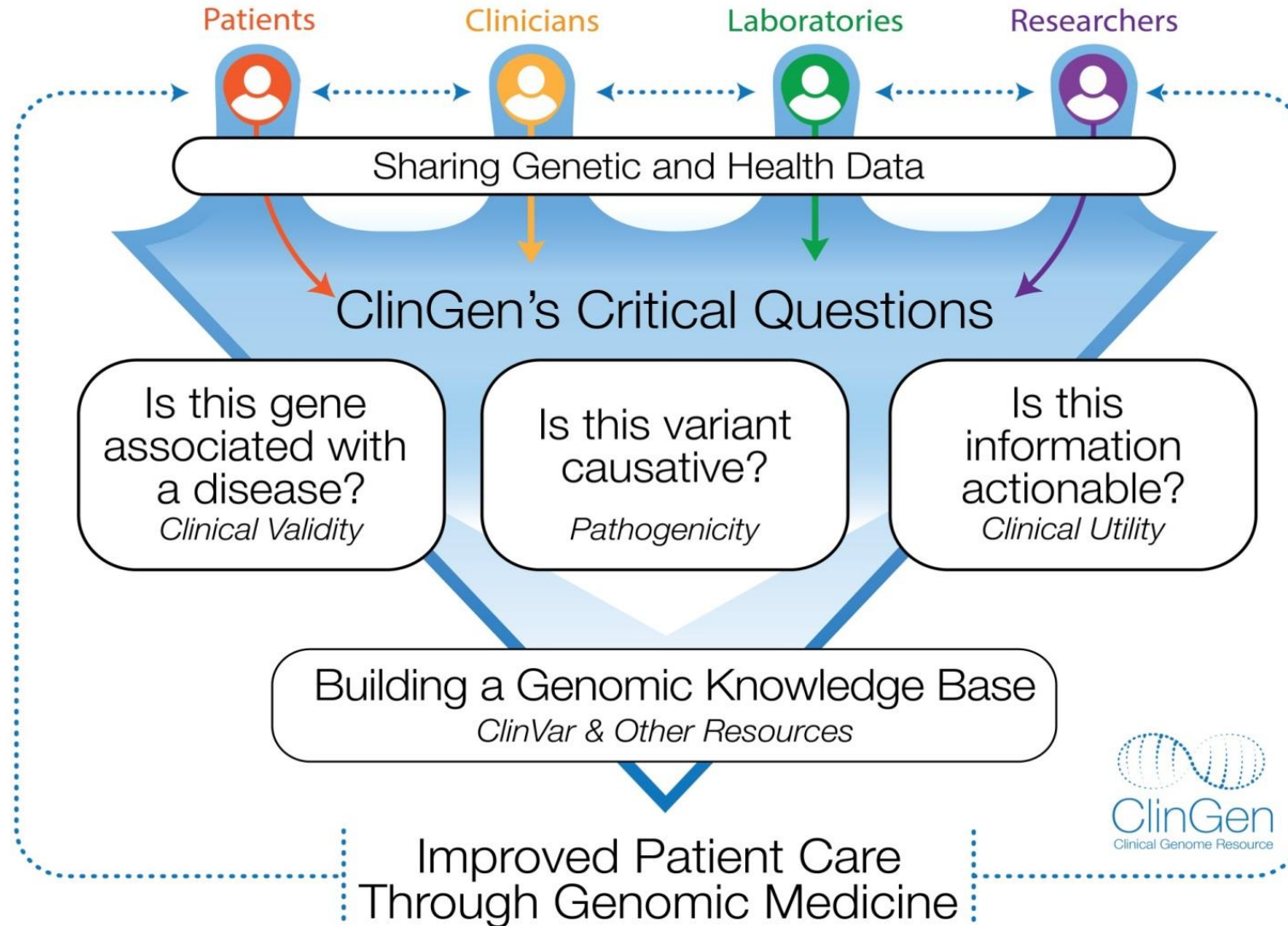


ClinGen

- **The Clinical Genome Resource (ClinGen)** aims to create an authoritative resource that defines the clinical relevance of genes and variants for use in precision medicine and research.
- **NHGRI-funded program launched Sept. 2013**
 - FY13-FY16 = \$28M Total Costs
 - 3 U grants, working closely with NCBI's ClinVar
 - Co-funding from NICHD and NCI
 - > 350 researchers & clinicians from 90 institutions



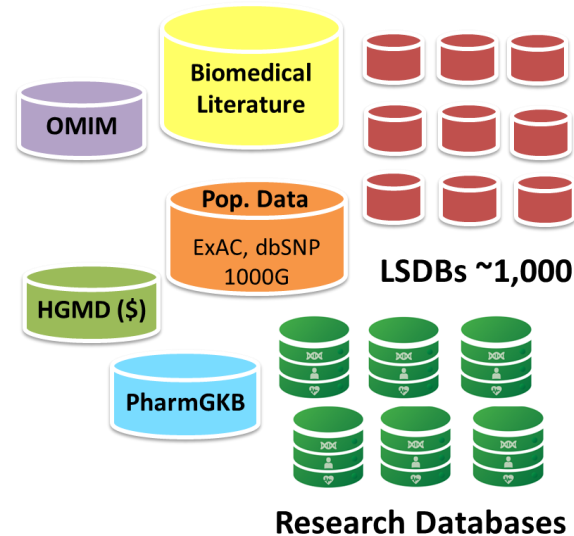
Building a genomic knowledge base to improve patient care



The Problem



- Ability to detect DNA variants has greatly surpassed our ability to interpret their clinical impact
- >19,000 genes and > 88 million known variable sites in the human genome



Largely without standard assertions



Clinical Testing Lab Databases

Largely absent from public domain




Initial Solution

- <https://www.clinicalgenome.org/>






Access to ClinGen resource from any OpenInfobutton compliant EHR system

- <http://service.oib.utah.edu:8000/app/#/home>

Open  infobutton Site LITE

Home Custom Resources Infobutton Responder Resource Store System Configuration

Resource Store

 Micromedex	Comprehensive medication knowledge base.	May 19, 2015 6:26:23 PM	Update
 VisualDx	Diagnostic decision support tool coupled with a library of over 100,000 peer-reviewed skin, pathology, and radiology images.	Feb 25, 2015 6:26:16 PM	Enabled Disabled Test
 PubMed	Largest database of indexed biomedical literature. Uses the Pubmed Clinical Queries filter, which is optimized to retrieve recent, high quality clinical studies.	Jan 13, 2015 9:09:00 PM	Enabled Disabled Test
 Mayo Clinic patient education	Freely available patient education material from the Mayo Clinic.	Apr 2, 2015 5:54:19 PM	Enabled Disabled Test
 MedlinePlus	Free patient education content provided by the US National Library of Medicine.	Apr 2, 2015 5:57:17 PM	Enabled Disabled Test

Why Infobuttons?

e-Resources

The image shows a screenshot of the HELP2 Clinical Desktop application. On the left is a vertical menu with various options. A blue arrow points from the 'E-Resources' option in the menu to a red circle around the 'E-Resources' option in a secondary menu. The main area of the application is a search form with fields for patient information and buttons for 'Find' and 'Clear'.

HELP2 clinical desktop
Menu Preferences

HELP2 clinical desktop
Menu Preferences

Patient Search
By Demographic

Last Name:
MRN:
DOB: mm

First Name: Middle Name:
EMMI #: Radiology #:
Phone #: SSN: Sex:

Find Clear

HELP2 clinical desktop
Menu Preferences

Select Patient
Lab
Micro
Clinical Notes
Radiology
Allergies
Medications
Problems
Vital Signs
Height/Weight
Demographics
ECG
Insurance
Message Log
Lab Order Entry
Inpatient Reports
Alert Review
Web Forms
HELP/Tandem
Orders

E-Resources
Help

Logout
Comments
Help2 Info

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E-Resources
Help

Intermountain Medical Libraries and eResources (IHCWEB and HELP2)











Electronic Resource Request

- [Form to request New Corporate-Wide Electronic Medical Information Resource](#)

External resources

-  [Micromedex \(Internet version \[preferred\]\)](#)
-  [Micromedex \(Intranet version\)](#)
-  [UpToDate \(Includes Pediatric Dosage Handbook\)](#)
-  [PubMed](#)
-  [EBSCO \(Includes Cochrane & other databases\)](#)
-  [MDConsult](#)
-  [Clineguide](#)
-  [Electronic Books](#)
-  [Electronic Journals & Books \(AtoZ\)](#)
-  [National Organization for Rare Disorders \(NORD\)](#)
-  [Gene Tests](#)
-  [Genetics Home Reference](#)
-  [Merck Manual](#)

Patient education resources

-  [Patient Education Network \(PEN\)](#)
Links to patient education resources, including Patient Fact Sheets
-  [Patient handouts](#)
-  [Let's Talk About](#)
-  [Micromedex Care Notes](#)
-  [MDConsult patient handouts](#)
-  [Medline Plus](#)
-  [Intermountain Cancer Knowledge Base](#)
-  [Radiology Info](#)
-  [KidsHealth](#)
-  [Cancer Knowledge Base \(Educator edition\)](#)
Account: **Intermountain**
Username: **Cancer**
Password: **Cancer**

Intermountain Clinical Applications (login required)

- [CPG Viewer](#)
- [HELP2](#)
- [KAT](#)
- [KRO](#)

Intermountain resources

- [Antibiograms](#)
Requires an Intermountain.net or Intermountainphysician.org login
- [Clinical Genetics Institute](#)
- [Clinical Programs](#)
- [Collaborative Practice Guidelines](#)
- [Critical Care Protocols](#)
- [Emergency Department Guidelines](#)
- [Germ Watch](#)
- [LabNet](#)
- [SelectHealth Formulary](#)
- [Senior Care Resources](#)



Add ClinGen to your e-Resources

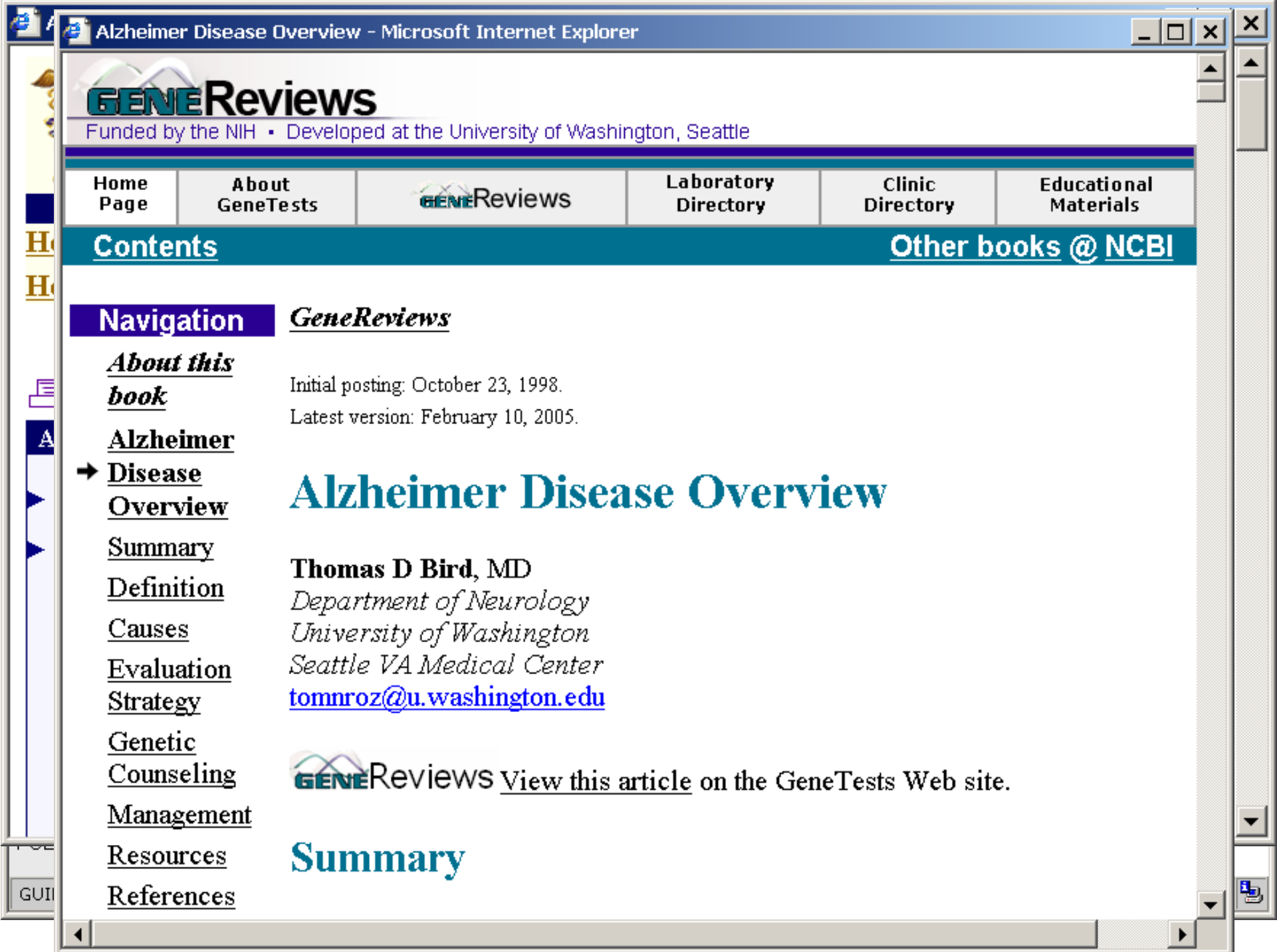
- We can create a unique link for your institution so you can add to your own e-resources collection

InfoButtons

- With the Intermountain Health Data Dictionary (HDD), InfoButtons build and run queries against e-Resources based on **patient data** and **clinical context**
- Take user to the most appropriate section(s) within a content collection
- Minimum number of mouse clicks

InfoButtons

	Resource	Terminologies (all use the HDD)
Lab results	Clineguide	LOINC codes, free-text search
Medications	UpToDate, Micromedex, Clineguide	NDC codes, free-text search
Problem list	UpToDate, MDConsult, Clineguide, PubMed	ICD-9-CM codes, free text search



GENEReviews

Funded by the NIH • Developed at the University of Washington, Seattle

Home Page	About GeneTests	GENEReviews	Laboratory Directory	Clinic Directory	Educational Materials
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Contents [Other books @ NCBI](#)

Navigation

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- [Summary](#)
- [Definition](#)
- [Causes](#)
- [Evaluation Strategy](#)
- [Genetic Counseling](#)
- [Management](#)
- [Resources](#)
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GeneReviews

Initial posting: October 23, 1998.
 Latest version: February 10, 2005.

Alzheimer Disease Overview

Thomas D Bird, MD
*Department of Neurology
 University of Washington
 Seattle VA Medical Center*
tomnroz@u.washington.edu

 [View this article](#) on the GeneTests Web site.

Summary

Future Plans

- Pursuing full integration with open infobutton
- Add variant level searching
- Solicit input from end users (that is you!!)
 - Encourage your member to go to:
 - <https://www.clinicalgenome.org/>
 - Enter diseases, genes and/or medications into the search box on the home page. It may help to generate a question or questions you may want to try and answer (examples could be: does this medication have pharmacogenomics information; does this disease have a genetic cause; what diseases are associated with this gene; are there interventions for this genetic disease)
 - Navigate the content collections that appear as part of the search result
 - Identify suggestions for improvement of the site, the search function and/or improving your user experience
- Send suggestions to Marc Williams mwilliams1@Geisinger.edu, or use the contact button on the website to reach our webmaster