



What Can We Expect from Big Data?

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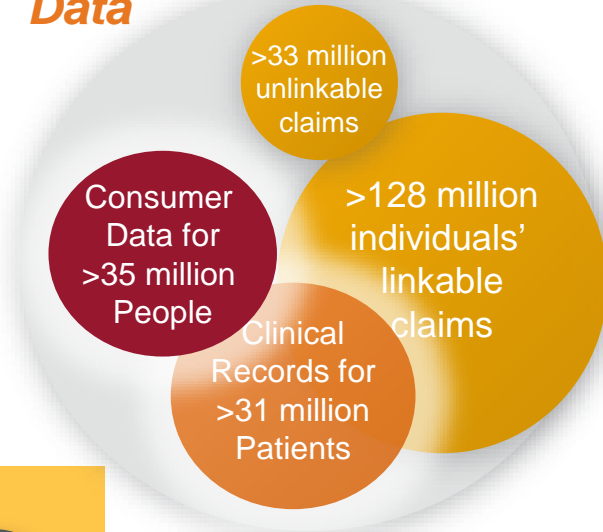
Optum Labs: Building A Novel Node In The Learning Health Care System

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 NO. 7 (2014):187-194
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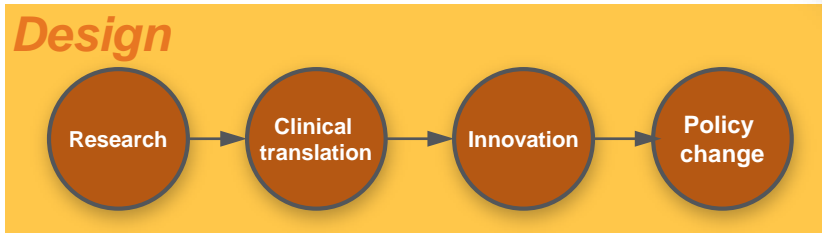
Partners



Data



Design



Data + Partners + Design... An Infrastructure for Health System Learning

- Investigator Initiated Research
 - Pre-competitive
 - 100+ projects, involving a dozen partners, underway

- Further testing the capacity to learn through innovation and collaboration...
 - Providing better prediction
 - Tackling bigger problems
 - Enabling expanded care personalization

- Systematic translation of emerging knowledge
 - Design from project conception with end user in mind
 - **Convey and reinforce through performance measurement**

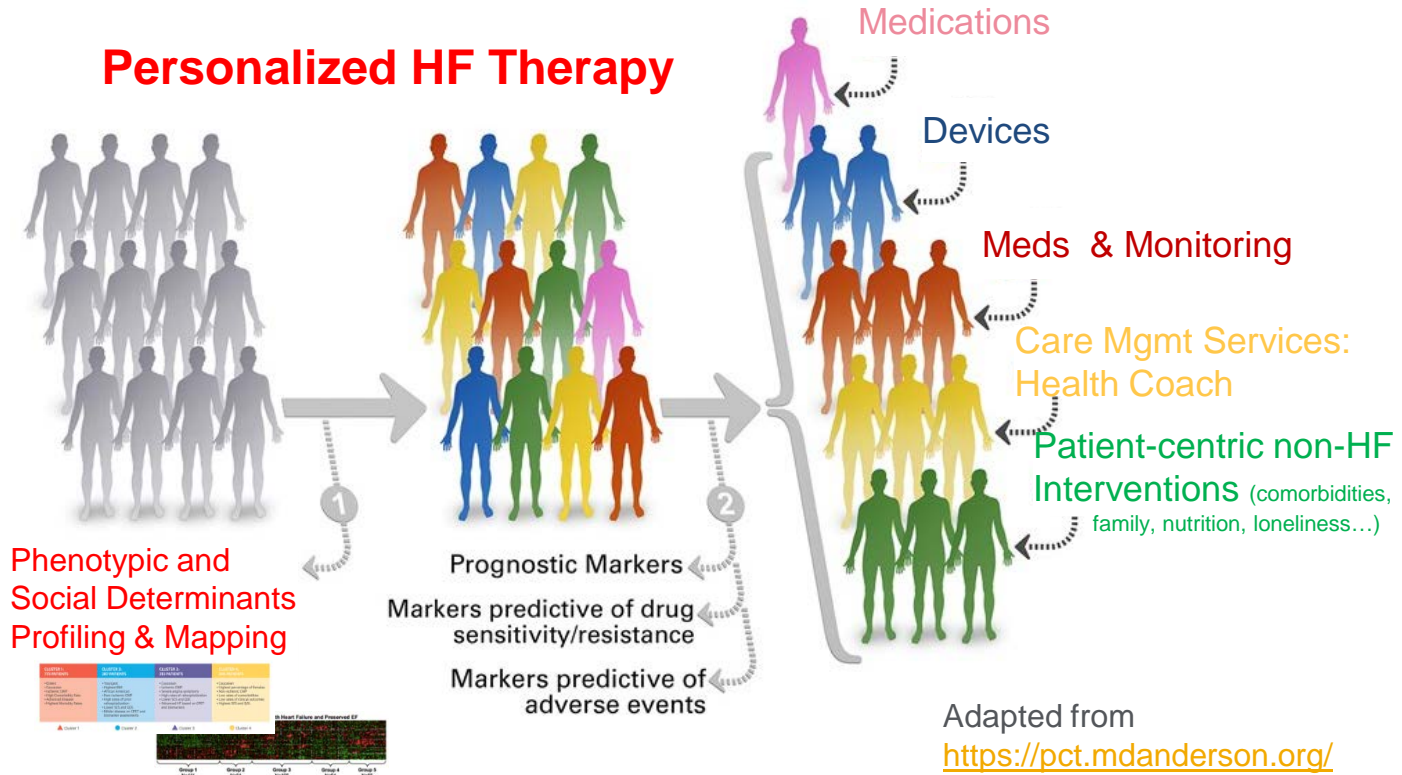
Patient Centered or Personalized?



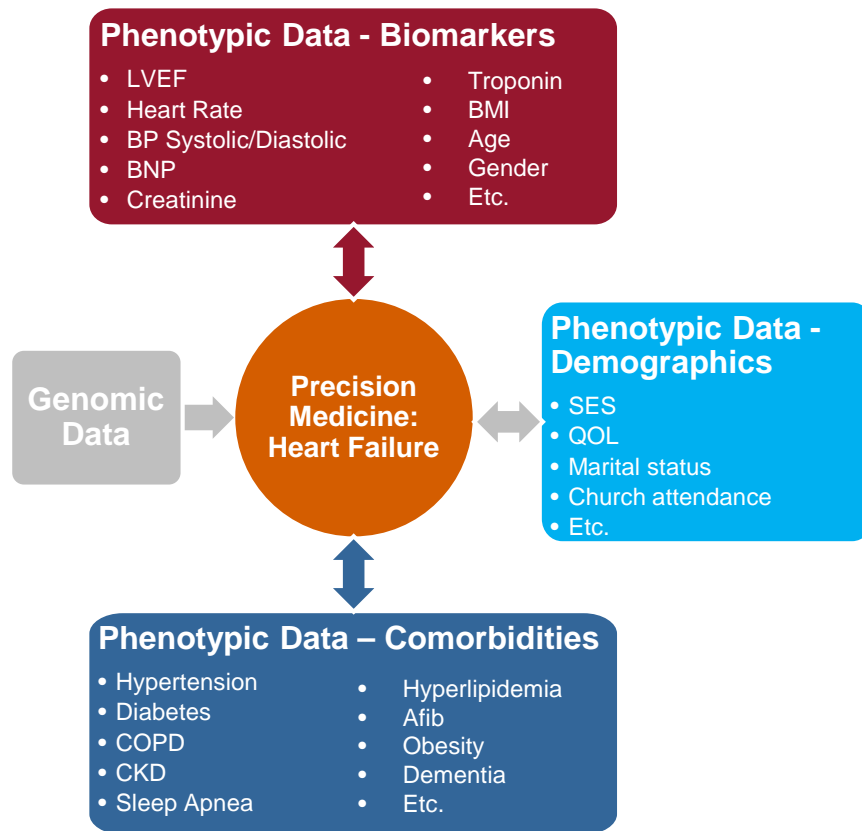
The N of 1

Precision Medicine

Personalized HF Therapy



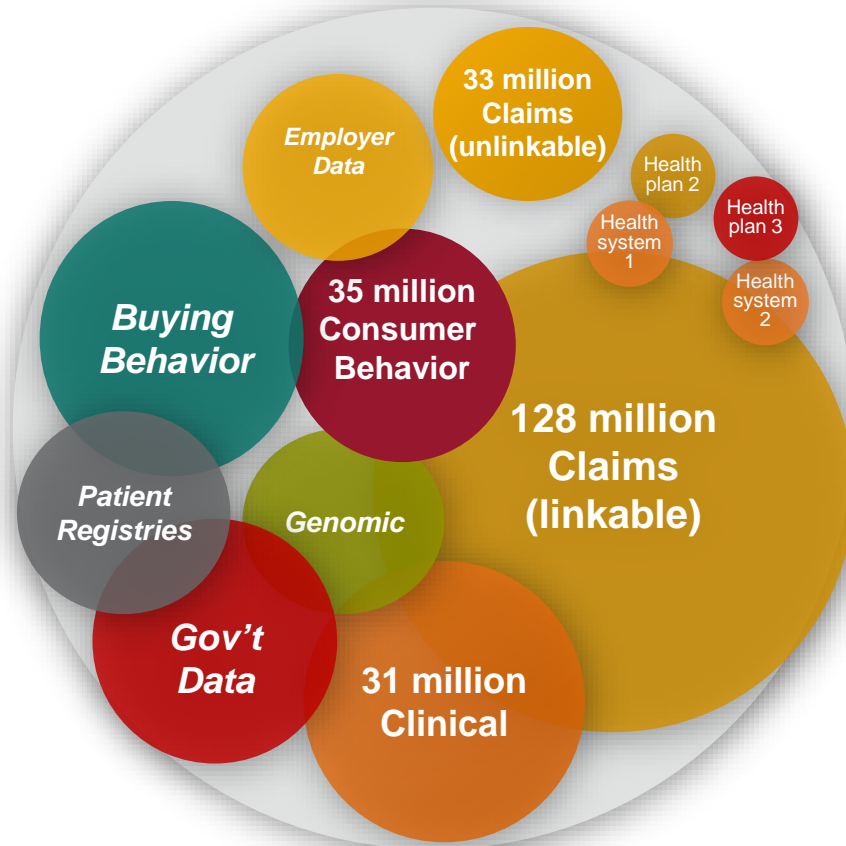
Precision Medicine for Heart Failure Patients



Phenomapping and Patient Clustering, Key Studies

Characteristics	Ahmad T et al / Duke	Shah SJ et al / Northwestern	Optum Labs Heart Failure patient clustering – work in progress	Comparison – Get with the Guidelines (GWTG)
Study population	<ul style="list-style-type: none"> Heart Failure patients from a randomized clinical trial, HF-ACTION 	<ul style="list-style-type: none"> Out Patient Clinic patients identified after hospitalization for HF 	<ul style="list-style-type: none"> Cohort of patients with prevalent HF in the Optum Labs database– 2009 and 2014 	<ul style="list-style-type: none"> Patients hospitalized for HF (97 Hospitals)
Patient Characteristics:				
Cohort, n	1619	397	231,764	18,516
Age, years	59	65	72	73
Female, %	27	63	50	50
Race, %				
White	62	52	69	72
Black	33	38	16	16
Other	5	10	14	12

Database Design – Potential and Strategic Approach



What is the problem we are trying to solve?

Strategic Opportunity...

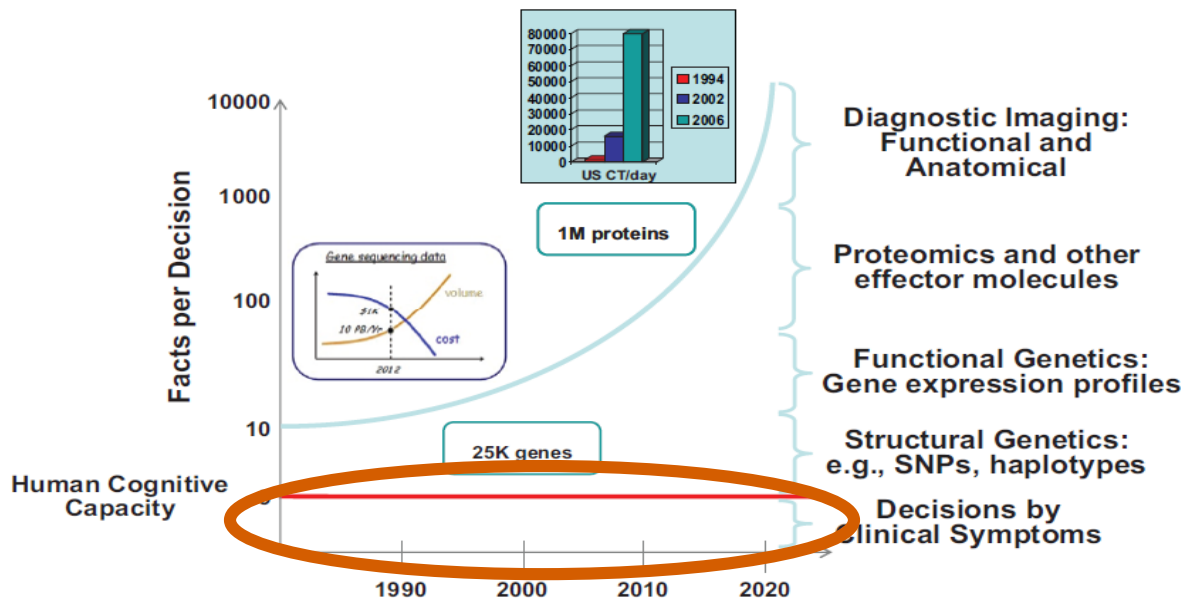


FIGURE 3-2 Challenges to delivery of individualized clinical care are data explosion and cognitive overload, exceeding human cognitive capacity.

SOURCE: Neti, 2009. Adapted from Stead, 2007, p. 19.



Thanks...