

# 7 Opportunities Where Big Data, Analytics and Cloud Technology Are Transforming Population Health Management

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# Agenda

- Definition of Population Health Management
  - Opportunity 1: Developing Precise Patient Registries
  - Opportunity 2: Identifying Your High Medium and Low Risk Patients
  - Opportunity 3: Assigning Patients to the Right Provider
  - Opportunity 4: Measuring Clinical and Financial Variability in Care
  - Opportunity 5: Incorporating External Data
  - Opportunity 6: Co-ordinating Care and Engaging Patients
  - Opportunity 7: Capturing Outcomes that Matter
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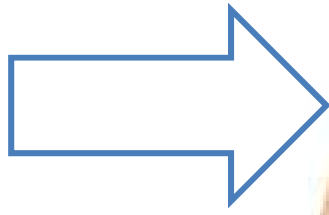
# What is Population Health Management?

*Population Health Management uses **data and technology** to drive **better health outcomes** for patients by giving stakeholders the ability to **monitor their entire patient population at-a-glance** and in **real time***

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# Opportunity 1: Developing Precise Patient Registries

Problem: Can't just use ICD10 Codes, precise Patient Registries require a **Big Data** solution



## Opportunity 2: Identifying High Medium and Low Risk Patients

**Problem:** Determining which patients in the registry are higher risk and how to manage them cost effectively, requires a **machine learning** solution

Hierarchical Condition  
Categories (HCCs)

Adjusted Clinical  
Groups (ACG)



Charlson Comorbidity  
Measure

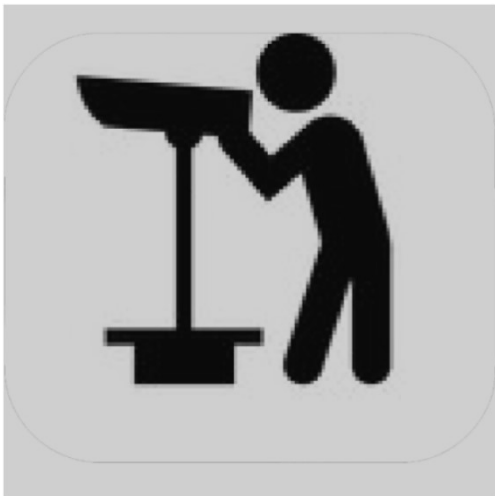
Elder Risk Assessment  
(ERA)

Chronic Comorbidity  
Count (CCC)

# Opportunity 3: Assigning Patients to the Right Provider

Problem: Being able to continually measure a populations financial risk requires a machine learning solution

RETROSPECTIVE



PROSPECTIVE



## Opportunity 4: Measuring Clinical and Financial Variability in Care

**Problem:** Monitoring clinical effectiveness and cost of care to the patient and system requires an **Analytics** solution

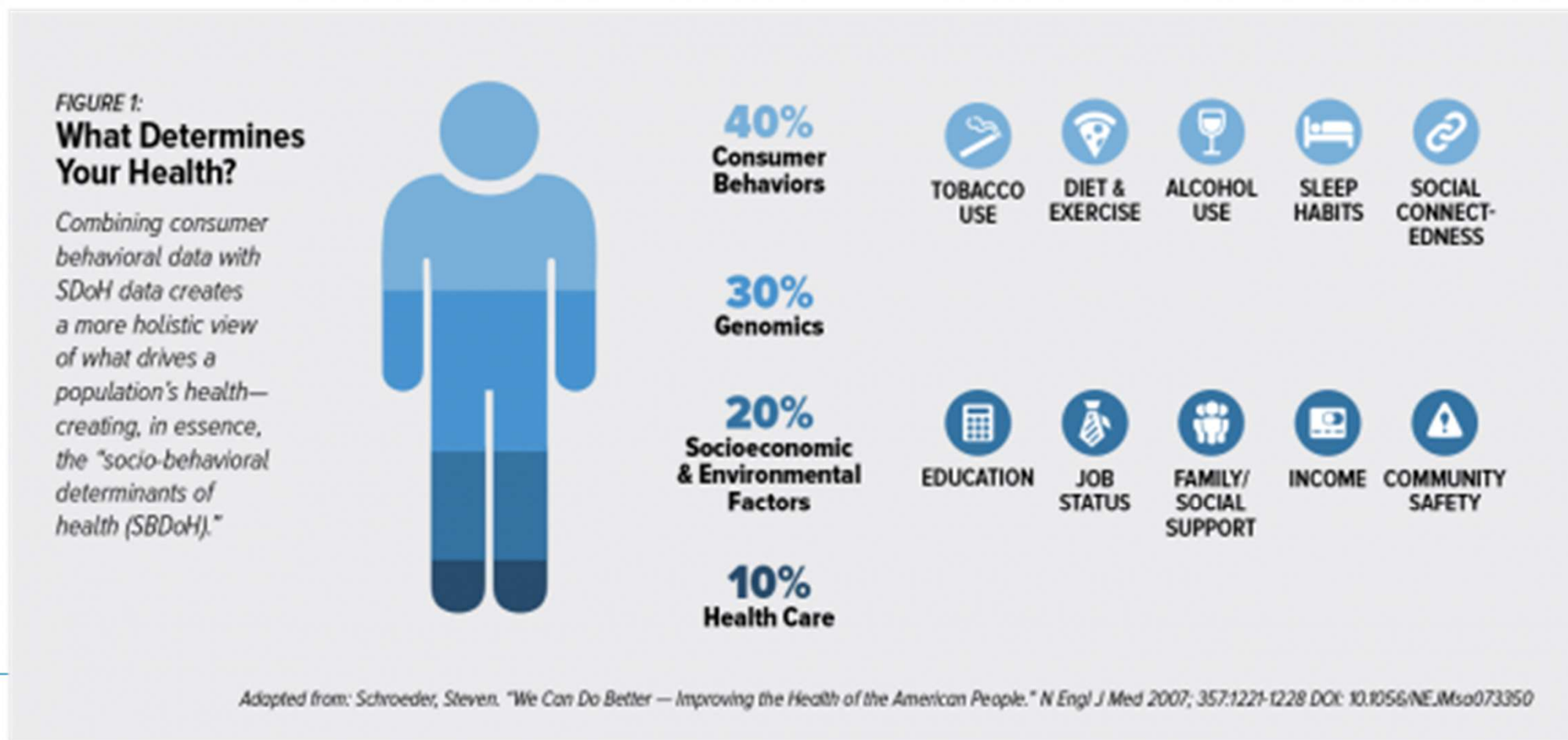


Measure practice of medicine against clinical protocols:

- Measure the variability in care
- Build dashboards around specific patients and population of patients
- Must track the total cost of care for specific patients and a per-capita basis across the population
- Provide quality, outcome, and cost variance feedback to physicians, risk adjusted, at the point of care
- Identify care gaps

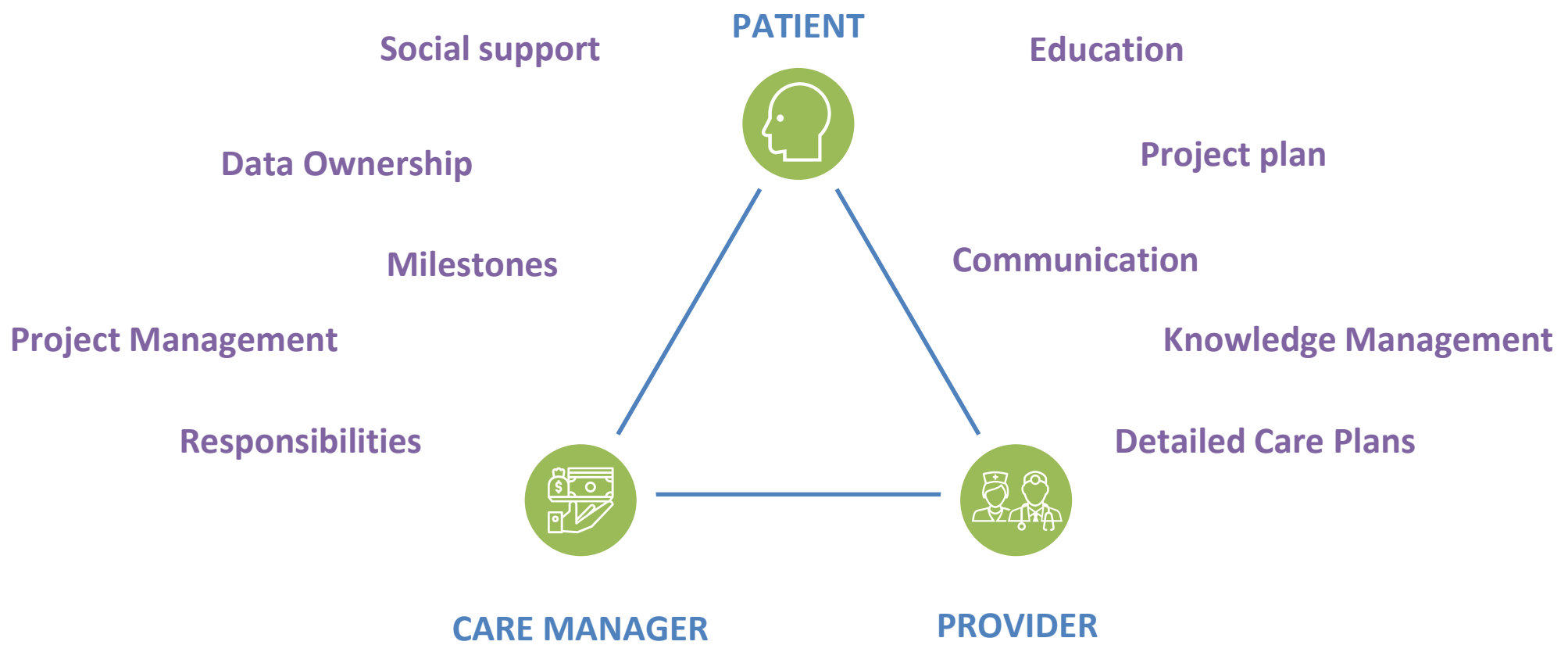
# Opportunity 5: Incorporating External Data

**Problem:** Only a fraction of patient's outcomes are directly related to clinical care, moving past clinical and administrative data requires a **Big Data Solution**



# Opportunity 6: Co-ordinating Care and Engaging Patients

**Problem:** Co-ordinating care and engaging patients cost effectively and efficiently requires a **cloud technology** solution



# Opportunity 7: Capturing Outcomes that Matter

**Problem:** Current Outcome measures are very process driven. To measure what matters to patients requires a **Big Data** and **cloud technology** solution

## Example: Measures For Coronary Heart Disease

### HEDIS

Measures whether a provider prescribed antiplatelet therapy like aspirin or Plavix because evidence shows that such therapies help reduce heart attacks

The sole purpose of the measure is whether the medication was prescribed or not. We do not measure whether the patient filled the prescription, took it correctly or experienced better outcomes because of it

### ICHOM

Doesn't measure antiplatelet therapy. Instead, it focusses on patient reported health status (angina, dyspnea, depression, functional status, health related quality of life) during the first 30 days after treatment.

It then measures those same factors annually for the next five years.

**Thank you**

