Population Health Information Technology

Session 2: Technologies for Successful Population Health Management

April 2022

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Objectives

- Describe the purpose and major steps involved when using population health management (PHM) applications
- Identify data sources that PHM needs for analytics
- Recognize the importance of risk identification and stratifying and segmenting patient population data

Terminology

- Accountable Care Organization (ACO)
- Continuity of Care Document (CCD)
- Electronic Health Record (EHR)
- Health Information Exchange (HIE)
- Health Information Technology (HIT)
- Hierarchical Condition Category (HCC)
- Population Health Management (PHM)
- Social Determinants of Health (SDOH)
- Value-Based Payment (VBP) and Value-Based Care (VBC)

Population Health Management

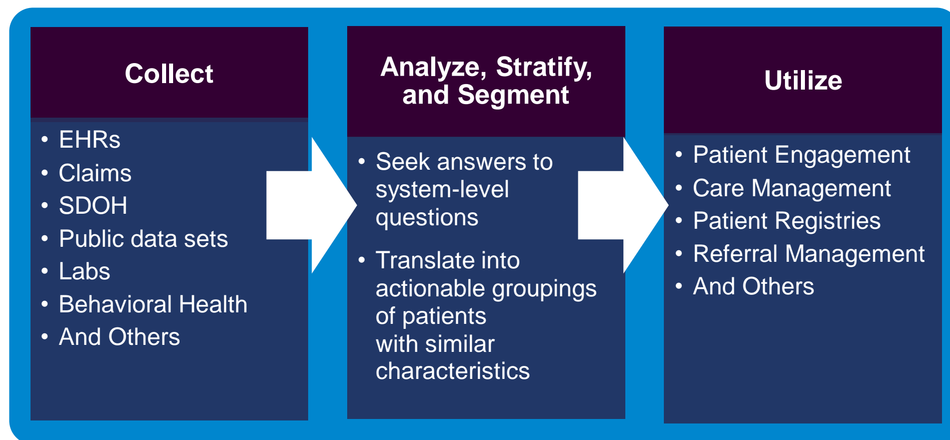
Population Health Management: What and Why

- General definition of Population Health Management (PHM)
- Why do we need PHM and how can it help to achieve the goals of VBC?
- VBC starts with focusing on the patient: Annual wellness visits as a pillar

Population Health Management in Practice

- Medication reconciliation at outpatient visits
- Medication therapy management in outpatient settings
- Chronic disease management programs for specific diagnoses
- Efforts to reduce preventable readmissions
- Post-acute care integration

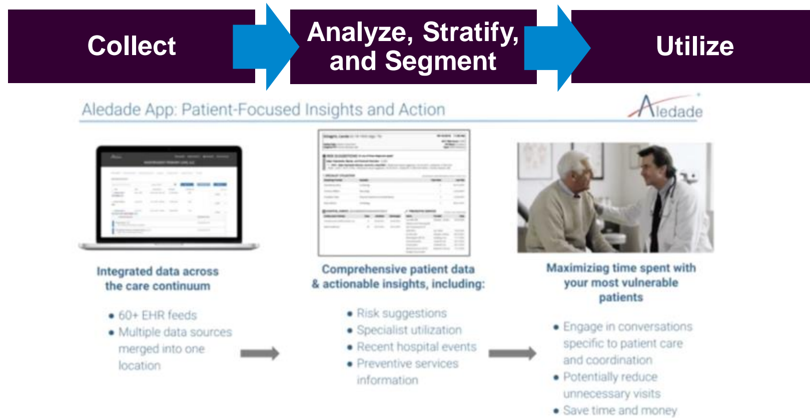
Population Health Management Key Functionality



Examples of Population Health Management Solutions/Vendors

- Standalone (non-EHR vendors)
  - Cognizent
  - Enli/Cedar Gate
  - Evolent Health
  - Health EC
  - Lightbeam Health Solutions
  - Optum
  - SPH Analytics
- EHR Vendors
  - Epic System Corporation's Healthy Planet
  - Cerner Corporation's HealtheIntent
  - Allscripts' CareInMotion

Vendor PHM Example



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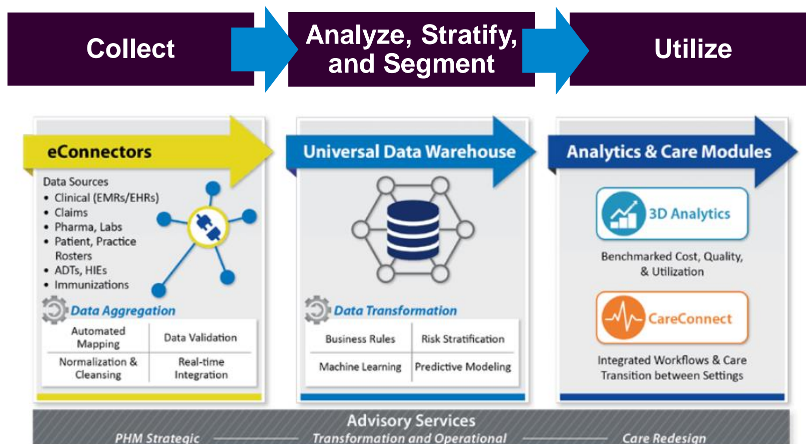
Vendor PHM Example cont.



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Collect the Data

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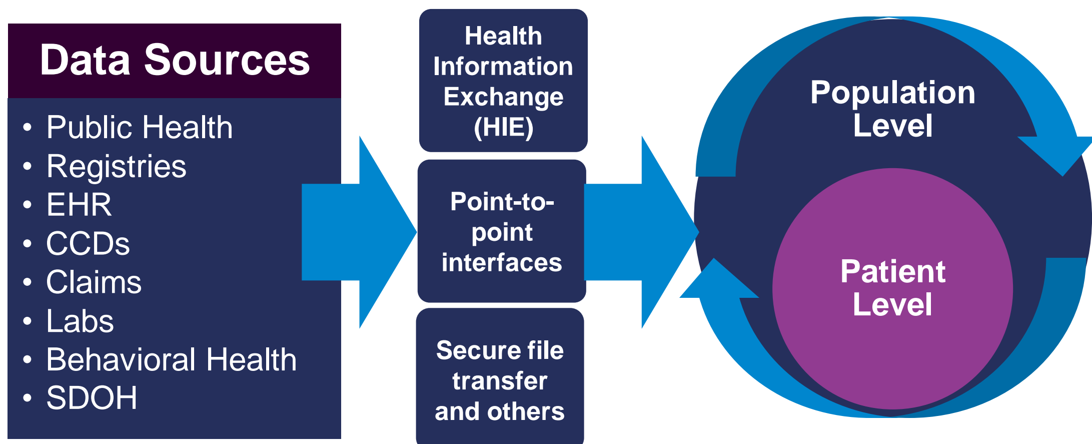
Data Sources and Aggregation



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Data Must Move: Health Information Exchange (HIE)

- EHR data is important...but not sufficient
- Health Information Exchange is essential given the many sources needed for multiple purposes
- HIE helps build longitudinal care records
- Healthcare Information and Management Systems Society (HIMSS) emphasizes the importance of HIE for Value-Based Care

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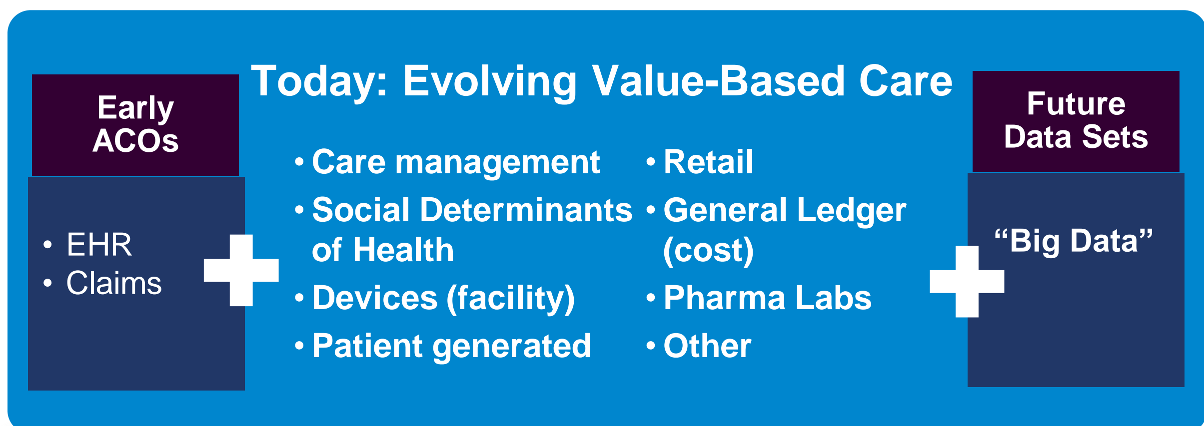
Data Collection & Aggregation



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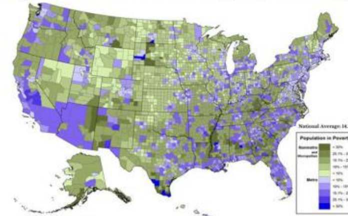
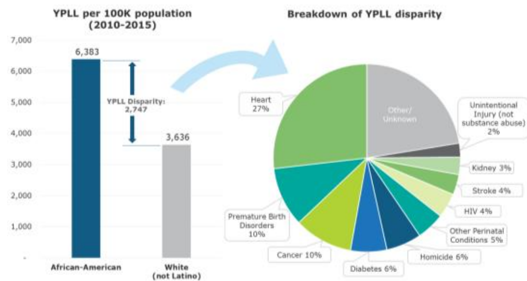
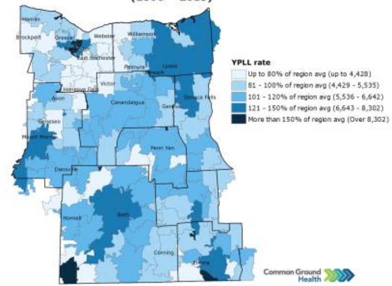
Public Data Sources and Insights







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Analyze and Stratify the Data

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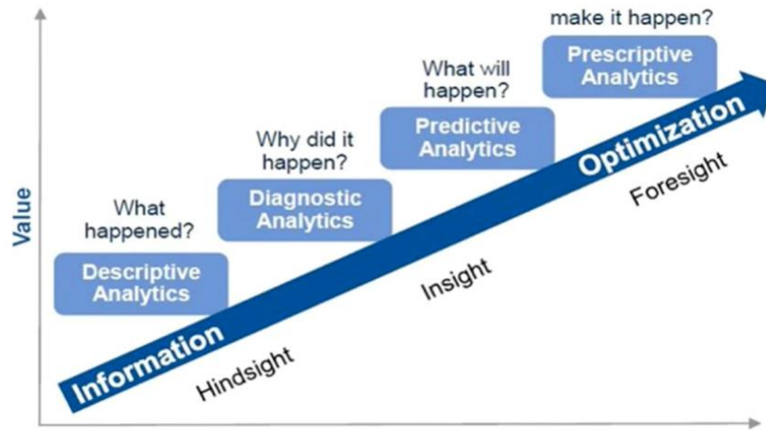
Key Ingredient: Analytics

"Analytics is the discovery of meaningful patterns in data and is one of the steps on the data life cycle of collection of raw data, preparation of information, analysis of patterns to synthesize knowledge, and action to produce value."
– NST Big Data, 2015



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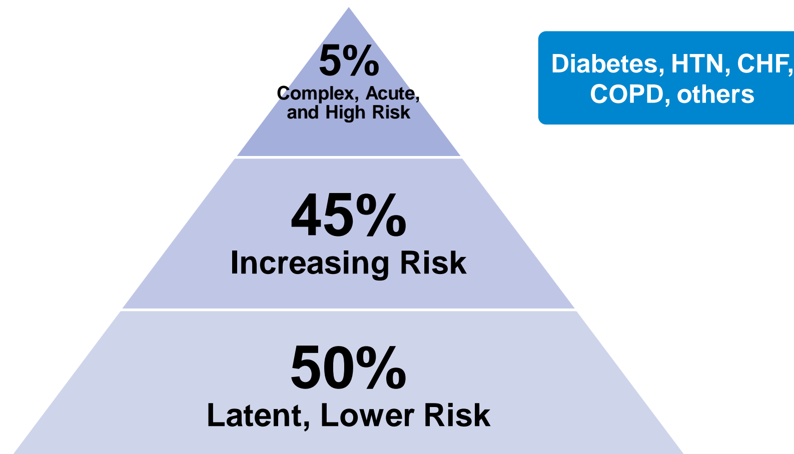
Risk Identification and Stratification



Diabetes, HTN, CHF, COPD, others

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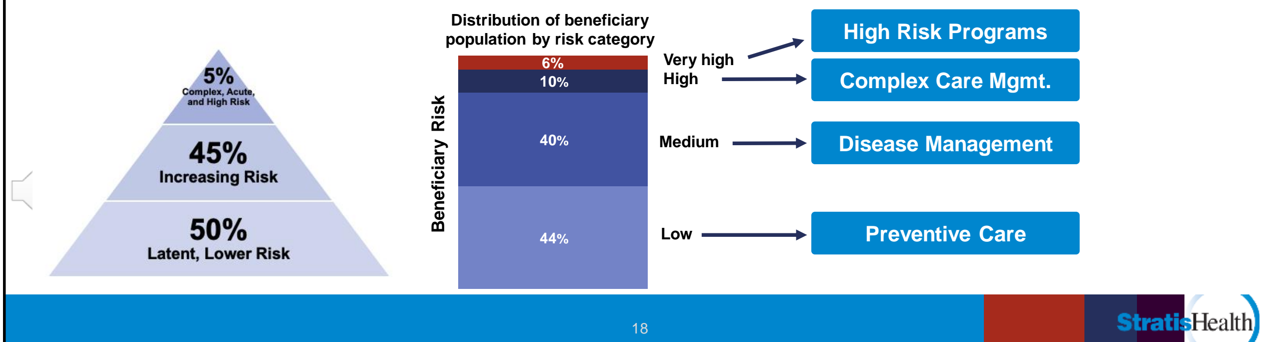
Risk Stratification Example

(1) Low risk, for healthy beneficiaries with limited or unavoidable utilization
(2) Medium risk, for beneficiaries with early onset or stable chronic illness
(3) High risk, for beneficiaries with full onset chronic illness and rising risk
(4) Very high risk, for beneficiaries with complex needs and/or high costs



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Risk Algorithms and Insights

- Johns Hopkins ACG System
- Likelihood of Hospital Admission: Individual additional factors for Extended Stay, Injury Related, and ICU
- Likelihood of Pt. Being in Top 5% [of cost](Next 12 Mo.)
- Risk of Poor Care Coordination – Identifies potential cost overruns for patients who may be using specialists as PCPs
- Unexpected Pharmacy Costs
- NYU Avoidable ED: Utilizes a client-configurable set of “Avoidable” and “Non-Avoidable” diagnoses to determine appropriateness of venue
- Charlson Comorbidity Index: Predicts one-year mortality likelihood for patients with multiple comorbid conditions
- Hierarchical Condition Coding (HCC): Communicates patient complexity through ICD-10 groupers

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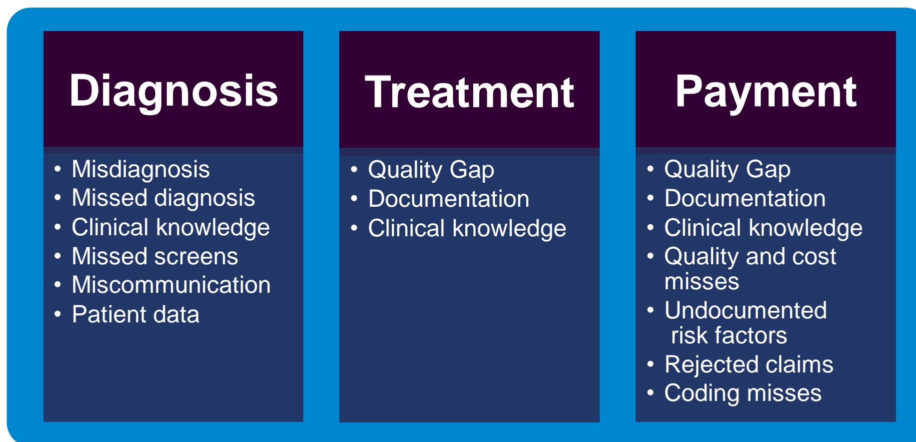
Gap Analysis



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Utilize the Results

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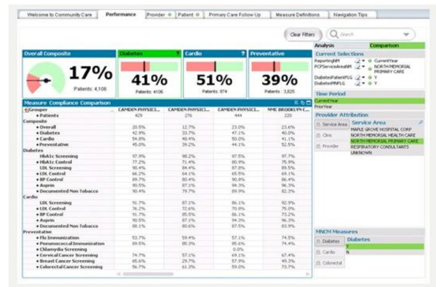
Insight on Outputs

- Once all the analysis has been done, what are the primary outputs that will be translated into action for individual patient-level care?
  - Quality metrics for a facility (hospital, clinic)
  - Provider level dashboards
  - Ability to drill down into patient level detail
  - Output as close to real time as possible to enable actions / improvements



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Shifting from a Reactive to Proactive System with VBC

- Prior collaboration experience
- Volume-to-value transformation strategic focus
- Clinician champions
- Shared governance
- Care coordination services
- Data access and analysis

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Integrating Health Equity at the System Level

- What are the analytics that can be performed to identify disparities?
- What measures can be incorporated to make accountable improvements? (embedded in risk contracts)
- "The Role of ACOs in Addressing Health Equity" (NAACOs resource)

Summary

- Review of Population Health Management and the handoff to Care Management and Care Coordination
- Next session (3) will look at managing patient groups and direct patient engagement
- Reference and Resource slides follow this final slide
- A PDF of this session is available with active hyperlinks to access references and resources

References

Slide 4: Population Health Management: What and Why

(1): Top Strategies for ACO Success. Managed Healthcare Executive (Nov. 9, 2019)
https://www.managedhealthcareexecutive.com/view/top-strategies-aco-success

(2): Population Health Management and ACOs: Will They Achieve Their Goals of Better Health and Lower Costs? (Jan-Feb 2018) Missouri Medicine
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6139785/

Slide 7: Examples of Population Health Management Solutions/Vendors

(1) Health IT Analytics. How Hospitals Invest in Health IT for Value-Based Care (Sept 23, 2019)
https://healthitanalytics.com/news/how-hospitals-invest-in-health-it-for-value-based-care

Slide 8: Tools Needed for Population Health Management

(1): Aledade screenshot from webinar (Feb. 2022)
https://resources.aledade.com/webinars

References cont.

Slide 9: Vendor PHM Example

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https://www.healthec.com/population-health-management.php

Slide 10: Data Must Move: HIE

(1) HIMSS Legal corner: Why HIE is indispensable to ACO success (Nov. 4, 2011)
https://www.healthcareitnews.com/news/himss-legal-corner-why-hie-indispensable-aco-success-part-2

Slide 11: Public Data Sources and Insights

(1) Rural Health Information Hub (website Feb. 2022)
https://www.ruralhealthinfo.org/topics/statistics-and-data

(2) Extensive list of Data Sources and Tools Relevant to Rural Health
https://www.ruralhealthinfo.org/topics/statistics-and-data/data-sources-and-tools

References cont.

Slide 16: Key Ingredient: Analytics

(1) Figure/Graphic : Gartner, 2012

(2) Definition of Analytics: NIST Big Data (2015)

(3) SPH Analytics (Feb. 2022)
https://www.sphanalytics.com/solutions-2/analyze/descriptive-predictive-analytics/

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(5) Risk pyramid Source:
Health information technology can support population health management (April 18, 2018)
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(6) Lightbeam Health Solutions
https://lightbeamhealth.com/risk-stratification-searchlight/

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Slide 17: Key Ingredient: Analytics

(1) Medical Laboratory Observer. Health information technology can support population health management (April 18, 2018)
https://www.mlo-online.com/information-technology/lis/article/13009479/health-information-technology-can-support-population-health-management

Slide 18: Risk Stratification Example

(1) OneCare Vermont ACO Case Study: Community Care Coordination Program
https://www.onecarevt.org/wp-content/uploads/2021/01/ACO-CaseStudy-OneCareVermont_1_4_21.pdf

Slide 19: Risk Algorithms and Insights

(1) Lightbeam Health Solutions (Feb. 2022)
https://lightbeamhealth.com/risk-stratification-searchlight/

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References cont.

Slide 20: Gap Analysis

(1) Chilmark Research (2017)

www.chilmarkresearch.com

(2) HealthCatalyst (Feb. 14, 2019)

ACOs: Four Ways Technology Contributes to Success

Slide 22: Insights on Outputs:

Health Catalyst website (Feb. 2022)

https://www.healthcatalyst.com/success_stories/population-health-management-solutions-for-community-care-physicians/

Slide 24: Integrating Health Equity at the System Level

(1) The Role of ACOs in Addressing Health Equity. NAACOs

https://www.naacos.com/assets/docs/pdf/2021/ACOsandHealthEquityWhitePaper092121.pdf

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