Basics of Population Health in the Care of Older Adults

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Outline

- Elder population trends
- Definitions and background
- Framework for population management
- Success factors and caveats
- Population health and informatics
Population trends

• From 2011 to 2050 the number of people aged 65 and older is expected to more than double to 89 million.
• From 2015 to 2035 the number of people aged 85 years and older will double, reaching 13 million.
• By 2060, nearly one quarter of Americans will be over 65 years old.
• The number of Medicare beneficiaries with three or more chronic conditions will increase from 26% in 2010 to 40% in 2030.
• By 2034, Wisconsin expects a 90% increase in people aged 65 to 84 and a 140% increase in those over 85 (Young & Adams, 2015).
Public Health

Population Management

Population Health
Public health

“Public health is the science of protecting and improving the health of people and their communities. This work is achieved by promoting healthy lifestyles, researching disease and injury prevention, and detecting, preventing and responding to infectious diseases.”
Our income: 10 years
Our education: 9 years
Our race: 7 years
Population health

The health outcomes of a group of individuals, including the distribution of such outcomes within the group.


- Consideration of upstream factors
- Healthy lifestyles
- Health status measurements
- Determinants and disparities
Social and economic forces

Figure 1: Social Determinants of Health

Population Health

- **20% Health Care**
  - Access to care
  - Quality of care

- **30% Health Behaviors**
  - Tobacco use
  - Diet & exercise
  - Alcohol use
  - Unsafe sex

- **40% Socioeconomic Factors**
  - Education
  - Employment
  - Income
  - Family/social support
  - Community safety

- **10% Physical Environment**
  - Environmental quality
  - Built environment

Source: Authors’ analysis and adaption from the University of Wisconsin Population Health Institute’s County Health Rankings model ©2010.
http://www.countyhealthrankings.org/about-project/background
Health care delivery systems
Population Management

Institute for Healthcare Improvement definition

“...orients payment and the delivery of health care services toward the achievement of specific health care-related metrics and outcomes for a defined population.”

Triple Aim

AdvocateAuroraHealth
Variable cost and quality

Composite Measure of Quality of Care

Source: Data from AHRQ and CMS.
Population focus

- 5%
- 30 to 40%
- 60 to 70%

Health Care Costs Concentrated—
Sickest 10 Percent Account for 64 Percent of Expenses

Distribution of health expenditures for the U.S. population, by magnitude of expenditure, 2003

<table>
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<th>Expenditure threshold (2003 dollars)</th>
<th>Percentage</th>
<th>Total Expenditure</th>
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Population Management Framework
Determine the desired (measurable) outcome

Define the population

Identify relevant risk factors

Design interventions

- Triple (quadruple) aim
  - Quality – Costs - Service/experience - Clinician well-being

- Measurement methods
  - Comparison group
  - Within group comparison

- Risk criteria
  - High risk - Rising risk
  - Wellness/prevention

- Clinical
  - Social
  - Environmental
  - Economic
  - Engagement/self-care capacity

- Consistent, objective, evidence-based criteria for population inclusion

- Population matches the desired outcome

- Data sources
  - Reporting time lags
  - Reliability & Validity

Advocate Aurora Health
Elder Population Risk Factors

– Delirium
– Frailty
– Nutritional status
– Alcohol consumption
– Sleep
– Bone density
– Depression/mental health
– Poly-pharmacy
– ....
Design the interventions

- Clinical
- Systems
  - Department and/or inter-department workflows
  - IT development
- Roles
  - Definition
  - Training/qualifications
- Care processes/bundles
Intervention Principles
Success Factors

• Evidence-based
• Inter-professional
• Patient centered
  – Culturally sensitive
  – Engagement strategies
• Care coordination focus
• Systems thinking
• Data transparency
• Alignment of (patient & organizational) incentives
• Implementation science
Some Caveats

- Balance the needs of the individual and the health of the population
- Team, site or system-based factors influence population management intervention plans
Looking to the Future

• Health care informatics revolution
  – Interoperability
  – Payer data integration (view comprehensive utilization)
  – Data warehouses
  – Predictive modeling
    • Patient level
    • System level risk assessment
  – Provider level population analysis tools
  – Patient data sharing
  – AI
References

Thank you for your attention