T27: Population-based risk stratification in health:

The opportunity for risk sciences to influence precision medicine
Population-Based Management

Hospitals and Care Systems of the Future

September 2011

American Hospital Association

UCLA Center for SMART Health
A partnership between the UCLA Institute for Precision Health, Clinical & Translational Science Institute, and the Garrick Institute for the Risk Sciences
Two Plausible Transition Paths

Enabling Financial Success from Population Health Management

Migrating to a Value-Based Business Model

Leading with Care Transformation
- Invest quickly
- Prove concept
- Obtain value-based payment

Leading with Value-Based Contracts
- Meet payer demands for risk
- Secure share
- Adapt care model

Source: Health Care Advisory Board interviews and analysis

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Currently 133 million (~45%) of the population has one or more chronic condition (expected to grow to 49.3% or 180 million people by 2030)

- Attributable to 7 out of 10 deaths in the United States each year (~1.7 million deaths)

- High impact to quality of life and productivity (resulting in secondary economic impacts -- $1 Trillion in total loses to the economy\(^1\))

- Prevention of chronic diseases\(^2\):
  - Believed that many chronic conditions are preventable with minor lifestyle changes (better diet, exercise, and not smoking)
  - Could prevent 80% of heart disease and stroke, 80% of type 2 diabetes, and 40% of cancers
Managing Three Distinct Populations Essential to Profitability

Third-Party Information Valuable But Should Not be Sole Determinant in Segmentation Strategy

Financial Analysis Indicates Necessity of Managing Rising-Risk Patients

5 Year Margin Projection by Risk Management Level

- Baseline, no management by risk level
- Managing high-risk only
- Managing high-risk and rising-risk patients

Managing Three Distinct Populations:
- **High-Risk Patients**: 5%; complex
- **Rising-Risk Patients**: 15-35%; may have conditions not under control
- **Low-Risk Patients**: 60-80%; any conditions minor, easily managed

Source: Health Care Advisory Board interviews and analysis.
Requires a collaborative strategy between leaders in healthcare, politics, charity, education, and business.
Todays Panel Presentations

Arash Naeim, MD PhD
  *Risk-Based Screening for Breast Cancer*

Ramin Ramezani, PhD
  *Sensing At-Risk Patients*

Alex Bui, PhD
  *Optimizing imaging-based Lung Cancer Screening*

Open Panel Discussion