Objectives

- Describe UW Health’s strategies and tactics to manage the entire population health management cycle including methods for:
  - Identifying the patients most in need of proactive care management
  - Coordinating care and managing workflow with the latest evidence-based guidelines
  - Gathering actionable intelligence to continually improve on our initiatives in care and risk management
  - Monitoring the success of our programs using analytics and reporting
UW Health

Mission: Advancing health without compromise through service, scholarship, science and social responsibility

The UW Health Enterprise

UW Health is an academic health system which includes:

- **University of Wisconsin Hospital and Clinics (UWHC)**
  - 592-bed tertiary care facility, 87-bed pediatric hospital, 56-bed hospital serving orthopedic and general medical/surgical patients (opening Aug 2015)
  - Wisconsin's only Level 1 Adult and Pediatric Trauma Center
  - 85 outpatient clinics

- **University of Wisconsin Medical Foundation (UWMF)**
  - One of the 10 largest medical groups in the nation
  - More than 1,300 faculty physicians and 2,400 non-physician staff
  - 48 practice locations

- **University of Wisconsin School of Medicine and Public Health (UWSMPH)**
  - Approximately 1,300 faculty in 10 basic science and 17 clinical departments that include primary care, specialty and subspecialty areas
  - Basic, clinical and population health research is funded by grants from NIH, other federal agencies and industry sponsors

**Pertinent Facts:**

- Epic customer since 2001
- Began building an Enterprise Data Warehouse - 2010
- Implemented QlikView – November 2013
- Became a MSSP ACO – January 2013
  - Performance Year 1 Results: 10th lowest expenditures per beneficiary person-years & 32nd highest final quality score of 220 organizations
- Began loading Epic’s Cogito Data Warehouse – Summer 2014

**Definitions**

- **Population Health**: The health outcomes of a group of individuals, including the distribution of such outcomes within the group.¹

- **Population Health Management**: The iterative process of strategically and proactively managing clinical and financial opportunities to improve health outcomes and patient engagement, while also reducing costs.

Which Portions of Population Health Can We Impact?
(Health Partners, MN)

Key Outcome | Health Determinant | Primary Drivers | Mission, Capabilities, Control
---|---|---|---
**Improved Health** (as measured by Summary Measures of Health) | Health Care (20%) | Access to & Quality of: • Preventive Services • Acute Care • Chronic Disease • End of Life • Cross Cutting Issues | • Central to Mission • Many Capabilities • High Control
| Health Behaviors (30%) | • Tobacco Non-use • Activity • Diet/Nutrition • Alcohol Use | • Central to Mission • Shared Capabilities • Shared Control
| Socio-economic Factors (40%) | Community-identified Drivers (Advocacy and Participation) | • Aligned with Mission • Limited Capabilities • Limited Control
| Environmental Factors (10%) | Community-identified Drivers (Advocacy and Participation) |  

Modified from Isham G and Zimmerman D, HealthPartners Board of Directors Retreat, October 2010

Needs of the Population Guide Program Development

- Complex Care: 1%
- Chronic Care: 2 - 5%
- Preventive and Routine Care: 80 - 100%

- Ambulatory Palliative Care*
- Adult Complex Case Management
- Pediatric Complex Case Management
- SNF Partnerships*
- End-Stage Renal Disease Care Model*
- Behavioral Health Integration*
- RN Care Coordination (Chronic Disease Management)
- Centralized Outreach
- Primary Care Model

* In Development
Keys to Our Analytics Progress

- **Health Innovation Program (HIP)**  [https://hip.wisc.edu/](https://hip.wisc.edu/)
  - Analyze our claims data
  - Custom predictive modeling
  - Evaluate program effectiveness

- **Center for Clinical Knowledge Management (CCKM) & Epic Analysts**
  - Maintenance of evidence-based guidelines and associated clinical decision support tools
  - Chronic disease and wellness patient registry development

- **QlikView** (Data Visualization Tool)
  - Catalyst for enterprise governance – priority-setting, reporting teams to working together, security and access
  - Self-service reporting & data discovery

- **Data Warehouses**
  - Enterprise Data Warehouse (EDW)
  - Cogito Data Warehouse (CDW)
Our QlikView Analysis Tools

- **Quality**
  - MSSP, WCHQ, HTN Registry, Readmissions, CAUTI*

- **Variation Reduction**

- **Financial**
  - Service Line, Work RVUs

- **Population Analysis Tool (CDW)**

- **Patient Experience Metrics**

- **Operations**
  - Emergency Dept, CCM*, ADT*

- **Claims**

* In Development

QlikView Visualization of CDW Data
QlikView Visualization of CDW Data

Population Analytics Tool – Data Not Validated

Epic’s Chronicles
- Pop Health Analysis
- Variation Reduction*
- Financial
- Patient Exp
- Operations Claims
- Quality

Real-Time Data
- Predictive Analysis

Clintical Staff
- Claims Data
- HIP DATA
- SAS
- MS SQL
- User Interface
- Storage
- Data Modeling
- Program Evaluation
- Population Analysis, Performance & Quality Reporting, Program Monitoring, Cost Analysis, Variation Analysis

Program Evaluation

CDW DATA
- EDW DATA
- Netezza

Current State

User Interface
- Predictive Analysis
- Population Analysis,
Performanc...
Example: Adult Complex Case (CCM) Management Program

Complex Case Management (CCM) – Data Discovery
Summary

- Performance Year 1 MSSP ACO Results
  Of 220 Organizations:
  - 10th lowest expenditures per beneficiary person-years (95th percentile)
  - 32nd highest final quality score (85th percentile)
- Multiple population health programs implemented and others in development
- Complex case management program appears to be effective in reducing patient costs
- Analytics program has delivered, but is still evolving

Next Steps for Analytics

- Expand metadata, working toward standardized terms & definitions
- Update our data warehouse strategy, moving toward one platform
- Centralize core BI team
- Improve prioritization mechanisms
- Implement role-based security for access to QlikView analysis tools
Thank you

Contact info:
grace.flood@uwmf.wisc.edu
Population Management

Patrick Falvey, Ph.D.
EVP Integration Shared Services, Aurora Health Care
June 4, 2015

Aurora – At a Glance
Aurora Health Care is an Integrated Delivery Network where every day...

- **11,000** patients will visit a clinic
- **34** babies will be born
- **685** people will go to an Emergency Room
- **4K** patients will have a hospital outpatient visit
- **1,500** families will be touched by Family Services
- **770** home meals will be delivered
- **10K** prescriptions will be filled
- **250** adults will be discharged from a hospital
- **3,300** images will be taken and read
- **750** homecare visits
- **315** surgical cases performed
- **354,000** lab tests run by ACL
- **60,000** Aurora lab orders sent to ACL
The Aurora Network

Integrated Provider Network Access
- Personalized care
- Out-of-area network options

Care Coordination & Population Health Management
- Clinical coordination
- Electronic health record coordination

Financial Predictability thru Shared Savings
- Individually underwritten solutions
- Potential not-to-exceed trend limit guarantee

Developed by: Annemarie Anderson
About Children’s Hospital of Wisconsin
Over a Century of Service to Kids

Nationally Recognized

TIME

MAGNET
RECOGNIZED

AMERICAN NURSES
CERTIFICATION CENTER

BEST
CHILDREN’S
HOSPITALS
RANKED IN 10 SPECIALTIES: 2014-15

2013
Parents
10 BEST
CHILDREN’S
HOSPITALS

COA
COMMON CORE
ACCREDITATION

Best Doctors
THE REINVENTION OF RIGHT®
Children’s By the Numbers

60,000 kids
Treated at our Emergency Room/Level I Trauma Center

24,000
Admitted to our hospital

200,000 kids
Touched by Community Services

250,000 visits
Primary Care

300,000 visits
Specialty Care
**Children’s By the Numbers**

- **284,608 diapers**  
  Used in our hospitals
- **43,281 flu vaccines**  
  Administered in all settings of care
- **31,968 popsicles**  
  Eaten
- **23,616 pancakes, waffles, french toast sticks**  
  Made with smiley faces
- **17,800 pacifiers**  
  Specialty Care
- **295 adoptions**  
  25% of adoptions in Wisconsin

**Care for the Most Vulnerable**

- More than 54% of our care is for patients on Medicaid
- One of the largest child welfare organizations in the state
- Working every day to reduce the impact of violence, maltreatment
- $110 million in community investment dollars
Treating Kids Is Not the Same As Treating Small Adults

Our Vision

Wisconsin kids will be the healthiest in the nation.
Keeping Kids Healthy

Determinants of Health

- Quality health care 10%
- Social/environmental 20%
- Genetic 30%
- Behavior 40%

Information and Performance Excellence - The Why

Our map
- Healthiest kids in the country

External collaboration
- Destination programs
- Care closer to home
- Population health and payment innovation

Internal Integration

People
Best place to work

Service
Excellent customer experience

Quality
Best and safest care

Finance
Balanced revenue and expenses

Information and Performance Excellence

Reduce the Time to Value
Our Approach

Enterprise Performance Management
Align across the pediatric enterprise by providing methods, tools and resources to manage performance for priorities through performance improvement, portfolio/project management, change management and value recognition.

Analytics and Performance Intelligence
Create infrastructure to further integrate and effectively leverage organizational information to improve decision quality and continuously improve our processes and services.

iStrategy
Improve the way we work to optimize outcomes for the children and families we serve through the deployment of an electronic health record, evolution of the hardware/software/tools to support the stability and reliability of the operating environment and investments in business intelligence, data warehousing and knowledge management.

Analytics Focus

- Focused on the population we serve – children and families
- All determinants of health beyond clinical outcomes
- Adoption not implementation
- Developed in partnership with the front line
- Applications developed with clear improvement aims
Children’s Hospital of Wisconsin

Kids deserve the best.