Population Health Management Design: Optimizing the Outcomes for Special Populations

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Learning objectives

- Define population health and its impact on pharmacy leaders.

- Evaluate challenges facing health system executives in prioritizing resources to be successful in population health management.

- Develop a road map for engaging pharmacy in organizations’ population health initiatives.

- Identify key stakeholders and internal partners in order to establish pharmacy’s role in population health.
Polling question

How would you describe your organization’s current level of involvement in population health services?

A. Fully deployed strategy with dedicated resources
B. Some population health services deployed
C. Just beginning to explore population health concepts
D. No current population health strategy plans
What is population health?

- Broad definition of health
- Healthcare delivery system
- Determinants outside the healthcare delivery system
- Resource trade-offs

“Insurers are now using ‘population health’ to refer to practically any effort to enhance the health status of their members. For example, the trade organization America’s Health Insurance Plans (AHIP) offers ‘population health solutions’ to its health plans across the country. These solutions include ‘health coaching/fitness/wellness, clinical care/care management, accreditation, pharmacy/PBM, pharmaceutical, oncology, hospice, behavioral health, and surgical device management.’”

Public health and population health

- All patients
- Groups of patients
- Individual
Shifting towards better health

JAMA. 2016;315(5):459-460
The role of the community and social determinants of health

- Social determinants
  - Housing
  - Education
  - Wages and employment
  - Exposure to violence
- Environmental health
- Authentic community engagement
- Health care disparities

Population medicine

“Population medicine . . . is the design, delivery, coordination, and payment of high-quality health care services to manage the Triple Aim for a population using the best resources we have available to us within the health care system.”

– Ninon Lewis, Institute for Healthcare Improvement
What happens in the gaps

“Poor health is found—indeed, is more likely to be found—among those without a medical home, those shuffling between periods of no health insurance and periods of temporary coverage, and those facing financial, linguistic, and other barriers to care. Initiatives by insurance carriers and clinicians may miss these groups entirely.”

Population health in health systems

- Identification of at-risk patients
- Longitudinal follow-up

- Create community safety networks
- Establish support groups

- Just-in-time recommendations
- Patient identification and tracking

- Remote patient monitoring
- True patient engagement
Creative and synergistic partnerships

- Pharmacists need to explore innovative partnerships outside of traditional health care delivery to address social determinants of health
- Some of these initiatives may be outside of pharmacy and health-system’s control
- Example: Project CAPABLE
Layers of population health

Engaged patients, established insurance and/or primary care, ready to take control of their health

Some insurance coverage and established primary care, may be willing to engage depending on how care is delivered

Under or uninsured, no established primary care, not ready to engage in care
Practice reflection questions

- How does your organization define Population Health?
- How has your Department defined Population Health?
- Has any element of what has been discussed so far today changed your perspective on these definitions?
- How have resources for Population Health management been allocated to date? Have resources been allocated to Pharmacy?
Population health management: Moving to action

• Limited resources and globally fragmented delivery systems prevent achievement of “perfect” population health management models at present

• This should not prevent exploration and innovation to begin to develop models that test feasibility

• Start small, focus on a population meaningful to your organization, and use quality improvement methods to innovate and adjust as needed
Johns Hopkins Medicine Alliance for Patients

- Established in 2014
- Medicare, shared savings (1-sided) accountable care organization
- ~35,000 patients
- Infrastructure
  - 3,000 physicians
  - 43 clinics
  - 5 hospitals
- 1.0 pharmacist FTE
Finding quick wins

<table>
<thead>
<tr>
<th>Metric</th>
<th>CY15</th>
<th>Compared to CY14</th>
<th>CY14</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD: ACE Inhibitor or ARB Therapy (CAD-7)</td>
<td>90%</td>
<td></td>
<td>86%</td>
</tr>
<tr>
<td>IVD: Use of Aspirin or Another Antithrombotic (IVD-2)</td>
<td>88%</td>
<td></td>
<td>83%</td>
</tr>
</tbody>
</table>

**KEY**

- At or above ACO 80th Percentile
- Between ACO 40th and 80th Percentile
- At or below ACO 40th Percentile
Executive challenges prioritizing resources

- Limited guidance and evidence
- Broad issues impacting patient engagement and health outcomes
- Balancing fee for service and capitated payment models
- Competing quality incentive programs and metric fatigue
Building your case for resource prioritization

- Understanding your population
  - General trends
  - Hot spotting

- Demonstrate where you can provide value
  - Quality metrics
  - Health care utilization
  - Part B Drug Spend
Hot spotting: Hypertension distribution

Source: Martin Bishop, PharmD, BCACP
Part B drug spend

- Often included in CMS Accountable Care Organization (ACO) cost calculations
- Part B drug spending increased from $9.4 billion in 2005 to $18.5 billion in 2014
- Specialty infusions
  - Hospital owned clinics
  - Physician offices
- Prescribers may not be part of ACO
  - Oncologists-Hematologists 23% of total spend
  - Ophthalmologists 11% of total spend
  - Rheumatologists 5% of total spend
  - Primary care physicians 5% of total spend

Source: https://aspe.hhs.gov/sites/default/files/pdf/187581/PartBDrug.pdf
Infusion Site of Care Optimization

Hospital Clinic  
Ambulatory Infusion Center  
Home

- Patient Preference  
- Cost  
- Safety
Strategically commit to population health management

Develop and implement population health projects with manageable scope

Refine internal and external marketing strategy

Conduct continuous quality improvement and expand to larger scale projects
Determine the problem

Define the population

Draft workflows and metrics

Pilot test

Assess results
Population Health Management Design: Optimizing the Outcomes for Special Populations
21th Annual ASHP Conference for Pharmacy Leaders

DMAIC Performance Improvement Methodology

Define → Measure → Analyze → Improve → Control

- Define the Problem
- Measure the Current State
- Analyze the Root Causes
- Design & Implement the Solution
- Measure the Impact & Establish Control Plan
Determine the problem

- Must have political buy-in
- Construct your framework
  - Chronic disease states
  - Specialty disease states
  - Inappropriate utilization
  - Overall care costs
  - Medication costs
- Align problem with talents and skill sets of your team
Define the population

• Patient identification via data reporting
  ❖ Quality metrics reports
  ❖ Healthcare utilization reports
• Healthcare costs
  ❖ What section of the insurance benefit is your organization accountable for?
  ❖ Highlights continued fragmentation in policy
• Finding the patients “slipping through the cracks”
• Where do you have physician engagement
Defining the population

Currently high utilizers with poor outcomes

On track to become high utilizers
Draft workflows and metrics

• Interdisciplinary synergy
• Maximize pharmacist scope of practice
• Align metrics and avoid excessive data collection
• Determine interface points with patients
• Understand quality metric requirements
• Financial considerations
  ❖ Billing
  ❖ Financial sustainability plan
Pilot test

- Multiple sites and patient care groups is preferable
- Establish clear timeframes and communicate to all stakeholders
- Avoid project fatigue
- Create incentives and celebration points
- Use storytelling while awaiting full results
Assess results, adjust as needed, and share

• Ensure pharmacy’s seat at the table for multidisciplinary strategy analysis
• Need access to data analytics resources
• Take credit when appropriate and remind stakeholders of success
• Consider opportunity costs for physicians
Case study: Remote HTN management

- Determine the problem
  - Most common primary care visit office visit reason/diagnosis
  - Annual costs >$50 billion
  - Affects 30% of U.S. adults
- Define the population
  - Patients within a primary care clinical group
  - Clinical inclusion/exclusion
  - Logistics – Does patient need a home phone?
  - Opportunity to engage patients unable or unwilling to come to PCP office more frequently

Case study: Remote HTN management

• Workflow and pilot
  ❖ Initial 1 hour pharmacist visit
  ❖ 6 BP measurements per week (3 morning, 3 evening)
  ❖ Telephonic follow up
    ▪ 0-6 months: Every 2 weeks
    ▪ 7-12 months: Every 2 months
    ▪ After 12 months: Services discontinued

• Metrics
  ❖ Control of BP (<140/90 or <130/80) at 6, 12, and 18 months
  ❖ Patient satisfaction
  ❖ Total cost per patient

Case study: Remote HTN management

Table 2. Composite and Blood Pressure (BP) Control

<table>
<thead>
<tr>
<th></th>
<th>Telemonitoring Intervention</th>
<th>Usual Care</th>
<th>Differential Change From Baseline, % (95% CI)</th>
<th>P Value¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Patients</td>
<td>% (95% CI)</td>
<td>No. of Patients</td>
<td>% (95% CI)</td>
</tr>
<tr>
<td>Composite BP control</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At 6 and 12 mo</td>
<td>113</td>
<td>57.2 (44.8-68.7)</td>
<td>58</td>
<td>30.0 (23.2-37.8)</td>
</tr>
<tr>
<td>At 6, 12, and 18 mo</td>
<td>96</td>
<td>50.9 (36.9-64.8)</td>
<td>42</td>
<td>21.3 (14.4-30.4)</td>
</tr>
<tr>
<td>BP control</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At 6 mo</td>
<td>148</td>
<td>71.8 (65.6-77.3)</td>
<td>89</td>
<td>45.2 (39.2-51.3)</td>
</tr>
<tr>
<td>At 12 mo</td>
<td>141</td>
<td>71.2 (62.0-78.9)</td>
<td>102</td>
<td>52.8 (45.4-60.2)</td>
</tr>
<tr>
<td>At 18 mo</td>
<td>135</td>
<td>71.8 (65.0-77.8)</td>
<td>104</td>
<td>57.1 (51.5-62.6)</td>
</tr>
</tbody>
</table>

¹ Study group difference for composite BP control at each individual time point.

# Case study: Remote HTN management

## Table 3. Blood Pressure (BP) Reduction From Baseline

<table>
<thead>
<tr>
<th></th>
<th>Telemonitoring Intervention</th>
<th>Usual Care</th>
<th>Differential Change From Baseline</th>
<th>P Value $^3$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (95% CI)</td>
<td>Reduction From Baseline, Mean (95% CI)</td>
<td>Mean (95% CI)</td>
<td>Reduction From Baseline, Mean (95% CI)</td>
</tr>
<tr>
<td><strong>Systolic BP, mm Hg</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At baseline</td>
<td>148.2 (146.3 to 150.0)</td>
<td>147.7 (145.8 to 149.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At 6 mo</td>
<td>126.7 (124.4 to 129.0)</td>
<td>-21.5 (-23.9 to -19.1)</td>
<td>136.9 (134.6 to 139.2)</td>
<td>-10.8 (-13.3 to -8.3)</td>
</tr>
<tr>
<td>At 12 mo</td>
<td>125.7 (123.4 to 128.0)</td>
<td>-22.5 (-25.1 to -19.9)</td>
<td>134.8 (132.5 to 137.2)</td>
<td>-12.9 (-15.5 to -10.2)</td>
</tr>
<tr>
<td>At 18 mo</td>
<td>126.9 (124.3 to 129.4)</td>
<td>-21.3 (-24.2 to -18.4)</td>
<td>133.0 (130.4 to 135.5)</td>
<td>-14.7 (-17.6 to -11.8)</td>
</tr>
<tr>
<td><strong>Diastolic BP, mm Hg</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At baseline</td>
<td>84.4 (82.3 to 86.6)</td>
<td></td>
<td>85.1 (82.9 to 87.3)</td>
<td></td>
</tr>
<tr>
<td>At 6 mo</td>
<td>75.0 (72.9 to 77.2)</td>
<td>-9.4 (-11.1 to -7.6)</td>
<td>81.7 (79.5 to 84.0)</td>
<td>-3.4 (-5.2 to -1.5)</td>
</tr>
<tr>
<td>At 12 mo</td>
<td>75.1 (72.8 to 77.4)</td>
<td>-9.3 (-11.0 to -7.7)</td>
<td>80.8 (78.5 to 83.2)</td>
<td>-4.3 (-5.9 to -2.7)</td>
</tr>
<tr>
<td>At 18 mo</td>
<td>75.1 (73.0 to 77.2)</td>
<td>-9.3 (-11.7 to -7.0)</td>
<td>78.7 (76.6 to 80.9)</td>
<td>-6.4 (-8.7 to -3.9)</td>
</tr>
</tbody>
</table>

$^3$ Calculated using time × study group interaction term, indicating differential reduction from baseline by study group.

Case study: Polypharmacy

- Determine the problem
  - ~30% of patients on 8 or more medications
  - Is this just a symptom of multiple chronic diseases?
  - Do we believe patients are really taking all medications?
- Define the population
  - Multiple iterations to determine a feasible population size
  - Final criteria
    - >16 active medication ingredients
    - Inappropriate utilization risk score of ≥ 0.4
Case study: Polypharmacy

- Draft workflows and metrics
  - Developed overall and disease state/pharmacotherapy class algorithms
    - Chronic pain management
    - Cardiology
    - Respiratory
    - Diabetes
  - Process metric focus
    - Number of medications recommended for discontinuation
    - Acceptance rate
    - Time spent
Case study: Polypharmacy
Example review guidelines

• Are there any hospitalizations/ED visits/urgent care visits within the last 12 months related to asthma or COPD exacerbations? If so, has cause been addressed/resolved?
• Adherence –Does prescription/refill history suggest adherence to inhalers/respiratory medications?
  ❖ If no, address in final recommendation and move to step 3 and/or 4
  ❖ If no and adherence may be an economic issue, consider referral to Patient Assistance Program. Refer to Table 8.
• Asthma
  ❖ Is the patient on appropriate guideline-recommended therapy? (Tables 1-4) If >2 exacerbations in past year step up therapy.
  ❖ If no, are there contraindications documented?
  ❖ Does patient have appropriate oral corticosteroid prescription, if any, on file for exacerbations? Should be 40-80mg/day in divided doses, 5-7 days
  ❖ Are there brand-name medicines that can be changed to generic equivalent or alternative agent with similar efficacy for cost-savings?
Case study: Polypharmacy

- Pilot test and assess results
  - Reviewed 30 patients (random selection)
  - Patient reviews took ~2 ½ hours
  - Ability to determine which medications to discontinue was challenging without conversations with the physician and patient
  - Low level of physician buy-in
- Adjusting course
  - Targeted reviews for specific potentially inappropriate medications and combinations of potentially inappropriate medications
  - Marketing consult service for full polypharmacy reviews
Interactive workshop

Use the population health management implementation framework discussed to outline a plan for:

• A population health project in your health-system
• A critical access hospital that just joined a 15,000 patient Medicare ACO with 20 primary care offices
  - Many uncontrolled diabetic patients
  - High proportion of COPD and CHF readmissions
• Three community hospitals with some established population health now joining a 12 hospital system that includes an academic medical center for a 40,000 patient private ACO
  - Regional opioid epidemic problems
  - Median patient age is 52 and top chronic disease is hypertension
  - Increasing Part B drug spend in oncology
Stakeholders

- Clinic administrators
- Care managers
- Data analysts
- Home care clinicians
- Marketing and communications
- Nurses
- Payer staff
- Primary care providers

Who would you add in your organization?
Internal marketing strategy

- Academic detailing
- Provider meetings
  - Strategic planning
  - Clinic staff meetings
  - Safety rounds
- Written materials
  - Newsletter
  - Patient materials
  - One-page resource flyers (with pictures!)
Practice reflection questions

• What marketing strategies have worked well in your organization?
  ❖ For patients
  ❖ For internal stakeholders

• What marketing strategies have not worked well?

• Have you engaged your communications and marketing department as part of your strategy?
Key Takeaways

❖ Key Takeaway #1
  • The discussion regarding the definition of population health will most likely continue. What is most important for health-system pharmacy leaders is to define population health management for your organization balancing the big picture and practicality.

❖ Key Takeaway #2
  • The journey of improving care through population health management starts with defining the problem to solve and the population of focus.

❖ Key Takeaway #3
  • Key elements to successful population health management including utilizing quality improvement methodology and a strategic marketing plan.