



Population Health Management Design: Optimizing the Outcomes for Special Populations

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Learning objectives

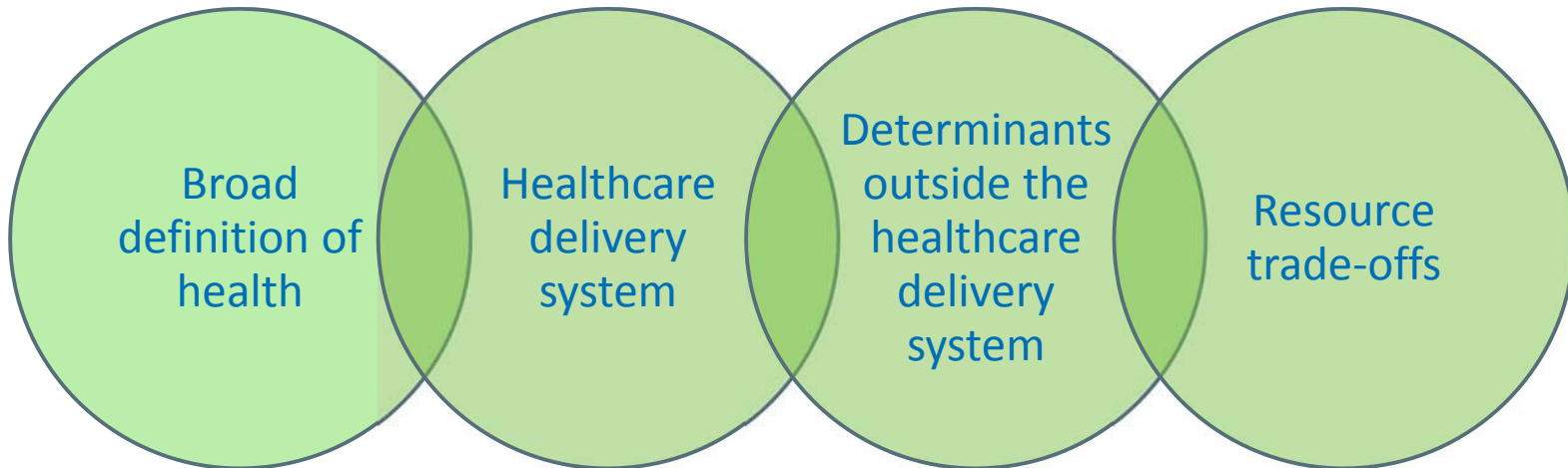
- Define population health and its impact on pharmacy leaders.
- Evaluate challenges facing health system executives in prioritizing resources to be successful in population health management.
- Develop a road map for engaging pharmacy in organizations' population health initiatives.
- Identify key stakeholders 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?



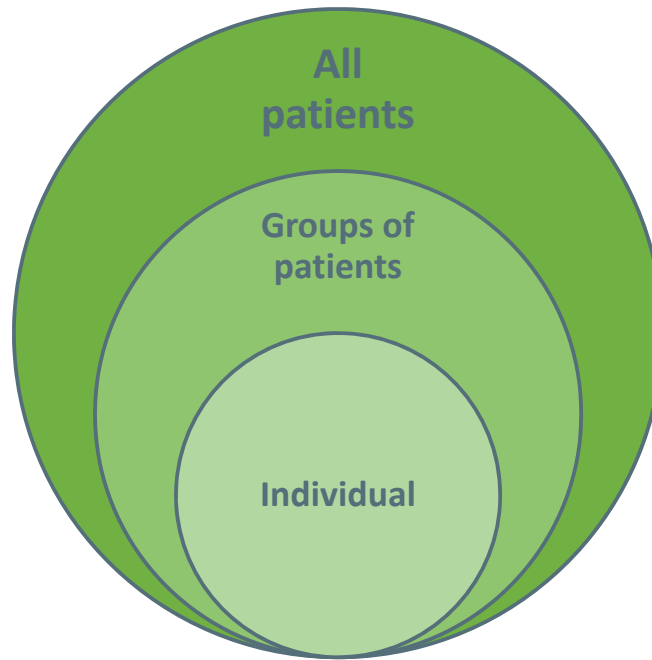
Evans RG, Stoddart GL. Producing health, consuming health care. Soc Sci Med. 1990;31(12):1347–1363.

Buzzword

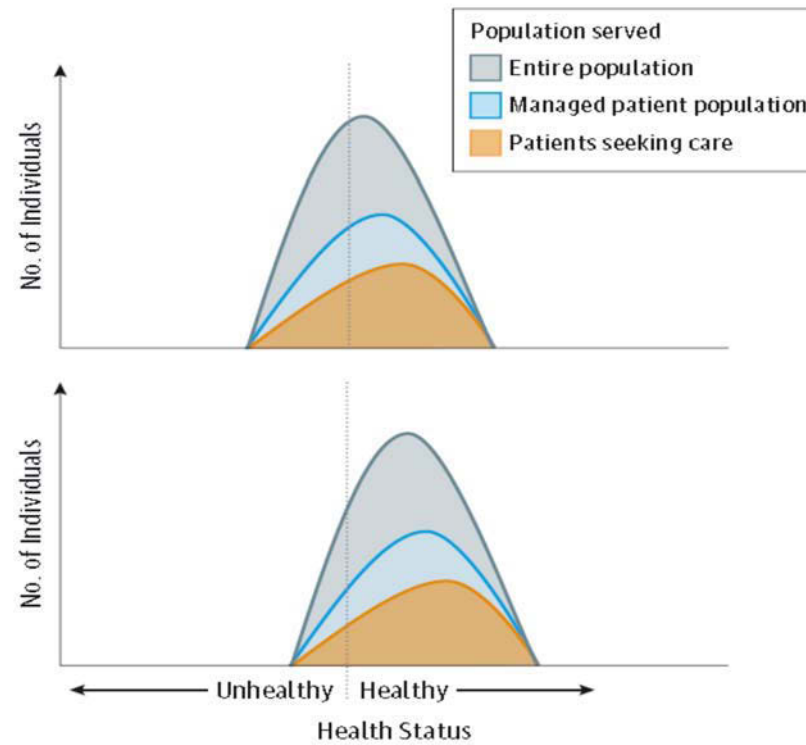
“Insurers are now using ‘population health’ to refer to practically any effort to enhance the health status of their members. For example, the trade organization America’s Health Insurance Plans (AHIP) offers ‘population health solutions’ to its health plans across the country. These solutions include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

– Joshua M. Scharfstein, *The Strange Journey of Population Health*

Public health and population health



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



FIGURE 5-1 Framework for collaborative action for improving health and development.
SOURCE: Watson-Thompson presentation, April 10, 2014, adapted from IOM, 2003, Figure 4-1, p. 178.

IOM. 2015. *The role and potential of communities in population health improvement: Workshop summary.*

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.”

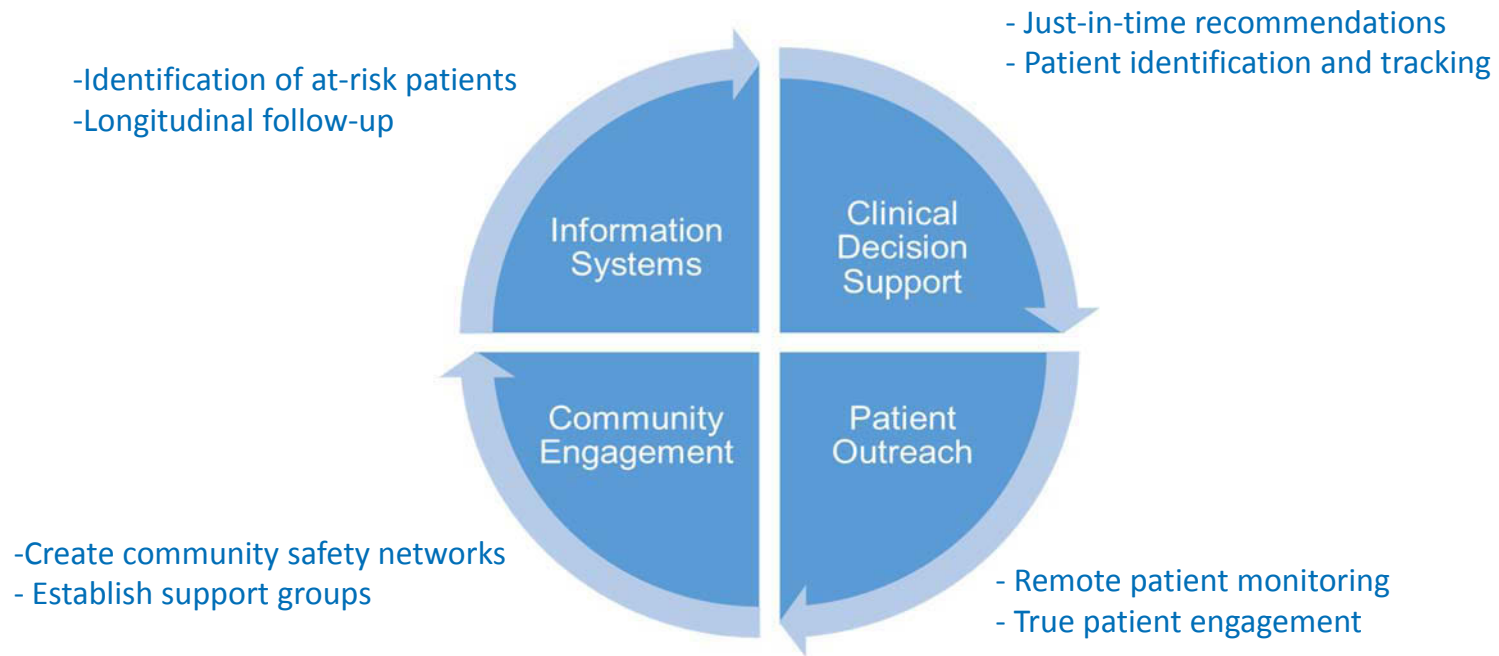
– Ninon Lewis, Institute for Healthcare Improvement

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.”

– Joshua M. Scharfstein, *The Strange Journey of Population Health*

Population health in health systems

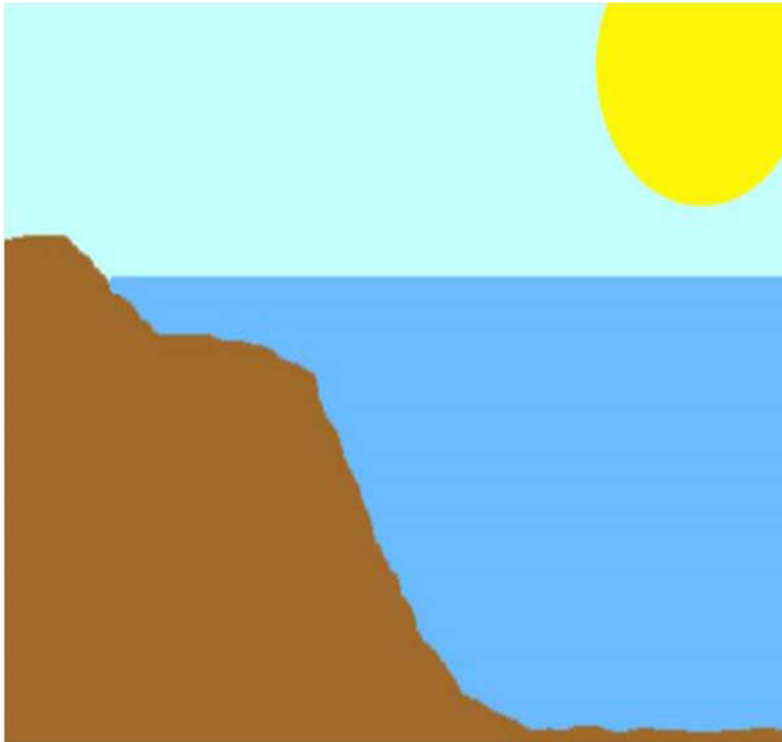


Creative and synergistic partnerships

- 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

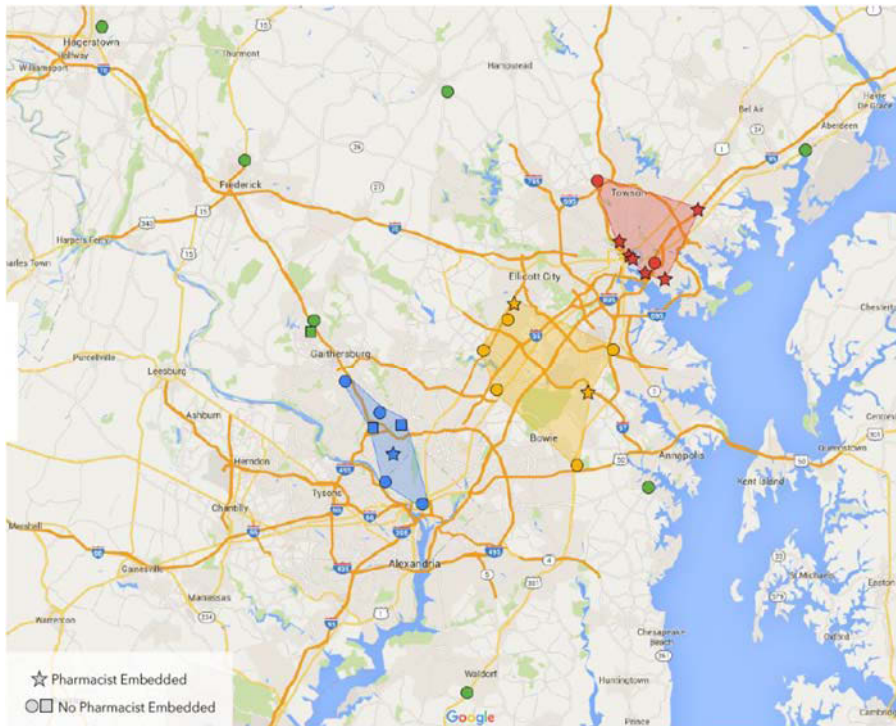
Practice reflection questions

- 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?

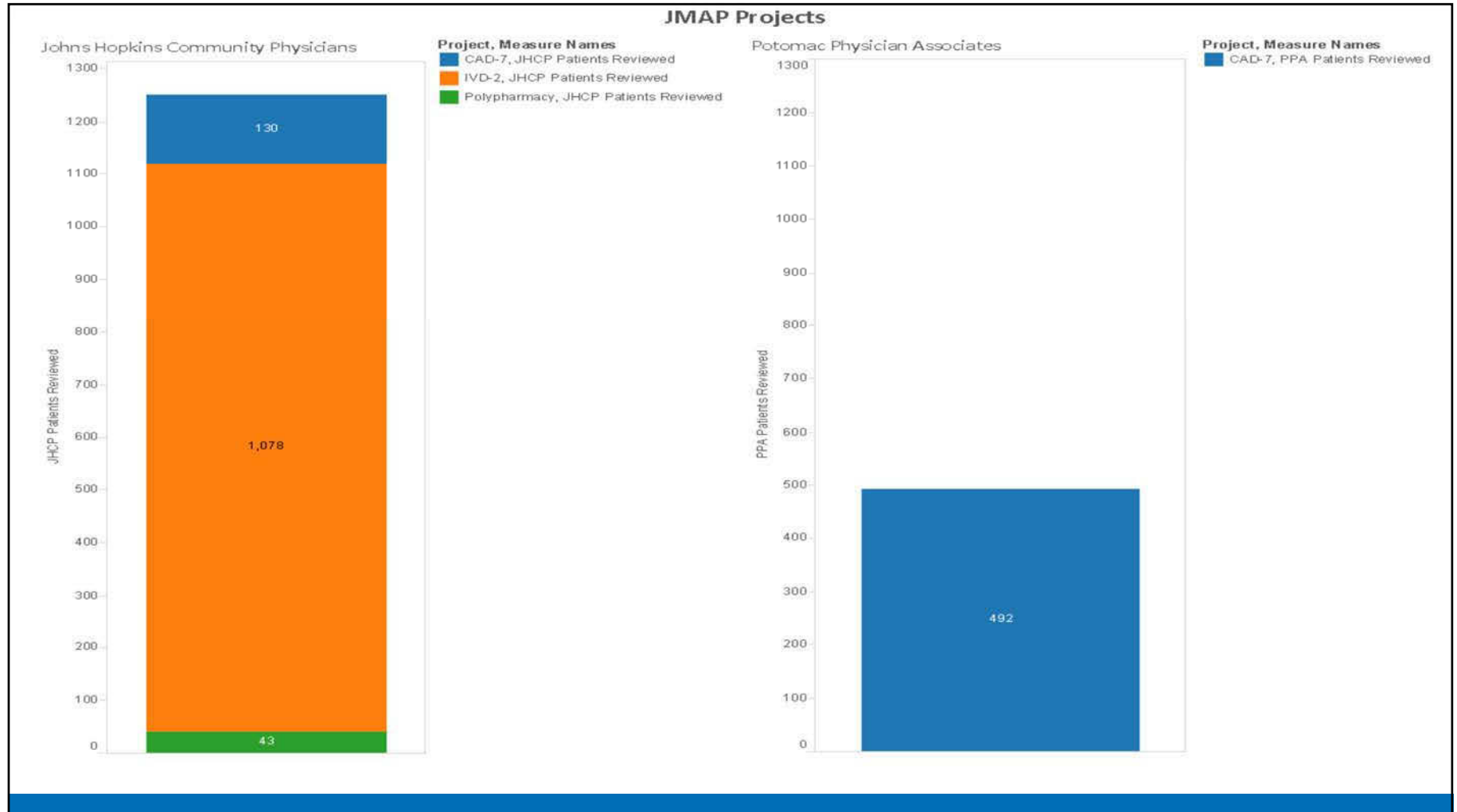
Population health management: Moving to action

- 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

Metric	CY15	Compared to CY14	CY14
CAD: ACE Inhibitor or ARB Therapy (CAD-7)	90%	↑	86%
IVD: Use of Aspirin or Another Antithrombotic (IVD-2)	88%	↑	83%

KEY	
At or above ACO 80th Percentile	
Between ACO 40th and 80th Percentile	
At or below ACO 40th Percentile	

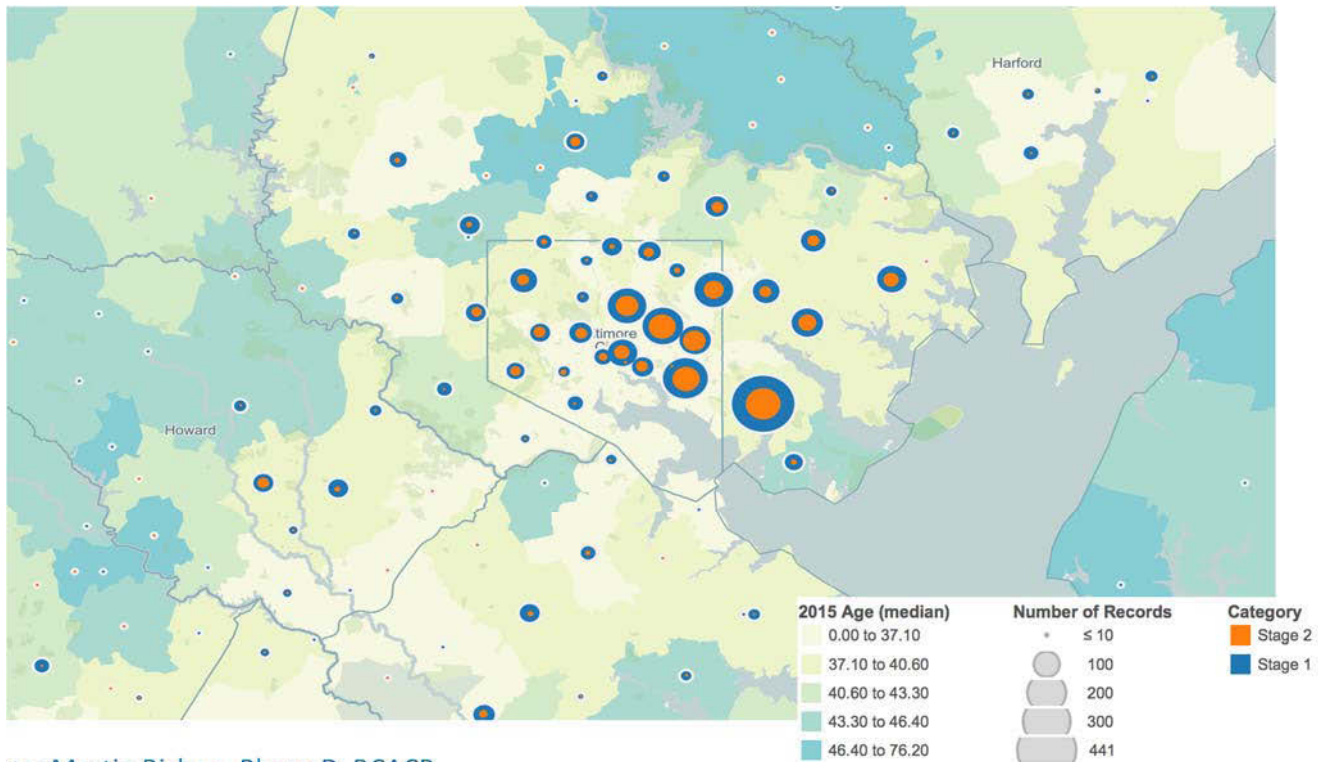
Executive challenges prioritizing resources

- 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



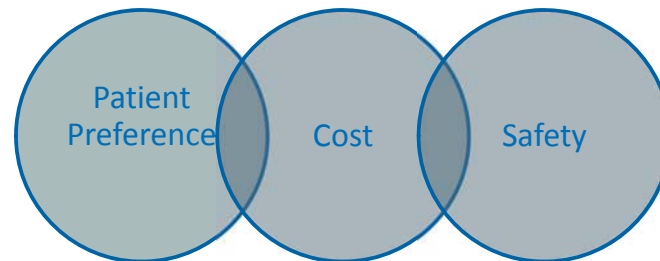
Hospital Clinic



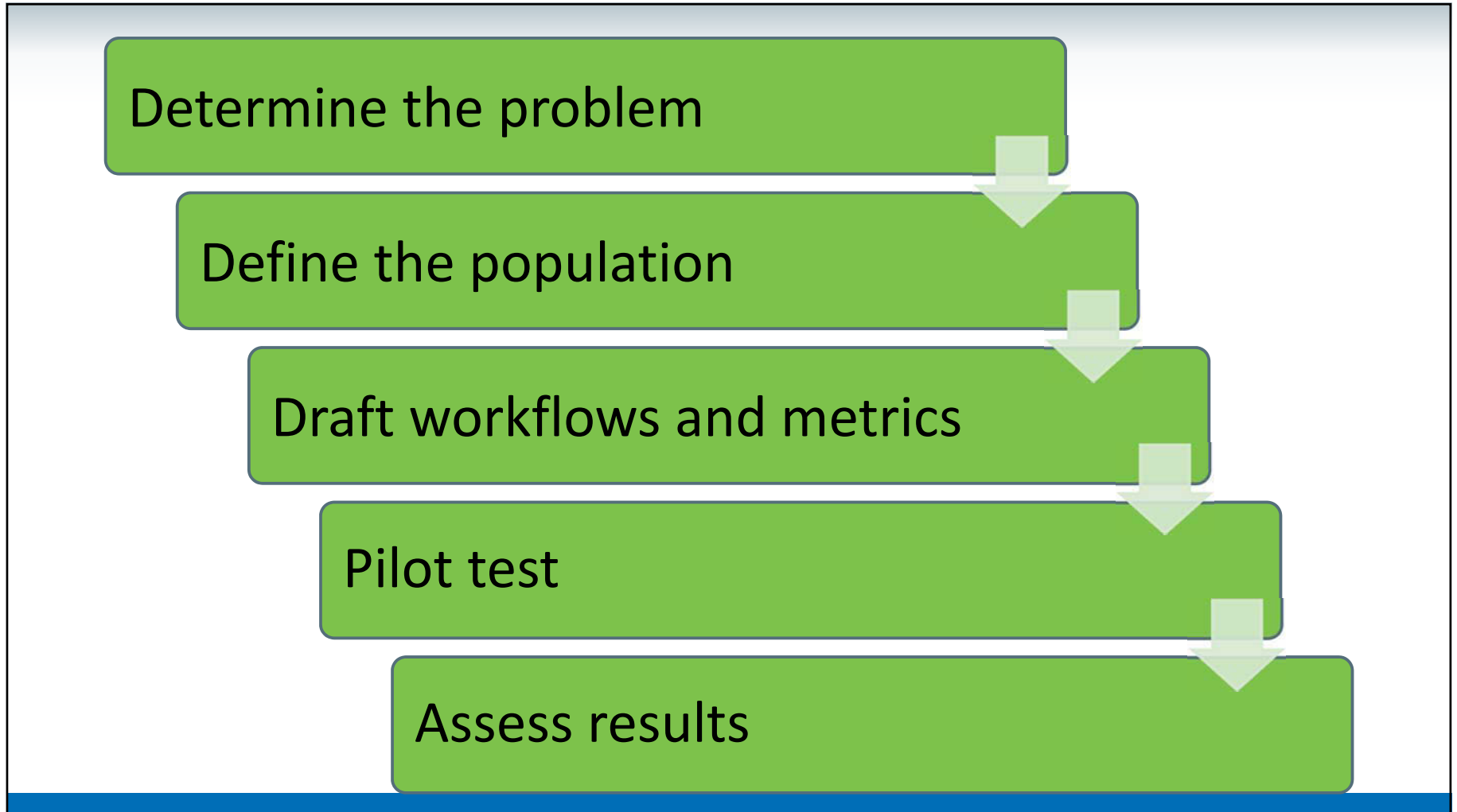
Ambulatory Infusion
Center

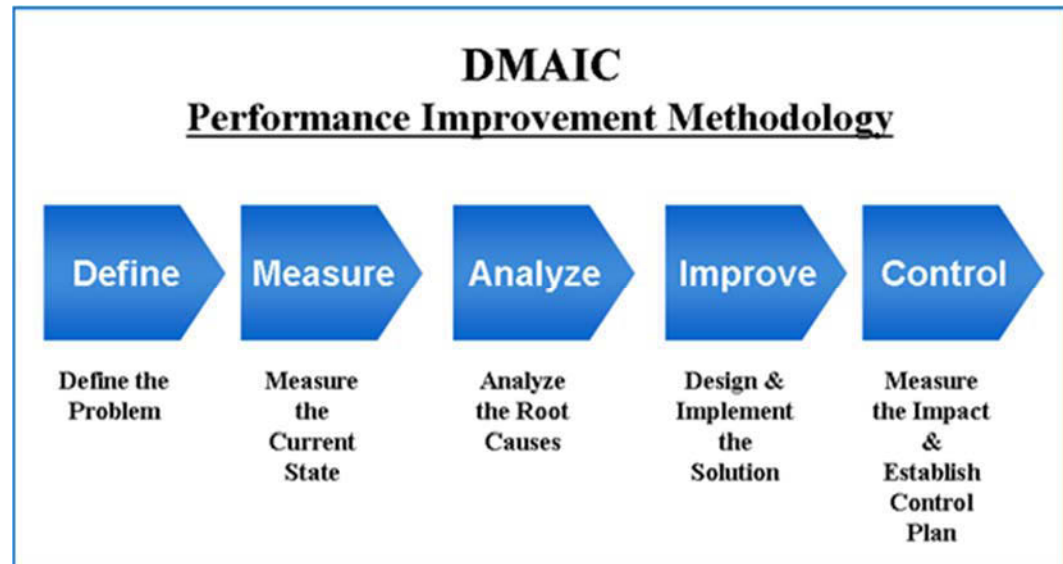


Home









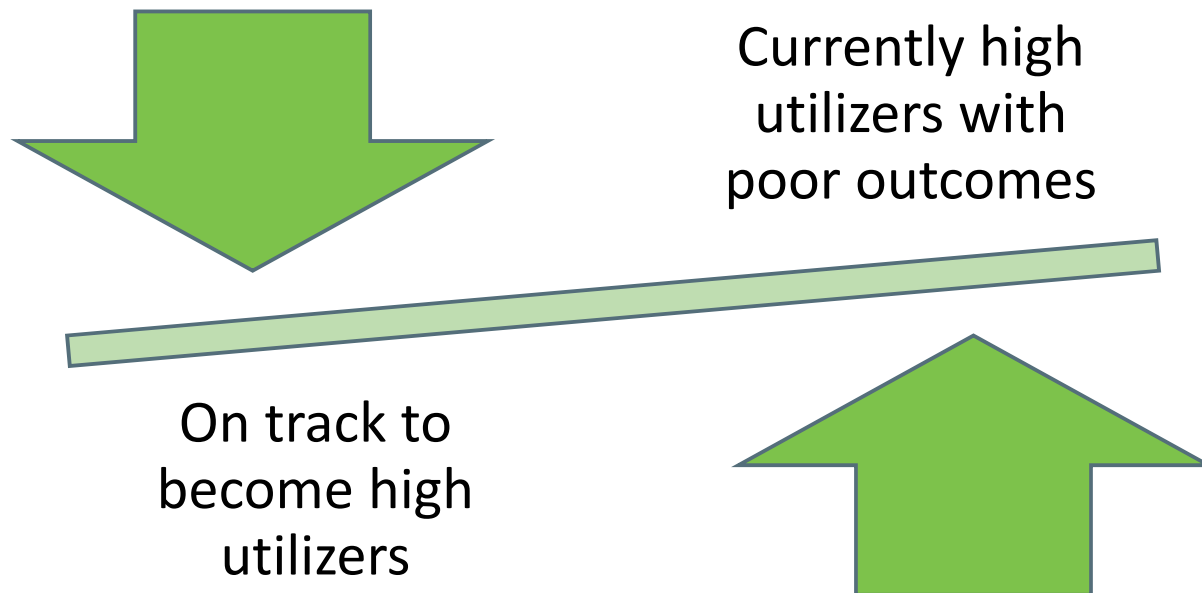
Determine the problem

- 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



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

JAMA. 2013;310(1):46-56.

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

JAMA. 2013;310(1):46-56.

Case study: Remote HTN management

Table 2. Composite and Blood Pressure (BP) Control

	Telemonitoring Intervention		Usual Care		Differential Change From Baseline, % (95% CI)	P Value ^a
	No. of Patients	% (95% CI)	No. of Patients	% (95% CI)		
Composite BP control						
At 6 and 12 mo	113	57.2 (44.8-68.7)	58	30.0 (23.2-37.8)	27.2 (13.4-40.0)	.001
At 6, 12, and 18 mo	96	50.9 (36.9-64.8)	42	21.3 (14.4-30.4)	29.6 (13.1-46.0)	.002
BP control						
At 6 mo	148	71.8 (65.6-77.3)	89	45.2 (39.2-51.3)	26.6 (19.1-33.1)	<.001
At 12 mo	141	71.2 (62.0-78.9)	102	52.8 (45.4-60.2)	18.4 (7.9-27.0)	.005
At 18 mo	135	71.8 (65.0-77.8)	104	57.1 (51.5-62.6)	14.7 (7.0-21.4)	.003

^a Study group difference for composite BP control and at each individual time point.

JAMA. 2013;310(1):46-56.

Case study: Remote HTN management

Table 3. Blood Pressure (BP) Reduction From Baseline

	Telemonitoring Intervention		Usual Care		Differential Change From Baseline, Mean (95% CI)	P Value ^a
	Mean (95% CI)	Reduction From Baseline, Mean (95% CI)	Mean (95% CI)	Reduction From Baseline, Mean (95% CI)		
Systolic BP, mm Hg						
At baseline	148.2 (146.3 to 150.0)		147.7 (145.8 to 149.5)			
At 6 mo	126.7 (124.4 to 129.0)	-21.5 (-23.9 to -19.1)	136.9 (134.6 to 139.2)	-10.8 (-13.3 to -8.3)	-10.7 (-14.3 to -7.3)	<.001
At 12 mo	125.7 (123.4 to 128.0)	-22.5 (-25.1 to -19.9)	134.8 (132.5 to 137.2)	-12.9 (-15.5 to -10.2)	-9.7 (-13.4 to -6.0)	<.001
At 18 mo	126.9 (124.3 to 129.4)	-21.3 (-24.2 to -18.4)	133.0 (130.4 to 135.5)	-14.7 (-17.6 to -11.8)	-6.6 (-10.7 to -2.5)	.004
Diastolic BP, mm Hg						
At baseline	84.4 (82.3 to 86.6)		85.1 (82.9 to 87.3)			
At 6 mo	75.0 (72.9 to 77.2)	-9.4 (-11.1 to -7.6)	81.7 (79.5 to 84.0)	-3.4 (-5.2 to -1.5)	-6.0 (-8.6 to -3.4)	<.001
At 12 mo	75.1 (72.8 to 77.4)	-9.3 (-11.0 to -7.7)	80.8 (78.5 to 83.2)	-4.3 (-5.9 to -2.7)	-5.1 (-7.4 to -2.8)	<.001
At 18 mo	75.1 (73.0 to 77.2)	-9.3 (-11.7 to -7.0)	78.7 (76.6 to 80.9)	-6.4 (-8.7 to -3.9)	-3.0 (-6.3 to 0.3)	.07

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

JAMA. 2013;310(1):46-56.

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!)

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the medicine cabinet

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CLINICAL REVIEW

Stopping the Bleed: Agents for Direct Oral Anticoagulant Reversal

CAITLINDOWD, PHARM.D, BCPS
Clinical Pharmacy Specialist, St. John's Hopkins Hospital

Oral anticoagulation was dominated by a single player until 2010, when dabigatran emerged, a direct thrombin inhibitor, emerged onto the market. Today, prescribers have the choice of four Direct Acting Oral Anticoagulants (DOAC): apixiban, dabigatran, edoxaban, and rivaroxaban for various indications, including nonvalvular atrial fibrillation, the treatment and prevention of venous thromboembolism, or hip/knee arthroplasty. While these agents provide freedom from frequent monitoring, drug interactions, and dietary restrictions, prescribers are often hesitant to prescribe DOACs as they lack a specific reversal agent, which could be devastating when immediate reversal of anticoagulation is required. On average, these agents require 40-60 hours for complete elimination, or even longer in patients with poor renal function.^{1,2} Until recently, the standard of care for DOAC reversal has been the provision of supportive care depending on the severity of bleeding, including holding doses, fluid resuscitation, activated charcoal, hemodialysis, or administration of costly and potentially efficacious recombinant activated factor VII or prothrombin complex concentrates.^{3,4} The October 2015 approval of idarucizumab (Praxbind)[®] (Beiginger Inc/Ipsen), the reversal agent for dabigatran, will change the standard of care for dabigatran reversal and has already been incorporated on the Johns Hopkins Hospital Formulary for this purpose.

Idarucizumab is a humanized monoclonal antibody fragment that binds to both free and thrombin-bound dabigatran to mitigate its anticoagulant effect. It was approved based on data from healthy volunteers and the phase 3 trial, REVERSE-AD.⁵ These completed trials in healthy volunteers concluded that 5mg of idarucizumab resulted in immediately evident reversal of anticoagulation effects with no clinically significant side effects.^{6,7} REVERSE-AD was a phase 3, multicenter trial com- Continued on page 2.

ANNOUNCEMENTS

New Pharmacists On Our Team



From L. to R. Jessica Money, Marie Bishop, Alexa Crowder, Caitlin Dowd, Regine Beland, Patricia Ross, and Maika Patino.

Caitlin Dowd, PharmD, BCPS



Caitlin graduated from the University Of Rhode Island College of Pharmacy and completed two years of postgraduate residency training at the South Florida / South Georgia Veterans Health Care System in Gainesville, FL. She is board certified in PharmacoTherapy (BCPT) by the Board of Pharmaceutical Specialties.

She currently practices at JHCP East Baltimore Medical Center and White Marsh.

Her professional interests include population health, pharmacist provider status, chronic disease management, and mentoring of students and residents.

Maika Patino, PharmD, TTS



Maika graduated from the Ernest Mario School of Pharmacy at Rutgers University and completed her residency training at the Hackensack University Medical Center in Hackensack, NJ and the University of Illinois at Chicago. She is also certified as a Tobacco Treatment Specialist (TTS).

She currently practices at JHCP Canton Crossing and the Johns Hopkins Outpatient Center.

Her professional interests include the management of diabetes, cardiovascular diseases, and anticoagulation.

the desire to take medicine is perhaps the greatest feature which distinguishes man from animals.—Osler

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.

