Track 1:
Treatment Recommendations and Practice Guidelines Update

Hemophilia Care Coordination and Current Treatment Options:

The Latest Insights for Managed Care and Specialty Pharmacy

Jointly provided by National Hemophilia Foundation *for all bleeding disorders*, Impact Education LLC, Medical Education Resources

This activity is supported by educational grants from Shire, CSL Behring, and Novo Nordisk, Inc.

Agenda

- *Clinical Strategies for Prophylaxis and Inhibitor Management*
  - ***Mark T. Reding, MD***
    Associate Professor of Medicine
    Director, Center for Bleeding and Clotting Disorders
    University of Minnesota Medical Center
- *Alignment of Therapies within the Current Treatment Algorithm*
  - ***James Kenney, Jr., RPh, MBA***
    Manager, Specialty and Pharmacy Contracts
    Harvard Pilgrim Health Care
- Faculty Idea Exchange / Managed Care Case Studies
- Audience Question and Answer Session, Key Takeaways, and Closing Comments

Educational Objectives

- Describe current and evolving strategies used by managed care organizations (MCOs) and specialty pharmacy providers to facilitate high-quality care for members with hemophilia
- Cite the most recent clinical recommendations for the treatment of patients with hemophilia, including prophylactic factor replacement and the role of emerging agents
- Explain hemophilia-related complications associated with inhibitor development and its significant clinical and economic consequences
- Identify processes for MCOs and specialty pharmacy providers to improve communications with hemophilia treatment centers (HTCs)
- Apply methods to enable optimal cost management of factor replacement therapy to be realized by multiple hemophilia stakeholders including MCOs and specialty pharmacy providers

Clinical Strategies for Prophylaxis and Inhibitor Management

Mark Reding, MD
Associate Professor of Medicine
Division of Hematology, Oncology, and Transplantation
Director, Center for Bleeding and Clotting Disorders
University of Minnesota Medical Center

Disease Overview

- Hemophilia is a congenital bleeding disorder affecting all racial, ethnic, and socioeconomic groups
- There are ~20,000 persons with hemophilia (PWH) in the US and ~500,000 PWH worldwide

Clinical Features of Hemophilia

Severity of bleeding tendency depends on the factor level

Mild (>5%)

- Bleed only after severe injury, trauma, or surgery
- May not be diagnosed until adulthood

Moderate (1%-5%)

- Bleed after injury, surgery
- May have occasional spontaneous bleeding

Severe (<1 %)

- Frequent spontaneous bleeding
- Diagnosis made in early childhood

Clinical Features of Hemophilia

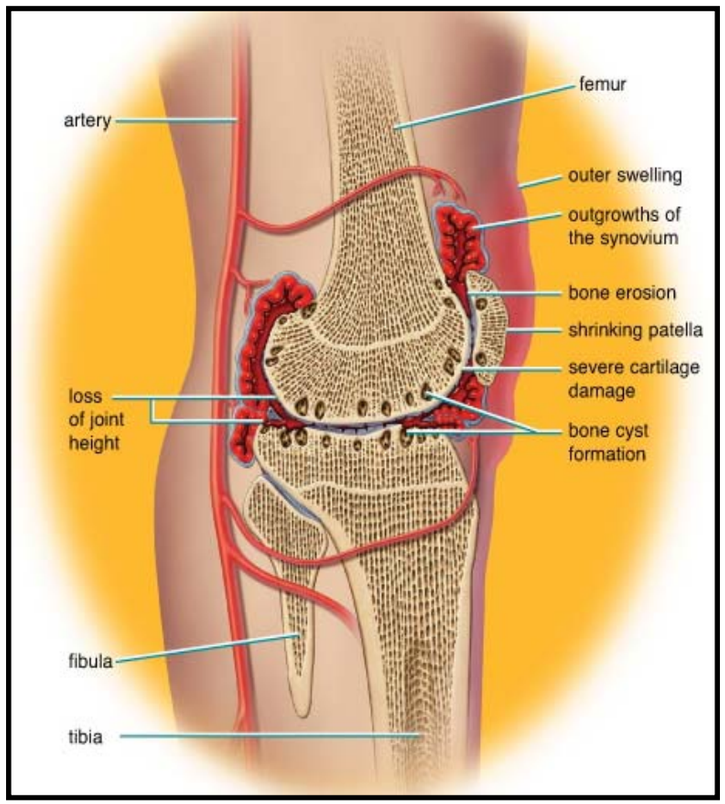
Joint Bleeds (Hemarthrosis)

Blood in joint

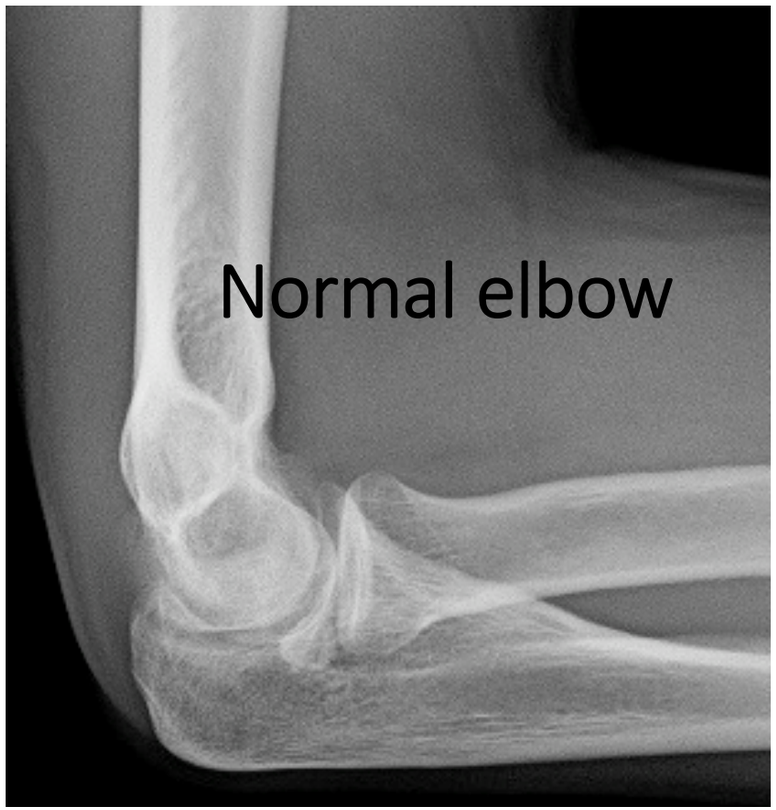
Inflammation

Synovitis

Recurrent bleeding



Clinical Features of Hemophilia
Joint Bleeds (Hemarthrosis)

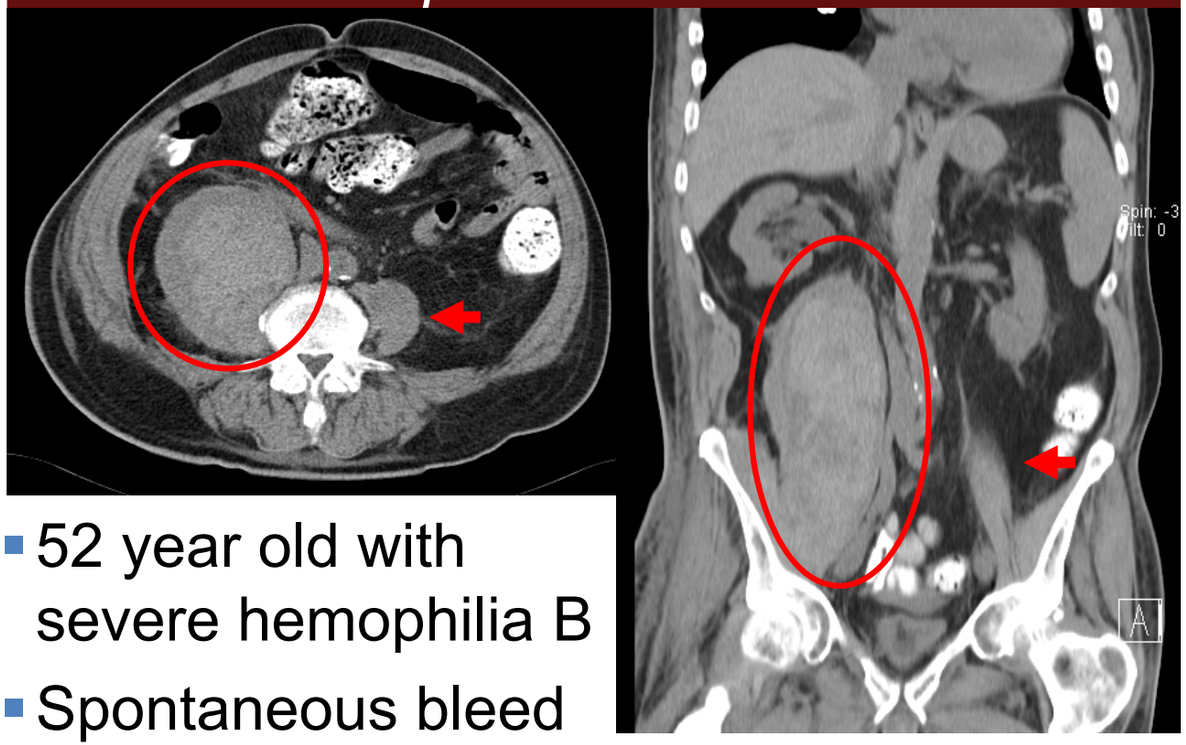


- 36-year-old, severe hemophilia A, followed by HTC since birth
- Target joint in childhood, no longer bleeds (or moves)

Clinical Features of Hemophilia

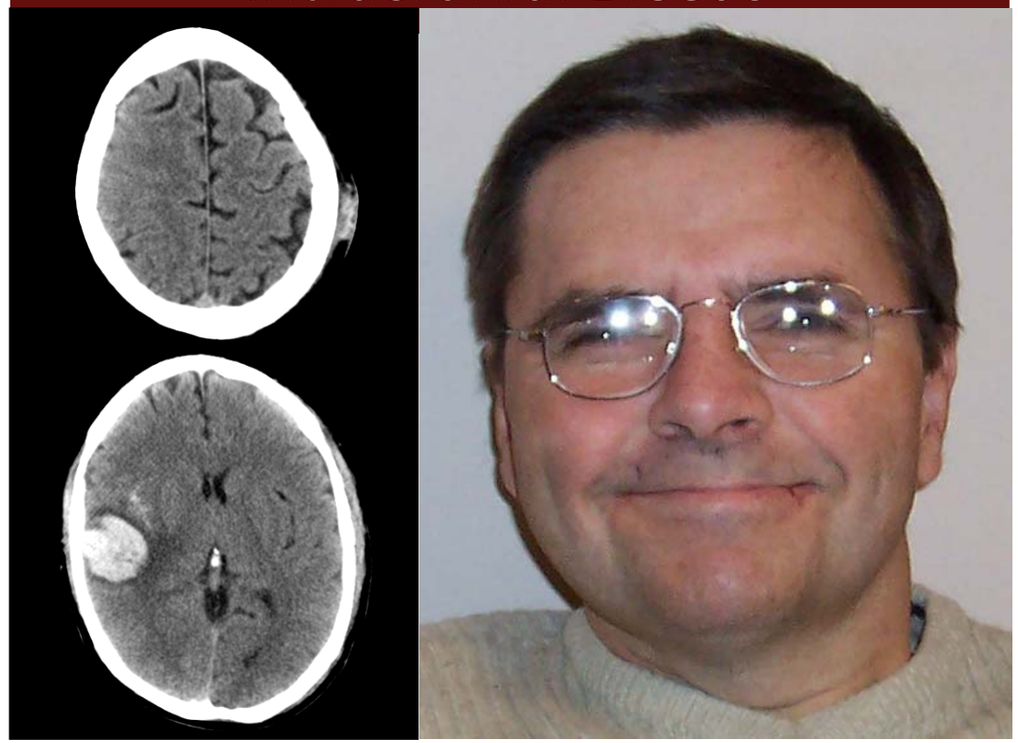
Deep Muscle and Intracranial Bleeds

Deep Muscle Bleeds



- 52 year old with severe hemophilia B
- Spontaneous bleed

Intracranial Bleeds

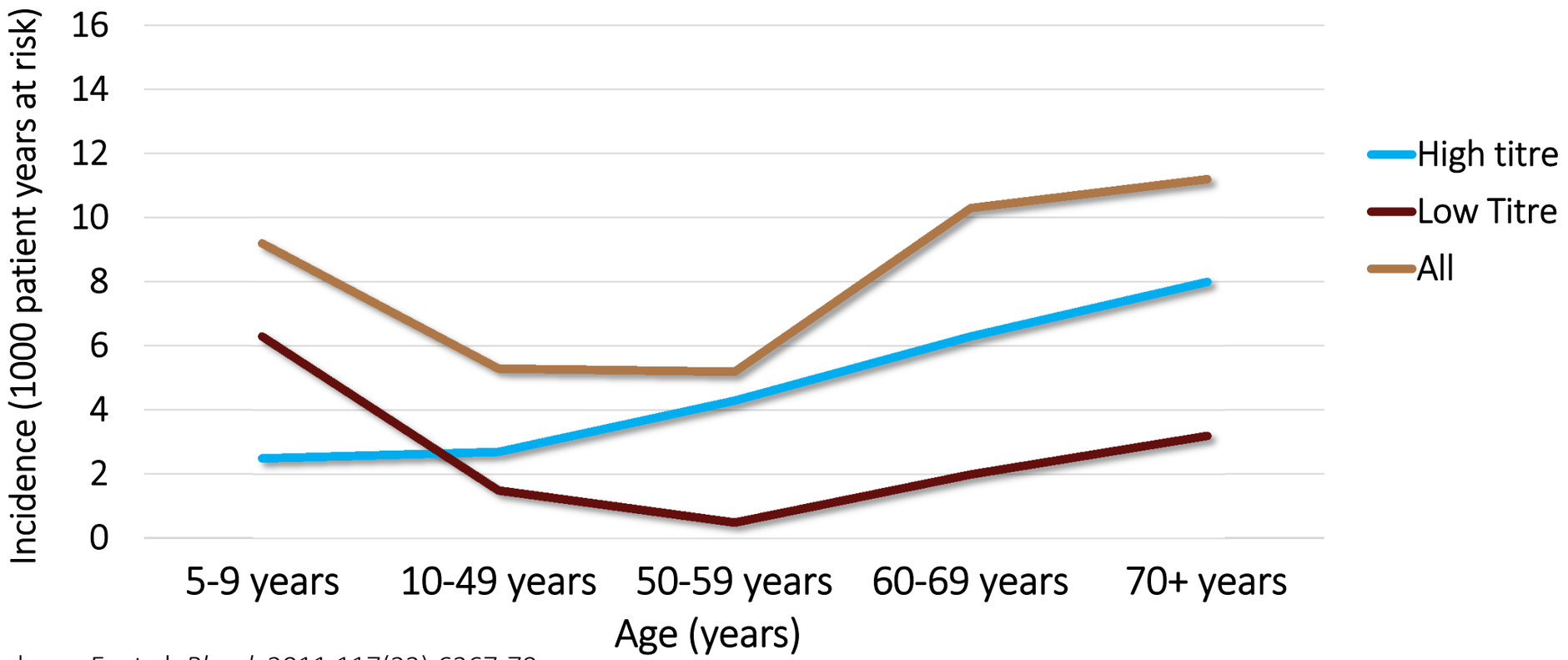


Inhibitors in Congenital Hemophilia

- Some hemophilia patients identify factor VIII or factor IX as a foreign protein
- Infusion of factor concentrate to prevent or treat bleeding triggers an immune response
- Antibodies (ie, inhibitors) directed against factor VIII or factor IX neutralize the procoagulant effect and render standard treatment ineffective
- Development of inhibitors is currently the most serious complication of factor replacement therapy
- Typically seen in those with severe hemophilia (hemophilia A ~30%, hemophilia B <5%)
- May occur in those with mild or moderate hemophilia, usually after intense factor exposure related to trauma or surgery
  - Bleeding more difficult to control
  - Devastating joint disease and disability
  - Major clinical and economic challenges

Factor VIII Inhibitors

- Previously thought that almost all inhibitors in those with severe hemophilia A developed after only a few exposures, early in life
- Now thought that inhibitors arise throughout life, with a bimodal risk



Hay CR, Palmer B, Chalmers E, et al. *Blood*. 2011;117(23):6367-70.

Clinical Features of Hemophilia
(with Inhibitor)

22-year-old male with severe hemophilia A and FVIII inhibitor
Rapid progression of arthropathy

Inhibitors in Congenital Hemophilia

Unique Treatment Challenges

- Standard factor replacement therapy not possible
- rFVIIa and aPCC only have 75%-90% efficacy in stopping acute bleeds
- High degree of variability in response between patients and bleeding episodes
- Prophylaxis (only approved for aPCC): less well established, less effective, high burden due to frequent large infusion volume
- No established routine method of lab monitoring
- Potential risk of thrombosis
- Immune tolerance therapy
  - Goal is to eradicate inhibitor
  - Hemophilia A: ~70% successful
  - Hemophilia B: ~30% successful

Treatment of Hemophilia

Factor Replacement Therapy

- Plasma derived concentrates – 1960s
- HIV / AIDS era – 1980s
- Recombinant factor products – 1990s

1st generation
2nd generation
3rd generation

Removal of human / animal proteins

Smaller infusion volume

4th generation

Potentially less immunogenic

Factor Replacement Therapy

On-Demand

- Treatment of bleeds when they occur
- Good at stopping bleeds after they start, but does not prevent bleeds

Prophylaxis

- Regular administration of factor to prevent bleeds form occurring
- Goal is elimination of all bleeds
- Pioneered in Sweden (1958); standard of care since 1990s

Factor Replacement Therapy

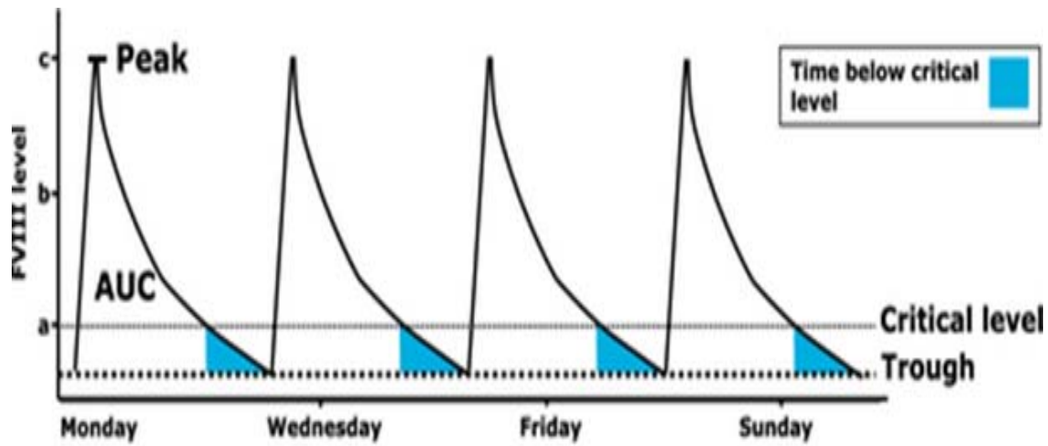
Prophylactic Treatment

Benefits

- ✓ Proven to decrease bleeds and prevent joint damage
- ✓ Improves functional status and QoL
- ✓ May delay progression of arthropathy
- ✓ Protection from traumatic and unexpected bleeds

Challenges

- ✕ Requires frequent intravenous infusions
- ✕ Venous access
- ✕ Peaks / troughs
- ✕ Maintaining adherence long-term



Mahdi AJ. Br J Haematol 2015, 169(6):768-76

Prophylaxis to Prevent Bleeding

- *Aim: Prevention of arthropathy and improvement in quality of life*

Severe Patients (<1% factor activity)	• Average 30-35 bleeds/year and will inevitably develop chronic arthropathy unless treated with effective prophylactic factor replacement therapy
Mild & Moderate Patients	• Less likely to develop chronic arthropathy

Hemophilia Treatment Landscape: Present and Future

	Factor Replacement Products		Non-Factor Replacement Products				
	Standard Half-Life Products	Extended Half-Life Products	Emicizumab	Fitusiran	Concizumab	BAY 1093884	PF-06741086
MOA	Replacement of FVIII / FIX		FVIII mimetic	Reduce AT	Anti-TFPI		
Indications	• Hemophilia A or B • Without inhibitors • On-demand and prophylaxis		• Hemophilia A • With and without inhibitors • Prophylaxis	• Hemophilia A or B • With and without inhibitors • Prophylaxis			
Dosing	• Intravenous • 2x/week • 3x/week • Q.O.D.	• Intravenous • 2x/week • Q 3-5 d • Q 7-14 d	• Subcutaneous • Every 1 to 4 weeks				
Safety Concerns	Inhibitors		Thrombosis TMA	Thrombosis	?????		

Hemophilia A Treatment Landscape

2014	2015	2016	2017	2018	2019	2020 – 2023
pdFVIII	pdFVIII	pdFVIII	pdFVIII	pdFVIII	pdFVIII	pdFVIII
Recombinate	Recombinate	Recombinate	Recombinate	Recombinate	Recombinate	Recombinate
Kogenate	Kogenate	Kogenate	Kogenate	Kogenate	Kogenate	Kogenate
Helixate	Helixate	Helixate	Helixate	Helixate	Helixate	Helixate
Advate	Advate	Advate	Advate	Advate	Advate	Advate
Xyntha	Xyntha	Xyntha	Xyntha	Xyntha	Xyntha	Xyntha
Novoeight	Novoeight	Novoeight	Novoeight	Novoeight	Novoeight	Novoeight
Eloctate	Eloctate	Eloctate	Eloctate	Eloctate	Eloctate	Eloctate
	Adynovate	Adynovate	Adynovate	Adynovate	Adynovate	Adynovate
	Nuwiq	Nuwiq	Nuwiq	Nuwiq	Nuwiq	Nuwiq
		Kovaltry	Kovaltry	Kovaltry	Kovaltry	Kovaltry
		Afstyla	Afstyla	Afstyla	Afstyla	Afstyla
			Emicizumab	Emicizumab	Emicizumab	Emicizumab
				BAY 94-9027	BAY 94-9027	BAY 94-9027
					N8-GP	N8-GP
						Fitusiran
						Concizumab
						BAY 1093884
						PF-06741086

Notes:
- Individual plasma derived products not listed
- Some products may become unavailable (e.g. Helixate)
- Based on anticipated approval dates

Hemophilia B Treatment Landscape

2014	2015	2016	2017	2018	2019	2020 – 2023
pdFIX	pdFIX	pdFIX	pdFIX	pdFIX	pdFIX	pdFIX
Benefix	Benefix	Benefix	Benefix	Benefix	Benefix	Benefix
Rixubis	Rixubis	Rixubis	Rixubis	Rixubis	Rixubis	Rixubis
Alprolix	Alprolix	Alprolix	Alprolix	Alprolix	Alprolix	Alprolix
	Ixinity	Ixinity	Ixinity	Ixinity	Ixinity	Ixinity
		Idelvion	Idelvion	Idelvion	Idelvion	Idelvion
			Rebinyn	Rebinyn	Rebinyn	Rebinyn
						Fitusiran
						Concizumab
						BAY 1093884
						PF-06741086

Notes:
- Individual plasma derived products not listed
- Some products may become unavailable
- Based on anticipated approval dates

Treatment of Hemophilia

Major Unmet Needs

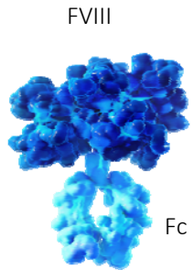
- Innovative therapies for non-inhibitor patients
- Reducing the burden of prophylaxis
- Maintaining adherence over decades
- Inhibitor patients
  - Effective prophylaxis
  - More consistent bleed management

Addressing Unmet Needs in Hemophilia

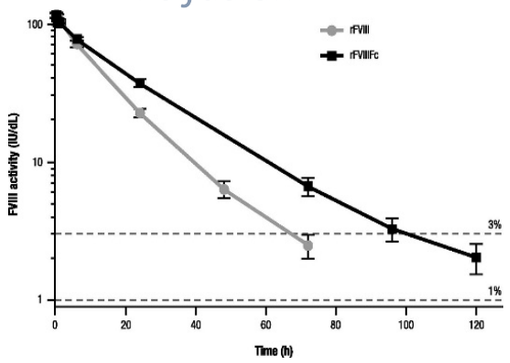
Steps toward optimizing outcomes

1. Extended half-life (EHL) factor products
2. Personalized prophylaxis
3. Emerging therapies

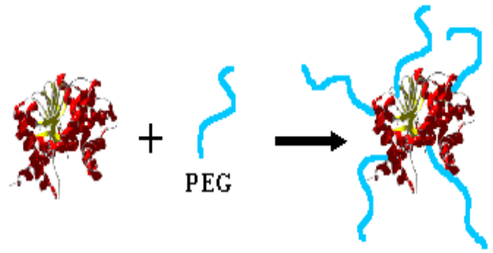
Extended half-life (EHL) Factor Products



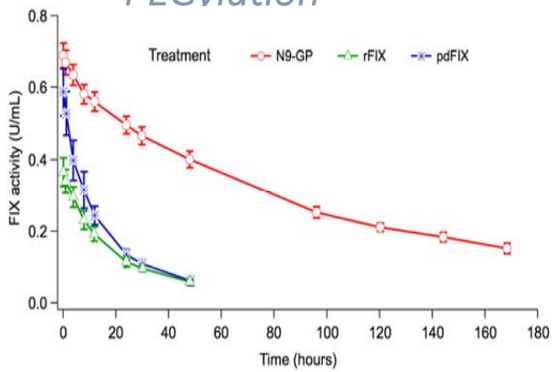
Fc fusion



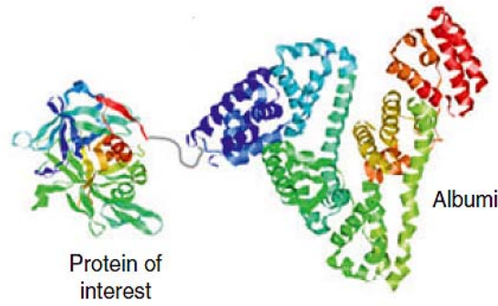
Mahlangu et al. Blood 2014;123:317-325



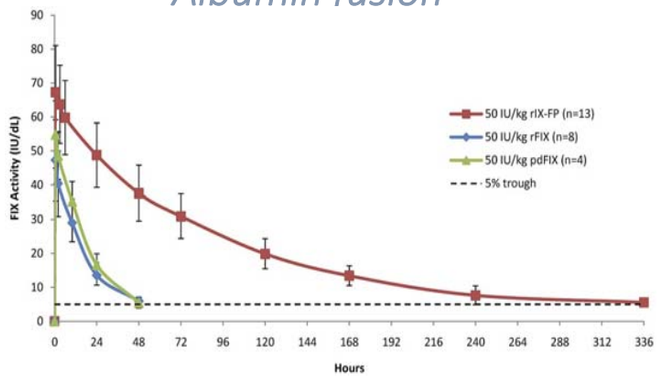
PEGylation



Negrier et al. Blood 2011;118:2695-2701



Albumin fusion



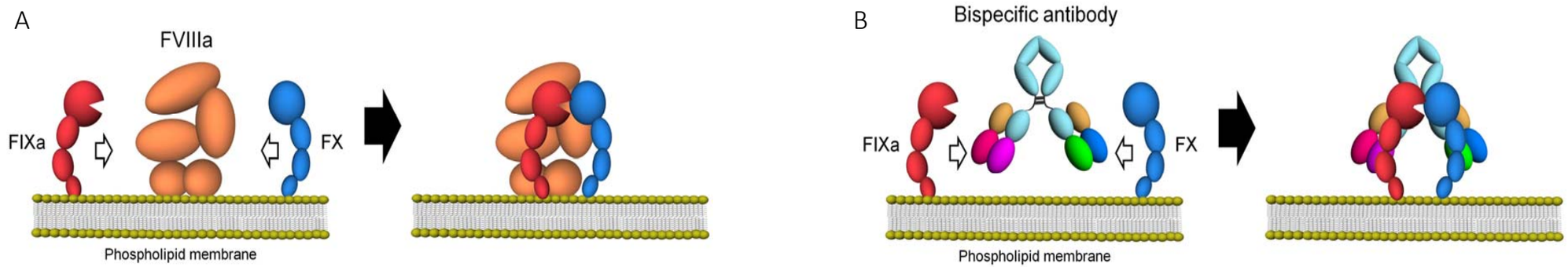
Santagostino et al. Blood 2012;120:2405-2411

Half-life prolongation

Factor VIII: moderate; dosing every 2-3 days → every 3-7 days

Factor IX: dramatic; dosing 1-2 x per week → once every 1-2 weeks

Emerging Therapies
Emicizumab-kxwh

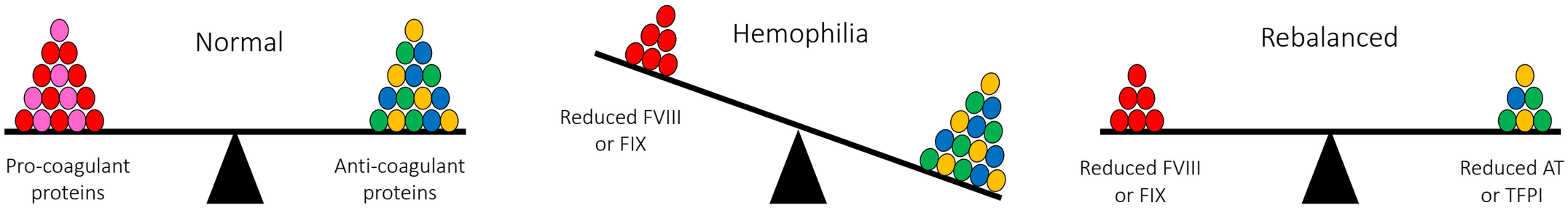


Kitazawa et al., Nat Med 2012

- Approved in November 2017 based on data from two clinical trials: an adult and adolescent trial (HAVEN 1) and a pediatric trial (HAVEN 2)
- Recommended dose of 3 mg/kg by subcutaneous injection once weekly for the first 4 weeks, followed by 1.5 mg/kg once weekly
- Impressive reduction in bleeding seen in inhibitor patients on prophylaxis
- For prophylaxis, not acute bleed management

Oldenburg J, Mahlangu JN, Kim B, et al. *N Engl J Med*. 2017;377(9):809-818.

Emerging Therapies
Fitusiran and TFPI inhibitors



What we know so far…

- 3 TFPI inhibitors in development; fitusiran farther along
- Studied in hemophilia A and B, with and without inhibitors
- Subcutaneous dosing at 1 to 4 week intervals
- Early phase clinical trial results promising
- For prophylaxis, not acute bleed management

Hartmann J, Croteau SE. *Am J Hematol*. 2016;91(12):1252-1260.
Pasi KJ, Rangarajan S, Georgiev P, et al. *N Engl J Med*. 2017;377(9):819-828.

Emerging Therapies
Fitusiran and TFPI Inhibitors

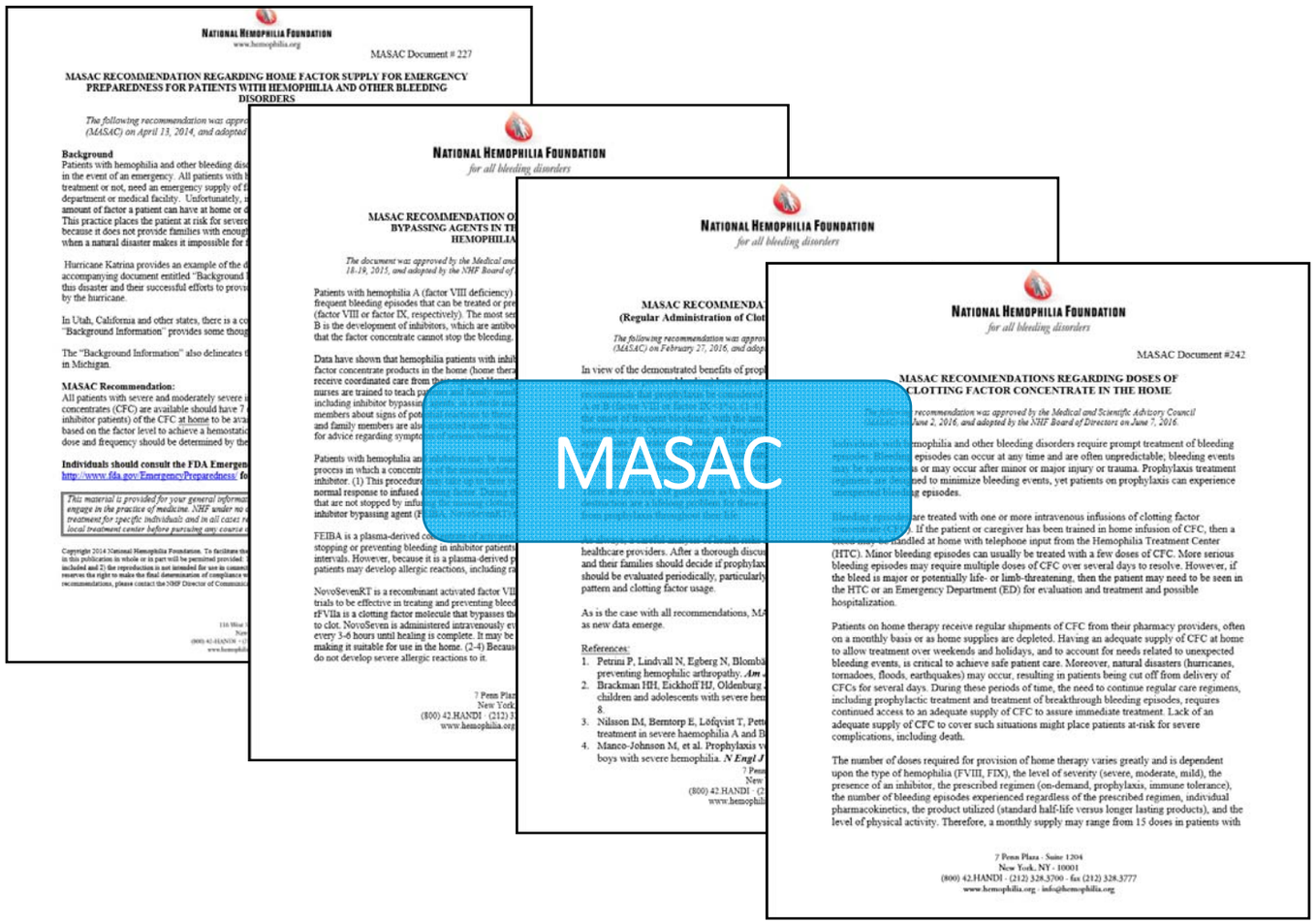
- Looking forward…
  - Fitusiran clinical trial put on hold September 2017 due to a fatal thrombotic event (cerebral venous sinus thrombosis) in a non-inhibitor patient (clinical trial re-opened in December 2017)
  - Concerns about the unknowns associated with manipulating regulatory pathways
  - Concerns also about management of breakthrough bleeds and use in other procoagulant states (e.g. cancer, sepsis, trauma)
  - Anticipate approvals in ~2020 – 2023

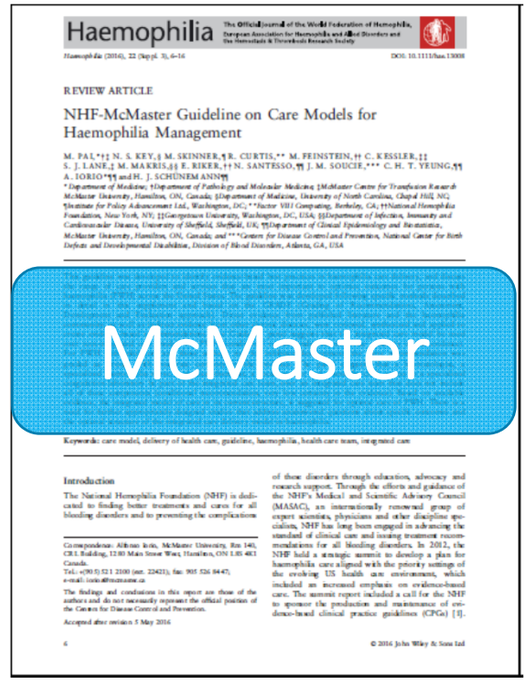
Emerging Therapies
Gene Therapy

- After a series of successes in small and large animal models, gene therapy success has been realized in humans by in vivo gene transfer to the liver using adeno-associated viral (AAV) vectors.
- Multiple, recent clinical trials have shown therapeutic, and in some cases, at least temporarily curative expression.
- Cellular immune responses against the virus have emerged as an obstacle in humans, potentially resulting in loss of expression.
  - Transient immune suppression protocols have been developed to blunt these responses.
- Gene therapies for hemophilia have progressed as far as phase 2b in the US and are anticipated to carry a cost potentially approaching $1 million per patient for a one-time treatment upon approval

Keown A. Gene Therapies for Hemophilia Could Hit $1.5 Million, Analysts Speculate. *Biospace*. May 7, 2018. https://www.biospace.com/article/gene-therapies-for-hemophilia-could-hit-1-5-million-analysts-speculate/ Accessed June 2018.

Treatment Guidelines Promoting Evidence-based Care in the Management of Hemophilia





MASAC recommendations. National Hemophilia Foundations Web site. https://www.hemophilia.org/Researchers-Healthcare-Providers/Medical-and-Scientific-Advisory-Council-MASAC/MASAC-Recommendations. Accessed June 2016.

Pai M, Key NS, Skinner M, et al. *Haemophilia*. 2016;22 Suppl 3:6-16.

MASAC Composition and Operation

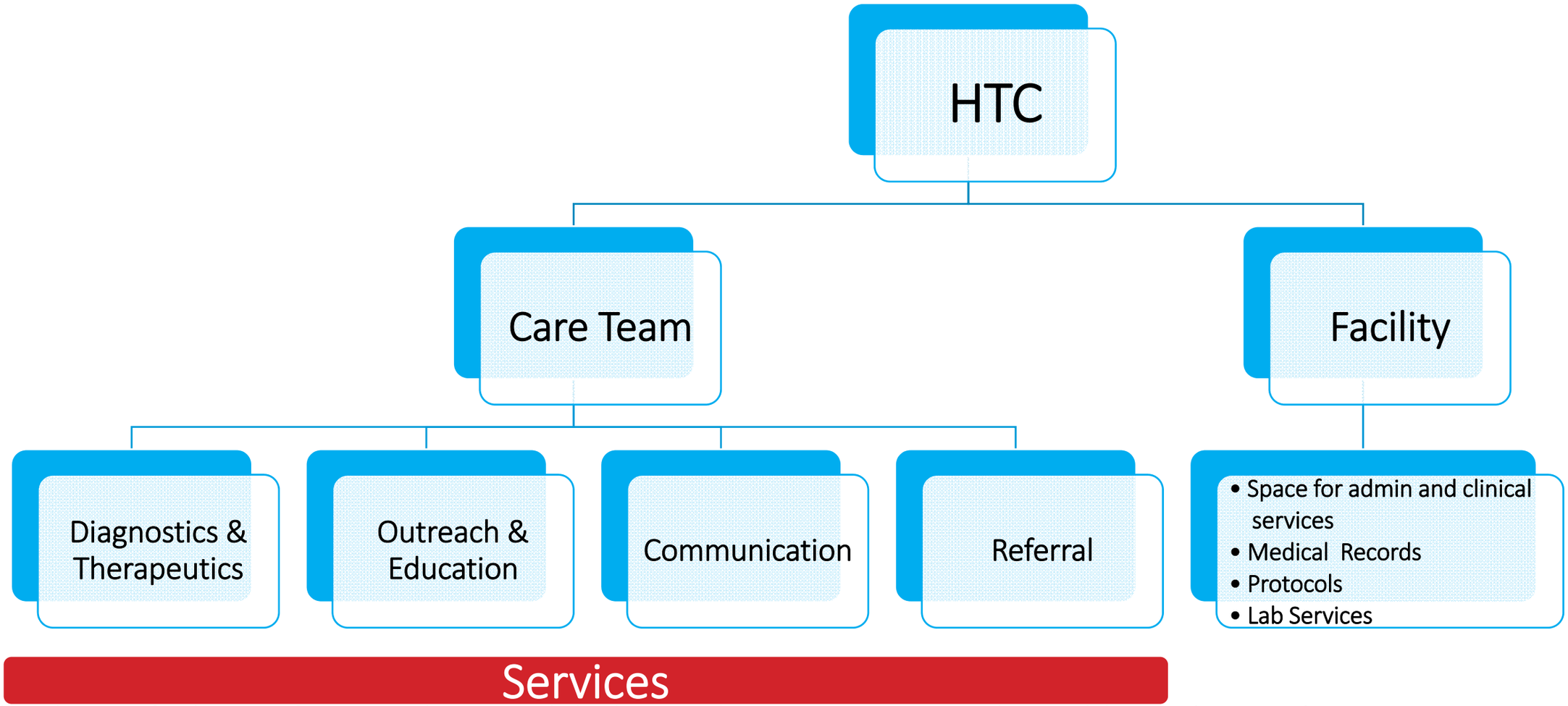
- NHF's Medical and Scientific Advisory Council (MASAC) was created in 1954 to issue recommendations and advisories on treatment, research and other general health concerns for the bleeding disorders community
- MASAC is composed of physicians, scientists and other medical professionals with a wide range of expertise on bleeding disorders, blood safety and infectious disease
- MASAC also comprises the chairs of NHF's nursing, social work, and physical therapy working groups and consumers
- MASAC typically meets two times a year to issue recommendations, which are then sent to the NHF Board of Directors for approval

MASAC Guidance and Recommendations

- Over the years MASAC has issued more than 400 communications covering a wide range of medical issues, from prevention and treatment to infectious disease complications and women with bleeding disorders
- Each year, MASAC establishes standard treatment guidelines. These are often referred to by international experts, medical schools, pharmacists, emergency room personnel, insurance companies and many others
- New MASAC documents are announced periodically in *NHF Notes*, NHF's monthly e-newsletter
- MASAC documents are always available through HANDI, NHF's information resource center, and are housed separately on the internet:

MASAC recommendations. National Hemophilia Foundations Web site. https://www.hemophilia.org/Researchers-Healthcare-Providers/Medical-and-Scientific-Advisory-Council-MASAC/MASAC-Recommendations. Accessed June 2016.

MASAC #132: Standards and Criteria for the Care of Persons with Congenital Bleeding Disorders



Standards and Criteria for the Care of Persons with Congenital Bleeding Disorders. MASAC #132. National Hemophilia Foundations Web site. https://www.hemophilia.org/Researchers-Healthcare-Providers/Medical-and-Scientific-Advisory-Council-MASAC/MASAC-Recommendations/Standards-and-Criteria-for-the-Care-of-Persons-with-Congenital-Bleeding-Disorders. Accessed September 6, 2016.

NHF-McMaster Guideline on Care Models

Integrated care model should be used over non-integrated care models

- This recommendation is even more pressing for individuals with inhibitors or individuals at risk for developing inhibitors

A hematologist, specialized hemophilia nurse, physical therapist, and social worker should be part of the integrated care team

- Round-the-clock access to a specialized coagulation laboratory is another key component of the integrated care model

Pai M, Key NS, Skinner M, et al. *Haemophilia*. 2016;22 Suppl 3:6-16.

Summary

- Aside from development of inhibitors, hemophilic arthropathy is currently the most significant complication of hemophilia
- Strict adherence to long-term prophylaxis is the only way to prevent hemophilic arthropathy and its devastating consequences
- New and emerging treatments are beginning to address many of the barriers to effective prophylaxis, and offer hope to those with inhibitors
- Optimal use of these new treatments and tools for personalized prophylaxis has made clinical decision making much more complex
- Treatment guidelines and evidence-based recommendations assist in clinical decision-making, with multidisciplinary integrated care being the gold standard model

Alignment of Therapies within the Current Treatment Algorithm

James T. Kenney, RPh, MBA
Manager, Specialty and Pharmacy Contracts
Harvard Pilgrim Health Care
Wellesley, MA

Total Cost of Hemophilia Care is High

>90% of the costs of hemophilia care are attributed to the cost of factor product

- Average annual cost of factor therapy is ~$250,000/patient, with costs increasing with disease severity, comorbidities, and/or inhibitors
  - *Comorbidities:* 1.4x higher clotting factor costs among adults with HIV or HCV than among those without infection
  - *Inhibitors:* 3-6x higher clotting factor costs among children and adults with inhibitors than among those without inhibitors

1. Brown SA, Aledort LM. *Haemophilia*. 2005;11(1):64-72.2. Globe DR, et al. *Haemophilia*. 2003;9:325-331.
3. Guh S, Grosse SD, Mcalister S, Kessler CM, Soucie JM. *Haemophilia*. 2012;18(2):268-75..
4. Zhou ZY, Koerper MA, Johnson KA, et al. *J Med Econ*. 2015;18(6):457-65.

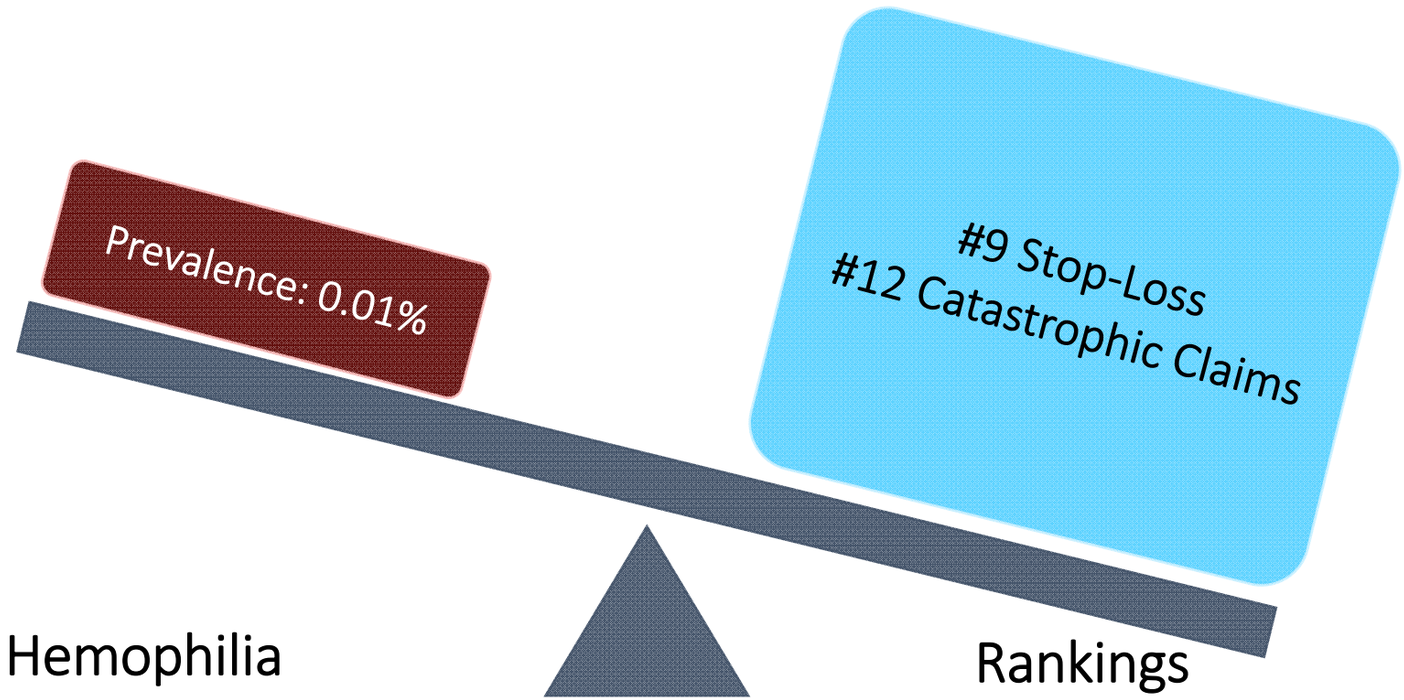
Catastrophic Claims Also Contribute Significantly to Rising Cost Trends

Condition	2016 Stop-Loss Reimbursement Rank
Malignant Neoplasms (Cancer)	1
Leukemia, Lymphoma, and/or Multiple Myeloma (Cancer)	2
Chronic/End-Stage Renal Disease	3
Congenital Abnormalities	4
Transplant	5
Septicemia (Infection)	6
Liveborn	7
Complications of surgical and medical care	8
Hemophilia/Bleeding Disorders	9
Cerebrovascular Disease	10

5th Annual 2017 Sun Life Stop-Loss research report. Sun Life Financial Web site. http://www.sunlife.com/us/News+and+insights/Insights/2017+Sun+Life+Stop-Loss+research+report. Accessed June 2018.

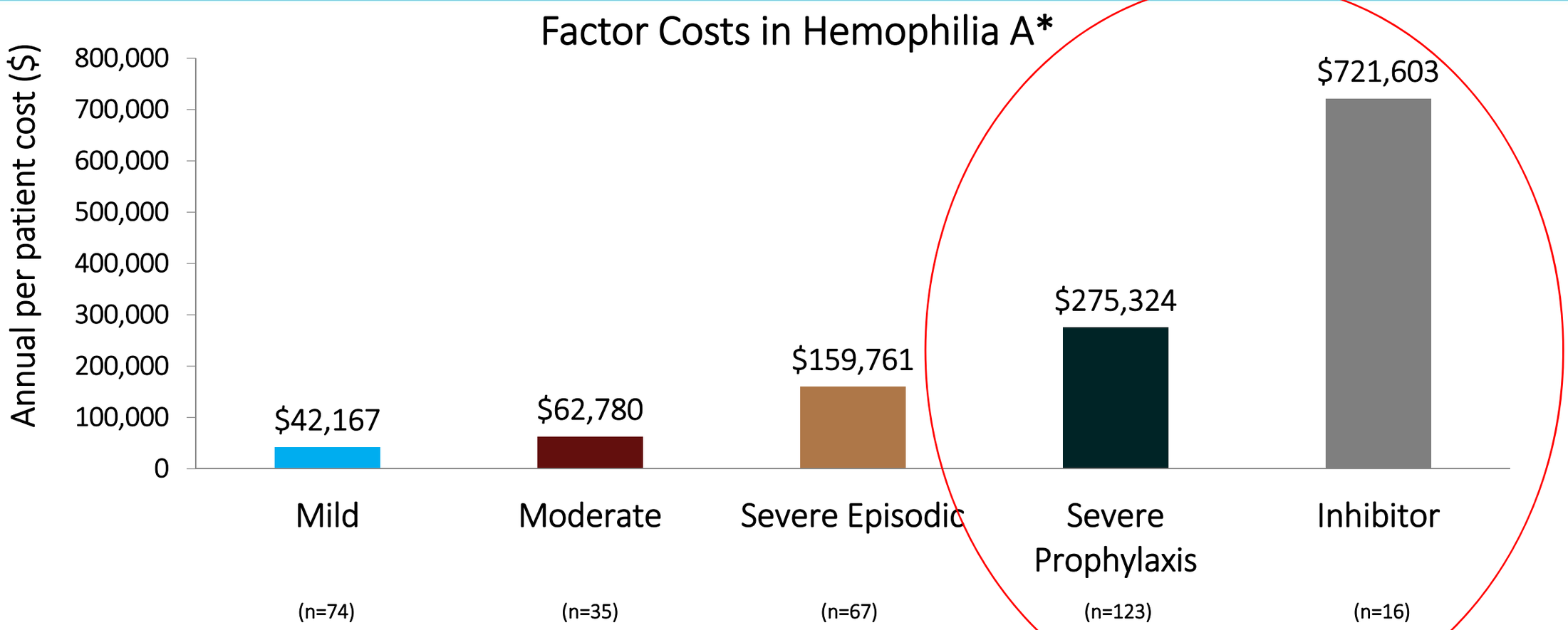
Payer Perspective: Prevalence and Resource Utilization

Disproportional Driver of Health Care Spend



5th Annual 2017 Sun Life Stop-Loss research report. Sun Life Financial Web site. http://www.sunlife.com/us/News+and+insights/Insights/2017+Sun+Life+Stop-Loss+research+report. Accessed June 2018.

Prophylaxis and Inhibitors Contribute Significantly to Annualized Factor Costs



*Factor costs in hemophilia B are similar

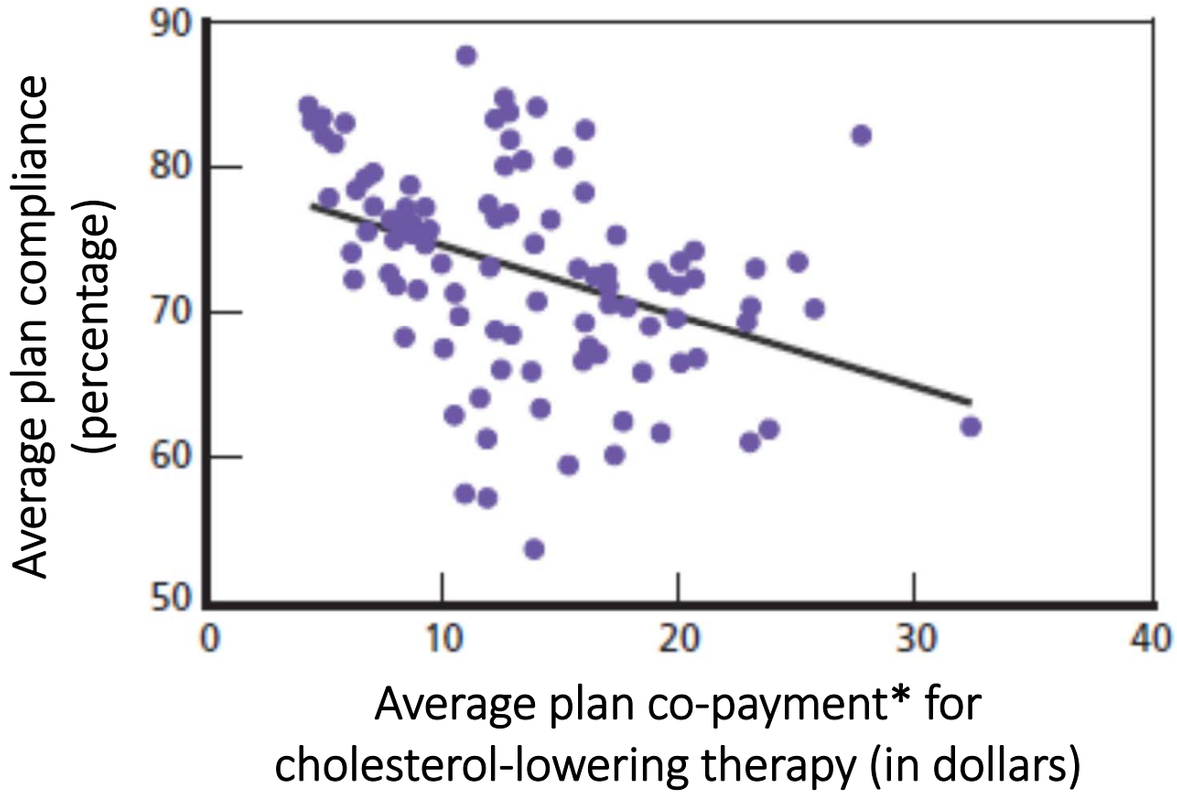
Reference prices: Medicare Average Sales Price.

Zhou ZY, Ullman M, Koerper M, et al. Characterizing Costs Associated with Hemophilia A: A Resource-Based Cost Analysis. Poster presented at ISPOR 16th Annual International Meeting; May 21-25, 2011; Baltimore, MD.

Zhou ZY, Koerper MA, Johnson KA, et al. *J Med Econ*. 2015;18(6):457-65.

Effectively Managing Rising Drug Expenditures with Member Cost-Share Remains Challenging

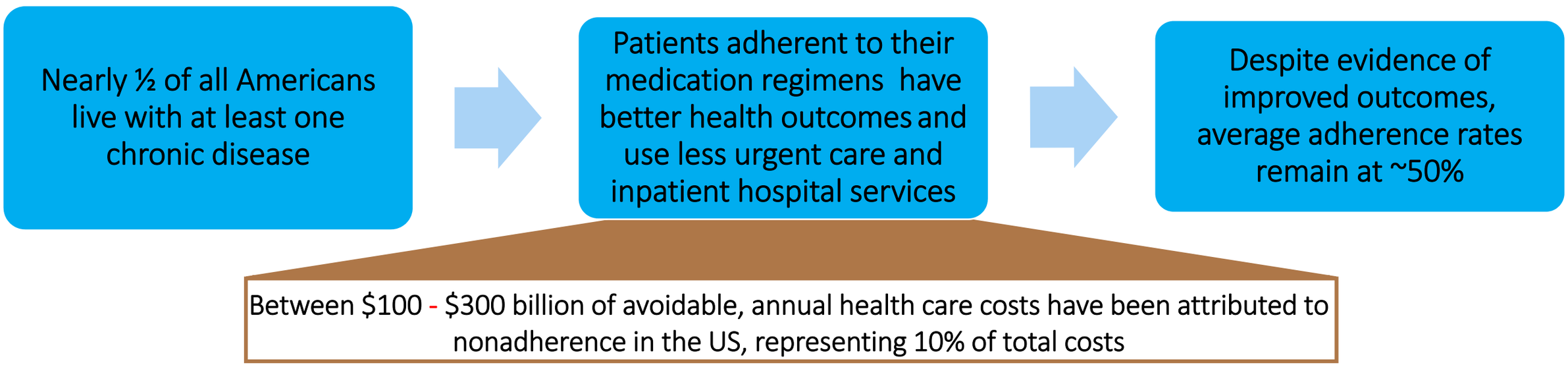
- Over the next 3-5 years, it is estimated that pharmacy costs will continue to increase
  - Particularly troubling for specialty where breakthrough therapies for rare diseases will contribute
  - Payers seeking risk mitigation strategies look to tactics such as increased copays and coinsurance
  - Cost shifting strategies may show early savings for payers, but could actually increase future total cost of care



Historical trends that have increased co-payments with rising prices may be a disservice to patients, and in some cases they increase overall health care costs

Magellan Rx Management Medical Pharmacy Trend Report, 8th ed. 2017. Magellan Rx Management Web site. https://www1.magellanrx.com/media/722153/tr2017_final_for-website-use.pdf. Published 2018. Rand Health. Research Highlights. 2009.

Nonadherence Results in Billions of Dollars in Health Care Service Utilization



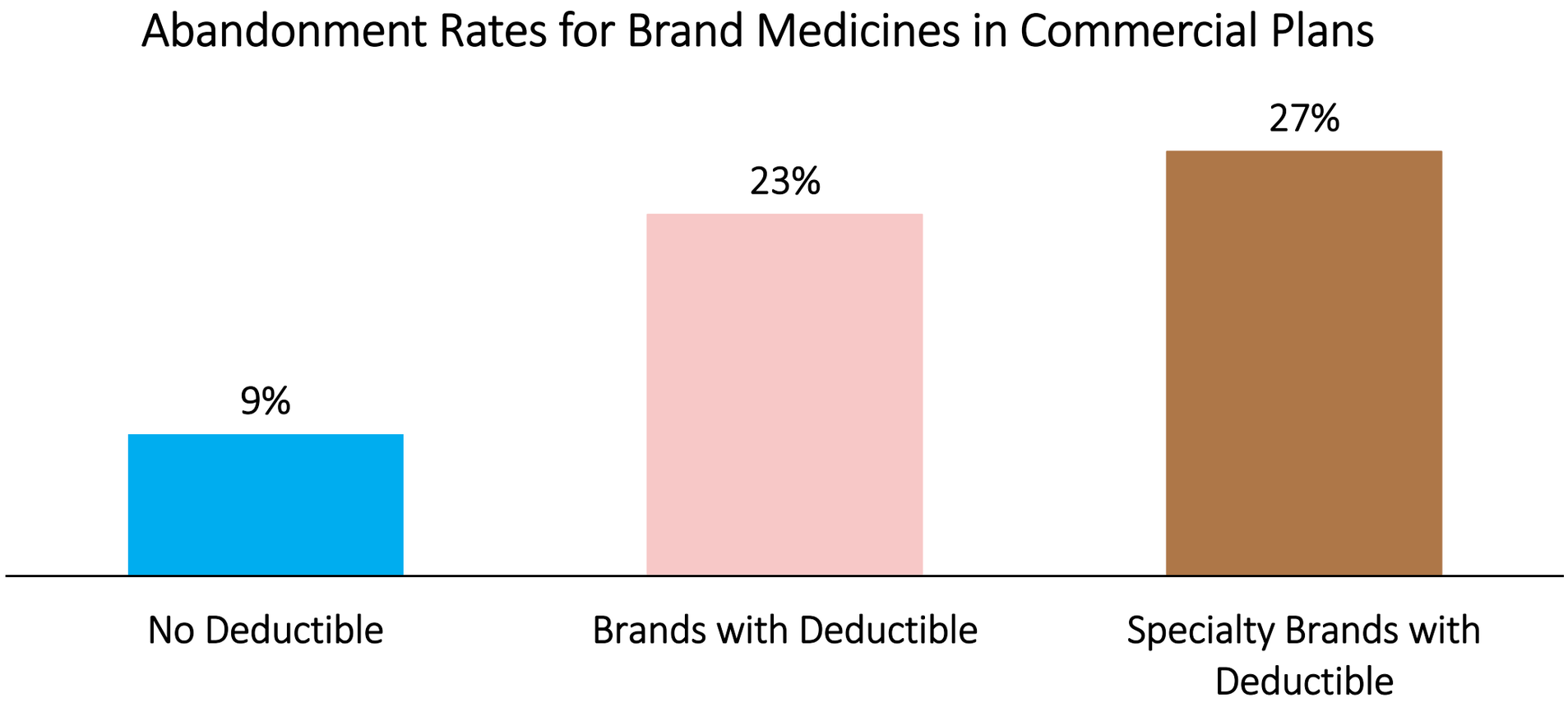
Roebuck MC, Liberman JN, Gemmill-toyama M, Brennan TA. *Health Aff* (Millwood). 2011;30(1):91-9.

Lower Copays and Value-Based Insurance Design are Among Leading Strategies for Improving Adherence

Strategies	Examples
Patient	
Education	Patient counseling by physicians or other HCPs
Social network engagement	Family members can provide reminders and feedback
Reminders	Automated alerts, telemonitoring
Provider	
Improve relationships with patients	Training physicians to improve their communication skills
External factors	
Simpler regimens	Medications with a long half-life or extended release
Auto-delivery systems	Eg, auto-injectors, pumps
EMR based	Electronic prescribing
Team-based care, care coordination	Patient-centered medical homes, case management, etc.
Value-based insurance designs	Lowering copayments can improve adherence

Iuga AO, McGuire MJ. *Risk Manag Healthc Policy*. 2014;7:35-44.

High Cost-Share is Often Responsible for Specialty Prescription Abandonment



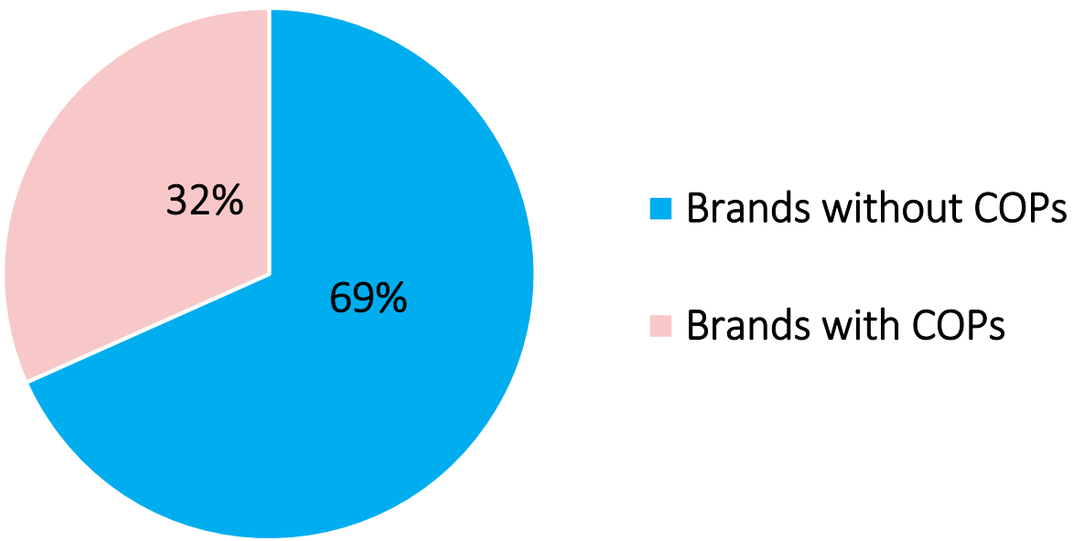
Source: Amundsen Consulting (a division of QuintilesMS) analysis for PhARMA; IMS FIA; Rx Benefit Design; Dec. 2017

Medicines Use and Spending in the US: A Review of 2016 and Outlook to 2021. IMS Health Web site. https://www.iqvia.com/institute/reports/medicines-use-and-spending-in-the-us-a-review-of-2016. Published May 4, 2017.

Wheeler C. Optimizing Your Co-Pay Offset Program Strategy: Metrics to Measure for Success. Zitter Health Insights Web site http://zitter.com/wp-content/uploads/2017/05/Optimizing_Your_Co_Pay_Offset_Program_Strategy___Metrics_to_Measure_for_Success.pdf. Published August 2012.

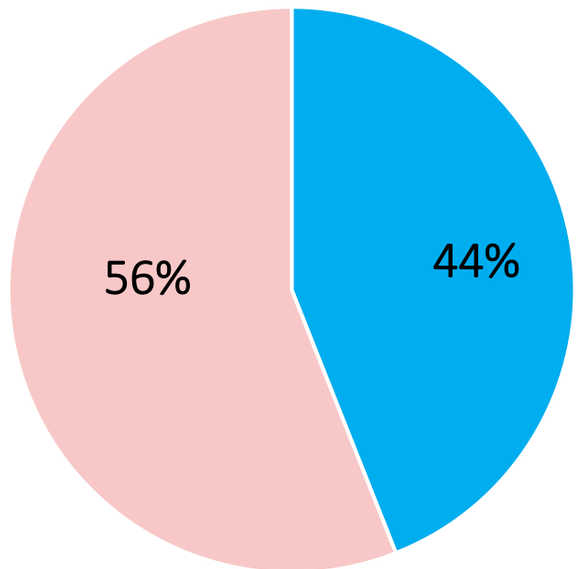
Copay Assistance is Prevalent Among Specialty Brands

Biologics Brand Universe



Percentage of Biologics Brands
n = 101 biologics brands

Non-Biologic Brand Universe



Percentage of non-Biologics Brands
n = 976 non-biologic brands

Medicines Use and Spending in the US: A Review of 2016 and Outlook to 2021. IMS Health Web site. https://www.iqvia.com/institute/reports/medicines-use-and-spending-in-the-us-a-review-of-2016. Published May 4, 2017.
Wheeler C. Optimizing Your Co-Pay Offset Program Strategy: Metrics to Measure for Success. Zitter Health Insights Web site http://zitter.com/wp-content/uploads/2017/05/Optimizing_Your_Co_Pay_Offset_Program_Strategy___Metrics_to_Measure_for_Success.pdf. Published August 2012.

Current Environment of Copay Assistance

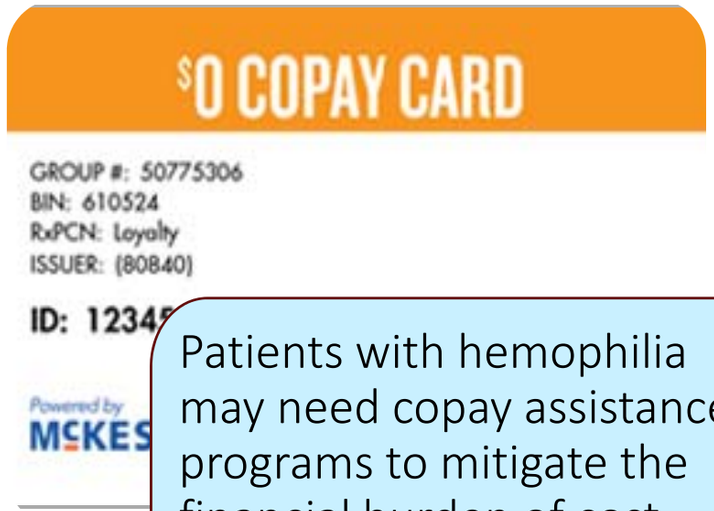
- While copay cards have positive benefits for patients (improve access, affordability, and compliance), some plan sponsors believe they increase costs via the following:
  - Assisting beneficiaries to expend their accumulators more quickly can remove barriers to unnecessary testing/procedures by limiting the patients' stake
  - Potentially incentivizing patients to utilize non-preferred drugs that are less cost-effective
- In response to these issues and as a way to drive savings for plan sponsors, two new specialty copay card programs have been introduced in 2017: accumulator adjustment and copay allowance maximization
  - However, when applied to high-cost/high-value drugs, these programs may create a barrier to patients' utilization of necessary and potentially life-saving therapies

Cleveland Research Company, 2017.

Copay Assistance Mitigates Patient Cost Burden in Chronic Disease, but Accumulator Adjustment Programs Reintroduce Financial Barriers to Access

For patients with complex, chronic conditions like hemophilia, finding the right therapy can be a long and difficult journey

- Adherence results in decreased health care service utilization



Patients with hemophilia may need copay assistance programs to mitigate the financial burden of cost-sharing

- Significant proportion of patients now only have high-deductible plan options
- Copay assistance programs are offered by all manufacturers of specialty drug products

Accumulator Programs interfere with a vital lifeline for patients with chronic conditions requiring specialty drugs

- Accumulator adjustment and copay allowance maximization negate the benefits of copay assistance programs and reintroduce financial barriers to care

Copay Card: Reducing Member Responsibility

Drug A Cost Per Month: $22,000
Out of Pocket Max (OOPM): $6,500

Coinsurance: 20%
Coupon Card Available: Max $12,000 Annually

Month	Drug A Cost	20% Coinsurance	Manufacturer Funds	Member Funds	Total Applied to OOPM	Plan Cost
1	$19,000	$3,800	$3,800		$3,800	$15,200
2	$19,000	$2,700	$2,700		$2,700	$16,300
3	$19,000					$19,000
4	$19,000					$19,000
5	$19,000					$19,000
6	$19,000					$19,000
7	$19,000					$19,000
8	$19,000					$19,000
9	$19,000					$19,000
10	$19,000					$19,000
11	$19,000					$19,000
12	$19,000					$19,000
Total Costs	$228,000	$6,500	$6,500	$0	$6,500	$221,500

OOPM met in Month 2

Copay Card: Using Copay Accumulator Adjustment

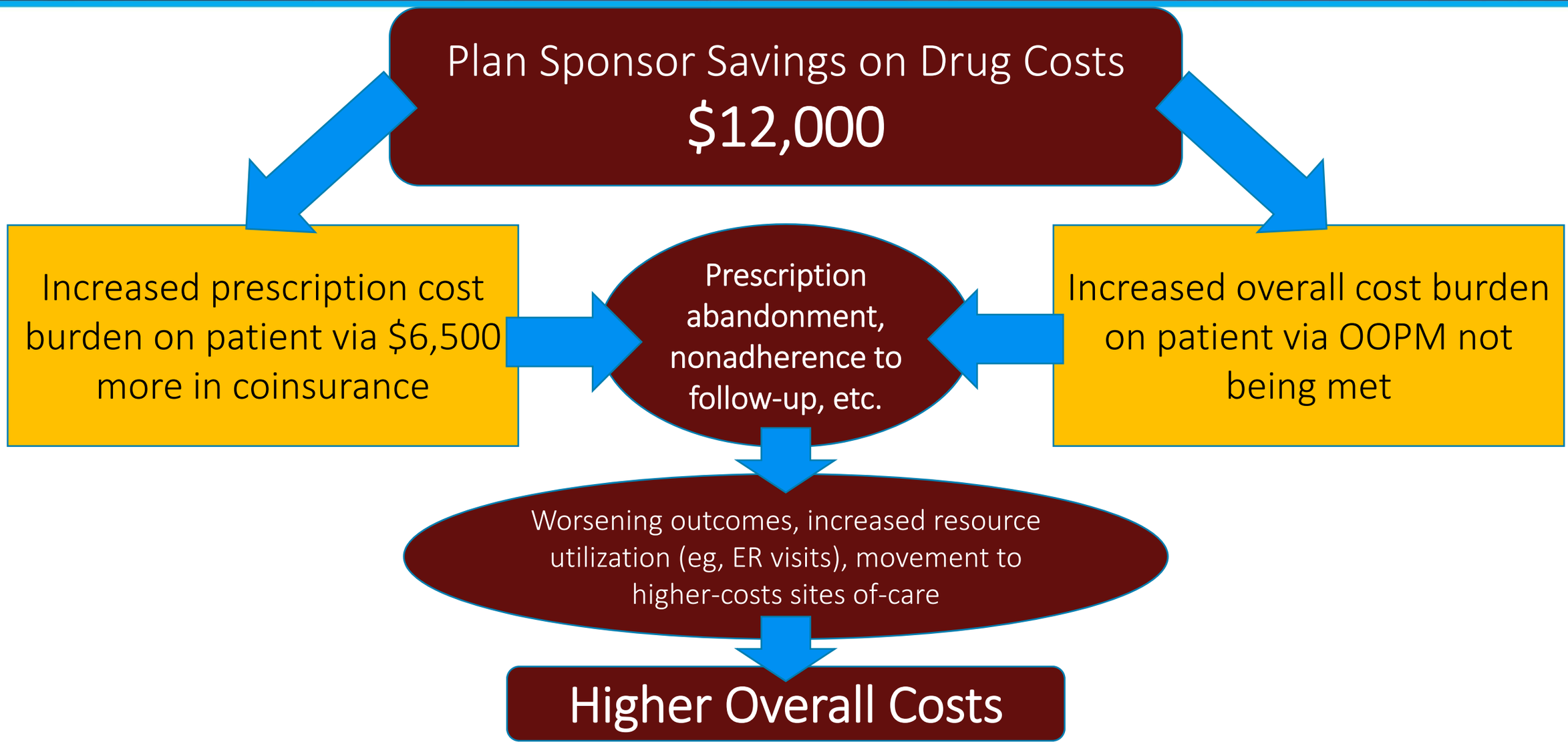
Drug A Cost Per Month: $22,000
Out of Pocket Max (OOPM): $6,500

Coinsurance: 20%
Coupon Card Available: Max $12,000 Annually

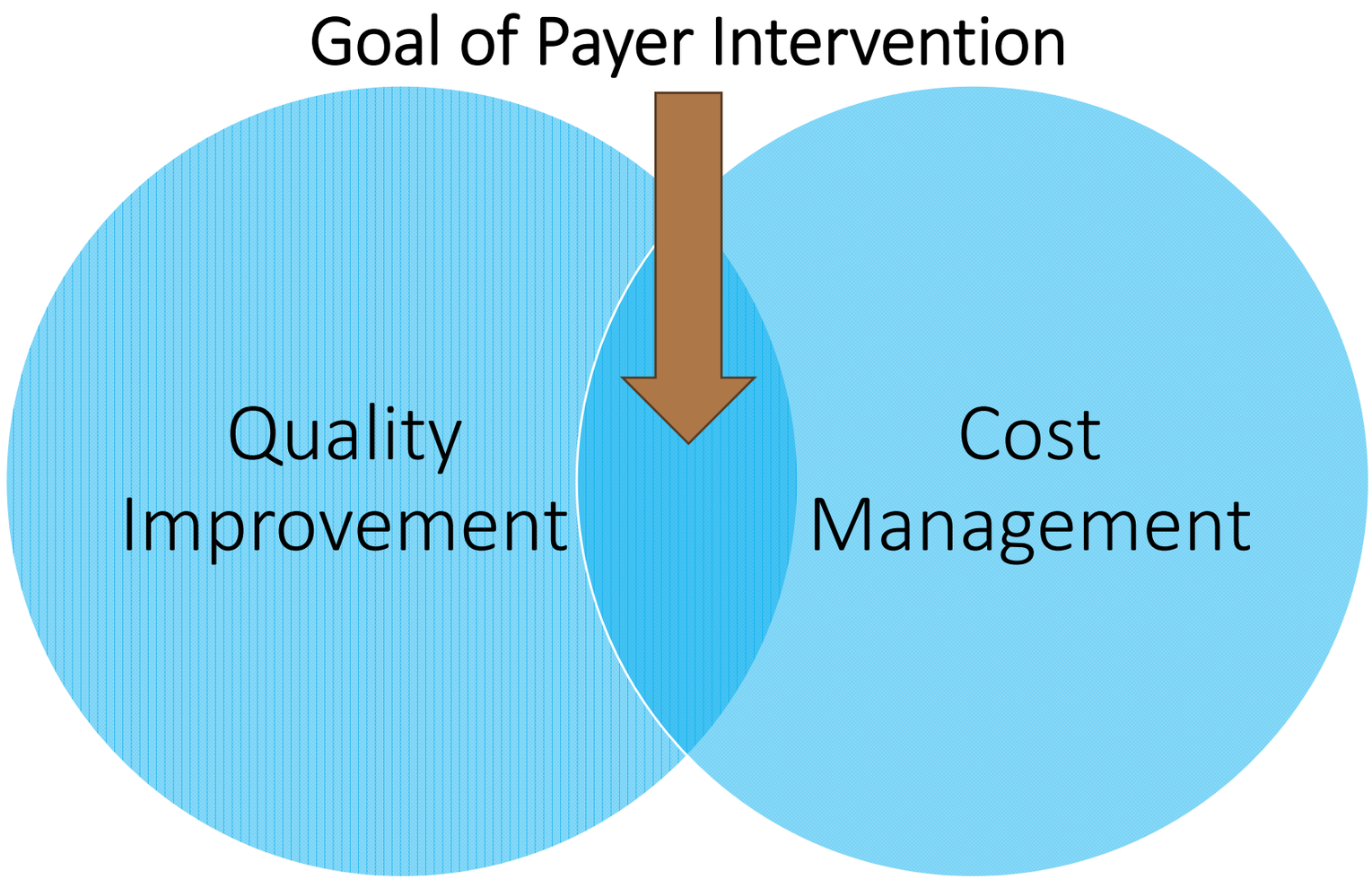
Month	Drug A Cost	20% Coinsurance	Manufacturer Funds	Member Funds	Total OOP paid	Plan Cost
1	$19,000	$3,800	$3,800		$3,800	$15,200
2	$19,000	$3,800	$3,800		$3,800	$15,200
3	$19,000	$3,800	$3,800		$3,800	$15,200
4	$19,000	$3,800	$600	$3,200	$600 / $3,200	$15,200
5	$19,000	$3,300		$3,300	$3,300	$15,700
6	$19,000					$19,000
7	$19,000					$19,000
8	$19,000					$19,000
9	$19,000					$19,000
10	$19,000					$19,000
11	$19,000					$19,000
12	$19,000					$19,000
Total Costs	$228,000	$18,500	$12,000	$6,500	$18,500	$209,500

OOPM met in Month 5

Savings/Cost-Offset Considerations



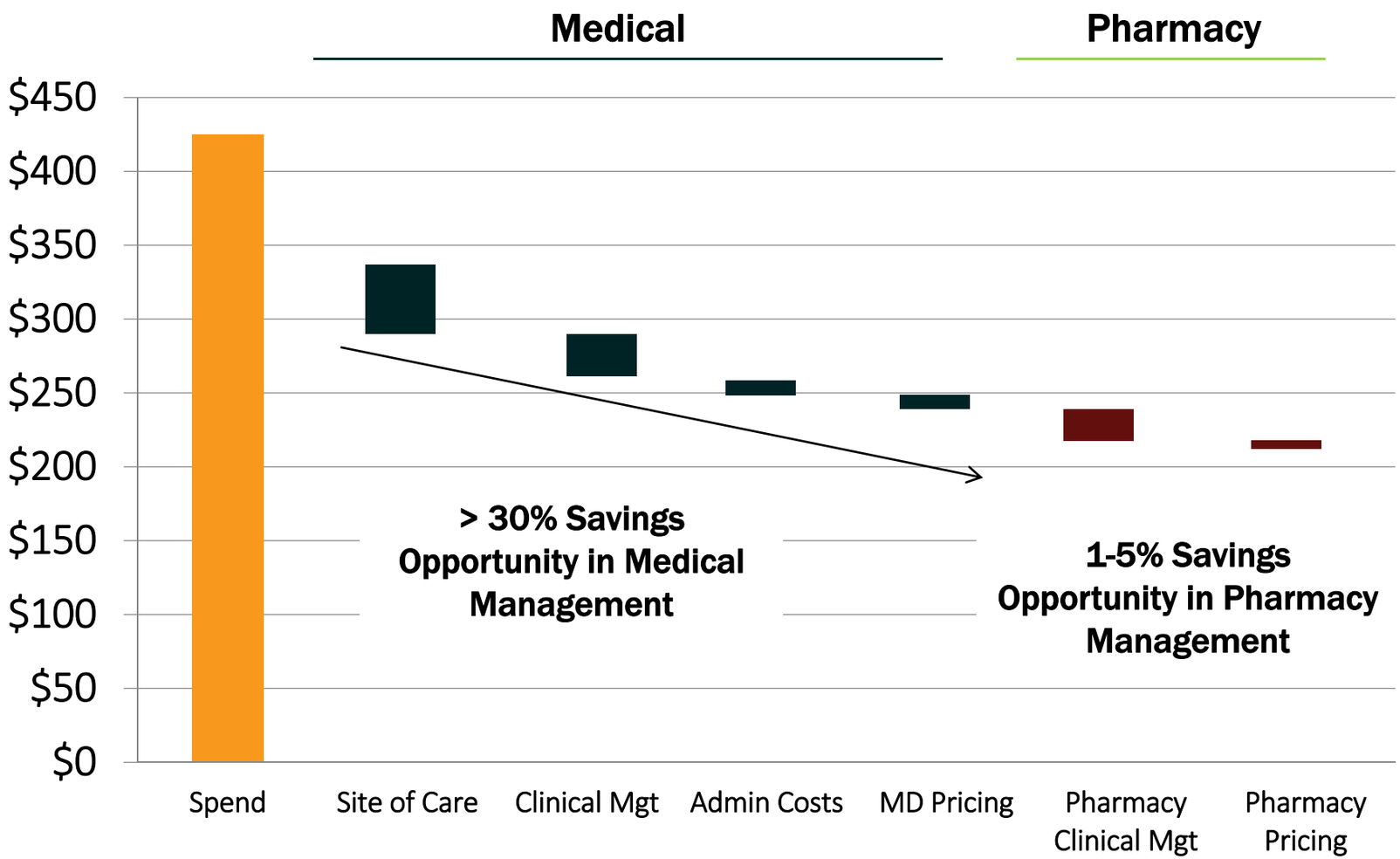
Payer Management Interventions Seek to Improve Care Quality and Manage Costs



General Benefit Design Considerations for Hemophilia Drug Coverage

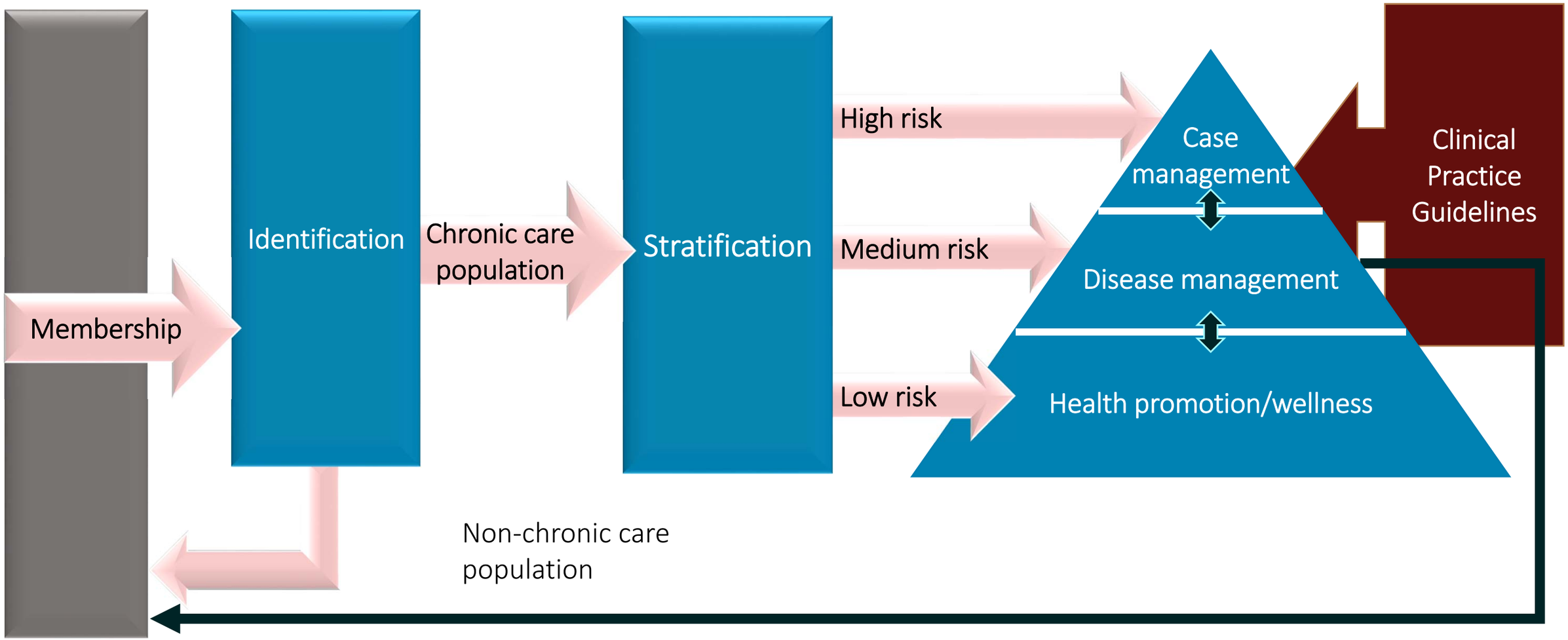
- Benefit designs that narrow access to care (medical and pharmacy) without an adequate network, or force steep economic costs on beneficiaries that require expensive care will pay the price of “leakage” to other methods of access (i.e., ER, Urgent care, etc.) outside the preferred methodology
- Network and benefit design must account for situations where the default option is not the highest cost and/or the lowest quality option
- Open access (ideally, at minimum one 340B and one other SPP) and minimal cost-sharing represents the optimal scenario for appropriate utilization and improved outcomes

Specialty Drug Savings Opportunities May be Better Realized Through Medical Management



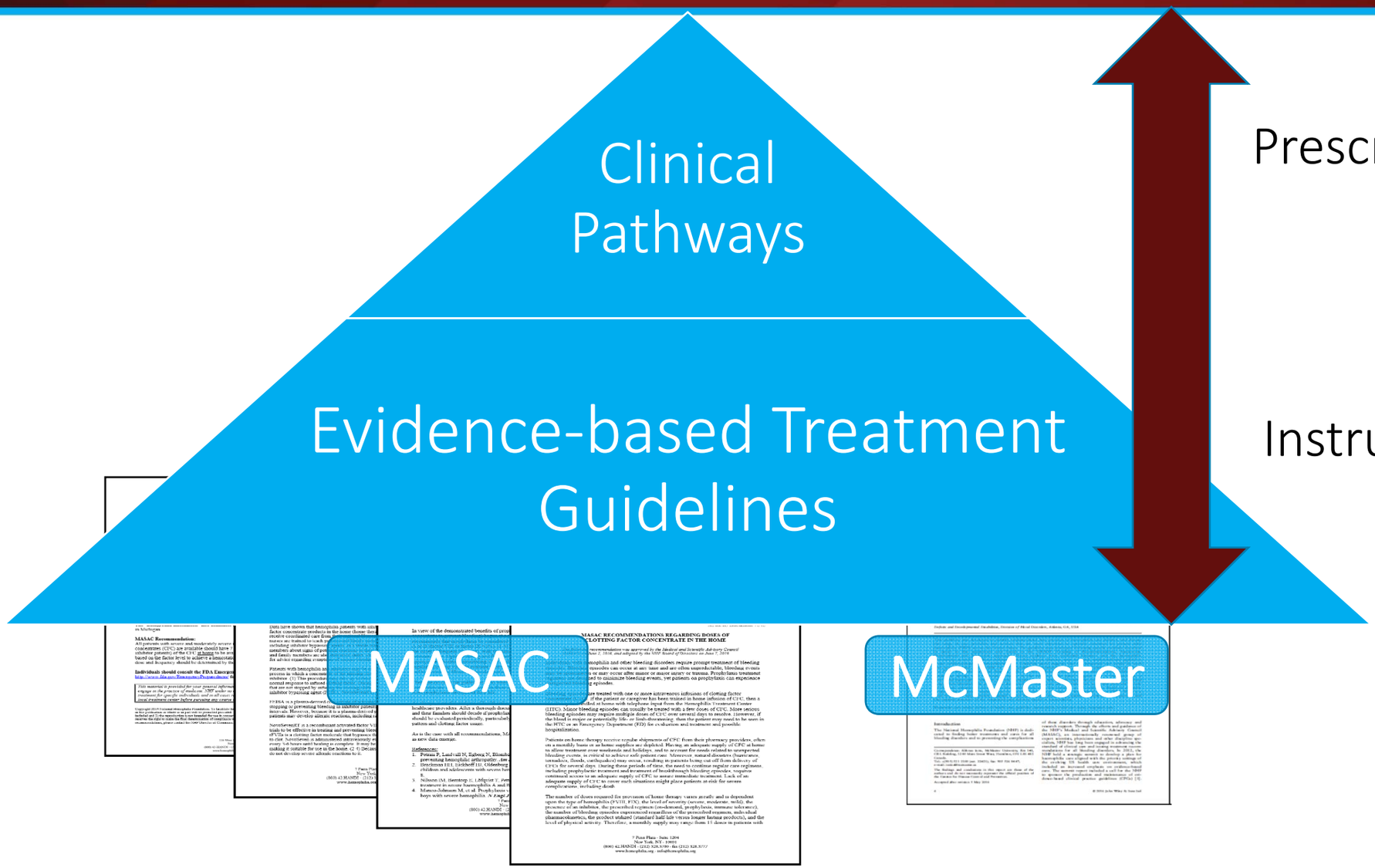
Mid-America Coalition on Health Care. 2015

Chronic Care Programs and Clinical Guideline Initiatives Provide an Evidence-based Means of Managing Costs Beyond Increased Member Share



Mattke S, Higgins A, Brook R. *Am J Manag Care*. 2015;21(5):370-6.

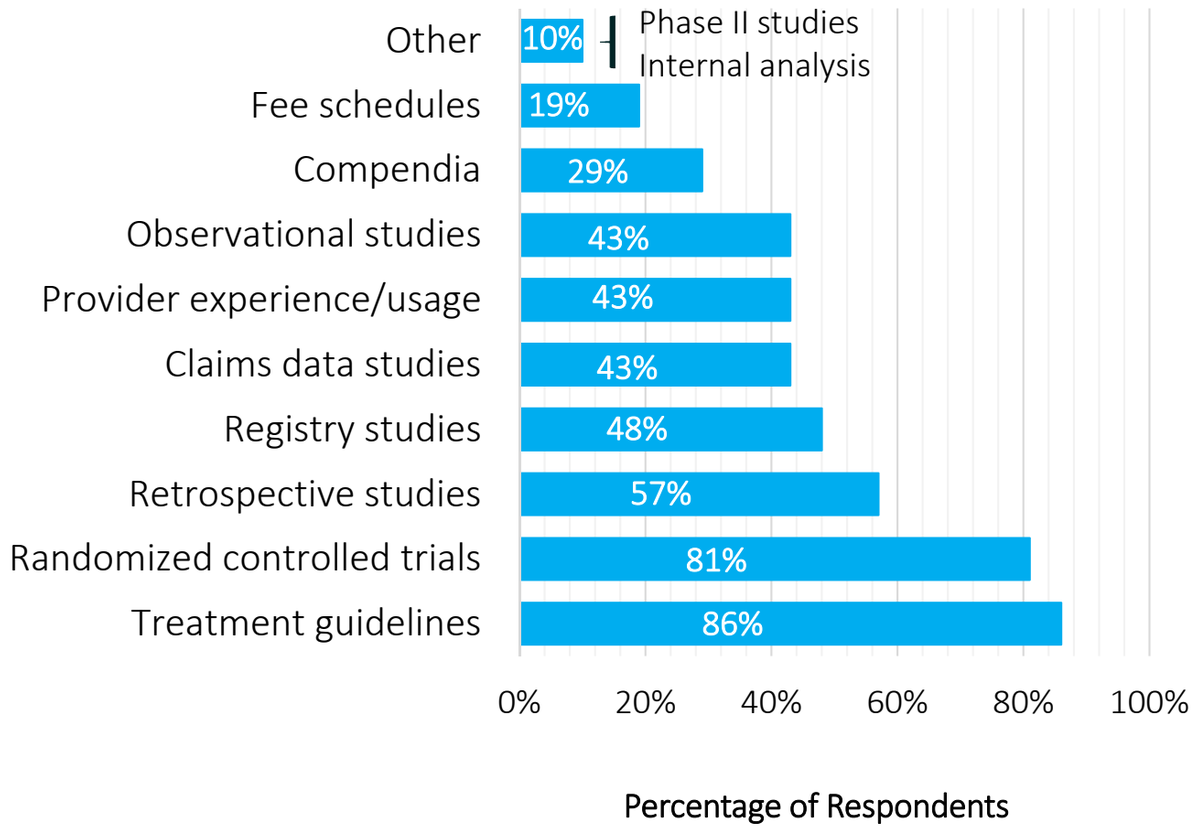
Integration of Evidence-based Treatment Guidelines Are the Norm and Have Given Way to More Sophisticated Clinical Pathways Initiatives



Although Clinical Pathways Have Been Implemented by a Growing Number of Plans, Treatment Guidelines Serve as the Impetus

Question:

"In developing a care pathway, different types of evidence or information may be used to develop the clinical algorithm. Please indicate which of the following types of evidence or information are typically used to develop the clinical algorithm."



N=21 stakeholders (payers, providers, and vendors)

Chawla A, Westrich K, Matter S, Kaltenboeck A, Dubois R. *Am J Manag Care*. 2016;22(1):53-62.

Desired Outcomes of Clinical Practice Guideline Integration

Improved Quality of Care

Reduction of Treatment Variation

Improved Clinical Outcomes

Reduced Health Care Resource Utilization/Costs

Summary

- The costs associated with hemophilia are high and predominantly driven by specialty drug expenditures
- Although increased member cost share is becoming increasingly prevalent in managed care, these measures can have detrimental effects on adherence and outcomes
- For patients with serious, life-long chronic illness requiring specialty drug therapy, copay assistance represents a vital component of care affordability
- Copay accumulator adjustment programs and similar initiatives can reintroduce financial barriers to care mitigated by copay assistance
- Alternative means of cost management and quality improvement, such as guideline driven care, offer an alternative to initiatives based on increased member cost share

Managed Care Case Study

Faculty Panel

Background

- Following a career move and subsequent geographic relocation, a 29-year-old male with moderate hemophilia A is enrolled in the health plan
- Amidst the hectic tasks of moving and starting a new job, he neglects to address his medical concerns and develops a joint bleed
- He visits the ER and is infused with factor provided by the hospital, having not brought his own

Plan Intervention

- When the claim hits the system, his insurance carrier recognizes the bleeding disorder and refers the member to case management
- A case manager reaches out to him the following week to ascertain specifics about his condition and ensure he will receive care at an HTC providing guideline-recommended integrated care
- With one large regional HTC in-network, he is scheduled for an initial comprehensive clinic visit and briefed on the factor dispensation services available from the integrated 340B pharmacy

Follow-up/Conclusion

- The new plan member attends his comprehensive clinic visit and is seen by a staff nurse, physical therapist, hematologist, and social worker
- He receives a dose of factor to self-infuse at home in case of emergency once it is determined that he has been previously trained to do so by the staff at his former HTC
- The plan case manager follows up with him to ensure that he is comfortable with his new care arrangement, and continues to do so on a regular basis
- The member has asserted that he will remain in close contact with his new HTC's staff should any issues arise, but thus far has not experienced any additional bleeding episodes

Thank you!

Please remember to complete your post-survey in order to receive CE credit. Select the post-survey link. Certificates will be emailed to the email address you provided at registration.

IMPORTANT: For those of you who will receive CPE credit for today's webcast, please be sure to download the 'CE Handout' in the *Handouts* section. This includes instructions on how to submit your credits for CPE Monitor. *You must submit credit within 30 days.*

For those of you watching in a group, please download the 'Fax Evaluation' file to print out a copy which you can fill out and fax/email to receive CE credit.

Please submit your evaluation within 1 week of the live webcast.

Track 2:
Application of Enhanced Care Coordination

Hemophilia Care Coordination and Current Treatment Options:

The Latest Insights for Managed Care and Specialty Pharmacy

Jointly provided by National Hemophilia Foundation for all bleeding disorders, Impact Education LLC, Medical Education Resources

This activity is supported by educational grants from Shire, CSL Behring, and Novo Nordisk, Inc.

Agenda

- *Communication and Collaboration Recommendations for Optimal Outcomes*
  - ***Shannon Carpenter, MD, MS***
    Professor of Pediatrics, UMKC School of Medicine Hematology/Oncology, Director Kansas City Regional Hemophilia Treatment Center
    Director, Anticoagulation Management Program
    Children's Mercy Hospital
- *Methods to Enhance Patient Adherence*
  - ***Jay Bryant-Wimp, RPh***
    Co-Founder and Director
    Accurate Rx Pharmacy, a Diplomat Specialty Pharmacy Infusion Group Company
- *Cost Management Strategies for Clotting Factor Replacement Therapy*
  - ***John Fox, MD, MHA***
    Vice President, Associate Chief Medical Officer
    Medical Affairs
    Priority Health
- Faculty Idea Exchange / Managed Care Case Studies
- Audience Question and Answer Session, Key Takeaways, and Closing Comments

Educational Objectives

- Describe current and evolving strategies used by managed care organizations (MCOs) and specialty pharmacy providers to facilitate high-quality care for members with hemophilia
- Cite the most recent clinical recommendations for the treatment of patients with hemophilia, including prophylactic factor replacement and the role of emerging agents
- Explain hemophilia-related complications associated with inhibitor development and its significant clinical and economic consequences
- Identify processes for MCOs and specialty pharmacy providers to improve communications with hemophilia treatment centers (HTCs)
- Apply methods to enable optimal cost management of factor replacement therapy to be realized by multiple hemophilia stakeholders including MCOs and specialty pharmacy providers

Communication and Collaboration Recommendations for Optimal Outcomes

Shannon Carpenter, MD, MS
Professor of Pediatrics, UMKC School of Medicine
Hematology/Oncology, Director Kansas City Regional Hemophilia Treatment Center
Director, Anticoagulation Management Program
Children's Mercy Hospital

The HTC/Comprehensive Care Model

- A hemophilia treatment center (HTC) is a federally recognized comprehensive care facility featuring a multidisciplinary team who are experts in the care of patients with bleeding disorders and whose staff spends a majority of their time caring specifically for these patients
- Key features:
    - Expertise in coagulation disorders
    - Development and provision of individualized treatment plans
    - Preventive medicine
    - Access to multiple health care disciplines
    - Optimized care

Hemophilia Treatment Centers (HTCs). Centers for Disease Control Website. https://www.cdc.gov/ncbddd/hemophilia/HTC.html Published September 2, 2015. Updated February 6, 2017. Accessed July 2018.

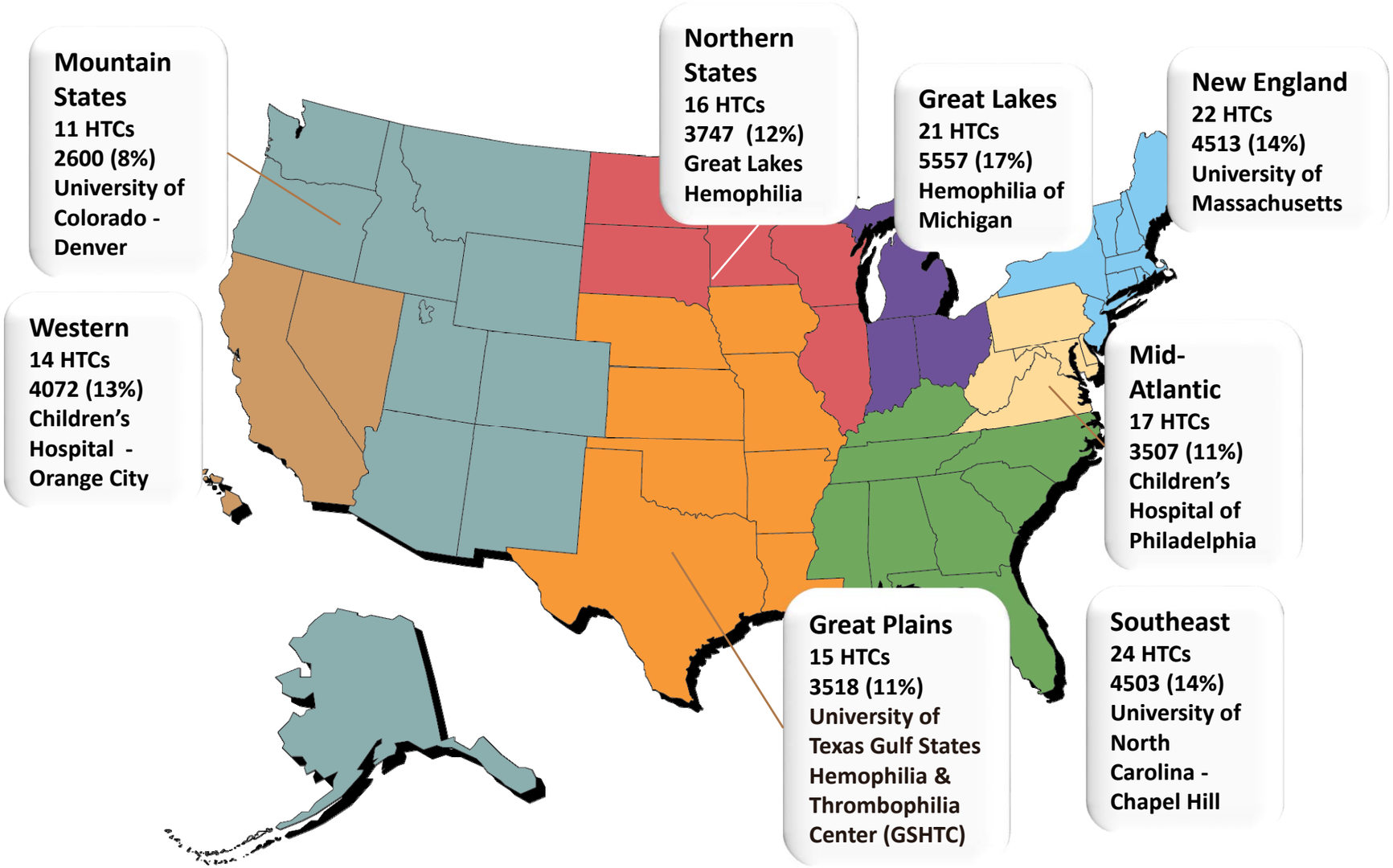
History of the US HTC Network

- The HTC network was established in the mid-1970's by the Federal Office of Maternal and Child Health (now known as the Maternal and Child Health Bureau [MCHB]) of the Health Resources and Services Administration (HRSA)
- HRSA recognized that individuals with bleeding and clotting disorders had difficulty obtaining quality care due to the rarity and complexity of their disease
- This realization led to the development of centers of excellence — HTCs — to improve expertise, access to care, and outcomes

MCH Timeline. 1975: Hemophilia Treatment Centers Act (P.L.94-63). Health Resources & Services Administration Website. https://mchb.hrsa.gov/about/timeline/timeline-scrn-rdrs.html Accessed July 2018

Programs & Initiatives: A-Z. Health Resources & Services Administration Website https://mchb.hrsa.gov/maternal-child-health-initiatives/mchb-programs/programs-initiatives-z Reviewed December 2016. Accessed July 2018

Regional Hemophilia Treatment Center Network



HTC Team Members

Core Team Members

- Patient/Family
- Hematologist
- Nurse
- Social Worker
- Physical Therapist

Additional Team Members

- Other physicians
  - Primary care
  - Orthopedics
  - Infectious disease
  - Obstetrics-gynecology
  - Hepatology
- Pharmacist
- Genetics
- Dental
- Nutritionist
- Educational/vocational counselors

Defining the Role of HTCs

- Coordinate state-of-the-art medical treatment for persons with hemophilia throughout their life span
- Education
- Research
- Outreach
- Emotional support
- Ensure optimal therapy for patient (age, activity level, medical background)
- Prepare patient and families for home treatment
  - Identifying candidates
  - Teaching concepts and skills
  - Oversight

HTCs provide care for patients, regardless of insurance status.

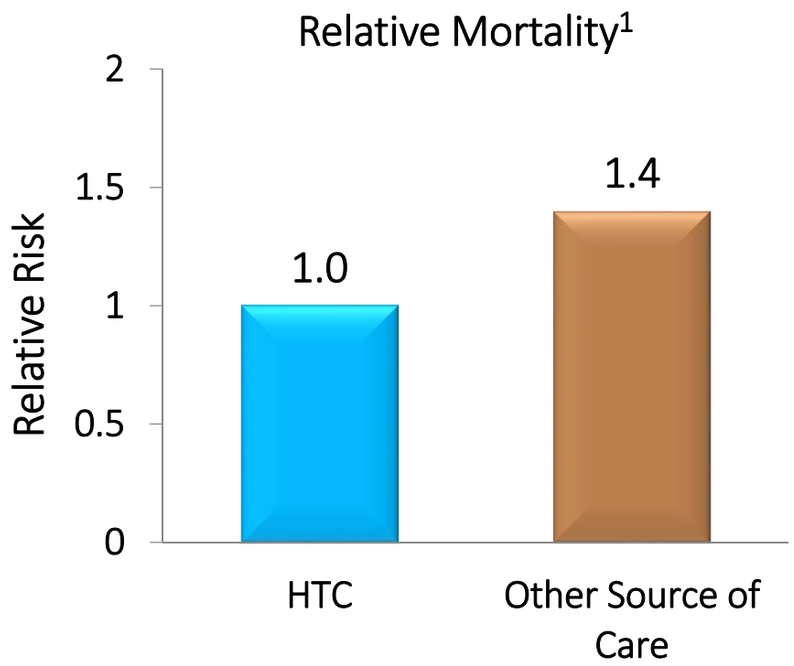
Improving Hemophilia Outcomes Through Comprehensive Care

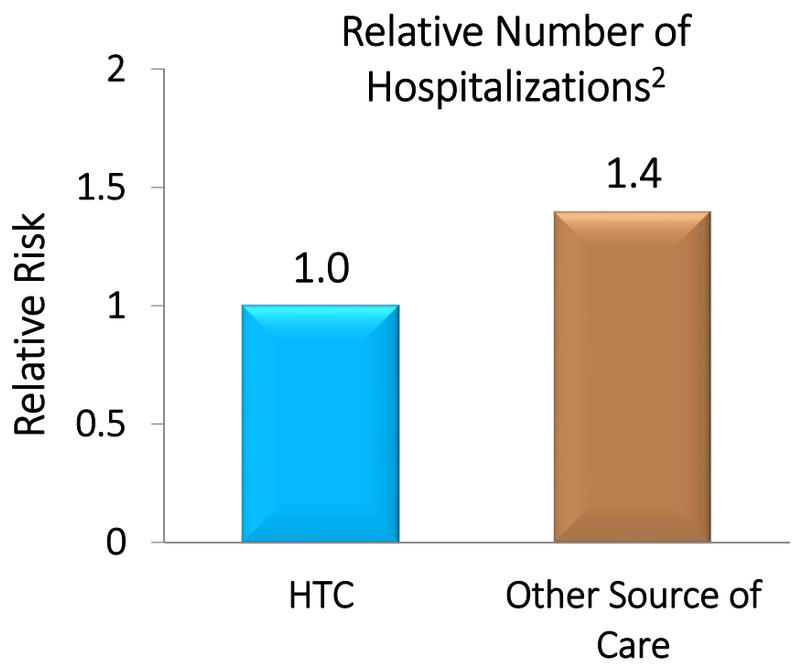
- Comprehensive care for hemophilia is defined as the continuous supervision of all medical (including factor replacement utilization) and psychosocial aspects affecting the patient and his family
- Optimal treatment is based on:
  - Early diagnosis
  - Prevention and early treatment of bleeding episodes and any complications, particularly hemophilic arthropathy
  - Detection and management of inhibitors
  - Psychosocial and educational support
  - Monitor for treatment-related comorbidities
  - Coordination of care with other providers and payers involved in management of the patient

Ruiz-Saez A. *Hematology*. 2012;17(supp1):S141-143.

Reduced Morbidity and Mortality Derived via HTC-delivered Care

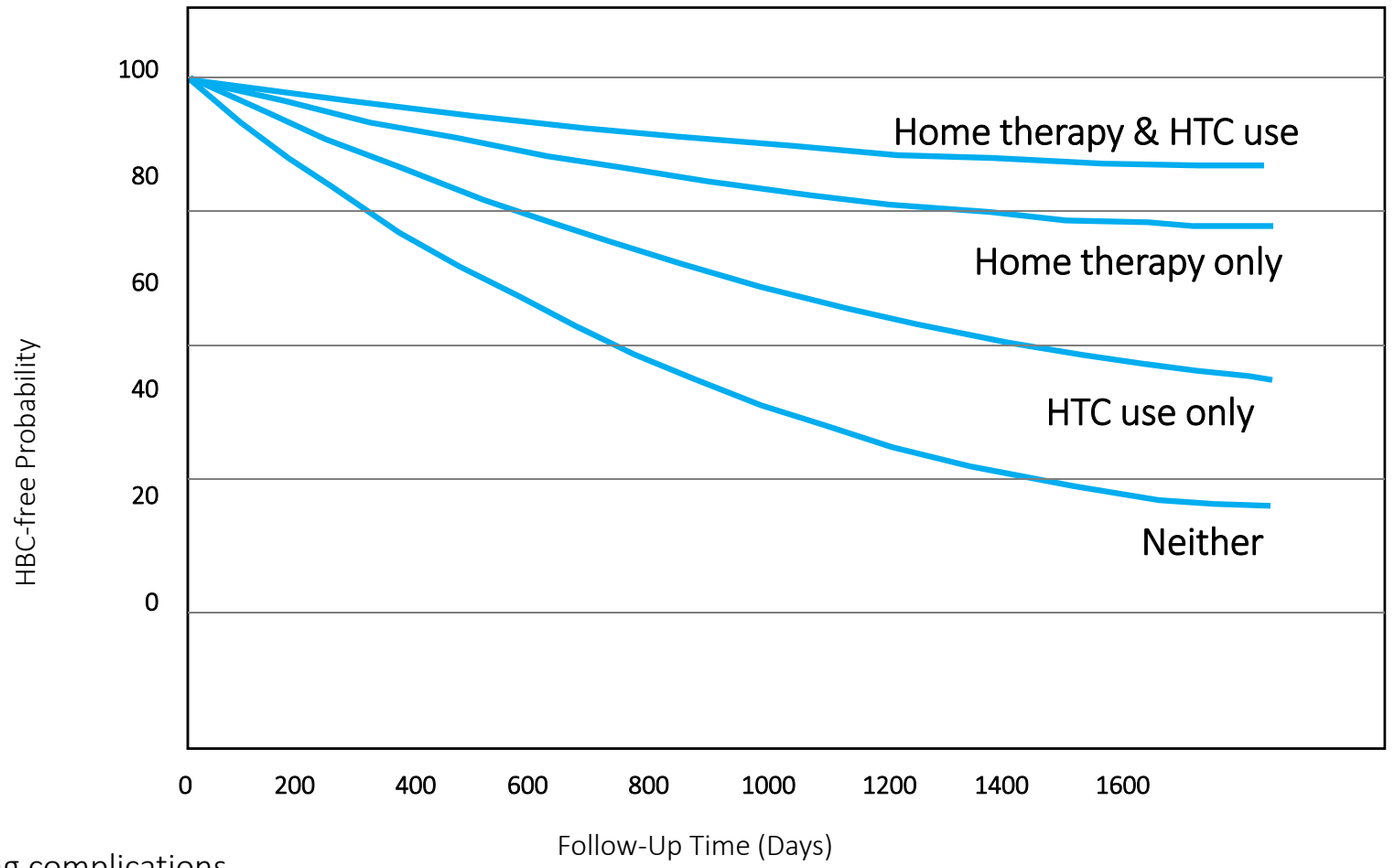
Patients Receiving Care at an HTC show 40% Reduction in Mortality and Hospitalization





1. Soucie JM, Nuss R, Evatt B, et al. *Blood*. 2000;96(2):437-42.
2. Soucie JM, Symons J, Evatt B, et al. *Haemophilia*. 2001;7(2):198-206.

HTC Care Minimizes Hospitalizations for Bleeding Complications



HBC=hospitalization for bleeding complications.

Soucie JM, Symons J, Evatt B, et al. *Haemophilia*. 2001;7(2):198-206.

HTCs Help Manage the Cost of Care

- Many unbilled, ancillary services often included as part of comprehensive care
- Expert care decreases complications
- Minimizes number of ED visits
- Promotes adherence and independence
- Complete medical history readily available
  - Optimal, collaborative decision making
- Collaborative relationships with expert subspecialists
- Eligible entity for 340B drug discount program/PHS*pricing

*PHS = Public Health Service

340B History and Implications

History

Federal grant funding per HTC averages $35,000 annually, with variable state funding; these alone are inadequate to support services

340B program created in 1992 provides discounts on facility outpatient prescription drugs to select “safety net” providers, including HTCs

PHS pricing allows HTCs to reach more patients, provide more services, and support a multidisciplinary team at reduced cost

Implications

- Lower drug acquisition costs through 340B purchasing can result in savings over other sites of dispensation
- 340B funds daily operations and patient services of HTCs
- Proposed limitations on covered entities and evolving health care legislation place both the 340B program and the sustainability of HTCs in jeopardy

NHF Policy Statement: Hemophilia Treatment Center Participation in the 340B Drug Discount Program. National Hemophilia Foundation Website. https://www.hemophilia.org/sites/default/files/document/files/NHF-Position-Statement-Regarding-Hemophilia-Treatment-Center-Participation-in-the-340B-Drug-Discount-Program.pdf. Published July 30, 2015. Accessed July 2018.

The Majority of HTCs Support Unreimbursed Care Coordination and Case Management with 340B Revenue

Hemophilia Treatment Center Services	# of Encounters
Telephone Triage Urgent/Emergent	
Annual Mean Encounters per HTC	1,968
Annual Total Encounters 29 HTC	57,072
Medical Care Coordination	
Annual Mean Encounters per HTC	2,088
Annual Total Encounters 30 HTC	62,640
Care Management/Psychosocial/Vocational	
Annual Mean Encounters per HTC	960
Annual Total Encounters 30 HTC	28,800
Patient Education	
Annual Mean Encounters per HTC	516
Annual Total Encounters 30 HTC	15,480

N=31 HTCs with established 340B programs

Trujillo M,Fosberg AD, Drake J, et al. National survey of the 340B Drug Pricing Program: Provided by the U.S. Hemophilia Treatment Centers. Poster presented at the WFH 2016 World Congress, July 24-28, 2016; Orlando, FL. Available online at https://www.postersessiononline.eu/pr/aula_poster.asp.

An Array of Pharmacy Services Are Needed for Patients with Bleeding Disorders

340B Pharmacy Services Designed to Improve the Overall Quality of Care and Manage Disease-Related Costs

Disease Management and High-touch Pharmacy Services

Integrated HTC Pharmacy Services

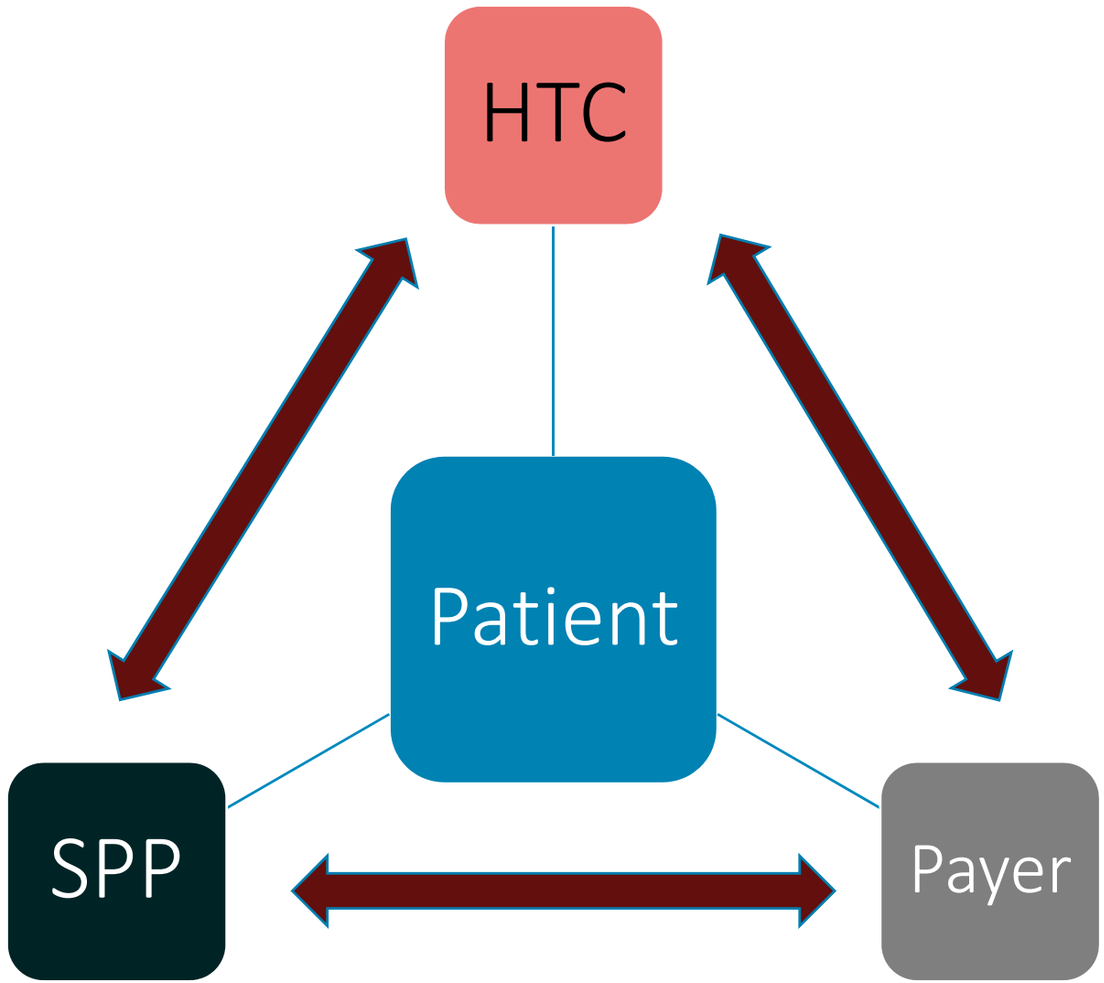
- Home delivery of factor
- Coordination of nursing services
- Assay management
- Patient education/on-demand consultation
- Treatment logs
- Monitoring bleeding episodes as needed/requested

Outcomes

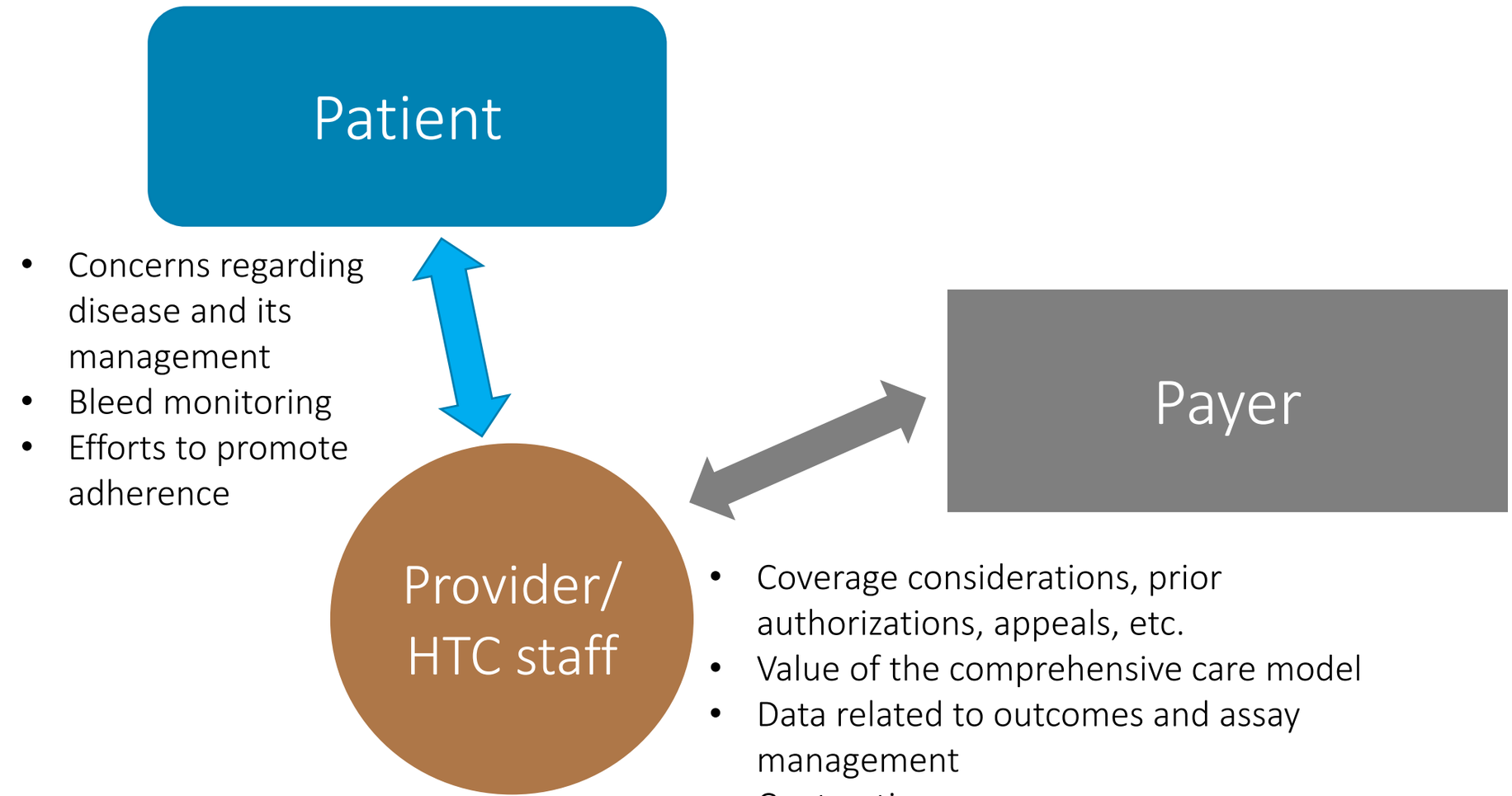
- Improved access to care/home therapy
- Reduced variance in dispensed dose
- Improved adherence
  →Reduced bleeding complications
  → Reduced ER visits/hospitalizations/ hospital LOS

LOS=length of stay

Collaboration Among SPPs, HTCs, and Payers is Critical for Optimal Patient Care and Cost Management



Providers are Tasked with Communicating with Patients and Payers to Facilitate Optimal Outcomes



Strategies to Improve Collaboration Between HTCs and Payers

- Understand the needs of each stakeholder
  - HTCs are concerned with medical care of patient
  - Specialty pharmacies are concerned with the timely and accurate filling of prescriptions to meet the clinical needs of patient
  - Payers need to be assured that the dispensed factor and patient care is appropriate and cost-effective

Best Practices to Improve Collaboration Between HTCs and Payers

- Proactive implementation of steps to avoid ER visits
- Proactive monthly calls to monitor bleed activity and inventory on hand
  - No shipments when patient has adequate supply of factor and supplies on hand
- Information gathering on bleed log history
- Communicate expected changes in costs to payer
  - Planned surgeries and procedures
  - Significant changes in utilization (i.e., weight gain, injury)
  - Identify barriers to optimal patient outcomes
  - Establish communication with case managers

The Role of Patient-Reported Outcomes Measures (PROMs) in Improving Care Quality and Demonstrating Value

- PROMs represent one way by which HTCs and SPPs can demonstrate value-based care to payers
- Use of PROMs in rare disease research and clinical practice offers the potential to improve patient care and clinical outcomes
- Patient input throughout the development of PROMs including qualitative research is essential to ensure that outcomes that matter to people living with rare disease are appropriately captured
- Given the large number of rare diseases, small numbers of patients living with each condition and the cost of instrument development, creative and pragmatic solutions to PROM development and use may be necessary
- Solutions include qualitative interviews, modern psychometrics and resources such as item banking and computer adaptive testing
    - Many HTCs currently employ such measures in the form of bleed logs, telephonic outreach/follow-up, and patient surveys

Slade A, Isa F, Kyte D, et al. *Orphanet J Rare Dis*. 2018;13(1):61.

Summary

- HTCs have served as the centers of excellence in the management of bleeding disorders for >40 years
- In addition to improved clinical outcomes, many centers feature an integrated 340B pharmacy model that allows for the provision of unreimbursed ancillary services
- Communication and data sharing with payers is necessary to promote the value of the comprehensive care model, ensure adequate coverage and reimbursement, and leverage the delivery of care in contracting discussions
- PROMs and other clinical data collected by HTCs can help improve the quality of care and demonstrate the value of HTC-delivered care to payers

Methods to Enhance Patient Adherence

Jay Bryant-Wimp, RPh
Co-Founder and Director, Accurate Rx Pharmacy
a Diplomat Specialty Pharmacy Infusion Group Company

One of the Goals of High-Touch Integrated HTC Pharmacy or SPP is to Increase Adherence

- Similar to other chronic conditions, compliance to hemophilia therapy is a challenge[1,2]
- Adherence is positively correlated with younger age and longer experience with prophylaxis[3]

"Drugs don't work in patients who don't take them."

- C. Everett Koop, MD

"Nonadherence is symptom of an existing problem."

- Jay Bryant-Wimp, RPh

Average prophylaxis adherence in severe hemophilia has been documented from 58.8%-87%[3]

1 VlaVlasnik JJ, Aliotta SL, Delor B. *Case Manager*. 2005;16(2):47-51.
2 Adherence to long-term therapies. World Health Organization Website. http://www.who.int/chp/knowledge/publications/adherence_full_report.pdf. Geneva, Switzerland: WHO; 2003.
3 Mizrahi T, St-louis J, Young NL, et al. *BMC Hematol*. 2016;16:26.

Getting to Source of Problem: Reasons for Nonadherence

According to the World Health Organization (WHO), adherence is related to the following:

- Patient Related (e.g. younger age, depression)
- Socioeconomic Related (e.g. high cost-share/co-pay, low health literacy)
- Condition Related (e.g. chronic condition and asymptomatic in nature)
- Therapy Related (e.g. side effects, complex regimen)
- Health System Related (e.g. transitioning from hospital to home setting)

Adherence to long-term therapies. World Health Organization. http://www.who.int/chp/knowledge/publications/adherence_full_report.pdf. Geneva, Switzerland: WHO; 2003.

Getting to Source of Problem: Reasons for Nonadherence

Patients with Bleeding Disorders

- Convenience issues/time[1-4]
- Social/family stress[4-6]
- Lack of commitment/ forgetfulness[5,7-8]
- Cost of co-pays and insurance deductables[4-5]
- Complications from disease[4-5]
- Poor venous access[3-5,8]
- Transition to adulthood[9]

1 Adherence to long-term therapies. World Health Organization. http://www.who.int/chp/knowledge/publications/adherence_full_report.pdf. Geneva, Switzerland: WHO; 2003.
2 Van den berg HM, Fischer K, Van der bom JG. *Haemophilia*. 2003;9 Suppl 1:27-31.
3 De moerloose P, Urbancik W, Van den berg HM, Richards M. *Haemophilia*. 2008;14(5):931-8.
4 Hacker MR, Geraghty S, Manco-johnson M. *Haemophilia*. 2001;7(4):392-6.
5 Petrini P. *Haemophilia*. 2007;13 Suppl 2:16-22..
6 Geraghty S, Dunkley T, Harrington C, Lindvall K, Maahs J, Sek J. *Haemophilia*. 2006;12(1):75-81.
7 Penica S, Williams KE. *Haemophilia*. 2008;14(5):939-44.
8 Fischer K, Valentino L, Ljung R, Blanchette V. *Haemophilia*. 2008;14 Suppl 3:196-201.
9 Walsh CE, Valentino LA. *Haemophilia*. 2009;15(5):1014-21.

Background: The Problem with the Problem
No Simple Solution

- A Cochrane review of 78 randomized trials *"found no one simple intervention and relatively few complex interventions to be effective at improving long-term medication adherence and health outcomes..."* [1]
- Further evidence from the Agency for Healthcare Research and Quality (AHRQ) reveals there is *"no single silver bullet"* approach that worked in relation to medication adherence.[2]

1 Brown MT, Bussell JK. *Mayo Clin Proc.* 2011;86(4):304-14.

2 Viswanathan M, Golin CE, Jones CD, et al. Closing the Quality Gap: Revisiting the State of the Science (Vol. 4: Medication Adherence Interventions: Comparative Effectiveness). Rockville (MD): Agency for Healthcare Research and Quality (US); 2012 Sep. (Evidence Reports/Technology Assessments, No. 208.4.)Available Available from: http://www.ncbi.nlm.nih.gov/books/NBK114350/

What *Evidence-Based* Medicine Shows

Intervention	AHRQ Evidence[1]
Shared decision making	Moderate Strength of Evidence
Case management	Moderate Strength of Evidence
Self management	Moderate Strength of Evidence
Collaborative care*	Moderate Strength of Evidence AND Moderate Strength of Evidence for OTHER outcomes such as symptom improvement

face-to-face time with pharmacist shows moderate strength of evidence for OTHER outcomes such as symptom improvement

1 Viswanathan M, Golin CE, Jones CD, et al. Closing the Quality Gap: Revisiting the State of the Science (Vol. 4: Medication Adherence Interventions: Comparative Effectiveness). Rockville (MD): Agency for Healthcare Research and Quality (US); 2012 Sep. (Evidence Reports/Technology Assessments, No. 208.4.)Available Available from: http://www.ncbi.nlm.nih.gov/books/NBK114350/

Adherence Answered: Algorithmic evidence-based approach to attacking symptoms of nonadherence in patients with bleeding disorders

Authors: Jay Bryant-Wimp, $RPh_{(1)}$, David Pannell, $JD_{(2)}$

Background

Half of all patients taking maintenance medications for a chronic disease, including those with bleeding disorders, stop taking their medications within one year of initiating therapy.[1-6] This nonadherence to essential medications is responsible for 33-66% of all medication-related preventable hospitalizations and patient illness, costing the U.S. health care system an estimated $100-289 billion annually.[7-12] Additionally, according to Capgemini Consulting, pharma is losing an estimated at $564 billion globally in estimated annual pharmaceutical revenue loss due to medication nonadherence.

In addition to the cost, nonadherence is responsible for an increase in death and morbity.[7] Evaluation of the daunting numbers and potential for poor outcomes, revels there is great opportunity for a fresh look at care planning.

The Problem with the problem-No Simple Solution.

There are many reasons for nonadherence to medications. Everything from co-payments, complexity of dosing regiments and access to care impact adherence. In a recent article, *Medication Adherence: WHO Cares?,* by Dr. Marie T. Brown, MD and Jennifer K. Bussell, MD, the authors describe what is at the center of the complexity of the problem. According to the research done by Brown and Bussell, "a Cochrane review of 78 randomized trials ***found no one simple intervention and relatively few complex interventions to be effective at improving long-term medication adherence and health outcomes***, underscoring the difficulty of improving medication adherence." [13-14] Further support for this is seen in the evidence-based medicine report, *Closing the Quality Gap: Revisiting the State of the Science (Vol. 4: Medication Adherence Interventions: Comparative Effectiveness).* The authors concluded that there was ***"no single silver bullet"*** approach that worked in relation to medication adherence.[15]

When we reviewed the literature, the specific problems related to bleeding disorder adherence matched the World Health Organization (WHO) classifications for reasons for nonadherence.

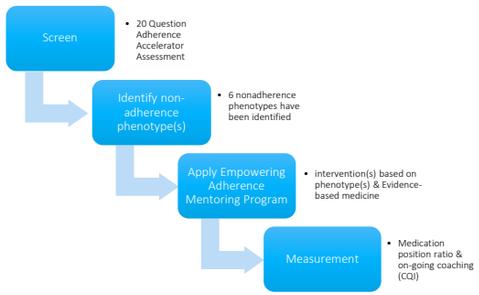
Bleeding Disorder Related "Problems"

1. Convenience issues/time[16-18] Social/family stress[18-20] Lack of commitment/forgetfulness[19, 21-22]
2. Cost of co-pays and insurance deductables[18-19]
3. Complications from disease[18-19]
4. Poor venous access[17-19, 22]
5. Transition from pediatric to adult clinic[23]

Corresponding World Health Organization (WHO) "Problems"

1. Patient Related
2. Socioeconomic Related
3. Condition Related
4. Therapy Related
5. Health-system Related

Methods



A literature search revealed that there are some commonalities or phenotypes that, if properly screened, could make it easier to identify correct interventions. We developed an 20-question phenotype assessment tool that combines elements from evidence-based surveys, such as the Morisky Medication Adherence Scale and Oyekan's Readiness Assessment Ruler, as well bleeding disorder specific questions. Once the phenotype(s) were identified on each patient, trained coaches and/or pharmacist would implement the evidence-based Accurate Adherence Accelerator intervention algorithm. The algorithm included phenotype specific interventions such as; collaborative care planning, Medication Therapy Management, developing scorecards, self-management training and co-pay review.

To measure the success of the intervention(s), we assigned ten patients in our pilot program using the simple random sampling method. Medication Possession Ratio (MPR) was measured for the twelve months prior to screening and intervention. At the end of the 12-month intervention MPR was measured again.

Individualized patient-centered care maps were developed using of the Accurate Adherence Accelerator.

Evidence-based Interventions & Results

- **Care planning***
- **Patient care directed by Center of Excellence- Hemophilia Treatment Centers (HTCs)***
- **Collaborative care****
- **Medication Therapy Management****

Moderate Strength of Evidence AND Moderate Strength of Evidence for OTHER outcomes such as symptom improvement*

ID	MPR% Prior to Intervention(s)	Intervention(s)	MPR% After Intervention(s)
1	68.65%	On-going collaborative care, quarterly clinical coaching visits. MTM by RPh	97.02%
2	70.43%	On-going collaborative care, quarterly clinical coaching visits. MTM by RPh	95.58%
3	51.88%	Assessment of symptoms & Adherence Answered Mentoring	63.78%
4	51.70%	Assessment of symptoms & Adherence Answered Mentoring	58.28%
5	7.72%	Assessment of symptoms, insurance barrier removed, Motivational Interviewing, Adherence Answered Mentoring	69.92%
6	65.19%	Transitioning to self-management. Self-infusion skills by RN.	78.20%
7	77.98%	On-going collaborative care, 3 surgical procedures with no hospitalizations for savings of $75,000 per prevention	74.02%
8	75.69%	On-going collaborative care, in-depth assessment of caregivers for enhanced validation.	86.80%
9	77.59%	Assessment of symptoms, insurance barrier removed on-going mentoring with Adherence Answered practitioner	86.91%
10	53.76%	Assessment of symptoms, insurance barrier removed, Accurate Adherence Accelerator program & made sure patient transitioned to new HTC	85.38%

Summary

Patients engaged in the program for a twelve month period. None of the patients in the program were admitted for an unplanned hospitalization. Adherence rates for the group went from 66.8% to 78.43%, with 9 of the 10 patients showing an increase in MPR. All patients provided a 5 out of 5 rating on satisfaction survey. Finally, the patient group had an increase in adherence that resulted in an average of >80,000 units of annualized factor utilization.

Measurement of Success

- ***No unplanned hospitalizations***
  - ***Savings from our study consist of 3 preventions for per admission savings of $75,000 for a total of $225,000***
- ***90% patients showing an increase in MPR***
  - ***Study Group adherence rate went from 60% to 79.6%***
- ***Medication adherence resulted in an increase of >80,000 units (annualized) per patient***
- ***5 out of 5 rating on patient satisfaction survey for all participating patients***

Conclusion

Based on the initial success of the intervention, we will continue to monitor our interventions and evaluate the impact of long-acting factor on adherence.

We look forward to expanding to other disease states, such as HIV, to expand our application of our survey, the Empowering Adherence coaching program with the Accurate Adherence Accelerator.

References

References available upon request

Disclosures

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:

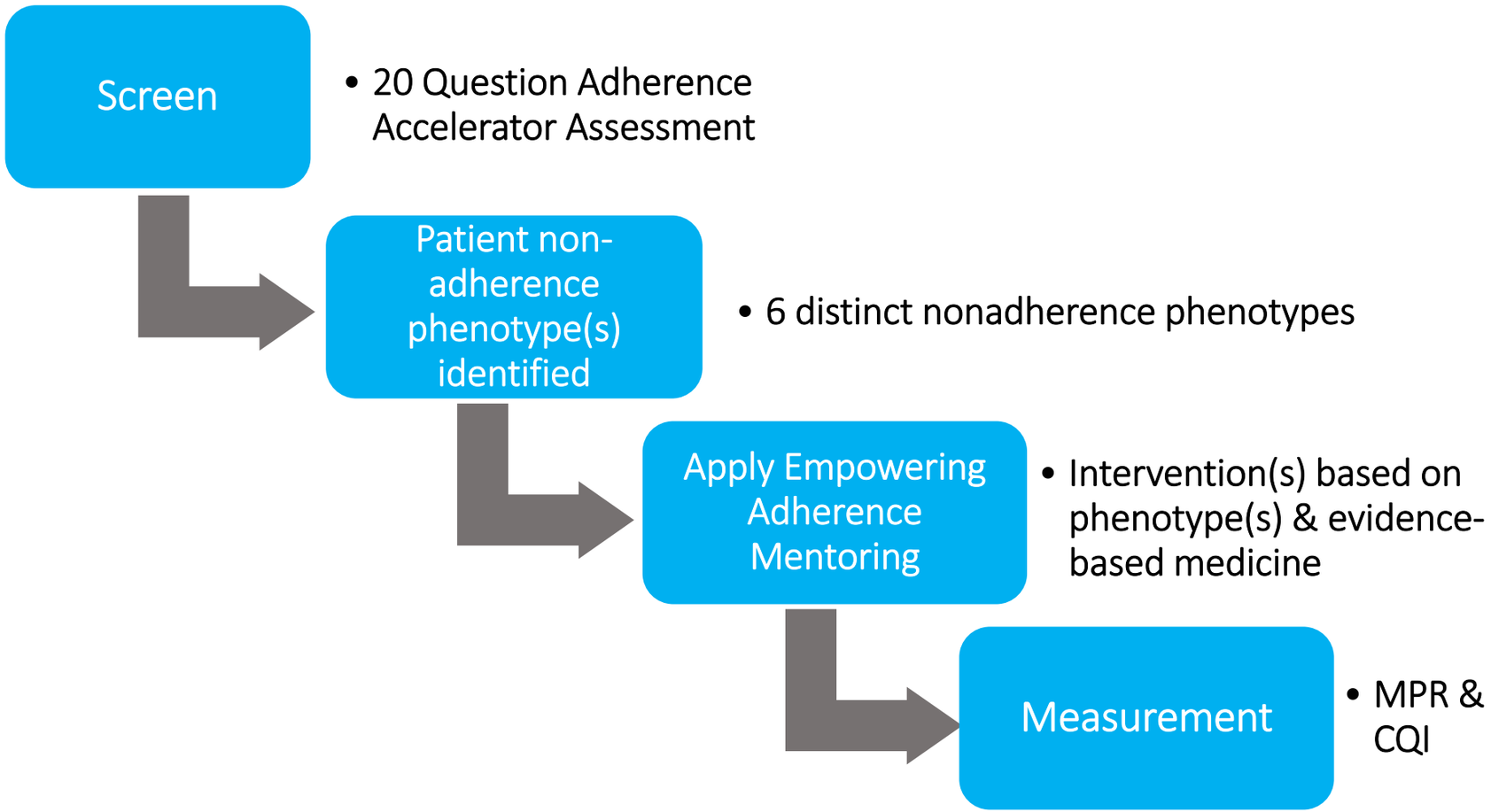
(1) Jay Bryant-Wimp: RPh: Integritè and Accurate Rx Employee
(2) David Pannell: JD: Private Counsel Employee

Methods

- 20-question phenotype assessment tool that combines elements
  - Morisky Medication Adherence Scale
  - Oyekan's Readiness Assessment Ruler
  - Bleeding disorder specific questions
- Nonadherence phenotype(s) were identified on each patient from randomized group
- Interventions were made by trained coaches and/or pharmacist
- Algorithm included phenotype specific interventions
  - Collaborative care planning
  - Medication therapy management
  - Developing patient specific scorecards that were managed by patient
  - Self-management training
  - Co-pay review and patient assistance plan navigation

Bryant-Wimp J, Pannell D, Goyette K, Langerud K. Adherence Answered: Algorithmic evidence-based phenotype screening and collaborative approach to attacking symptoms of nonadherence in patients with bleeding disorders. Poster presented at the WFH 2016 World Congress, July 24-28, 2016; Orlando, FL. Haemophilia (2016), 22 (Suppl. 4), 5.Available online at: http://onlinelibrary.wiley.com/doi/10.1111/hae.12980/epdf.

Methods



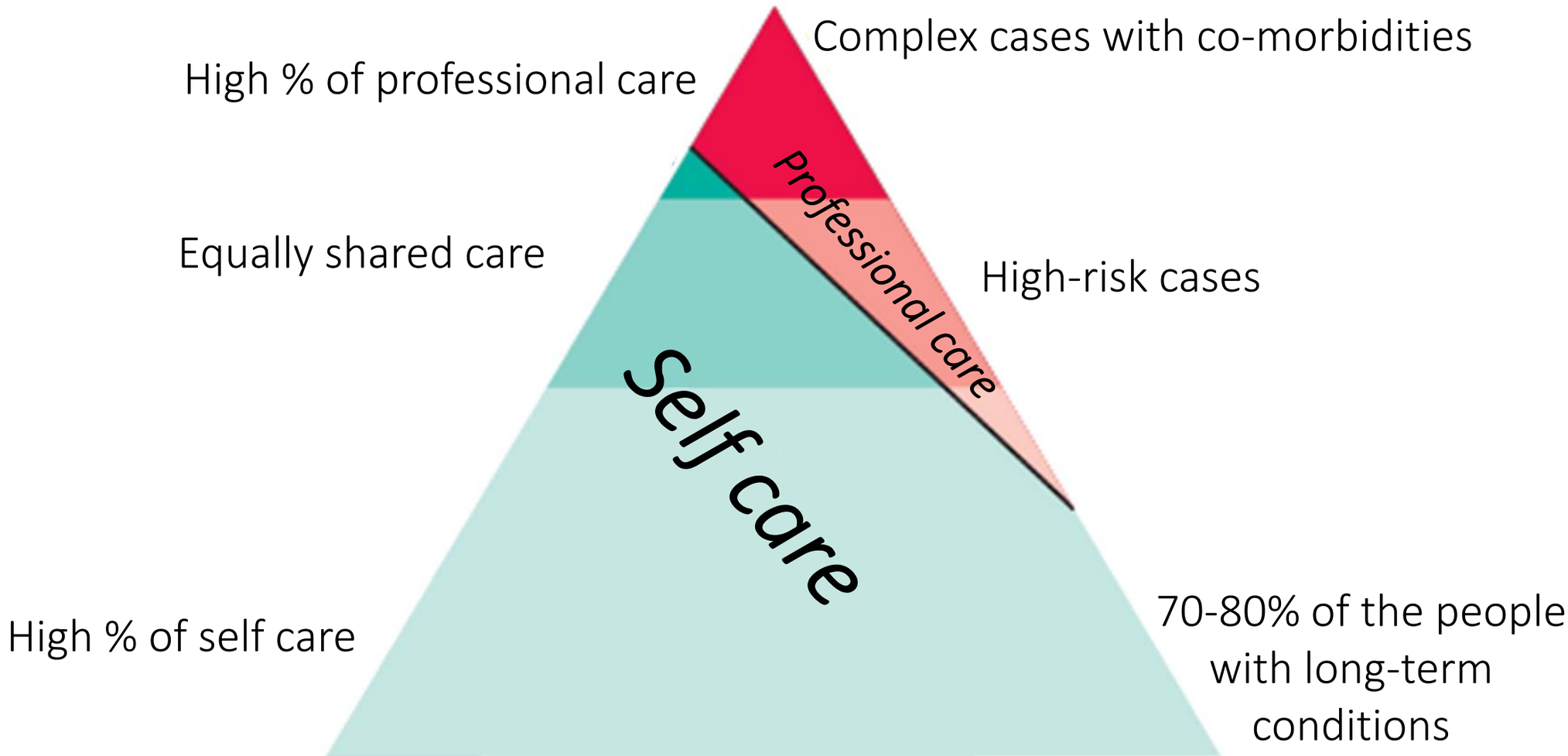
Bryant-Wimp J, Pannell D, Goyette K, Langerud K. Adherence Answered: Algorithmic evidence-based phenotype screening and collaborative approach to attacking symptoms of nonadherence in patients with bleeding disorders. Poster presented at the WFH 2016 World Congress, July 24-28, 2016; Orlando, FL. Haemophilia (2016), 22 (Suppl. 4), 5. Available online at: http://onlinelibrary.wiley.com/doi/10.1111/hae.12980/epdf.

Study Summary

- No unplanned hospitalizations
  - Savings from our study consist of 3 preventions for per admission savings of $75,000 for a total of $225,000
- 90% of patients showing an increase in medication possession ratio (MPR)
  - Study Group adherence rate (MPR) went from 60% to 79.6%
- 5 out of 5 rating on patient satisfaction survey for all participating patients

Bryant-Wimp J, Pannell D, Goyette K, Langerud K. Adherence Answered: Algorithmic evidence-based phenotype screening and collaborative approach to attacking symptoms of nonadherence in patients with bleeding disorders. Poster presented at the WFH 2016 World Congress, July 24-28, 2016; Orlando, FL. Haemophilia (2016), 22 (Suppl. 4), 5. Available online at: http://onlinelibrary.wiley.com/doi/10.1111/hae.12980/epdf.

With the Exception of the Most Complex and Severe Cases, Self-Care Comprises the Largest Share of Chronic Disease Management



Kennedy A, Rogers A, Bower P. *BMJ*. 2007;335(7627):968-70.

Patient Engagement Has Been Termed "The Blockbuster Drug of the Century"

- Patients can play an integral role in improving the quality, safety, and cost of healthcare interventions
- The importance of patient engagement as an essential component of high-quality healthcare has been recognized worldwide
- The parameters shown to be influenced by patient engagement is extensive include:
  - Improved clinical outcomes (improved treatment adherence, faster recovery, and reduced mortality rates)
  - Reduced healthcare resource utilization (fewer hospitalizations, ER visits, etc.)
  - Improved service quality

Chase D. Patient engagement is the blockbuster drug of the century. *Forbes.* https://www.forbes.com/sites/davechase/2012/09/09/patient-engagement-is-the-blockbuster-drug-of-the-century/#49bcf5725638 Published September 9, 2012.

Patient Engagement Strategies are Widespread and Focus on Patient and Caregiver Education

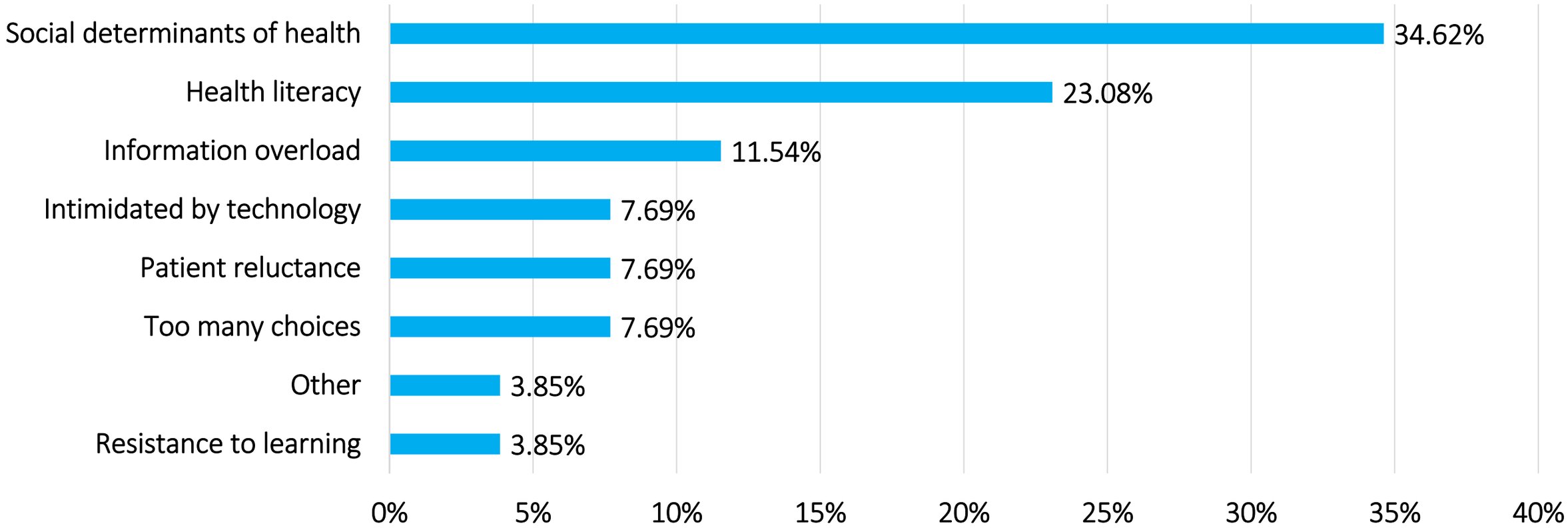
According to a recent survey of 75 health services organizations…

- 71% created formal patient engagement programs, with 45% of the remaining slated to launch a program in the coming year
- 63% mine clinical data analytics to risk-stratify individuals for engagement efforts
- 37% employ social determinants of health (SDOH) screenings of patient populations to target individuals for patient engagement interventions
- To improve engagement, 75% respondents focus on education of patients, family and caregivers
- ~20% rate education as the most effective engagement tool, closely followed by telephonic outreach (13%) and home visits (13%)
- On technology side, a patient-centered platform or portal anchors 63% of patient engagement initiatives

N=75 organizations; 30% hospitals or health systems, 25% population health, 12.5% physician practices, 5% health plans, and 30% “other”

Patient Engagement in 2017. Healthcare Intelligence Network Website. http://www.hin.com/library/PatientEngagement2017.pdf Published September 2017.

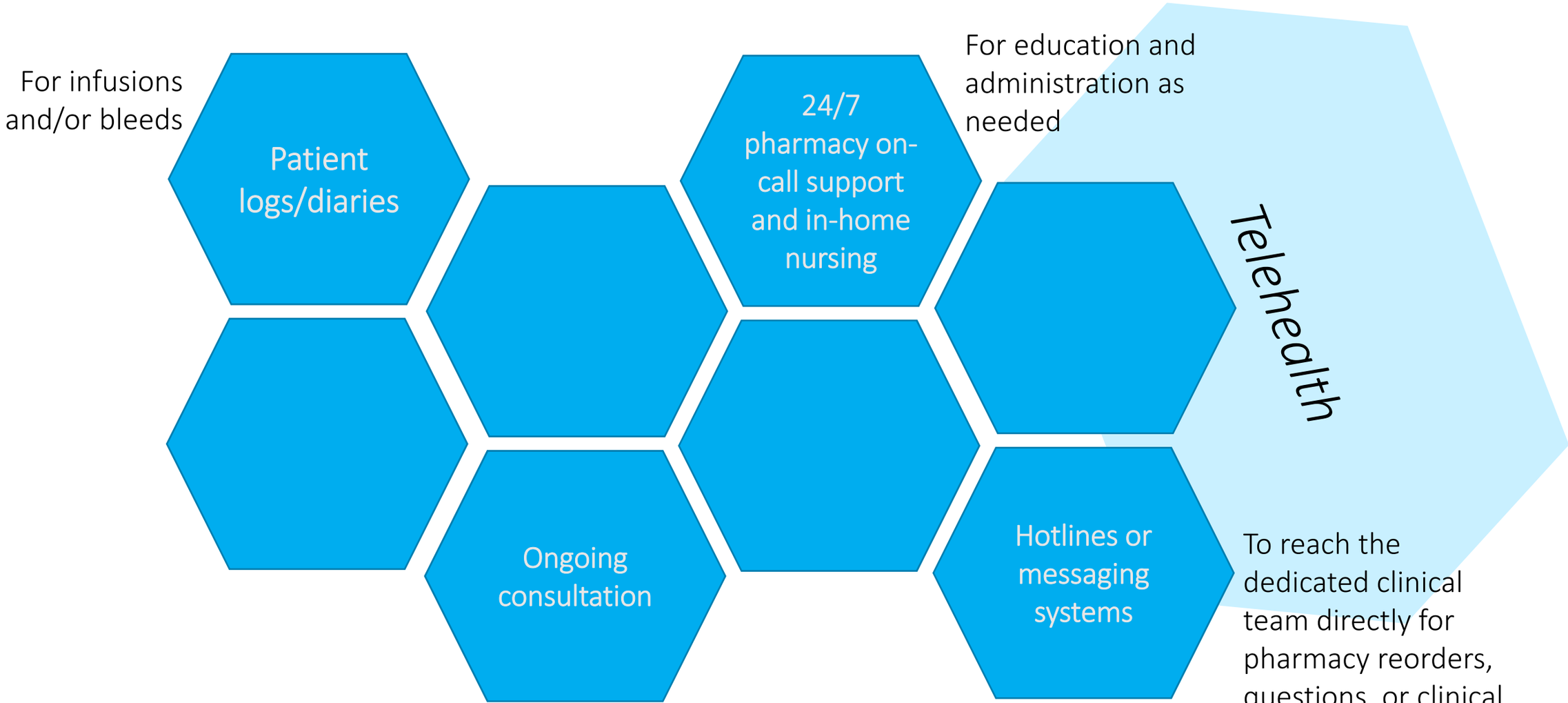
Barriers to Patient Engagement



N=75 organizations; 30% hospitals or health systems, 25% population health, 12.5% physician practices, 5% health plans, and 30% “other”

Patient Engagement in 2017. Healthcare Intelligence Network Website. http://www.hin.com/library/PatientEngagement2017.pdf Published September 2017.

Engaging the Patient: Tactics



By Leveraging Technology, Telehealth Gains in Popularity as Patient Engagement Tactic

- Healthcare organizations using telehealth rose from 63% in 2015 to 74% in 2018
  - 35% have engaged a third-party provider to manage telehealth functions
- Virtual provider visits topped the list of telehealth applications for 2018
  - Adoption of virtual visits jumped from 45% to 61%
- Medicare billing for telehealth use reached 53% this year up from 47% in 2015
- The following evidence-based strategies often incorporate telehealth interventions:
  - Case management
  - Self management
  - Collaborative care
  - Shared decision making

N=73 organizations; 19% hospitals or health systems, 12% employers, 8% physician organizations, 6% either health plans, primary care, or specialists, and 38% “other”

Telehealth & Remote Patient Monitoring in 2018. Healthcare Intelligence Network Website http://www.hin.com/library/TelehealthRemoteMonitoring2018.pdf Published February 2018. Accessed July 2018.

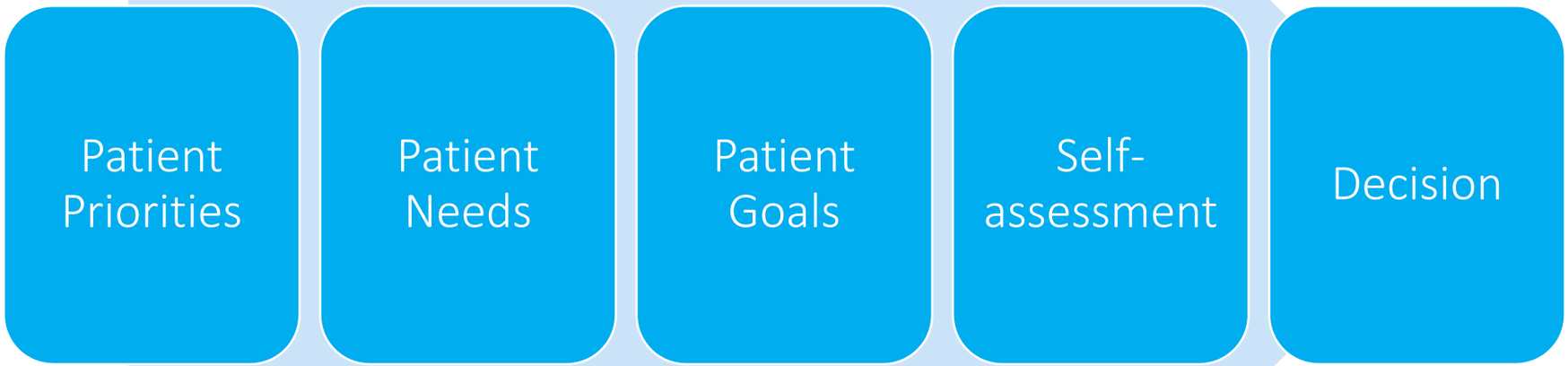
Engaging the Patient: Techniques

Using specific methods demonstrate empathy
and empower patients to be better stewards of their care

- Shared Decision-Making
  - An approach that de-emphasizes “adherence” as the primary goal
  - Focuses on a prophylaxis plan that is customized by the clinicians in conjunction with the patients and aligned with patient priorities
- Motivational Interviewing
  - Collaborative, patient-centered form of information exchange to facilitate constructive patient communications and address a patient’s motivation for change
  - Important when working with patients who are non-adherent with their treatment regimen or have fears about having to infuse themselves or their children

Shared Decision-Making

Foster Approach that Meets the Patient Where They Are and Encourages Introspection



Gue D, Squire S, Mcintosh K, et al. *J Multidiscip Healthc*. 2015;8:527-34.

Motivational Interviewing Techniques

Scenario	Technique	Example
General Medication Nonadherence	Elicit-Provide-Elicit	"Can you tell me what you know about how clotting factor replacement works and how you're supposed self-administer it?" [Patient response] "Yes, most of that is true, but you must be careful not to miss doses or you may experience a bleed."
	Decisional Balance	"Would you mind listing the pros and cons of infusing regularly as well as the pros and cons of not infusing?" [Patient obliges] "It looks like the benefits outweigh the disadvantages in the long-run, wouldn't you agree?"
Medication Nonadherence Related to Perceived Ineffectiveness	Reflective Listening	"It sounds like you're a little annoyed that you have to infuse three times per week and don't see any concrete benefit from it. Unfortunately, you won't necessarily get the 'proof' that your prophylaxis is working until you *don't* infuse and experience a bleed."
	Validation	"I can totally understand your frustration. You have to take time out of your busy life to infuse factor and your life goes on with no noticeable difference. The fact is, this treatment provides long-term benefits for bleed prophylaxis and joint health."
Medication Nonadherence Related to Adverse Events	Open Questions	"Tell me about what side effects are bothering you the most… And how are the injection site reactions effecting your daily activities?" [Patient responds] "Well unfortunately, that's a completely normal reaction you're having. Have you considered alternating arms? They may become less burdensome if you're not regularly infusing in the same arm."

Miller WR, Rollnick S. *Motivational Interviewing: Helping People Change*. Third Edition. New York City, NY: Guildford Press; 2012.

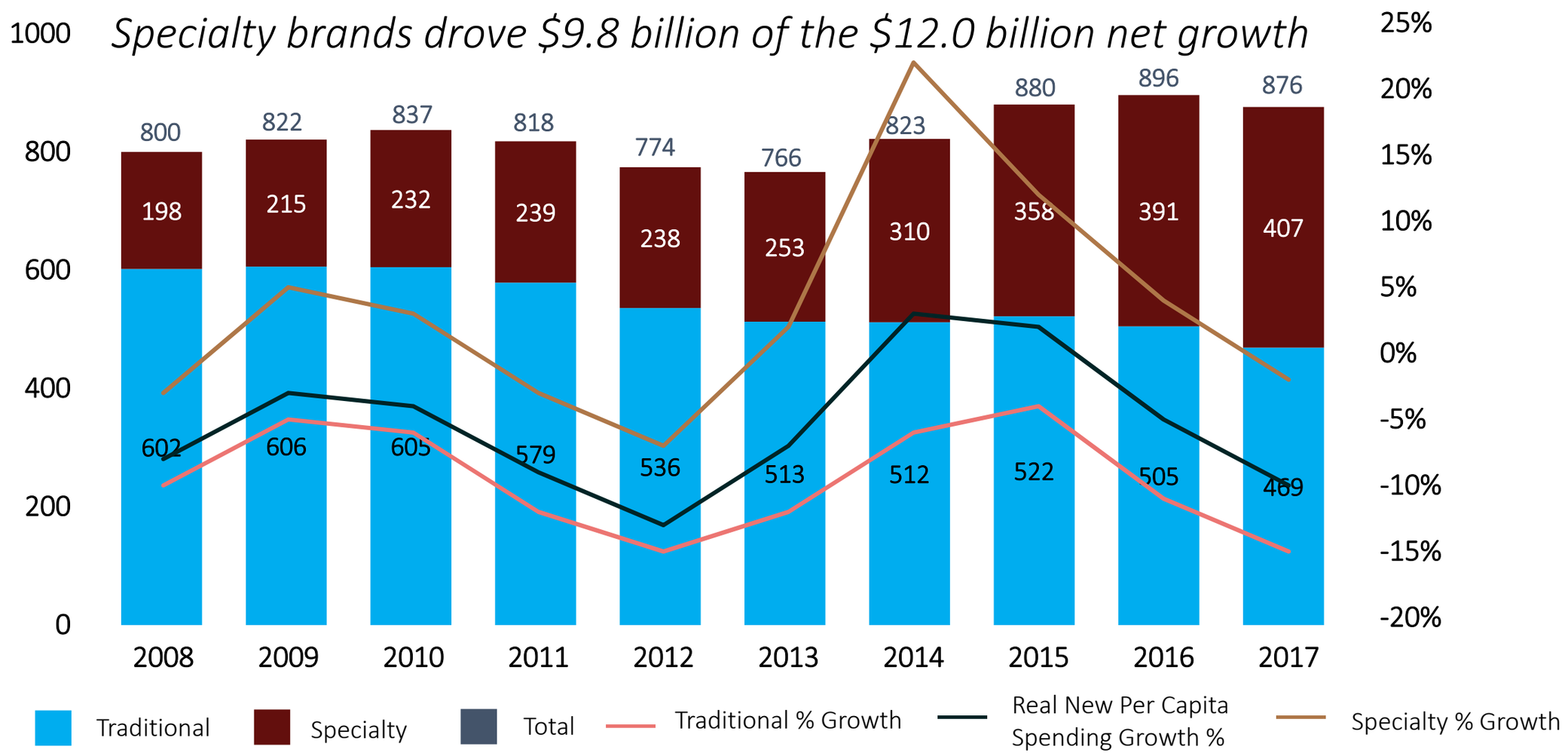
Summary

- Similar to other chronic conditions, adherence to hemophilia therapy is a challenge
- One of the goals of a high-touch integrated HTC pharmacy or SPP is to increase adherence
- Patient engagement remains a central concept to adherence-promoting efforts
- Initiatives focused on education and shared decision-making can enhance therapeutic adherence and encourage patients to be stewards of their own care
- Telehealth has become a key component of patient engagement and adherence-promoting activities as technology continues to be integrated among health systems

Cost Management Strategies for Clotting Factor Replacement Therapy

John Fox, MD
Associate Chief Medical Officer
Vice President of Medical Affairs
Priority Health

Traditional Pharmaceutical Spending is Being Outpaced and Replaced by Specialty Spending



Medicine Use and Spending in the U.S. IQVIA Institute for Human Data Science. https://www.iqvia.com/-/media/iqvia/pdfs/institute-reports/medicine-use-and-spending-in-the-us-a-review-of-2017-and-outlook-to-2022.pdf?_=1532281287705 Published April 2018

Hemophilia Contributes to Specialty Drug Spend Despite Low-Prevalence

How many people are affected?

Obesity.....93,000,000[1]

Diabetes.....30,000,000[2]

COPD.....12,000,000[3]

MS.....300,000[4]

Hemophilia.....20,000[5]

1 Adult Obesity Facts. Centers for Disease Control and Prevention Website: https://www.cdc.gov/obesity/data/adult.html Accessed July 2018.

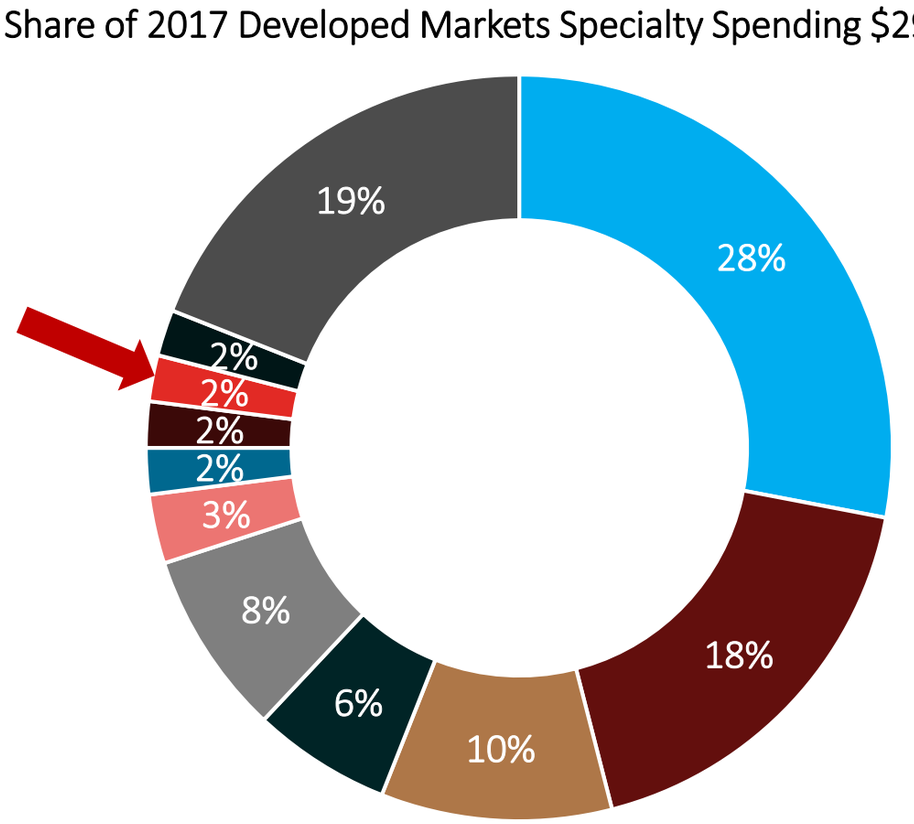
2 New CDC report: More than 100 million Americans have diabetes or prediabetes. Centers for Disease Control and Prevention Website: https://www.cdc.gov/media/releases/2017/p0718-diabetes-report.html Published July 18, 2017. Accessed July 2018.

3 COPD Statistics Across America. COPD Foundation Website: https://www.copdfoundation.org/What-is-COPD/Understanding-COPD/Statistics.aspx Accessed July 2018.

4 Multiple Sclerosis: Hope Through Research. National Institute of Neurological Disorders and Stroke Website: https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Hope-Through-Research/Multiple-Sclerosis-Hope-Through-Research#3215_5 Updated July 6, 2018. Accessed July 2018.

5 Hemophilia A. Hemophilia Foundation of America Website: http://www.hemophiliafed.org/understanding-bleeding-disorders/what-is-hemophilia/hemophilia-a/ Accessed July 2018.

Specialty Drug Spend and Spend Growth by Disease Category in Global Developed Markets



Notes: GM-CSF = Granulocyte-macrophage colony-stimulating factor; ESA = Erythropoiesis-stimulating agents; AMD = Age-related macular degeneration

2018 and Beyond: Outlook and Turning Points. IQVIA Institute for Human Data Science Website: http://static.correofarmaceutico.com/docs/2018/03/14/2018-and-beyond-outlook-and-turning-points.pdf Published March 2018. Accessed July 2018.

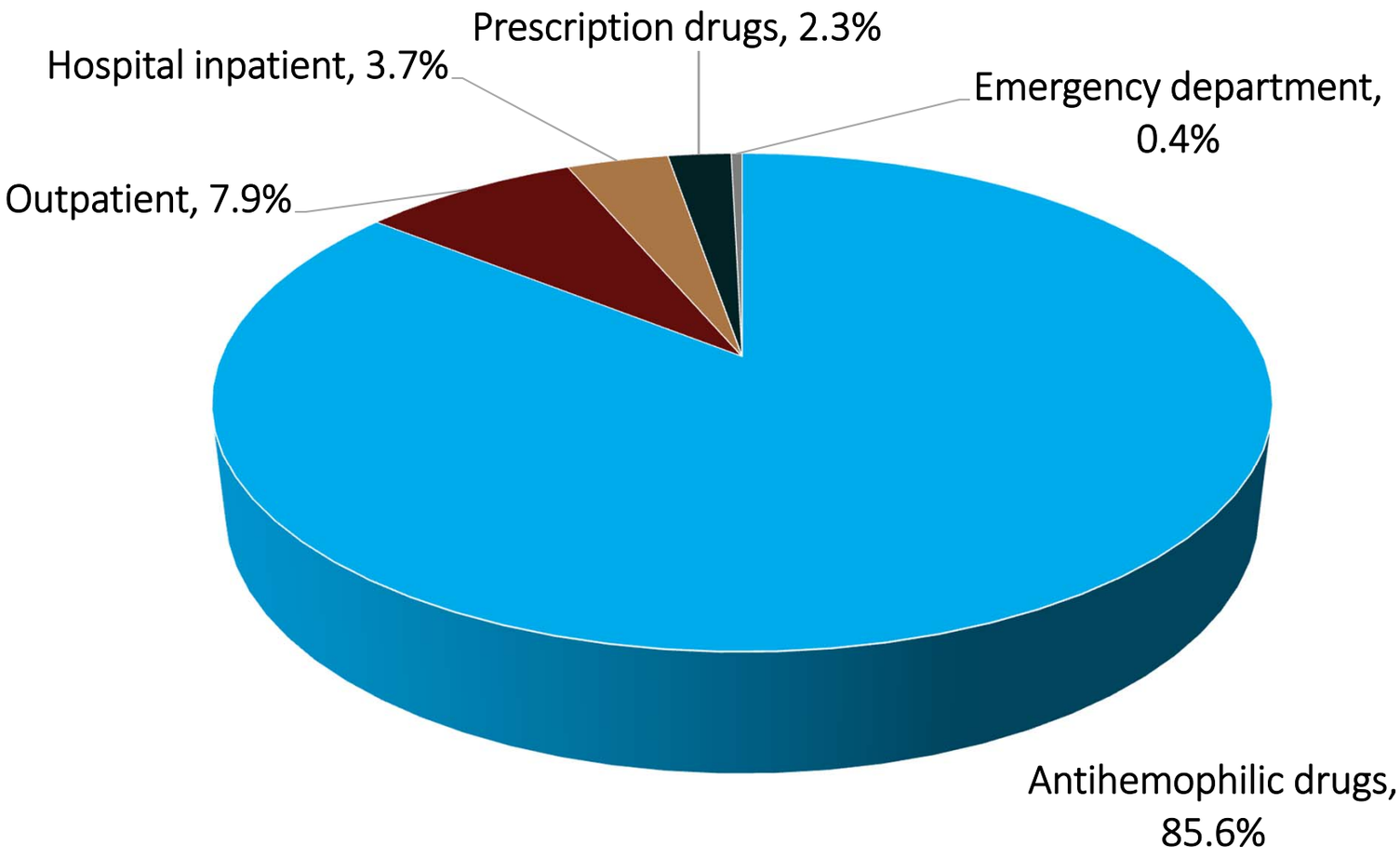
Top Specialty Categories by Plan Cost Across US Medical and Pharmacy Claims

	2016 Rank	2015 Rank
Inflammatory Dis-Biologics	1	1
Oncology	2	2
Multiple Sclerosis	3	3
Hepatitis C	4	4
Immunological Disorders	5	6
Blood Cell Disorders	6	5
Growth Disorders	7	7
Enzyme Deficiency	8	9
Bleeding Disorders	9	8
Osteoporosis	10	10

The top four drug categories remained the same

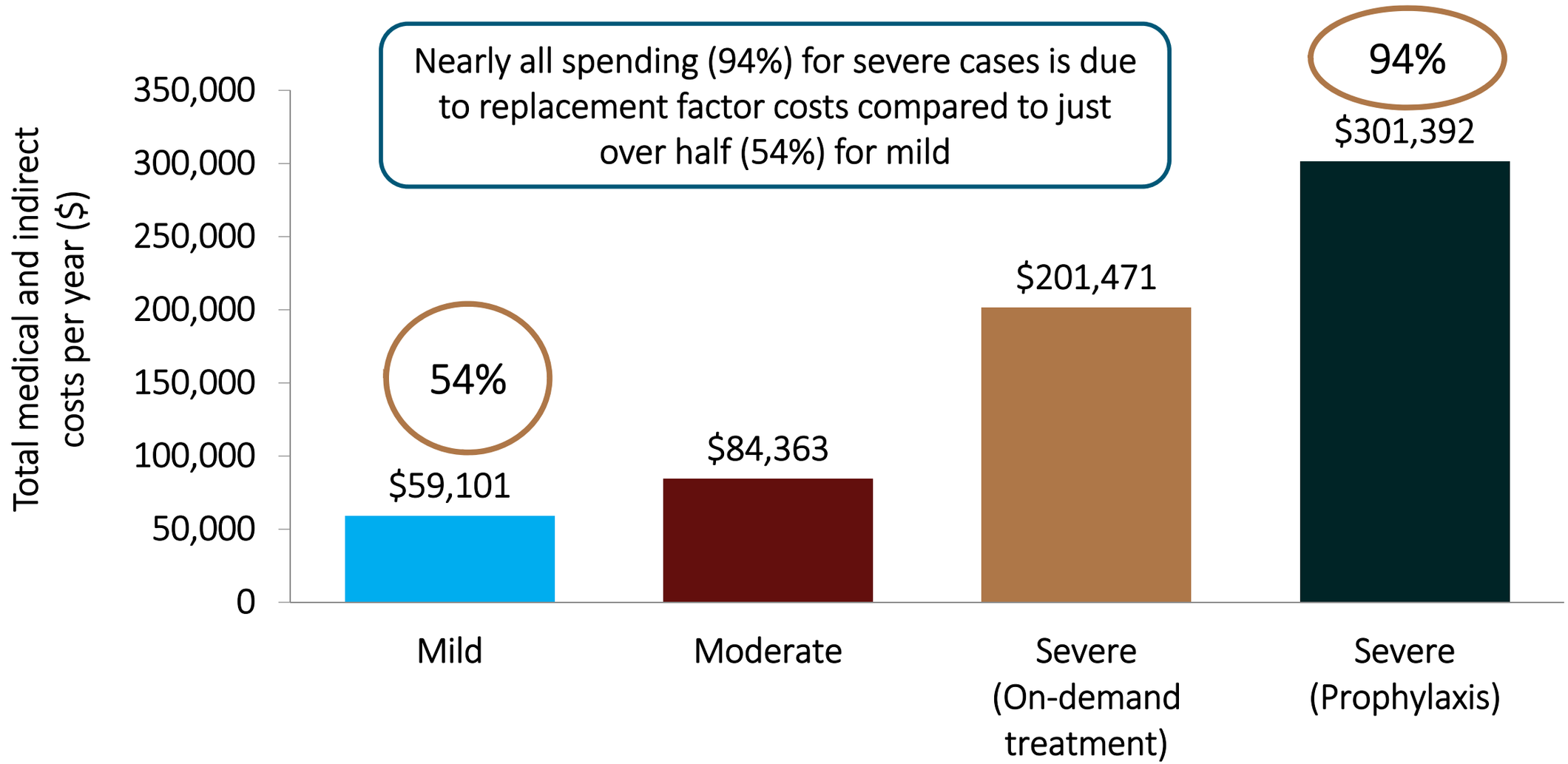
State of Specialty Management. Pharmaceutical Strategies Group. http://www.psgconsults.com/specialtyreport?gclid=CjwKCAjw1tDaBRAMEiwA0rYbSJUsR2aE2kUyOSGx2Il4VG1OJ0ZnBJ14NTqMKzxSs-4lNUmokFOAjhoCu3YQAvD_BwE Published 2017. Accessed July 2018.

Clotting Factor Replacement and Related Specialty Products Comprise a Vast Majority of Costs for Patients with Hemophilia



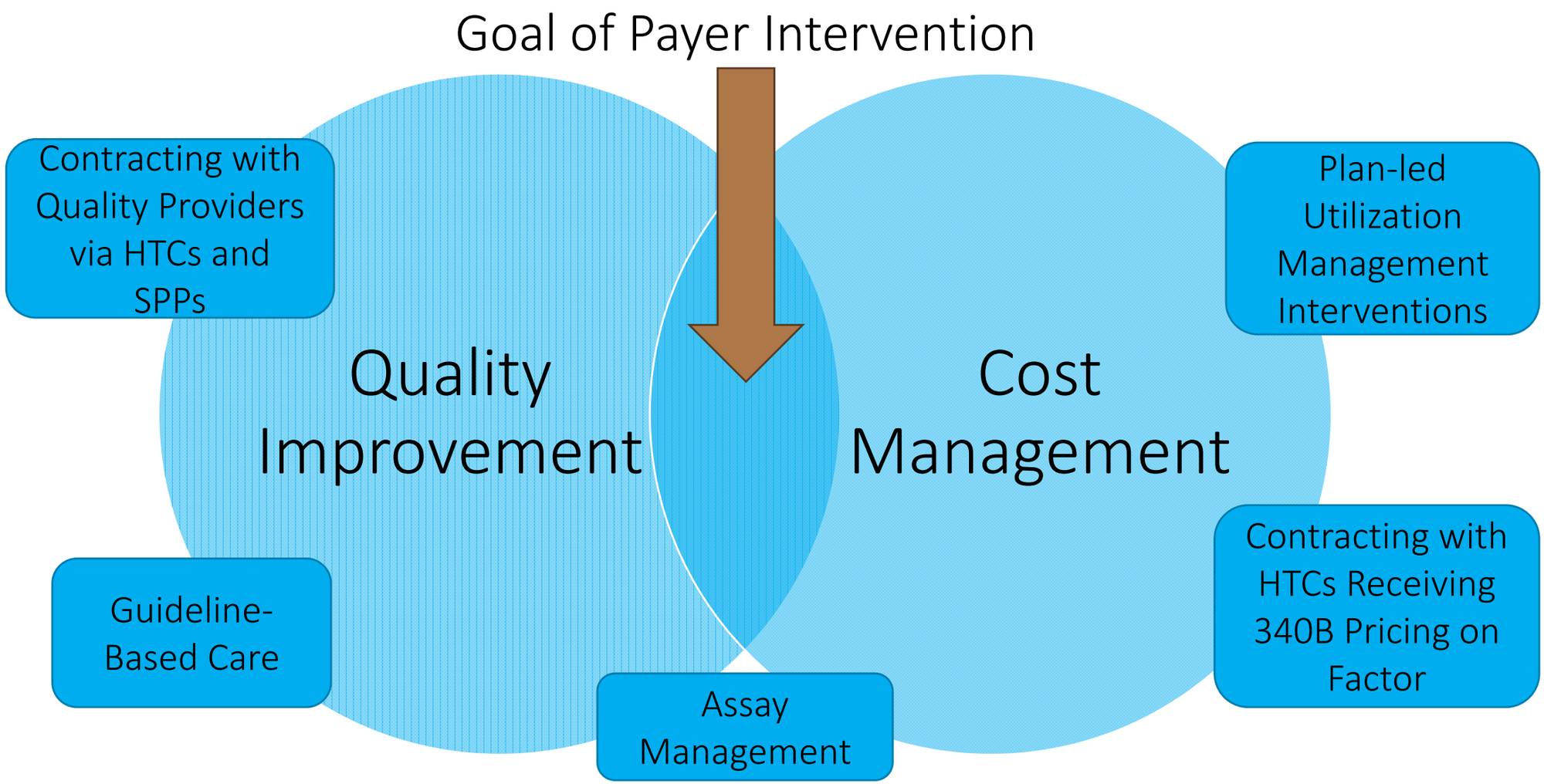
Chen SL. *Am J Manag Care*. 2016;22(5 Suppl):s126-33.

Disease Severity and Treatment Approach Determines Factor Utilization



Zhou ZY, Koerper MA, Johnson KA, et al. *J Med Econ*. 2015;18(6):457-65.

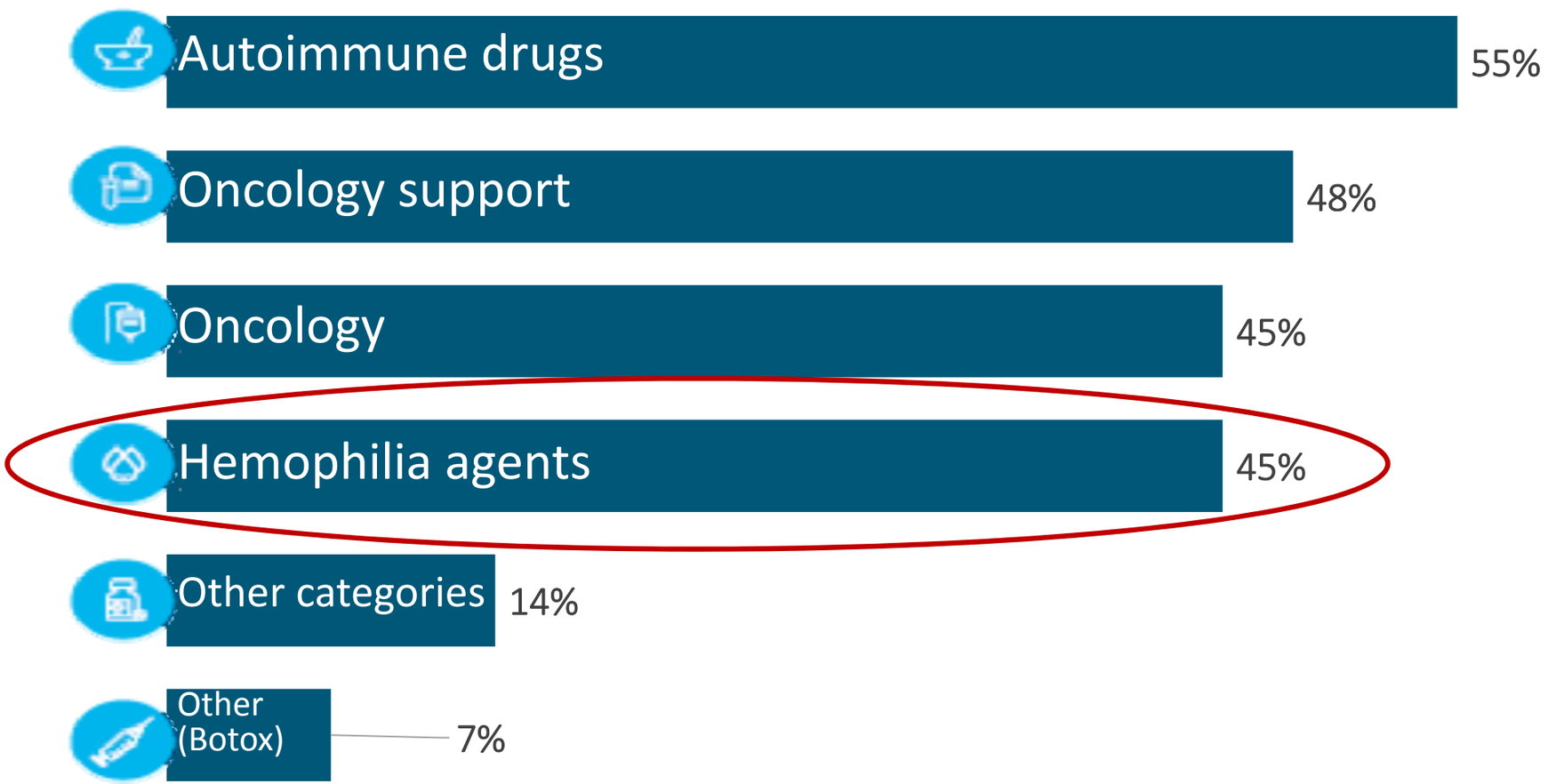
Payer Management Interventions Seek to Improve Care Quality and Manage Costs



Current Payer Approach to the Management of Hemophilia

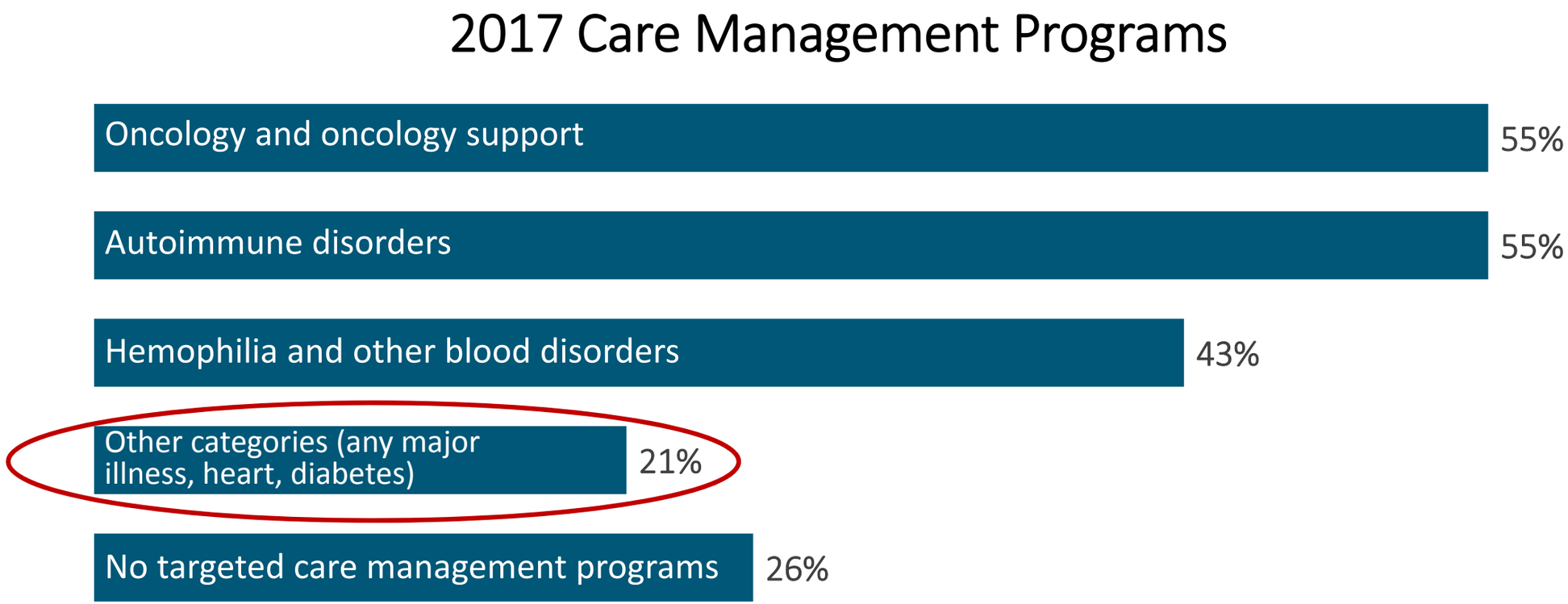
- Current medical and pharmacy utilization controls often include prior authorization or pre-certification for therapies
  - Objectives:
    - Verify diagnosis
    - Ensure products and technologies are being used within labeling and best clinical practices
  - Goal:
    - Encourage appropriate care
- Case management services often are made available to
  - Minimize barriers to access
  - Improve quality of care
- Coordinate care with HTCs and SPPs

Current Trends Among Purchasers: Prior Authorization



Employer Market Insights Report. 2018. Magellan Rx Management Website. https://www1.magellanrx.com/media/749454/employer-market-insights-report_0418.pdf Accessed July 2018.

Current Trends Among Purchasers: Care Management



Employer Market Insights Report. 2018. Magellan Rx Management Website. https://www1.magellanrx.com/media/749454/employer-market-insights-report_0418.pdf Accessed July 2018.

Strategies for Improving Outcomes While Managing Spend

Appropriate Access	Benefit Design	Care Optimization	Enabling Technology	Network Contracts
Ensure appropriate use by linking patients to the right drug administered at the right site of care	Optimize pharmacy spend through appropriate benefit architecture to encourage appropriate utilization	Maximize impact of hemophilia drug utilization through specialty pharmacy care	Leverage technology to collect and analyze data to support decision making across the continuum of care	Leverage network pricing or (when available) federally supported drug discounts (eg, 340B)

Issue Brief: Specialty Drugs—Issues and Challenges. America's Health Insurance Plans Website. https://www.ahip.org/wp-content/uploads/2015/07/IssueBrief_SpecialtyDrugs_7.9.15.pdf Published July 2015. Accessed April 2017.

Management Principles

Benefit Design

- Member incentives for preferred drugs
- Use of cost tiers
- Incentives for
  - Preferred vendors
  - Site of care
- Pharmacy and medical benefit integration

Balance Cost and Care

Utilization Management

- Formulary management
- Preferred product
- Prior authorization
- Assay Management
- Specialty distribution and management
- Minimize
  - Wastage
  - Inappropriate use

Management Principles

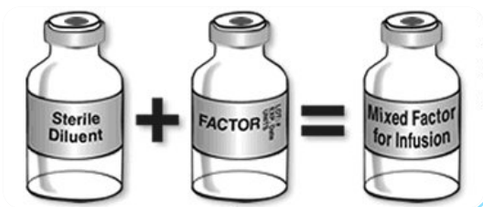
Appropriate Access

Right Patient

- Described in treatment guidelines
- Supported by clinical trial evidence and/or clinical experience

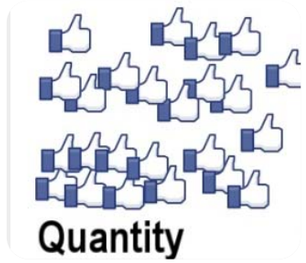
Right Drug

- Labeled indication
- Included in treatment guidelines
- Effective, safe, well-tolerated
- Branded vs generic / biosimilar



Right Quantity

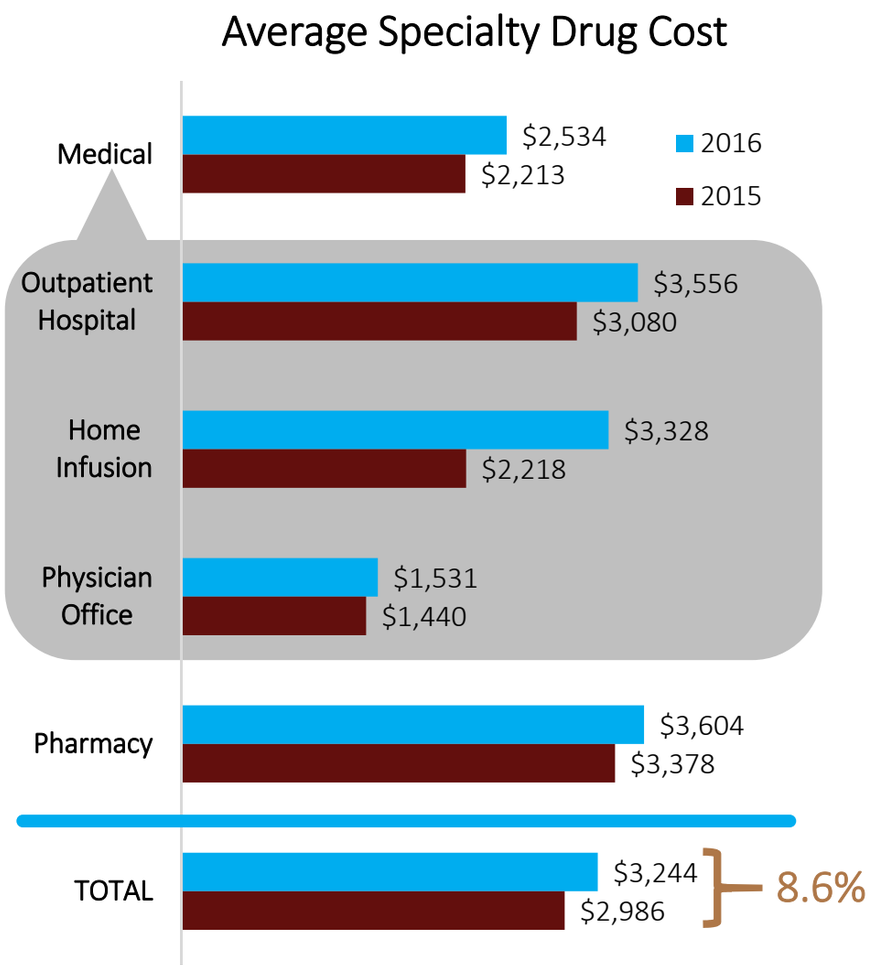
- Proper vial size (single- vs multiple-dose)
- Appropriate dose (assay management)
- Limit wastage
- Avoid “dosage-creep”

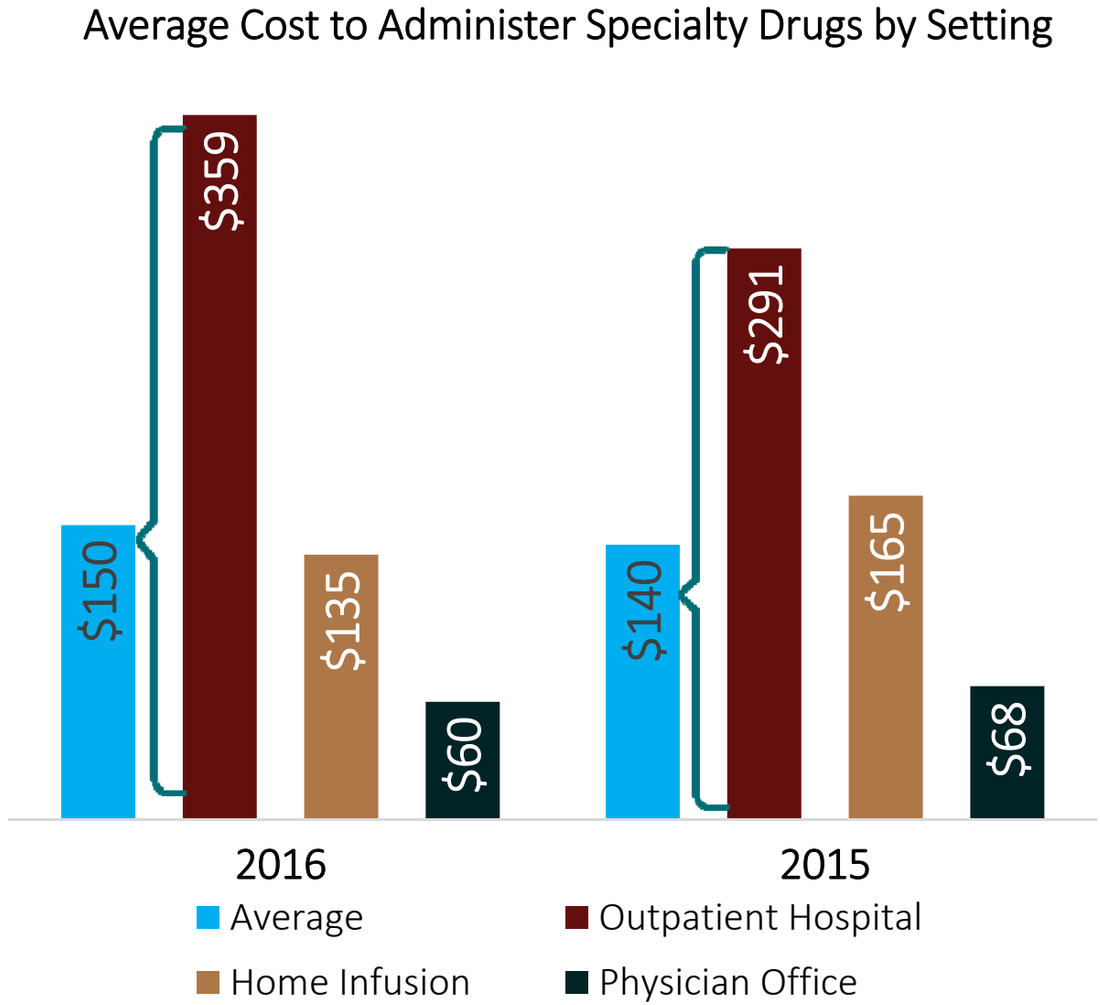


Right Site of Care

- In-patient
- Clinic
- Home healthcare
- Home; self-administered

Site of Care Initiatives are Founded on the Notion that Specific Administration Settings are Inherently Associated with Lower Costs

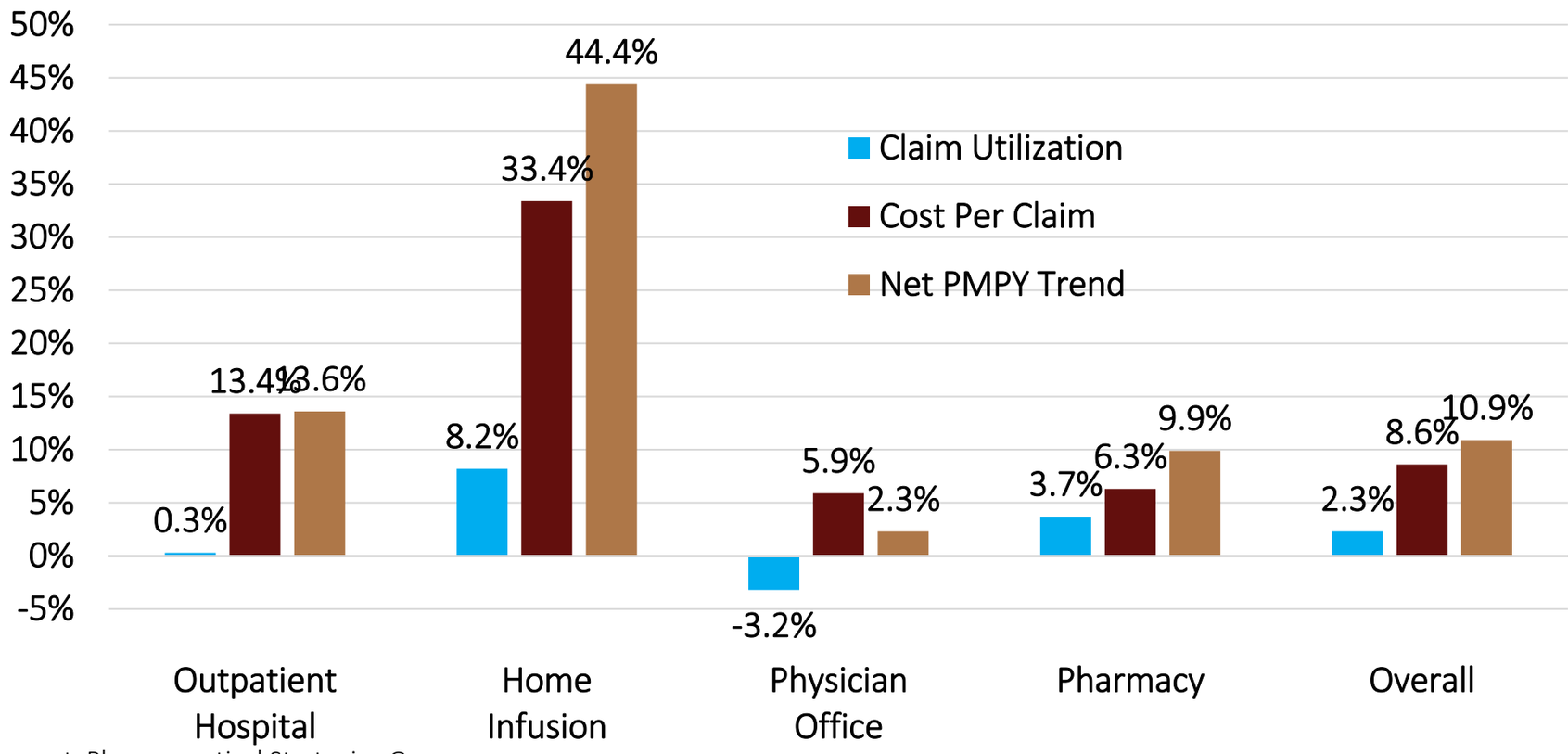




State of Specialty Management. Pharmaceutical Strategies Group. http://www.psgconsults.com/specialtyreport?gclid=CjwKCAjw1tDaBRAMEiwA0rYbSJUsR2aE2kUyOSGx2Il4VG1OJ0ZnBJ14NTqMKzxSs-4lNUmokFOAjhoCu3YQAvD_BwE Published 2017. Accessed July 2018.

Channel Management is Driving More Specialty Claims Toward Lower-Cost Home Infusion Settings

Specialty Trend



State of Specialty Management. Pharmaceutical Strategies Group. http://www.psgconsults.com/specialtyreport?gclid=CjwKCAjw1tDaBRAMEiwA0rYbSJUsR2aE2kUyOSGx2Il4VG1OJ0ZnBJ14NTqMKzxSs-4lNUmokFOAjhoCu3YQAvD_BwE Published 2017. Accessed July 2018.

Contracting Approaches

Drug

- Formulary positioning
  - Multiple specialty tiers
  - Closed formularies
  - Step therapy

Provider

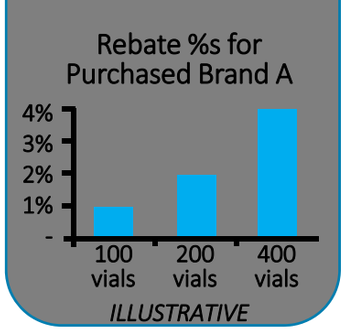
- Narrow networks
- Reimbursement issues
  - Role of the HTC and 340B pricing
- Accreditation
- Credentialing

Traditional vs. Value-based Contracting in Hemophilia

Traditional Contracting

Flat, Volume or Share-Based

Concessions may depend on volume or share



Value-Based Contracting

Indication-Based

Rebate specific to an indication

Regimen-Based

Rebate paid when two products used in combination

"Outcomes" Based

Concessions depend on how 'well' the drug works for a patient/cohort

Tighter assay management and minimized bleeding episodes/ ER utilization are a logical fit for such arrangements

Increasing Data & Complexity

Long G, Mortimer R, Sanzenbacher G. *J Med Econ*. 2014;17(12):883-93.

Summary

- The specialty drug trend is increasing and outpacing that of traditional drugs
- Although hemophilia features an extremely low prevalence, it has a noteworthy impact on the specialty trend
- Payer management interventions seek to balance cost and quality, while providing patient the access to the right drug in the right quantity and the right time
- Outside of utilization management, which remains among the most prevalent forms of payer intervention, care management, site of care initiatives, channel management, and contracting play a significant role
  - Multifaceted approaches to improving care quality and managing costs offer promise without compromising member access

Managed Care Case Study

Faculty Panel

Background

- A beneficiary's dependent presented to the pediatrician's office shortly after birth with concerns regarding diffuse bruising and an apparent hematoma on his back
- Suspecting a bleeding disorder, the pediatrician referred the family to a pediatric hematologist within the health system in the rural area where the family lives
- The hematologist confirmed a diagnosis of severe hemophilia B

Plan Intervention

- Upon identification of the hemophilia diagnosis in the system, a plan case manager reaches out to the family and suggests consultation with an HTC located 3 hours away from the member's home
- The family attends an initial comprehensive care visit at the HTC and is given a treatment plan that includes being trained on how to infuse prophylactic factor for the infant in the home setting
- After follow-up with the family, the case manager verifies that the plan's contracted specialty pharmacy will be able to deliver clotting factor concentrate within an assay management range of ±10% and arranges for home delivery of the HTC-prescribed product

Follow-up/Conclusion

- After being trained to infuse her son, the member has been administering prophylactic FIX with minimal bleeding episodes and complications
- The plan case manager follows up with the specialty pharmacy on a regular basis to ensure that the appropriate dose is being delivered to the family
- In turn, the specialty pharmacy also follows up with the family and is available with on-demand support under the guidance of the HTC to assist if the family has any questions
- The member brings her child, now 2 years of age, to the center for comprehensive care visits twice a year and has experienced a limited number of bleeding-related complications due to the collaborative efforts of the HTC, specialty pharmacy, and plan case manager

Additional CE Opportunities

On-demand, CE Activities in Hemophilia:

www.ManagedCareHemo.com

An Enduring Web-Based Resource Portal for Managed Care Professionals

Thank you!

Please remember to complete your post-survey in order to receive CE credit. Select the post-survey link. Certificates will be emailed to the email address you provided at registration.

IMPORTANT: For those of you who will receive CPE credit for today's webcast, please be sure to download the 'CE Handout' in the *Handouts* section. This includes instructions on how to submit your credits for CPE Monitor. *You must submit credit within 30 days.*

For those of you watching in a group, please download the 'Fax Evaluation' file to print out a copy which you can fill out and fax/email to receive CE credit.

Please submit your evaluation within 1 week of the live webcast.