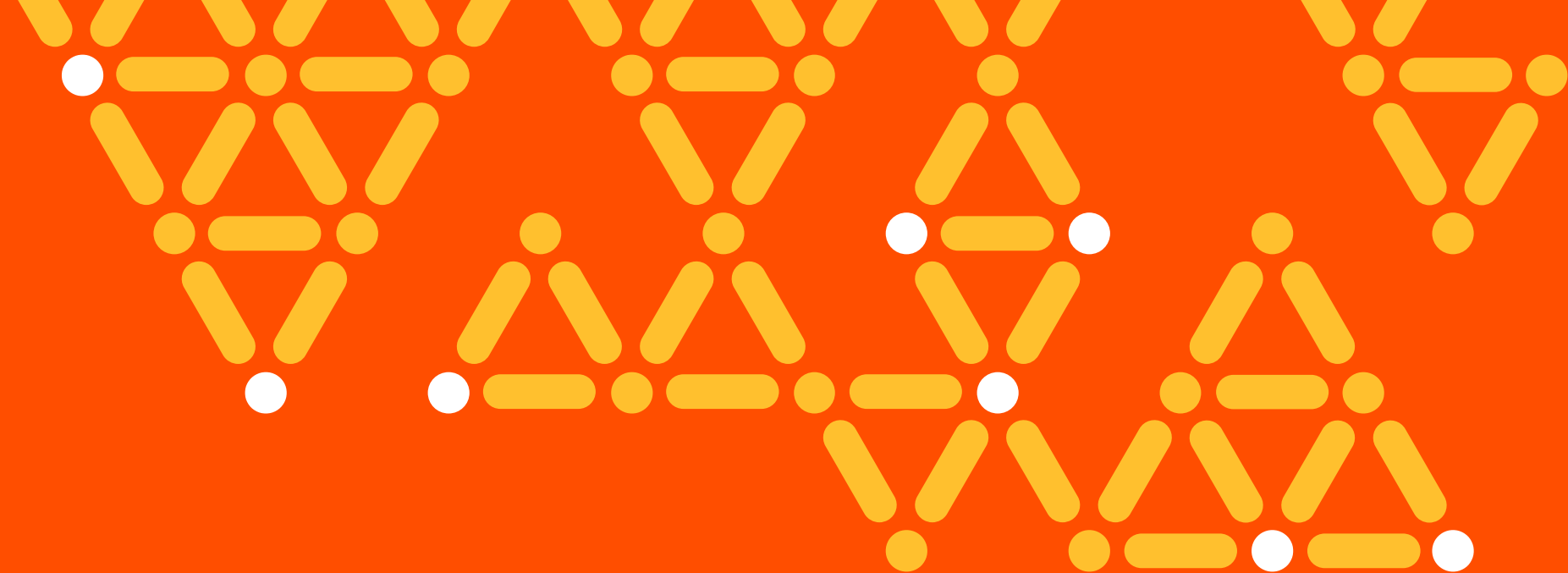




IPFA/BCA Global Symposium

A View of the Hospital Marketplace

William Woodward Sr. Director Contracting
September 12, 2017

vizient™

Topics

Vizient & Vizient's Plasma Program

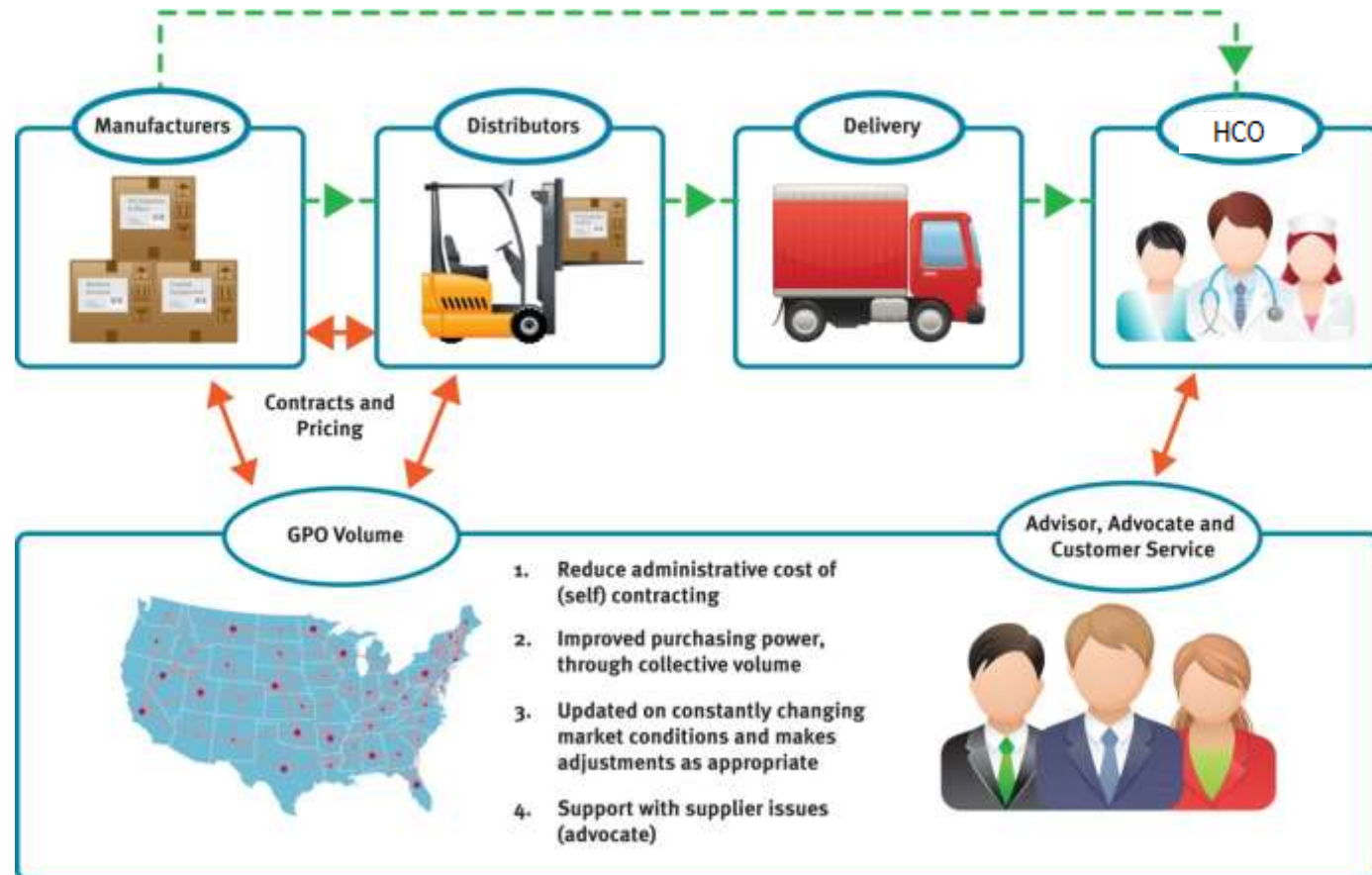
Plasma Market

- History
- Current trends
- Future Trends

GPOs Role in the Healthcare Supply Chain

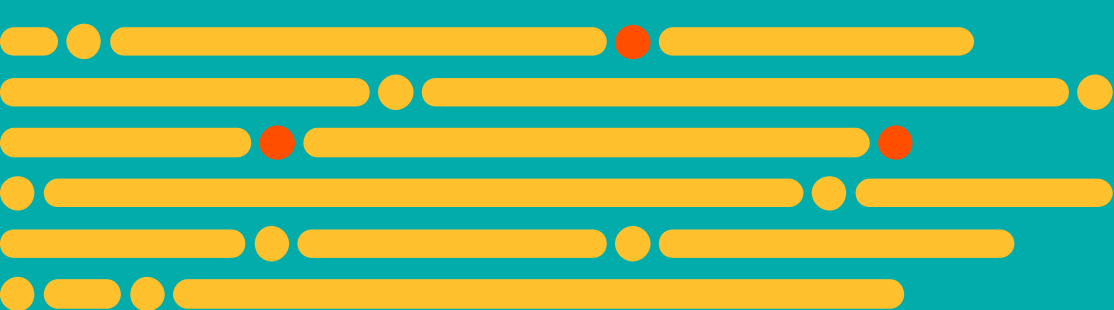
GPOs aggregate purchasing volume from multiple organizations in an attempt to deliver:

- Best Prices
- Best Service
- Best Products



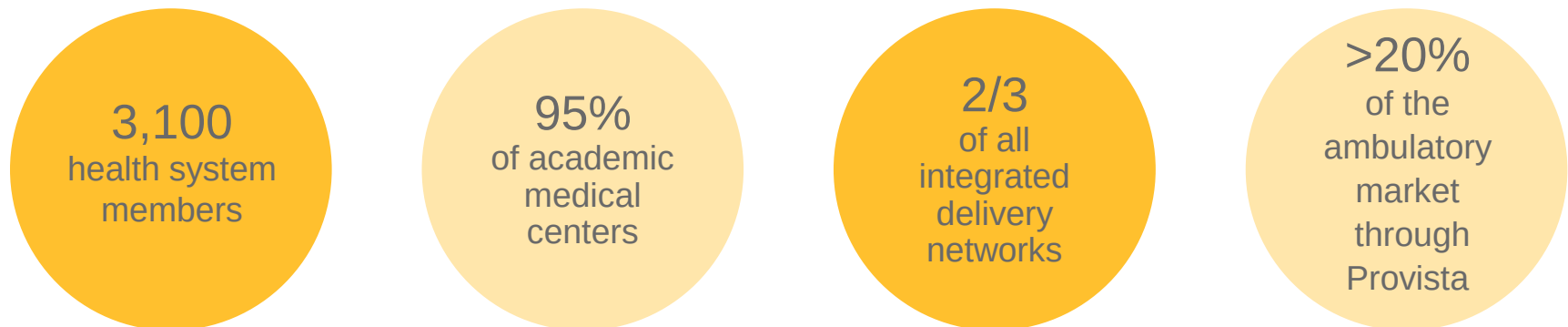
This is Vizient

- Combination of VHA, University HealthSystem Consortium, Novation, MedAssets Spend and Clinical Resource Management and Sg2
- Country's largest health care performance improvement company
- Experts with insights and connections and purchasing power that accelerate performance for members



Vizient is the industry's largest health care performance improvement company

We serve the nation's most prestigious hospitals



Vizient serves providers with bed sizes ranging from two to 2,144 beds

GPO = group purchasing organization

Member-owned, member-driven

We measure our success by our members' success. We fuel powerful connections that help members focus on what they do best: deliver exceptional, cost-effective care.



MEMBERSHIP BENEFITS



- Harness powerful insights
- Accelerate performance
- Achieve scale and efficiency
- Make innovative connections
- Be more agile
- Build knowledge
- Gain advocates on important policy issues

Vizient leverages four key capabilities to deliver on member needs



Sourcing services

Elevate members' supply performance by leveraging scale, workflow automation and expertise

- Broader, more competitive contract portfolio
- Data-driven contracting decisions
- Offerings that support the industry's most diverse membership and customers



Analytic services

Be members' trusted source for clinical, safety, supply, financial and operational decision-making across the care continuum

- Comprehensive insights identify opportunities to improve:
 - Cost savings
 - Operational efficiencies
 - Clinical outcomes
 - Overall performance



Advisory services

Accelerate improvement in member performance through the transfer of knowledge and expertise

- Unparalleled insights to improve the pace and effectiveness of value-based care
- Expanded breadth of advisory services
 - Physician strategies
 - Clinical redesign
 - Workforce solutions
 - Nonlabor strategies



Collaboration services

Connect members to enable learning, improving and building together

- Empowering members to improve faster than they could on their own
- Advancing visionary innovation to meet the evolving needs of providers

GPO Purchase Volume

Est. 2016 Provider Purchases with GPOs (*in Billions*)



Vizient Plasma Program industry-leading access and choice

Ensures product availability at the best net value, matching committed supply to member needs



3,100+

participating health
care organizations



10.8M

grams IVIG about 54% of GPO
contracted grams in U.S.



5.6 M

units of Albumin about 51% of
GPO contracted EUs in U.S.

Some of the Key Issues to Pharmacy Practitioners

**Specialty pharmacy/
Limited distribution drugs**

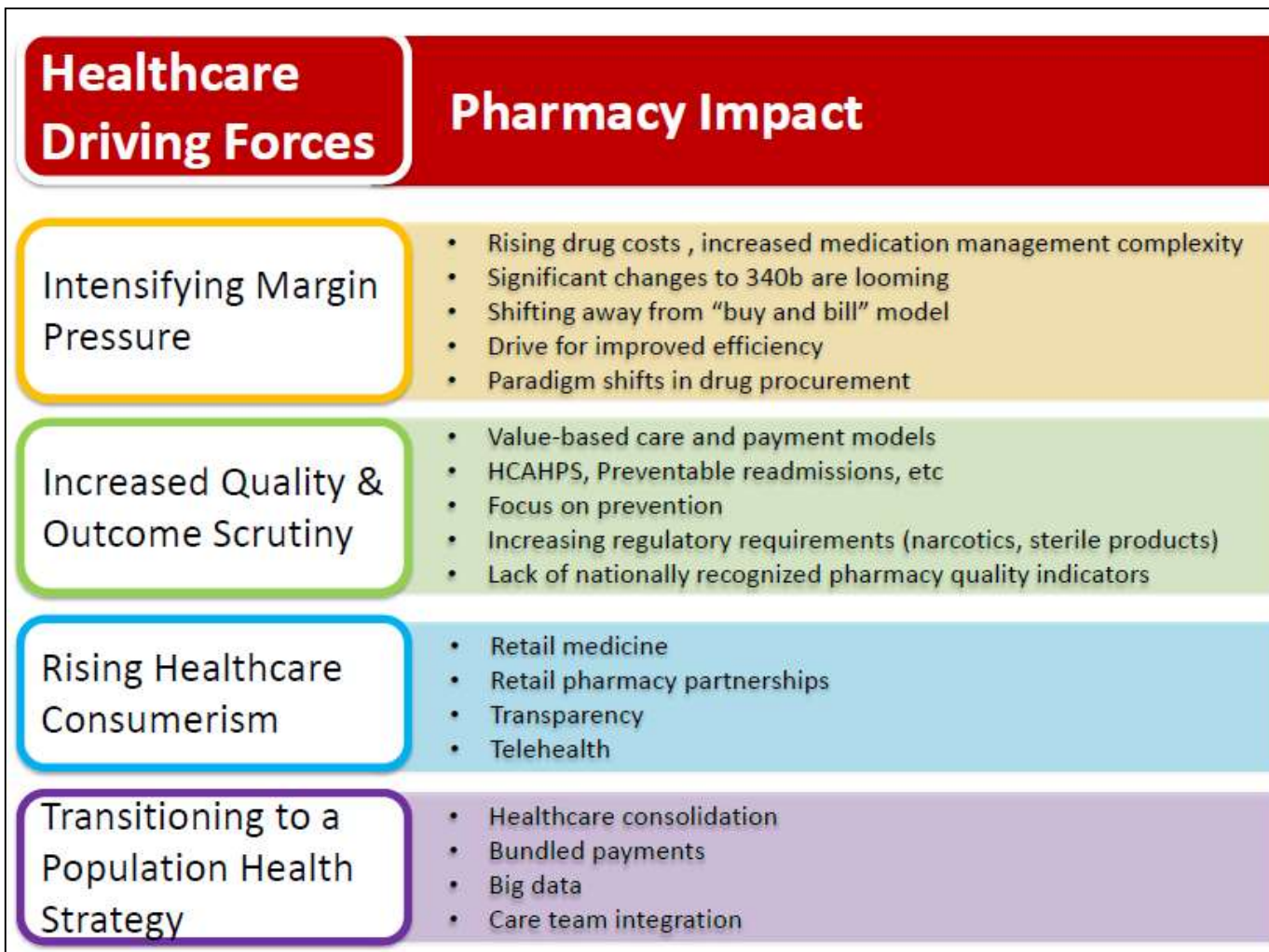
High cost drugs/orphan drugs

Increased payer influence on practice

USP 797/800 and DSCSA

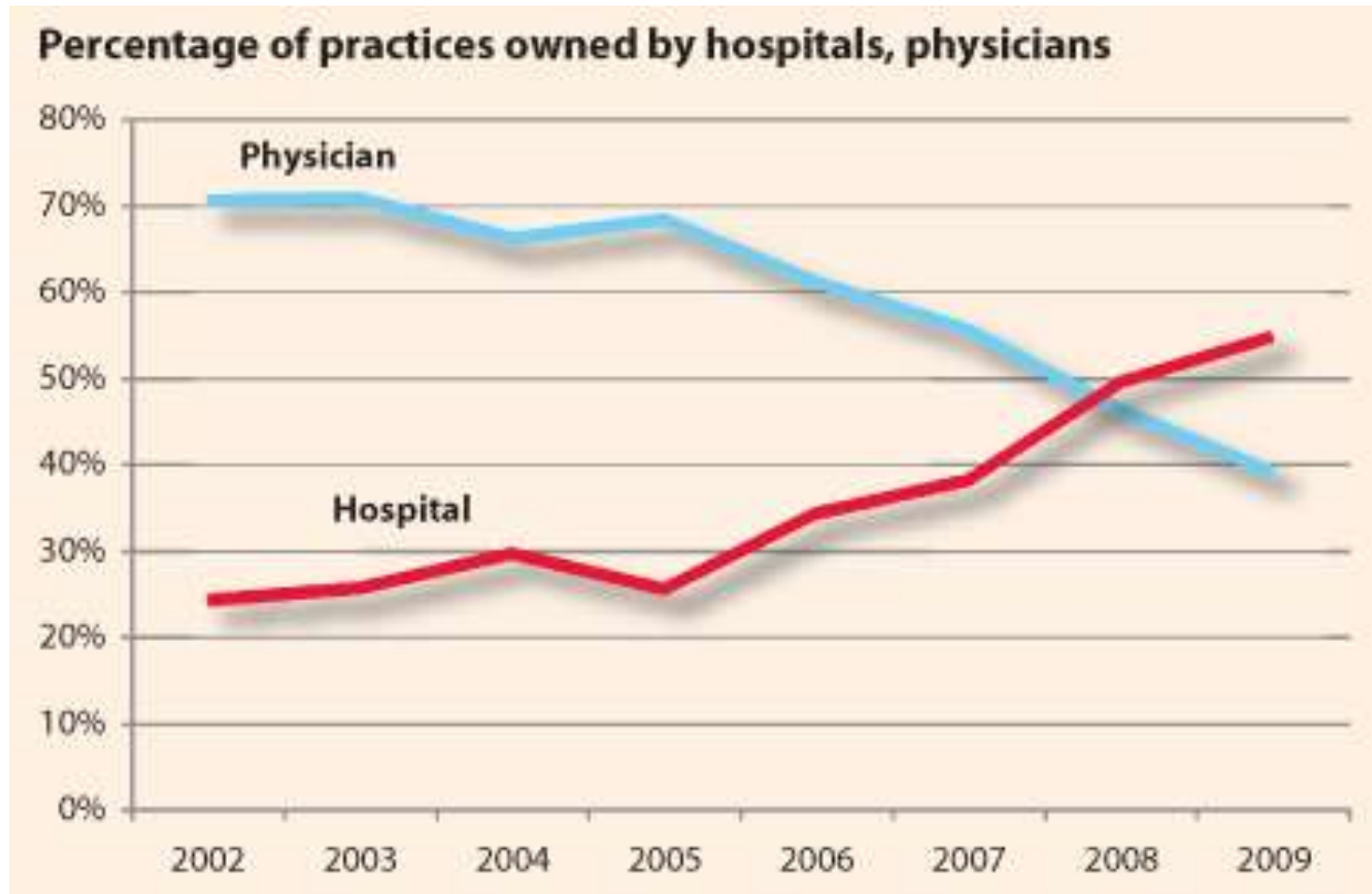
Value based care

Drug shortages



Rough S. The Evolving Pharmacy Landscape. UHC Pharmacy Council meeting, December 2015

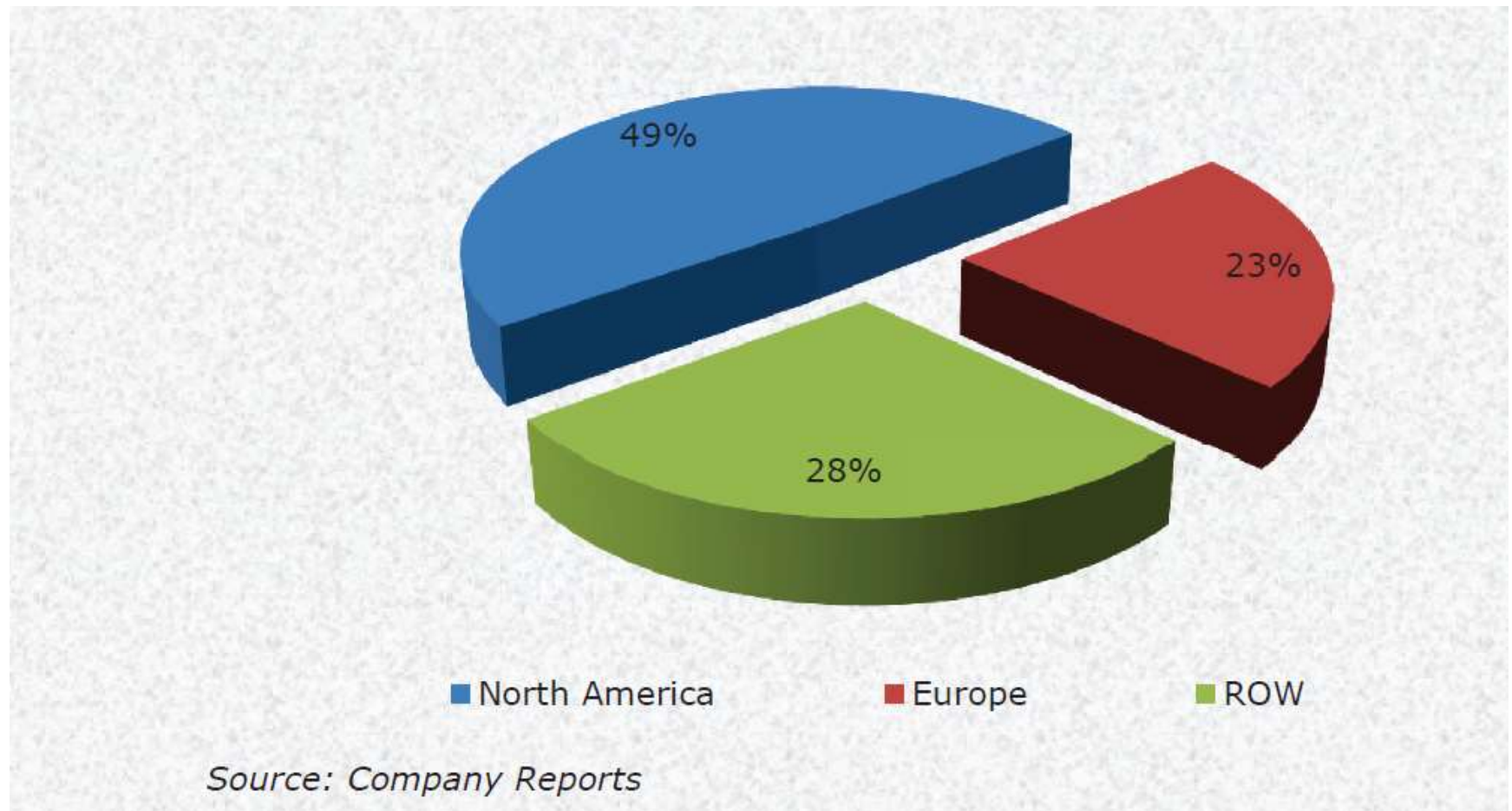
Hospitals Continue to acquire Physician Practices



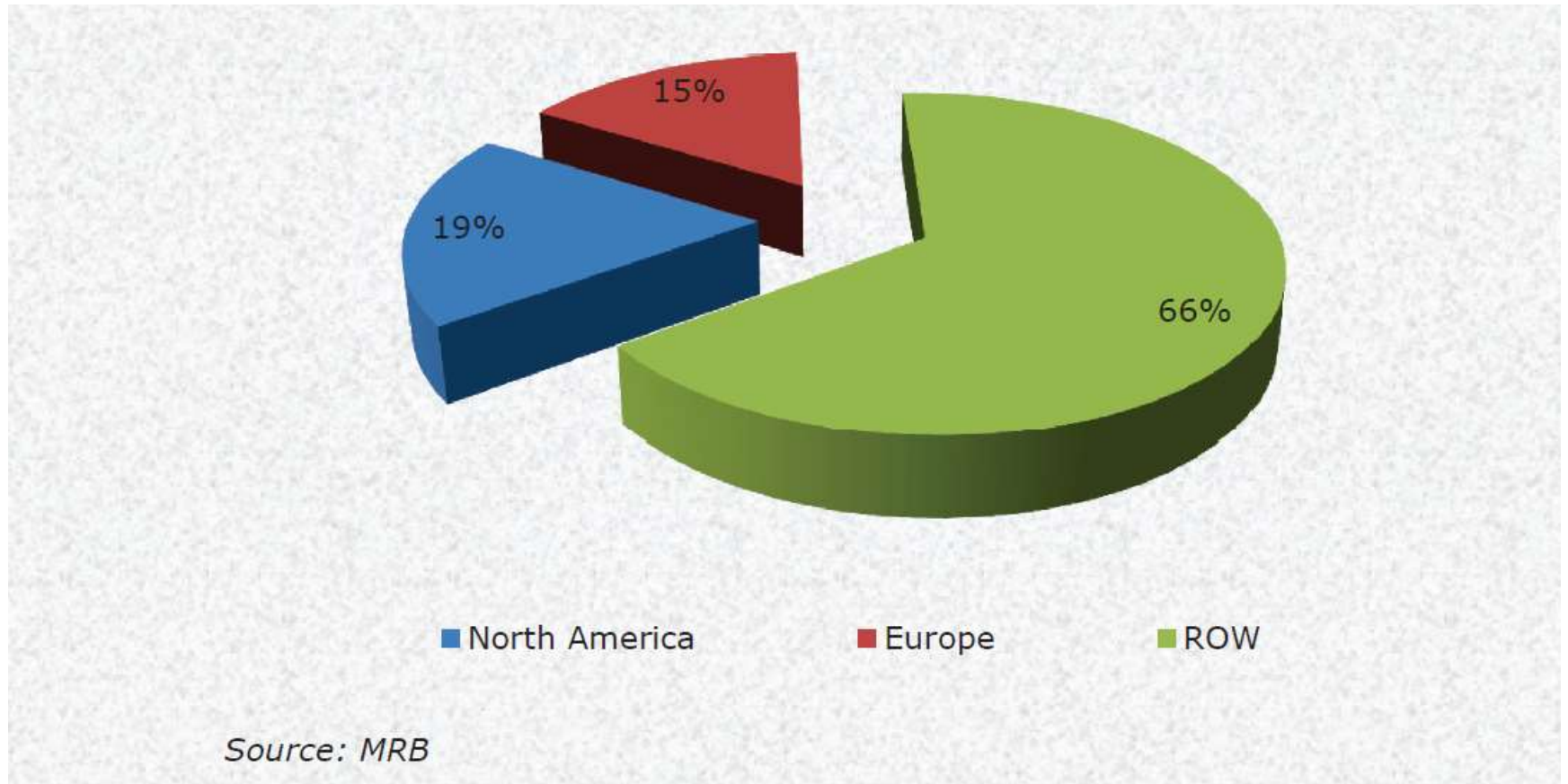
US Plasma Economics

- **Volume of Plasma fractionation by manufacturer determined by demand for IgG because it generates high revenues.**
- **IgG has been the driver of plasma fractionation volumes for the past twenty years.**
- **Historically factor VIII was the driving protein for fractionation**

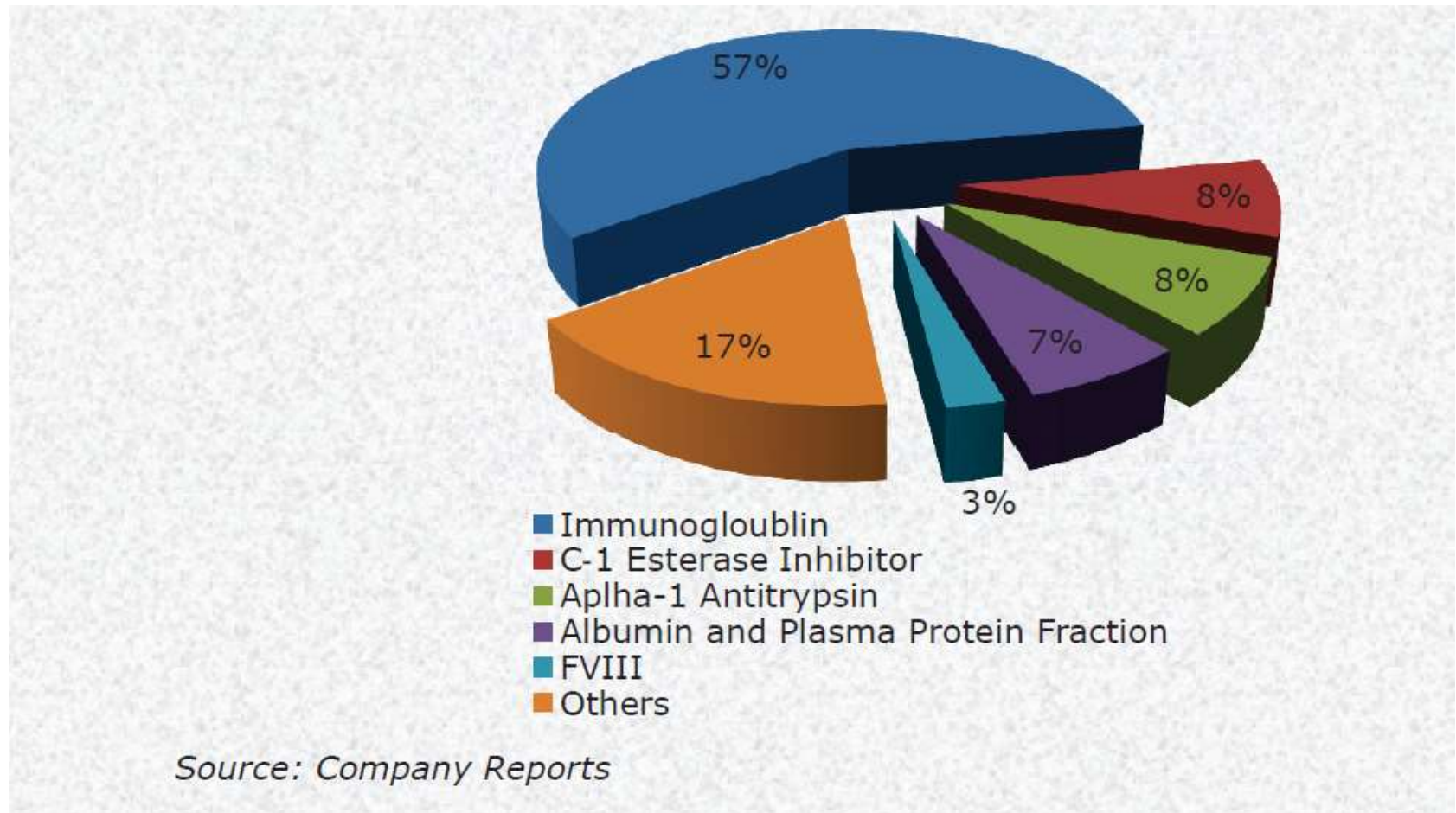
Global IgG Market by Volume (2016)



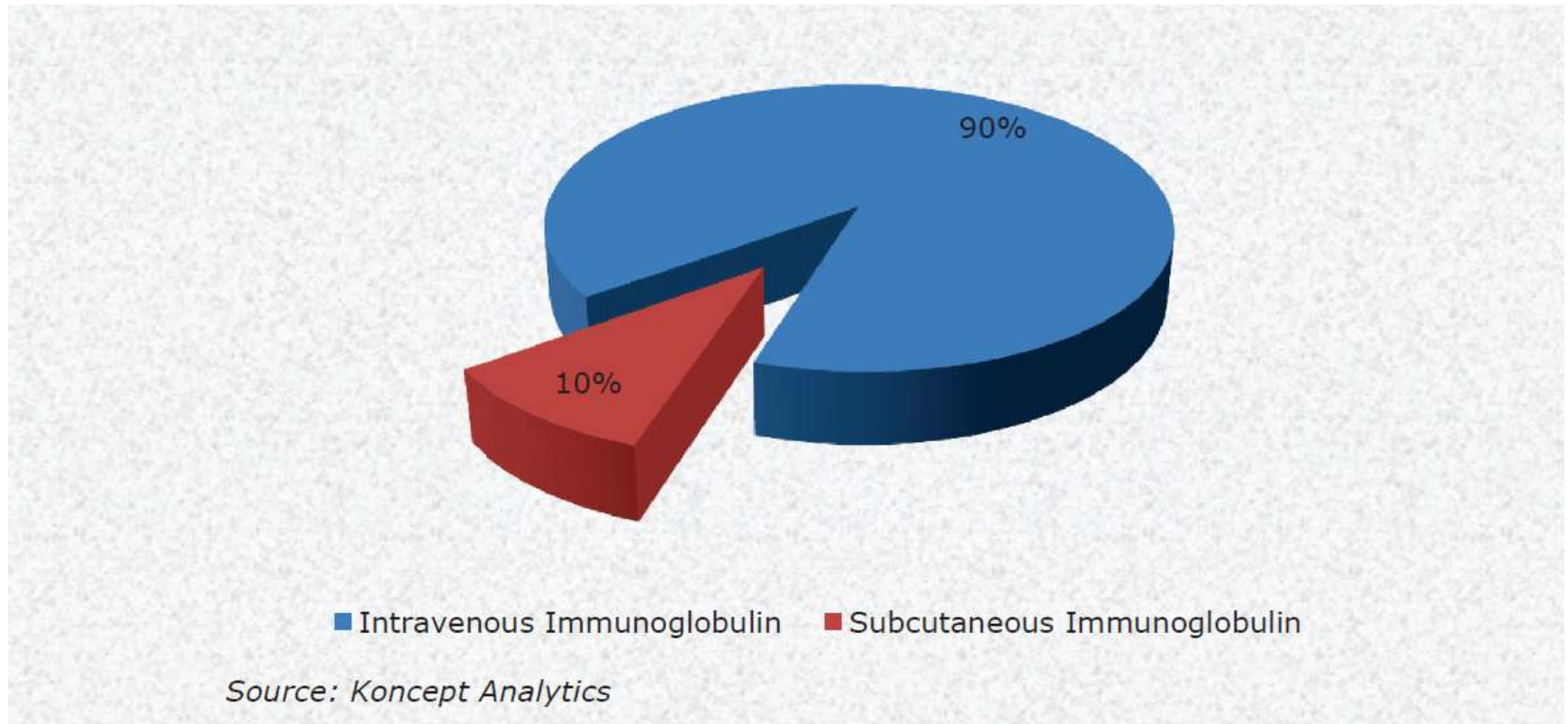
Global Albumin Market by Volume (2016)



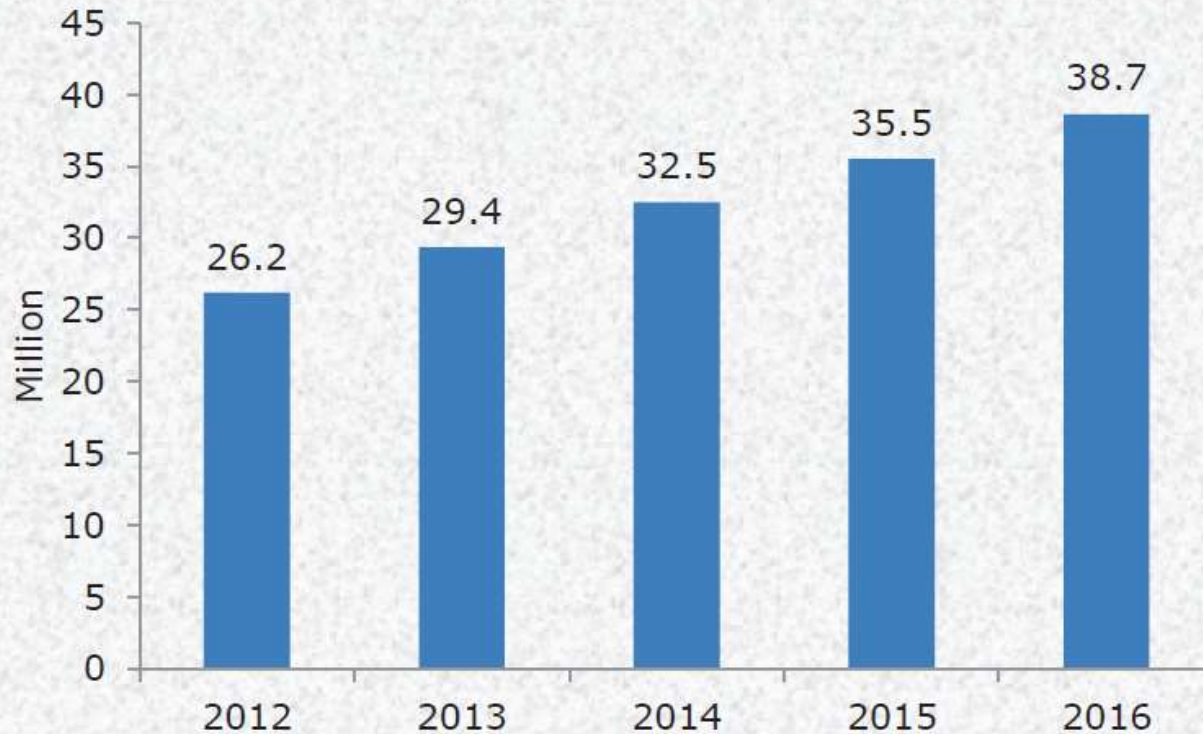
US Blood Plasma Market Segment (2016)



US IgG volume by Segment (2016)

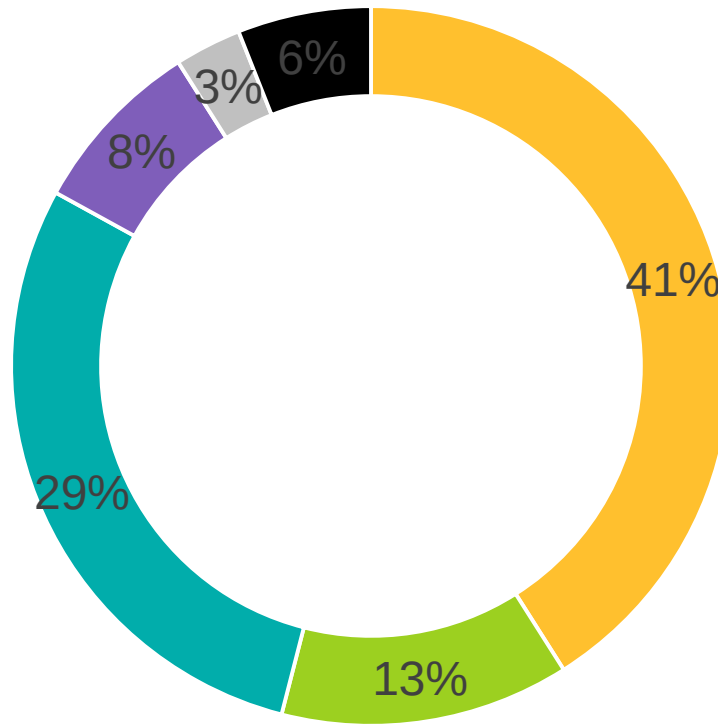


Plasma collection in US (2012-2016)



Source: PPTA

US Immunoglobulin Market by Specialty

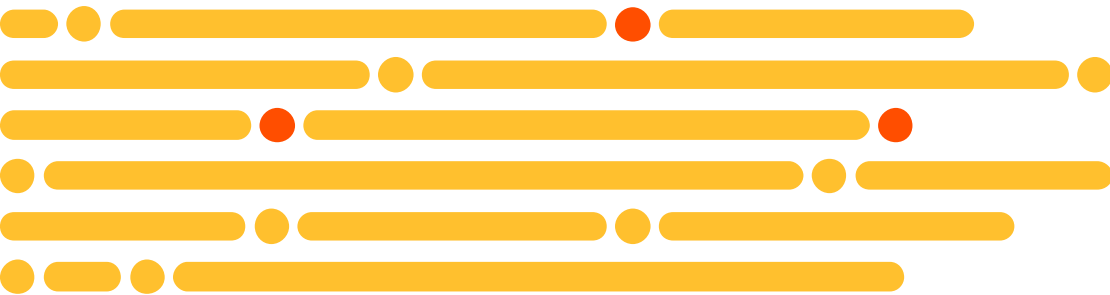


- Neurology
- Allergy/Immunology
- Dermatology
- Hematology/Oncology
- Transplant
- Others

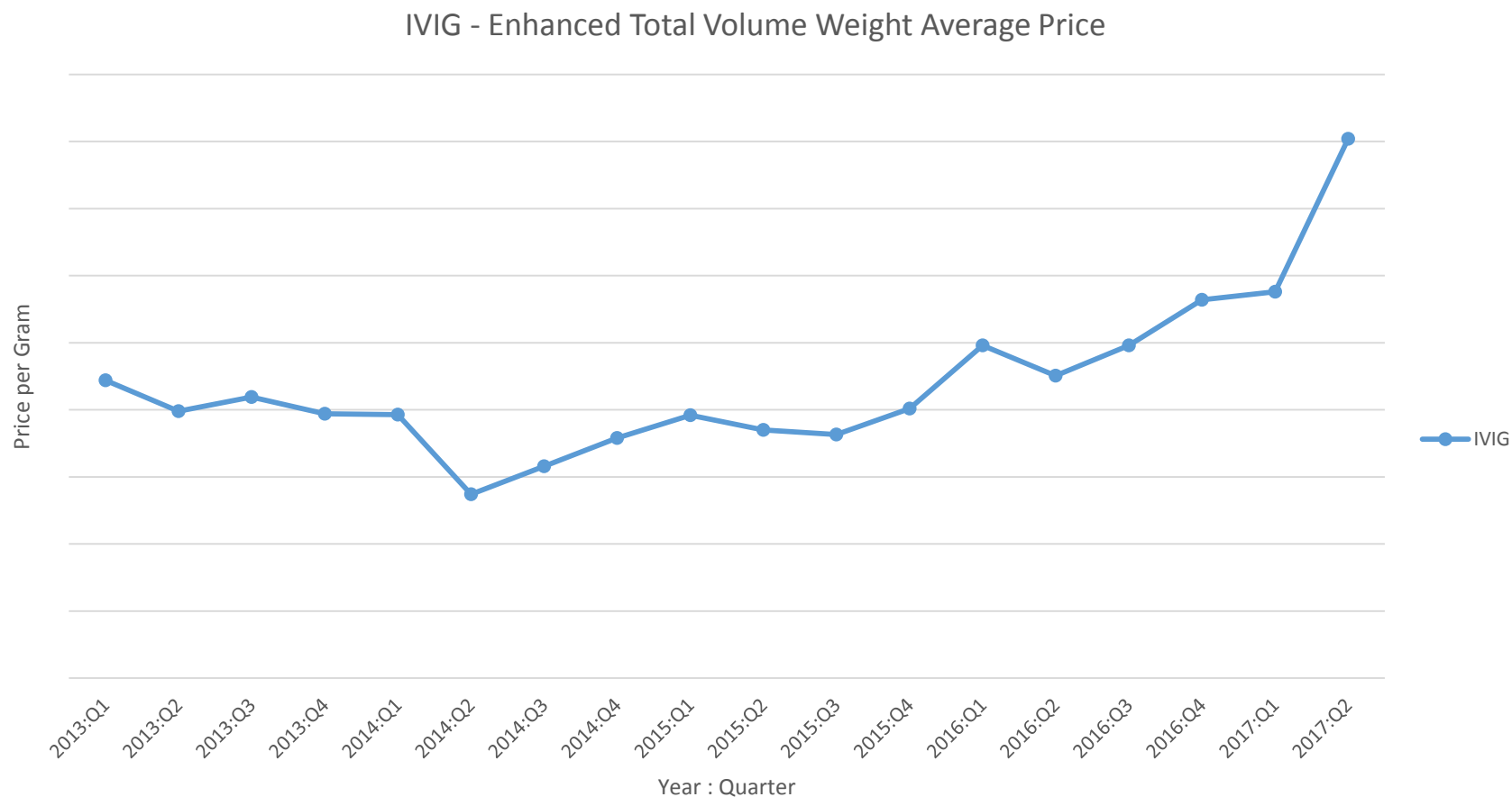
Source: MRB

Last Year in Review

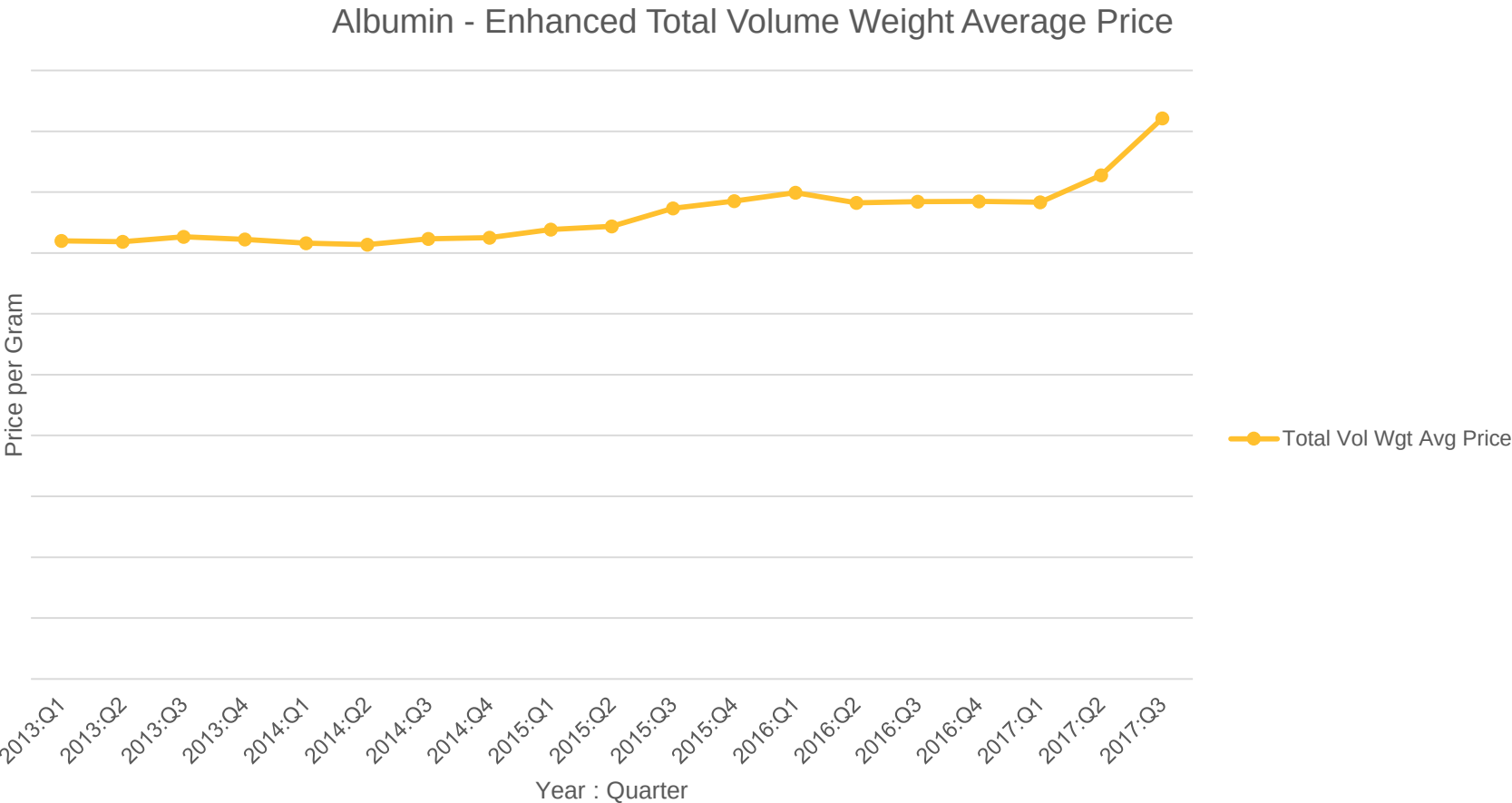
- IVIG
 - The plasma market remains a consolidated space with three companies (Shire, CSL and Grifols) dominating ~ 90% of the overall market
 - IVIG pricing increased slightly on a volume-weighted average price
- Albumin
 - Pricing decreased slightly per equivalent unit on a volume-weighted average price
 - Albumin market supply has stabilized and has started to recover
- During 2016, several new recombinant factors and Ig products were introduced in the U.S. market



IG Average Price per Gram



Albumin Average Price per Unit



Global Growth Drivers

- **Increasing Plasma Collection**
- **Growing Blood plasma market in Emerging Economies**
 - Increased healthcare budgets and advanced infrastructure
- **Global Increase in Albumin Consumption**
 - Higher increase of liver cirrhosis and Hepatitis B and other diseases that cause hypoalbuminemia
- **Increasing Healthcare Expenditure**
 - Global health care expenditure reached US\$8.91 trillion in 2016, growing at a CAGR of 5.55% for the period spanning 2012-2016
- **Escalating Aging Population**
 - In 2015, the older population was recorded at 900.9 million people, whereas by 2030, the aging population is expected to be 1402.4 million, recording a growth of 56% since 2015

US Growth Drivers

Diagnosis and Treatment

Aging Population

Growing Fractionation Capacity

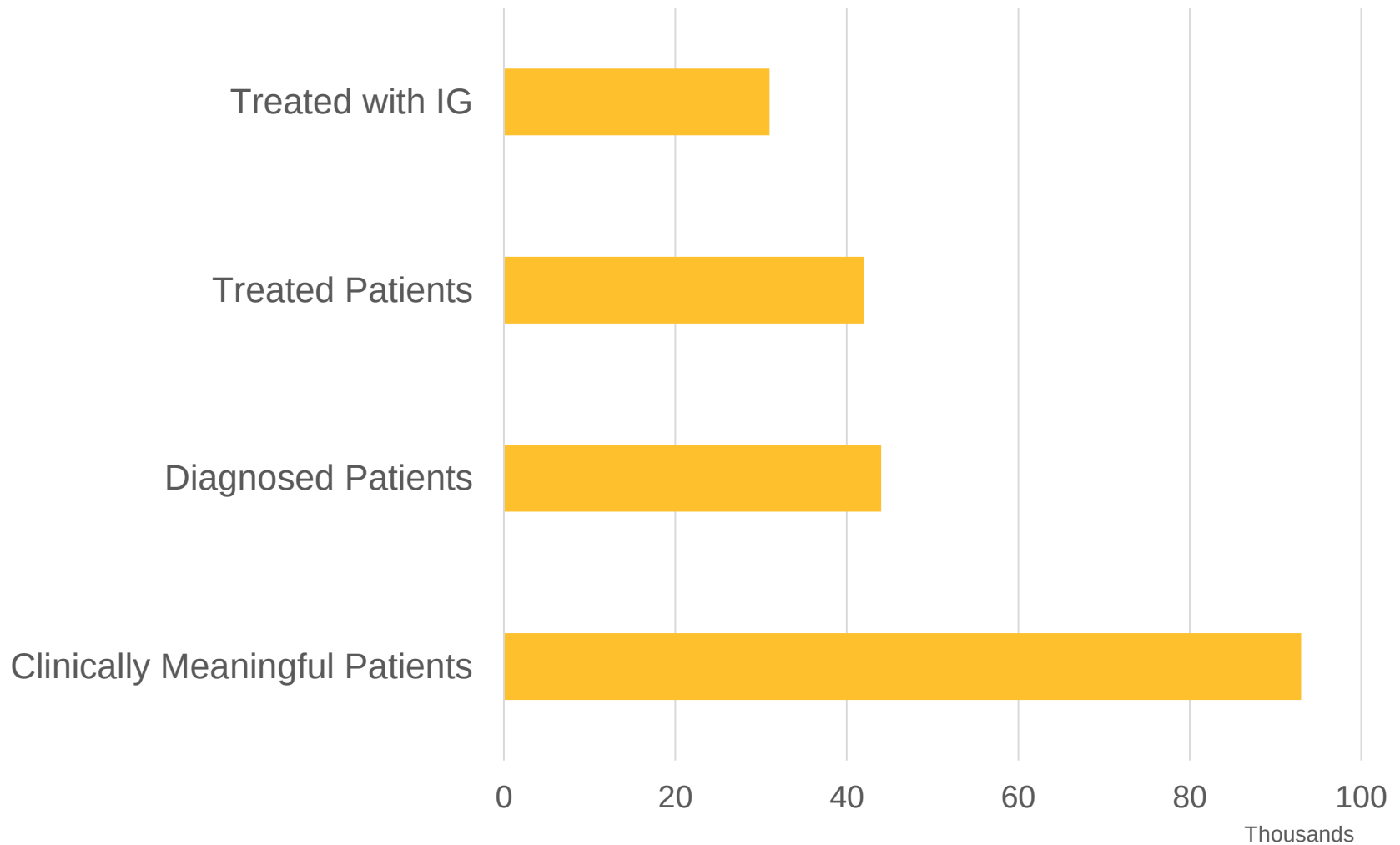
Continued Investigation and Approvals

Continued Growth of the SC market Segment

Improved Global Economy

Healthcare Coverage

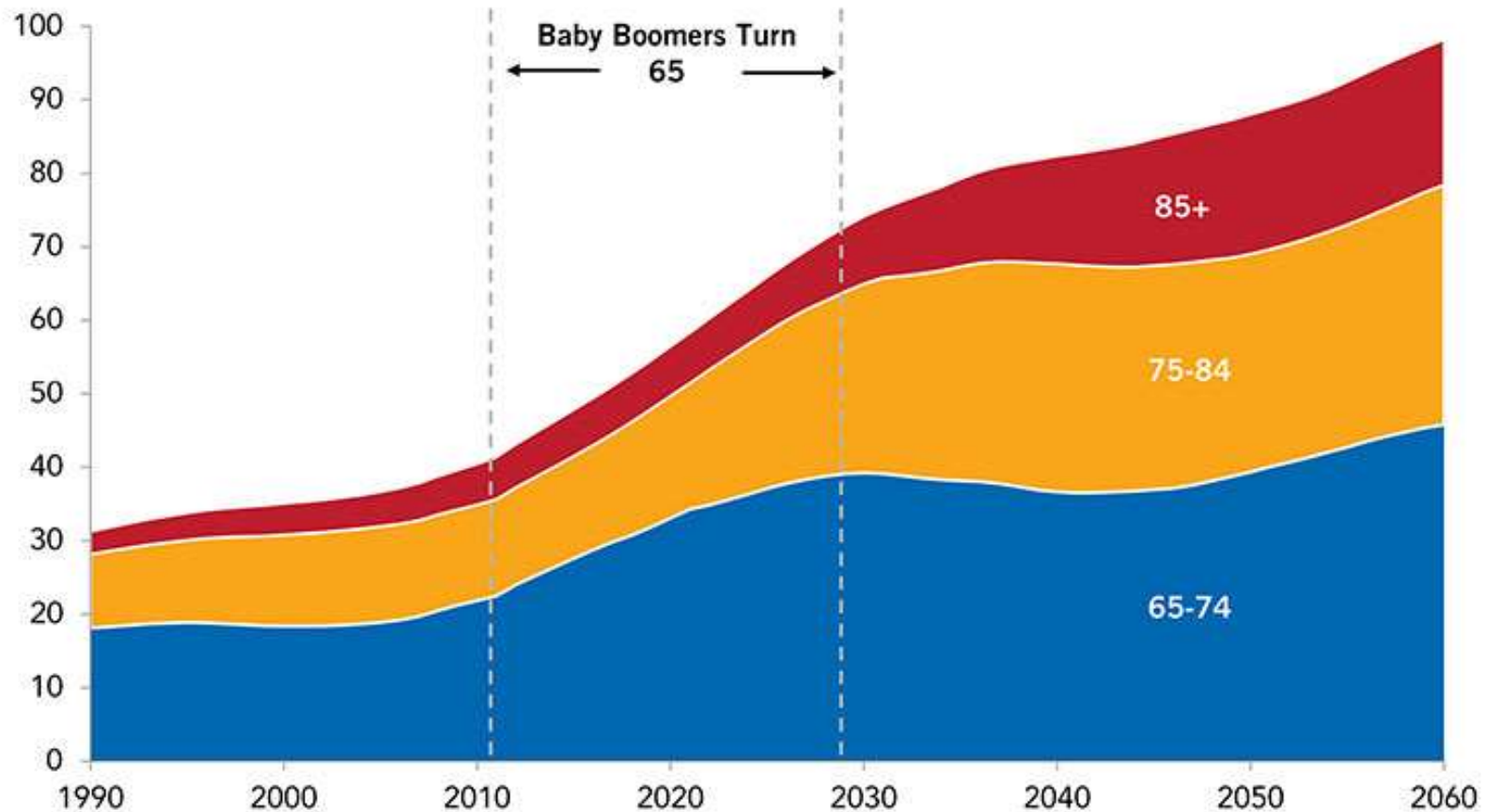
The US CDIP Market Opportunity



Source: Grifols

The elderly population is growing rapidly and living longer

U.S. Population Age 65+ (Millions)



SOURCE: U.S. Census Bureau, *National Intercensal Estimates*, and *2014 National Population Projections*, December 2014. Compiled by PGPF.

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Potential New Indications for Plasma Products

- Neurological diseases
 - Multiple Sclerosis
 - Neuropathic Pain
 - Chronic Fatigue Syndrome
 - Post-Polio Syndrome
 - Dermatomyositis, etc.
- Albumin
 - Stroke, Cirrhosis, Alzheimer's Disease, Malaria and Sepsis

Global IgG Market Forecast by Volume (2016-2021)



Source: Koncept Analytics , Company Reports

US IgG Market Forecast by Volume (2016-2021)



Source: MRB, Konzept Analytics

Global Plasma Fractionation Capacity Forecast (2016-2021)



Source: Kepler Cheuvreux, Koncept Analytics

Fractionation Capacity for Key players (2013-2022)

Table 30: Fractionation Capacity of Key Market Players (2013-2022E)

Company	2013	2017E	2022E	CAGR (2013-2022E)
	Million Liters			
CSL Limited	9	12	16	6.6%
Grifols, S.A.	8.5	13.1	19	9.3%
Shire Plc.	6.5	8.5	11.5	6.5%
Octapharma Inc.	3.3	4.8	6	6.9%
Kedrion	1.7	3.4	3.4	8%
LFB	1.4	1.4	1.4	0%
Biotest	1.4	1.4	3.1	9.2%
BPL	0.8	0.8	0.8	0%

Source: Kepler Cheuvreux

Challenges and Issues

- **High Cost of Treatments**
- **Unclear and Lengthy Process to Open Plasma Centers**
- **High R&D Costs**

In summary

- **The Hospital Market for IVIG, Albumin, and other fractionated plasma products continues to be a robust market and will continue to grow within the foreseeable future**
- **Better healthcare coverage leading to diagnosis and treatment**
- **Hospitals continue to enter the Specialty Pharmacy Arena**
- **Hospitals continue to Acquire Physician Practice groups**
- **Albumin enjoys a preferred status in Open Heart Surgery and Dialysis**
- **Aging population**
- **New products and indications will continue to expand the use of IVIG**

Open Discussion

