DISSERTATION AT ZS ASSOCIATES, GURGAON

By – Dr. Kusha Korla
Knowledge Management Associate - Intern

DISSERTATION STUDY

A study on performance of biosimilars across five European nations (Germany, UK, France, Spain and Italy)

Internship Report

- The Internship period - 3 months
- The position – Knowledge Management Associate – intern

The main objective of internship

- To understand how the organization works and how to leverage our knowledge and research to support leaders, project teams and practice areas by collating, organizing and disseminating external and collective firm knowledge

About ZS associates

- ZS associates is a global leader in sales and marketing consulting, outsourcing, technology and software named after **Andy Zoltners** and **Prabha Sinha**, the founders of ZS associates
- It is one of the world's largest business services firms specializing in transforming sales and marketing from an art to a science. They help clients gain market share at lower cost. They do so by creating data-driven strategies that they can implement rapidly and by taking on sales and marketing operations to make them more competitive.
- They have 20 offices around the world and they work with 700 companies across 70 countries around the globe

- **MISSION**: “Help companies accelerate business performance by providing consulting, capability building and outsourcing services that drive sales and marketing excellence.”

Insight to ZS associates

- **SERVICES PROVIDED**
  - Consulting
  - Outsourcing
  - Technology
  - Software

- **CLIENT INDUSTRIES**
  - Business Services
  - Financial services
  - Media
  - Private Equity
  - Consumer packaged goods
  - Industrial product and services
  - Medical products and services
  - Travel and transportation
  - Energy
  - High tech and telecommunications
  - Pharmaceutical and Biotech

Dissertation report

To assess the performance of biosimilars across five European nations (Germany, UK, France, Spain and Italy)

Background

- Biosimilars are the emerging trends in pharmaceutical market across the globe. They are the biologic medicinal products whose active drug substance is made by a living organism or derived from a living organism by means of recombinant DNA or controlled gene expression methods.
- It is a biotherapeutic product which is similar in terms of quality, safety and efficacy to an already licensed reference biotherapeutic product.
- The reference biotherapeutic drugs are highly expensive and beyond the reach of a common man. Therefore biosimilars are gaining popularity in the market of medicine. They are similar to the reference products but cheaper due to less extensive manufacturing as they are the copy versions of the originators.
- They are approximately 20-40% cheaper than the originator drugs

Problem statement and Aim of the study

PROBLEM STATEMENT

- It is seen that the biosimilars are facing challenges to come into the market due to:
  - Regulatory framework is complex, regulations bear greater burden on biosimilars in proving safety and efficacy to be interchangeable to reference biotherapeutic product
  - High cost of manufacturing and storage
  - Physicians reluctance to prescribe

AIM

The aim of the study is to understand the emerging trends of biosimilars in EU5 nations and analyze the performance of biosimilars in pharmaceutical market based on their respective uptakes across different geographies and also based on the therapeutic areas

Objectives

- To identify the uptake of biosimilars across EU5 (Germany, UK, France, Italy and Spain).
- To identify the major biosimilars in the market based on their respective uptakes across nations
- To identify the drivers and barriers for the variations in the uptake across these geographies

Research methodology

- Across the globe Europe was the first to develop a regulatory model for biosimilars and has the maximum number of biosimilars launched till date
- The study of biosimilars was done to identify the trends of biosimilars across Europe for a consulting firm based in Gurgaon and having a substantial business interest to help their clients achieve success in sales and marketing of biosimilars in Europe. The data collection was done during 3rd February to 8th May.
- It was a meta analysis research using **systematic literature review.** Both paper based and electronic resources were used in the study as given below:
  - Paper based sources: Journals, periodicals, abstracts, research reports, annual records of organizations, market reports, annual reports etc.
  - Electronic sources: Internet, On-line databases, URL's, websites, Pub med, company websites, broadcasts

Research methodology

TYPE OF STUDY: Exploratory

TIME PERIOD:

- The time period for completion of study conducted was 3 months in the organization.
- The latest data was collected including data for last 0 to 5 years.

CATEGORIZATION

- The countries studied in Europe were shortlisted based on:
- Number of clients of the firm located in Europe
- Emerging trends in Europe for biosimilars highlighting the countries gaining maximum revenue from them

Research methodology

TOOLS OF DATA COLLECTION

- The data collection was done through secondary research using various websites, URL's, articles and databases of the organization such as:
  - Biotrends.com, Gabi journals, Xcenda.com, Frostand Sullivan specialty physicians, Sandoz, assogenerici.org, pharmaletter.com etc.
- Databases from the organization:
  - Bloomberg, OneSource etc

KEYWORDS USED

- Initially on searching for biosimilars approximately 8.86 crore results were found.
- Further short listing of the sites was done using various keywords like "biosimilars trends in Europe", "biosimilars uptake", "major biosimilars in market", "biologics versus chemical drugs", "total biosimilars launched", "why Europe for biosimilars" etc.

Research methodology

SHORTLISTING OF DATA/STRATEGY

- Since the initial inflow of data was very high; therefore the data was shortlisted based on the relevance of data, need of information for the organization, source of data (valid and reliable). The data was collected with assurance that the source is either from the known journals or articles for pharmaceutical industry or from the other competitor organization's data from reports or articles for comparison or reference purposes for e.g. IMS health consulting, WNS global, PWC, BGC, McKinsey etc
- The data was analyzed and compared across results of different studies and certain calculations were made based on the data and trends collected from databases of organization, showing the growth rates and economic impact of biosimilars across European nations.
- Sensitivity and specificity of data was analyzed based on the repetition of information in different sources or vice versa.

Limitations of the Study

- The report also investigates the fact that the analysis conducted has limitations. Some of the limitations include:

  - Being an intern, access to all the databases was not allowed in the organization
  - The area of research was very vast and time period was less to cover all the parameters
  - The study was based completely on secondary research, therefore limitation of data was a concern

Findings

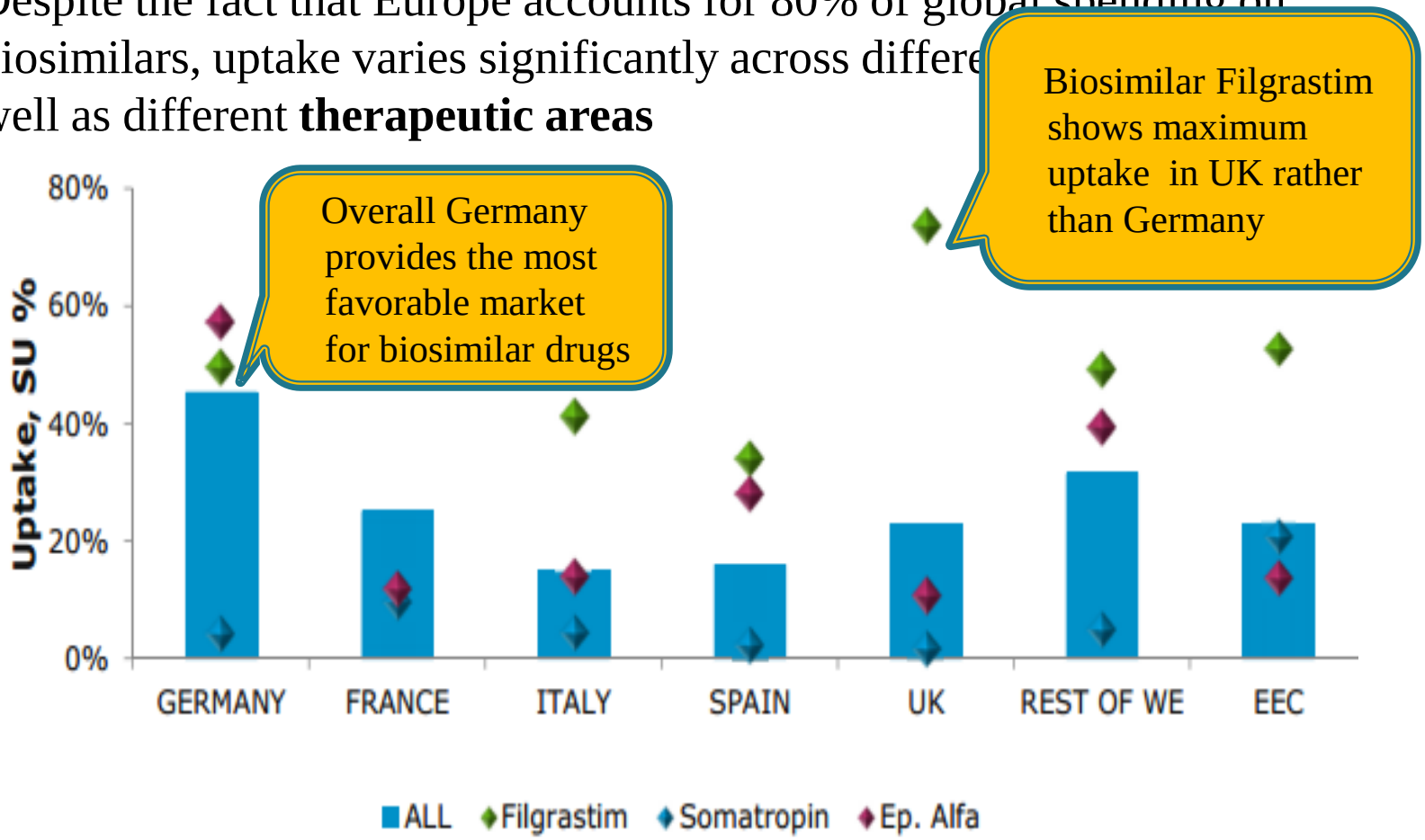
Three Major Classes of Biosimilars across European Nations

Name		iosimilars ed	Indications
Filgrastim (G-CSF)			▪ Cancer ▪ Hematopoietic stem cell transplantation ▪ Neutropenia
Epoetin alfa(EPO)	2007	5	▪ Anemia ▪ Cancer ▪ Chronic kidney failure
Somatropin(HGH)	2006	2	▪ Growth hormone deficiency ▪ Pituitary dwarfism ▪ Prader-Willi syndrome ▪ Turner syndrome

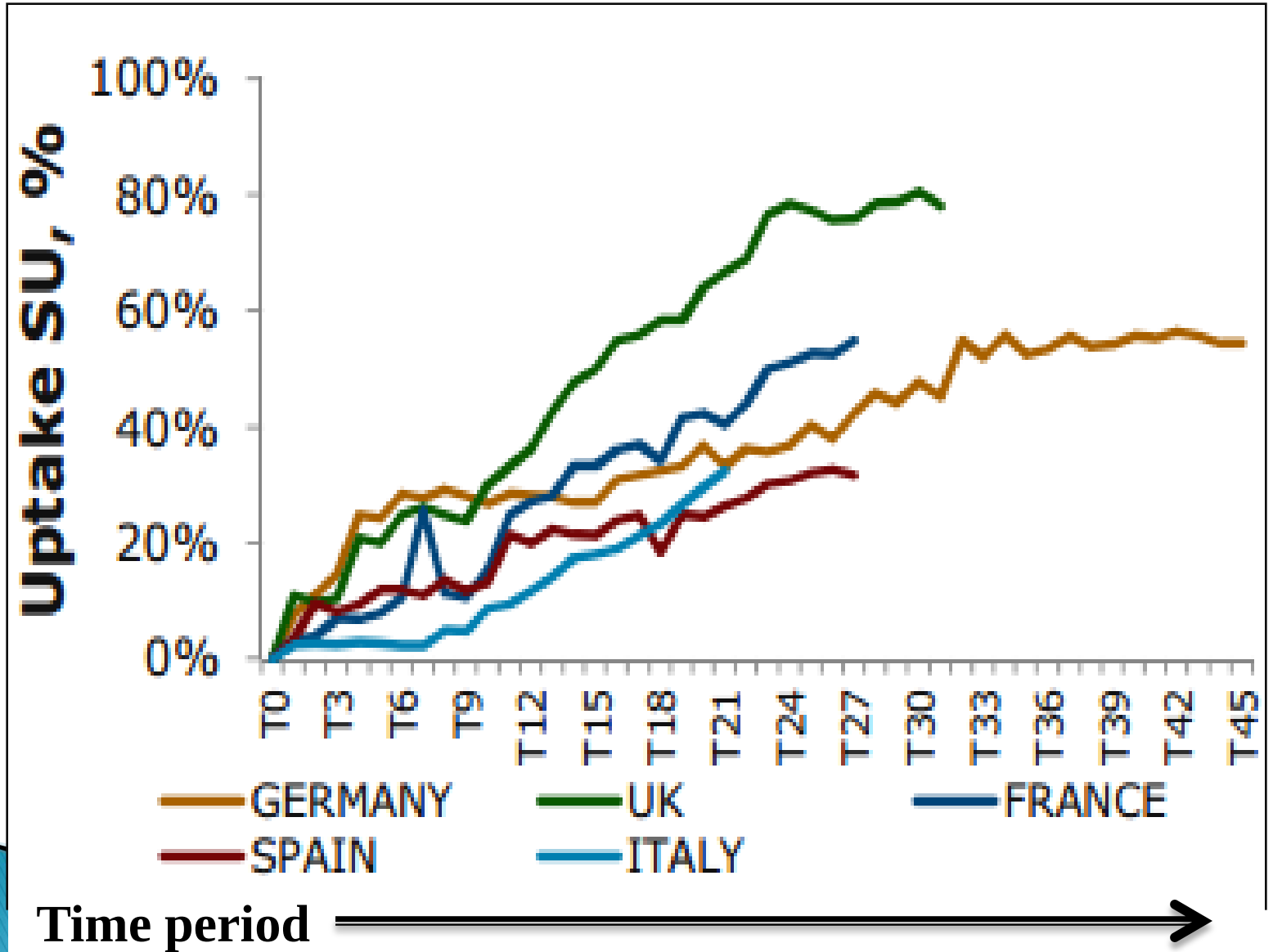
Although filgrastim was launched late, yet it is the most populated today amongst the three classes of biosimilars

Variations in uptake of biosimilars according to country and therapeutic areas

- Despite the fact that Europe accounts for 80% of global spending on biosimilars, uptake varies significantly across differe well as different **therapeutic areas**



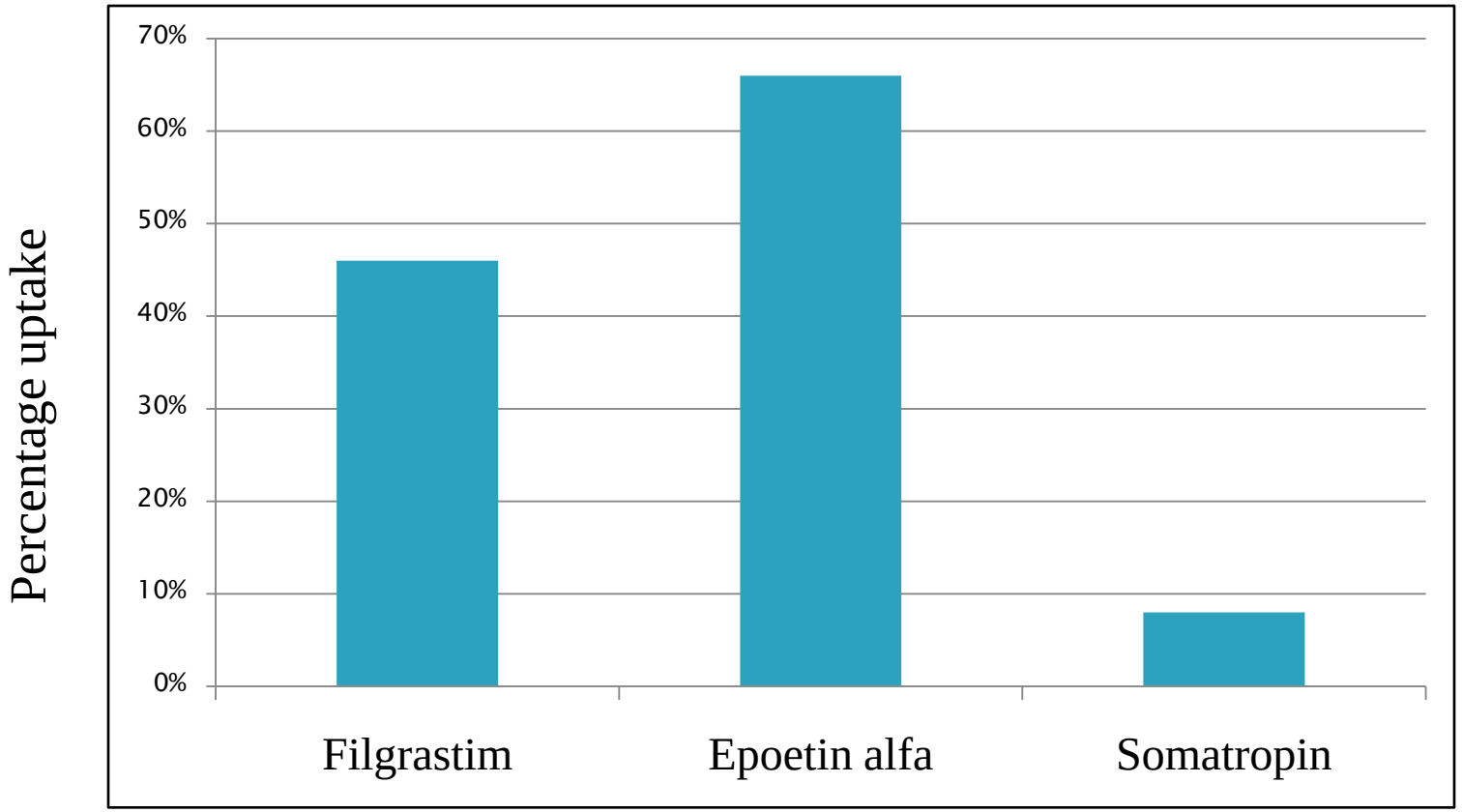
Uptake of Filgrastim across EU5



Reasons for high uptake of filgrastim in UK

- Biosimilar Filgrastim has a 90% volume share of the Filgrastim market in the UK with a dramatic increase in patient access
- In UK G-CSF market, shows a **44% increase in daily volume usage** of G-CSF since biosimilars were launched
- Reasons for high uptake
  - Biosimilar G-CSF are hospital prescribed in UK
  - Transparent multi factor tenders operate to select single preferred agent
  - Low safety concerns associated with this product class

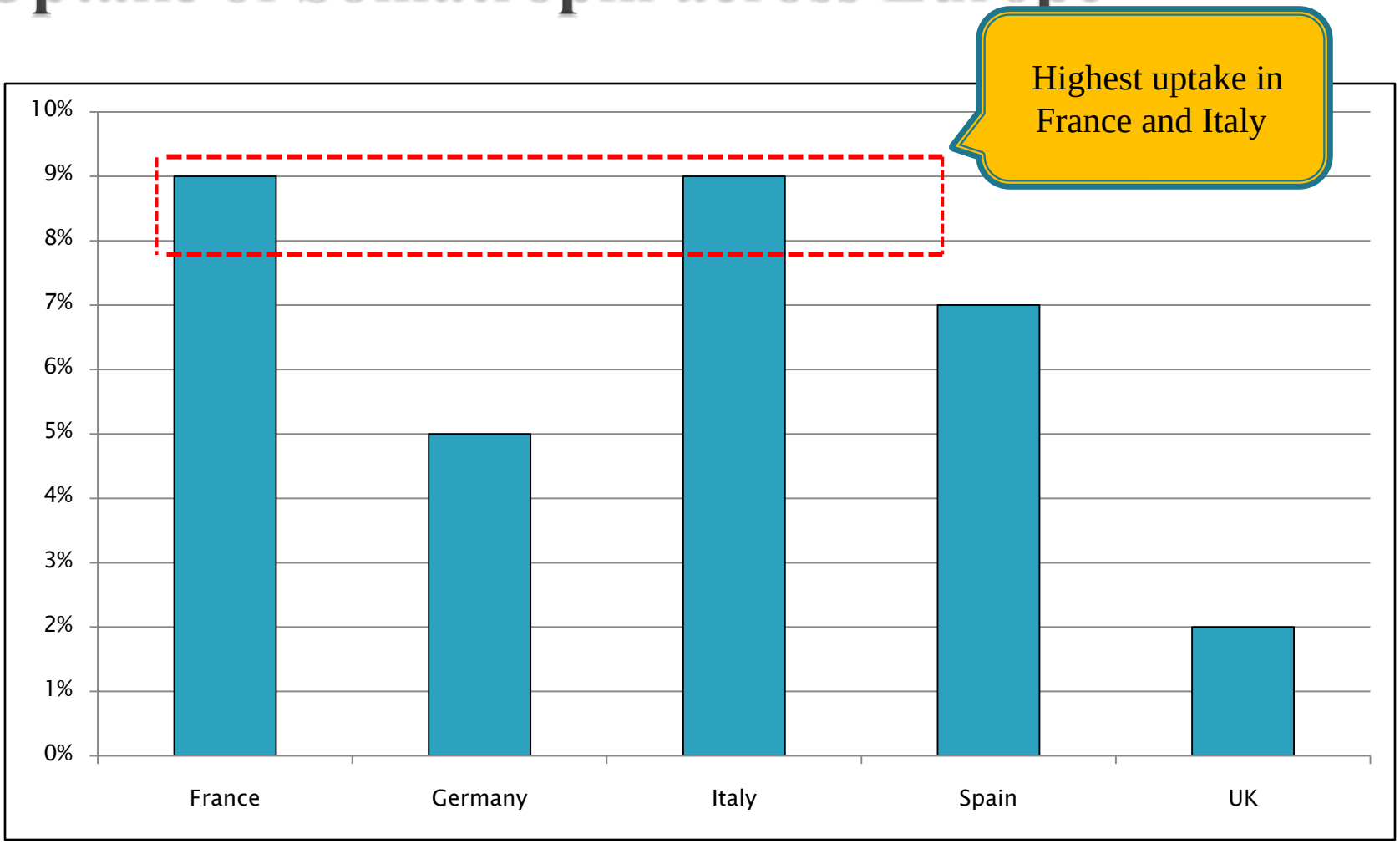
Highest uptake of EPO is seen in Germany



Reasons for overall highest uptake of biosimilars in Germany

- Germany is the most favorable market for biosimilars and it already has an account for over 50% of the EPO market by value.
- Reasons for high uptake:
  - Germany has provided the most favorable incentives for biosimilars
  - In addition to a **reference pricing system** in place for biosimilars, it also has specific targets or **quotas** for physician and sickness funds for biosimilars that vary by region
  - Biosimilars G-CSF and Epoetin are used predominantly in retail setting
  - Education sessions with clinicians to reinforce biosimilar concept
  - Publish real world utilization data to counter originator myths

Uptake of Somatropin across Europe



Reasons for least uptake of Somatropin with France and Italy as an exception

- Reasons for low uptake:
  - Concerns about its suitability for children
  - Existence of several well known branded products in various formulations and delivery devices
  - The length of time it takes to see the benefit of growth hormone therapy is very long

- Reasons for higher uptake in France and Italy:
  - Biosimilar Somatropin are hospital prescribed in France
  - Prescription quotas, their more widespread use by sickness funds
  - Prescribing encouraged by the health insurance funds
  - Transparent multi factor tenders operate to select single preferred agent

Drivers For The Biosimilars Market

- **Healthcare Cost Savings and Improved accessibility for patients**
  - Biosimilars serve as Cost-saving lever for mature economies experiencing increasing pressure on resource
  - Price of biosimilar is 20% to 30% lower than original biologics so their substitution will offer compelling opportunity for third-party payers and the pharmacy benefit managers to reduce drug spending
  - Broaden access to life saving drugs by increasing affordability e.g. biosimilar filgrastim (recombinant human G-CSF) exhibit a strong performance by boosting overall filgrastim market with a 40% increase in overall daily volume usage
- **Biologics patent expiry creating opportunity for biosimilar manufacturers**

Barriers For The Biosimilar Market

- **Complex Regulatory framework**
  - Regulatory framework is complex, regulations bear greater burden on biosimilars in proving safety and efficacy to be interchangeable to RBP
  - Fragmented regulations in other geographies cause delay/block launch
- **High Cost of Manufacturing and Trials**
  - Manufacturing is complex, require significant time (6-9 years), technical capability, and clinical trial expertise
  - Huge clinical development costs ranging from $40-$300 million as compared to $1-4 million for generics
  - High cost of conducting pre-clinical and clinical studies
- **Physicians reluctance to prescribe**
  - Physicians oppose biosimilars on efficacy and safety grounds
  - Biosimilars are deemed interchangeable or are granted automatic substitution on case by case review so physician remain skeptical
- **Storage:**
  - Being less stable, need cold chain distribution and have a shorter shelf life increasing cost and complexity of distribution

Key findings

Germany	UK	France	Italy	Spain
				
• Germany was found to be the most favourable for biosimilars due to its reimbursement policies. • The country has a biosimilar reference pricing policy, plus targets or quotas for biosimilars use for physicians and sickness funds	• The UK was also found to be favourable, with its buoyant generics market and cost-effectiveness analyses of biosimilars by • the UK's National Institute for Health and Care Excellence (NICE)	• France was found to be potentially favourable market for biosimilars. Although the country also has a strict price regulation and compulsory discounts for biosimilars, still high volume sales of biologicals is found.	• Italy was found to be the least favourable country for biosimilars due to its strict price regulation system which requires a • mandatory discount of 15–22% for biosimilars relative to that of the brand-name reference product	• Biosimilars are classified in Spain as HOM (hospital only medicine), meaning that they are only dispensed to outpatients • attending hospitals, which could offer one explanation for the low uptake of biosimilars in Spain

Recommendations

- Since biosimilars are highly expensive drugs and beyond the reach of common man, the policies of Germany should be followed by other European nations like
  - Quota system
  - Hospital prescriptions
  - High discounts to make them reimbursable as per their requirements
  - Tender systems
- The other problem faced is about the safety and efficacy concerns leading to reluctance of physicians to prescribe. This can be overcome by
  - Education programs explaining biosimilars safety for physicians and payers
  - Marketing and advertisement of biosimilars to make understandable to common man/ patients

Conclusion

- Biosimilars are the emerging trends in pharmaceutical industry paving a way to increased revenue to the healthcare providers. On the other hand it also reduces the healthcare cost for the common man for various deadly diseases especially like cancer who cannot afford originators for the same
- Europe is the best market for biosimilars across the globe with the highest numbers launched till date. Germany is the highest revenue producing country in Europe for biosimilars
- Biosimilars have to face a number of barriers to come into market due to high manufacturing cost of the same, with complex approval pathway which puts all the R&D cost at risk.

THANK YOU