similar to generics, biosimilars offer the potential to change the landscape of the biopharma industry by bringing patients more access to medicines around the world and new revenue streams to the marketing authorization holders (MAHs) who bring these products to market.

With many patents of branded biologics expiring, the biosimilars industry holds incredible growth potential, with a September 2015 report predicting revenues from such products will grow to US$26.5 billion by 2020, up from just US$2.5 billion in 2014.

BoscoWhile biosimilars are approved as highly similar versions of already authorized biologics, MAHs will have to convince regulators, payers, physicians and patients that they are as safe and effective as their originators when used in the real-world.

This is because biosimilars are evaluated based on an accelerated pathway that does not require head-to-head clinical comparator studies in some or all indications for which licensure is sought, assuming appropriate scientific justification.

To convince these various stakeholders, MAHs will need to generate comprehensive and convincing data to support the safety and effectiveness of their products. A key component of that process is the evaluation of real-world evidence to augment data generated by the analytical studies, animal studies and clinical studies that can fill the evidence gap for decision-makers.

What do stakeholders want?

Real-world evidence generation strategies should be part of the post-approval plan from the outset with early planning taking into account how to accommodate the unique interests of all relevant stakeholders.

Once regulatory approval is obtained, regulatory agencies are mainly concerned about safety issues, including delayed risks, while clinicians and patients have interests in both clinical effectiveness and safety, as well as how the risks and benefits of one treatment compare with another, particularly for patients who switch from the originator biologic.

Payers’ interests will be similar to physicians and patients, but they will consider these issues through the lens of economic risk-benefit considerations and how use of the biosimilar impacts related medical care, especially among heterogeneous subgroups.

MAHs may also want to consider how the interests of these stakeholders vary across different markets. For example, while the National Health Service in the U.K. provides coverage from “cradle to grave,” in the U.S. the average duration of coverage by private health insurance for an adult member under age 65 is about 2.5 years, thus delayed risks and benefits may be less important to stakeholders in those markets that do not provide lifetime coverage, according to Quintiles.

Economic considerations are also important to patients and healthcare providers, since in some countries, including China and India, patients directly bear the costs of pharmacotherapy.

These economic considerations must be balanced with benefits achieved in broader population access to these life-altering treatments. Crafting an evidence generation strategy targeting the needs of all of these varied players will help MAHs assemble a more convincing body of high-quality data to support the real-world safety and effectiveness of their products.

Unclouding the data

The right study design for real-world evidence generation will depend on the evidence needs of the individual
product, its uptake in the target market, and availability of any relevant databases in countries of interest.

DreyerApproaches may include prospective non-interventional studies with de novo data collection, such as patient registries or studies where researchers track patient use of prescribed treatments in real-world conditions without interfering in treatment decisions.

Other approaches include database studies that utilize existing data sources (e.g., electronic health records, administrative databases) and enriched studies that combine both primary and secondary data collection methods since no single method of data collection is likely to deliver all of the necessary information to address every stakeholder concern.

In many cases strategies using multiple data sources can help fill in the gaps at an affordable cost and create a strong evidence package. For example, supplementing prospective data collection with pharmacy and other data can be a suitable option depending on locality and data availability.

As planners implement these real-world programs, how patients are treated for each condition of interest in the target countries can affect the interpretation of the results. Additionally, patients who need access to these therapies are being treated for chronic and severe conditions and may receive other treatments in addition to the biosimilar or biologic of interest. This can make it difficult to attribute a safety event to the correct product and should be taken into consideration when collecting and analyzing data.

Similarly, channeling bias can happen when drugs with similar therapeutic indications are prescribed to groups of patients with prognostic differences. For example, physicians may be required to only prescribe the biosimilar to patients who have never used a biologic and not to patients who have been stable on the originator biologic. Conversely, patients who are on the originator biologic may be the only patients eligible to receive the biosimilar, depending on the local legislation, or they may be wealthier patients who may choose to pay for the originator product and also who have access to better healthcare.

With the unanswered questions about biosimilars’ real-world safety and effectiveness, there could be a strong influence by physician prescribing preference that may cloud the true effect between the biosimilar and long-term outcomes.

Early planning to craft a comprehensive real-world evidence generation strategy can help support the real-world safety and effectiveness of biosimilars by building physician confidence, providing payers with the assurance of value and helping patients better understand all of their treatment options—all of which will help drive the success of these products.

Jaclyn Bosco is director of epidemiology and outcomes research, real-world and late phase Research, Quintiles.

Nancy Dreyer is global chief of scientific affairs and senior vice president, real-world and late phase research, Quintiles.