ROOM FOR INNOVATION?

Darren Mansell, Regulatory Affairs Manager at Owen Mumford Pharmaceutical Services, examines US FDA guidance on biosimilar interchangeability and asks whether there is room for innovation.

As a growing number of biologics are seeing their patent-exclusivity period expire, the window of opportunity for biosimilars to enter the market continues to expand. The increased competition that will ensue typically entails a reduction in the cost of the affected therapies. This cost reduction can also be tied to the fact that biosimilar manufacturers may rely in part on the FDA's previous determination of safety and effectiveness of the reference product for approval, rather than carrying out additional clinical trials required for a standalone application.

Indeed, the purpose of a biosimilar development programme is to show interchangeability between the proposed biosimilar product and the reference product. While this may facilitate the approvals process, it has been suggested that FDA guidance on biosimilar interchangeability may also, in fact, be impeding innovation for the device element of the combination product. A closer examination of the document shows that new product developments are, in fact, welcome, but that the confusion around the FDA's 2019 interchangeability guidelines has meant that no biosimilars have yet been approved as interchangeable by the FDA to date.[1]

THE AGE OF BIOSIMILARS

Biosimilar development is currently at a decisive turning point. The window of opportunity for biosimilar manufacturers could be highly profitable, with Owen Mumford research estimating the biosimilar market opportunity to be US$3.12 billion (£2.24 billion) per year over a five-year period in Europe.[2] Furthermore, the "second wave" of biologicals, with patents expiring in the next 5–6 years, is expected to see peak sales of $100 billion (£72 billion) before patent expiry.[3] As manufacturers look to gain a slice of this market, they will need to find ways to stand out from their counterparts. Some will seize the opportunity to innovate in the area of drug delivery devices, knowing that device design can play a critical role in retaining patients if it improves the overall experience.

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FDA GUIDANCE ON INTERCHANGEABILITY

At first glance, the FDA guidance document titled 'Considerations in Demonstrating Interchangeability with a Reference Product' may appear to hinder innovation for drug delivery devices, requesting that sponsors developing an interchangeable product "should not seek licensure for a presentation for which the reference product is not licensed".[4] This statement implies that sponsors could not apply for regulatory approval for a biosimilar presented in an autoinjector device if its reference product was marketed in a vial and prefilled syringe, for example.

Yet device design innovation and improvements are important as their impact on patient adherence and outcomes can be positive. Room for innovation gives device designers the chance to rethink their devices from a patient's perspective, placing their comfort and ease of use at the centre. Without innovation, any opportunity for improvement is immediately squashed.

Confusingly, the same FDA document later encourages manufacturers to seek delivery device enhancements, should they benefit the end user. In recent years, the FDA has recognised human factors as an important consideration to improve the

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overall patient experience and, subsequently, therapeutic outcomes. If, when adding new features, manufacturers can demonstrate improvements over the original reference product, then such modifications should be encouraged by the FDA. It is therefore hoped that any guidance issued by the FDA around interchangeability would promote innovation within the device-design field if it were to benefit the patient.

ASSESSING DRUGS AND DEVICES SEPARATELY

One way around this issue can be seen by looking to the EU, where regulatory pathways for biosimilars were already emerging in 2005, compared with only 2012 in the US.[5] The EU's equivalent guidance document from the EMA assesses interchangeability for the device and the drug element separately.[6] This separation is crucial for making space for device innovation, which is not only fundamental to the mission of improving patient outcomes and adherence but also a way for pharmaceutical companies to gain a competitive advantage over their counterparts.

Understanding where the line between "similar" and "not similar" lies will therefore be central to pharmaceutical companies when developing their sales strategy – be it biosimilar manufacturers looking to break into the market or the reference biologic producer trying to stand its ground in the face of increased competition.

MODE OF DELIVERY AND SELF-ADMINISTRATION

This also provides scope for offering patients a different mode of delivery – for instance, by developing a biosimilar suitable for subcutaneous delivery where the reference biologic was designed for intravenous administration. Given that subcutaneous injections are better adapted to the rising trend of self-administration for patients with chronic conditions, this change would allow patients greater involvement with their own medication regime and greater independence, while also freeing up time and resources for healthcare services.

FORGING A PATH TOWARDS INNOVATION

The purpose of the FDA's document is to offer guidance to sponsors hoping to demonstrate that their biosimilar product can be substituted for a reference product, without the patient having to go past a prescribing healthcare provider. However, the guidance can be ambiguous and, consequently, may dissuade manufacturers from innovating and improving the patient experience.

A likely outcome of the non-specific FDA guidance on interchangeability is that one portion of pioneering pharmaceutical companies will lead the way in terms of device innovation and the rest will trail behind in their footsteps. The pioneering companies will have to engage directly with the FDA in the early developmental stages and carve a path forward together. These initial attempts will most likely provide greater clarity on the issue of interchangeability and pave the way for change for the remaining pharmaceutical companies.

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It is also hoped that articles such as this, which foster developmental debates on the issue, may also push matters in the right direction – towards greater clarification and in favour of innovation. In fact, the FDA has, since publishing the guidance, issued a draft Q&A guidance which provides new insights, notably on applications to support biosimilarity of a biologic but not of the device.[7]

ABOUT THE COMPANY

Owen Mumford is a healthcare company and device manufacturer that commercialises pioneering medical products for its own brand and custom device solutions for the world's major pharma and diagnostic companies. Owen Mumford's goal is to enhance access to diagnostics, encourage adherence to treatment and reduce healthcare costs.

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ABOUT THE AUTHOR

Darren Mansell has worked with Owen Mumford Pharmaceutical Services for over 14 years and is integral to ensuring products meet regulatory requirements, to facilitate compliance and sales in worldwide markets. He works in a cross-functional team, with colleagues from operations, R&D and sales, to deliver new and existing drug delivery and diagnostic products to customers. As well as securing regulatory approval for OMPS products, Mr Mansell also provides expert compliance advice and support to customers.

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