"generic biologics" and "many characteristics associated with the authorization process and marketed use for generic drugs do not apply." Furthermore, it states that "authorization of biosimilar is not a declaration of pharmaceutical or therapeutic equivalence to the reference biologic drug." Therefore, automatic substitution and interchangeability is not advised (Health Canada, 2010). However, in Canada interchangeability and substitutability are both under provincial jurisdiction (Klein et al., 2014).

In the EU, it is acknowledged that in clinical practice at the national level, "switching" and "interchanging" of medicines might occur. Interchangeability is not directly addressed in the EMA guidance, but the guidance does mention that biosimilars are not generic products and, therefore, the decision to treat a patient with innovator product or a biosimilar product should be made following the opinion of a qualified health care professional.

According to the FDA guidance, substitution is determined at the state level in accordance with the state pharmacy laws. The product is considered interchangeable with its reference product if the MAH can demonstrate biosimilarity of the reference product and if the biosimilar product produces the same clinical result as the reference product in patients. For products that have multiple uses, the MAH is required to demonstrate that the risk in terms of safety or diminished efficacy of alternating between the use of the biosimilar product and the use of the reference product is not greater than the risk of using the reference product without such alternating or switching. The US FDA has recently approved Zarxio, a biosimilar product to Neupogen and emphasizes that it is not an interchangeable product since the company did not request approval of Zarxio as an interchangeable product. A biological product that is approved as an interchangeable product in the US may be substituted for the reference product without the intervention of the health care provider (US FDA, 2015a).

Health care professionals play a crucial role in how medicines are prescribed. In order to deal with the issues around substitutability, educational programs may be needed. As more information on biosimilar safety is gathered over the years, the issue of substitution between biosimilar product and reference product will need to be revisited.

Interchangeability, switchability, and substitution of biosimilars are discussed in Chapter 10 of this book.

13.3.3 Challenges with Naming and Tracking of Biosimilars

The introduction of biosimilars also poses a challenge for naming and tracking adverse events associated with the biosimilar and innovator product. The international nonproprietary (INN) system of naming was established by the World Health Organization in 1953 to promote "clear identification, safe prescription and dispensing of medicines to patients, and for communication and exchange of information among health professionals and scientists worldwide." All drugs are given an INN name according to a standard procedure that provides information regarding the active ingredient in the drug (WHO, 1997). The manufacturers are allowed to choose their own unique brand names. Biosimilars have unique brand names but