DANISH PATIENT
SAFETY AUTHORITY

Minimizing Dosage Errors involving Low Molecular Weight Heparin through Collaboration

Collaboration between pharmaceutical companies, pharmacies and authorities has decimated the occurrence of patient safety incidents (sentinel and other adverse events) involving discrepancies between dosage and concentration in prescriptions of low-molecular-weight heparins in Denmark.

The Danish Patient Safety Authority (DPSA) has been monitoring patient safety incidents in the Danish healthcare system since 2004. Reports from healthcare professionals can help identify high risk areas, but finding and implementing sustainable solutions to the problems identified can require long-term efforts and collaboration between many different stakeholders.

In 2013, DPSA saw a rise in reports on prescription errors involving low-molecular-weight heparin. The reports revealed that many of the patient safety incidents were caused by confusion of pre-filled syringes containing different doses. The Association of Danish Pharmacies contributed data from pharmacies. A sample of prescriptions from one pharmacy revealed an error rate of 70 percent in prescriptions of the two low-molecular-weight heparins available on the Danish market.

The Danish Medicines Agency initiated an analysis of the problem with the aim of identifying possible solutions. The analysis revealed that prescribing physicians were not able to distinguish between the different syringes containing different doses based on the information available to them in the IT systems they were using to prescribe medicines. Prescribing physicians could only see the concentration of the solution in the syringe. This caused a large number of prescription errors where dosage and concentration of the low-molecular-weight heparins were inconsistent.

The Danish Medicines Agency collaborated with the two pharmaceutical companies responsible for the low-molecular-weight heparins in the Danish market, Innohep® and Fragmin®, to find a solution. A decision was made to split the existing marketing authorizations into several different products and make the dose of each product clearly distinguishable in the systems used by physicians to prescribe medicines. The changes took effect in the period from March to June 2015 for Fragmin® and from November 2016 to January 2017 for Innohep®. A follow-up analysis of patient safety incidents involving prescription errors of the two products revealed a significant drop in patient safety incidents coinciding with the implementation of the new marketing authorizations and the following changes in the information available to prescribing physicians (Figure 1).

This is a strong indication that the collaborative efforts of the pharmaceutical companies, pharmacies and the two authorities had a positive effect on patient safety where low-molecular-weight heparin is involved.

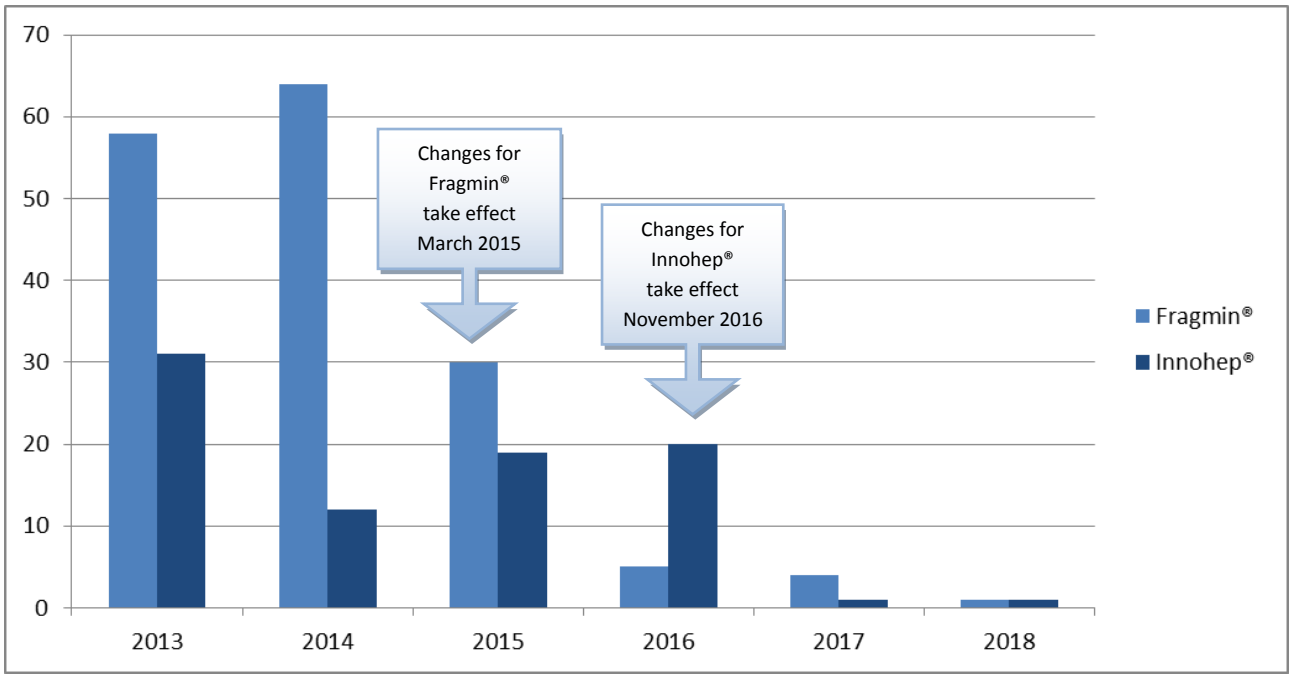

Figure 1: Number of patient safety incidents involving a discrepancy between dosage and concentration in prescriptions of low-molecular-weight heparins

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