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ON THE COVER Mary, Queen of Scots (also known as Mary Stuart, 1542–1587). By the time she became Queen at age 19, Mary Stuart's body had already aged beyond its years. She had bouts of heartburn and vomiting. She developed gastric ulcers, arthritis, abdominal pain, lameness, eyesight problems, and emotional issues. Her reign lasted just 5 years. Had she lived 300 years later, Felix Hoppe-Seyler, an early pioneer in what we now call clinical chemistry, would have looked at her purple urine and identified the cause of her symptoms. We now know that Mary, Queen of Scots, suffered from acute intermittent porphyria, 1 of 10 porphyrias caused by gene abnormalities that are passed from parents to children. In fact, Mary passed the disease on to her son, James I, who passed the disease on to his son Henry. Because of the infrequent occurrence of porphyrias in the general population, diagnostic tests for porphyria are currently performed by specialized laboratories in many countries. However, data regarding the analytical and diagnostic performance of these laboratories are scarce. In this issue of *Clinical Chemistry*, Aarsand and colleagues describe the results of an external quality assessment program for porphyrin testing. Their results reinforce the importance of external quality assessment schemes as a tool to improve patient care. (See page 1514.) ©Image reproduced with permission from Gustavo Tomsich/Corbis.

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