It’s been over 40 years since the first publication about contaminated dental treatment water. Over the years there has been continuing interest in describing the contamination and methods to monitor and reduce it. This article reviews the source of the problem; methods to reduce levels of contamination; a literature review on available chemical products; and dental water quality monitoring. Manufacturers of dental units have responded positively to the challenge from the American Dental Association and the subsequent guidelines issued by the Centers for Disease Control and Prevention (CDC) to deliver patient treatment water that is at least as pure as drinking water (< 500 CFU/mL of heterotrophic bacteria). The dental industry has also produced a variety of devices and cleaning/disinfectant treatment products to further assist dental professionals with providing clean patient treatment water. Products that claim disinfectant efficacy must be registered with the Environmental Protection Agency (EPA). If they are not EPA-registered, they can be labeled as waterline cleaners only. Waterline treatment devices that are sold separately and require connection to dental units must be registered with the Food and Drug Administration (FDA) as medical devices. In-office chairside kits or commercial laboratory services can be used to monitor patient treatment water quality. The source of the problem has been identified along with the development of products to prevent and/or control biofilm, however questions remain regarding effectiveness of current treatment products, devices, and methods. Also, additional research on biofilm elimination is indicated. While the risk of disease transmission from contaminated dental water appears to be minimal for healthy individuals, the potential appears high for immunocompromised individuals. Dental offices should adhere to a strict infection control policy that includes routine treatment and monitoring of patient treatment water, regardless of speculation and lack of evidence of associated morbidity or mortality.