

# Improvement in Peritonitis Rates with the Use of Sodium Hypochlorite

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### Introduction

Peritonitis has been the most important complication in peritoneal dialysis (PD) patients. Peritonitis has been the leading cause of PD technique failure. Clean exchange procedure and good connection technique are essential in the prevention of peritonitis. However, touch contamination is still the leading cause of peritonitis. We implemented an infection control initiative to address touch contamination and therefore reduce peritonitis episodes.

## Objective

We compared peritonitis rates before and after implementation of the infection control initiative (Alcavis protocol), to determine its effectiveness in decreasing the incidence of peritonitis.

### Methods

- In a retrospective analysis, monthly peritonitis rates were calculated using a 3 month rolling average, and were assessed between January 2010 and December 2010.
- Data from an average of 13,127 PD patients per month and an average of 831,261 eligible patient days from a large dialysis organization was analyzed.
- Electrolytically-produced sodium hypochlorite (Alcavis 50<sup>®</sup>)
  was used to scrub the transfer set connection before and after
  a PD system connect/disconnect, as described by Funes et
  al.<sup>1</sup>
- The sodium hypochlorite (Alcavis 50) protocol initiative (Figure 1) was begun in April 2010 and progressively introduced across facilities.

### Results

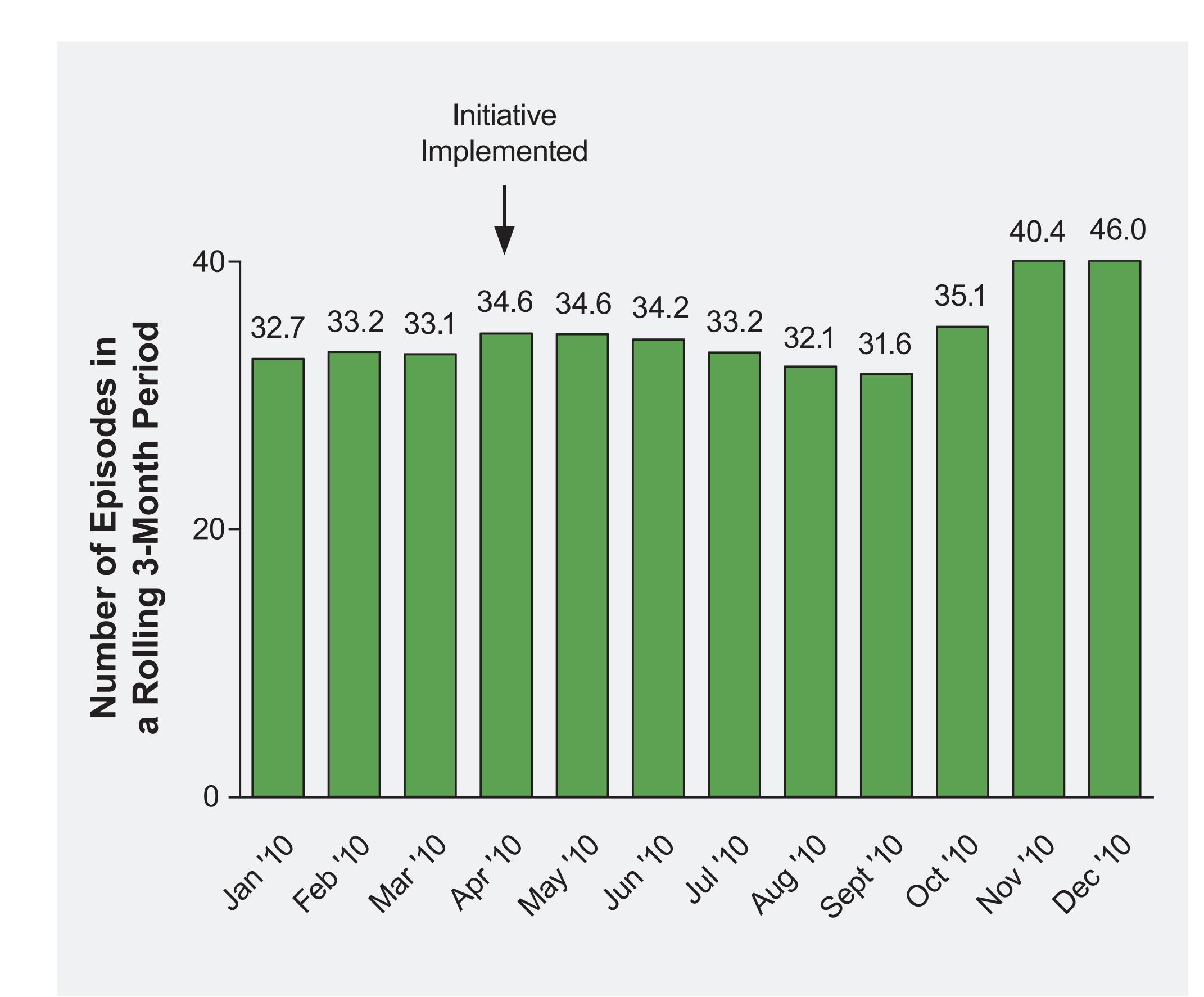
### Figure 1. Sodium Hypochlorite Protocol

- Alcavis 50 is a 0.55% solution of electrolytically-produced sodium hypochlorite
- Patients instructed to:
- Don mask and PPE and wash hands
- Scrub transfer set using a 2 X 2 gauze soaked with Alcavis 50 for 1 minute
- Allow to dry for 1 minute
- Remove minicap and connect immediately
- Repeat prior to disconnecting from the cycler or prior to manual exchange

## Table 1. Peritonitis Rates Before and After Initiative Implementation

|  | Average Months<br>Between Episodes |
|--|------------------------------------|
| Protocol Initiation<br>(April 2010)          | 34.6                               |
| 9 Months After Initiation<br>(December 2012) | 46.0                               |

# Figure 2. Peritonitis Rates Before and After Initiative Implementation



The peritonitis rates for each period were calculated using a 3-month rolling average.

#### Conclusions

- Peritonitis rates improved after implementation of the initiative (Figure 2), with the average time between episodes increasing from 34.6 months at protocol initiation in April 2010 to 46.0 months between episodes in December 2010 (Table 1).
- The Alcavis 50 protocol provides a simple, cost-effective strategy for reducing peritonitis rates in PD patients.

### Reference

1. Funes et al. Annual Dialysis Conference, March 8–10, 2009; Houston, TX.

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