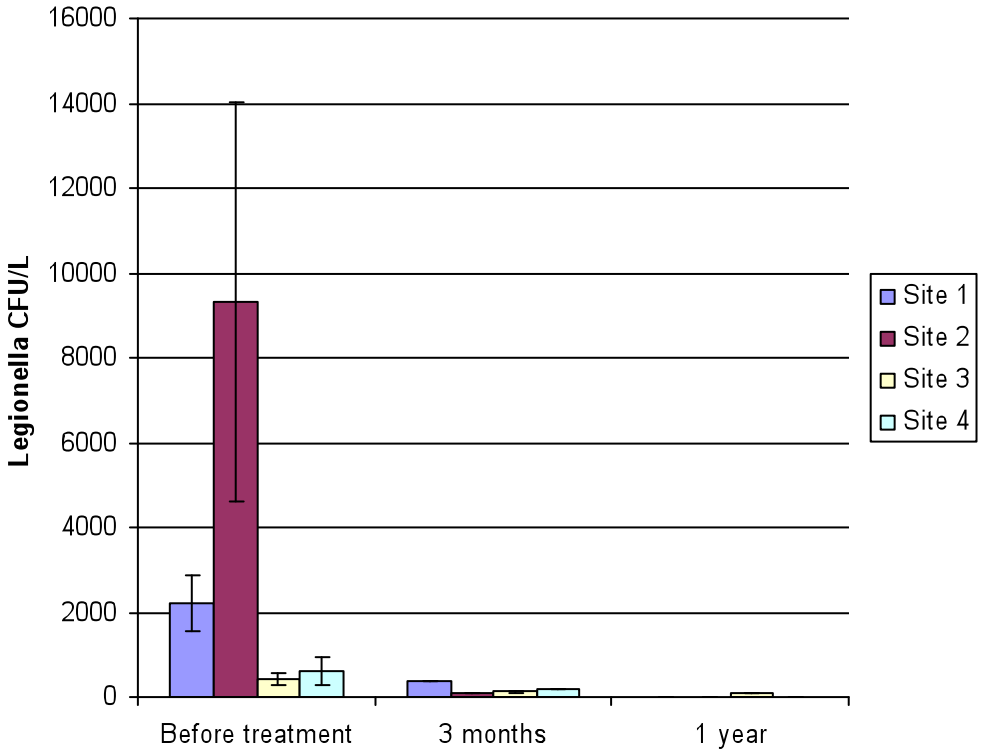
Knowing the problem: the danger of relying on thermo control of Legionella populations without sampling

Fours hospitals sites were sampled before the installation of a copper/silver ionization treatment plant. Each site was adhering to the thermo regulation as outlined in the HTM04-01 (>50^0C after one minute draw off and <20^0C after two minutes) but each had continued to experience problems with Legionella. Upon sampling of these sites the extent of the problem was identified. Site 1 had 40% positive samples (20 from 50 samples) with counts ranging from 9800 to 100 CFU/L. Site 2 had 80% positives samples (20 from 25) with counts ranging from 44800 to 100 CFU/L for Legionella. Site 3 had 50% positive samples (25 from 50) with counts ranging from 2600 to 100 CFU/L and site 4 had 22% positive samples (11 from 50) with counts ranging from 4000 to 100 CFU/L for Legionella. After identifying the sites of contamination and working in conjunction with the hospitals in removing potential risk areas, such as deadlegs and rubber lines flexible hosing, and 3 months of copper/silver ionization treatment, counts at all the sites were significantly reduced. Site 1 recorded a reduction in positive samples from 40 to 5 % (1 sample from 25) with a count of 400 CFU/L. Site 2 reduced positive samples from 80 to 23% (2 from 13) with an average count of 100 CFU/L. Site 3 reduced positive samples from 50% to 32% (6 from 19) with counts ranging from 200 to 100 CFU/L. Site 4 had 2 positive samples (2 from 25) with an average count of 200 CFU/L. After 1 year of copper/silver ionization treatment sites 1, 2 and 4 had no positive Legionella samples. Site 3 had 1 positive sample (1 from 20) with a count of 100.

Only by sampling for Legionella can the extent of the problem be known. All four sites had been using temperatures to control Legionella by keeping water temperatures above 50^0C and all had failed. By identifying risk areas and working in conjunction with hospitals to remove Legionella sources then counts can be significantly reduced. Copper/silver ionization treatment of both hot and cold water systems made sure that levels seen before treatment did not recur and now these hospitals have peace of mind that Legionella is being controlled and the evidence to demonstrate this.



Average counts of Legionella before treatment of sites with copper/silver ionization and 3 months and 1 year after treatment. All sites were treating hot water with thermal control before installation of the copper/silver ionization plant. Error bars shown are standard errors of the mean