

# **Disposable Blood Pressure Cuffs: You Cannot Afford Not To Use Them**

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**H**ealthcare associated infections or HAIs, (also known as “hospital-acquired” infections or “nosocomial” infections), are bacterial infections that patients acquire while receiving treatment for other conditions within a healthcare setting.

More than 70% of the bacterial infections that cause HAIs are resistant to at least one of the drugs commonly used to treat these infections.<sup>3</sup> The three most troublesome forms of HAIs are: Methicillin-resistant *Staphylococcus aureus* (MRSA), Vancomycin-Resistant Enterococci (VRE), and *Clostridium Difficile* (C. diff). There is also a newly discovered bacteria called New Delhi metallo- $\beta$ -lactamase-1 (NDM-1) that has shown to be resistant to all know antibiotics at this time.<sup>6</sup> These antibiotic-resistant pathogens are not only creating an important and growing threat to the public health, they are also imposing significant economic consequences on healthcare systems worldwide.

Each year, over 2,000,000 patients in the United States acquire HAIs. This adds an average of 8 days to the hospital stay and causes approximately 99,000 deaths.<sup>12</sup> The total annual cost to treat these HAIs in the United States is between \$35.7 billion and \$45 billion with the average in hospital cost per patient between \$20,549 and \$25,903.<sup>13</sup>

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The World Health Organization (WHO) estimates in Europe that more than 4 million patients are affected by approximately 4.5 million episodes of HAIs each year, which causes 16 million extra days of hospital stay, 37,000 deaths/year, and costing approximately €7 billion per year.<sup>16</sup>

Although many hospital administrators worry they cannot afford to implement comprehensive infection control strategies, the truth is that hospitals cannot afford to do otherwise.

In October 2008, the Centers for Medicare and Medicaid Services (CMS) announced it will no longer pay the extra costs of treating several types of hospital-acquired infections (HAIs) that occurred during the hospital stay that were not present on admission.<sup>9</sup>

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***CMS has announced it will no longer pay the extra cost of treating hospital infections (HAIs) that occur during a hospital stay.***<sup>9</sup>

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Several private insurance companies in the U.S. have announced that they are exploring policies similar to the CMS stance.<sup>7</sup> Therefore, hospitals are prohibited from billing patients or third parties for the increased costs associated with HAIs. This CMS ruling puts a significant financial burden on hospitals as 4% of patients who acquire HAIs will erode as much as 185% of the hospitals’ inpatient operating profits.<sup>8</sup>

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There have been decades of research on the transmission of HAIs throughout hospital settings. Studies has shown patients can be exposed to HAIs from contaminated healthcare workers’ attire, environmental surfaces (cabinets, bedrails, countertops, etc), and reusable medical equipment.<sup>9,10</sup>

Furthermore, several studies have shown that reusable blood pressure cuffs are a major source of bacterial contamination and play a large role in the spread of HAIs in hospitals<sup>1,2,4, 9,10,11</sup> Blood pressure cuffs with the highest contamination rates were found in Intensive Care Units and nurses’ trolleys.<sup>5</sup>

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***Reusable blood pressure cuffs are a major source of contamination contributing to the spread of HAIs.***

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While hand washing remains the most important measure in reducing the transmissions of HAIs, disinfecting hospital equipment and using disposable equipment is also recommended.<sup>14</sup> For reusable blood pressure cuffs though, studies have shown that disinfecting blood pressure cuffs does not eliminate all bacteria, especially *C. diff* which is resistant to commonly used disinfectants.<sup>1,15</sup>

Disposable cuffs have shown to be an effective approach to reducing the transmission of HAIs.<sup>14,15</sup> Disposable cuffs are designed for single patient use, i.e. that one cuff stays with the patient throughout their entire hospital stay.

### What Should Hospitals Do?

Dedicating a disposable cuff to each patient will not only help reduce the spread of HAIs, it is an integral part of an effective infection control strategy and will help protect a hospital's bottom line.

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