



## Reducing Ventilator-Associated Pneumonia in ICU Patients

**Purpose:** Designed to integrate oral health services (provided by medical or dental staff) in ICU facilities to reduce the number of cases of ventilator-associated pneumonia (VAP). Modest care interventions such as chlorhexidine mouth rinse and dental cleanings have shown to drastically reduce the incidence of pneumonia.

### Core Clinical and Programmatic Components

- **Leadership:** Administrative staff, ICU clinical team, and dental clinicians, if included in model.
- **Education:** All staff receives education on oral-systemic health, with specific info about the role of poor oral health and VAP, and clinical interventions such as chlorhexidine and prophylaxis.
- **Patient Population:** ICU patients; could expand to patients at elevated risk for VAP or to include patients presenting in the emergency department with pneumonia.
- **Health Care Services:** Medical staff can prescribe/administer chlorhexidine rinse and/or clean teeth. Dental staff (if involved) can provide prophylaxis to patients. All staff can provide education on oral-systemic health and self-care, and be knowledgeable about the referral process.
- **Communication and Information Sharing:** Ensure oral health care is included in care reporting of ICU patients.
- **Measures and Assessments:** Measures can include: number of J95.851 classifications (ventilator-associated pneumonia ICD-10); Plan All Cause Hospital Readmissions (HEDIS).
- **Financing:** Medicaid/Medicare prescription coverage for chlorhexidine; potential inclusion in ACO/value-based payment models because of improved health outcomes.
- **Infrastructure:** Identify current supports and changes necessary to implement model; examples include expanded duties for nurses or extenders (administration of rinse) and care coordination with dental providers.
- **Community Supports:** Identify additional clinical and social supports (such as transportation, WIC, food pantries, etc.).

### Key Background Information

- Studies have shown that periodontitis may enhance the risk of respiratory disease.<sup>11</sup>
- Between 9% and 27% of hospital patients who are mechanically ventilated will develop VAP and between 33-50% of those who develop VAP will die. Treatment with chlorhexidine mouth rinse decreased the risk of VAP by 36%. The cost of the mouth rinse is one-tenth the cost of VAP treatment.<sup>14,15,16</sup>
- Likelihood of hospital admission following an emergency department visit for pneumonia increase 19% for patients with dental infections and 29% for patients with dental caries.