

## Case Vignette

The following case vignette illustrates two approaches to implementing new processes in care delivery. The latter approach depicts a more adoptable strategy based on the principles of the Highly Adoptable Improvement strategy. Simulated self-assessments are included.

### Scenario 1.

You are a quality improvement manager at a large community pediatric hospital. Your hospital has a supportive leadership team, your QI team has been successful and implementing QI projects in the past and you have access to resources. Many of the physicians, point-of-care managers and staff have received basic training on QI and usually participate in testing and implementing QI interventions.

You and your leadership team have decided that you need/ want to implement additional elements of the pediatric VAP Prevention Bundle, to ready for an upcoming accreditation visit. Working with the ICU manager, the medical director and the director of respiratory therapy, some elements of the bundle have already been implemented including head-of-bed elevation, a limited sedation protocol and daily assessment for extubation, inline suctioning and hand hygiene prior to all contact with the ventilator circuit. To track utilization the team created a VAP Prevention checklist that the point-of-care nurses complete when the above activities have been performed. The checklist is completed about 80% of the time and the compliance with the Prevention Bundle elements varies with hand hygiene and head-of-bed elevation being the lowest. The ICU tracks incidence of VAP and there has been a significant reduction in rates but still above the target. The main components of the additional interventions to reduce VAP are oral care, drainage of water from the ventilator circuit and improved hand hygiene. The implementation plan for the guidelines recommendations include the following:

- Drain condensation from ventilator circuit every 2-4 hours and before patient is repositioned
- Perform oral care as per table

Age group	Intervention
Neonates and infants with no teeth	Every 2 hours: moisten mouth with swabs soaked in clean water or physiological saline Every 2 hours and as needed: coat lips with petroleum jelly
Infants and children <6 years with teeth	Every 12 hours: brush teeth with small, soft toothbrush and fluoride toothpaste; suction out excess toothpaste, but do not rinse out mouth Every 2 hours: moisten mouth with swabs soaked in clean water or physiological saline Every 2 hours and as needed: coat lips with petroleum jelly
Children ≥6 years with teeth	Every 12 hours: Brush teeth with small, soft toothbrush and fluoride toothpaste; suction out excess toothpaste, but do not rinse out mouth Rinse mouth with 0.1% chlorhexidine: irrigate with a syringe or wipe oral mucosa with a swab; suction excess solution, but do not rinse out mouth with water; use at least 30 minutes after brushing teeth Every 2 hours: moisten mouth with swabs soaked in clean water or physiological saline Every 2 hours and as needed: coat lips with petroleum jelly

- Hand sanitizers at the bedside

Given the established VAP Prevention Program you work with the initial management team and modify the checklist, create learning packages and sessions to educate the staff on the changes and work with infection control to create a hand hygiene poster campaign and audit-feedback. The team reviews the data collected on the checklists every 2 weeks and sees moderate completion of the checklist and utilization of the new practices. The nurse manager and point-of-care nurses on the team vocalize feedback that the new changes are challenging to add to existing workload and workflow. Your team discusses next steps.

Domain	Degree of adoptability				Use this section to record your reasoning for your assessment
	High risk	Moderate risk	Some risk	Highly adoptable	
<b>Implementation Strategy</b>					
• End-user participation	X				We assumed that they would adopt the change given the prior work on VAP
• Alignment and planning		X			We added this mid-year but did communicate that the additional changes were being implemented
• Resource availability		X			We estimated that training on the additional components and the new hand sanitizers would be needed
<b>Intervention Design</b>					
• Workload	X				We did not test/ estimate the work associated with the new work and assumed it could be adopted given the prior VAP bundle rollout
• Complexity			X		The new work has relatively few process steps but requires multiple people to carry out before benefit is seen
• Efficacy				X	The changes are based on published clinical practice guidelines and have been implemented in many peer sites

## Scenario 2.

You are a quality improvement manager at a large community pediatric hospital. Your hospital has a supportive leadership team, your QI team has been successful and implementing QI projects in the past and you have access to resources. Many of the physicians, point-of-care managers and staff have received basic training on QI and usually participate in testing and implementing QI interventions.

One of the annual corporate objectives is to further reduce the incidence of VAP by updating the VAP program with the additional elements of the pediatric VAP Prevention Bundle. Some elements of the bundle have already been implemented including head-of-bed elevation, a limited sedation protocol and daily assessment for extubation, inline suctioning and hand hygiene prior to all contact with the ventilator circuit. To track utilization a VAP Prevention checklist that the point-of-care nurses complete when the above activities have been performed. The checklist is completed about 80% of the time and the compliance with the Prevention Bundle elements varies with hand hygiene and head-of-bed elevation being the lowest. The ICU tracks incidence of VAP and there has been a significant reduction in rates but still above the target. The main components of the additional interventions to reduce VAP are oral care, drainage of water from the ventilator circuit and improved hand hygiene. The implementation plan for the guidelines recommendations include the following:

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You and the team believe that the new elements of the VAP Prevention Bundle will likely create additional workload to the point-of-care. You decide to assess workload associated with the entire Bundle by observing/ timing current processes of care and, talking with staff nurses about barriers and enablers of current processes. You learn that the original elements, including the checklist added significant additional work and the nurses are not sure that all the elements are value-added in reducing VAP. You discuss the checklist with charge nurses who feel they could easily incorporate a smaller set of measures into their regularly occurring charge nurse rounds; avoiding completion by the bedside nurses. When discussing the new elements to be

added, nurses quickly respond that they do not have time to incorporate the new work. You have some volunteer nurses try the new draft processes and learn that they indeed add up to one hour of additional work. Working with the point-of-care and the interprofessional team you realize that the respiratory therapists can easily incorporate the scheduled water drainage into their existing rounds and on trialing adds less than 20 minutes per shift...which the RTs feel they can do and understand the importance. The RTs also volunteer to help raise the HOB during their rounds. You realize significant time is spent on getting the equipment for oral care. With help for the clinical assistants, oral care bundles are created and provided at the bedside every shift. However the nurses still believe that the oral care adds significant workload and on observing still takes an additional 40 minutes. One member of the team sits on the Patient and Family Centered Care Committee and, during a peer site visit had seen that family members were assisting with oral care, since they help brush their children’s teeth at home. There is some concern about risk given the endotracheal tube but the team decides to trial training and involving parents and families. This sparks a conversation....how else can we involve families to help add capacity and improve patient centeredness

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<b>Implementation Strategy</b>					
• End-user participation				X	Because of the recognition of the potential additional workload, we included front line end-users at all stages of the work
• Alignment and planning				X	As one of our annual corporate objectives, this initiative was communicated with end-users and planned to avoid
• Resource availability				X	Through end-user testing we identified the need for the oral care equipment and the additional personnel and family participation
<b>Intervention Design</b>					
• Workload			X		Although we reduced the workload from the initial change plan, there is still some additional work but we are exploring how patients/ families can become involved and further reduce/ share the workload
• Complexity			X		The changes keep the same number of steps but require more people to complete the processes. We will monitor how this impacts adoption
• Efficacy				X	The changes are based on published clinical practice guidelines and have been implemented in many peer sites.