HOUDINI: The Urinary Catheter Disappearing Act!!

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Improvement Issue and Context:
To evaluate the effectiveness of a nurse led HOUDINI urinary catheter (UC) removal protocol (Trovillion et al, 2011) in reducing the number of UCs used.
• Therefore, potentially reducing the associated risk of a catheter associated urinary tract infection (CAUTI).
• Urinary tract infections (UTI) are the most common healthcare associated infection in acute hospitals. The risk of developing a CAUTI increases the longer a UC remains in situ.
• This study supports the “High Impact Action: Protection from Infections; Urinary Tract Infection” strategy, launched by the Chief Nurse for England, which focuses on the essentials of care.

Methods and Measurement:
• The Infection Prevention and Control Nurses, Continence Nurse Specialist and Urology Nurse Practitioner implemented an adapted HOUDINI UC removal protocol (Figure 1; Trovillion et al, 2011) on three medical wards at a small district hospital.
• The HOUDINI protocol is a list of indicators for the retention of urinary catheterization in patients

Data Collection Monitored Two Months Pre and Post HOUDINI:
• UC usage was monitored utilizing a monthly point prevalence audit.
• De-duplicated Escherichia coli laboratory confirmed urine samples were monitored (note we were not identifying UTI but laboratory confirmed diagnosis of E-coli present).
• De-duplicated E-coli blood stream infection (BSI) on the pilot wards were monitored.

Evidence of Improvement:
Figure 2: effectiveness of HOUDINI; Pre and Post Implementation.

• UC per patient population usage decreased by greater than 17% following the implementation of HOUDINI on the trial wards.
• De-duplicated E. coli laboratory confirmed CSU decreased by 70% compared to the control group de-duplicated E-coli laboratory confirmed MSU which increased by 25%
• De-duplicated E. coli BSI from patients with UC remained unchanged at 0%.

Future Steps:
• The implementation of HOUDINI has demonstrated a decrease in both UC usage and E. coli UC associated positive urine samples. Therefore, an assumption may be made that implementing the HOUDINI protocol can reduce the risk for patients developing a CAUTI.
• It is recommended that HOUDINI is now implemented across the Medical Division.

Reference: