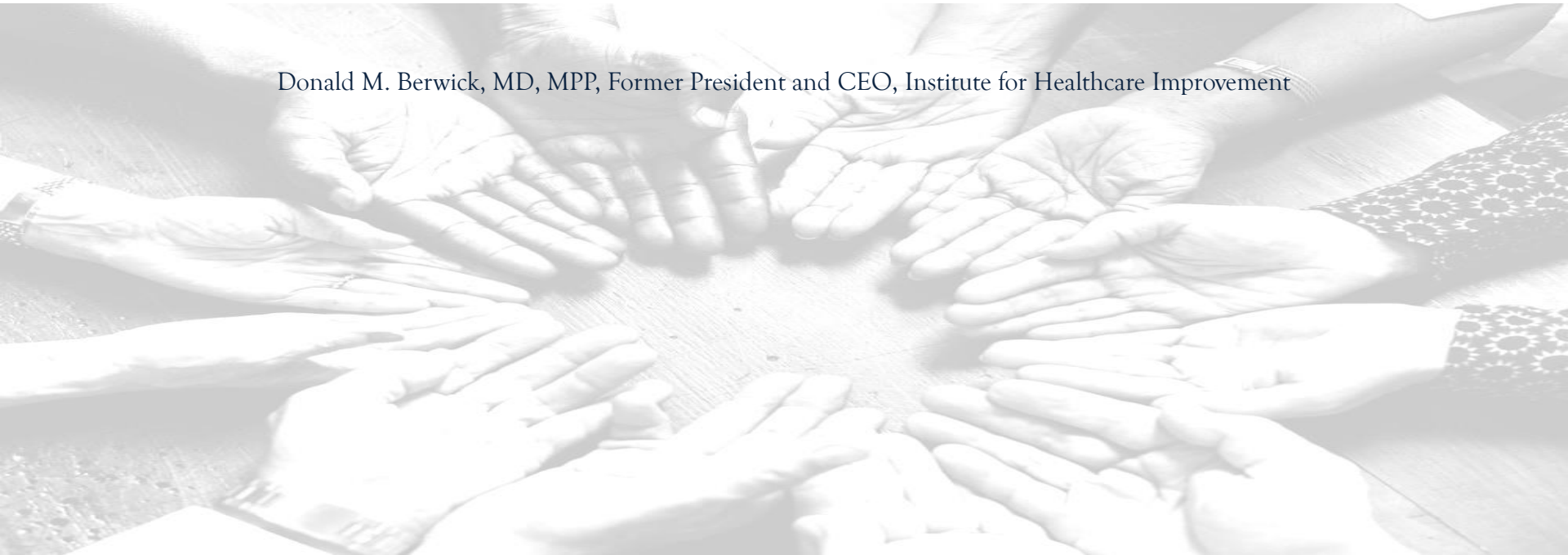
Appropriate use and Management of Indwelling Devices

"The names of the patients whose lives we save can never be known. Our contribution will be what did not happen to them. And, though they are unknown, we will know that mothers and fathers are at graduations and weddings they would have missed, and that grandchildren will know grandparents they might never have known, and holidays will be taken, and work completed, and books read, and symphonies heard, and gardens tended that, without our work, would never have been." [1]

Donald M. Berwick, MD, MPP, Former President and CEO, Institute for Healthcare Improvement



Indwelling Devices & Healthcare Associated Infections

- ✓ Urinary catheters
- ✓ Vascular access devices
- ✓ Endotracheal tubes
- ✓ Tracheostomies
- ✓ Enteral feeding tubes
- ✓ Wound drains

100,000 Lives Campaign

In 2005 the Centre for Disease Control (CDC) reported[2]:

- ✓ 2,000000patients suffered from hospital acquired infections;
- ✓ 100,000 of them die;
- ✓ 50% unecessary
- ✓ 4.5 billion in additional healthcare costs

Evidence Implementation

Evidence Based Practice Bundles:

- ✓ Weigh risks, including infection risk, and benefits
- ✓ Maintain competency in the technique
- ✓ Use aseptic technique
- ✓ Hand hygiene and wear appropriate personal protective equipment (PPE)
- ✓ Monitor for any signs and symptoms of infection
- ✓ Regular dressing change
- ✓ Provide patient education on the infection risks associated with the insertion of devices and importance of proper maintenance
- ✓ Remove the indwelling medical device as soon as it is no longer needed
- ✓ Document, in the patient's records, all procedures involving the indwelling medical device.

CAUTI

- ✓ Most common form of HAI- with 50% being unnecessary[3]:
  - ➢ increase patient discomfort
  - ➢ increase antibiotic usage
  - ➢ contribute to antibiotic resistance
  - ➢ increase length of stay, and
  - ➢ are a reportable health-care-acquired infection

- ✓ CAUTI results in increased patient morbidity and mortality:
  - ➢ Cystitis
  - ➢ Pyelonephritis
  - ➢ Bacteremia
  - ➢ Prostatitis
  - ➢ Endocarditis
  - ➢ Osteomyelitis
  - ➢ Septic arthritis and
  - ➢ Meningitis.

CAUTI Prevention

- ✓ Rigorous Data Capture & Trend Analysis
  - ✓ # of CAUTIs in each location
  - ✓ Denominator: total number of urinary catheter-days for all patients that have an indwelling urinary catheter in each location monitored
  - ✓ Standardization factor: Multiply by 1000 so that the measure is expressed as cases per 1000 catheter-days
- ✓ Daily Rounding:
  - ❖ Appropriate Urinary Catheter Use
  - ❖ Plastic Out Campaign
- ✓ CAUTI Event Review Strategy

Plastic Out Campaign

- ✓ CAUTI risk increases at 5% per day of indwell time[3]
- ✓ CAUTIs are asymptomatic (most)
- ✓ #1 prevention strategy = Daily Rounding/ Clinical Goals

References

1. Berwick DM. 2014. *Promising Care: How We Can Rescue Health Care by Improving It*. "Chapter 2: Some Is Not a Number, Soon Is Not a Time." San Francisco: Jossey-Bass; 2014.]

2. Healthcare-Associated Infection Working Group of the Joint Public Policy Committee. Essentials of Public Reporting of Healthcare-Associated Infections: A Tool Kit. Centers for Disease Control and Prevention.

3. Centers for Disease Control and Prevention. Available from :https://www.cdc.gov/hai/ca_uti/uti.html. Accessed on 10th October,2019.