

Peer-to-Peer Rounding to Reduce the Number of Peripheral Intravenous Infiltrations and Extravasations

Kids deserve the best.

Ashley Stelter MS, RN, PCNS-BC; Adina Graham BSN, RN; Stephanie Cahlamer BSN, RN, NREMT; Chloe Leung-O'Connor BSN, RN, BSC; Catherine Palese BSN, RN, TNC; Mary Grosel BSN, RN, CSSGB, CPHQ

Introduction

- Intravenous therapy and management is commonly regarded as routine.
- There were approximately **40,000** peripheral vein insertions placed at Children's Hospital of Wisconsin in 2017.
- The PIVIE team hypothesized **nursing-driven**, focused rounding with clinical leaders and peers helps prevent patient harm from IV infiltrates.



- Potential complications and patient harm from an IV infiltrate can range from trivial irritation and discomfort to serious harm, such as permanent skin and soft tissue loss, impaired limb function, compartment syndrome, distal vascular compromise, and even loss of fingers or other parts of a limb.

- The estimated cost of surgical interventions from a medical device related pressure injury is **\$19,740**. Potential litigation costs could be between **\$100K-\$500K** as well as an increase in the patient's length of stay (Solutions for Patient Safety (SPS) collaborative). The cost of administration of one dose of Hyaluronidase is \$50.

Aim

- To **increase** Insertion & Maintenance Bundle Compliance to **≥ 90%** by December 31, 2017.
- To **reduce** the number of moderate/severe infiltrates by **20%**, (50 less children) by the end of 2017.



Method

- Change management principles-ADKAR
- Hourly Maintenance Bundle Elements:
 - Assessment - Touch, Look, Compare (TLC) to Keep Patients with IVs Safe
 - Site Visible
 - Dressing Status
- Quantitative methods for measuring Severity:
 - Quarterly education included one-on-one rounding with front-line staff
 - Each nurse was required to complete a severity measurement worksheet

TLC Touch, Look, and Compare to Keep Patients with IVs Safe

| Touch | Look | Compare | Every 60 Minutes |
|--|---|--|--|
| IV site should feel: • Soft • Warm • Dry • Pain free | IV site should be: • Uncovered • Dry • Not red | IV site should look: • Same size as other side • Not swollen | IV checks must happen: • Day and night • Even when child is asleep |

Pictures for Touch and Look are from Cincinnati Children's Hospital

- One specific unit was selected each month and all champions rounded on the selected unit
 - One-on-one demonstration with staff using TLC
 - Sub-measurements include:
 - securement
 - proper IV board placement
 - barriers to TLC
 - demonstration of TLC
- Kamishibai cards (K-cards):
 - A Lean tool whose purpose is to initiate conversation and to see if each bundle item on the card is compliant
 - Used by PIVIE champions in focused monthly rounding to provide real-time feedback.

PIVIE

Date: _____ Unit: _____

- Identify a RN who is caring for a patient with an infusing peripheral IV.
- Ask the nurse to show you how s/he assesses the PIV site and watch the assessment.
- Please show where you would document the insertion elements in Epic.

— **Touch:**

- Did the nurse physically palpate the PIV site above, below, and dependent surfaces where fluid may accumulate, e.g. palm of hand for top of hand PIV?

— **Look:**

- Did the RN inspect the site and dependent surfaces of the extremity?

— **Compare:**

- Did the RN compare the extremities side by side?

— **Dressing**

- Site is occlusive at a minimum.

— **Visibility**

- Site is visible, unobstructed by tape.

— **Family engagement**

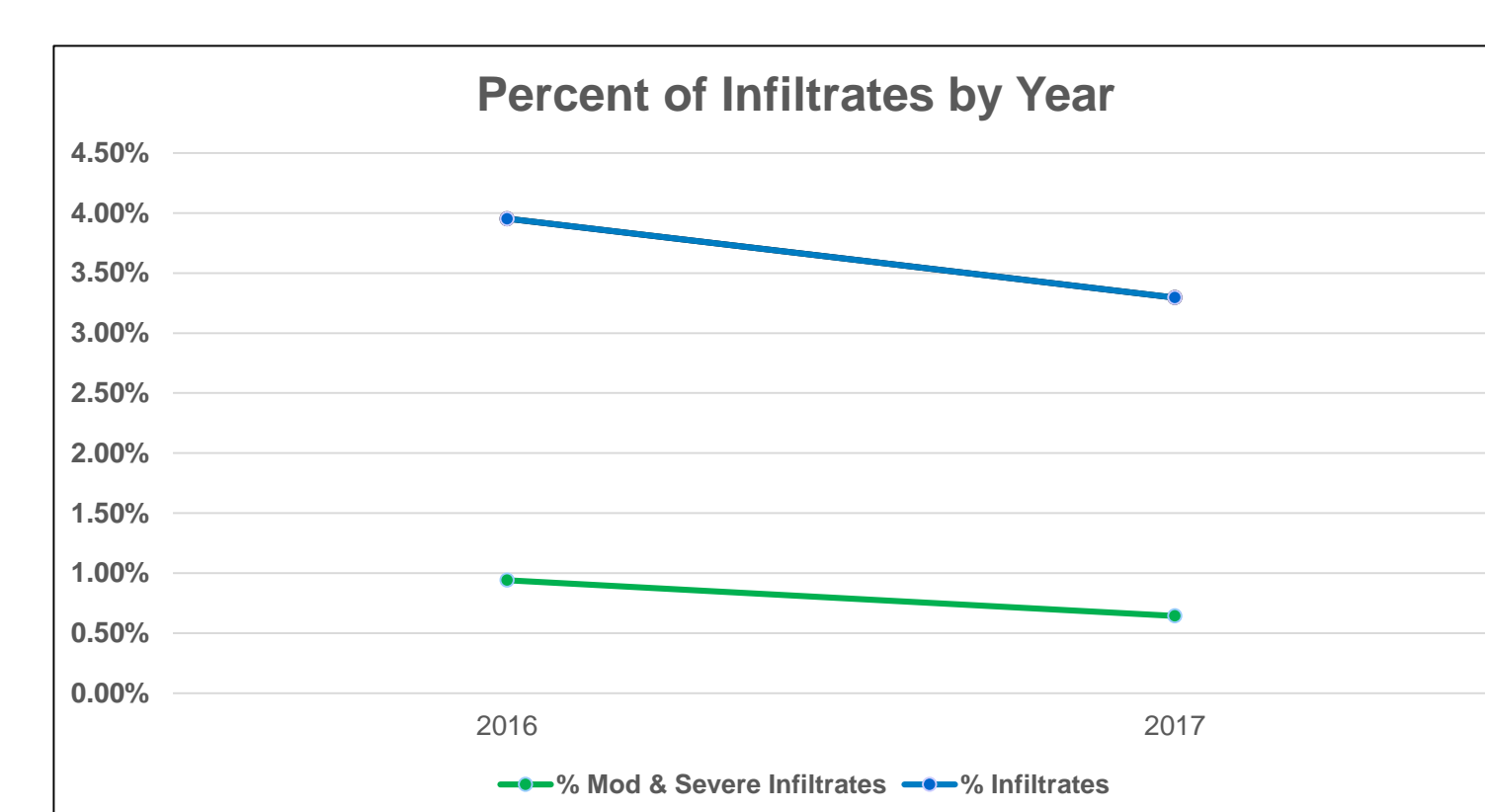
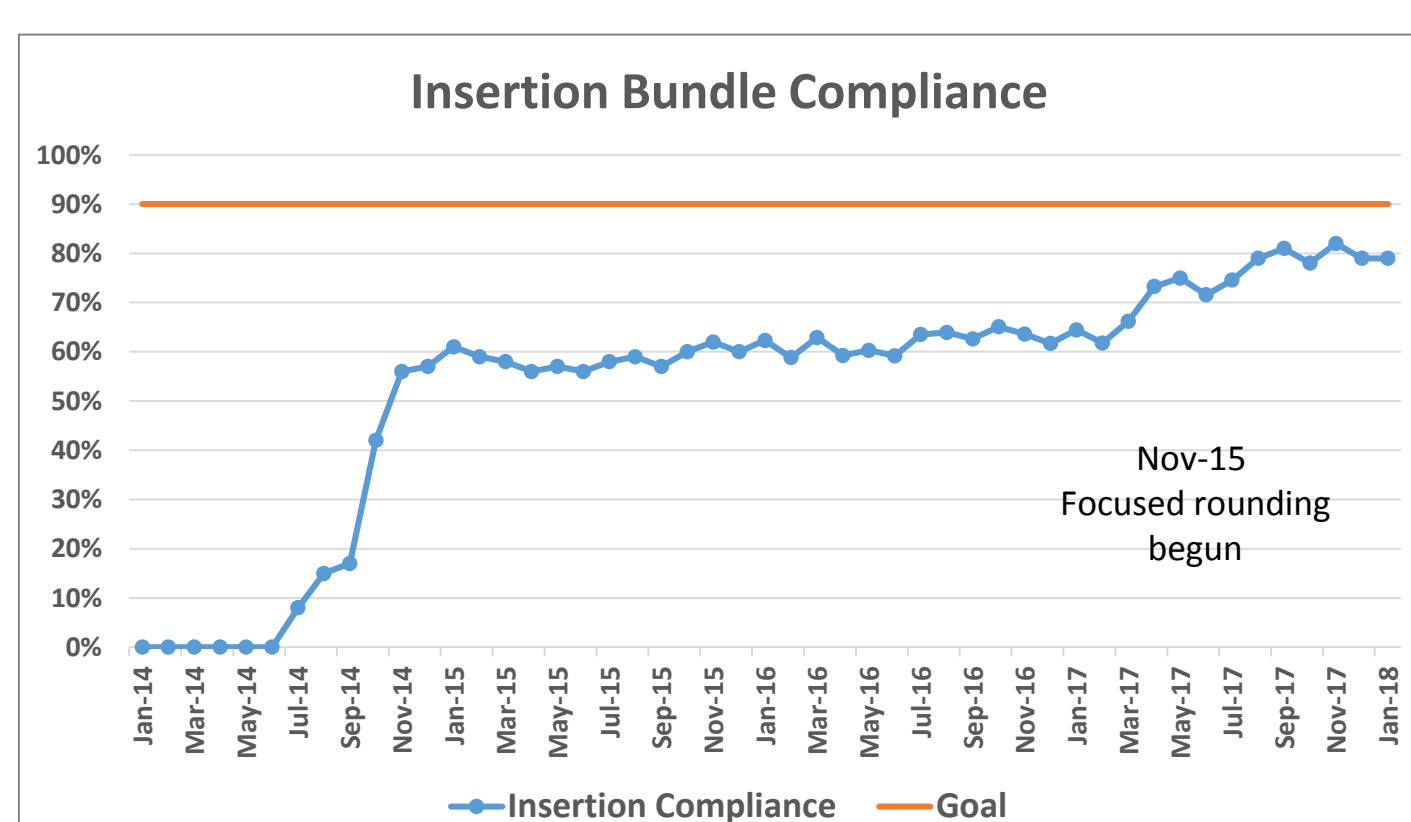
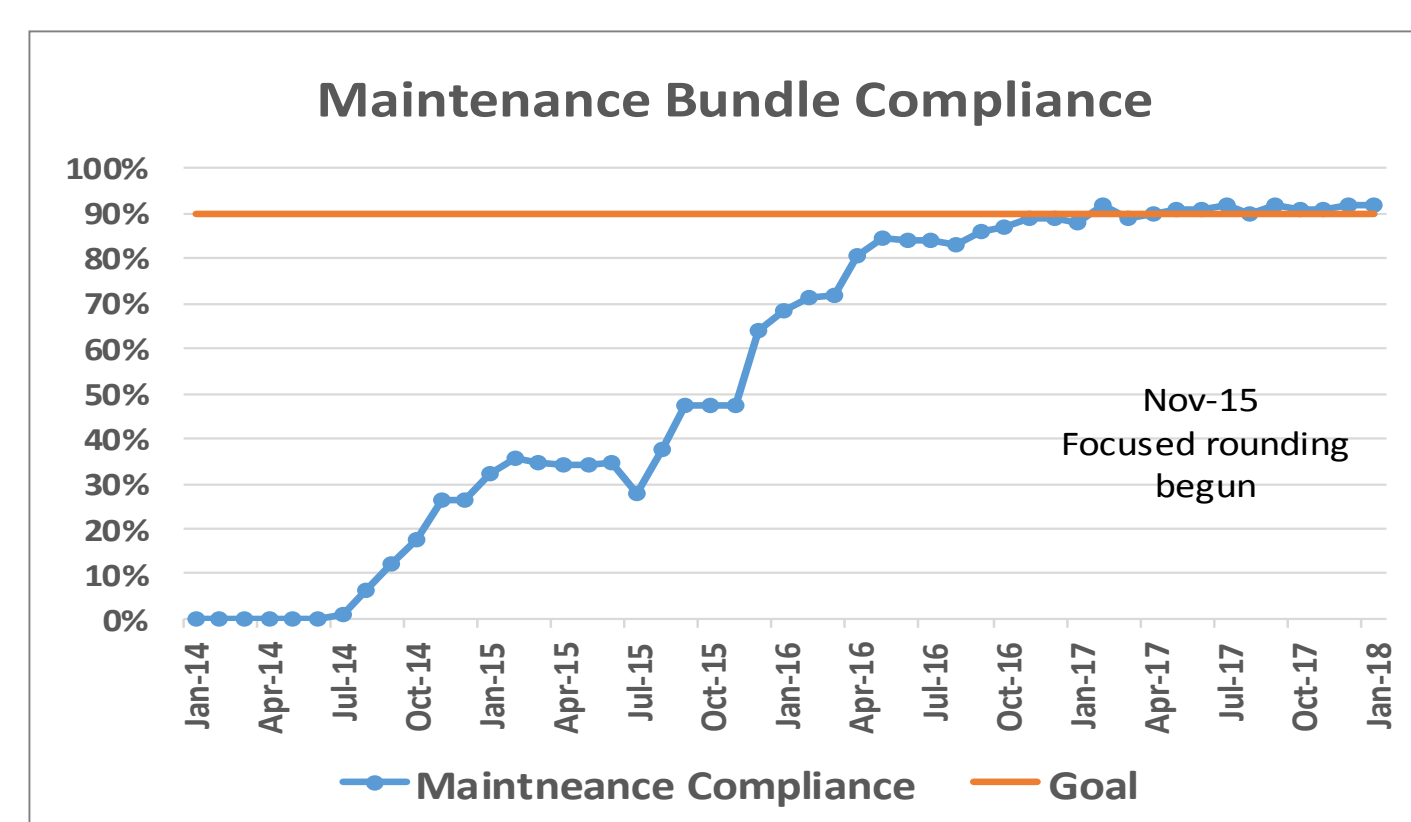
- Is there a "TLC" poster on IV pump?
- The patient/family can teach back general concepts.
- Mark N/A if no pt/family present.

— **Ask the nurse what actions need to be taken when an infiltrate is discovered:**

- Assess infiltrate, measure, determine severity.
- Review recommendations in P&P.
- Notify provider.
- Document in electronic health record and assess until resolved.

Results

- Increased maintenance bundle compliance **≥ 90%** for 11 of 12 months of 2017
- Reduction in harm to **20%** (50 fewer children) with moderate or severe infiltrates

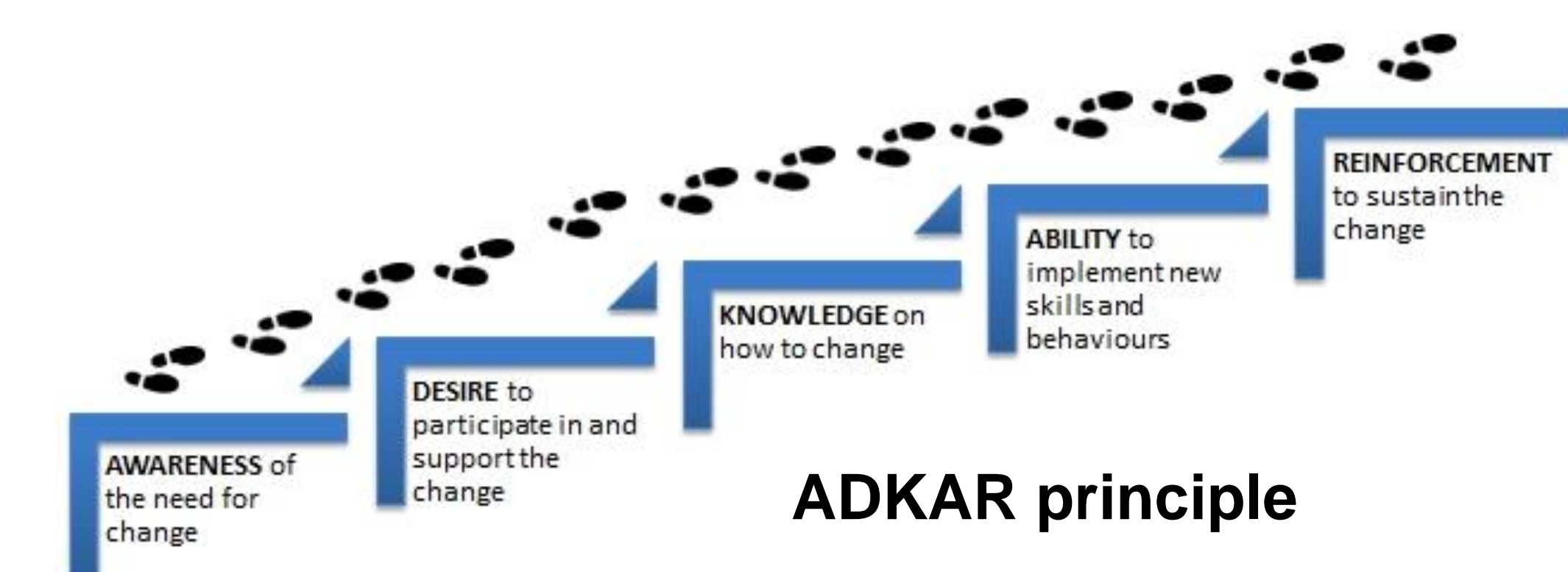


Total Number of IV Infiltrates & Insertions

| Year | Moderate | Severe | Moderate + Severe (%) | Total Infiltrates (%) | Total IV Insertions |
|------|----------|--------|-----------------------|-----------------------|---------------------|
| 2014 | | | | 1682 | 32,874 |
| 2015 | | | | 1377 | 34,617 |
| 2016 | 295 | 48 | 343(0.94) | 1441(3.95) | 36,454 |
| 2017 | 209 | 44 | 253(0.64) | 1296(3.3) | 39,319 |

Conclusion

- Focused peer rounding demonstrated:
 - Increased** in PIV insertion bundle compliance
 - Sustained **maintenance** bundle compliance
 - Reduced** number of peripheral IV moderate and severe infiltrates
- Using nurse-driven peer-to-peer rounding and ADKAR was key to bundle compliance and reduction in the severity of patient harm.



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