HEALTHCARE QI (PDSA / QCC) & MEDICAL PRESENTATION REDESIGN

From Messy Clinical Notes & Raw Excel Tables -> 100% Native Editable Executive PowerPoint

SAMPLE — FICTIONAL DATA

BEFORE: Typical Cluttered Clinical Draft

ICU CAUTI Quality Project Annual Update

• Baseline CAUTI rate was 6.8 per 1,000 catheter-days (Jan–May), well above the <=2.5 benchmark.

• Audited 130 bundle defects: missed daily review 50, drain loop 35, aseptic port 24, securement 12, other 9.

• Root causes: no EHR 24h prompt, float RNs lacked scrub-the-hub checkoff, green clips out of stock.

• After nurse-driven removal protocol and green clips, sustained median dropped to 1.9 per 1,000 days.

• Bundle compliance rose from 64.0% to 96.5% with ~$148,500 annualized ICU cost avoidance.

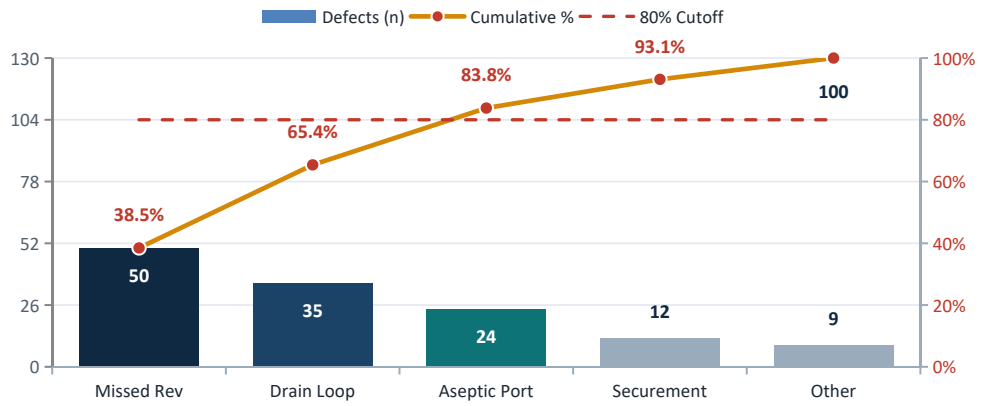
- **Dense text wall - No visual 80/20 Pareto hierarchy**
- Pasted flat screenshots that cannot be edited last-minute

PRO FIX

AFTER: Executive Board & Conference Ready (.PPTX)

CAUTI Rate	Bundle Audit	Cost Avoided
6.8 -> 1.9	64% -> 96.5%	$148.5K
-72.1% (p<.001)	+32.5 pts	Annualized

Dual-Axis Pareto: Top 3 Vital Few Drive 83.8% of Defects (n=130)



+ 100% Editable Shapes, Dual-Axis Pareto, Fishbone & IHI Run Charts

+ Zero Font Shift on Windows & Mac Office 365 | Ready for Magnet / ICQCC / Posters

- **IHI PDSA & Lean A3 Ready**
- **Native Dual-Axis Pareto**
- **48"x36" Scientific Posters**
- **Office 365 Safe Typography**

IHI PDSA QUALITY IMPROVEMENT · MAGNET & ICQCC STANDARD

Reducing Catheter-Associated Urinary Tract Infections (CAUTI) in the Adult ICU

Sample — Fictional Data · 12-Month Multidisciplinary Nurse-Driven Bundle & EHR Initiative

CLINICAL SETTING
28-Bed Adult Med-Surg ICU
St. Jude Metropolitan Medical Center

SURVEILLANCE WINDOW
12 Months (Jan–Dec Run Chart)
3,680 Audited Catheter-Days

QI CIRCLE LEADERS
Sarah Jenkins, MSN, RN, CCRN (Lead)
David Chen, MD, MPH (Advisor)

KEY OUTCOME SNAPSHOT

-72.1%
Sustained CAUTI Reduction
(6.8 -> 1.9 / 1,000 days)

96.5%
Post-PDSA Daily Bundle
Compliance (+32.5 pts)

$148.5K
Annualized Direct ICU
Cost Avoidance

Executive Summary & SMART Quality Improvement Charter

PRIMARY OUTCOME · CAUTI RATE

1.9

per 1,000 catheter-days

Baseline: 6.8 | Target: <=2.5 (-72.1%, p<0.001)

DEVICE UTILIZATION RATIO

0.51

catheter-days / patient-days

Baseline: 0.74 | Target: <=0.55 (-31.1%)

BUNDLE AUDIT COMPLIANCE

96.5%

all-or-none 5-point check

Baseline: 64.0% | Target: >=90.0% (+32.5 pts)

ESTIMATED COST AVOIDANCE

$148,500

annualized ICU direct cost

11 prevented CAUTI cases x $13,500 AHRQ unit cost

Background & IHI SMART Aim Statement

Clinical Gap: During Jan–May baseline surveillance, our 28-bed Adult ICU recorded a median CAUTI rate of 6.8 per 1,000 catheter-days (95th percentile NHSN outlier), adding 3.8 excess ICU days per event.

SMART Aim: Reduce Adult ICU CAUTI incidence from 6.8 to <=2.5 per 1,000 catheter-days and raise all-or-none daily bundle compliance from 64.0% to >=90.0% across Jun–Dec follow-up.

Methodology: 10-Step Healthcare QCC & 3-Cycle IHI PDSA ramp anchored on CDC HICPAC / SHEA Guidelines and direct bedside audits (n = 420 catheter-shift observations).

Multidisciplinary QI Circle Composition (7 Members)

Role	Credential / Title	QI Responsibility
Circle Leader	Sarah Jenkins, MSN, RN, CCRN	Protocol governance & weekly PDSA huddle
Physician Advisor	David Chen, MD, MPH	Medical staff alignment & indication criteria
Infection Control	Elena Rostova, MPH, CIC	NHSN adjudication & monthly run-chart audit
EHR Analyst	Marcus Vance, BSN, RN-BC	24h Epic stop-order prompt & banner build
Bedside Champions	3 Senior ICU Charge RNs	Shift peer audits & supply par-level check

Baseline Bedside Defect Audit & 80/20 Pareto Vital Few Analysis

n = 130 Observed Defects (420 Audits)

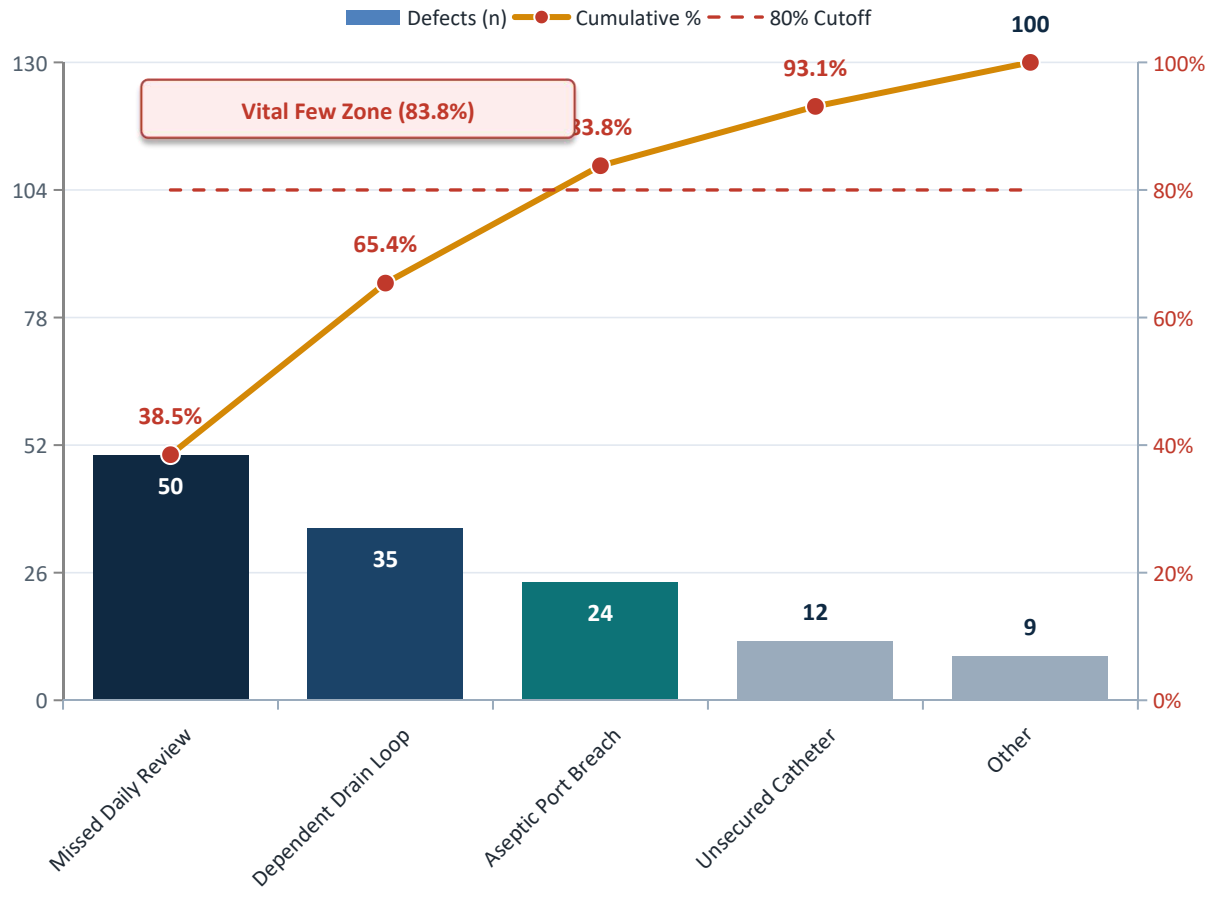
Baseline Defect Stratification Table (Jan–May)

Rank & Defect Category	Defects	Share	Cum %
1. Missed Daily Necessity Review •	50	38.5%	38.5%
2. Dependent Tubing Loop •	35	26.9%	65.4%
3. Aseptic Port Maintenance Breach •	24	18.5%	83.8%
4. Unsecured Thigh Securement	12	9.2%	93.1%
5. Other (Hygiene / Charting)	9	6.9%	100.0%
Total Audited Bundle Defects	**130**	**100.0%**	—

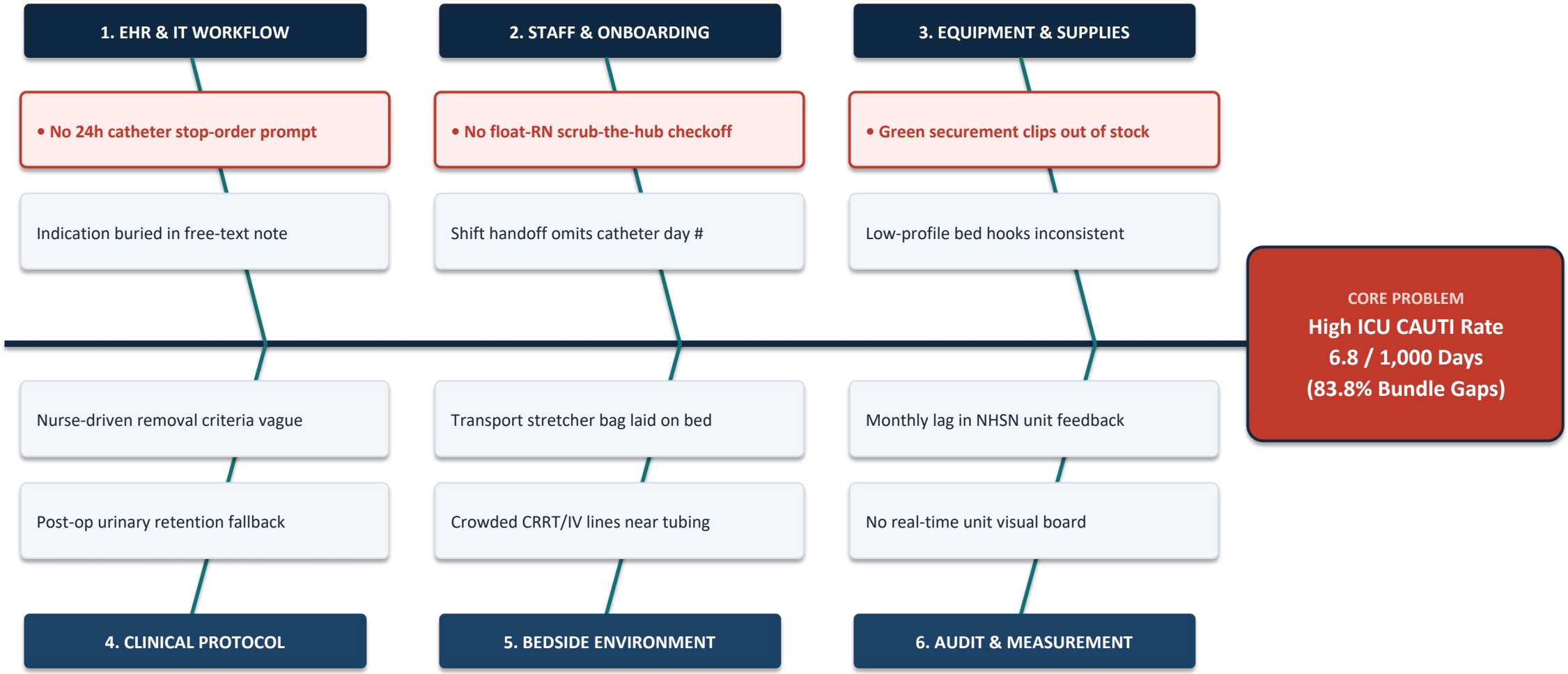
80/20 Pareto Conclusion (Vital Few Focus):

Top 3 failure modes account for 109 of 130 total defects (83.8%) and were selected as primary PDSA intervention targets.

Pareto Chart of Baseline CAUTI Bundle Failure Modes (n = 130)



6M Ishikawa Fishbone Analysis & Empirical Root-Cause Verification



• **Empirical Root-Cause Verification:** [RC-1] System audit: 0/3 ICU order sets had a daily stop-order prompt (non-assessment 64.2% vs. 14.8% w/ prompt, p<0.001) | [RC-2] Bedside audit: port breach 31.4% float vs. 6.2% core RNs (p<0.001) | **[RC-3] Par audit: clips absent on 11/28 beds**

3-Cycle IHI PDSA Ramp & 5W2H Action Implementation Matrix

PDSA Cycle	Target True Cause	Intervention Bundle (What & How)	Owner (Who)	Window	Verified Result
PDSA Cycle 1 (EHR System)	RC-1: 0/3 ICU order sets had 24h prompt	Deploy Epic 24h mandatory indication banner + Nurse-Driven Foley Removal Protocol (HOUDINI criteria) with bladder-scan algorithm.	EHR Analyst & ICU Medical Dir.	Jun–Jul	**Missed daily review dropped 64.2% -> 4.2%; DUR 0.74 -> 0.55**
PDSA Cycle 2 (Poka-Yoke Hardware)	RC-3: Dependent tubing loops & clip stockout	Install color-coded Green-Zone Bedrail Tubing Clips on all 28 ICU beds + add clip to Central Supply Foley insertion kit par level.	ICU Supply Lead & Charge RNs	Jul–Aug	**Dependent loop defects fell 35 -> 3 (-91.4% reduction)**
PDSA Cycle 3 (Competency & Huddle)	RC-2: Float-RN onboarding scrub-the-hub gap	15-sec 'Scrub-the-Hub' UV-glow onboarding checkoff for all ICU/float RNs + add 'Foley Day #' to bedside SBAR shift handoff card.	Clinical Nurse Educator & Champions	Aug–Sep	**All-or-none bundle compliance rose 64.0% -> 96.5%**

CYCLE 1 · PLAN-DO-STUDY-ACT

Test HOUDINI removal protocol on 8-bed Pod A -> refine post-op neuro exclusion -> scale to all 28 beds.

CYCLE 2 · POKA-YOKE HARDWARE

Pilot 3 tubing clip models during prone/transport turns -> lock non-slip green rail clamp across ICU & ER.

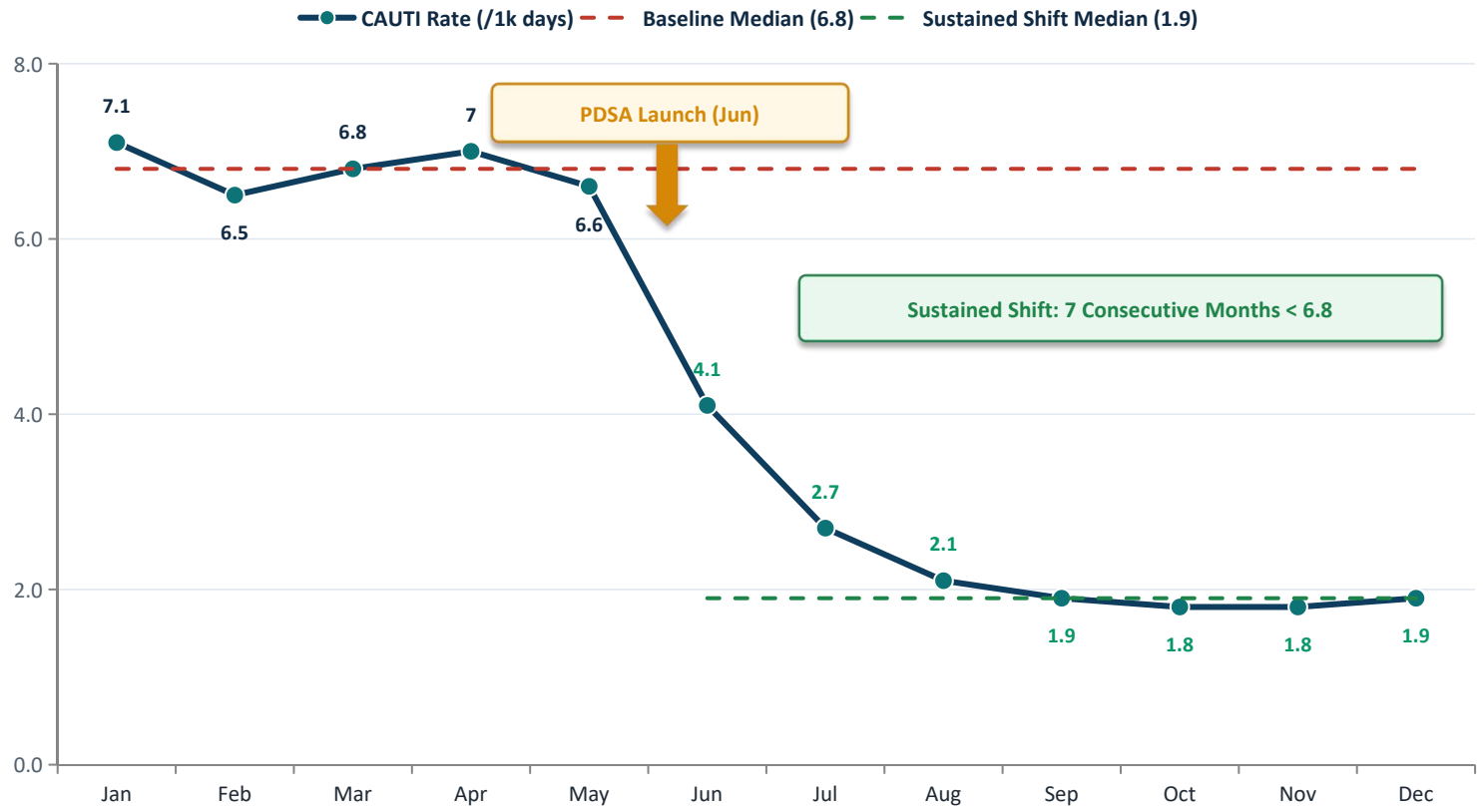
CYCLE 3 · SUSTAIN & AUDIT

Embed weekly 10-chart peer audit into Charge RN tablet checklist -> post unit 'Days Since Last CAUTI' counter.

Longitudinal Outcome: 12-Month ICU CAUTI IHI Run Chart & Team Gains

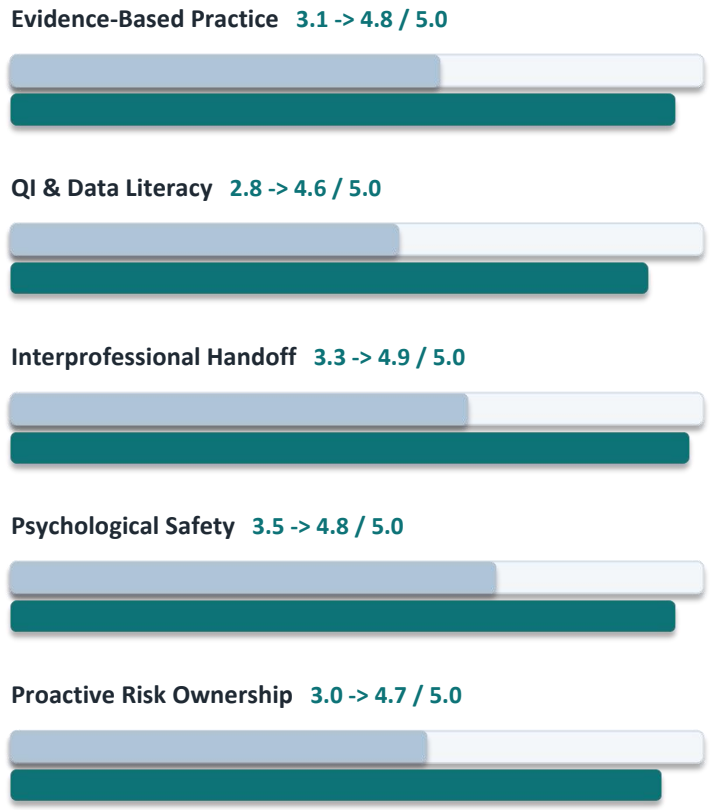
Monthly ICU CAUTI Rate per 1,000 Catheter-Days (Jan–Dec IHI Run Chart)

Baseline (Jan–May, 5 pts): Median = 6.8 | Intervention Launch: Jun | Sustained Shift (Jun–Dec, 7 pts < 6.8): Median = 1.9



IHI Run-Chart Probability Rule: >=6 consecutive months below the extended baseline median confirms special-cause improvement (UCL/LCL omitted for k = 12 < 15).

Intangible Team Capability Gains (5-Point Validated Survey, n=42 RNs)



Goal Achievement Rate: 114.0% | Progress: +72.1%

Standardized ICU CAUTI Prevention Bundle & Sustainability Control Plan

GATE 01 · INSERTION

Strict CDC Indication Gate

- Hard-stop order menu (6 approved indications only)
- Bladder ultrasound >=350 mL check prior to catheterization
- 2-RN aseptic insertion witness checklist

GATE 02 · 24H EHR REVIEW

Automated Daily Prompt

- 07:00 Epic banner fires at >=24h dwell time
- RN autonomously executes HOUDINI removal if no exclusion
- Physician override expires every 24 hours

GATE 03 · BEDSIDE CARE

Poka-Yoke Physical Lock

- Green-Zone bedrail clip keeps bag below bladder & off floor
- 15-sec chlorhexidine/alcohol port scrub before sampling
- 'Foley Day #' spoken at every SBAR shift handoff

GATE 04 · GOVERNANCE

Closed-Loop Run-Chart Audit

- Weekly 10-bed random Charge RN tablet audit
- Monthly IHI run-chart review & unit safety huddle board
- New-hire & float RN simulation onboarding sign-off

DOCUMENT CONTROL

Code: SOP-ICU-CAUTI-V3
Approved: Nursing Quality Council
Horizontal Spread: CCU, Neuro-ICU & Stepdown

Key Clinical References (AMA Format):

1. Gould CV, Umscheid CA, Agarwal RK, et al. Guideline for prevention of catheter-associated urinary tract infections. Infect Control Hosp Epidemiol. 2010;31(4):319-326.
2. Patel PK, Advani SD, Kofman AD, et al. Strategies to prevent catheter-associated urinary tract infections in acute-care hospitals: 2023 update. Infect Control Hosp Epidemiol. 2023;44(8):1209-1243.

48" x 36" Scientific & Medical Conference Poster Layout (Editable PPTX)

Reducing Adult ICU Catheter-Associated UTIs via EHR Decision-Support & Nurse-Driven PDSA Bundles

Sarah Jenkins, MSN, RN, CCRN; Elena Rostova, MPH, CIC; Marcus Vance, BSN, RN-BC; David Chen, MD, MPH | St. Jude Metropolitan Medical Center (Sample)

48" x 36" POSTER
100% EDITABLE

1. BACKGROUND & SMART AIM

- Baseline ICU CAUTI median reached 6.8 / 1,000 catheter-days (NHSN >90th percentile).
- Aim: Cut CAUTI <=2.5 / 1,000 days and achieve >=90% bundle compliance across Jan–Dec.
- Setting: 28-bed Adult Med-Surg ICU (3,680 catheter-days).

2. BASELINE PARETO VITAL FEW (n=130)

- **Missed Daily Review: 50 (38.5%)**
- **Dependent Drain Loop: 35 (26.9% | Cum 65.4%)**
- **Aseptic Port Breach: 24 (18.5% | Cum 83.8%)**
- Securement (12) & Other (9): 21 (16.2% | Cum 100.0%)

-> Top 3 vital few defects targeted via 6M RCA.

3. MULTIDISCIPLINARY PDSA INTERVENTIONS

PDSA 1 · EHR 24h Stop-Order & HOUDINI
Automated Epic dwell prompt + autonomous RN removal protocol with bladder-scan algorithm.

PDSA 2 · Poka-Yoke Green Tubing Clips
Standardized non-slip bedrail clips installed across all 28 beds + kit par-level lock.

PDSA 3 · Scrub-the-Hub & SBAR Handoff
UV-glow aseptic port checkoff for all ICU/float RNs + daily catheter day # in handoff.

4. CLINICAL & RUN-CHART OUTCOMES

- **CAUTI Median: 6.8 -> 1.9 / 1,000 days (-72.1%, 7-mo shift)**
- **Device Utilization: 0.74 -> 0.51 (-31.1%)**
- **Bundle Compliance: 64.0% -> 96.5% (+32.5 pts)**
- **Direct Cost Avoidance: $148,500 annualized (11 prevented cases)**

5. SUSTAINABILITY & CONCLUSIONS

Pairing EHR forcing functions with physical poka-yoke securement yielded a 7-month sustained run-chart shift below baseline median (Jun–Dec). Protocol SOP-ICU-CAUTI-V3 scaled to CCU & Neuro-ICU.