How the VACT PACU Nurses Led a Sustainable PICC Program: A Success Story

Presented by:

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Disclosure:
Nothing to disclose (financial or otherwise)

Mission, Vision, and Core Values

VA's Mission

To fulfill President Lincoln's promise: *"To care for him who shall have borne the battle, and for his widow, and his orphan"* by serving and honoring the men and women who are America's Veterans.

"Our department remains fully committed to fulfilling the sacred obligation that we have to those who serve in uniform." *~VA Secretary Denis McDonough*

Our VA Mission and Core Values

No organization can succeed without values to match its mission. Our mission, as the Department of Veterans Affairs, is to care for those "who shall have borne the battle" and for their families, caregivers and survivors. Our core values focus our minds on our mission of caring and thereby guide our actions toward service to others.

VA Core Values describe how VA will accomplish its mission and inform every interaction with our customers. These Core Values are: Integrity, Commitment, Advocacy, Respect, and Excellence — better known as "I CARE." VA's Core Values will continue to serve as the right guide for all our interactions and remind us and others that "I CARE."

- I care about those who have served.
- I care about my fellow VA employees.
- I care about choosing "the harder right instead of the easier wrong."
- I care about performing my duties to the very best of my abilities.

https://www.va.gov/icare/

Organizational Readiness and Benefit

VA Strategic Plan FY 2022-2028

https://department.va.gov/wp-content/uploads/2022/09/va-strategic-plan-2022-2028.pdf

"VA empowers employees to deliver high-quality whole health care that equips Veterans and supports their health and well-being by addressing what matters to them most."

"VA connects Veterans and Service members to Patient Aligned Care Teams (PACT) to ensure patient-driven, proactive personalized, team-based care focused on wellness and disease prevention that improves satisfaction and health care outcomes for Veterans and Service members."

VA

Healthcare Organization Overview

- **VA CT is a Level 1A, Complex teaching facility**
- **80 Acute care beds and 25 CLC**
- **The Operating Room** consists of 7 functioning operating room suites.
- **PACU** has 6 bays and 4.5 bays in our Pre-Op holding area
- **Non-OR Anesthesia (NORA) cases** occur in various places; Cath Lab, IR, Endo, MRI, CT scan and Bronchoscopy suite

https://www.va.gov/connecticut-health-care/

Operating Room Overview

- The Operating Room is one of the most unique patient care areas. The OR staffing methodology is based on the needs of the surgical team, patient acuity, technology demands, specimen requirements, instrument volume, staff member competency and skill mix, practice standards, health care regulations, and other accreditation requirements.

- The services offered at VACT are comprised of Cardiac, Thoracic, Peripheral Vascular, ENT, Dental, Ophthalmology, Retina, Urology, GU local, Orthopedic, Neurosurgery, Navigational, Plastic, Podiatry, GYN, Pain, Robotic, GI, Pain, Colorectal and General.

- New robotic programs for Urology Aquablation and Ortho Robotic Total Joints.

- The OR schedules surgery Monday-Friday 7am-5:30pm and can provide 24/7 emergent surgical care within an hour.

- Operating rooms currently function 8-10 hours per day (7-5:30).

- Barriers: 2017 SPS slow down, 2018 flood, 2019 SPS increase productivity, 2020 & 2021 Covid, and 2021-2022 shortage of nursing staff.

PACU Overview

- Post Anesthesia Recovery Unit (PACU) supports recovery for:
  - 7 Operating rooms
  - Daily Non-OR Anesthesia Procedures (NORA)
  - Cath lab Recovery and extended observation, 4-6 hour hold in PACU
  - Supporting 17 surgical and procedural services
  - Hospital PICC and Midline nursing team

- Vascular Surgery
- Cardiothoracic
- ENT
- Plastic Surgery
- Podiatry
- GYN
- Orthopedics
- General Surgery
- Urology Service
- Ophthalmology
- Pain
- Local Urology

- Gastrointestinal procedures (GI)
- Interventional Radiology (IR)
- Cardiology (Cath Lab)
- Psychiatry (ECTs)
- Cardioversion/TEE

PACU Overview

- CPRS/Innovian Documentation
- Every 15-minute neurovascular checks on specified patients
- Every 15-minute dressing checks on specified patients
- Every 15-minute vital sign checks/review of systems
- Immediate and every 15 minutes doppler pulse checks on vascular/plastic cases
- Accu-Checks for diabetic patients; must obtain orders for insulin administration
- Bladder assessment and scanning to rule out Post-Operative Urine Retention
- Skin assessments
- Medication administration
- Physician order verification
- Nursing care plan
- Family notification of patient status and updates
- Patient and Family education
- Patient care coordination
- Precepting Nursing Students
- Telephone warm hand off
- Application of TED hose as ordered
- Polar Care
- **PICC & Midlines:** Coordination, chart review, consent, and placement of, electronic documentation nursing note, implant documentation log, TrackCore input, order chest ex-ray, patient education.

Summary of Nurse-Led Innovation

- **The <u>VACT PACU Nursing PICC Team</u> is a nurse-led initiative starting** after identifying the **need to decrease the wait times** for PICC line insertions and **reduce the in-patient length of stay**.

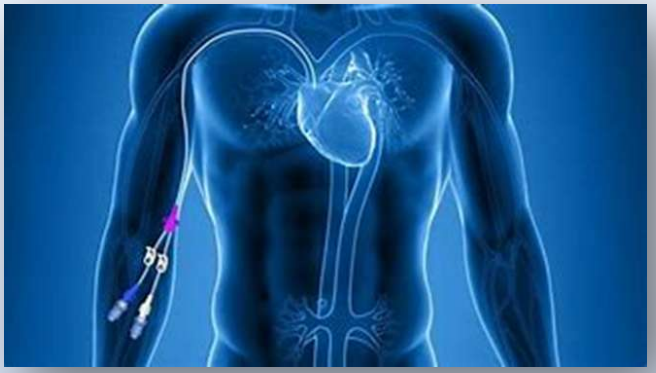
- To **improve the Veteran patients' satisfaction and flow**, the **PACU nurses** received comprehensive training and became the **point of care provider** as opposed to the Interventional Radiologist. The Nursing team utilizing the units down times to place PICC lines for the Veterans.

- Before its inception, the average wait time from consult to PICC insertion was 3.2 days. It decreased to 0.5 days and grew significantly (**n= 1,627 from 2011-2022**).

- The **most significant benefit is the approximate $4 Million return of investment** and continues to be the nursing **gold standard of practice in the recovery room**.

VA

Perioperative & Perianesthesia Team



"Perianesthesia nurses provide the best care you never remember. They are the nurses who you meet before and after the perioperative nurses do their work. They are the heroes passionate about your recovery to reach the quality-of-life our Veterans seek after their surgical experience".

https://www.aspan.org/Education-Events/PANAW

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Perioperative NPD Practitioner

Background: Peripherally Inserted Central Catheter (PICC)

PICC (Peripherally inserted central catheter)
Intravenous catheter/access line inserted through the skin utilizing ultrasound guidance into a vein in the upper arm region but below the shoulder.

Purpose:

- Delivery of prolonged regimens: chemotherapy, extended antibiotic therapy, liquid nutrition, multiple IV medication, and/or difficult access
- Reduce the pain of frequent needle stick irritation for frequent blood drawings.

Risks: malfunction, infection, blood clots, nerve damage and cardiac arrythmias.

https://www.oncolink.org/cancer-treatment/hospital-helpers/central-lines-and-care/picc-line

Background: Peripherally Inserted Central Catheter (PICC)

PICC (Peripherally Inserted Central Catheter)

iData Research Report: (https://idataresearch.com/)

- "Over 2.7 million peripherally inserted central catheter (PICC) insertion procedures performed each year in the United States".

- "The overall US vascular access market was valued at $4.8 billion by 2020 and is expected to reach $5.7 billion in 2026".

Trends/Forecast:

- Despite competition from other devices, PICC lines are expected to remain an integral component of the vascular access market.
- Shifting towards less expensive catheter devices with lower failure rates.
- Emerging technologies-improve dwell time and reduce failure rates (antimicrobial coating, improved material, and insertion techniques).

Retrieved from: Vascular access devices and accessories market report: 2021 https://idataresearch.com

Problem & Aim Statement

Vision Statement:

To deliver infusion therapy access to Veteran patients in a safe, timely manner.

Problem Statement:

Obtaining the request or order to the actual PICC insertion, it takes Interventional Radiology Department (IR) an average of 3.2 days.

Aim Statement:

To reduce the number of days from request to PICC insertion from **3.2 days to 0.5 days** .

https://www.va.gov/connecticut-health-care/

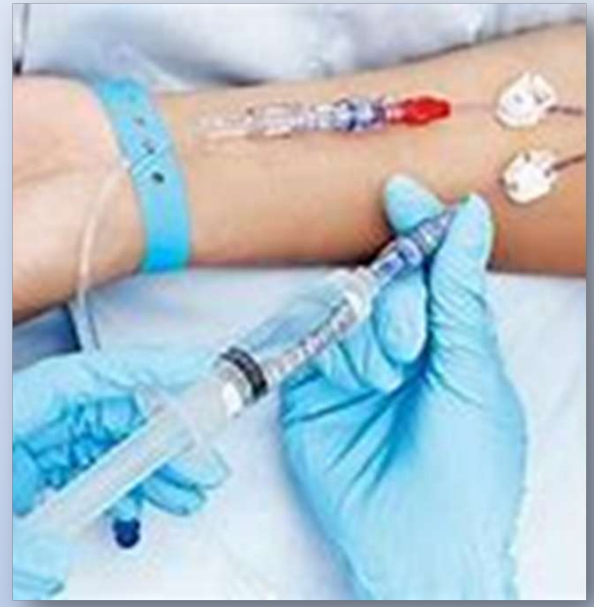
Background: Peripherally Inserted Central Catheter (PICC)

- **Change in Practice:** PACU nurse-led initiative

- **Overhead cost (2011)**
  Approximately $3,000.00 for IR insertion compared to RN insertion cost $300.00

- **Total saving: (ROI)**

✓ $2,700 per patient
✓ $1,620,000.00 (600 patients at $2,700/Veteran)
✓ Opened a total of 600 appointment hours in IR, allowing for more advanced procedures
✓ Reduced access wait time which allowed for timely treatment
✓ The most significant benefit is the $4 Million return of investment
✓ Continues to be the nursing gold standard of practice



Stakeholder Analysis (ARMI)

A- <u>Approver</u>: National Surgery Office (NSO) (Washington D.C), Executive Leadership Team (Medical System Director, CNO, Chief of Staff); VISN; Sponsors and leadership who endorsed the program.

R- <u>Resource:</u> National Organization (Infusion Nursing Society Standard, AORN, ASPAN, Medical Center Policy, SOPs).

M- <u>Member</u>: Nursing, Physicians, Oncologists, IR attending, Radiology AO, Logistics, Informatics, Quality Management Specialist, and Infection Prevention.

I- <u>Interested Parties:</u> Stakeholders who need to be informed about the project, progress, and sustainability (any challenges/barriers encountered)

https://www.isixsigma.com/dictionary/armi-approver-resource-member-interested-party/

Data Collection Plan

Date Requested	Date Placed	Diagnosis	Time procedure started	Time procedure ended	Time of Xray ordered	Time of x-ray	Time of discharge	Follow-up & Date PICC removed

WHO → WHAT → WHERE → WHEN

Methodology Check in: Does the data collection plan tie back to our process problem and measures?

Critical To Quality Care Tree: Drivers

Voice of the Veteran

- Scheduling Process
- How scheduled: between other IR procedures, end of day or next day
- W[illegible] n[illegible]

Timely Access to PICC

What are their Needs

Attributes

- Veteran Centered
- Quality
- Patient Experience & Satisfaction
- Post-procedure follow-up

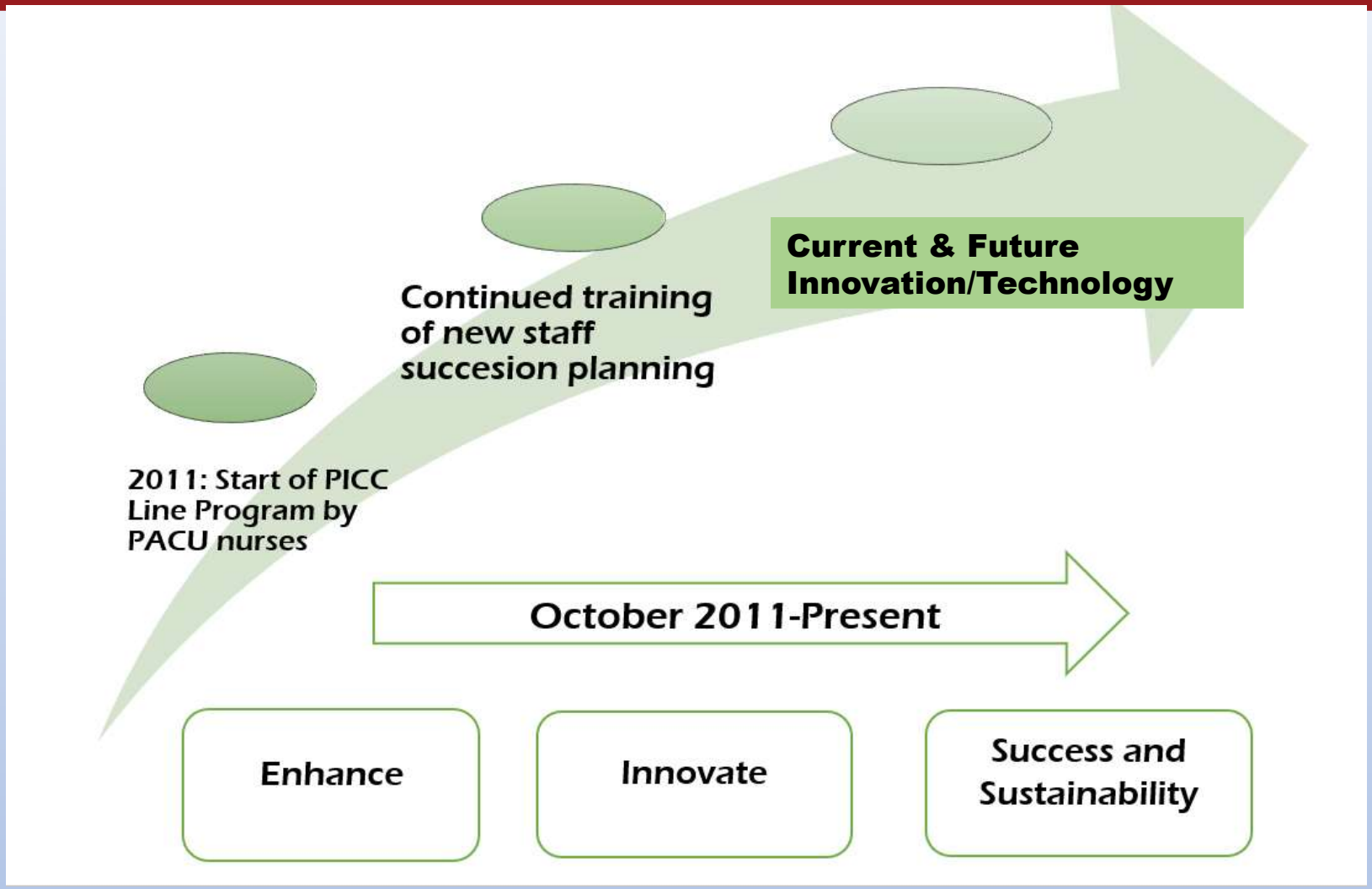
- Procedure
- Education and training (staff)
- Safety and quality of procedural team
- Post-insertion follow-up, discharge

Metrics

https://www.isixsigma.com/dictionary/critical-to-customer-ctc/

VA

Measure of Current & Future State



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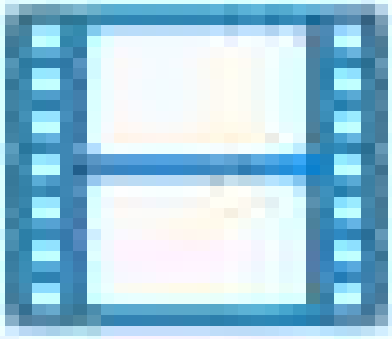
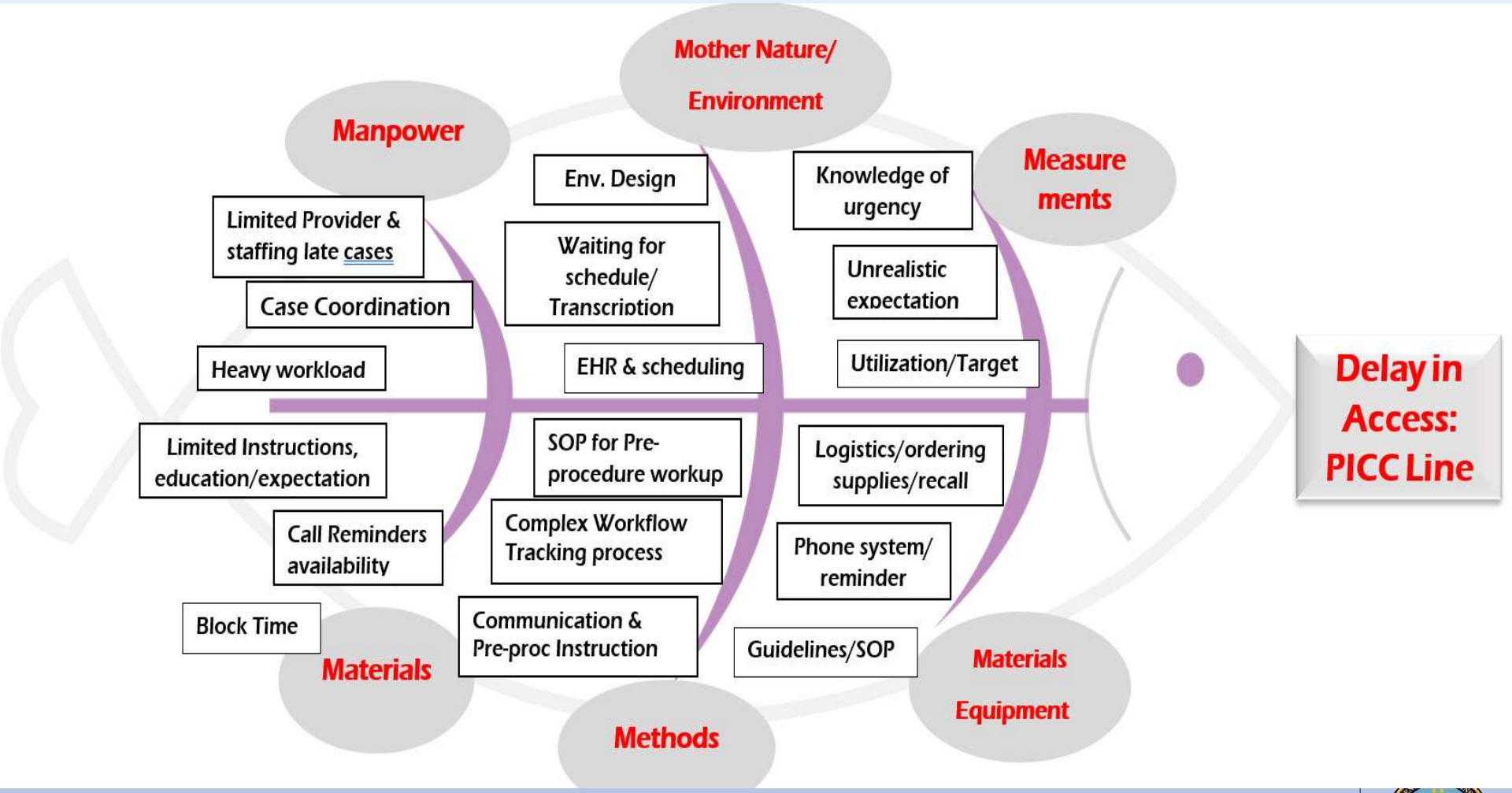
Next Steps



Ishikawa®- Cause & Effect



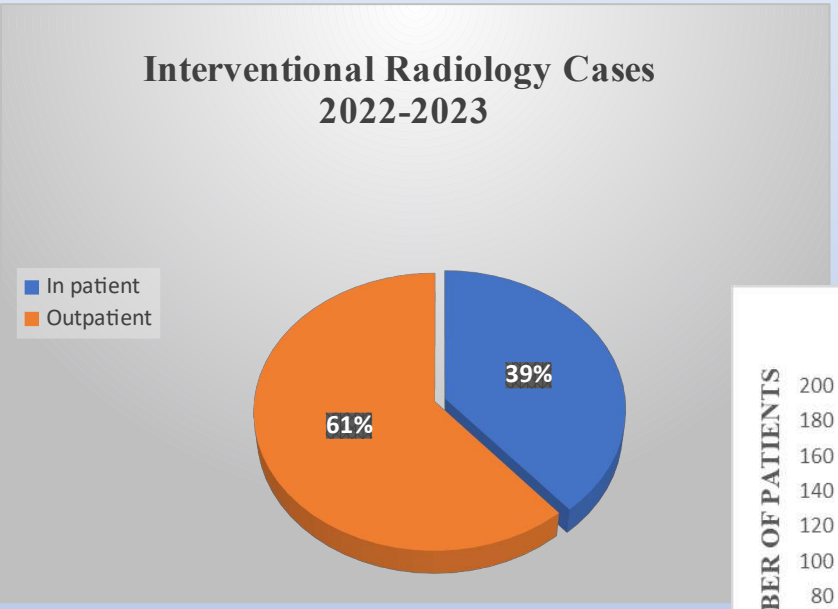
https://www.ihi.org/

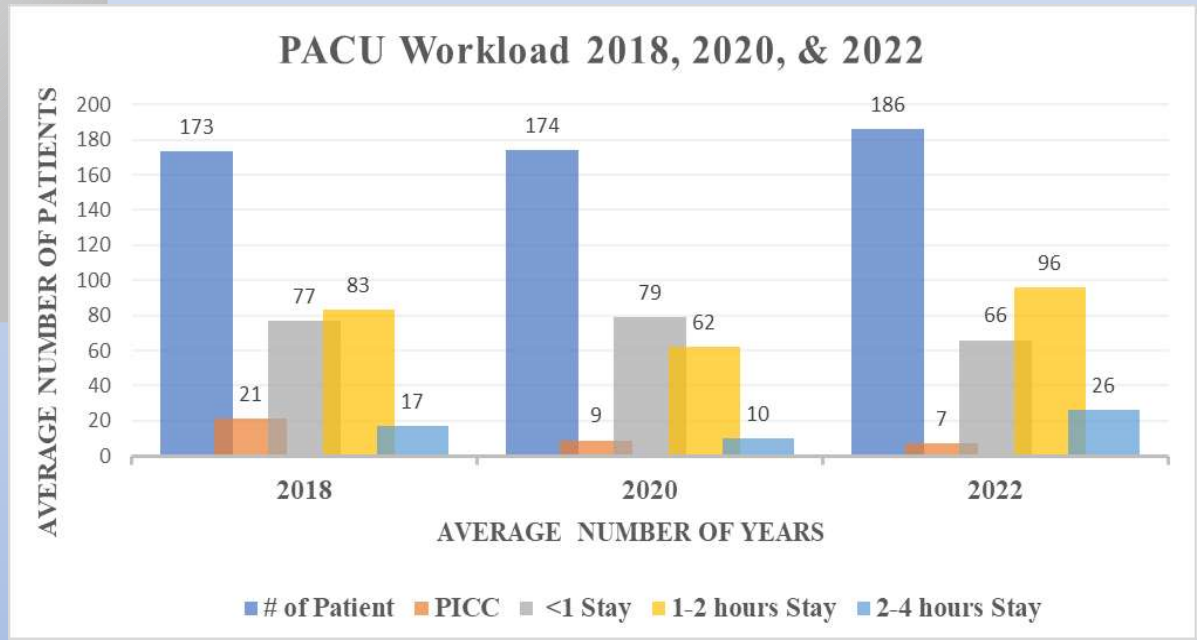
Unit Workload

Sample Illustration of PACU's Utilization:

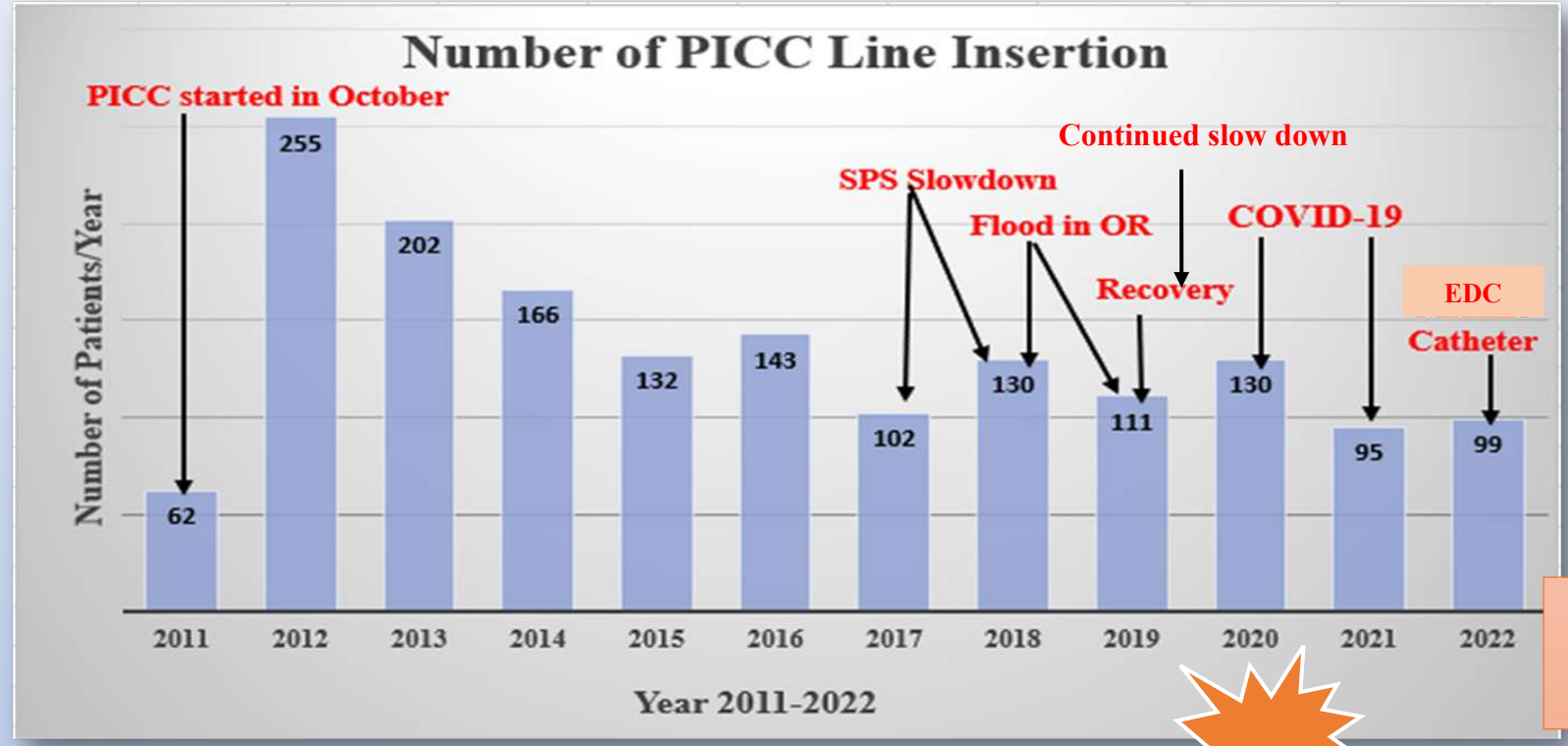
Average of PACU admission, PICC completion, Post-op patient stay

(<1 hour, 1-2 hours, 2-4 hours)





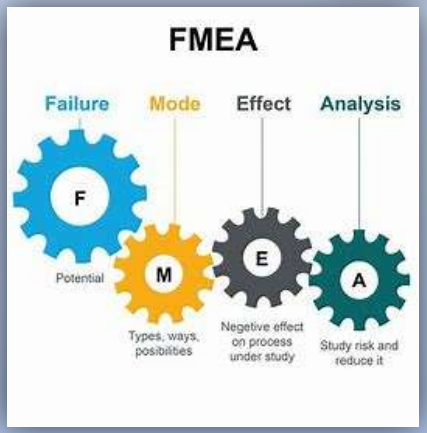
Measure:
PICC Line Insertion from October2011-Present



Improve: System Redesign

Project Strategies Used

- Brainstorming to prioritized solutions
- Just-Do-It, PDSA Cycles & post collected data
- Process Flow Map
- IPO (Input-Process-Output)
- Standard Work
- Visual Management
- FMEA
- Value Stream Mapping



https://www.ihi.org/

Improve: Pursuing Changes

1. **Initial training and curriculum**: Online courses/modules, hand on learning, self-learning assessment, peer-assisted learning, feedback from the preceptors and instructors.
2. **Knowledge and application** of use of ultrasound guidance, intensive training, validation, repetition of skill through simulation and actual performance with preceptor approval/feedback and number of successful procedures.

3. **Competency Validation** (TMS/LMS training-AORN® https://www.aorn.org/)
Principles of aseptic/sterile technique, gowning & gloving, creating a sterile field, surgical hand scrub (waterless), and surgical prep/draping.

4. **Requirements:** Detailed knowledge of **Anatomy and Physiology of Peripheral Vascular Access** and expertise in use of technology and interpretation, anomalies, and the correct placement measurement of the catheter (catheter to vessel ratio).

(https://www.ins1.org/publications/infusion-therapy-standards-of-practice/)

Infusion Nursing Society Standard®
Scope of Practice (Licensure /certification)
(https://pubmed.ncbi.nlm.nih.gov/34197345/)

VA

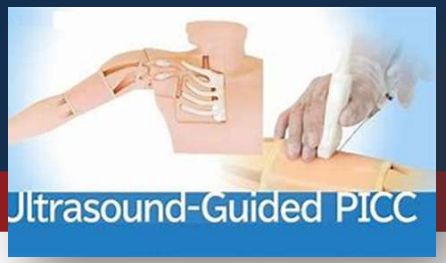
Documentation

VHA Directive 1230 (02/2022) and Guidelines (SOP)

- Consult (from PCP)
- Informed Consent
- History & Physical
- Blood work (Creatinine, INR, Blood culture, etc.)
- Discharge Instructions and Patient Education
- Tracking (log) for PICC's completed
- Requisition/Reordering (Prosthetics)

https://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=9810

Process Map for PICC line Insertion



PICC request (consult from Physician)

PACU nurse receives request

Reviews PMH/H & P (Crreatinine, INR, Blood culture, PSH, skin integrity, CXR-pacer/defib, allergies - nickel, EKG

Obtain Informed consent (IMED or NOK)

Preparation for surgical procedure (aseptic tech)

Supplies, measurement, skin antisepsis-prep; sterile set-up

Prepare the AV Console, patient info (2 identifiers), EKG.

Calibrate (doppler & EKG)

Timeout (Univ Protocol)

Procedure start (insertion, venous access, doppler testing, catheter position-confirmation-optimal (physiological algorithm)

Apply dressings

Obtain CXR (including Bull's Eyes technique)

Documentation: CPRS-Notes-PICC Insertion Consult Note & Encounter Notes) & PICC log (S Drive)

Patient Discharge instructiion & Education (booklet)

Logistics: re-order

https://dvagov.sharepoint.com/sites/VHACONNursing/nursingpolicy/Nursing Policy Library/SOP Guidelines for Nursing Care 11.2019.docx
SOP-Guidelines for Nursing Care 11.2019

Control Plan: Return of Investment (ROI)

Savings since the first PICC Line insertion in the PACU on Oct. 11, 2011:

The overhead cost for inserting a PICC line in Interventional Radiology in October 2011 was calculated to be $3000. The same PICC line inserted by the PACU nurses had an estimated overhead cost of $300 which is a **savings of $2700 per patient**.

600 patients x $2700 = $1,620,000

The average wait time from consult to insertion was **3.2** days.

The average wait time now is **0.5** days.

Patient LOS was reduced by 2.7 days

IR PICC placement **takes approximately 1 hour**

Inserting PICCs in the PACU has opened a **total of 600 appointment hours** in IR reducing their wait list, allow for more advanced procedures and improved access.

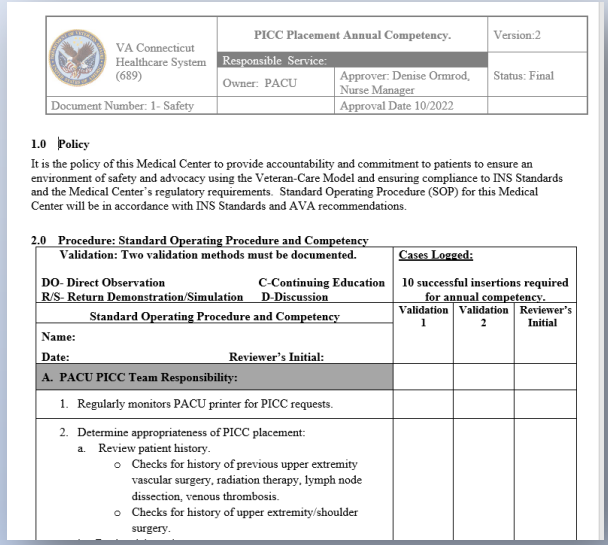
Control Plan

Tracking Mechanism

Basic Control Plan

Monitor	Trigger	Action
Weekly review of logs tracking of cases, consults, post-op discharge, chart review (follow-up pos insertion)	Number of defects > 2 per week	1. Determine root cause. 2. Ensure guidelines and standard work is posted for the team. 3. Debriefings and review of team's needs
Daily to Weekly tracking of logs for each completion of cases per patient care, and any noted discrepancies of techniques and any potential complication	Number of defects > 2 weeks	1. Determine root cause. 2. Review of new trends or changes in policies. 3. Ensure checklist is assigned to providers (PICC team) 4. Plan for any back up needed
Complete checklist for cases performed weekly and any deviation with standard practice	Checklist not completed for 1 week	1. Determine root cause. 2. Review completion of checklist 3. Plan for back up if checklists were missed. 4. Debrief with team's learning needs and guidelines.

SOPS & Competency



VA Connecticut Healthcare System (689)

PICC Placement Annual Competency. Version:2

Responsible Service:

Owner: PACU | Approver: Denise Ormrod, Nurse Manager | Status: Final

Document Number: 1- Safety | Approval Date 10/2022

1.0 Policy

It is the policy of this Medical Center to provide accountability and commitment to patients to ensure an environment of safety and advocacy using the Veteran-Care Model and ensuring compliance to INS Standards and the Medical Center's regulatory requirements. Standard Operating Procedure (SOP) for this Medical Center will be in accordance with INS Standards and AVA recommendations.

2.0 Procedure: Standard Operating Procedure and Competency

Validation: Two validation methods must be documented.

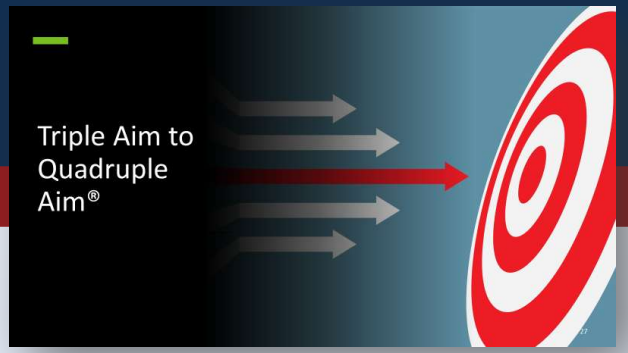
DO- Direct Observation **C-Continuing Education**
R/S- Return Demonstration/Simulation **D-Discussion**

Cases Logged:

10 successful insertions required for annual competency.

Standard Operating Procedure and Competency	Validation 1	Validation 2	Reviewer's Initial
Name: Date: Reviewer's Initial:			
A. PACU PICC Team Responsibility:			
1. Regularly monitors PACU printer for PICC requests.			
2. Determine appropriateness of PICC placement: a. Review patient history. o Checks for history of previous upper extremity vascular surgery, radiation therapy, lymph node dissection, venous thrombosis. o Checks for history of upper extremity/shoulder surgery.			

Framework:



Design of a Triple Aim Enterprise

Define "Quality" from the perspective of an individual member of a defined population

The IHI Triple Aim

Population Health

Experience of Care

Per Capita Cost

Health Care Public Health Social Services

Individuals and Families

Definition of Primary Care

Integration

Per Capita Cost Reduction

Prevention and Health Promotion

System-Level Metrics

Institute for Healthcare Improvement, 2012

The Triple/Quadruple Aim® (www.ihi.org)

- Developed by the Institute for Healthcare Improvement (does not imply that IHI approved, reviewed, has certified)

- **2007**-the idea of trying to improve the patient care experience, improve the health of a population, and reduce per capita health care costs at the same time was considered somewhat radical.

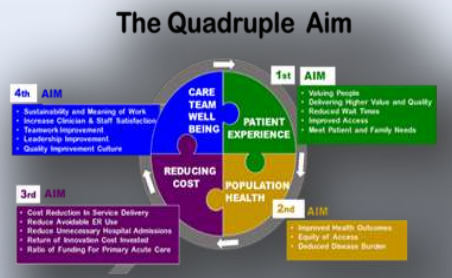
- The term **"Triple Aim"** refers to the pursuit of improving the patient (a very ambitious purpose) experience of care, improving the health of populations, and reducing the **per capita cost** of health care. Patient-focused It **remains a journey**

- **2014**: The IHI Triple Aim framework provided a statement of purpose for health care system transformation to meet the needs of people/patients. Successful implementation will result in new systems contributing to the overall health of populations while reducing the cost to society.

https://www.ihi.org/

Implication to Veteran's Care

- Achieving the IHI Triple/Quadruple Aim®



- Eliminates delay in treatment
- Decrease length of stay (LOS) https://www.ihi.org/
- Decrease Cost (X-ray, Rad Tech workload, RN versus Proceduralist, reduced procedure time)
- Patient Experience & Satisfaction Optimized

https://www.ihi.org/

Implication to Veteran's Outcome

For the VACT's, sustainability is vital to patient satisfaction, timely treatment, decreasing in-patient length of stay and promotion of Veteran centered care.

Our success story continues to grow with succession planning, comprehensive training, implant tracking system, continued competency validation and multidisciplinary complication oversight.

https://dvagov.sharepoint.com/sites/VHACONIntranet/quality/Pages/Systems-Redesign.aspx

Implication to Nursing Practice

- Evidence-Based Practice
  Clinical Expertise
  Veteran-Centered Patient's Preferences and Values
  Use of rigorous Research
- Shared Governance (Shared-Decision making)

- Quality Improvement (QI): Donabedian Framework
  Structure-Process-Outcome (https://www.nejm.org/doi/full/10.1056/NEJMp1605101)
- Nursing Research (Meta Analysis, Peer Review, RCT, etc.)

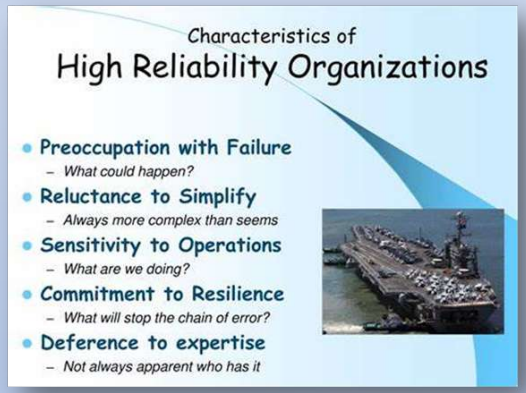
https://www.nursingworld.org/practice-policy/

Implication to Nursing Practice

- High Reliability Science
  Commitment to Zero Harm

- High Reliability Organization
  Leadership Engagement
  Culture of Safety (COS)
  Robust Process Improvement

https://psnet.ahrq.gov/primer/high-reliability

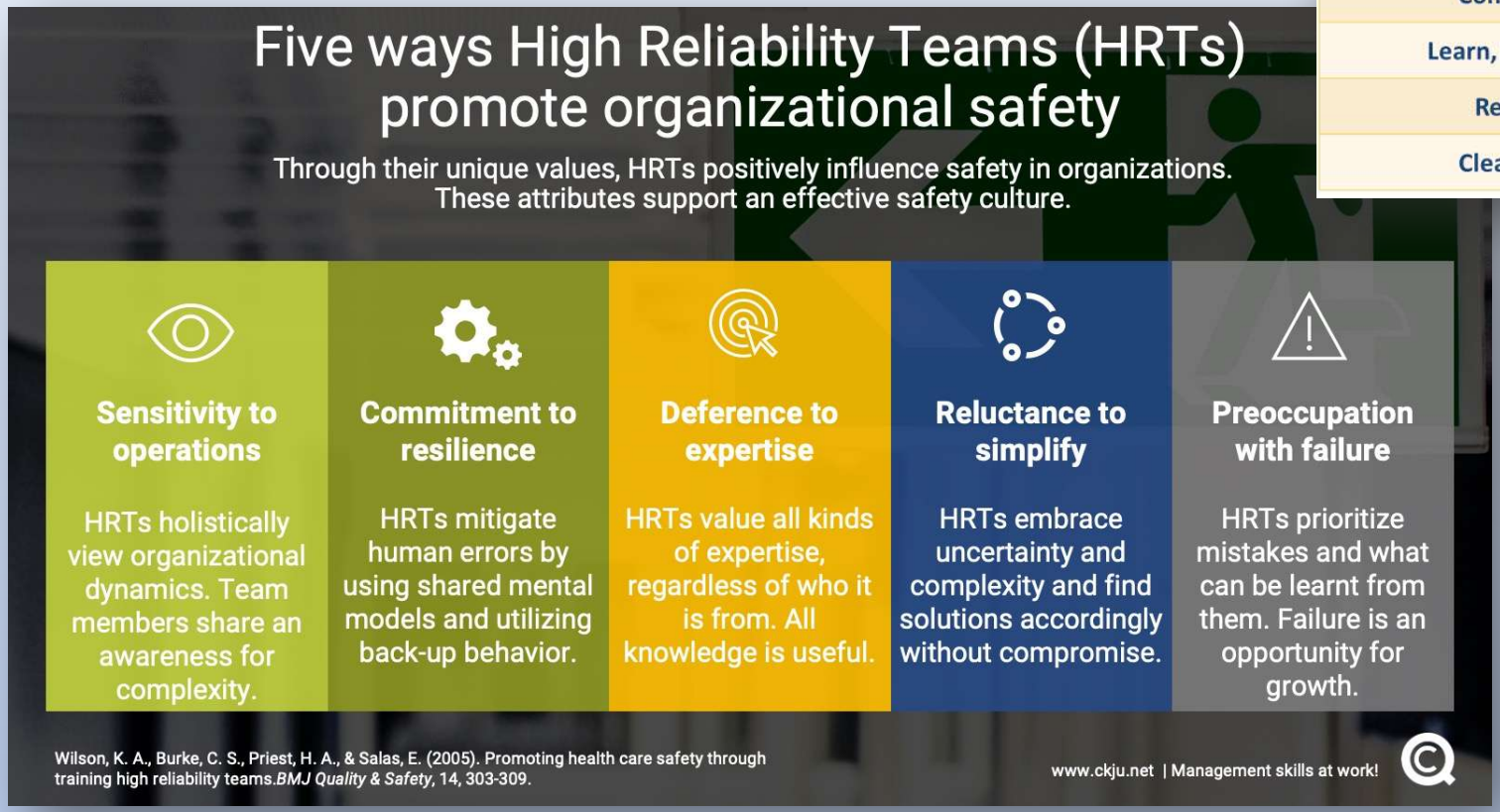


- Safety, Advocacy, & QOL

- Journey to Magnet Designation

Supports VHA's Goal of Becoming a High Reliability Organization

- It's about the Veteran
- Commit to Zero Harm
- Learn, Inquire and Improve
- Respect for People
- Clear Communication



https://dvagov.sharepoint.com/sites/VHACONIntranet/quality/Pages/Systems-Redesign.aspx

Meet the VACT PACU PICC Team

Thank You!


How Will We Identify Success?
When Veterans achieve outcomes they never even imagined.

Questions

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