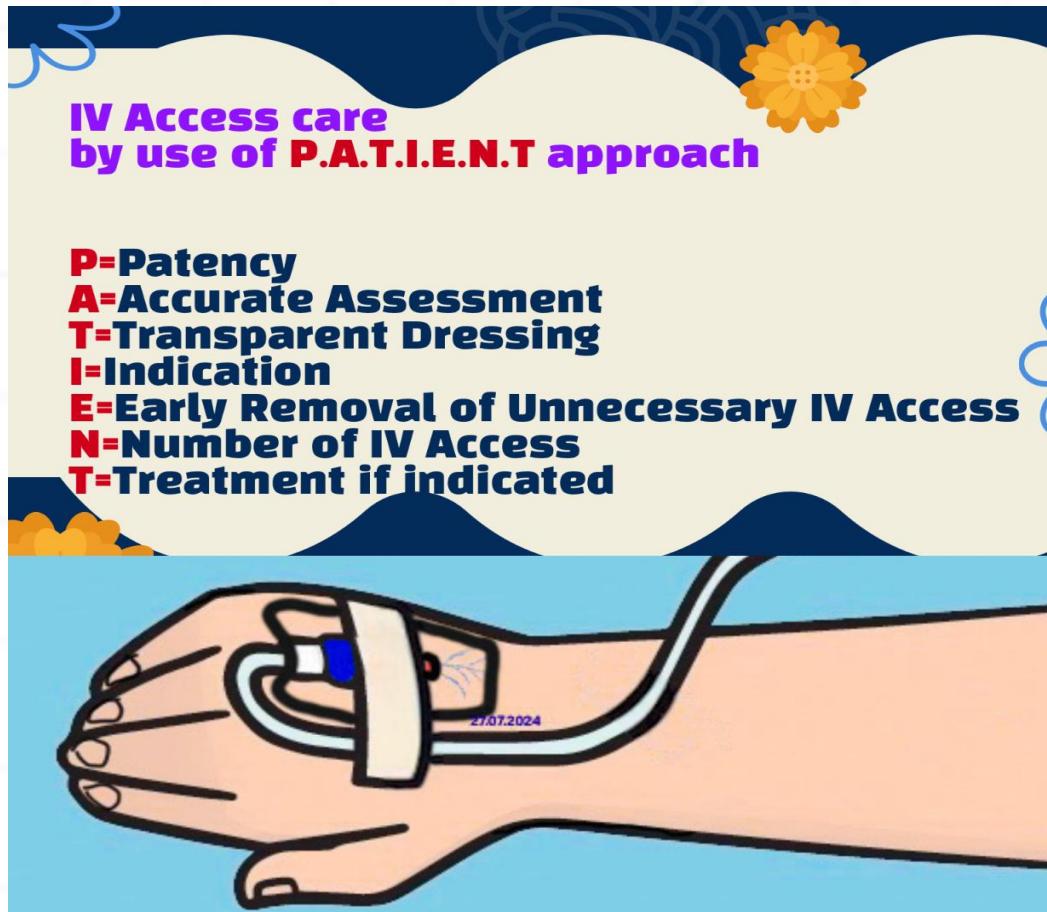


IV Access Care Improvement Plan by use of “ P.A.T.I.E.N.T. ” Approach



HA Convention 2025

Oral Presentation

Clinical Safety and Quality

Service II

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Background

- IV access is commonly used in surgery department for multiple purposes
- Improper IV access care could lead to **serious** or even **fatal complications**, e.g: amputation, bacteraemia

(Zingg et al., 2023) (Goli et al., 2022)

An IV access Care improvement project is needed to make the problem a sharp turn!



Objectives of this Quality Improvement Project

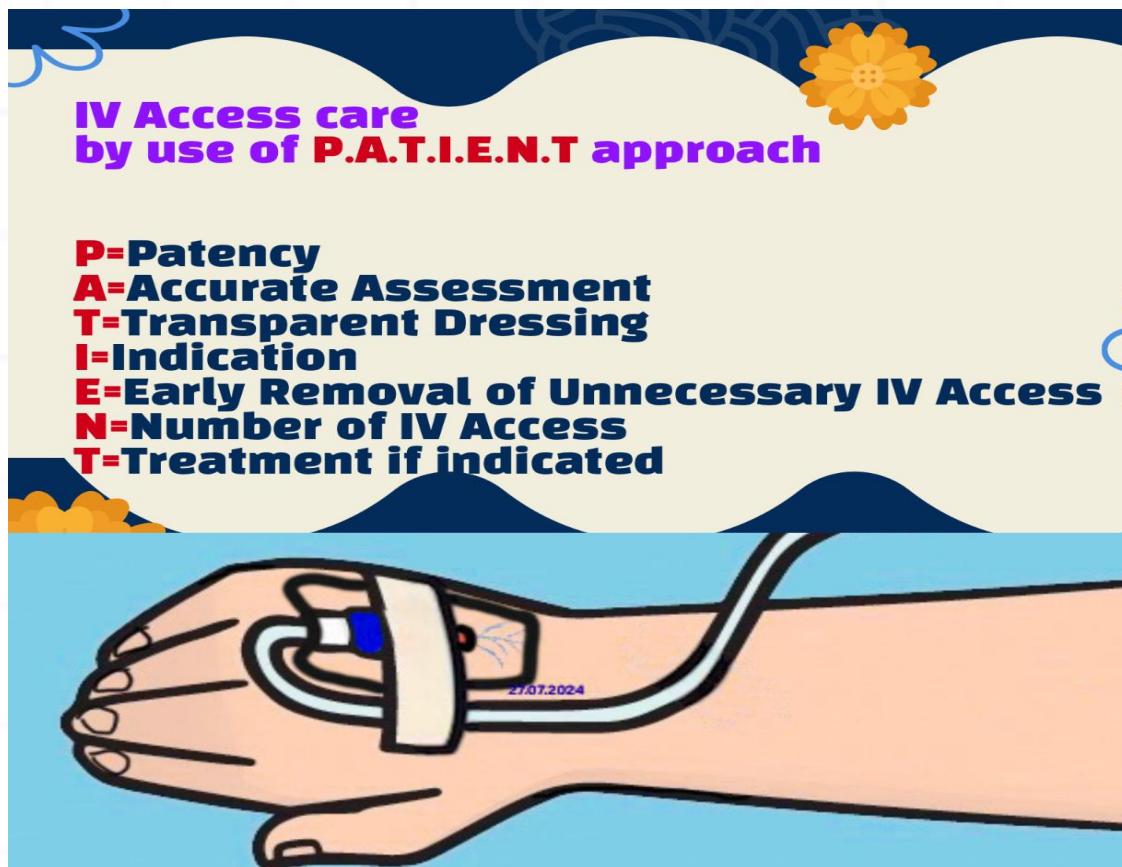
- To enhance the **quality** of IV access care
- To foster **staff competency** on managing **phlebitis**
- To prevent **serious or life-threatening complications** resulted from drip site infection



Introduction of Surgery

CQI Project

A comprehensive strategic project with the acronym of “**P.A.T.I.E.N.T**” encompasses 7 important elements of proper IV access care



Timeline of Surgery CQI Project

Pilot trial of implementation in one surgical ward in July 2024

Fully Implemented across the department by August 2024

In line with the IV Access Campaign launched by PMH ICN since December 2024

End of June 2024

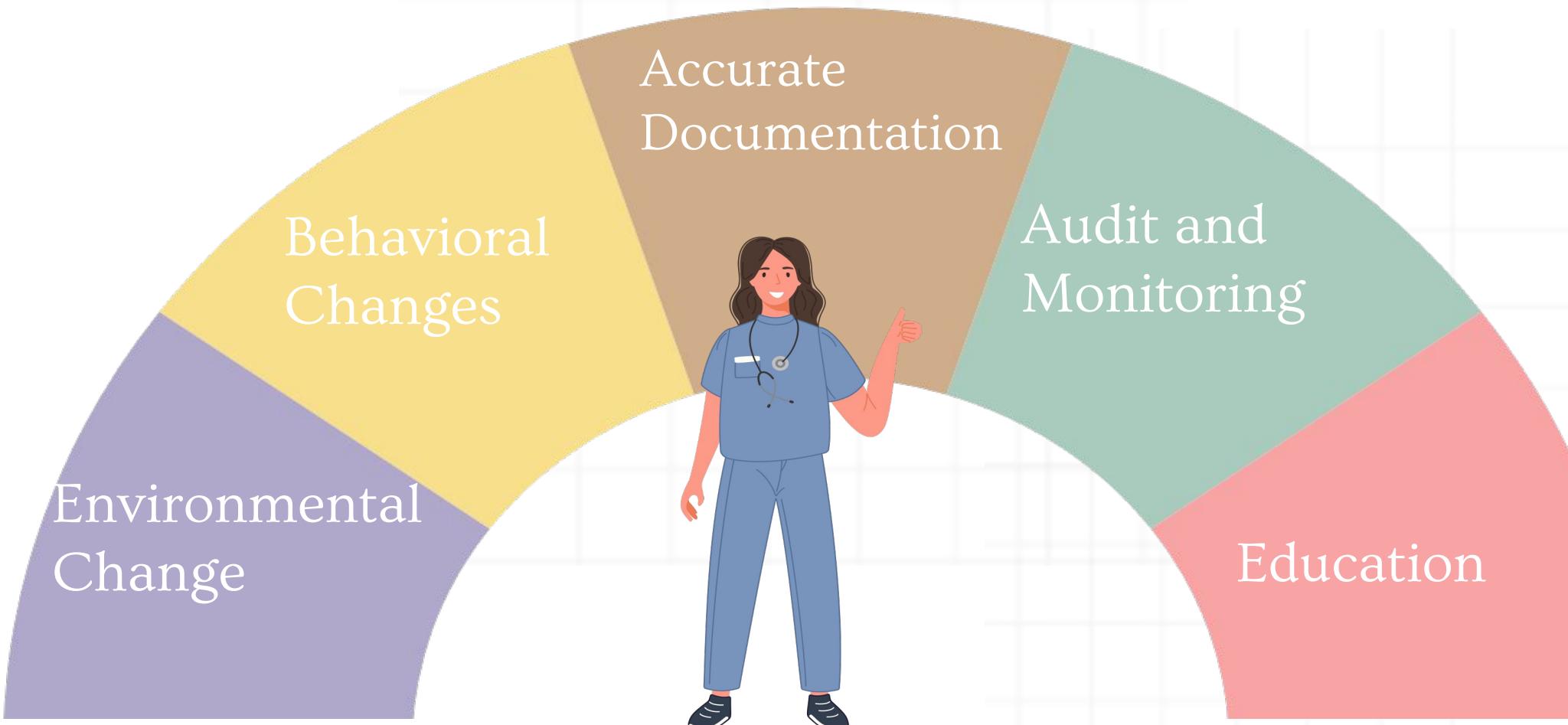
August 2024

December 2024 till present

Ongoing Review

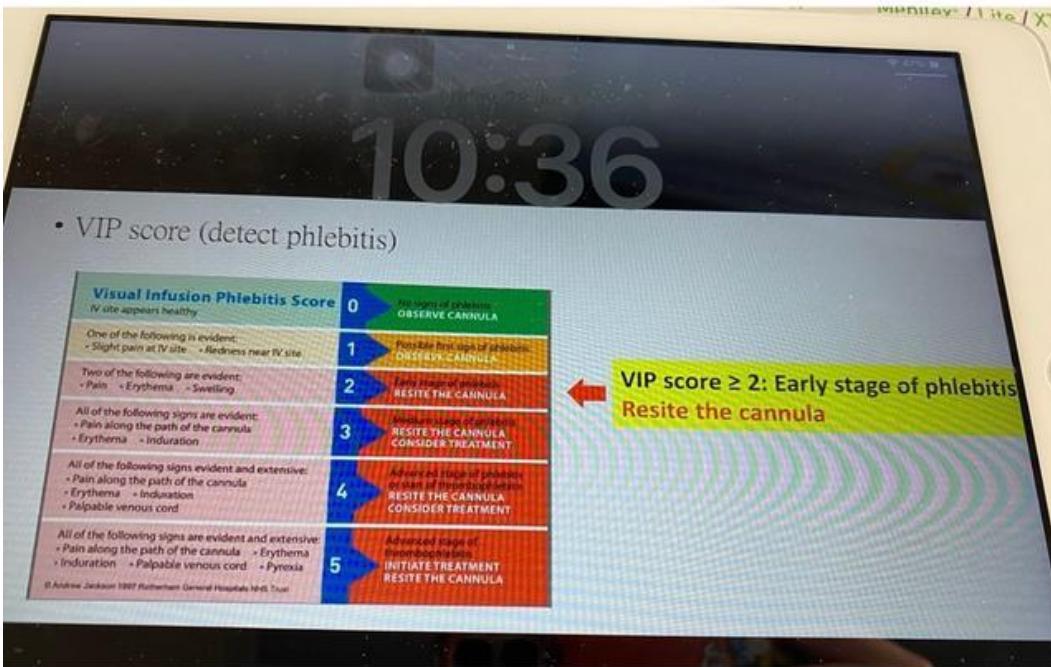
5 Key Components of CQI Project Initiative

(Centre for Health Protection, 2024)



Environmental Changes

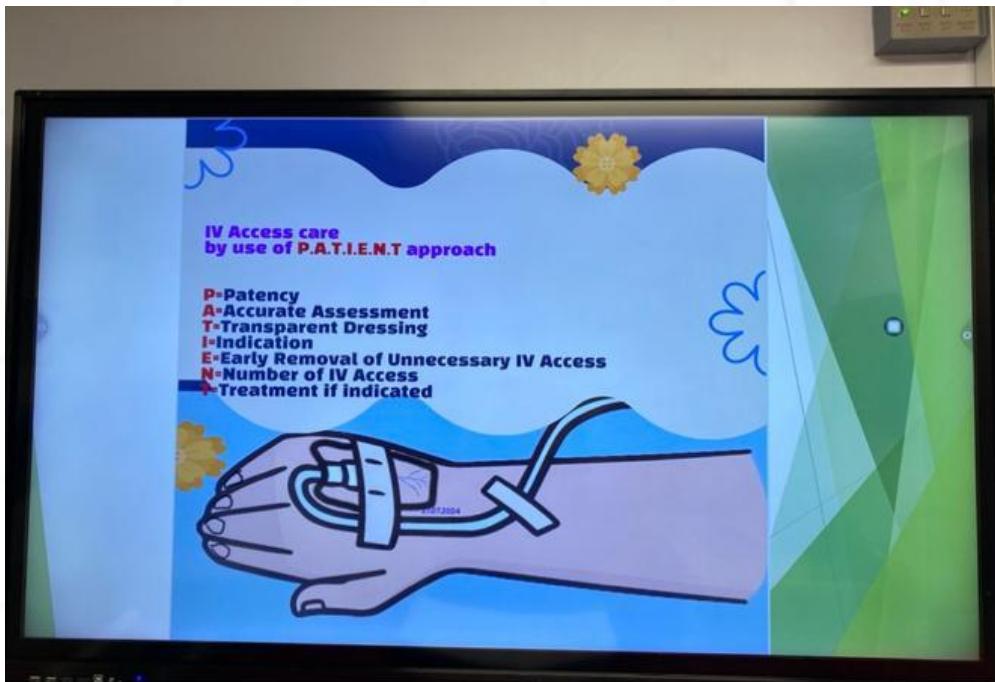
Objectives: To arouse staff awareness on signs of phlebitis and appropriate IV access care



- VIP score applied as iPad Lock Screen
- Highlighting the importance of resetting IV access when VIP score $>= 2$

Environmental Changes

Objectives: To arouse staff awareness on signs of phlebitis and appropriate IV access care



- Displaying the “P.A.T.I.E.N.T” icon in **nursing** station and applied as **iPad** wallpaper
- To remind staff to stay vigilant on proper IV access care

Behavioural Changes

Objectives: To reinforce proper care on IV access
To enhance ward inspection of IV access

IV access table facilitates the followings:

- Identify any **idle IV access** and remove promptly
- Direct the need of prescribing **saline flush** If indicated
- **Quick overview** of all IV access in a cubicle to facilitate duty handover
- Both **paper** and **electronic** version of IV access table are available

Accurate Documentation

Objectives: To minimize inaccurate documentation for better communication and continuity of care



- Template documentation of IV access care is retrievable via HA drive
- Expedite knowledge delivery via mobile phone

Accurate Documentation

Objectives: To minimize inaccurate documentation for better communication and continuity of care

<p>Updated layout of IV access care of PCHOS (ONE location) (Will be in place in mid-June)</p> <p>IV Access Care (ONE location)</p> <p>Access location: _____</p> <p>Indication:</p> <p><input type="checkbox"/> IV medication <input type="checkbox"/> Blood products</p> <p><input type="checkbox"/> IV fluid <input type="checkbox"/> Investigation</p> <p><input type="checkbox"/> Others, please specify: _____</p> <p>Insertion date: _____ / _____ / _____</p> <p>Insertion time: _____</p> <p>Intended removal date: _____ / _____ / _____</p>		<p><input type="checkbox"/> Observe No IV site infection</p> <p><input type="checkbox"/> Normal Saline flush patient at _____ (daily if not in use).</p> <p><input type="checkbox"/> Explanation and education provided to patient / relatives for IV access care</p> <p>Observe signs of phlebitis:</p> <p>Remove cannula if 2 or more signs of phlebitis are noted:</p> <p><input type="checkbox"/> Pain <input type="checkbox"/> Swelling <input type="checkbox"/> Erythema</p> <p>Remove cannula if any 1 sign of Advanced stage of phlebitis is noted:</p> <p><input type="checkbox"/> Induration <input type="checkbox"/> Palpable venous cord</p> <p>keep observation</p> <p><input type="checkbox"/> Remove cannula on _____ (Date) at _____</p> <p><input type="checkbox"/> Check integrity of removed catheter by _____ (Signature)</p> <p>_____ (Rank & Name)</p> <p>on _____ at _____</p>
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- Updated content of IV access care documentation from PCHOS in each mini-station for easy reference

Audit and monitoring

Objectives: To ensure the compliance on proper IV access care in a sustainable manner

- Randomly invite nursing staff (especially junior staff) to participate in **auditor role** in monthly PVC audit
- Make use of monthly audit form adopted by surgery department
- Surgical ICLN initiated case discussion with nursing staff based on those 7 elements of "**P.A.T.I.E.N.T** " during audit round



Education

Objectives: To foster the knowledge base of appropriate IV access care to **nurse and family members**

- Education focus on PVC/CVC care bundles and hand hygiene via HA drive and group chat channel (Sun et al., 2020)

(Gunasundram et al., 2020)

Format: Photo guide, Video, PowerPoint, etc

- Daily cleansing by use of **2% Chlorhexidine wash cloths** for patient with CVC (Garcia et al., 2024) (Reynolds et al., 2021)



Education

- **Objectives:** To foster the knowledge base of appropriate IV access care to **nurse** and **family members**
- Family involvement in education and emphasis on the importance of **hand hygiene** and **daily cleansing** (Garcia et al., 2024)
- Previous MRSA bacteraemia case review prepared by surgical ICLN



Education

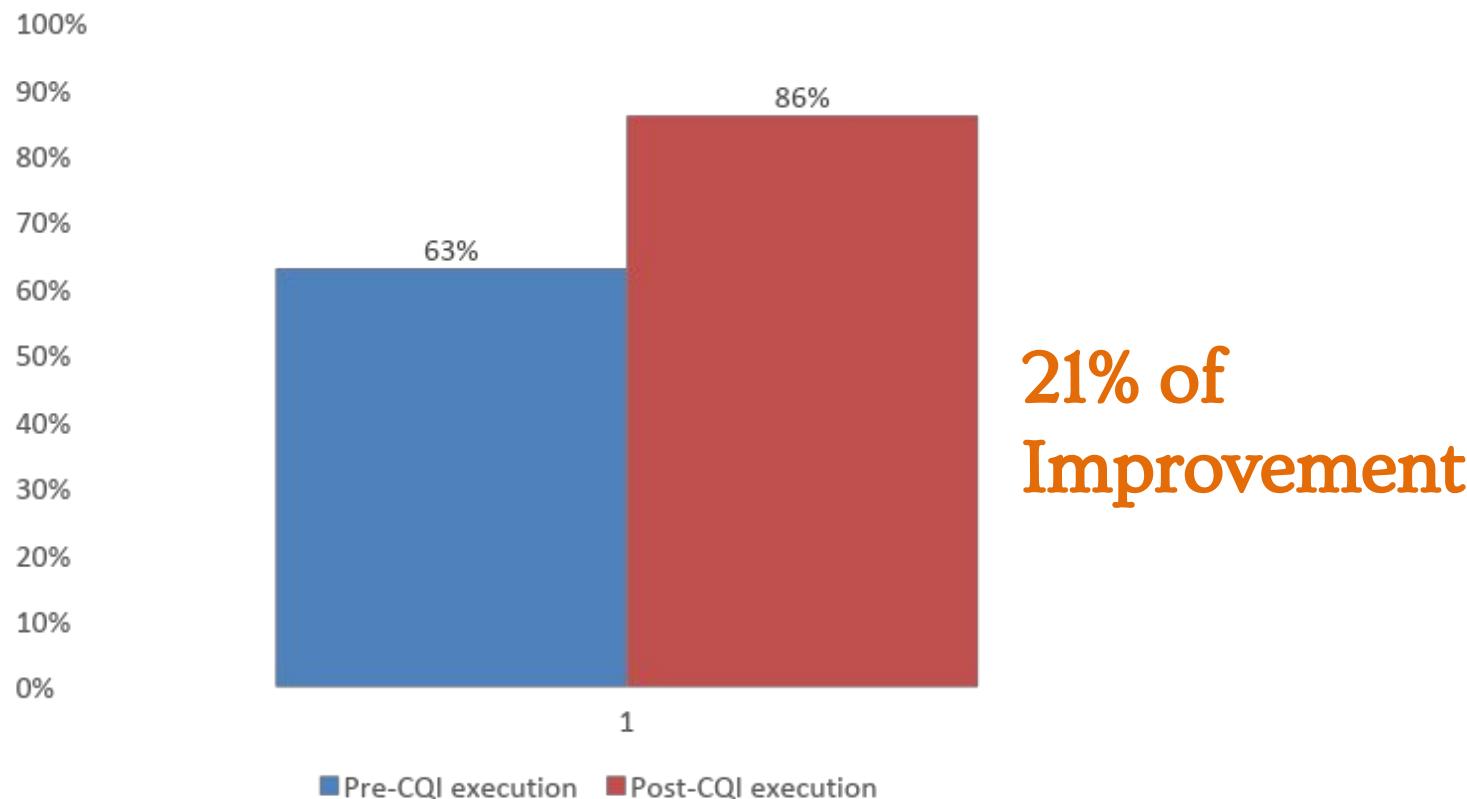
MRSA Bacteraemia Case Review (Case number: HN [REDACTED])



P	Patency is ensured with continuous IV fluid
A	Reminded for constant monitoring on appropriateness of physical restraint as it might hinder the visualisation of IV access site
T	With the correct use of transparent dressing
I	On continuous IVF
E	Reminded for the importance on early removal of IV access if no longer clinically indicated
N	Uphold "keeping minimum IV access" principle
T	Nursing intervention included warm/cold pad and appropriate dressing according to actual assessment Medical treatment include: Topical cream such as anti-inflammatory/phytotherapeutics product (e.g: chamomile) as suggested by research articles

Results and Outcomes

- 1) The overall PVC care compliance improved with up to >90% in December 2024
- 2) 21% of improvement on PVC documentation accuracy noted

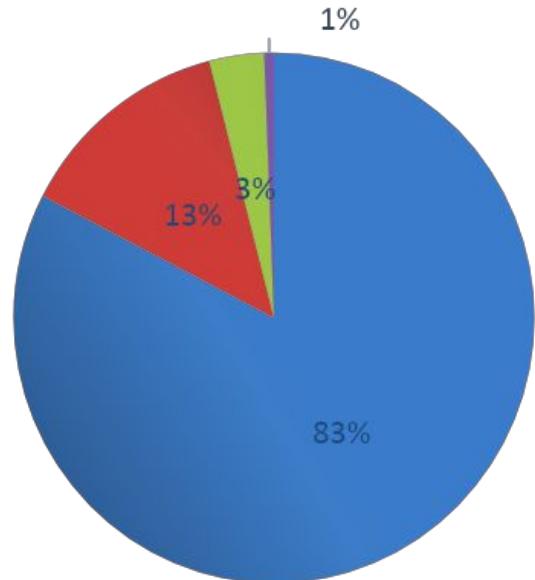


Results and Outcomes

3) 96% of staff self-reported with enhanced awareness and competency on nursing management to patient with phlebitis signs after execution of this CQI project

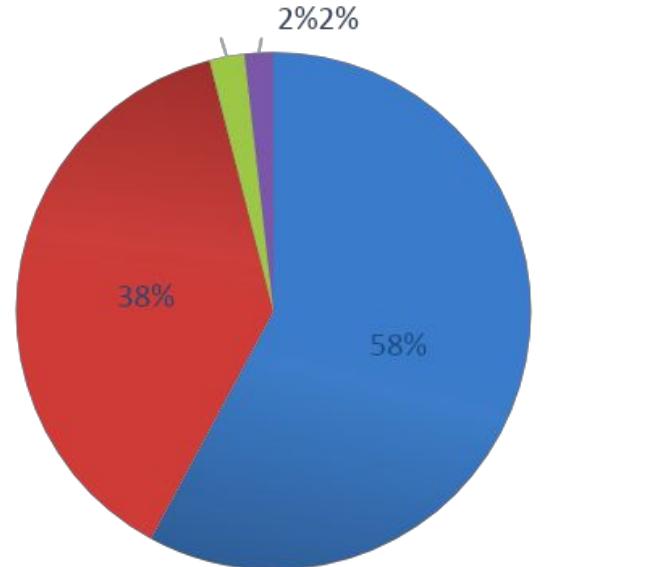
Do you agree that this CQI project enhance your awareness on IV access care?

■ Strongly Agree ■ Agree ■ Disagree ■ Strongly Disagree



Do you agree that this CQI project can enhance your competency in managing phlebitis?

■ Strongly Agree ■ Agree ■ Disagree ■ Strongly Disagree





Way Forward

Team Approach

- Cooperate with medical team could lead to higher success (Ruiz et al., 2024)
- Promote the use of **USG-assisted/infra-red assisted insertion** for difficult cannulation case (Garcia et al., 2024)



In line with PMH ICN IV Access Campaign

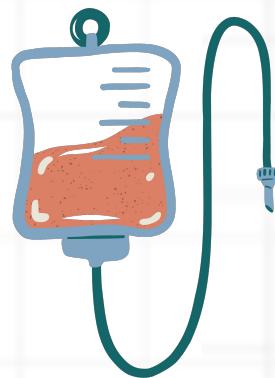
- Share **feedback** and **audit report** done by ICN to colleagues
- Focus group education and hands-on training

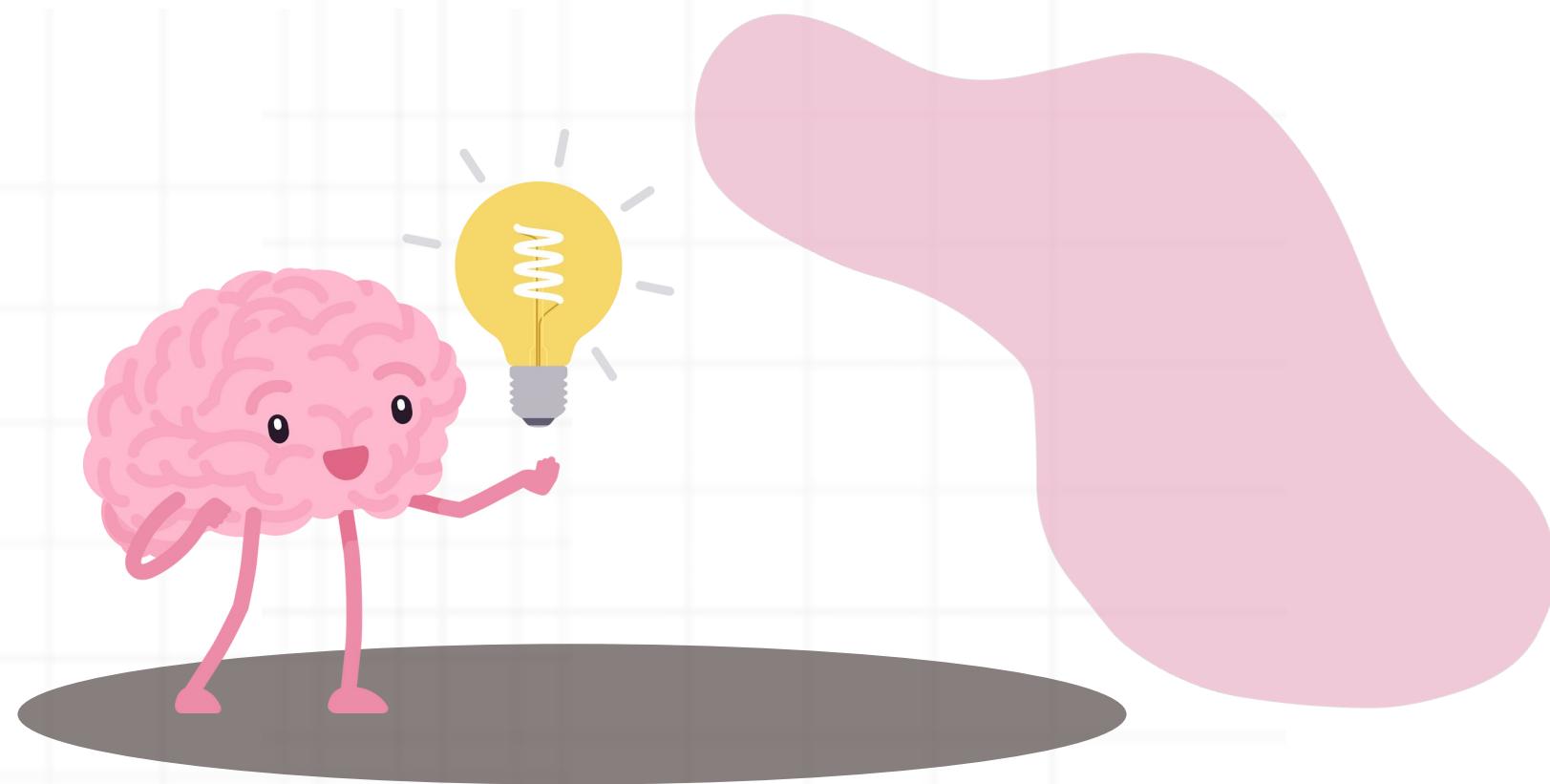
Hand hygiene campaign

- Multidisciplinary involvement (e.g: Phlebotomist, Physician, Patient, Nurse) (Centre for Health Protection, 2024)

Conclusion

- By rigorously applying those 7 elements encapsulated in “**P.A.T.I.E.N.T**” framework → *Patient* outcomes would be significantly improved in long run
- Collaborative approach is crucial in better IV access management as supported by research evidence





THANK YOU

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