



Increasing the compliance rate of using Octenidine treatment for MRSA decolonization in Ward 46 within 3 months

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INTRODUCTION

SGH Ward 46 is a 92-bed multidisciplinary medical ward. Due to the complexity of their conditions, patients often have extended stays and are at higher risk of acquiring **Methicillin-Resistant Staphylococcus Aureus (MRSA)**. MRSA is a bacteria that can worsen infections and is resistant to several potent antibiotics.

MRSA Decolonization Therapy

MRSA patients need to undergo decolonization using **Octenidine Mouthwash and Nasal Gel** for a minimum of **five days** (Fig 1).

Non-compliance will:

- Decrease the effect of bioburden reduction
- Increase risk of MRSA infection
- Increase hospitalization stay and medical expenses
- Increase risk of MRSA outbreak

Nurses' Compliance

Nurses' compliance rate (Fig 2) with administering MRSA decolonization therapy from September to November 2022 was only **29%**.

Fig 1: MRSA Decolonization Therapy

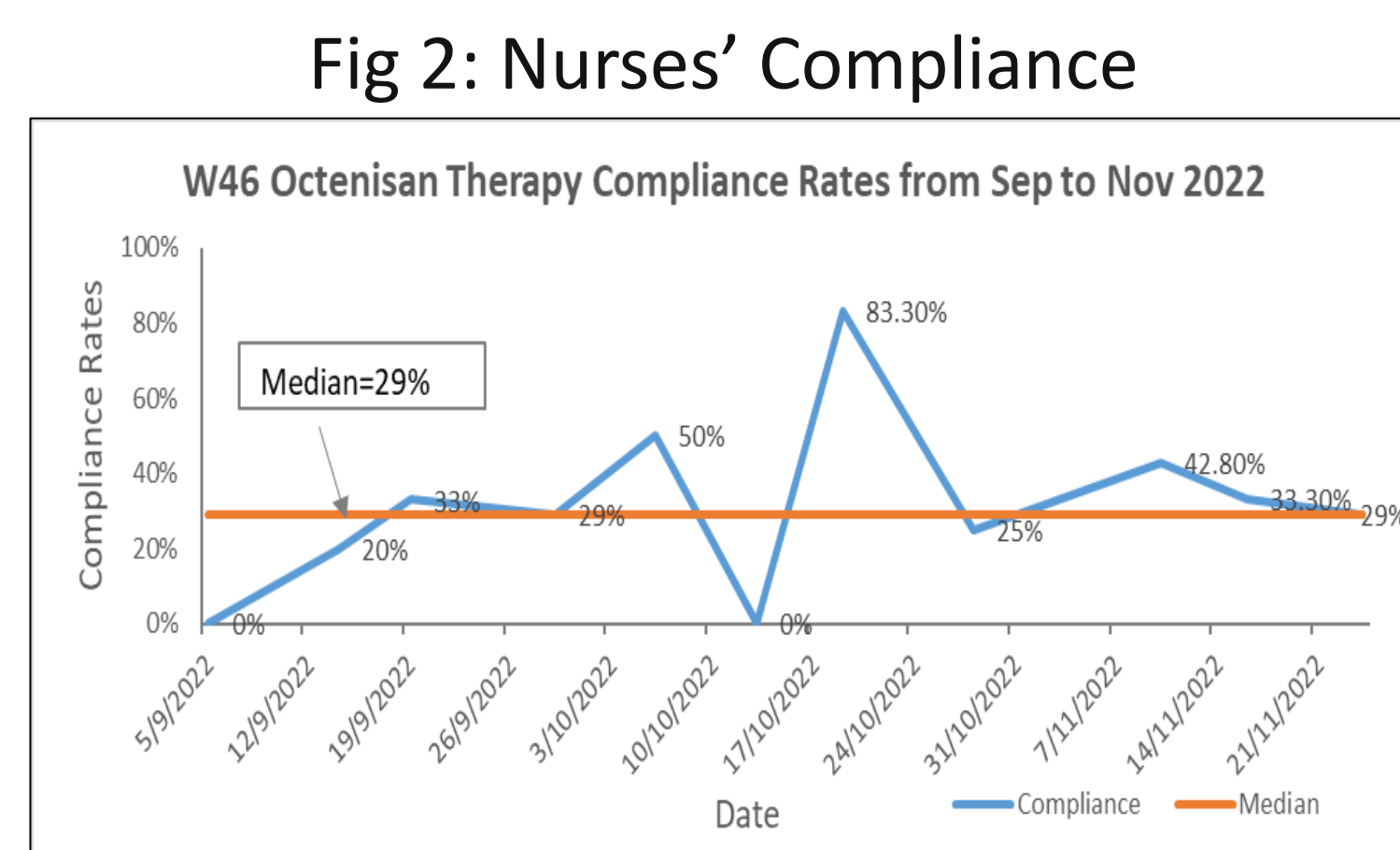


Fig 2: Nurses' Compliance

MISSION STATEMENT

To **increase nurses' compliance rate** in carrying out **MRSA decolonisation therapy** from **29% to 80%** within **3 months** in SGH Ward 46.

METHODOLOGY

Cause and Effect Diagram (Fig 3): Systematically identify and organise potential root causes of the issue

Pareto Chart (Fig 4): Illustrate final root causes to facilitate development of strategies

Fig 3: Cause and Effect Diagram

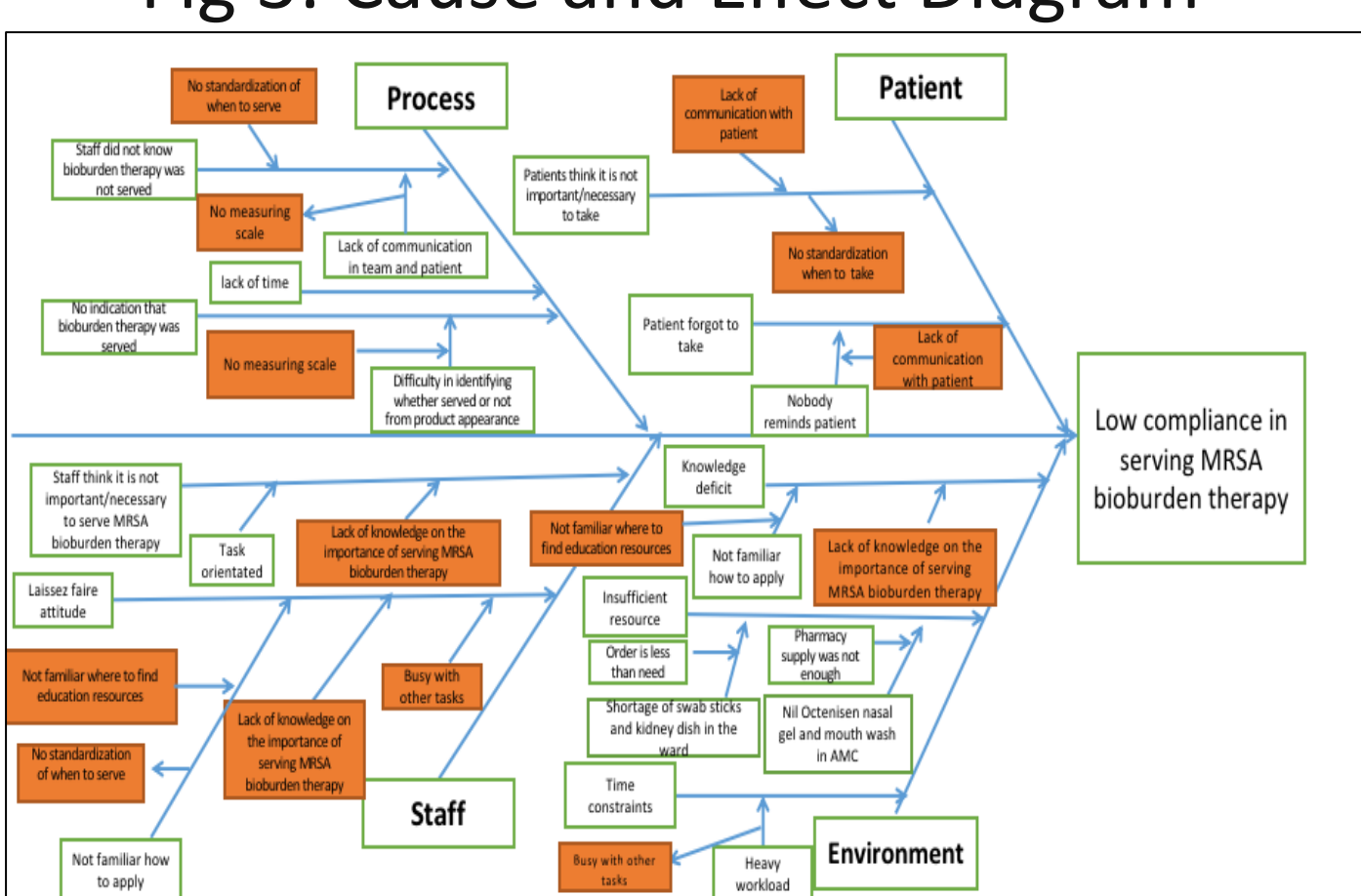
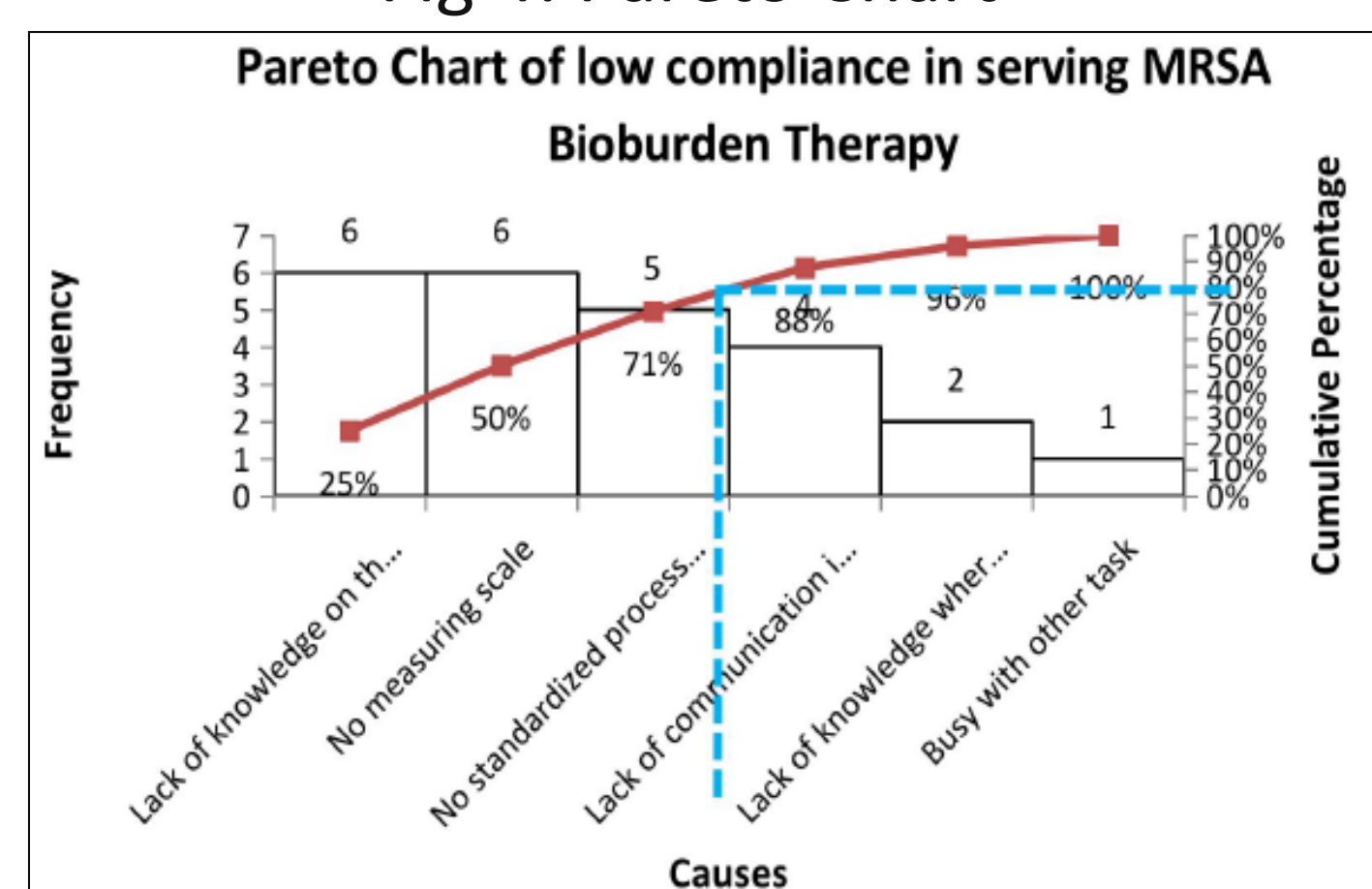


Fig 4: Pareto Chart



3 Final Root Causes selected among team members (Fig 4):

- **Lack of knowledge** on the importance of serving MRSA decolonization therapy
- **No measuring indicator** on Octenidine Mouthwash bottle to ascertain when was it last served
- **No standardized process** of who and when to administer MRSA decolonization therapy

Fig 5: Tree Diagram/Prioritisation Matrix

Possible solutions

developed through the team's continuous effort in **brainstorming** and **gathering feedback** from the ground nurses (Fig 5).

Aim of project	Concepts to address root causes	Specific Solutions	Effort/Time	Cost/Time	Feasible	Sustainability	Total Score
The address MRSA decolonisation rate among patients in ward 46, by using Octenidine Mouthwash	Establish on container administration of Octenidine Mouthwash	Octenidine training by RPT	4	2	4	4	14
		Octenidine training by RPT	4	2	4	4	14
Improve on the process of administering MRSA decolonisation therapy	Establish on container administration of Octenidine Mouthwash	Octenidine training by RPT	4	2	4	4	14
		Octenidine training by RPT	4	2	4	4	14

INTERVENTIONS/INITIATIVES

PDSA 1: Enhancing Nurses' Knowledge on MRSA Decolonization

The team, led by IPN Qinnan, conducted **weekly in-service talks** with 90% of Ward 46 nurses to **improve their understanding of MRSA decolonization therapy**. Key topics included MRSA epidemiology, at-risk populations, transmission routes, preventive measures, the importance of decolonization therapy, and its administration.

PDSA 2: Ensuring Consistent Octenidine Mouthwash Administration

The team proposed **marking the Octenidine mouthwash bottle** with micropore tape (Fig. 6). After administering the mouthwash, nurses should record the date and time on the tape.

PDSA 3: Standardization

The team created a **workflow flowchart** (Fig. 7) to **improve understanding and standardize** the administration of the therapy. This flowchart was **shared with nurses and displayed in the ward's preparation rooms** for easy and quick reference.

PDSA 4: Reinforcing Timely Administration through Random Audits

Random audits were conducted to **reinforce staff knowledge and ensure timely administration** of MRSA decolonization therapy.

Fig 6: Octenidine Mouthwash

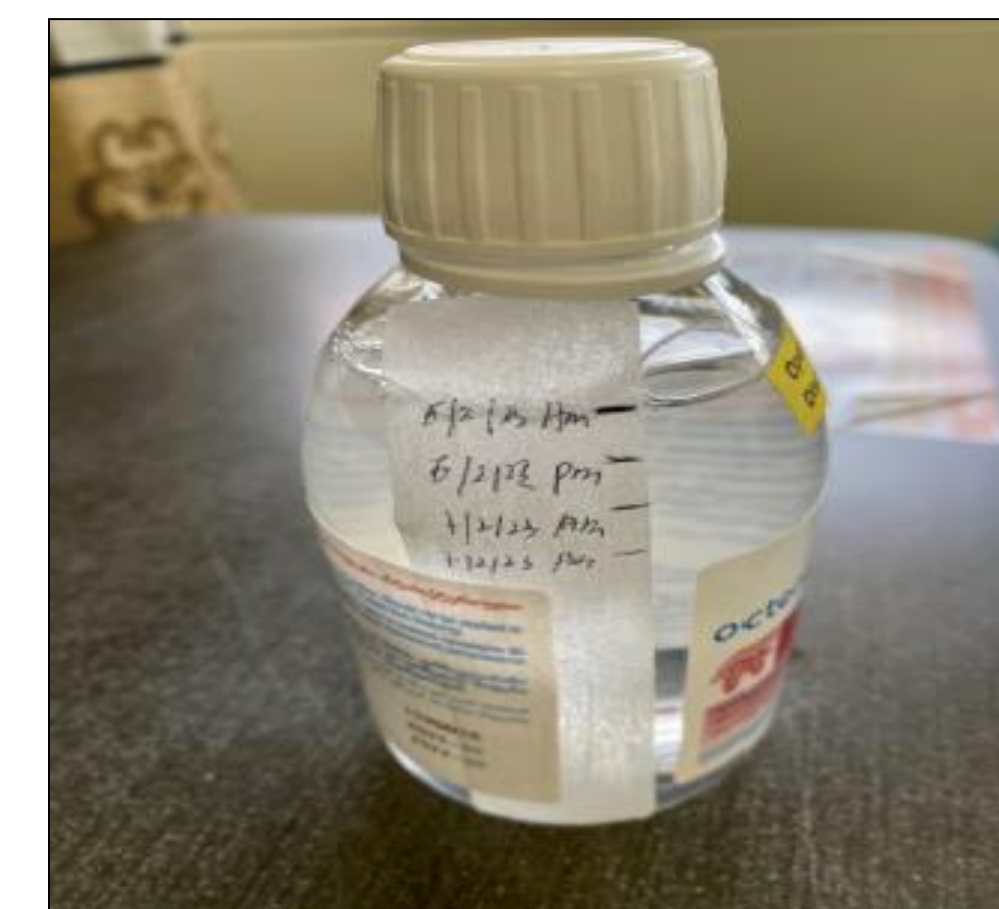
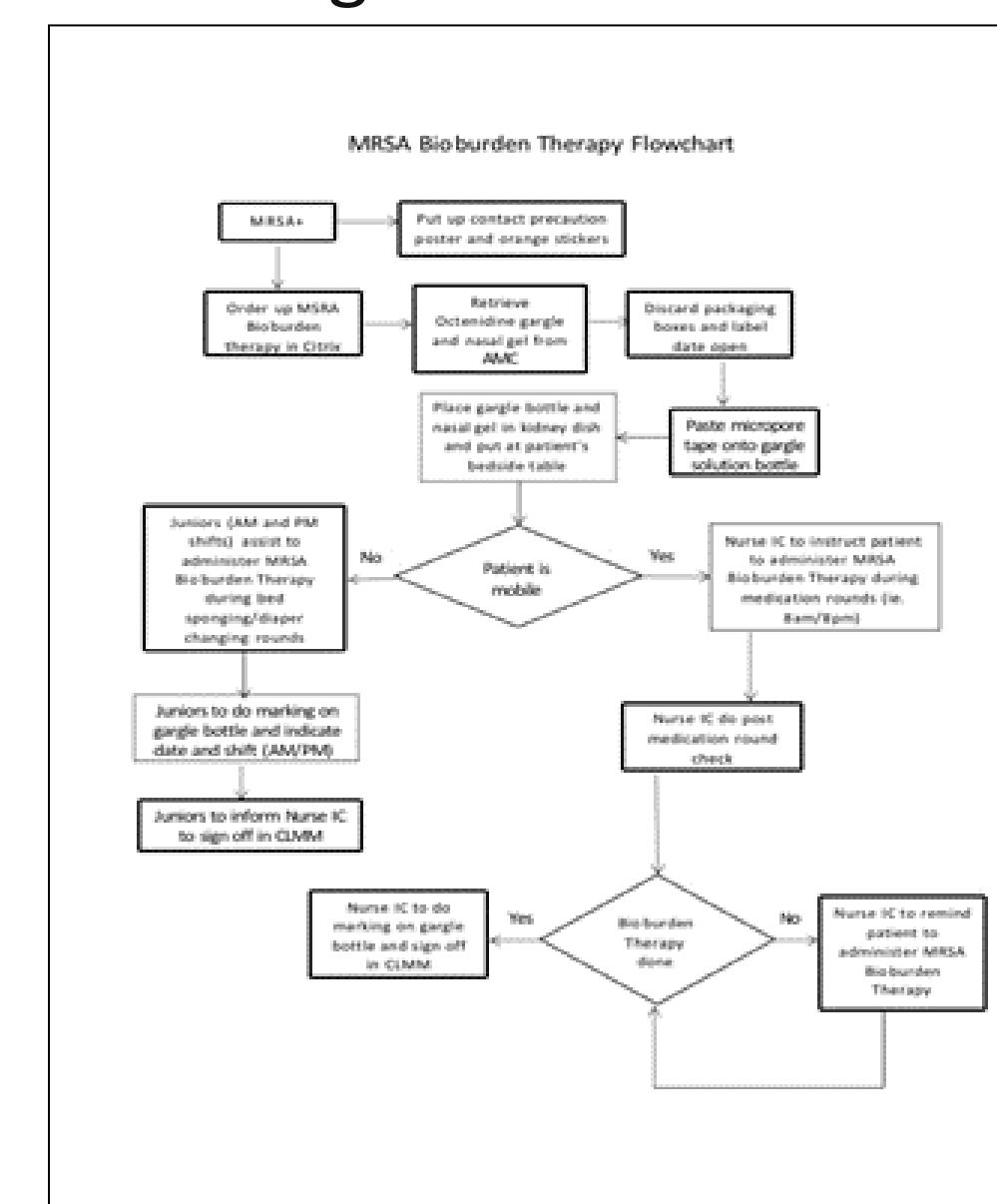
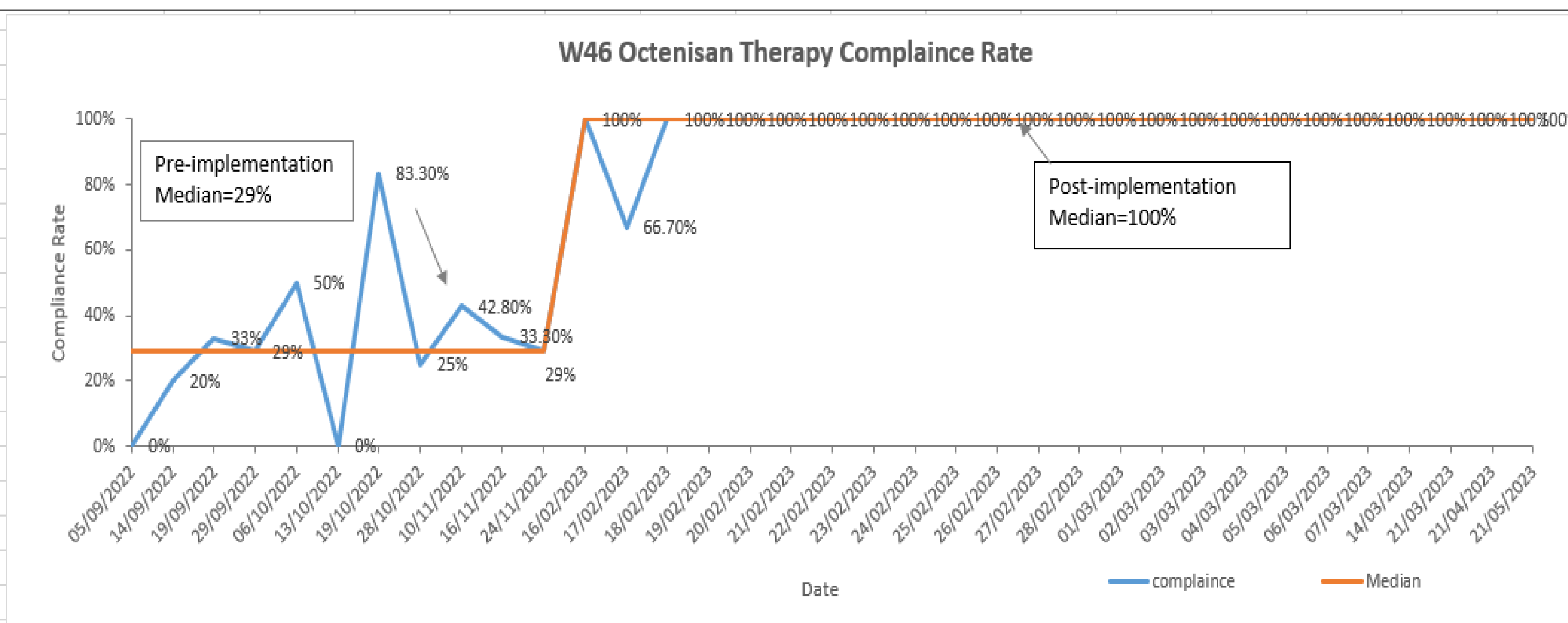


Fig 7: Workflow



RESULTS

TANGIBLE



Comparing pre- and post-implementation compliance rates revealed **significant improvements**. The median compliance rate increased from **29% to 100%**. Despite one instance where **compliance dropped to 60%**, **immediate corrective actions were taken**, and the rate returned to 100%, **maintaining consistently** thereafter.

INTANGIBLE

- This project **significantly increased staff awareness** of the importance of MRSA decolonization therapy and **improved compliance**.
- This had also **directly reduced the incidence of HO-MRSA** in the ward, preventing further spread and potential outbreaks.
- In summary, the project **demonstrated the team's commitment to patient safety** through the development and implementation of effective strategies.

CONCLUSION

This project **successfully increased nurses' compliance rate** in administering MRSA decolonization therapy from **29% to 100% within three months**. To **sustain these improvements**, the team will conduct **regular in-service sessions** and ensure **all new staff are briefed on these interventions**. Additionally, the team will **gather feedback and address any queries to maintain high compliance rates**.