***STEP-UP FOR CHANGE*: Improved pediatric patient management through implementation of action plans obtained from mortality auditing in the Pediatric Department, National Referral Hospital, Solomon Islands.**

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Introduction

- Reducing child mortality is a major goal in the pediatric department, NRH , Solomon Islands (SI).
- In 2017 , the pediatric department introduce mortality auditing to improve quality of care.
- A retrospective study done that year noted mortality cases were well audited but implementation of action plans (AP) were poor.
- A Quality Improvement team (QIT) was recommended to take up the role of implementation of action plan.

AIM

- To evaluate the implementation process of action plans (AP), obtained from the pediatric mortality auditing, when introducing QIT to carry out the implementation process.

Methodology

Study type:

- Prospective and observational study

Setting:

- Pediatric Department, NRH, SI.

Time line: (1 year)

- March 2019 –March 2020

Study population

- 136 pediatric death case audited

Sample size

- A total of 93 AP

Data collection

- QIT log books & minutes
- An AP implementation monitoring template.

Data analysis:

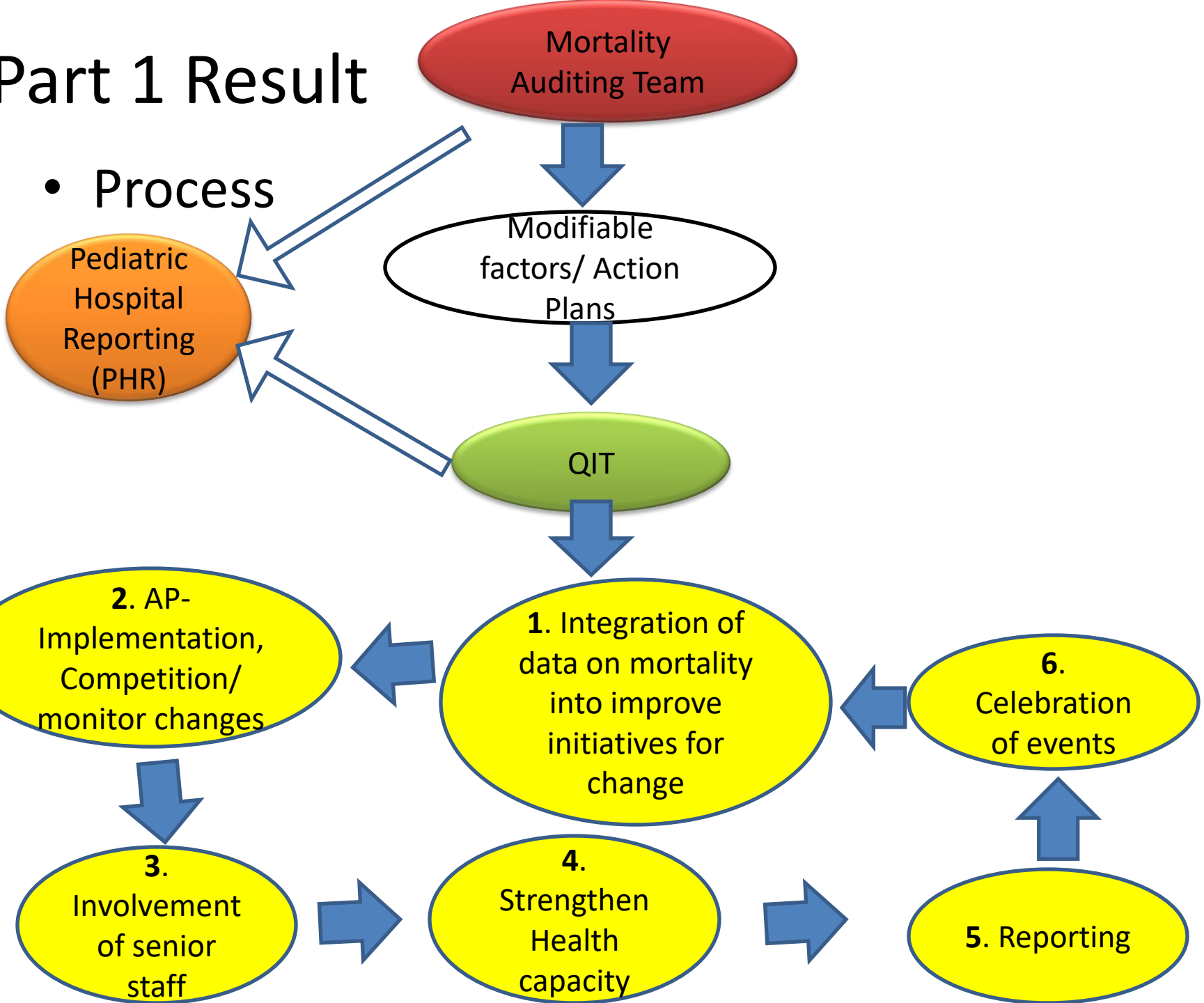
Excel software

Ethics

- Approval from MHMS, SI Research committee.

Part 1 Result

- Process



Part 2 Result Conti

Table 1. Percentage of action plans achieved in each target level of communication Hierarchy

Level of communication hierarchy	Percentage of action plan for each	Percentage achieved
Under Secretary Health Improvement (USHI)	2/93= 2%	0/2=0%
Provincial Health Directors	12/93= 13%	7/12 = 58 %
CEO , National Referral hospital	20/93=21%	18/20= 90%
Pediatric Department	59/93= 64%	48/59=81%

Examples of improved changes to clinical practice

Action plans	Corrective changes	Improvement achieved
Discussing of admitted cases	All admitted cases were reviewed immediately	Proper diagnosis and proper early managements
Early follow-ups results for all patients	RMOs to pick up results before ward rounds	Early follow up results(RMO job descriptions)
Updated protocol on anti seizure	Anti seizures updated in the guideline	Distribution of guideline to team, (now in apps)
Proper handing over of sick cases to on call team by 3 pm	Handing over by 3pm at bed side	Proper management done, update was made the next day
Make color-code monitoring tool for very sick in ward patients	Color code monitoring tool was formed , printed & taught to nurses	Using of Color code monitoring tools to escalate care .
Proper documentation	Write-up incidental reports	Addressing chronic irresponsibility address
Advices on danger signs to be done by doctors before discharge	Danger signs and priority signs discussed to parents	Ensuring parents know dangers with hope to avoid delayed seeking health

Examples of improved changes in clinical supporting resources for patient care

Action plans	Corrective changes	Improvement achieved
Buy new ward standing scales	2 New standing scales bought (children's ward budget)	Accurate dose calculation & patient monitoring
Buy new ward clocks	2 New ward clocks paid (Children ward's budget)	Improved in timely ward activities
Obtain new portable O2 bottle for SCN and Wards	2 new portable O2 bottles obtained from pharmacy	Convenient transporting of O2 supported patient
Budgeting for new pulse oxymeters	Repairing of old ones while waiting	Proper monitoring of oxygen saturation
Follow-up new phototherapy light at Med-Store	A new phototherapy light for SCN	Improve Jaundice management (better than none)

Examples of improved changes in personal/ human resources

Action plans	Corrective changes	Improvement achieved
Increase interns exposure to cases in admissions and ward managements	Discussion of cases with registers and SMO for more knowledge	Knowledge obtained through case discussion and learning issues
KMC training for SCN/ Obs	KMC training done	Early discharge & improve survival in ELBWT
CPAP training for doctors	Training was done & steps provided	Improve management of MAS patients.
Discussion of chronic and challenging cases	Initially a big challenge until 2021 case discussed via zoom (maintained to date)	Learn from experts and experience via zoom (Australia/ neighbors pacific)

Examples of improved changes to pediatric patient care outside hospital

Action plans	Corrective changes	Improvement achieved
Discuss cases with outside health facilities before referrals.	Updating pediatric time table in doctors communication platform	Easy discussion of case prior to referral and referral plans
Improve GSH unnecessary referrals	Develop pediatric outreach to GSH	Better co-managements of patients and cheaper for distant patients
Improve HHC (Pikinini clinic) referrals	Pediatric out reach to HCC (Pikini Clinic)	Supporting and reducing referrals to NRH
Integration of pediatric outreach to rural hospitals through UNICEFs	Pediatric team embarked on UNCEF child care programs to carry out pediatric out reach to the provinces	Western province and Malaita province outreach achieved. (when MHMS budget was difficult)

Results : PHR report on case fatality rates

Fig. 1

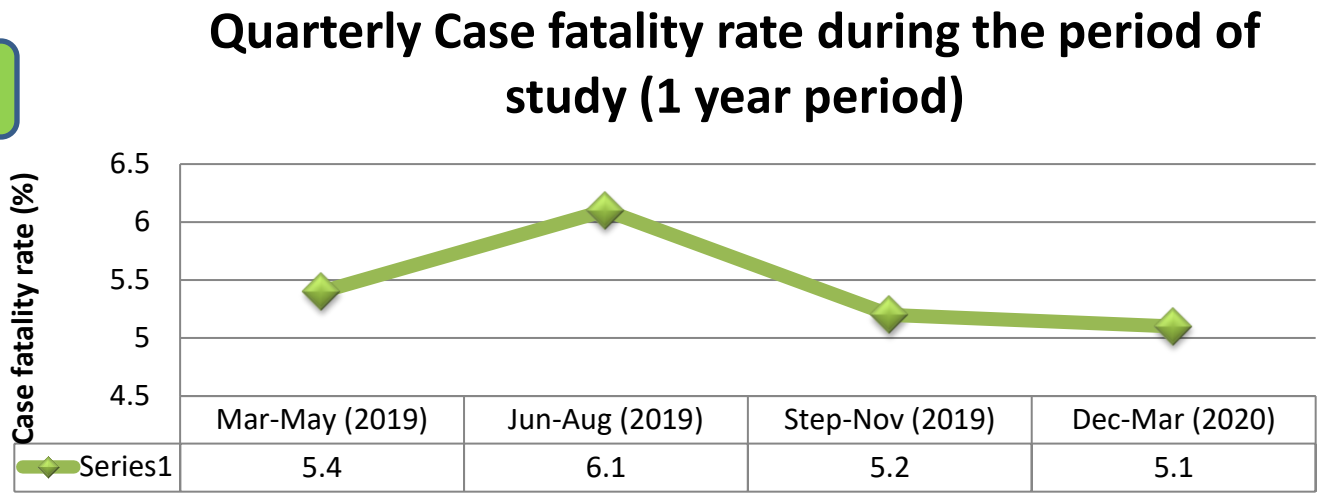
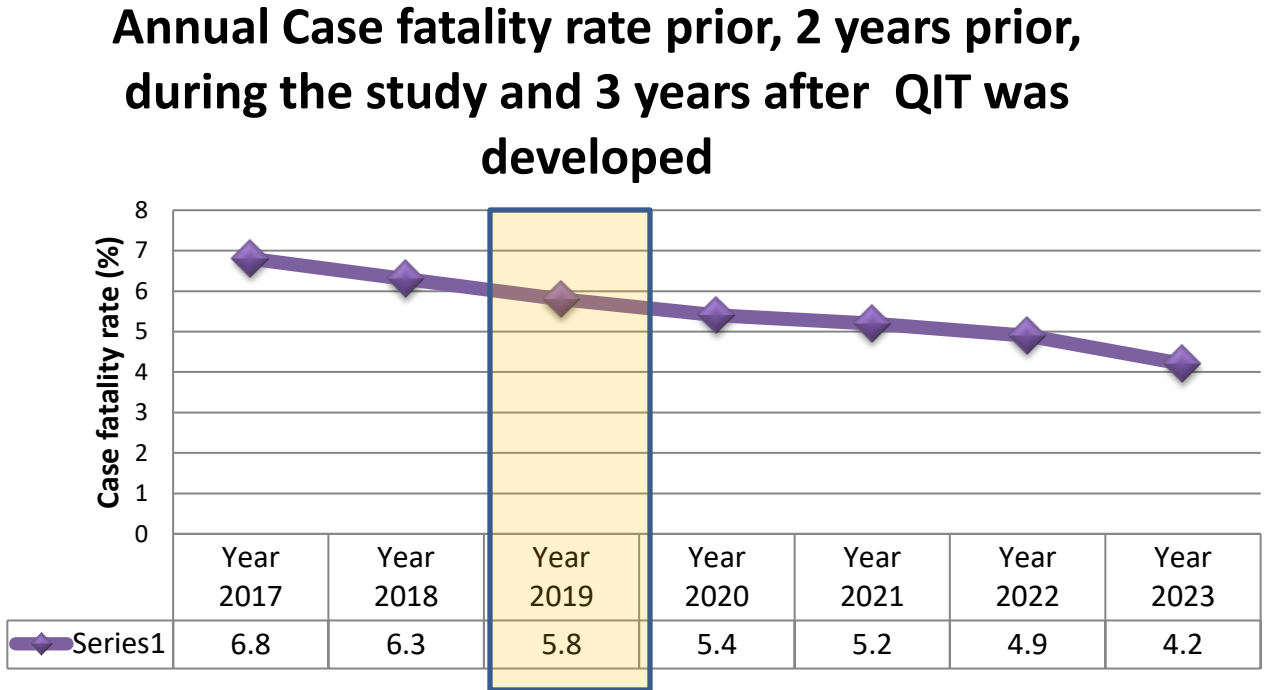


Fig. 2

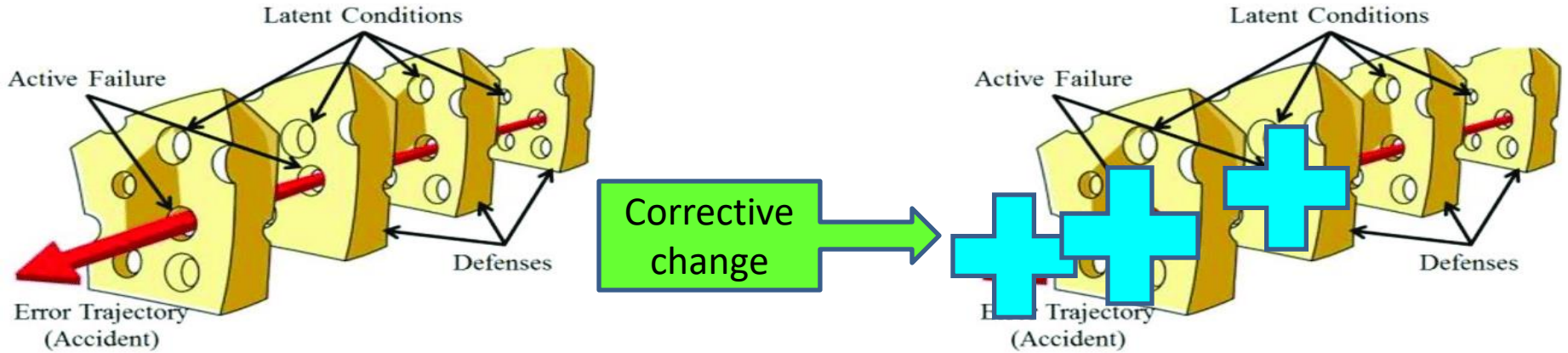


Discussion

- In this study, a QIT was formed: pediatric doctors & nurses represented.
- Mortality auditing team, focused well on auditing and the QIT focused well on action plan implementation process.
- 6 components of action plan implementation process (WHO) were noted achievable.
- Both teams strive to maintain PHR

- QIT focused on improving quality of care in the simplest way it can be, through creating “simple action plans” and “simple corrective changes” due to limited resources.

- All action plans were regarded as of equal value. *“patching up holes in “Swiss cheese model” of adverse events (WHO)*



- The QIT focus was more on improving pediatric clinical practice with limited available resources.

- Thus, more action plans were made to lower level, Pediatric department and CEO NRH level of which a good number of action plan achieved.

In the department level, QIT focus more on:

- Improving patients clinical care as top priority *(training of staff, updating guidelines, discussing cases abroad)*
- Utilizing of available resources to its maximum potentials and striving to get new ones.
- Extend pediatric outreach to neighboring clinics and hospital to reduce referrals.
- Improving communication pathway to distant Hospital.
- Modify certain NGO/ pediatric integrated programs to benefited pediatrics as well (a double achievement)

- At higher level of communication hierarchy; financial limitation, prioritization, and policies were the common issues hindering achieving corrective changes .

- QIT has potentials to influence changes at higher levels due to evidence-based records

- QIT may provided alternative approaches for corrective changes to this higher levels but with limitations.

Recognizing improved changes

- It difficult to assess improved quality of care made during the period of study, but recognizing corrective changes made, were the great achievements QIT made, in hope to improve quality of care.

- Continuation of QIT after the study is another hope to achieve changes over time. (*Quality of care is a continuing cycle (8))*

Acknowledging achievements

- Reporting and celebration of events were the 2 implementation process steps partially achieved during the period of study but can be achievable in future.

"In 16th Nov, 2023, QIT launched it's first mini symposium celebration of achievements".

(3 years after QIT was formed)

1st Ever mini symposium, through QIT

THEME

- ***"Empowering change through strengthening monitoring and evaluation in paediatric and neonatal clinical services @ NRH"***

Dr DIVI OGAOGA

DR LUDAWANE, LUMASA

Case fatality rate reflection

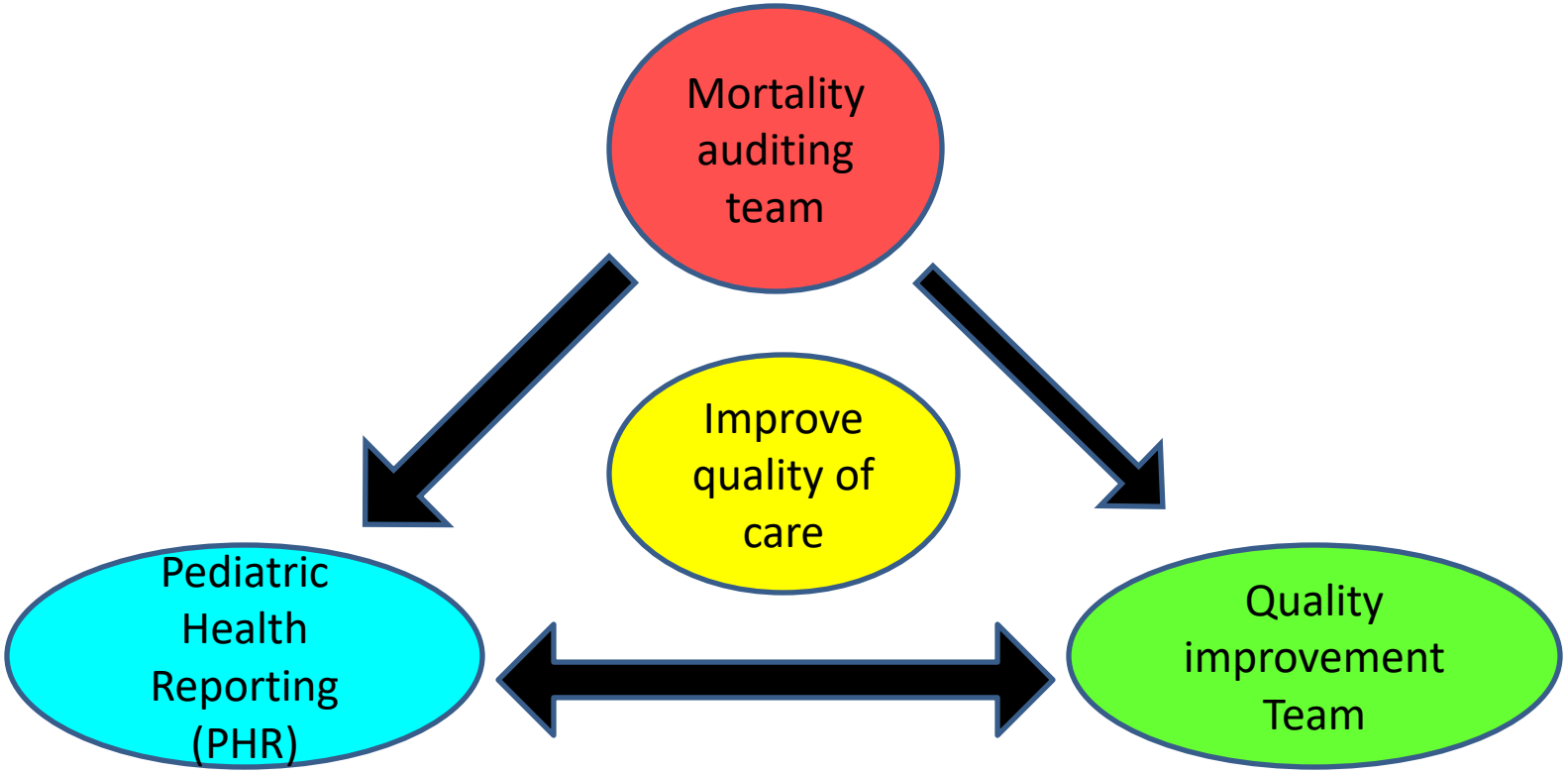
- The progressive reduction of case fatality rate in the department could be a positive outcome of QIT.
- A possible reflection of improving in quality of care in the department.

- Most corrective changes, were made against gaps leading to cause of death
- QIT continued to evolve to monitor and maintain corrective changes made.

So what do we learned?

A **simple triad** of improving Quality of care .

(An improved pathway to step up for change)



Limitations

- Proactive response of QIT Members was a challenge in this study.
- No specific time ranges for none achievable action plans *(longer time was needed for some corrective changes to be made.)*
- There maybe some oversights in the PHR case fatality rates.

Conclusion

- QIT supporting, Pediatric mortality auditing team, would be:
- the most simple and efficient approach to improving implementation of AP and quality of care in pediatrics; in a low/middle income country like Solomon Islands.

Acknowledgement

- Prof Trevor Duke.
- Immediate supervisor: Dr Titus Nasi
- QIT proactive chairpersons:
  - →Dr Steve Lumasa (2019-2021),
  - →Dr Carol Titiulu (2022-2024)
- QIT Members (NRH)
- Hard working pediatric staffs to make changes happened (doctors, nurses and cleaners)

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Thank you