

# PROCESSES AND NURSING EFFICIENCY

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CHAD ANDREWS, MSN, PMHNP-BC

VANDERBILT UNIVERSITY SCHOOL OF NURSING

# THE PROBLEM STATEMENT

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- Nursing staff at Peninsula Community Health Services (PCHS) in rural Alaska lacked an efficient process to manage the increased patient call volume related to Covid 19 that has resulted in workflow problems
  - Previously, 300 calls per day
  - Current average of 600 per day
  - Half of all calls will talk to nurse or nursing aid
  - Estimated call length is 4-15 minutes
  - No process to address added demand
  - Decreased staff due to pandemic and logistics of rural Alaska

# PURPOSE

THE AIM OF THIS QUALITY IMPROVEMENT PROJECT WAS TO:

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- Design a process flow map for phone call management by nursing staff
- Assess their perception of the new process
- Provide recommendations to stakeholders for next stage of PDSA cycle to implement changes.

# OBJECTIVES

THE OBJECTIVE OF THIS QUALITY IMPROVEMENT PROJECT:

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- Utilized a nursing action team (the frontline of healthcare)
- Gain collaborative input on a process flow map
- Streamlined call management by nursing staff at PCHS
- Brief future stakeholders for next stage of PDSA cycle to implement changes.



# BACKGROUND

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- Call volume requiring nursing staff attention and the time spent talking with callers are excessive and unsustainable.
- Efforts to add nurses and nursing aids to the staff have been unsuccessful.
- Limited new staff has been retained
- nursing shortage
- logistics of rural Alaska
- pandemic persists

# BACKGROUND

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- Decrease in available nurses and increase in healthcare demand due to Covid 19 has created a dire situation for patients, nursing staff, and PCHS.
- Increased efficiency of the workflow process to manage phone calls must be addressed to mitigate threats to:
  - quality patient care
  - retention of nursing staff
- Supply cannot be increased
- Demand cannot be decreased
- Efficiency must be increased

# CONCEPTS

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- Nurses are experiencing saturation and must decrease workload, increase nursing staff, or work more efficiently. This is a national trend with the projected nursing shortage (AACN, 2007).
- LEAN methodology has been effectively utilized to increase efficiency in the healthcare setting (Kelendar, 2020).
- LEAN utilizes persons on the frontline to effectively increase efficiency (Millard, 2019).
- Nurses are at the frontline of healthcare and this problem.

# FRAMEWORK

## LEAN

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- Proven technique to increase efficiency from the frontline (Millard, 2019).
- Recognizes the knowledge of those on the frontline (Millard, 2019).
- Core principles:
  - value
  - value stream
  - flow
  - pull
  - perfection



# FRAMEWORK

## PDSA

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- Plan
  - Consulted w/lean expert
  - worked w/leadership
- Do
  - Raised Nurse Action Team (NAT)
  - Created process flow map

# FRAMEWORK

## PDSA

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- Study
  - Nurses' feedback w/survey
  - Analyze data
- Act
  - Share feedback with stakeholders for next PDSA,
- Next cycle will start with planning for implementation of any changes the stakeholders agree to make

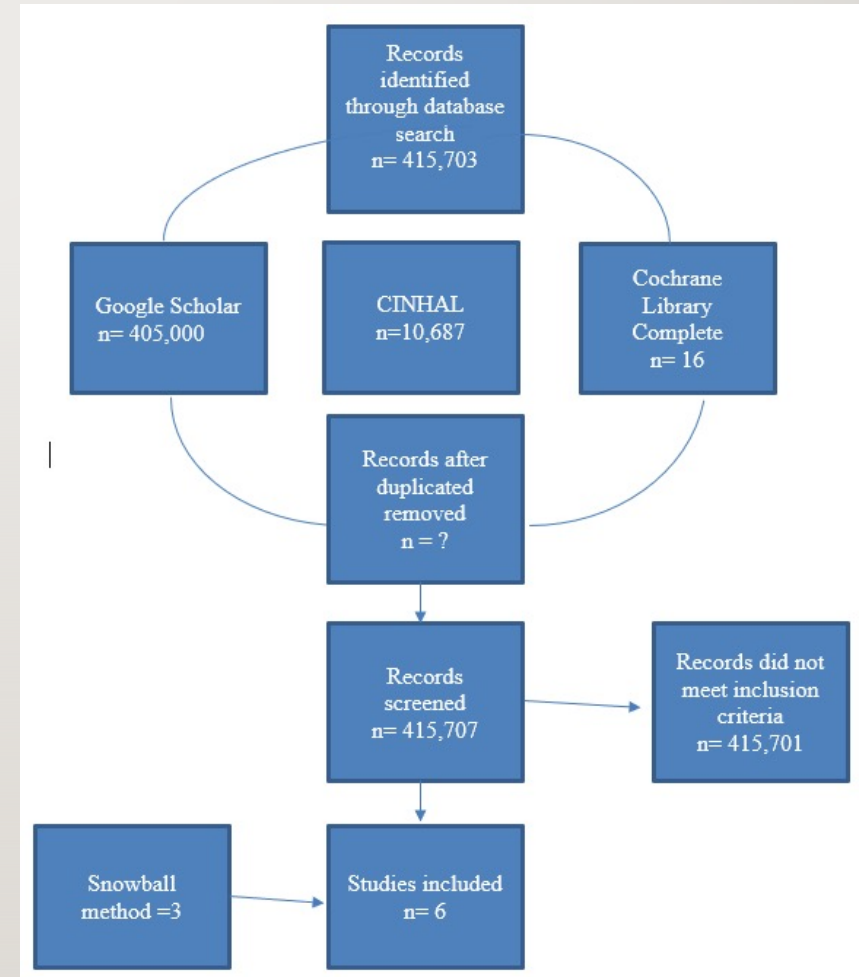
# EVIDENCE SEARCH

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- Cochrane Library, CINAHL, Google Scholar
- Search terms: 'LEAN,' 'methodology,' 'healthcare,' 'health care,' 'efficiency,' 'outpatient clinic,' 'nursing efficiency'.
- The 'Snowballing' method of locating high quality works by reviewing the references of those articles identified was also used in this search (Wohlin, 2014).

# EVIDENCE SEARCH

- Inclusion and exclusion criteria were based on LEAN application in the healthcare setting
- Peer reviewed
- Articles that addressed increasing efficiency in the healthcare setting with the LEAN method
- Written in English
- Published between 2010 and 2020 were included
- Additionally, works from MEDLINE were eliminated
- From 415,707 results reduced to 6 works (included with snowball method)





# SYNTHESIS OF EVIDENCE

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- Improvement
  - Waste elimination
  - Decreased patient waiting times
  - Improvement in accessibility of healthcare services.
- Barrier
  - Quantifying the improvement
  - Method variation
  - Limited client satisfaction data

# SYNTHESIS OF EVIDENCE

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- Utility
  - Effective in healthcare
  - Decreased patient waiting times
  - Improvement in accessibility of healthcare services.
- Gaps
  - Appropriate data analysis plan
  - Addressing possible bias
- Consider
  - Quality improvement covers tremendously large environments.
  - Appropriate and concise planning is crucial to promote utility and decrease gaps

# METHODS

## PROJECT DESIGN

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- Quality improvement initiative
- Address efficiency in a clinic workflow process
- Utilize LEAN methodology
- Data was collected from participants' (nursing action team) perception of product
- Data to educate stakeholders at future time for next stage of PDSA cycle to implement changes.

# METHODS

## SETTING

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- Nonprofit Community Health Center
- Rural Alaska
- Departments
  - Primary Care
  - Psychiatry (psychotropic management service w/ limited therapy)
  - Behavioral health (therapy only)
- Two locations (Soldotna and Kenai)



# METHODS

## PARTICIPANTS

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- Dr. Leming-Lee (LEAN expert) (project team)
- Investigator, self PMHNP-BC (project team)
- Two registered nurses (participants)
- One nurse aid (participants)

# METHODS

## IMPLEMENTATION

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- Consulted with Dr. Leming-Lee
- Developed nursing action team
  - Two registered nurses
  - Planned to have one nurse assistant, but two joined the NAT
- Nursing action team meetings
  - Developed yes or no process
  - Developed into process flow map
  - Collected data from nursing action team regarding product
- Analyzed data for future use to educate stakeholder

# METHODS

## DATA COLLECTION

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- Three binary questions with room for rationale were completed in private
- Additional comments sections were largely unused
- Collection was completed individually after last nurse action team meeting.
  - Nurse action team members stated they completed questionnaires without collaboration

# METHODS

## DATA ANALYSIS

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- Graphs for binary questions were completed using PPT
- Descriptive statistics to interpret data
- Data storage/secured with nursing-all drive at PCHS (Still pending approval by leadership)
  - Data is currently held on my work drive, school drive, and raw data is temporarily held in physical office project folder in filing cabinet at PCHS in a secure room

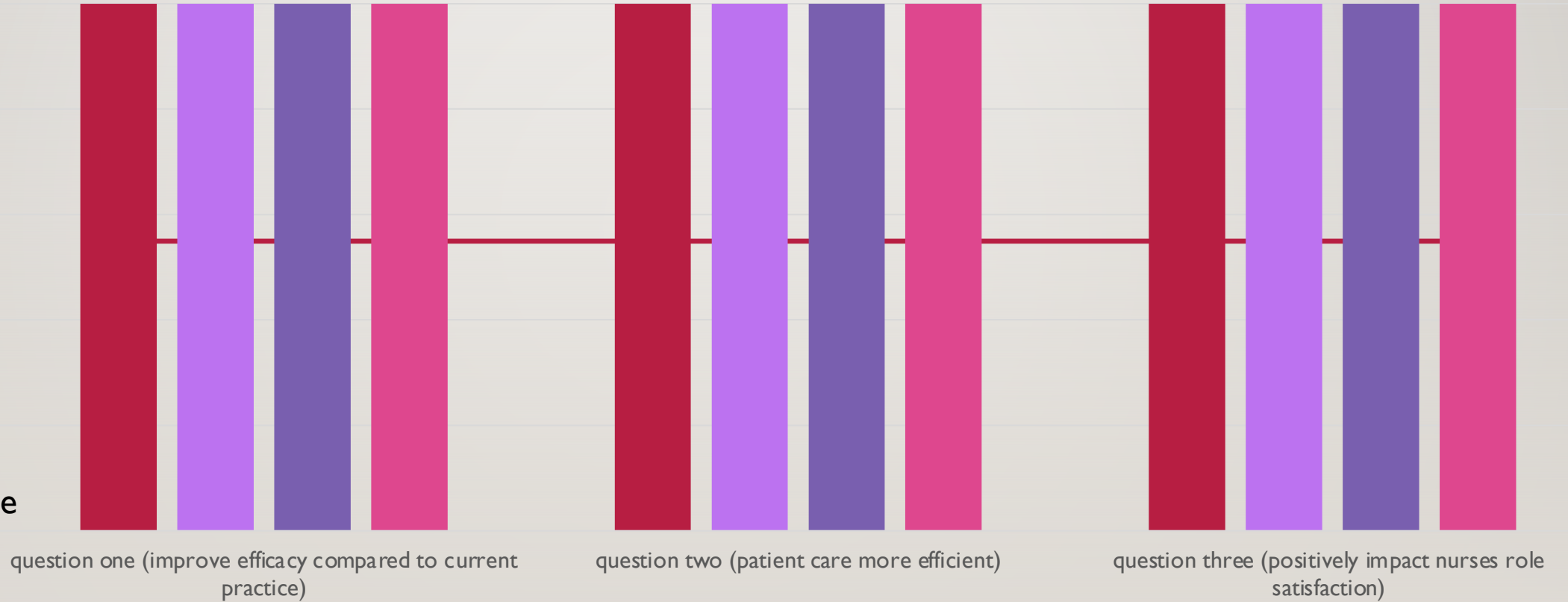


# Results

## Nursing Perception of Flow Map

Agree

Disagree



Registered Nurse 1 Registered Nurse 2 Nurse Aid 1 Nurse Aid 2

## QUESTION ONE: IMPROVE EFFICACY COMPARED TO CURRENT PRACTICE; QUALITATIVE

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- Registered Nurse 1
  - “Unify nurses”
  - “More positive outcomes for patients “
- Registered Nurse 2
  - “streamline the process”
- Nurse Aid 1
  - “logical”
  - Increase staff efficiency
- Nurse Aid 2
  - Unify staff

# QUESTION ONE: IMPROVE EFFICACY COMPARED TO CURRENT PRACTICE; QUALITATIVE

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- **Unification** of nurses/staff 50%; 2 of 4
- **Logical** process 50%; 2 of 4
- Increase staff **efficiency** 50%; 2 of 4

## QUESTION TWO INCREASE EFFICIENCY OF PATIENT CARE; QUANTITATIVE

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- Registered Nurse 1
  - more time efficient for patients
  - Less room for error
- Registered Nurse 2
  - “patients won’t sit idle waiting for direction or assistance while in crisis”
- Nurse Aid 1
  - “Patient will be connected with correct care in timely manner”
- Nurse Aid 2
  - Increase positive outcomes



# QUESTION TWO: QUALITATIVE THEMES

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- Efficiency 75%; 3 out of 4
- Appropriate care 75%; 3 out of 4

## QUESTION THREE: POSITIVELY IMPACT NURSE'S ROLE SATISFACTION

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- Registered Nurse 1
  - Efficient care
  - Less room for error
  - Less delay of treatment
- Registered Nurse 2
  - “clearly defined roles and responsibilities”
- Nurse Aid 1
  - “Meaningful work”
- Nurse Aid 2
  - “Increased confidence while triaging patients”

## QUESTION THREE: QUALITATIVE THEMES

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- Decreased error 75%; 3 out of 4
- Associated with increased fulfillment 50%; 2 out of 4

# DISCUSSION

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- NAT unanimously agree the process flow map will make patient care:
  - More efficient,
  - Increase nursing role satisfaction
  - Improve efficiency of the process compared to current practice.
- Data review revealed common themes.
- Data suggest overwhelming nursing support with themes that deeply impact patients, staff and PCHS.
- NATs utilizing LEAN and PDSA framework can positively impact change



# CONCLUSION

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- Nurses are the frontline of healthcare.
- With the nursing shortage and increasing healthcare demand well documented, efficiency must increase.
- Nurses must take a vital role in the development of policies that will increase efficiency.
- The outcome of this project demonstrates the utility of nurses in NATs using LEAN methodology in the development of policy.

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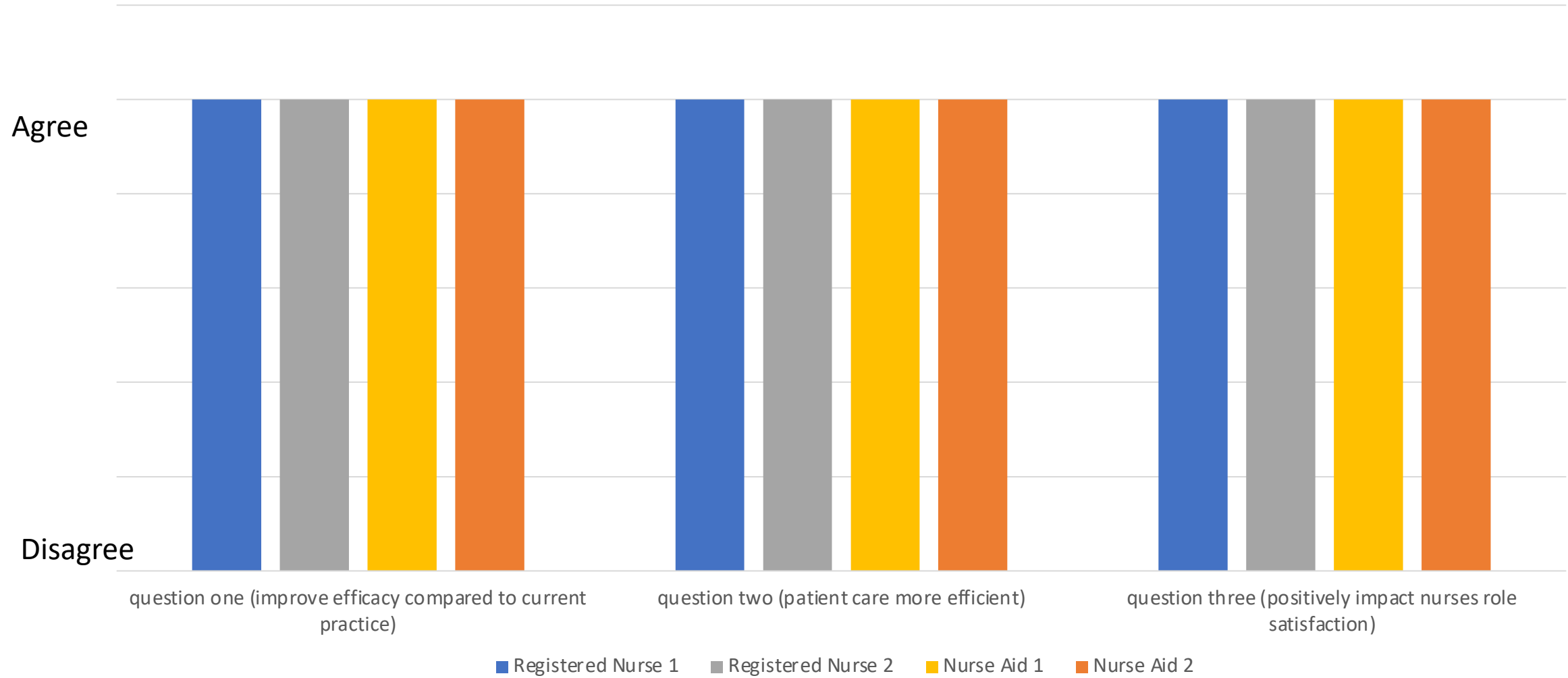


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## Nursing Perception of Flow Map



# Question one:

Improve efficacy compared to current practice;  
qualitative

- Registered Nurse 1
  - “Unify nurses”
  - “More positive outcomes for patients “
- Registered Nurse 2
  - “streamline the process”
- Nurse Aid 1
  - “logical”
  - Increase staff efficiency
- Nurse Aid 2
  - Unify staff

# Question one:

## Qualitative themes

- **Unification** of nurses/staff 50%; 2 of 4
- **Logical** process 50%; 2 of 4
- Increase staff **efficiency** 50%; 2 of 4



# Question two

## Increase efficiency of patient care; quantitative

- Registered Nurse 1
  - more time efficient for patients
  - Less room for error
- Registered Nurse 2
  - “patients won’t sit idle waiting for direction or assistance while in crisis”
- Nurse Aid 1
  - “Patient will be connected with correct care in timely manner”
- Nurse Aid 2
  - Increase positive outcomes

# Question two: Qualitative themes

- **Efficiency** 75%; 3 out of 4
- **Appropriate care** 75%; 3 out of 4

# Question three:

## Positively impact nurse's role satisfaction

- Registered Nurse 1
  - Efficient care
  - Less room for error
  - Less delay of treatment
- Registered Nurse 2
  - “clearly defined roles and responsibilities”
- Nurse Aid 1
  - “Meaningful work”
- Nurse Aid 2
  - “Increased confidence while triaging patients”

# Question three: Qualitative themes

- Decreased error 75%; 3 out of 4
- Associated with increased fulfillment 50%; 2 out of 4

# Conclusion

- Data suggest the nursing action team unanimously agree the process flow map will make patient care more efficient, increase nursing role satisfaction and improve efficiency of the process compared to current practice. Qualitative data revealed common themes. Themes of increased efficiency are observed in all questions particularly questions one at two out of four responses and question two at three out of four responses. Increased logic of the process also appears with two out of four nurses remarking to such in question one. Unification of nurses and/or staff is also observed at the same rate for question one. Matching patients with appropriate care is mentioned by 3 of 4 responses in two. As one can see, the data suggest overwhelming nursing support with themes that deeply impact patients, staff and PCHS.