TO INCREASE DATA QUALITY OF HOSPITAL CENSUS AT HOSPITAL KAJANG

QLL106

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HOSPITAL KAJANG 1889 PUTIH MULIA UNGGUL

1. SELECTION OF OPPORTUNITIES FOR IMPROVEMENT

Hospital Kajang requires daily 4-hourly census update but often of low data quality with only 14.3% meeting high data quality standards. Manual updates disrupt nursing schedules and hinder efficiency. Therefore, the aim of this study is to increase the percentage of high data quality of hospital census.

1.1 PRIORITISATION OF PROBLEM

Problem	S	M	A	R	T	Score
High rate of 3rd degree perineal tear post svd in Hospital Kajang.	23	20	19	16	17	95
Low data quality of hospital census in Hospital Kajang.	22	19	21	22	23	107
High rate of absconded patient in ward.	18	20	17	14	13	82
High percentage of losing patient's belonging in the ward.	19	20	18	16	14	87

Group Members: 5	Score	1	2	3	4	5
	Indication	Very Low	Low	Fair	High	Very High

1.2 REASON FOR SELECTION

| S	Inefficient and low data quality in 4 hourly census (inefficient human resource, time consuming, census not update in time, data discrepancy.
M	Data quality measured including Accuracy, Completeness, Consistency, Timeliness, Validity and Uniqueness.
A	High quality data are needed to enable safe and reliable healthcare delivery and health facility data are critical inputs to monitor performances.
R	Remediable by appropriate strategies of change and multidisciplinary approach.
T	Can be completed in timely manner.

1.3 PROBLEM STATEMENT

During the Covid-19 pandemic in January 2020, hospital 4 hourly census is not merely the count of the number of patients in hospital on a given day and time. More information and data was needed for surge capacity and bed management, eg: patient Covid status, O2 usage and bed availability, Emergency Department (ED) status etc. Although Covid-19 is currently no longer a global health emergency, similar information is still needed for mobilization of beds and better optimization of space. Therefore, enhances hospital capacity management, performance and quality of service delivery.

1.4 LITERATURE REVIEW

High quality data are needed to enable safe and reliable healthcare delivery and health facility data are critical inputs to monitor performances.	Though different organizations consider different dimensions of data quality, the WHO states that the dimensions of data quality are accuracy, validity, reliability, completeness, legibility, timeliness, accessibility and usefulness.	Health systems performance cannot be adequately monitored where health information data are incomplete, inaccurate, or untime.
Endriyas M et al., 2019	Health Information and Quality Authority, 2013	Mutale et al., 2013

1.5 PROBLEM ANALYSIS CHART
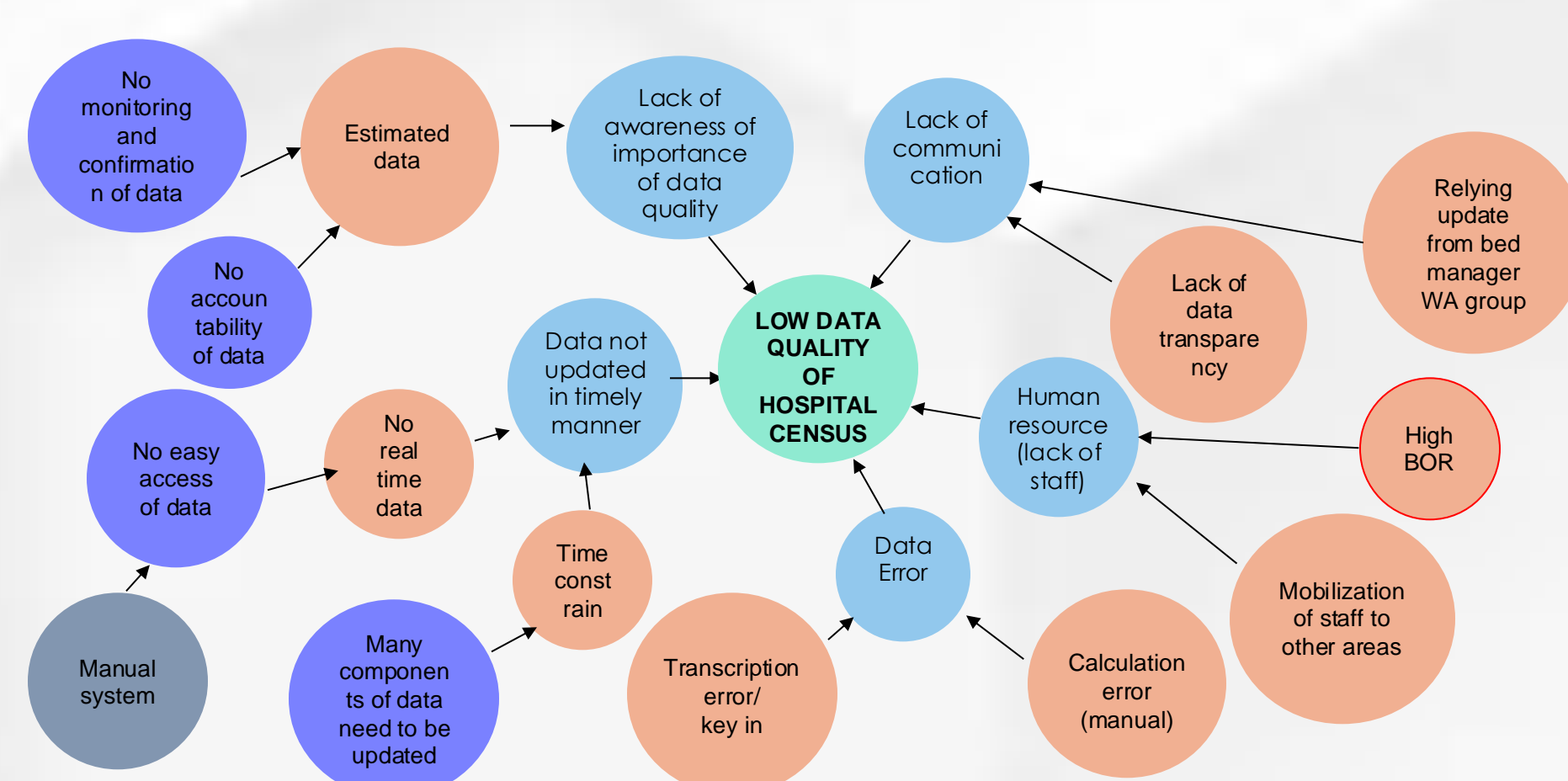
1.6 TERMS AND DEFINITION

Data Quality	-Dataset meets criteria for Dimensions of Data quality includes Accuracy, Completeness, Consistency, Timeliness, Validity and Uniqueness. It is critical to all data governance initiatives within an organization. -Fit for its intended uses in operation, decision making and planning.
Hospital Census	A point in time count by a hospital of all its admitted patient care and/or patients currently on a waiting list.

2. KEY MEASURES FOR IMPROVEMENT

2.1 OBJECTIVES

GENERAL OBJECTIVE
To improve data quality of hospital census in Hospital Kajang.

SPECIFIC OBJECTIVE
1. To determine the percentage of low data quality of hospital census.
2. To identify factors contributing to low data quality of hospital census.
3. To formulate strategies and to implement possible remedial action.
4. To evaluate effectiveness of remedial measures implemented.
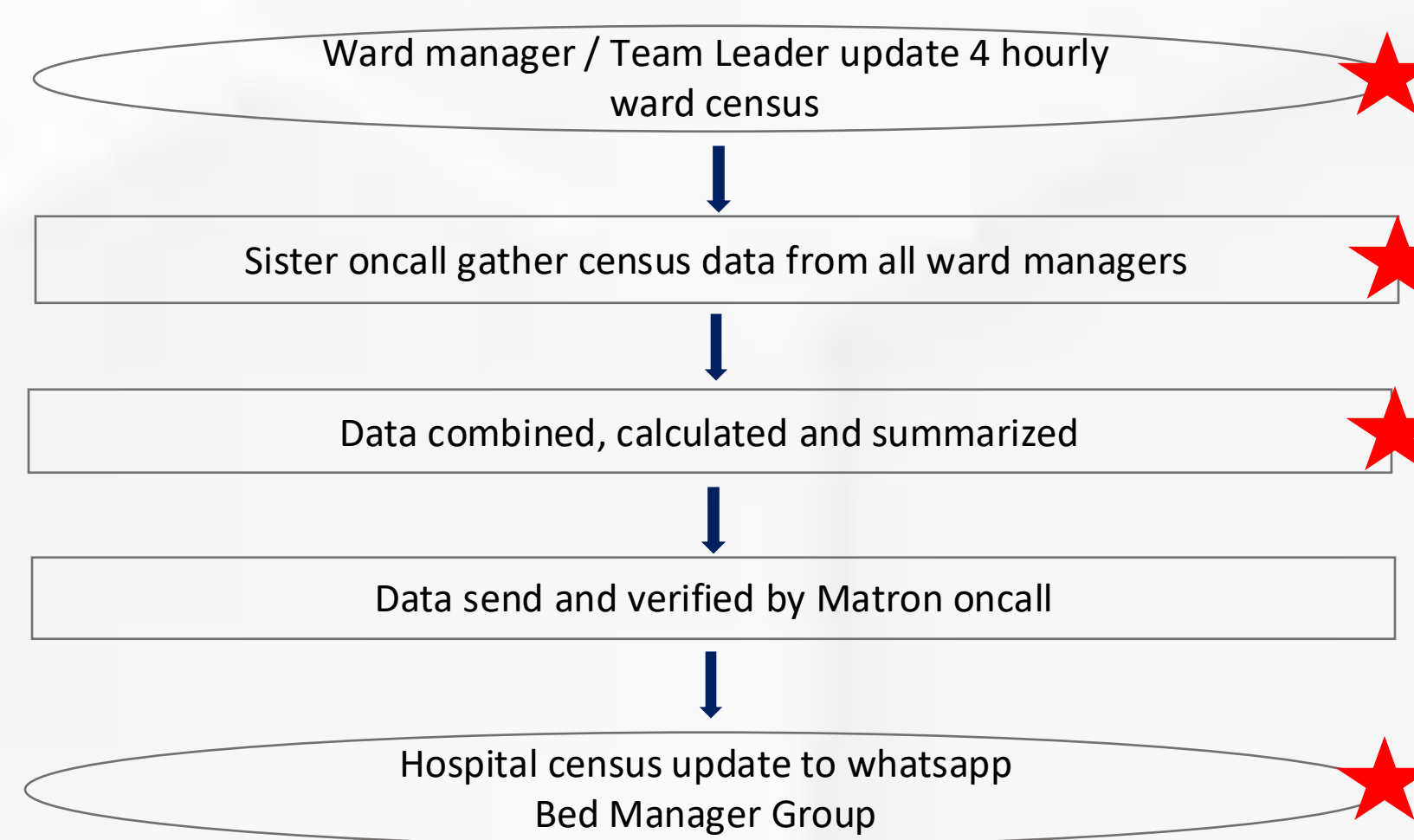
2.2 INDICATOR & STANDARD

INDICATOR
Percentage of high data quality of hospital census:

Total number of high data quality of hospital census / Total number of hospital census x 100

STANDARD	100%	Consensus in Mesyuarat Pengurusan Kualiti Bil 1/2021

2.3 PROCESS OF CARE

Ward manager / Team Leader update 4 hourly ward census ★
↓
Sister oncall gather census data from all ward managers ★
↓
Data combined, calculated and summarized ★
↓
Data send and verified by Matron oncall
↓
Hospital census update to whatsapp Bed Manager Group ★

2.4 MODEL OF GOOD CARE

NO	PROCESS	CRITERIA	STANDARD	VERIFICATION	CYCLE 1	CYCLE 2	CYCLE 3	CYCLE 4	CYCLE 5
1.	Ward managers collect 4 hourly ward census	Staff update accurate census	100%	14.3%	83.3%	69.0%	88.1%	92.9%	100%
2.	Sister oncall gather census from all ward managers	Staff aware of census collected need to be complete	100%	28.6%	100%	100%	100%	100%	100%
		Staff competent ensure. No repetition data census	100%	57.1%	100%	100%	100%	100%	100%
		Staff competent ensure data consistent	100%	14.3%	100%	100%	100%	100%	100%
		Staff update valid census	100%	35.7%	85.7%	81.0%	100%	100%	100%
	Census combined, calculated, summarized and verified	Staff competent ensure combined data accurate	100%	14.3%	83.3%	69.0%	88.1%		
3.	Census update in 4 hourly bed manager group	Staff need to updated census on time	100%	14.3%	100%	95.2%	88.1%	100%	100%

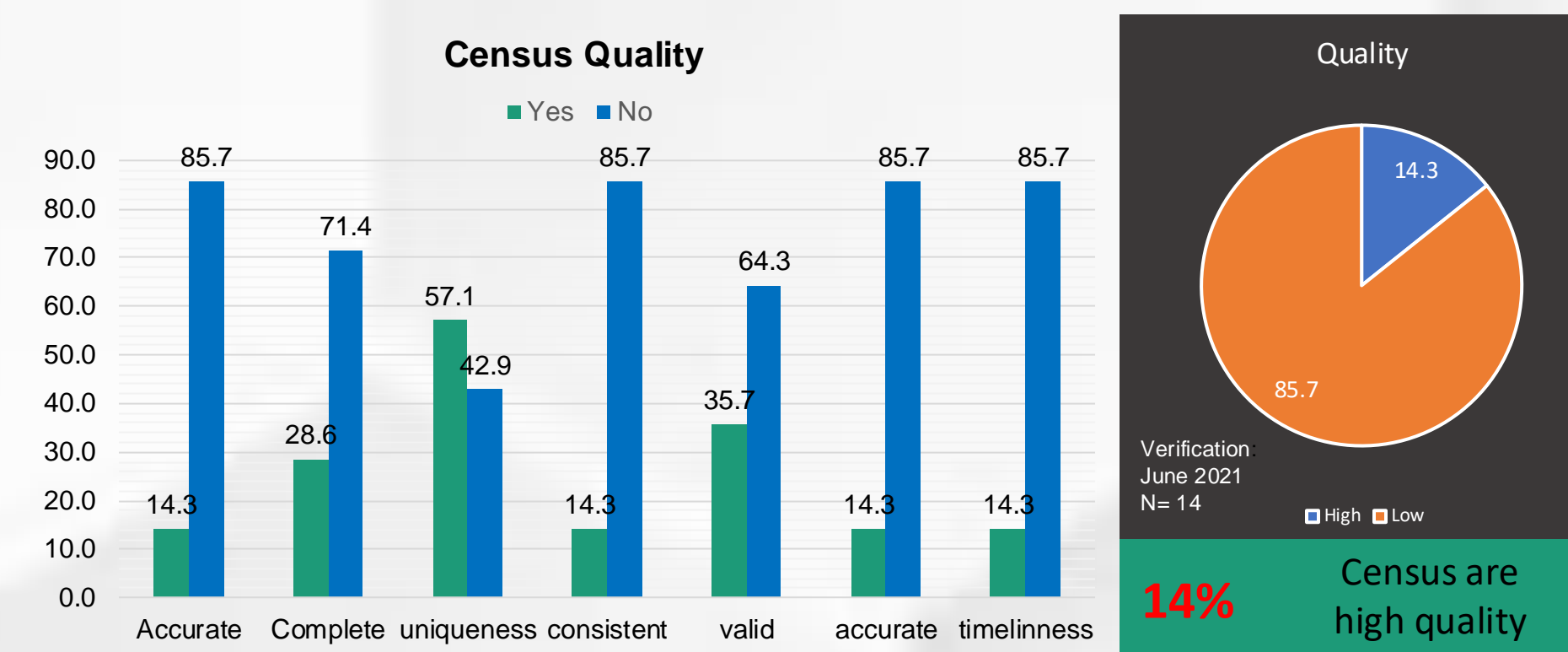## 3. PROCESS OF GATHERING INFORMATION

3.1 METHODOLOGY

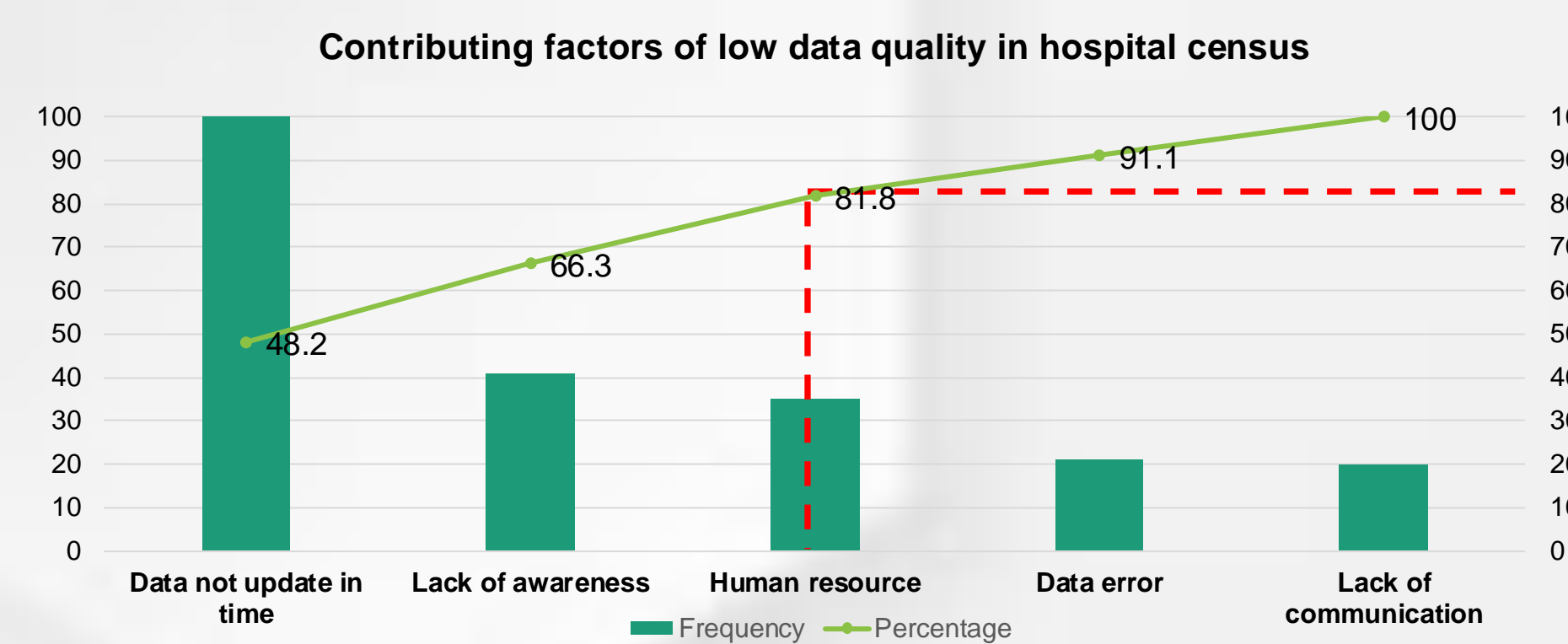| STUDY DESIGN	Pre and Post Interventional Study	
STUDY SETTING	All Ward	
SAMPLING TECHNIQUE	Convenient sampling	
STUDY PERIOD	VERIFICATION: June 2021 CYCLE 1: July – Aug 2021 CYCLE 2: Sept – Oct 2021	CYCLE 3: Nov 2021 – Apr 2022 CYCLE 4: May – Oct 2022 CYCLE 5: Now 2022 – Apr 2023
INCLUSION CRITERIA	Ward census	
EXCLUSION CRITERIA	None	

3.2 DATA COLLECTION TOOL

TOOL	AIM	SUBJECT / SAMPLE
Online Staff Survey	Explore time spent, knowledge and barriers on quality census	Matron, Sister, Ward Manager Sample size: 225
Audit Form	Determine the rate of high quality hospital census	Ward Manager: Sample Size: 42

4. ANALYSIS AND INTERPRETATION

4.1 VERIFICATION STUDY

Census Quality

Quality: Verification June 2021 N=14. 14% Census are high quality

4.2 PARETO CHART

Contributing factors of low data quality in hospital census

Data not update in time 48.2; Lack of awareness 66.3; Human resource 81.8; Data error 91.1; Lack of communication 100

5. STRATEGY FOR CHANGE

5.1 MyWard

PROBLEM: Census not able to update in time

BEFORE	CYCLE 1	Cloud-based bed census system. Pilot Study: Medical Ward
High Data Quality: 14%	High Data Quality: 83.3%	

5.2 MyWardExpansion

PROBLEM: Census not able to update in time hospital wide

CYCLE 2	High Data Quality: 69.0%	MyWard expansion to ALL ward.
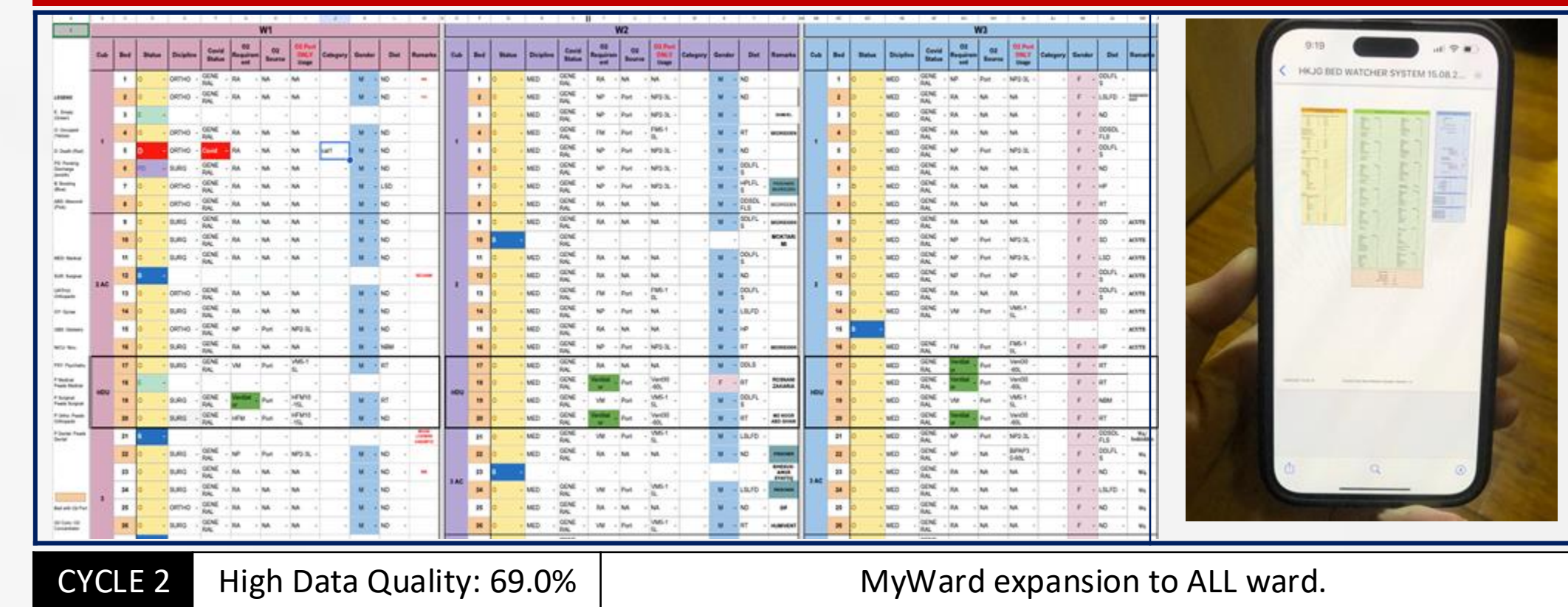
5.3 MyWardPitching

PROBLEM: Lack of awareness on importance of data quality

Tajuk CNE: TATACARA PENGGUNAAN MyWard

CYCLE 3	High Data Quality: 88.1%	Roadshow & user training to ALL dept, Step-by-step Guide, CNE.

5.4 Streamline Process Of Care

PROBLEM: Lack of human resource

CYCLE 4	High Data Quality: 92.9%	Staff gain more time for clinical task. Reduces complexity and human resource shortages.
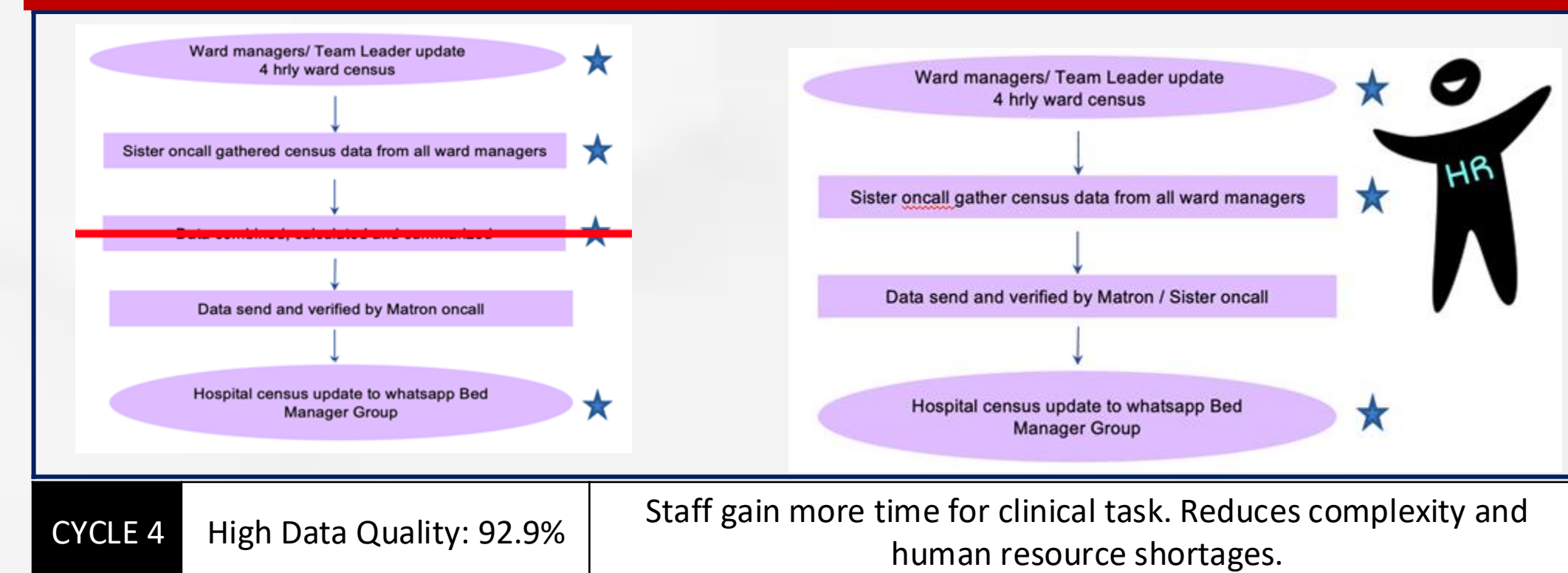
5.5 MyTaskforce

PROBLEM: Continous monitoring and sustainability

CYCLE 5	High Data Quality: 100%	Audit Taskforce. Simplified Audit Form encourage continuous monitoring and sustainability.

6. EFFECT OF CHANGE

Achievable Benefit Not Achieved (ABNA)
Percentage of High Quality Hospital Census

IDEAL	STANDARD	VERIFICATION	CYCLE 1	CYCLE 2	CYCLE 3	CYCLE 4	CYCLE 5
100	100	14.3	83.3	69.0	88.1	92.9	100
		ABNA 85.7%	ABNA 16.7%	ABNA 31%	ABNA 11.9%	ABNA 7.1%	ABNA 0%

Percentage Of High Data Quality

Verification	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5
14.3%	83.3%	69.0%	88.1%	92.9%	100.0%

5 RATING. 87% staff rated MyWard 5 star
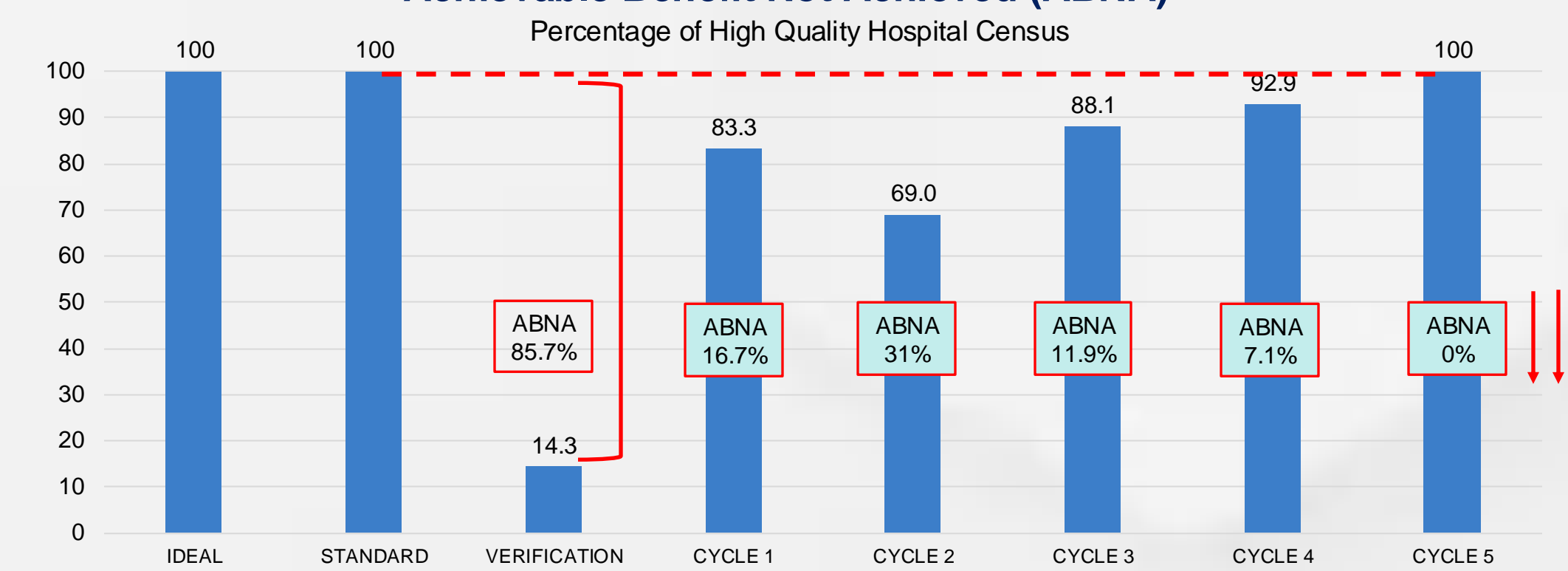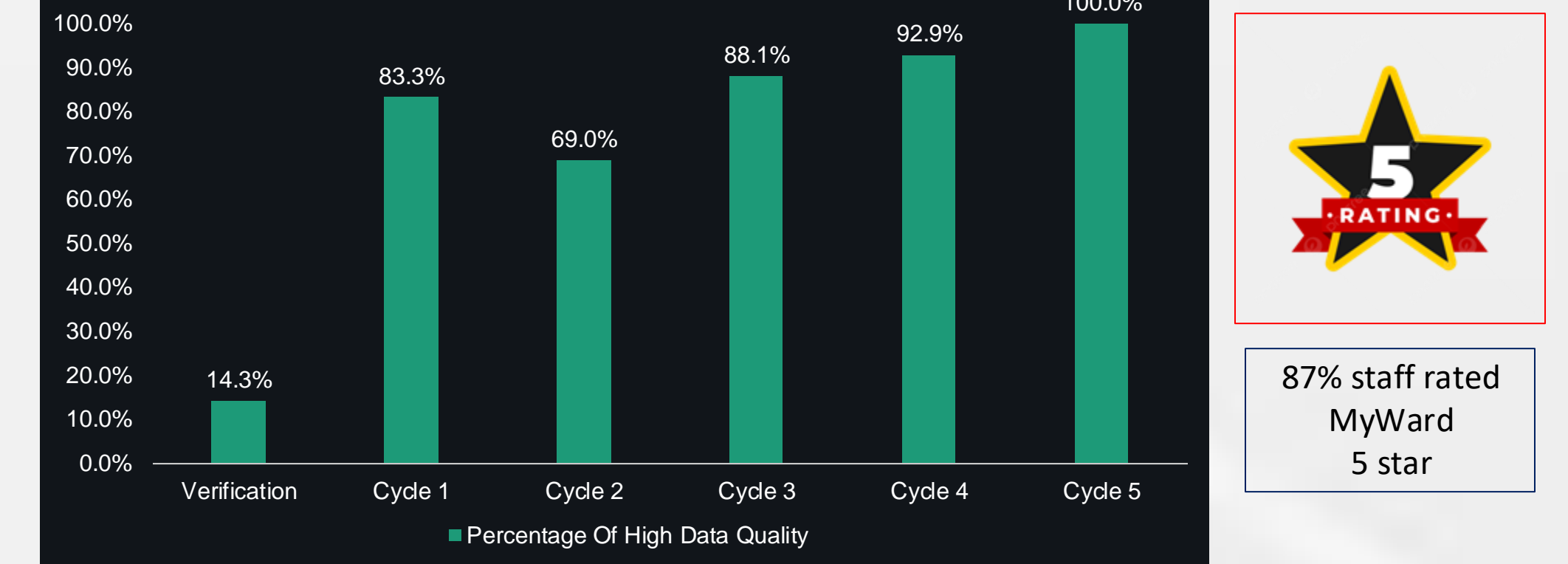
IMPACT ON STAFF	IMPACT ON ORGANIZATION
• Shorter work process - 95% • Time saving - 89% • Less administrative burden of staff-85% • Staff able to perform more clinical duties - 83% • Improve job satisfaction - 84% • User friendly - 91% * Staff Survey	• Improve data quality of hospital census: 14.3% to 100% • Redistribution of human resource workload • Workflow streamlined • Increase transparency between departments • Better utilization of hospital beds • Better distribution of admissions through ward levelling

ZERO COST

LESSON LEARNT

•High data quality is essential for healthcare organizations to make informed decisions and provide patients with the best possible care. It also increases efficiency throughout the organization.

7. NEXT STEP

*Develop mobile application   * Sharing practices with other manual hospitals

References
1. Endriyas et al. 2019. Understanding Performance Data: Health Management Information System Data Accuracy in Southern Nations Nationalities and People's Region, Ethiopia. BMC Health Services Research. 19:175.
2. Health Information and Quality Authority, 2013.
3. Mutale et al. 2013. Improving Health Information Systems For Decision Making Across Five Sub-Saharan African Countries: Implementation Strategies From The African Health Initiative. BMC Health Services Research. 13(Suppl 2):59.