

Decreasing Documentation Burden for Nurses in Electronic Health Records using Macros

Jill Cox PhD, RN, APN-C,CWOCN,FAAN; Mary Ellen Pietrewicz, DNP, RNC-MNN; Theresa Chun, BSN, RN

Sara Wagner, BSN,RN-OB, NI-BC; Kathy Kaminsky, MSN,RN, NE-BC

Background

Studies indicate that electronic health records (EHR) increase documentation time, can be burdensome for nurses and contribute to decreased job satisfaction and burnout.

A growing need has been recognized to address inefficiencies in EHR documentation to reduce documentation burden and to allow for time for other clinical activities

The American Nurses Association and the American Academy of Nursing both call for the standardization of documentation with emphasis on work flow designs to decrease duplicative documentation for nurses.

Macros are computerized input sequences that provide documentation short cuts for nurses when selecting appropriate assessment parameters for the patient.

Methods

Purpose: to determine if the introduction of documentation Macros into EHR physical assessment flowsheets will decrease documentation time and improve nursing satisfaction with documentation.

Study Design: pre/post intervention design

Inclusion Criteria

Documentation time analysis: Nurses employed in Mother Baby area Full Time or Part-Time and who worked at least 80% of the assigned hours in both the pre-intervention and post-intervention timeframes.

Survey Analysis: Any RN working in the MCH area were eligible to take the survey.

Exclusion Criteria

- Nurses not employed as regular staff on the Mother Baby Units or are employed in per diem status.

- Mother Baby Nurses who do not meet the 80% hours worked during either the pre or post-intervention timeframes

Sample: 23 nurses were included in the documentation time analysis 47 nurses completed the pre-intervention survey and 37 nurses completed the post-intervention survey

Data Analysis:

Documentation times and hours worked were compared between the pre and the post-intervention times frames using paired T-test analysis.

Descriptive Statistics were used to analyze responses to the nurses surveys for both the pre and post-intervention timeframes.

Methods

Pre-intervention Phase:
July 2023-
December 2023

Intervention:
January 2024

**Post -
intervention Phase:**
February 2024-
July 2024

Pre and Post-Intervention
Data Points

- Nursing documentation times in minutes in the patient assessment flowsheet using EPIC Workflow Analyzer

- Total # of Nursing Hours worked in the 6 months the pre and post- intervention phases

- Nursing survey: Perceptions of EHR documentation: 10 questions

Intervention : January 2024
INTRODUCTION OF MACROS

Macros provide short cuts in documentation allowing for normal assessment findings to be documented for many assessment fields with just one click, rather than moving through each field individually. If the assessment findings are abnormal, the documentation can be altered to meet the patient's assessment findings. WDL: indicates that the assessment was within defined limits

Example: Criteria for WDL for Cardiac Assessment

Results: Paired T-Test Analysis

Documentation Minutes

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 PREDOCMEAN	137.3435	23	72.33322	15.08252
POSTDOCMEAN	126.2594	23	70.72905	14.74803

Paired Samples Test

Paired Differences							Significance		
			95% Confidence Interval of the Difference						
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	One-Sided p	Two-Sided p
Pair 1 PREDOCMEAN - POSTDOCMEAN	11.08406	19.88539	4.14639	2.48497	19.68315	2.673	22	.007	.014

Comparing the mean number of physical assessment flowsheet documentation minutes in the pre intervention time frame to the post intervention timeframe, a **statistically significant decrease in mean minutes** was found after introduction of the Macro (t= 2.673; p = .014).

Hours Worked: Pre intervention and Post Intervention

		Mean		N	Std. Deviation	Std. Error Mean				
Pair 3	PREINTERVENTIONHRS	769.8774		23	176.12283	36.72415				
	POSTINTERVENTIONHRS	758.9400		23	180.24979	37.58468				
Pair 3	PREINTERVENTIONHRS - POSTINTERVENTIONHRS	10.93739	92.25213	19.23590	-28.95542	50.83020	.569	22	.288	.575

No statistically significant difference was found between the number of hours worked in the pre-intervention timeframe as compared to the post-intervention timeframe (t= .569; p=.575)

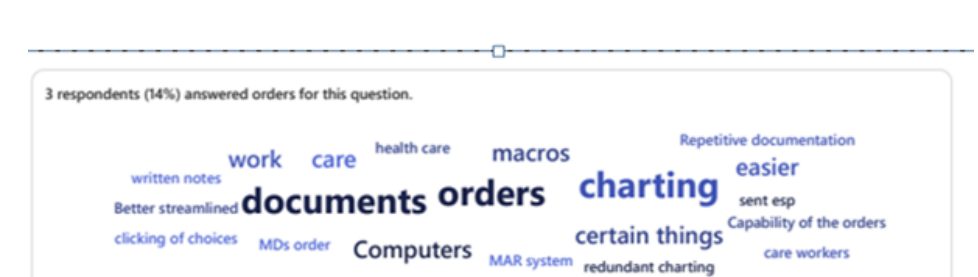
Survey Results

	Pre-intervention Survey N=47	Post-intervention survey N=37
Age		
23-35	21 (45%)	15 (40%)
36-50	11 (23%)	8 (21%)
51-65	9 (19%)	11 (29%)
>65	3 (6%)	0 (0%)
Prefer not to answer	3 (6%)	3 (8%)
Years of Nursing Experience		
<1	1 (2%)	1 (2%)
1-5	13 (27%)	12 (33%)
6-10	9 (19%)	2 (5%)
11-15	5 (10%)	2 (5%)
16-20	4 (8%)	1 (2%)
21-25	6 (12%)	7 (19%)
26 or greater	9 (19%)	11 (30%)
Years in Current Specialty		
<1	2 (4%)	2 (5%)
1-5	21 (44%)	15 (40%)
6-10	7 (14%)	2 (5%)
11-15	3 (6%)	1 (2%)
16-20	3 (6%)	3 (8%)
21-25	5 (10%)	5 (13%)
26 or greater	6 (12%)	9 (24%)
Highest Nursing Degree		
Diploma	3 (6%)	1 (2%)
Associates Degree	2 (4%)	2 (5%)
BSN	36 (78%)	30 (83%)
MSN	5 (10%)	2 (5%)
DNP	0 (0%)	1 (2%)
PhD	0 (0%)	0 (0%)
Rate my computer skills:		
Novice	0 (0%)	0
Competent	18 (38%)	19 (51%)
Expert	29 (62%)	18 (49%)
What percentage of time do you spend documenting patient care in the EHR in a typical shift:		
10%		
25%	1 (2%)	6 (16%)
50%	14 (29%)	8 (22%)
75%	21 (44%)	16 (43%)
>75%	6 (12%)	4 (11%)
	5 (10%)	3 (8%)

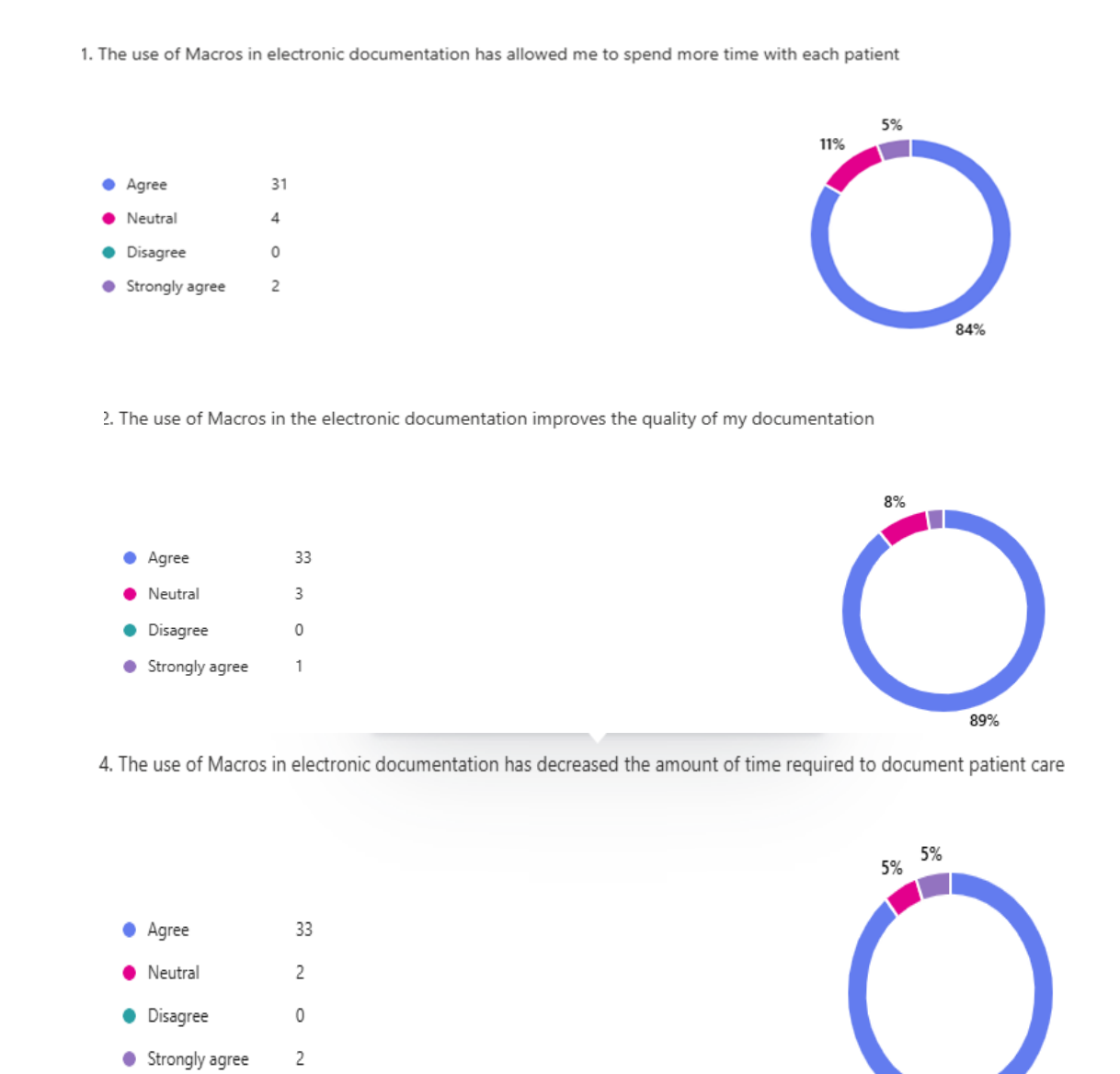
Select Pre-intervention Survey Responses



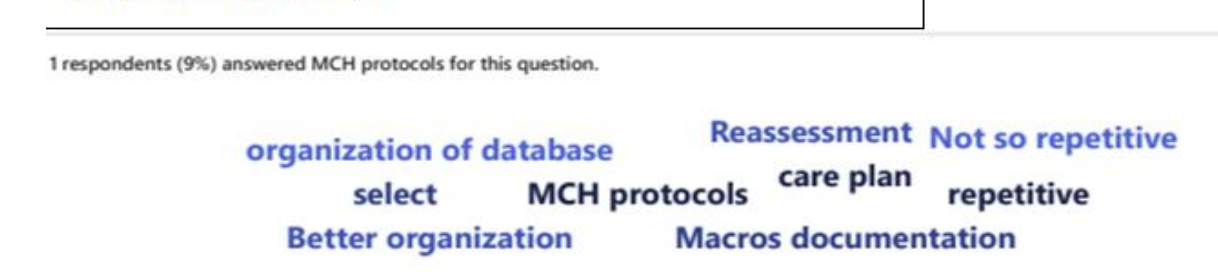
If you change one thing about the EHR documentation, what would it be?



Select Post-intervention Survey Responses



If you could change one about documentation in the EHR it would to:



Conclusions

- The introduction of Macros was perceived positively by the nurses on the Mother Baby Unit
- A statistically significant decrease in documentation time was realized with the introduction of the Macro
- Balancing efficient documentation with quality documentation is always a challenge.
- Continuous review of documentation procedures that include key stakeholders is warranted to ensure timely, efficient quality charting.
- A larger study on the impact of Macros is needed.

References

