

# Automating EHR-Based Reports to Understand Patient Transfers from the Emergency Department to Facilities Outside of a Healthcare System

ELAINE JAMES<sup>1</sup>, DEBBIE TRAVERS<sup>1</sup>, CHANTAL HOWARD<sup>2</sup>, VINCENT MILIANO<sup>2</sup>, BRANSON PAGE<sup>3</sup>, SAIF KHAIRAT<sup>1</sup>

## INTRODUCTION

- The electronic health record (EHR) is used in emergency departments to document patient care. Data elements in the EHR can be structured or unstructured.
- Before the implementation of this project, the reason a patient was transferred from the emergency department (ED) to a facility outside of a healthcare system was recorded in an unstructured progress note.
- Time-consuming manual chart reviews were required to identify why patients are being transferred.
- The WakeMed executive team sought to understand the reasons for these transfers, to address concerns related the impact on patient satisfaction related to the care received, patient safety, and potential for an increase in healthcare cost plus loss of revenue.

## PURPOSE

- The purpose of this quality improvement project was to capture the primary reason patients are being transferred to facilities outside of the WakeMed system using a structured data field, known as a SmartList, while avoiding increased workflow burden on the ED provider.
- The data from SmartList was used to update a new daily transfer report to improve the quality of the report by providing more thorough information of why the patient was being transferred.

## METHODS

- The Data-Information-Knowledge-Wisdom (DIKW) was used to guide the project.
- The Iowa Model of Evidence-Based Practice to Promote Quality Care was used to provide a step-by-step process for the project.
- Before implementation, 249 manual chart reviews to gather the reason for the transfer to a facility outside of the healthcare systems. After implementation, 557 patient ED visits were evaluated.
- System usability scale questionnaire completed by 67 ED providers. Feedback from 4 executive team members.

Daily Transfer Report Before Implementation

ED Disposition of Transfer to Non WakeMed Facility (from All WakeMed EDs)										
Date Range: [REDACTED]										
Count based on day/month/year of departure from ED										
	Total	2019				Total	Total	Total	Total	Total
		Jan	Feb	Mar	Apr					
Total	6	6	6	6	6	6	6	6	6	6
WAH ED	1	1	1	1	1	1	1	1	1	1
WBC ED	1	1	1	1	1	1	1	1	1	1
WCH ED	1	1	1	1	1	1	1	1	1	1
WGH ED	1	1	1	1	1	1	1	1	1	1
WRC ADULT ED	2	2	2	2	2	2	2	2	2	2

DEPT	PATIENT NAME	MRN	CSN	AGE	ED ARRIVAL D/T	ED DEPART D/T	CHIEF COMPLAINT	DX NAME	
WRCEROA	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	CHEST PAIN, NON-TRAUMATIC	Chest pain, unspecified type	
Receiving facility per EMTALA Documentation:		Duke (919) 684-2413		Authorizing MD per EMTALA Documentation:		[REDACTED]			
WRCEROA	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	SUICIDAL THOUGHTS	Suicidal ideation	
Receiving facility per EMTALA Documentation:		Behavioral Health Facilities		Authorizing MD per EMTALA Documentation:		[REDACTED]			
WCHED	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	FEVER/CHILLS	Small bowel obstruction	
Receiving facility per EMTALA Documentation:		UNC (800) 806-1968		Authorizing MD per EMTALA Documentation:		[REDACTED]			

Daily Transfer Report After Implementation with More Details

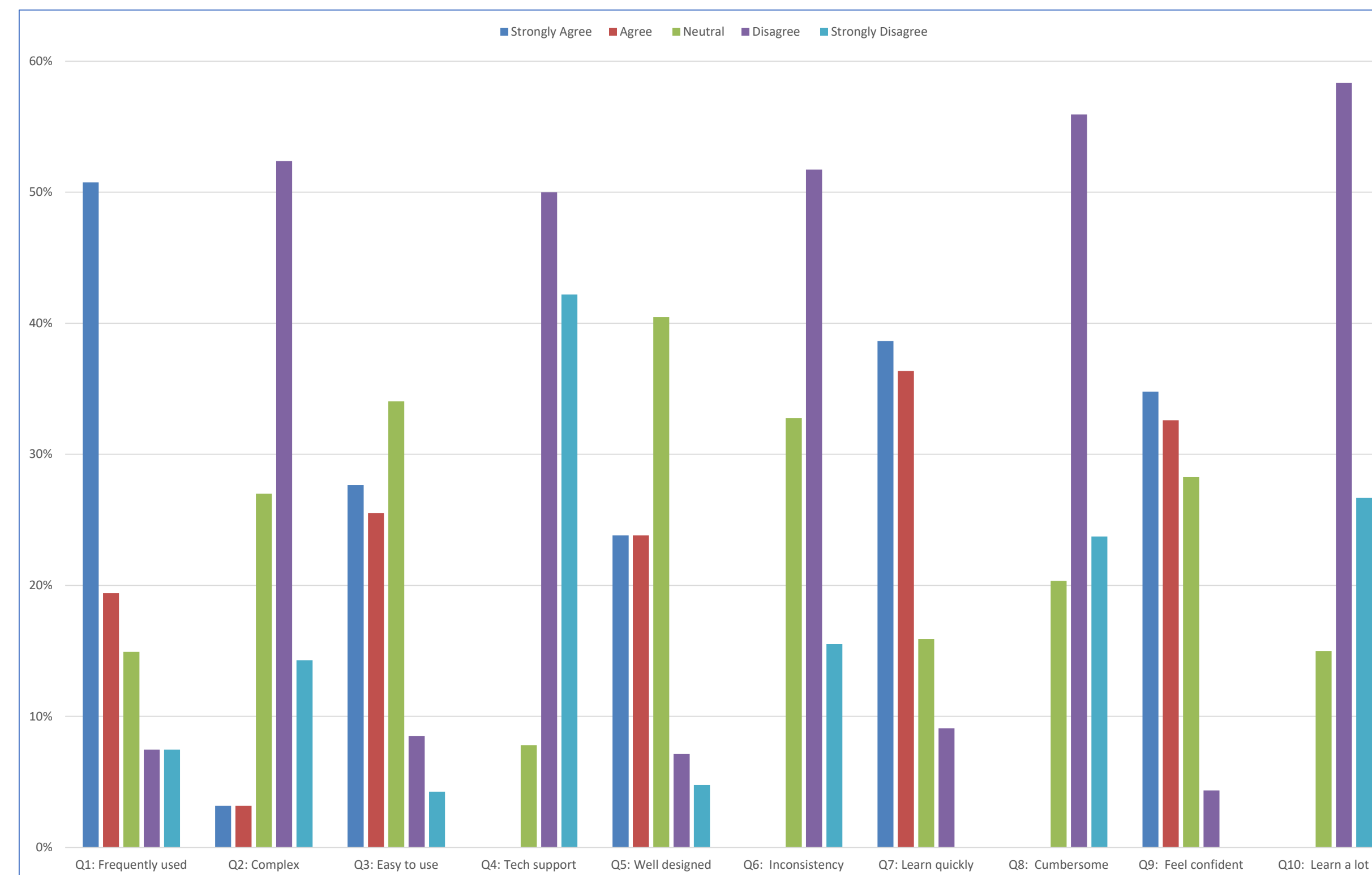
DEPT	AUTHORIZING MD	PATIENT NAME	MRN	CSN	AGE	PAYOR	ED ARRIVAL DT	ED DEPART DT	CHIEF COMPLAINT	DX NAME
WRCEROA	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	MEDICARE	[REDACTED]	[REDACTED]	CHEST PAIN, NON-TRAUMATIC	[R07.9] Chest pain, unspecified type
Receiving facility:		Duke (919) 684-2413		Primary reason for transfer:		Recent hospital stay/care at transfer facil				
WRCEROA	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	UNITED HEALTHCARE MAN CARE	[REDACTED]	[REDACTED]	SUICIDAL THOUGHTS	[R45.851] Suicidal ideation
Receiving facility:		Behavioral Health Facilities		Primary reason for transfer:		Behavioral Health Facility transfer Stable				
WCHED	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	BLUE CROSS BLUE SHIELD	[REDACTED]	[REDACTED]	FEVER/CHILLS	[K56.609] Small bowel obstruction
Receiving facility:		UNC (800) 806-1968		Primary reason for transfer:		Prior surgery/care at transfer facility S				

SmartList Added to Select Primary Reason for Transfer

Behavioral Health Facility transfer	Dental surgery/service needed
Patient/Family request transfer	Hematology/Oncology care needed
Current primary MD affiliated with transfer facility	Neuro interventionalist/Neurosurgery care needed
Insurance requirement	Ophthalmology care needed
Prior surgery/care at transfer facility	Rheumatology care needed
Recent hospital stay/care at transfer facility	UNC Burn Center transfer
Cardiologist at transfer facility	Return to correctional facility/prison/jail
Behavioral Health Facility – return to facility as inpatient	Recommendation from WakeMed MD to transfer due to level of care needed
Other-see documentation in notes for reason	

## RESULTS

System Usability Score Questionnaire Results



Manual Chart Review Times

	Pre-Implementation (n=249)	Post-Implementation (n=65) *
Mean seconds	75.02	70.11
Minimum seconds	15	22
Maximum seconds	248	345
Sum seconds	18679	4557
Total hours	5.19	1.27

\*Post-implementation chart review for when primary reason was not selected

## DISCUSSION

- Adding the SmartList for documenting the primary reason for the transfer has made it possible to achieve electronic data retrieval of that reason. More comprehensive information can be added to reports, therefore improving the overall quality of the reports.
- A System Usability Scale (SUS) questionnaire was used to assess the ED provider's perception of the usability of the new data field. The ED providers found the SmartList usable and easy to learn.
- Members of the executive team at the project site provided positive feedback regarding the new daily report of transfers from the healthcare system.

## CONCLUSIONS

- The process chosen to implement was based on sustainability after the project was completed. The reports will continue to be used daily. Additional reports can be created through the normal reporting process at WakeMed.
- Implications for future practice for WakeMed would be to continue to look for trends and services that may be needed to keep patients from being transferred. Are there additional negotiations with insurance carriers that need to take place?
- Using the DIKW framework, we need to take the knowledge gained from projects like this and move to wisdom to meet the needs of the patients we serve.

## AUTHOR AFFILIATIONS

- University of North Carolina at Chapel Hill School of Nursing, Chapel Hill, NC
- WakeMed Health and Hospitals, Raleigh, NC
- Wake Emergency Physicians, PA, Cary, NC