

# IMPLEMENTING TRIAGE AND STANDING ORDERS IN A RURAL VETERAN'S ADMINISTRATION (VA) EMERGENCY/URGENT CARE SETTING



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## INTRODUCTION

### Background and Significance

- Overcrowding of emergency departments (EDs) has been linked to:
  - Systems issues
  - Older infrastructure
  - Limited healthcare access for veterans
  - Long wait times for primary care appointments (US Government Accountability Office, 2016)
- Length of stay (LOS) has been a measure used to evaluate the efficiency of care in the ED.
- Longer LOS is associated with:
  - Poor clinical outcomes
  - Staff stress
  - Decreased patient satisfaction (Robinson et al., 2013).

### Clinical Setting

- Quality improvement (QI) project focused on a rural Midwestern VA medical center with a 3 bed urgent care (UC).
- The average patient census in 2016 was 28 patients per day with a high variation in daily census. Some days include >50 patients per day.
- Bottlenecks during peak hours contributing to increased time to triage and LOS.

## PICOT QUESTIONS

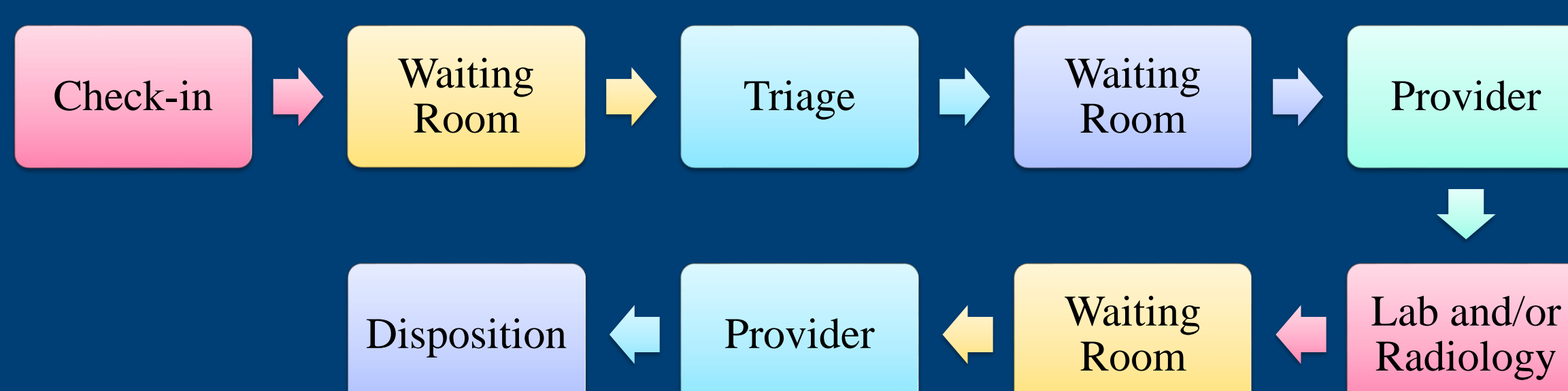
For veterans seeking care in a rural, Midwestern VA medical center's UC,

- does implementation of nurse-implemented physician standing orders influence the LOS in during the weekday hours of 0800-1600 when compared to visits with similar chief complaints before implementation of the standing orders?
- what is the average time to completion of x-rays placed for minor extremity trauma when placed by the triage nurse compared with time to completion of x-rays for minor extremity trauma placed by the provider on weekdays from 0800-1600?
- what is the average time to completion of urinalysis when the order is placed by the triage nurse compared to time to completion when the order is placed by the provider on weekdays from 0800-1600?

## OBJECTIVES

- Decrease average time to triage to 12 minutes or less.
- Nurses initiate diagnostics for patients who present to the UC with minor extremity trauma or urinary complaints.
- Decrease overall length of stay for patients with minor extremity trauma or urinary complaints in the UC.

### Patient Flow



## MATERIALS AND METHODS

• **Design:** A case-control, retrospective chart review compared the effect of provider placed orders vs orders placed by the triage nurse on overall LOS, time to triage, and time to test results for patients with urinary symptoms or minor extremity trauma.

• **Sample:** Convenience sample of veterans who presented to the VA UC with urinary complaints or minor extremity trauma.

• **Inclusion/Exclusion:** All patients with urinary complaints or minor extremity injuries were included. All orders placed outside of the hours of 08:00-16:00, holidays, and weekends were excluded. Medically unstable patients were excluded.

• **Time:** September 1, 2015 through December 31, 2015 (provider implemented orders) compared with September 1, 2016 to December 31, 2016 (nurse implemented physician orders).

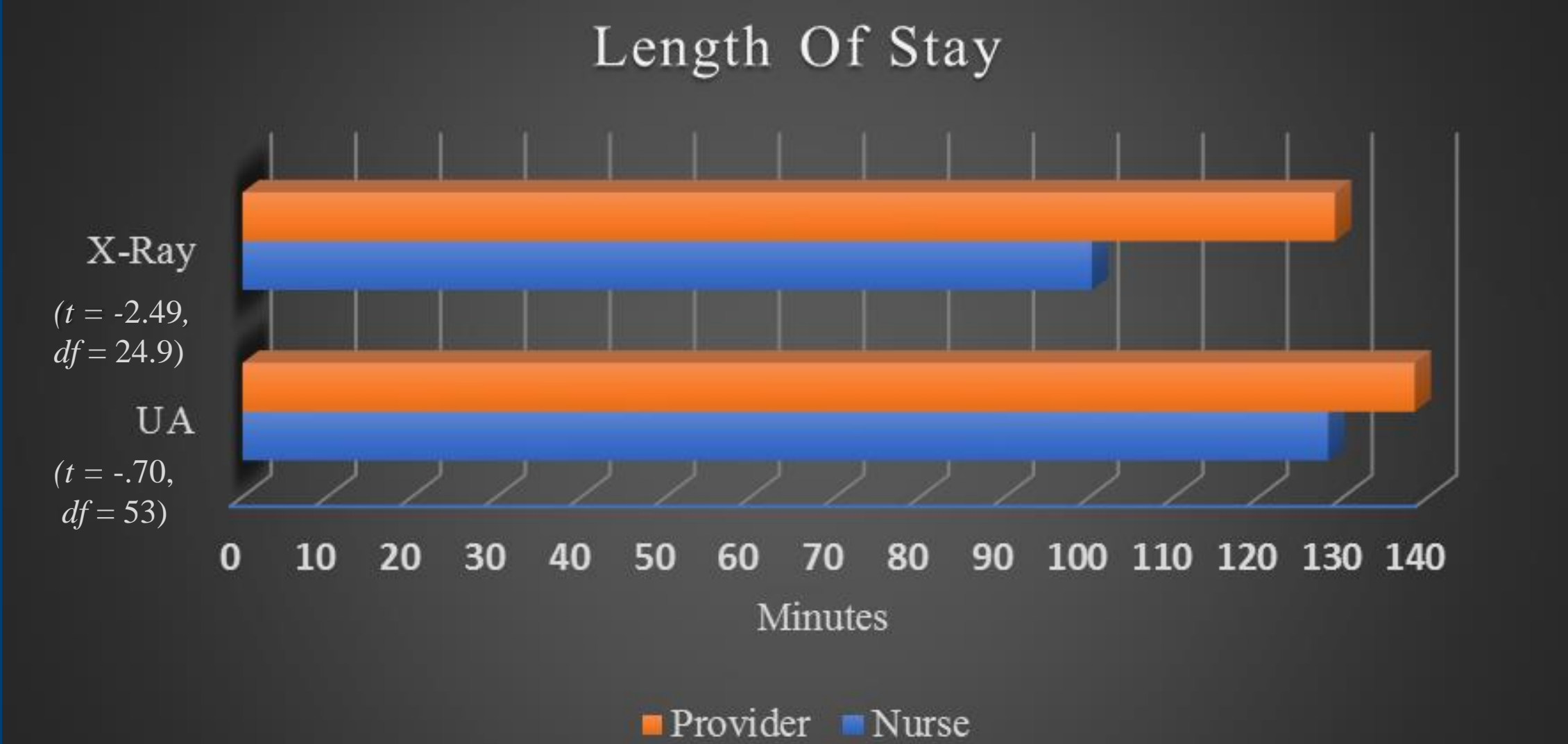
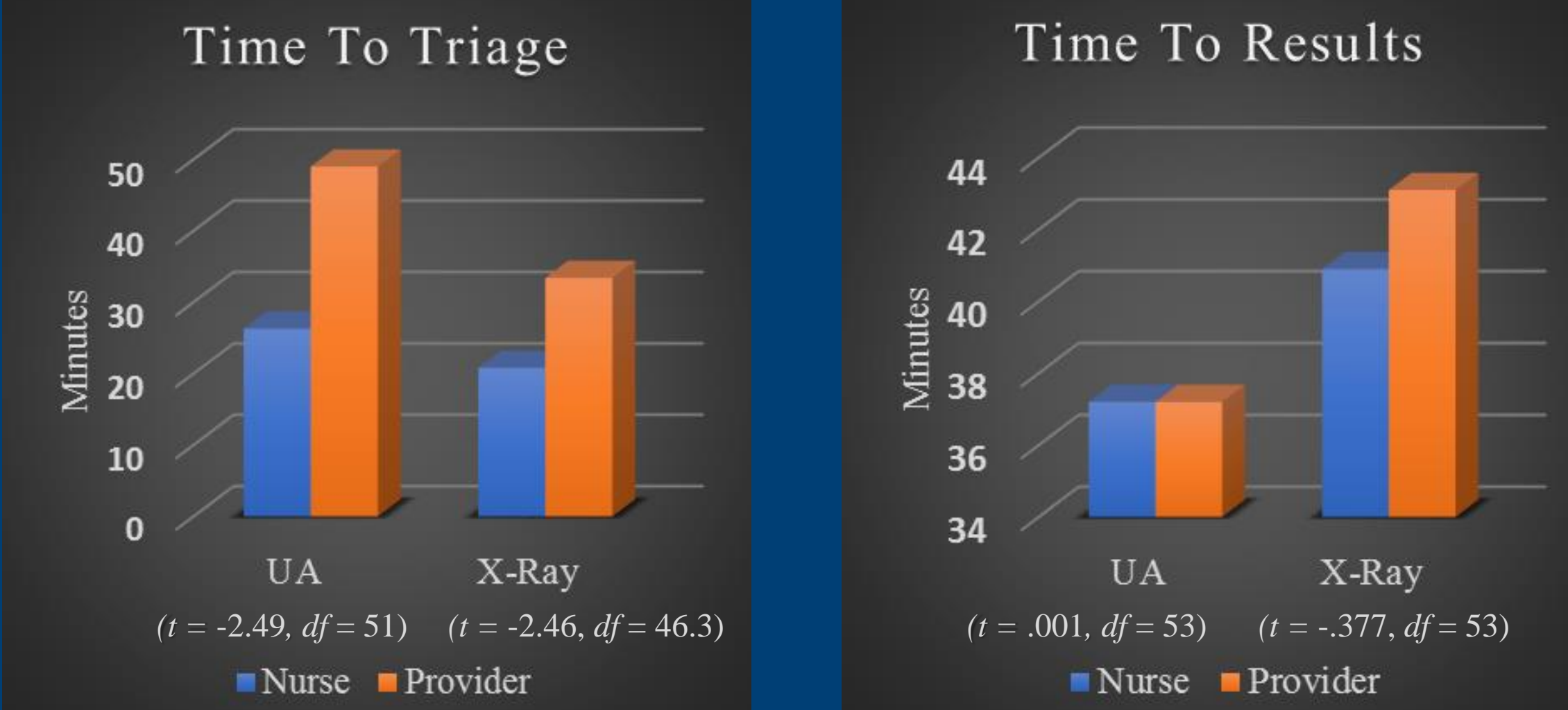
• **Data Analysis:** Ratio level data was analyzed using the unpaired t test with statistical significance set at  $p \leq 0.05$  and confidence interval (CI) of 95%. Cohens d was used to determine clinical significance. The Levene's Test was used to determine equality of variances within the data.

## RESULTS

Measure (minutes)	Nurse or provider placed orders	n	Order type	m	St. Deviation	Range	p	Cohen's d	95% Confidence Interval	
									Lower	Upper
Time to triage	Provider	36	UA	49.02	45.12	3-159	0.004	0.001	-41.05	-4.42
	Nurse	17		26.29	21.29	4-49				
Time to results	Provider	37	UA	37.22	23.16	7-89	.531	0.142	-13.19	13.21
	Nurse	18		37.22	22.34	13-95				
LOS	Provider	37	UA	138.38	52.95	60-312	.771	0.188	-39.26	18.94
	Nurse	18		128.22	44.84	43-207				
Time to triage	Provider	43	X-ray	33.44	28.29	4-106	0.10	0.003	-23.01	-2.28
	Nurse	10		20.80	8.89	10-34				
Time to results	Provider	43	X-ray	43.14	18.49	17-80	.304	0.08	-14.04	9.60
	Nurse	12		40.92	16.25	9-63				
LOS	Provider	43	X-ray	129.00	49.84	51-223	.003	0.00	-52.49	-4.91
	Nurse	10		100.30	27.50	70-162				

Note. n=sample size; m=mean; St.=standard; p=probability value of Levene's Test; d= clinical significance .  
\* $p \leq 0.05$

## RESULTS



## CONCLUSIONS

- Results indicate improvement in triage time and overall LOS for each group; however, the UA group required further diagnostic testing which may have affected the LOS.
- Time to results was not different and did not contribute to the change in LOS.
- The nursing staff initially had a reluctance to adopt the standing orders. Nursing staff cited these initial reasons for not implementing standing orders:
  - Creates more work for nursing staff
  - Placing orders is the provider's responsibility
  - Uncomfortable due to lack of perceived support by management

## LIMITATIONS

- Limited generalizability
- Small sample size
- Only included data during business hours

## Recommendations for Future Practice

- Increase support from leadership to encourage the use of standing orders by staff nurses
- Build more chief-complaint based order sets
- Further study is needed for all physician standing orders at triage

## REFERENCES

Available upon request.

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