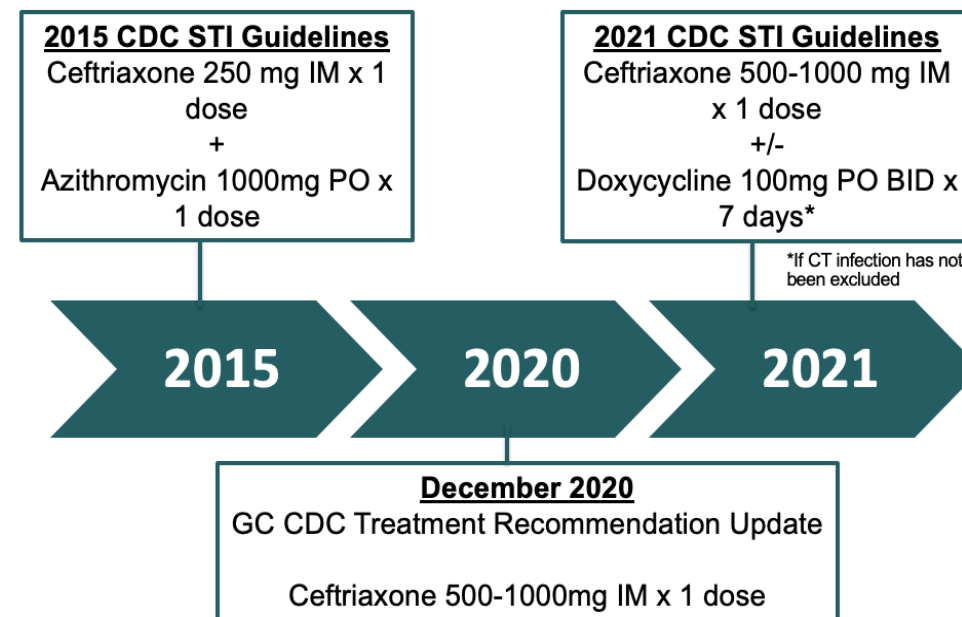


## Background

- December 2020, update to the CDC STI Guidelines published for the treatment of uncomplicated *Neisseria gonorrhoeae* (GC) and common co-infection, *Chlamydia trachomatis* (CT)
- Guideline changes reflected goals of antimicrobial stewardship and antimicrobial susceptibility
- Nebraska Medicine has a long-standing antimicrobial discharge culture follow-up program to ensure appropriate antimicrobial therapy has been prescribed



## Study Question

Did the CDC STI Guideline update negatively impact therapy compliance for the treatment of STIs in the ED setting?

## Methods

- Design:** Single center, retrospective cohort study, February 1, 2020 to August 31, 2021
- Patients:** Split
- Primary Outcome:** Appropriate, per CDC guidelines, STI treatment prescribed for ED visit
- Secondary Outcomes:** ED patients still in need of STI treatment 30 days post ED discharge, ED patients lost to follow up at 30 days post ED discharge, repeat ED visit for STI within 30 days from initial ED visit
- Statistical Analysis:** Descriptive statistics, independent sample t-tests, Fisher's exact test

### Inclusion Criteria

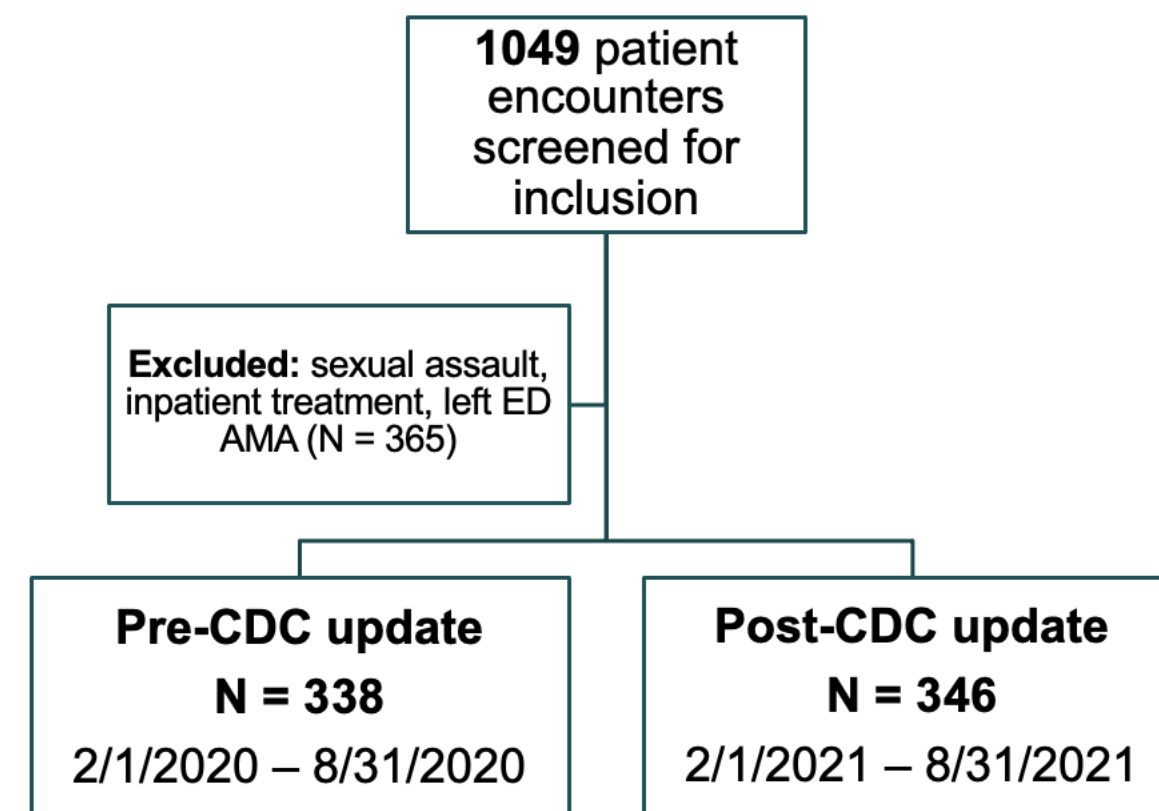
- Age ≥19 years
- Treated for STI between 2/1/2020 - 8/31/2021
- Discharged from Nebraska Medicine ED

### Exclusion Criteria

- Sexual assault
- Admitted for inpatient treatment
- Left ED against medical advice/refused treatment

## Patient Groups and Baseline Characteristics

Figure 1. Patient Groups



### Infection Status\*

- GC:** *Neisseria gonorrhoeae* test positive
- CT:** *Chlamydia trachomatis* test positive
- GC and CT:** *Neisseria gonorrhoeae* and *Chlamydia trachomatis* tests positive
- Negative:** Both *Neisseria gonorrhoeae* and *Chlamydia trachomatis* tests negative
- Empiric antibiotics:** ED provider decision to provide antibiotics based on HPI and signs/symptoms with no STI test

Table 1. Baseline Characteristics

	Pre-CDC update (N=338)	Post-CDC update (N=346)	p-value
<b>Sex</b>			
Male, no. (%)	220 (65%)	224 (65%)	1.000
Female, no. (%)	119 (35%)	121 (35%)	
<b>Age (years), mean ± SD</b>	28.9 ± 9.1	30.5 ± 9.1	0.021
<b>Weight (kg), mean ± SD</b>	78.8 ± 21.9	80.9 ± 21.3	0.201
<b>Pregnant, no. (%)</b>	30 (8.9%)	25 (7.2%)	0.483
<b>Infection Status*</b>			
GC, no. (%)	40 (11.83%)	43 (12.43%)	
CT, no. (%)	52 (15.38%)	51 (14.74%)	
GC and CT, no. (%)	31 (9.17%)	12 (3.47%)	
Negative, no. (%)	10 (2.96%)	1 (0.29%)	
Empiric antibiotics, no. (%)	205 (60.65%)	239 (69.08%)	
<b>Allergies</b>			
Penicillin, no. (%)	34 (10%)	28 (8.09%)	0.719
Cephalosporin, no. (%)	4 (1.18%)	6 (1.73%)	0.469
Tetracycline, no. (%)	3 (0.89%)	1 (0.29%)	0.432
Macrolide, no. (%)	6 (1.78%)	2 (0.58%)	0.387

## Results

Table 3. Insurance Payer Status and Appropriate Treatment Post-CDC Update

Appropriate STI Treatment at Discharge	Insurance Payer Status		
	Medicare / Medicaid	Private	Self-Pay
Yes, no. (%)	109 (64.9%)	37 (56.9%)	69 (62.7%)
No, no. (%)	59 (35.1%)	28 (43.1%)	41 (37.3%)

## Discussion

### Outcomes

- Decrease in guideline directed therapy prescribing driven by the change from azithromycin to doxycycline
- Appropriate ceftriaxone dosing was consistent
- ED pharmacists highly effective with patient follow-up
- Creation and integration of STI order panel/set to allow ED providers to search by STI indication for first-line and second-line therapies

### Limitations

- Retrospective study at a single institution
- Variable follow-up with ED patients and inability to assess PDMP data to determine doxycycline Rx adherence
- Lack of documentation regarding ED pharmacist intervention for adjustment of antibiotic dosing
- Pre-CDC update cohort includes early part of COVID-19 pandemic

## Conclusions

- The update to the CDC STI Treatment Guidelines led to decreased guideline directed therapy prescribing in an academic medical center ED
- There was no difference in ED patients still needing treatment, lost to follow-up, or repeat ED visits for STI within 30 days post ED discharge
- The Nebraska Medical Center ED provides STI care for many patients and has an effective ED pharmacist antimicrobial and discharge culture follow-up

## References

Barbee et al. *Clin Infect Dis*. 2022., Bergquist et al. *Sex Transm Dis*. 2020., Connolly et al. *Antimicrob Agents Chemother*. 2019., Dombrowski et al. *Clin Infect Dis*. 2021., Geisler et al. *Clin Infect Dis*. 2022., Gernert et al. *Lancet*. 2020., Hilbert et al. *Emerg Med Clin North Am*. 2018., Tisler-Sala et al. *Sex Transm Infect*. 2018., Workowski et al. *MMWR Recomm Rep*. 2015., Workowski et al. *MMWR Recomm Rep*. 2021.

## Disclosures

The authors of this presentation have nothing to disclose.

## Results

Table 2. Primary and Secondary Outcomes

	Pre-CDC update (N=338)	Post-CDC update (N=346)	p-value
<b>Primary Outcome</b>			
Appropriate, per CDC guidelines, STI treatment prescribed for ED visit, no. (%)	329 (98.2%)	215 (62.7%)	< 0.0001
<b>Secondary Outcomes</b>			
ED patients still in need of STI treatment 30 days post ED discharge, no. (%)	0 (0%)	3 (0.87%)	0.249
ED patients lost to follow up within 30 days post ED discharge, no. (%)	0 (0%)	3 (0.87%)	0.249
Repeat ED visit for STI within 30 days, no. (%)	56 (16.6%)	74 (21.4%)	0.119

Figure 2. Antibiotic Dosing

