Population Health Impacts of STI Surveillance: A Quality Improvement Project to Improve Care Efficiency and Compliance With State Reporting Requirements

Aishat Adeniji MSN, RN, FNP-BC

DNP Chair: Barbara Niedz PhD, RN, CPHQ **Team Member**: Suzanne Willard PhD.

RUTGERS School of Nursing

Introduction

- Surveillance using automated electronic submission in addition to paper reporting is integral to public health officials' allocation of funds for targeted population health programs (Pacheco & Katz, 2018).
- Risk of HIV transmission can be reduced by improved access to Human Immunodeficiency Virus (HIV) testing; Pre-Exposure Prophylaxis (PrEP); and efficient STD risk assessment (Shannon & Klauser, 2018).

Background & Significance

- Chlamydia remains the most common STI in the United States with a total of 1,758,668 cases recorded in 2018 (Center for Disease Control and Prevention, 2018). Gonorrhea is the second most reported notifiable disease with a total of 583,405 new cases reported in 2018; this report further shows an alarming 82.6% increase in new gonorrhea cases compared to 2009 (2018).
- The number of patients served by urgent care centers is progressively increasing (Mayeux & Ng, 2019), however, urgent care centers are not as regulated as inpatient settings hence allowing for wide variations in acceptable practice (Dean et al., 2018).

Problem Statement

- Clinicians' awareness of NJDOH reporting guidelines needs improvement.
- Gaps seen in STI prevalence in certain communities in NJ warrants key stakeholders' involvement
- Patients are not consistently screened and managed for Gonorrhea and Chlamydia.
- System redundancy affects efficient care coordination for STI cases

Clinical Question

- What is the impact of a clinical decision support tool on the timeliness and accuracy of public health reporting of gonorrhea and chlamydia cases by clinicians in a large suburban-based urgent care center? How does it influence clinician attitude towards STI assessment and management. To what extent will there be an increase in intake STI screenings by ancillary staff and would these measures ultimately increase compliance with state reporting requirements?

Methods

Design: De-identified chart audits 8 weeks before STI workflow implementation and 8 weeks after STI workflow implementation

Sample: 78 de-identified STI (gonorrhea & chlamydia) charts. Pre-Implementation cases **n = 40**, post-implementation cases **n = 38**

Tools: Chart Abstraction and Audit Tools- a 2 category 12 item audit tool was used to capture 11 components of STI care and a documentation of reporting to NJDOH

Setting: Large urgent care clinic in an urban setting in northern New Jersey

Measures

1. Rates of STI confidential reports to NJDOH between **July 2020 to Nov 2020**
2. Compliance with STI management using STI components of care (HIV testing, PrEP, EPT, Linkage to care, and Vaccination)
3. Changes in clinician attitude towards STI screening and reporting.

Data Analysis- Non Parametric Testing

- Chi-Square
- Mann Whitney U

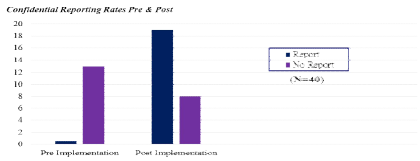
Results

A Shapiro-Wilk test was conducted to determine normal distribution in pre and post-implementation groups (p=0.01; p=<.000).

- ***Confidential Reports***

A chi-square of independence was performed to analyze the difference between confidential reporting rate pre and post workflow implementation X^2 (1, N=78) = 17.4, p=0.000.

A Kruskal- Wallis test shows that confidential reporting rates were not affected by ethnicity, $H(3)$= .766, p = 0.85



Confidential reporting rates were not influenced by STD age risk stratification (high-risk group 16-24, lower risk group >24) (N=40, p=.0733)

Results *Contd.*

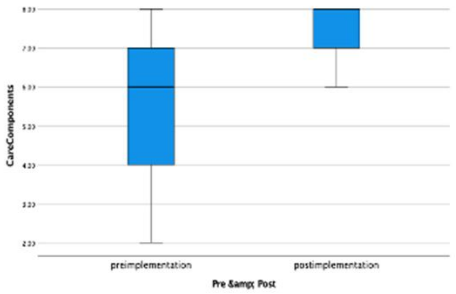
- ***STI Documentation***

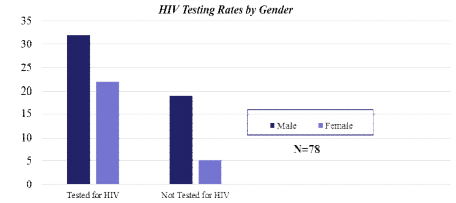
Highest STI component documentation score was 8, and the lowest was 3. Post-implementation group's components of care score were higher than the pre-implementation group. A Mann Whitney U test (n-Pre-implementation = 40, n- Post-implementation = 38,) indicated that this finding was statistically significant, U = 289.50, z = -4.88, p <.000.

A chi-square of independence was conducted to analyze the difference in HIV testing rates based on ethnicity X^2 (1, N=78) =2.9, p=0.088. The patient's ethnicity did not influence HIV testing rates. Based on covariate analysis, STI care and documentation (n=78) were not associated with patients' age (M = 27.45, SD = 7.6) or ethnicity (M = 6.7, SD= 1.27, p<.07).

- ***Clinician Feedback***

Clinician attitude toward improving STI management using the evidenced-based approach and workflow guidance enhanced after a few weeks following the STI workflow implementation





Discussion

- Increase in awareness of reporting requirements for STIs
- Improved awareness of STI treatment guidelines and surveillance;
- Clinic recorded an increase in HIV screening rates, expedited partner management, and increased compliance with NJDOH STI reporting requirements
- Clinician comfort in STI management improved using an interdisciplinary approach

Implications

Quality & Safety

- The adoption of a well-regulated confidential reporting
- Outpatient clinic regulation to enforce standard of care regulations

Economics

- Cost implications of out of pocket STD management
- Decrease in STD clinics and health disparities

Education

- Central database for high risk disease management
- Clinical education reinforcing the use of SaaS (Software as a Service)

Policy

- Streamlined approach for infectious disease reporting
- Confidentiality regulations

Clinical Practice

- Improved disease surveillance
- Approach for knowledge uptake among clinicians

References

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Contact: Aishat Adeniji adenijar@sn.rutgers.edu