Conclusion. Novel solutions that aim to reduce empiric therapy, or shorten the interval to treatment success, are critical for both diagnostic and antibiotic stewardship. Through parallel or sequential testing algorithms, panel testing schematics on either the cobas® 4800 and 6800 Systems allow for more accurate discrimination between GU etiologies that may help address the re-emergence of Syphilis in the USA.

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433. Implementation of an Emergency Department Syphilis Screening Program

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Background. Syphilis incidence across all regions of California increased by 22% compared with 2016 cases; with the largest number of chlamydia, gonorrhea, syphilis, and congenital syphilis cases among all states (CDC 2017). The USPSTF recommends targeted syphilis screening in patients at increased risk. However, in emergency departments (EDs) targeted syphilis screening is not routinely performed even when patients present for concerns of a sexually transmitted infection (STI). The purpose of this program was to implement routine syphilis screening among ED patients being tested for chlamydia and gonorrhea (CT/GC) through the use of an EHR enhancement to maximize the number of new syphilis diagnoses.

Methods. From November 27, 2018 to March 31, 2019, EHR-based syphilis screening was implemented in a quaternary care ED in Northern California serving urban and rural populations. EMR best practice alerts (BPA) were developed and populated on patients receiving STI testing. Syphilis testing employed a reverse sequence algorithm, which is suggested for high prevalence settings and provides rapid turnaround time. Patients were excluded if they opted out from testing. We determined the proportion of all CT/GC tested patients who underwent syphilis screening and the prevalence of syphilis among this group.

Results. During a four-month period, 649 ED patients with suspected STI received a BPA to screen for syphilis. Of those, 425 patients (65.5%) were screened for syphilis, 22 had a reactive IgG/IgM and RPR, while 5 patients had a reactive IgG/IgM and a nonreactive RPR which required a TPPA test to detect their infection. Fourteen of the 22 patients with a reactive RPR had titers of 1:32 or higher. Nine (32%) of those with a positive CT/GC test tested positive for syphilis.

Conclusion. Implementation of a syphilis screening program in patients undergoing testing for other STIs yielded 28 new diagnoses compared with those tested prior to the screening in 2018. Introducing an automated EMR-based syphilis screening program is an effective method to maximize syphilis screening in all ED patients seeking treatment for STIs. The screening data suggest that the majority of patients undergoing STI testing in our ED are not screened for syphilis, yet the prevalence of infection in those screened is substantial.

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434. Concurrent Gonococcal Infections with Differing Susceptibility Results from the Enhanced Gonococcal Isolate Surveillance Project (eGISP)

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Background. Concurrent gonococcal infections could impact treatment success in cases of anatomic site-specific strains with different antimicrobial susceptibilities; however, little is known about same-patient differences in susceptibility as most antibiotic resistance surveillance is based on only male urethral isolates.

Methods. In August 2017, the enhanced Gonococcal Isolate Surveillance Project (eGISP) began collecting male and female genital and extragenital gonococcal isolates from patients in 12 STD clinics. Minimum Inhibitory Concentrations (MICs) for penicillin, tetracycline, ciprofloxacin, gentamicin, cefixime, ceftriaxone and azithromycin were determined by agar dilution. We identified patients with isolates from multiple anatomic sites of infection collected during the same clinic visit. Isolate sets were categorized as pairs or triplets based on the number of culture positive anatomic sites. We identified same-patient isolate sets with differing MICs (≥2 dilution difference) for each antibiotic, and identified if the difference affected susceptibility categorization. All isolates in a set were tested in the same batch run by the same laboratory.

Results. From August 2017-February 2019, 280 isolates were collected from 135 patients, representing 136 isolate sets (128 pairs and 8 triplets); one patient contributed 2 isolate sets. Of the 136 isolate sets, the majority (72; 53%) were grouped as genital and pharyngeal isolates (Table 1). Overall, 33 isolate sets (24%) had differing MICs for ≥1 antibiotic and 21 sets (15%) for ≥2 antibiotics. Across all anatomical site combinations, differing MICs were most common for ciprofloxacin (10.3%), penicillin (9.6%) and azithromycin (9.6%). Only 18 isolate sets (13%) demonstrated differing MICs where an isolate was considered susceptible and another was considered resistant or reduced-susceptible.

Conclusion. Among persons with concurrent gonococcal infections, MICs can vary by ≥2 dilutions between sites and may change susceptibility interpretation. Variation by the anatomic site can result from initial infection with multiple strains or differential development of resistance after infection. Continued surveillance of multi-site infections could help understand resistance development and inform patient management.

Table. Prevalence of concurrent gonococcal isolate sets with differing susceptibility results, by anatomic site combination sets, eGISP, August 2017-February 2019

Anatomic Site Combinations	Differing susceptibility results definition	Ceftriaxone # of sets (%)	Cefixime # of sets (%)	Azithromycin # of sets (%)	Ciprofloxacin # of sets (%)	Penicillin/ Beta-lactamase # of sets (%)	Tetracycline # of sets (%)	Gentamicin # of sets (%)
Genital / Pharyngeal (Total = 72 isolate pairs)	MICs differ by ≥2 dilutions	5 (6.9%)	3 (4.2%)	7 (9.7%)	7 (9.7%)	7 (9.7%)	3 (4.2%)	5 (6.9%)
	One susceptible & one resistant/ reduced-susceptible*	0 (0%)	0 (0%)	1 (1.4%)	5 (6.9%)	4 (5.6%)	1 (1.4%)	N/A
Genital / Rectal (Total = 29 isolate pairs)	MICs differ by ≥2 dilutions	2 (7.4%)	1 (3.4%)	2 (6.9%)	3 (10.3%)	0 (0%)	2 (6.9%)	0 (0%)
	One susceptible & one resistant/ reduced-susceptible*	0 (0%)	0 (0%)	2 (6.9%)	3 (10.3%)	0 (0%)	0 (0%)	N/A
Pharyngeal / Rectal (Total = 27 isolate pairs)	MICs differ by ≥2 dilutions	2 (7.4%)	1 (3.7%)	3 (11.1%)	2 (7.4%)	6 (22.2%)	2 (7.4%)	2 (7.4%)
	One susceptible & one resistant/ reduced-susceptible*	0 (0%)	0 (0%)	2 (7.4%)	2 (7.4%)	2 (7.4%)	0 (0%)	N/A
Any 2 Combination (Total = 128 isolate pairs)	MICs differ by ≥2 dilutions	9 (7.0%)	5 (3.9%)	12 (9.4%)	12 (9.4%)	12 (10.2%)	7 (5.5%)	7 (5.5%)
	One susceptible & one resistant/ reduced-susceptible*	0 (0%)	0 (0%)	5 (3.9%)	10 (7.8%)	6 (4.7%)	1 (0.8%)	N/A
Genital / Pharyngeal /Rectal (Total = 8 isolate triplets)	MICs differ by ≥2 dilutions	2 (25.0%)	2 (25.0%)	1 (12.5%)	2 (25.0%)	0 (0%)	1 (12.5%)	2 (25.0%)
	One susceptible & one resistant/ reduced-susceptible*	0 (0%)	0 (0%)	0 (0%)	2 (25%)	0 (0%)	0 (0%)	N/A
All Combinations (Total = 136 isolate sets)	MICs differ by ≥2 dilutions	11 (8.1%)	7 (5.1%)	13 (9.6%)	14 (10.3%)	13 (9.6%)	8 (5.9%)	9 (6.6%)
	≥1 susceptible & ≥1 resistant/ reduced-susceptible*	0 (0%)	0 (0%)	5 (3.7%)	12 (8.8%)	6 (4.4%)	1 (0.7%)	N/A

* Subset of pairs or triplets with MICs that differ by ≥2 dilutions

Genital = Urethral, Endocervical, or Vaginal

Ceftriaxone: MIC <0.125 µg/ml (susceptible); MIC ≥0.125 µg/ml (reduced-susceptible)
Azithromycin: MIC <2.0 µg/ml (susceptible); MIC ≥2.0 µg/ml (reduced-susceptible)
Penicillin: MIC <2.0 µg/ml (susceptible); MIC ≥2.0 µg/ml or Beta-lactamase-positive (resistant)
Gentamicin: No recognized susceptibility or reduced-susceptibility cut points (N/A)
Cefixime: MIC <0.25 µg/ml (susceptible); MIC ≥0.25 µg/ml (reduced-susceptible)
Ciprofloxacin: MIC <1.0 µg/ml (susceptible); MIC ≥1.0 µg/ml (resistant)
Tetracycline: MIC <2.0 µg/ml (susceptible); MIC ≥2.0 µg/ml (resistant)

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435. Iliopsoas Abscess in Egyptian Patients Presenting to Cairo University Hospitals

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Background. The incidence of iliopsoas abscess (IPA) is rare but the frequency of this diagnosis has increased with the use of ultrasonography and computed tomography (CT). The vague presentation leads to delays in diagnosis and increases morbidity. Managing iliopsoas abscess is still forming a therapeutic challenge. The aim of this research was to study the features of iliopsoas abscess cases including the etiology and clinical presentation.

Methods. Patients and Methods. all patients presented to the orthopedic outpatient clinic (Cairo university hospitals) by back pain were screened by plain X-ray and IPA was by ultrasonography (US). The confirmed patients were diagnosed as having psoas or iliopsoas collection and subjected to: full history taking, full laboratory workup, screening for tuberculosis, radiological studies and ultrasound-guided needle aspiration of the abscess. The aspirate samples were microbiologically tested by culture (aerobic, anaerobic and MGIT) and PCR technique. Follow-up US was done within 7 days from the first aspiration.

Results. The outpatient clinic received 40 thousand back pain cases during a one-year study. Only 14 patients were diagnosed as IPA. The age ranged 19–65years (mean 37years) and 57% were male. 44.4% patients had primary IPA while 55.5% patients had secondary IPA. All patients had limping and flank pain, backache or both. Fever was common 90% of patients. Leukocytosis was found in 55.5% of patients, ESR was elevated and CRP was positive in all patients. Z.N stain for AFB was negative in all patients. Culture of aspirated fluid revealed *S.aureus* as the commonest organism (44% of cultures), then *E.coli* in (22% of cultures), *Mycobacterial tuberculosis* in 7% by MGIT culture and PCR. Other cultures were negative. All patients were treated by drainage and appropriate antibiotics. surgical intervention was needed in 22% patients. Recurrence occurred in only 1 patient with tuberculous iliopsoas abscess.

Conclusion. Although IPA is rare, the appropriate diagnosis by US is needed. S.aureus is the commonest pathogen but *Mycobacterial tuberculosis* could be a cause for recurrence.

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436. Skin and Soft-tissue Infections Are a Common Reason for Potentially Inappropriate Antimicrobial Use among Inpatients in Sri Lanka

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Background. Skin and soft-tissue infections (SSTI) are a common reason for antimicrobial use in the outpatient and inpatient settings. Inappropriate antimicrobial