

Citywide Conference

Case 3

Forgotten, but Not Gone

May 28th, 2019

Presented by: Eiswarya Kolli PGY-IV

Faculty Preceptors: Maura Porto and Rosalie Pepe

HPI

HPI: 49 y/o F PMH of injection drug use, DJD, Raynaud's, untreated HCV , prior MRSA abscesses, had recent admission at the end of March for right elbow cellulitis. She was newly diagnosed with HIV during that admission.

HIV VL 671,207 with CD4 528.

Review of Systems

She presented 2 weeks later with :

+ Fever, chills, arm pain and tenderness

No CP, palpitations, cough, wheezing or SOB

+ Abdominal pain, + nausea, + vomiting or diarrhea

Past history

PSH: Prior full mouth dental extraction in setting of prior injury and infection

Allergic hx: Clindamycin (cannot recall reaction)

MEDS: Bictegravir-emtricitabine-TAF, had just completed course of TMP-SMX for cellulitis

SOCIAL :

- Denies tobacco, EtOH.
- Active IVDU- heroin, 1-2 bags / day. Re-uses, licks and shares needles. Injects into arms, neck.
- Intranasal and IV cocaine, smokes marijuana
- + Transactional sex, no other recent STIs
- Homeless - Lives in Camden, stays in shelters, outdoors or with friends

Physical Exam (Hospital Day 4)

VITALS: T 98F , BP 135/76, HR 83, RR 16, SpO2 98% on RA

- GEN- Thin, unkempt, non-toxic
- NEURO - A&Ox3. Strength, sensation intact.
- HEENT - PERRLA, EOMI, No LAD, Neck supple
- CV - S1 S2 normal, no murmurs
- PULM - CTA, no wheezing, no ronchi
- ABD - soft, NT/ND, normo-active bowel sounds
- EXT - No edema, +2 distal pulses. **+ redness, erythema of right AC surrounding tender palpable lesion**
- SKIN - **icteric**

Labs

- WBC 8.11 /uL
- HEMOGLOBIN 11.6 g/dL
- HEMATOCRIT 38.4 %
- MCV 68.4 fL
- PLATELET COUNT 343 /uL
- DIFFERENTIAL
 - SEGMENTED NEUTROPHILS 72.1 %
 - LYMPHOCYTES 18.3 %
 - PLASMACYTOID LYMPH 0.9 %
 - MONOCYTES 2.6 %
 - EOSINOPHILS 5.2 %

Labs

GLUCOSE 80 mg/dL

BUN 23 mg/dL

CREATININE 1.14 mg/dL

SODIUM 131 mmol/L

POTASSIUM 3.5 mmol/L

CHLORIDE 99 mmol/L

CO2 20 mmol/L

CALCIUM 7.5 mg/dL

Trend of LFTs

	Day 1	Day 2	Day 3	Day 4	Day 5
AST	305	223	611	1455	3051
ALT	148	157	318	695	1,592
ALP	173	201	295	423	575
T-bili	0.6	0.5	0.9	2.4	3.9
D-bili	0.3	< 0.2	0.5	1.6	3.2

Imaging

- RUQ US showed *normal size of liver, echogenicity, contour and it was noted to be smooth, no mass. No other significant findings.*

Questions?

- 49 y o homeless F with PMH of HIV, HCV, IVDA p/w AP, nausea, vomiting, icteric on exam with elevated LFT.

Labs

- Blood culture – NG
- HCV reactive, reflex VL 18,500,000
- Hepatitis A IgM +
- EBV IgM + 43.50
- EBV IgG + 444.00
- EBV nuclear Ag + 126
- CMV, HSV, antimitochondrial Ab, ceruloplasmin, alpha-1 AT, IgG4 : negative

Hepatitis A

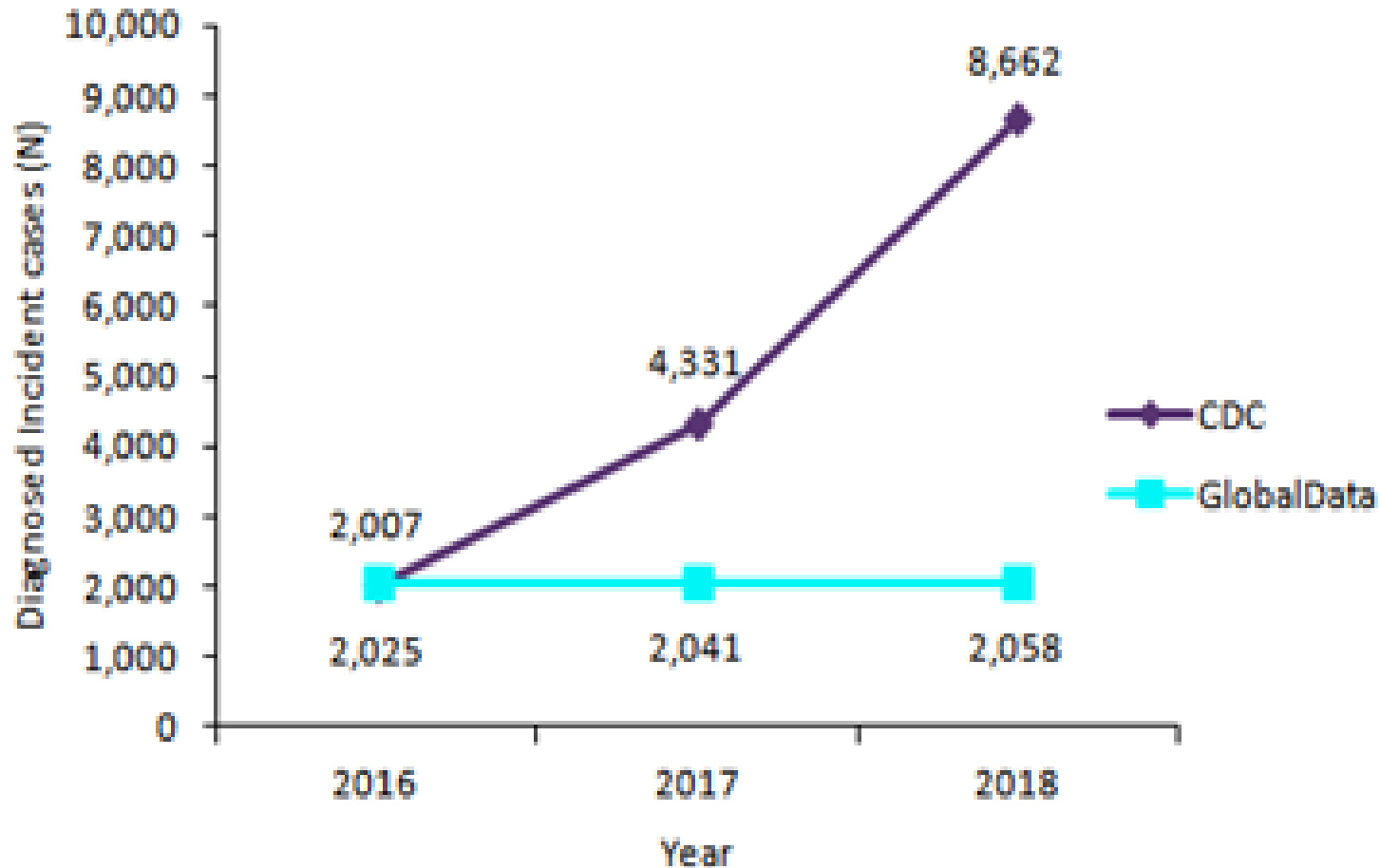


Emerged as one of
the leading causes
of vaccine
preventable deaths



Globally > 100,000
deaths per year

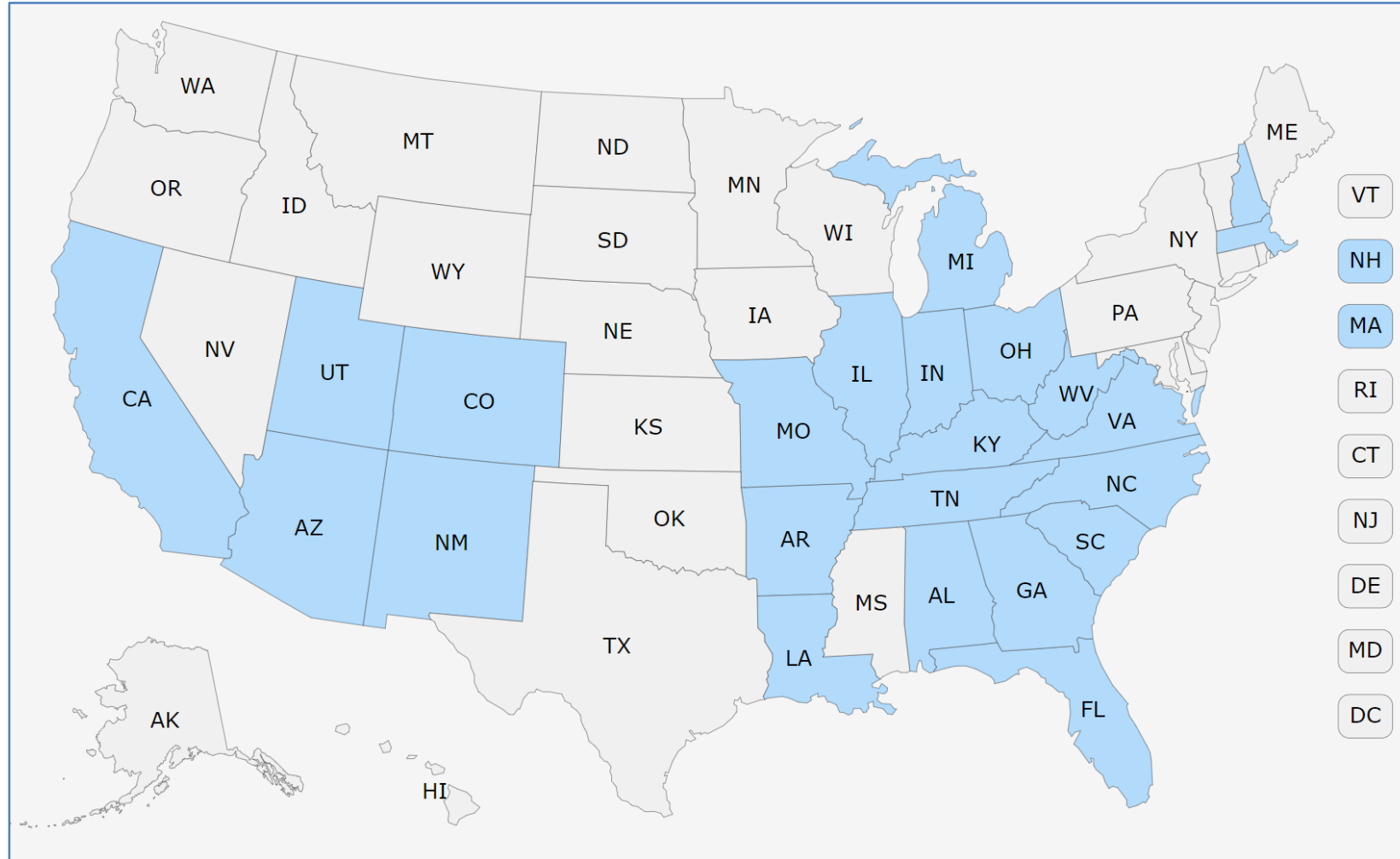
- Reports of hepatitis A cases in the US between 2016-2018 **increased by 294%**, making the US 3rd behind China and India in highest incident cases



CDC Hepatitis A incident Cases 2016-2018 in the US compared with GlobalData projection

From: www.pharmaceutical-technology.com, May 2019

CDC state-specific outbreaks (through 2018)

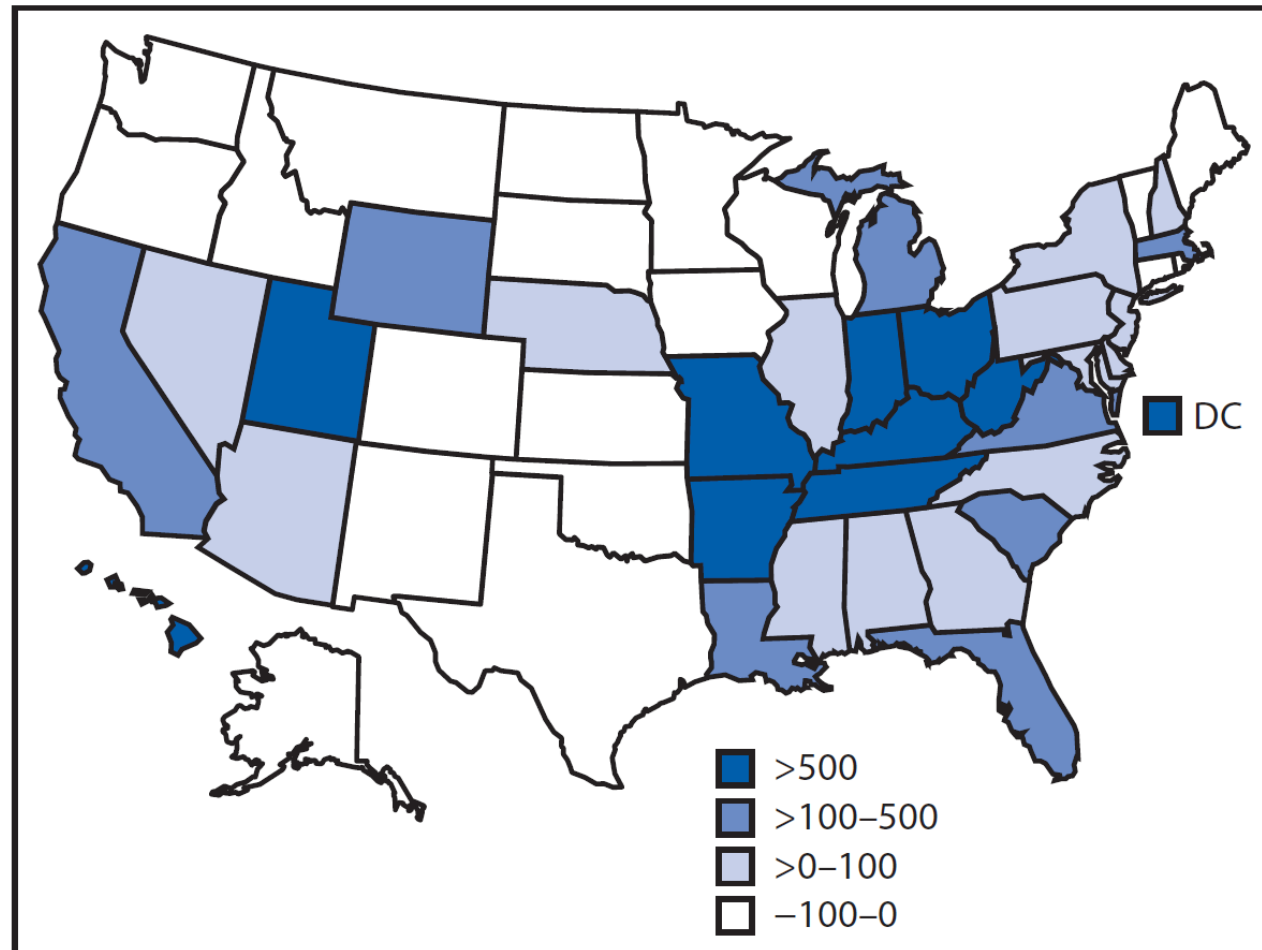


Source: <https://www.cdc.gov/hepatitis/outbreaks/2017March-HepatitisA.htm>

Increase in Hepatitis A Virus Infections — United States, 2013–2018

MMWR / May 10, 2019 / Vol. 68 / No. 18

FIGURE. Percent change in reported hepatitis A infections, by state — National Notifiable Diseases Surveillance System, United States, 2013–2015 and 2016–2018*

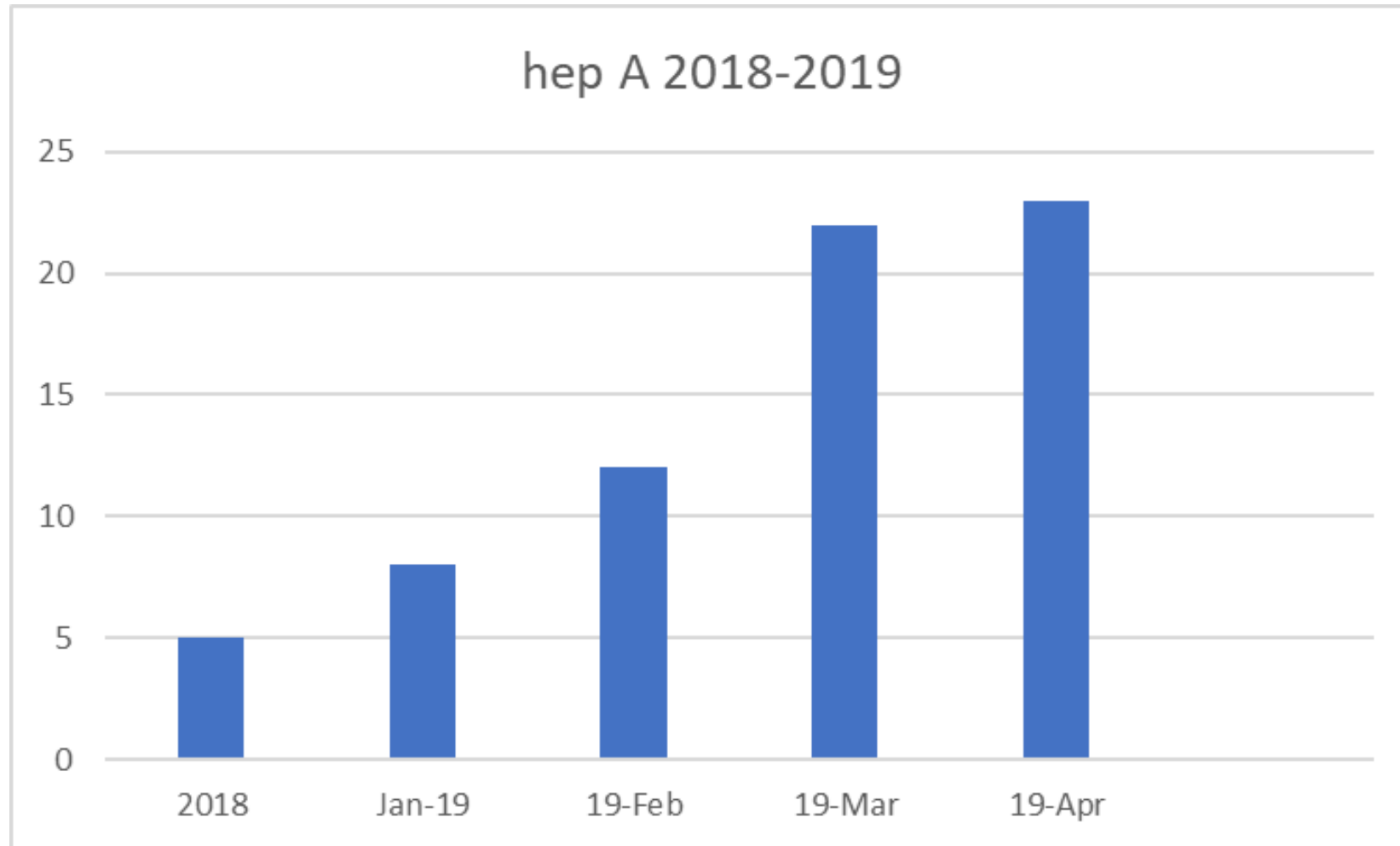


South Jersey Hepatitis A Outbreak (Dec. 2018-April 2019)

County	# of Cases
Camden	51
Gloucester	24
Burlington	14
Salem	5
Mercer	4

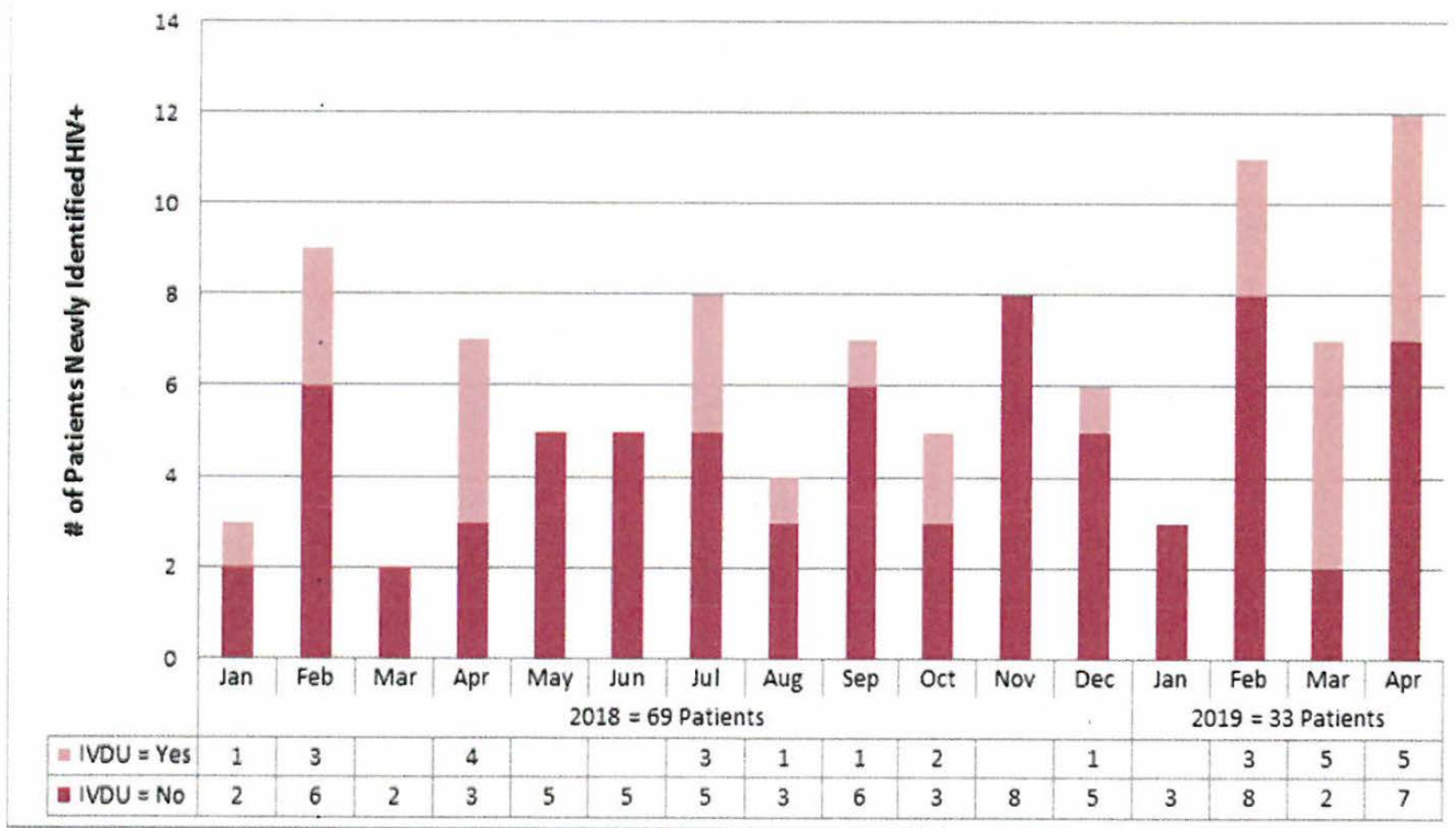
Source: NJ Department of Health Communicable Disease Service

New Hepatitis A Cases at CUH through April, 2019



Source: Cooper Infection Prevention Program

Number of Patients Newly Identified HIV+ At Cooper University Health Care
 (n = 102 | 2018-2019)



Source: Cooper EIP Program and **NJLINCS Health Alert Network and Public Health Advisory**

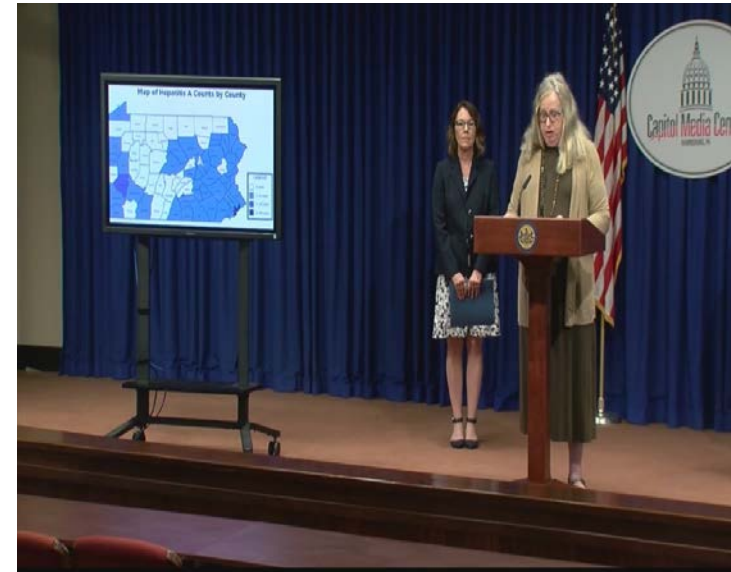
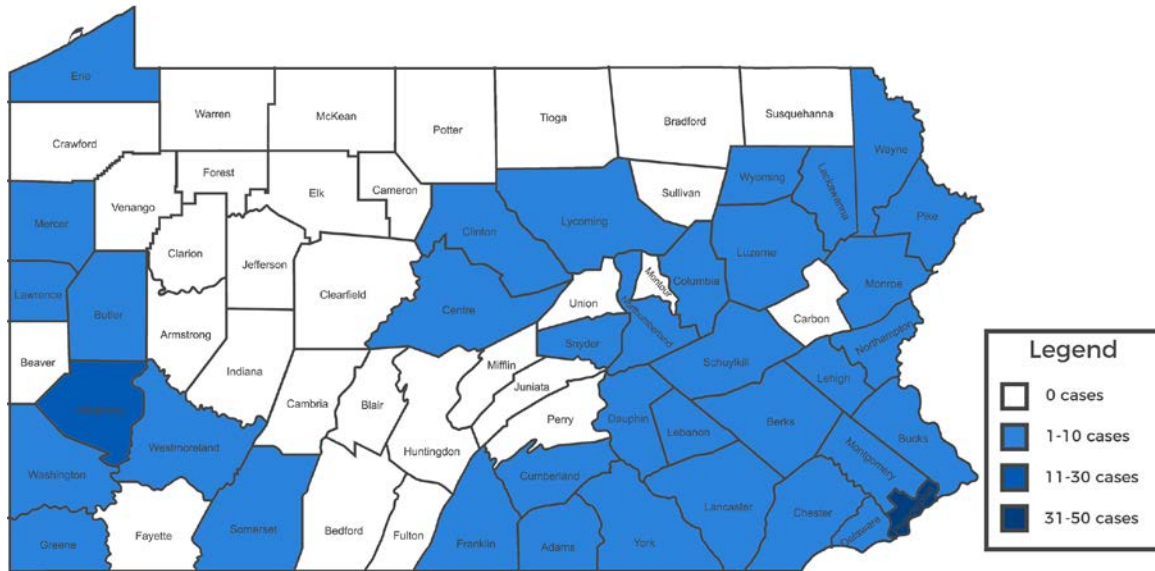
Recent HAV Outbreaks

- March 2017 – San Diego outbreak resulting in 592 cases and 20 deaths (used foot teams: law enforcement, firefighters, outreach workers, nurses went into homeless encampments, offered vaccines in libraries, jails, offered gift cards, bleached sidewalks, installed hand washing stations and public toilets)

PA Outbreak

171 cases, 36 counties

Map of Hepatitis A Counts by County



<https://www.health.pa.gov/topics/disease/Hepatitis%20A/Pages/Data.aspx>

Hawaii – 2016 outbreak

- linked to raw scallops imported from Philippines : 168 cases

Period of Infectivity

- 2-3 weeks prior to 16 days after onset of jaundice

Risk Factors

- Homeless
- IVDA
- MSM
- Travelers to and from endemic countries
- Chronic liver disease
- Household/sexual contacts of hepatitis A infected individuals
- Poor sanitation
- Food handlers, day care workers
- Recipients of clotting factor concentrates

Prevention

- CUH: place patients in separate rooms with separate toilet and contact precautions
- Vaccine: 2 inactivated hepatitis A vaccines available in the US , both given as 2 dose series, but for outbreaks it is a single dose vaccine
- There was a missed opportunity to vaccinate our patient as she was seen in the outpatient setting and received only HBV but not HAV vaccination

HAV and HIV

- Only 50-75% of HIV+ individuals develop protective levels of Ab
- Response depends on CD4 count and HIV VL at the time of the 1st dose
- Time to seroconversion is longer and protective immunity wanes earlier
- Prior vaccination history doesn't confer immunity in HIV patients and in high risk situations (sexual/household contact) PEP should include Ig and vaccine

CDC considerations

- *Consider programs to provide hepatitis A vaccinations in jails, syringe service programs, substance abuse treatment programs, and to at-risk persons in emergency departments, homeless shelters, warming centers, food distribution centers, and any venues where the at-risk populations may congregate or seek medical care.*



Take Home Points

Vaccination is the cornerstone of outbreak control and prevention in both inpatient and outpatient settings, but the challenges in this population include:

- *economic instability*
- *lack of follow up*
- *limited access to healthcare*
- *distrust of public officials*

novel public health approaches may be required to effectively respond to this outbreak