

4th HEPATITIS C
TECHNICAL ADVISORY
GROUP
TAG Meeting

Retrospective chart review in hospitals as a
preliminary step in setting up sentinel surveillance
for viral hepatitis

Department of Communicable Diseases
Division of HIV/AIDS, Hepatitis, TB and STIs

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November 28, 2018



Background

FOUR MAIN HEPATITIS VIRUSES

A.

E.

B.

C.

95%
of burden

Faecal oral route

Exposure to blood / body fluids

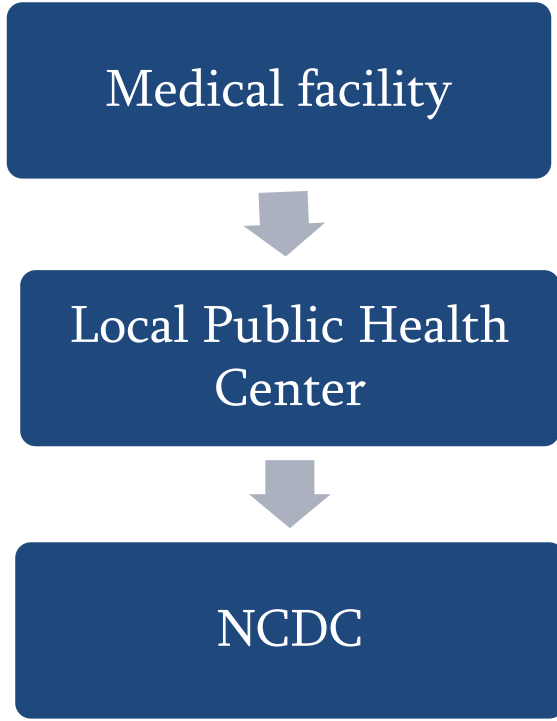
Acute hepatitis

Chronic infections

Sequelae

Background

Case reporting – regulated by the Minister’s decree about medical statistics



	ICD-10 code	Notification	Epi investigation
Other viral hepatitis	B17.0; B17.8	Aggregated	No investigation needed
Acute hepatitis A	B15	1 case	Each case
Acute hepatitis B	B16	1 case	Each case
Chronic hepatitis B	B18.0; B18.1	Aggregated	Outbreak – 2 or more cases
Hepatitis C	B17.1 B18.2	Notification/investigation – under the Elimination Program	
Acute hepatitis E	B17.2	1 case	Each case

Background

EIDSS

Electronic Integrated Disease
Surveillance System



Electronic Integrated Disease Surveillance System (EIDSS)

Notification	Case Investigation	Tests			
Clinical Information	Samples Collection	Contact List	Case Classification	Epidemiological Links and Risk Factors	Final Case Classification and Outcome

General Information

Diagnosis	<input type="text" value="Acute viral hepatitis B"/>		
Initial Case Classification	<input type="text" value=""/>		Date of Exposure <input type="text" value=""/>
Date of Symptoms Onset	<input type="text" value=""/>		Location of exposure, if known <input type="text" value=""/>
Facility Where Patient First Sought Care	<input type="text" value=""/>	<input type="text" value=""/>	Date Patient First Sought Care <input type="text" value=""/>
Non-Notifiable Diagnosis from facility where patient first sought care	<input type="text" value=""/>		Hospitalization <input type="text" value=""/>
Place of Hospitalization	<input type="text" value=""/>		Date of Hospitalization <input type="text" value=""/>
Antibiotic/Antiviral therapy administered before samples collection	<input type="text" value=""/>		

Case Definitions

Acute HAV

- ❖ **Suspected** – Clinical signs
- ❖ **Probable** – Suspected case AND an increased urine urobilinogen and >2.5 times the upper limit of serum ALT. Epi-link with other probable case OR the existence of a common factor
- ❖ **Confirmed** – Suspected/Probable case AND positive for IgM anti-HAV
 - OR A fecal test is confirmed by virology or by a PCR
 - OR An Epi-link with a confirmed case

Acute HEV

- ❖ **Suspected** – Clinical signs
- ❖ **Probable** – Suspected case AND an increased urine urobilinogen and >2.5 times the upper limit of serum ALT. Epi-link with other probable case OR the existence of a common factor
- ❖ **Confirmed** – Suspected/Probable case AND positive for IgM anti-HEV
 - OR A fecal test is confirmed by virology or by a PCR
 - OR An Epi-link with a confirmed case

Case Definitions

Acute HBV

❖ **Suspected** – Clinical signs and either

- a) Jaundice, **OR**
- b) Elevated serum ALT levels >100 IU/L

* If there is a documented negative response to HBsAg during 6 months before receiving positive results (HBsAg, "e" antigen - HBeAg or HBV NAT), the case will be considered as acute viral B hepatitis without clinical signs.

❖ **Probable** – Not applicable

❖ **Confirmed** – Suspected case AND serum is positive for anti-HBcIgM and HBsAg

Case Definitions

Acute HCV

- ❖ **Suspected** – Clinical signs and either
 - a) Jaundice, **OR**
 - b) Elevated serum ALT levels >200 IU/L

- ❖ **Probable** – Suspected case, anti-HCV is positive and HCV RNA/HCVAg is not tested and within 12 months anti-HCV isn't positive

- ❖ **Confirmed** – Suspected/Probable case and positive HCV RNA or HCVAg test
 - OR** negative anti-HCV, HCVAg or HCV RNA test results followed within 12 months by a positive result of any of these tests

The Goal and Objectives

- ❖ To describe current Dx algorithms for acute viral hepatitis and unspecified jaundice in Georgia
- ❖ To compare the Dx algorithms with existing case definitions
- ❖ To assess linkage to HCV care
- ❖ Develop recommendations for strengthening the viral hepatitis surveillance system in Georgia

Methods

- ❖ **Retrospective chart review was conducted for inpatient cases registered in 2017**
 - ✓ Cases were identified from E-health (the electronic module of registration of the discharged inpatients (IV-066))
 - ✓ ICD codes: B15, B16, B17, B18, B19, K17
 - ✓ ICD codes – Acute viral hepatitis (A, B, C, E) - B15.9, B16.1, B16.2, B16.9, B17.1, B17.9, B17.2.
- ❖ The questionnaire was developed based on the National, WHO and CDC acute viral hepatitis case definitions
- ❖ Data was abstracted from the medical charts
 - ❖ 24 healthcare facilities from 9 regions of Georgia
- ❖ Linkage to HCV care was assessed

Results

- ❑ **Overall number of cases identified from the E-health - 1297**
 - Acute Viral Hepatitis – 226
 - Chronic Viral Hepatitis – 1071
 - Unspecified Jaundice - 42

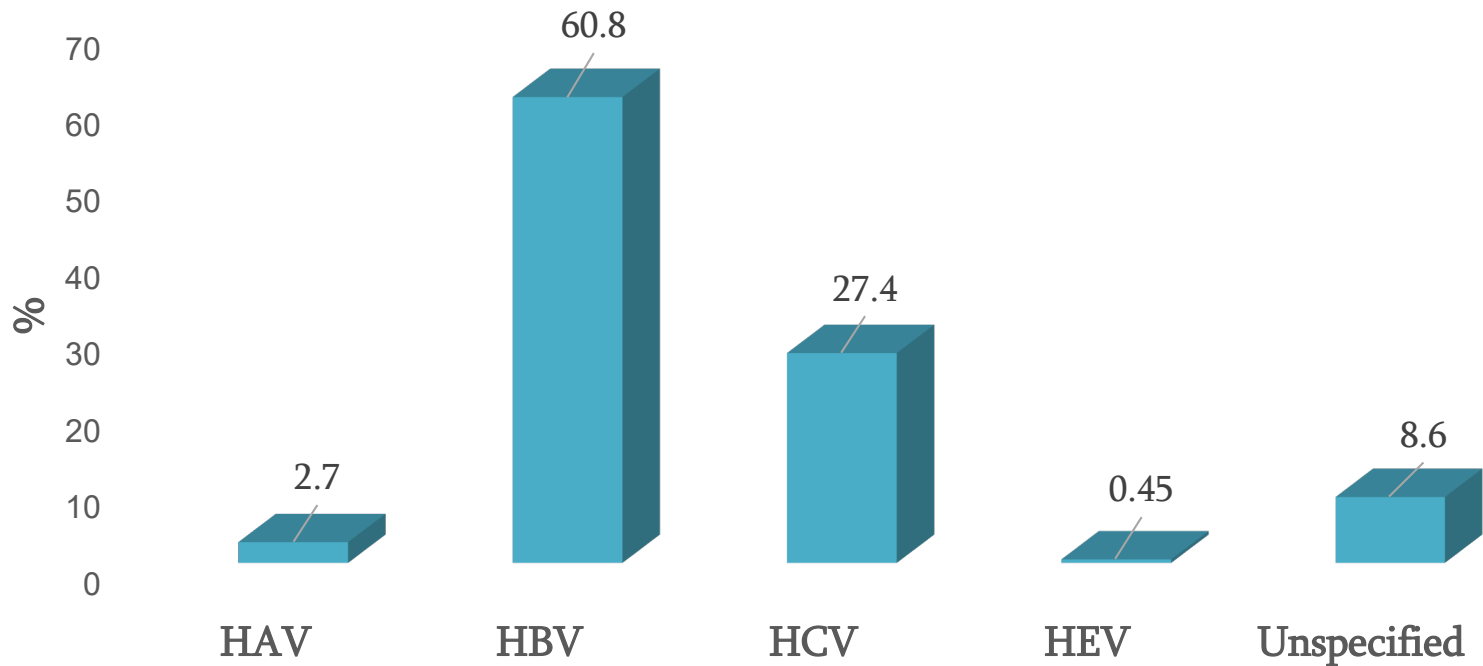
- ❑ **Number of medical charts available for review**
 - Acute Viral Hepatitis - 222
 - Unspecified Jaundice (K17) – 40
 - ✓ 20 Cases of obstructive jaundice

- ❑ **A 75% (n=166) of all acute viral hepatitis cases were diagnosed in three major infectious diseases (ID) hospitals**

- ❑ **A 98% (n=39) of Unspecified Jaundice cases were diagnosed in 9 non infectious diseases hospitals**

Results

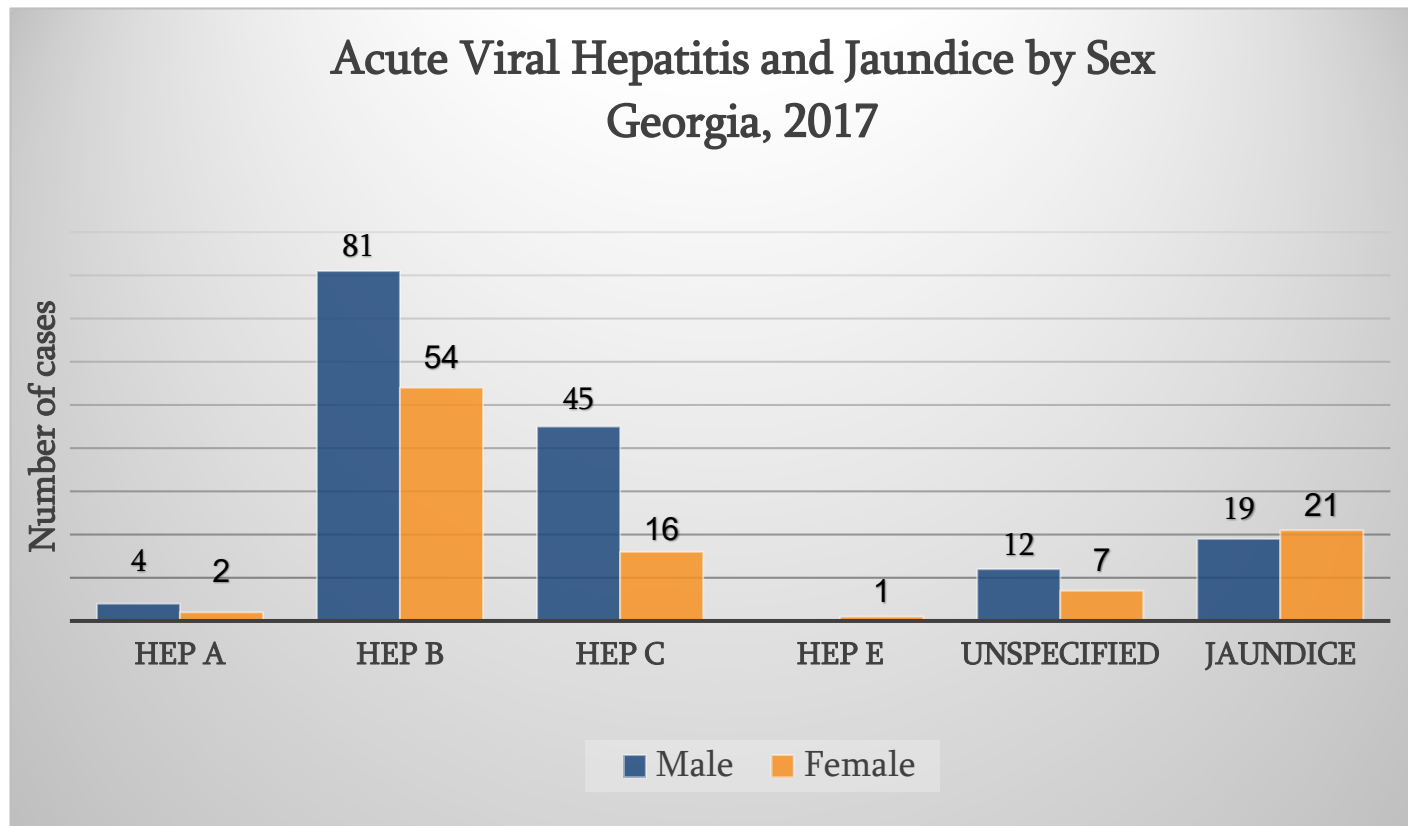
Distribution of Acute Viral Hepatitis N=222



Results

From 222 cases of acute viral hepatitis

- ✓ 64,4% (n=143) were residents of a city
- ✓ 35,6% (n=79) were residents of a village



Results

Acute Viral Hepatitis and Jaundice by Age Georgia, 2017

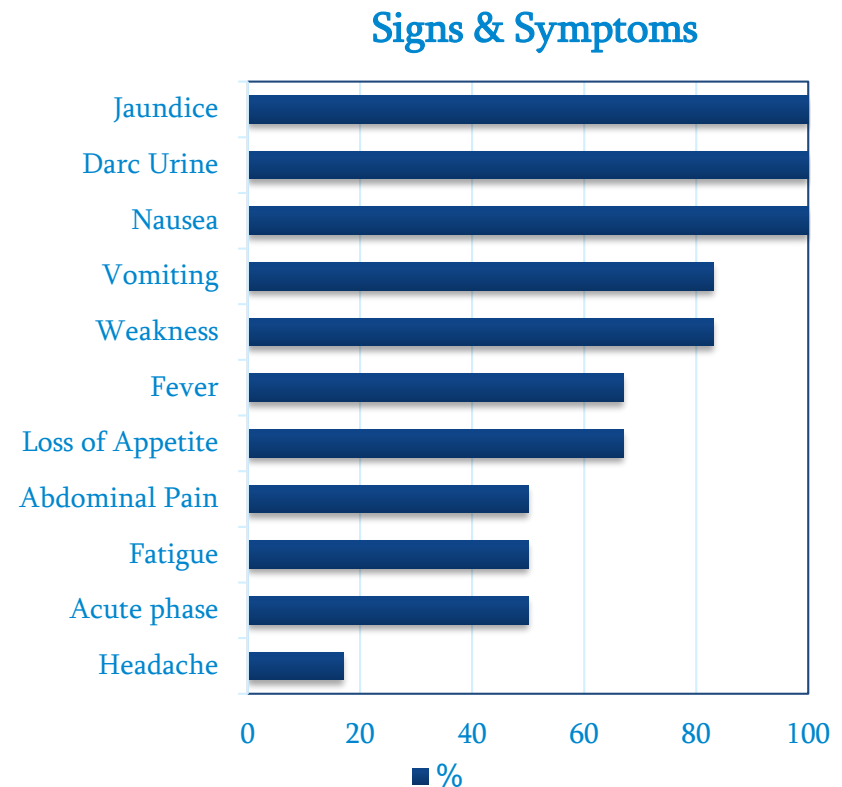
Hepatitis & Jaundice	Range	Median	Mean
Hepatitis A	5 - 37	22	21
Hepatitis B	16 - 79	33	37
Hepatitis C	18 - 83	37	41
Hepatitis E	One case 48 years old		
Unspecified Hepatitis	9 - 62	34	31
Jaundice	1 - 91	53	43

Results

HAV

- ❖ From 6 cases, 5 were **Anti HAV IgM positive**
- ✓ The one case which was not investigated for anti HAV IgM was **negative for HBeAg and AntiHCV**
- ✓ **67% (n=4)** - No Epi Links
- ✓ **33% (n=2)** – Unknown Epi Links
- ✓ A fecal sample investigation wasn't conducted at all

Clinical Studies	%
ALT's Increase > 2,5 times higher	100
Bilirubin In Urine	83



Results

HEV

❖ HEV case – 1

- ✓ **Clinical signs** - Acute phase, jaundice, dark urine, weakness, nausea, vomiting, skin itching
- ✓ Unknown Epi Links
- ✓ A fecal sample survey wasn't conducted at all

Conducted Tests

Clinical Studies	Result
ALT's Increase > 2,5 times higher	>34 times the upper limit
Bilirubin In Urine	+

Tests	Result
Anti HAV IgM	Negative
Hbs Ag	
Anti Hbs	
Anti HBc Total	
Anti HBc IgM	
Hbe Ag	
Anti HBe	
Anti HCV	

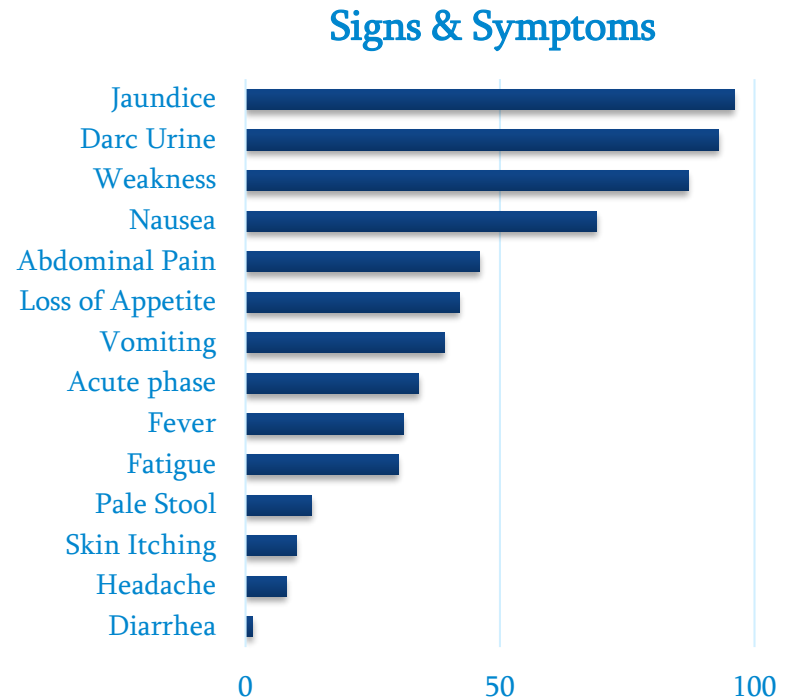
Results

HBV

❖ From 135 cases

- ✓ 96% (n=129) were tested for HbsAg and 97% (n=125) were positive
- ✓ 76,3% (n=103) - HbsAg and Anti HBc IgM positive
- ✓ 6% (n=8) - Anti HDV IgM positive
- ✓ One patient had an negative results to HBsAg during 6 months before receiving positive results for acute HBV

Clinical Studies	%
ALT's Increase > 100 IU/L	96,2
Bilirubin In Urine	83



Results

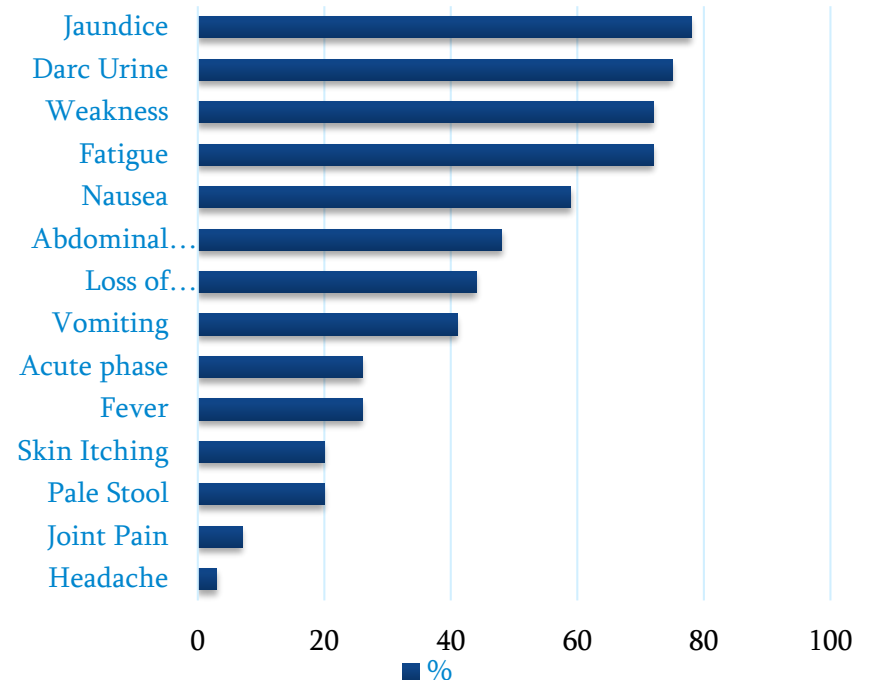
HCV

❖ From 61 cases

- ✓ 95% (n=58) - **Anti HCV** positive
 - ✓ 4,9% (n=3) - **HCV RNA** positive
 - ✓ 3,3% (n=2) - **HCV Ag** positive
 - ✓ 5,2% (n=3) - negative results to anti-HCV in a 12 month period prior to receiving positive results for anti-HCV
 - ✓ 3,2% (n=2) - Epi-links to the confirmed cases
- 98,4% (n=60) - linkage to HCV treatment module**
- 50% (n=30) were confirmed
 - 73.3% (n=22) were involved in treatment

Clinical Studies	%
ALT's Increase > 200 IU/L	97
Bilirubin In Urine	85

Signs & Symptoms



Results

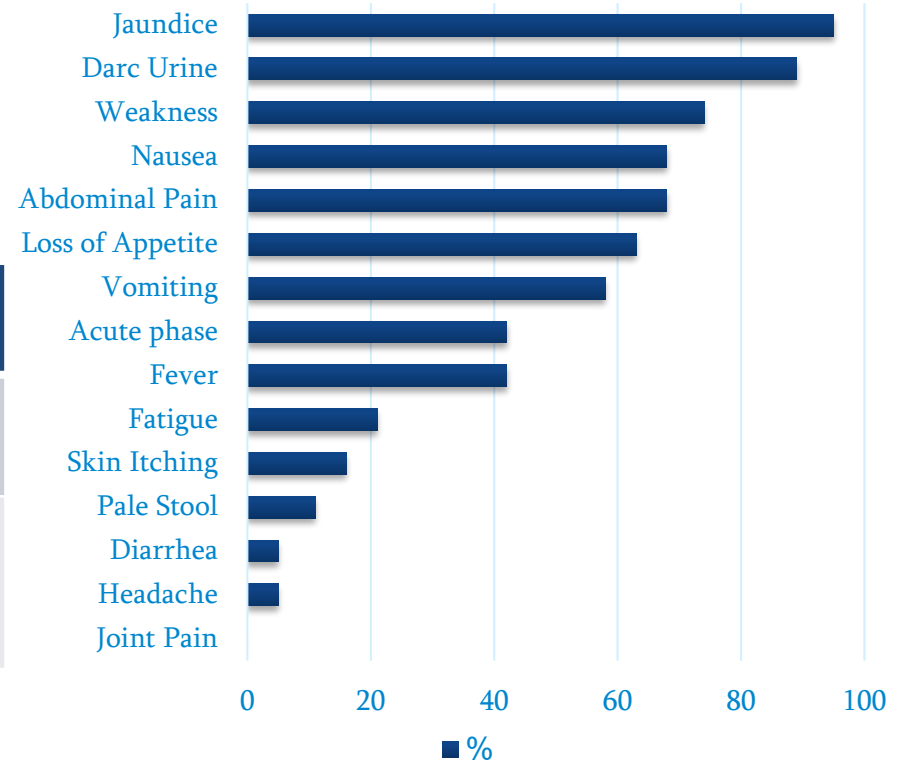
Unspecified Hepatitis

❖ From 19 cases

- ✓ 100% (n=19) - Anti HCV negative
- ✓ 95% (n=18) - HbsAg negative
- ✓ 11% (n=2) - Anti HBs positive
- ✓ 5,2% (n=1) - Anti HBc Total positive
- ✓ 58% (n=11) - No Epi-links

Clinical Studies	%
ALT's seven times the upper limit of normal	100
Bilirubin In Urine	76

Signs & Symptoms



Results

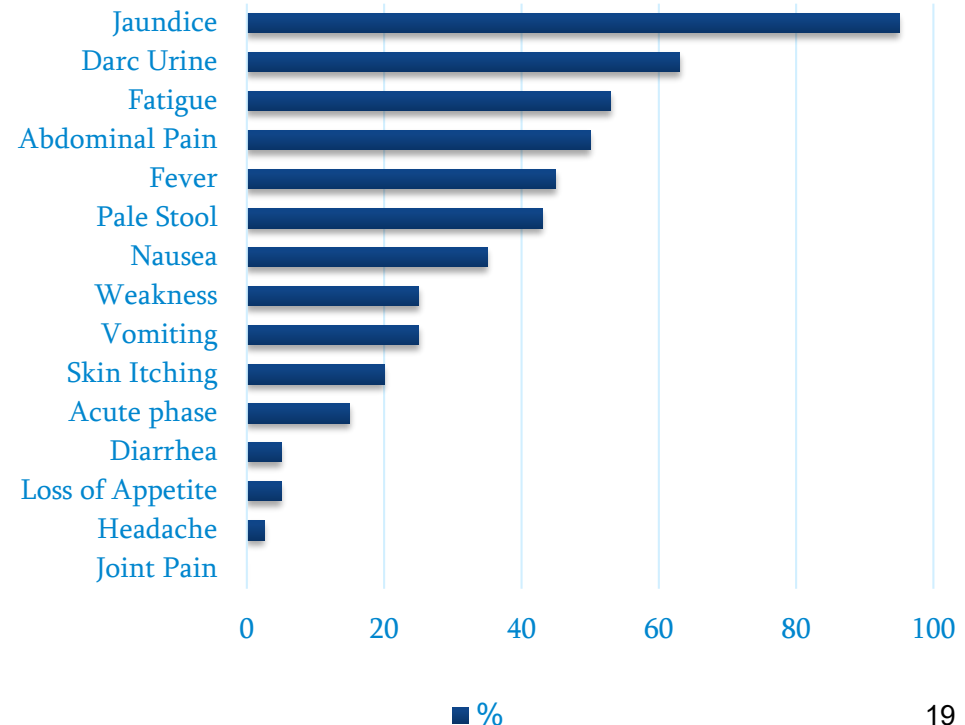
Jaundice (ICD – K17)

❖ From 40 cases

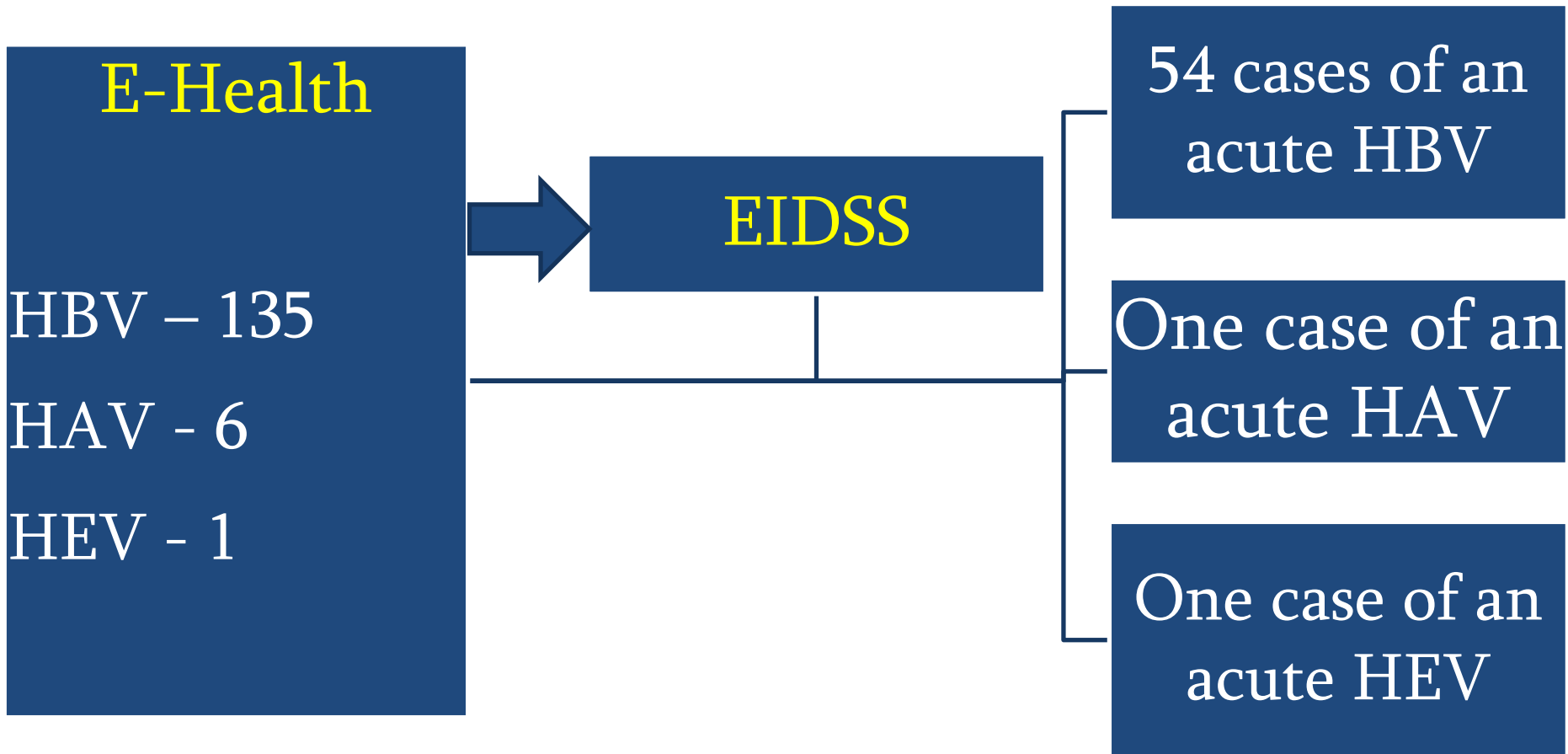
- ✓ 2,5% (n=1) - **Anti HCV** positive
- ✓ 98% (n=39) - diagnosed in 9 non infection diseases hospitals
- ✓ 50% (n=20) have had a diagnosis of obstructive jaundice documented in verbal form

Clinical Studies	%
ALT's Increase > 2,5 times higher	48
Bilirubin In Urine	65

Jaundice Signs & Symptoms



Results



Conclusion

- ❖ Clinical diagnoses of an acute viral hepatitis are not in compliance with the national case definitions
- ❖ More than 98% of HCV cases were linked to HCV elimination program
- ❖ 50% of acute HCV cases weren't confirmed
- ❖ All identified inpatient acute viral hepatitis cases were not registered in EIDSS
- ❖ None of the acute HCV cases are registered in the EIDSS

Recommendations

- ❖ To improve knowledge of current national definitions of an acute viral hepatitis among clinicians
- ❖ To conduct a trainings for medical personnel on requirements of notifiable disease reporting
- ❖ To assess the quality of the current surveillance system of an acute viral hepatitis (A, B, C, E)
- ❖ To become mandatory notifiable one HCV case

Thank you for your attention!

~~viral
hepatitis~~
2030

