PUBLIC HEALTH GRAND ROUNDS

WHAT'S NEW IN MEDICINE 2023

SEPTEMBER 8, 2023

SCOTT LINDQUIST MD MPH

PUBLIC HEALTH SOLUTIONS INTERNATIONAL

COMMON INFECTIOUS DISEASES AMONG IMMIGRANT POPULATIONS

Introduction

- This report summarizes key health indicators and trends from the domestic medical exam among clients eligible for Office of Refugee Resettlement (ORR) benefits who completed a domestic medical exam during federal fiscal years 2018 to 2022 (10/1/17 through 9/30/22).

COMMON INFECTIOUS DISEASES AMONG IMMIGRANT POPULATIONS

Eligibility for Office of Refugee Resettlement (ORR) Benefits and Services

- In Washington state, newcomer arrivals with humanitarian status are eligible to receive a domestic medical exam within 30 to 90 days of arrival.
- Individuals with the following humanitarian statuses are eligible for refugee benefits, including the domestic medical exam:
  - Refugee, including unaccompanied refugee minors
  - Special immigrant visa holder
  - Asylee
  - Paroled as refugee or asylee
  - Some humanitarian parolees admitted to U.S. due to urgent humanitarian reasons or significant public benefit
    - Afghan Humanitarian Parolees and Unaccompanied Afghan Minors, ORR Policy Letter 22-01
    - Ukrainian Humanitarian Parolees and other non-Ukrainian individuals displaced from Ukraine, ORR Policy Letter 22-13
  - Amerasian
  - Cuban Haitian entrant
  - Victim of trafficking

PURPOSE OF THE DOMESTIC MEDICAL EXAM (DME)

- The domestic medical exam (DME) is a key step on the path to wellness for newcomer arrivals to Washington state.
- Through partnership between resettlement agency case workers, refugee health screening clinics, and other stakeholders, newcomer arrivals are connected to the DME within 30 to 90 days post-arrival.
- The purpose of DME is to:
  - Follow-up on any conditions identified overseas
  - Identify conditions that could impact clients as they resettle
  - Provide immunizations to ensure clients and communities are protected from vaccine preventable diseases and meet post-resettlement requirements
  - To promote wellbeing
  - Connect clients to a primary care home

DOMESTIC MEDICAL EXAM (DME) COMPONENTS

- The WA Department of Health Refugee and Immigrant Health Program maintains statewide domestic screening guidelines which are based upon those provided by CDC and regularly informed by program evaluation data.
- The list below shows core components of DME which are tailored based on age and travel history as outlined in the guidelines and the condition-specific slides in this report:

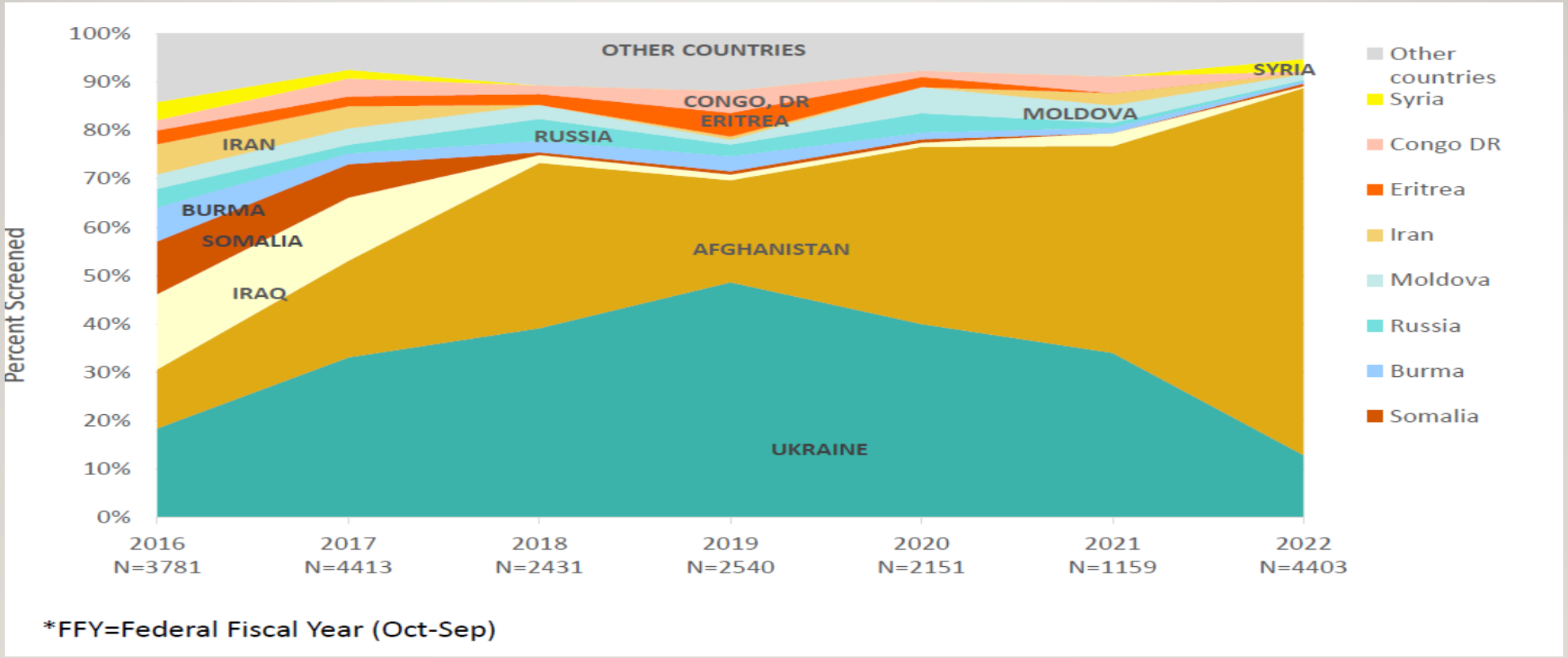
  - Follow-up on conditions identified overseas
  - History & Physical Assessment
  - Immunizations
  - RHS-15 screening (emotional wellness)
  - CBC, B12, Urinalysis, Serum chemistries
  - Pregnancy
  - Newborn screening tests
  - HIV, Hepatitis B and Hepatitis C
  - Blood lead levels
  - Tuberculosis
  - Syphilis
  - Malaria
  - Intestinal parasites

Reference: Washington State Domestic Screening Guidelines, www.doh.wa.gov/RefugeeHealth

HEALTH SCREENING DATA IS USED FOR THE FOLLOWING:

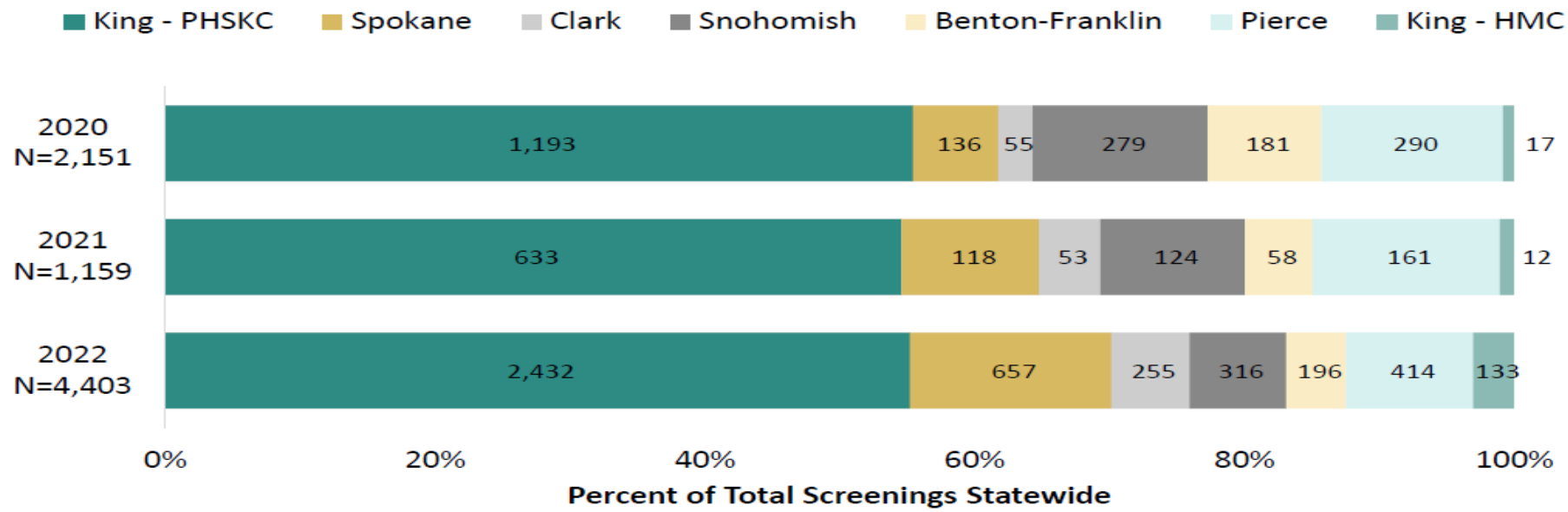
- Evaluate the success of offering health services to newcomer arrivals with humanitarian status
- Understand health conditions which impact newly arrived communities
- Inform public health practice and health services tailored to newly arrived communities
- Meet Office of Refugee Resettlement Federal Reporting requirements
  - Informs how ORR administers and funds state programs

INDIVIDUALS WHO RECEIVED A DME BY COUNTRY OF ORIGIN AND FISCAL YEAR IN WA



*FFY=Federal Fiscal Year (Oct-Sep)

LOCATION OF DME BY YEAR



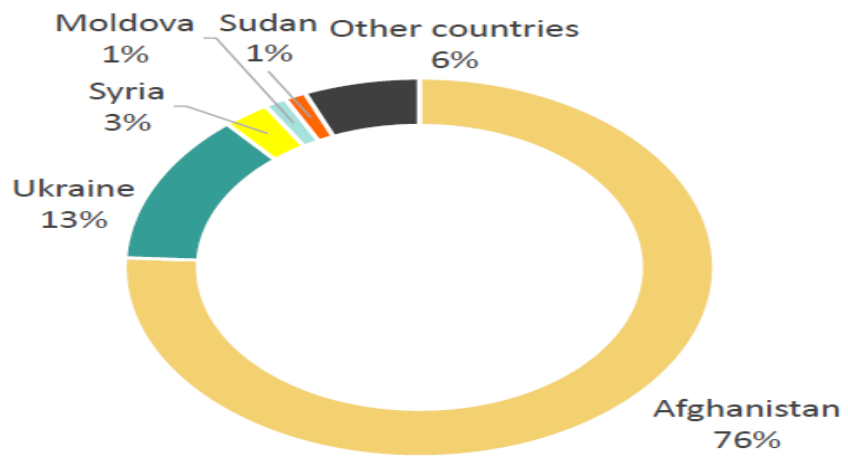
The bars represent the proportion of screenings by clinic; the bar labels denote the number of clients screened.
*Federal Fiscal Year (Oct-Sep)
PHSKC=Public Health – Seattle and WA State County
HMC=Harborview Medical Center – International Medical Clinic and Pediatrics Clinic

COUNTRY OF ORIGIN FOR DME

Country of Origin and Language

Individuals who received a domestic medical exam,
FFY 2022, WA State, N=4,403

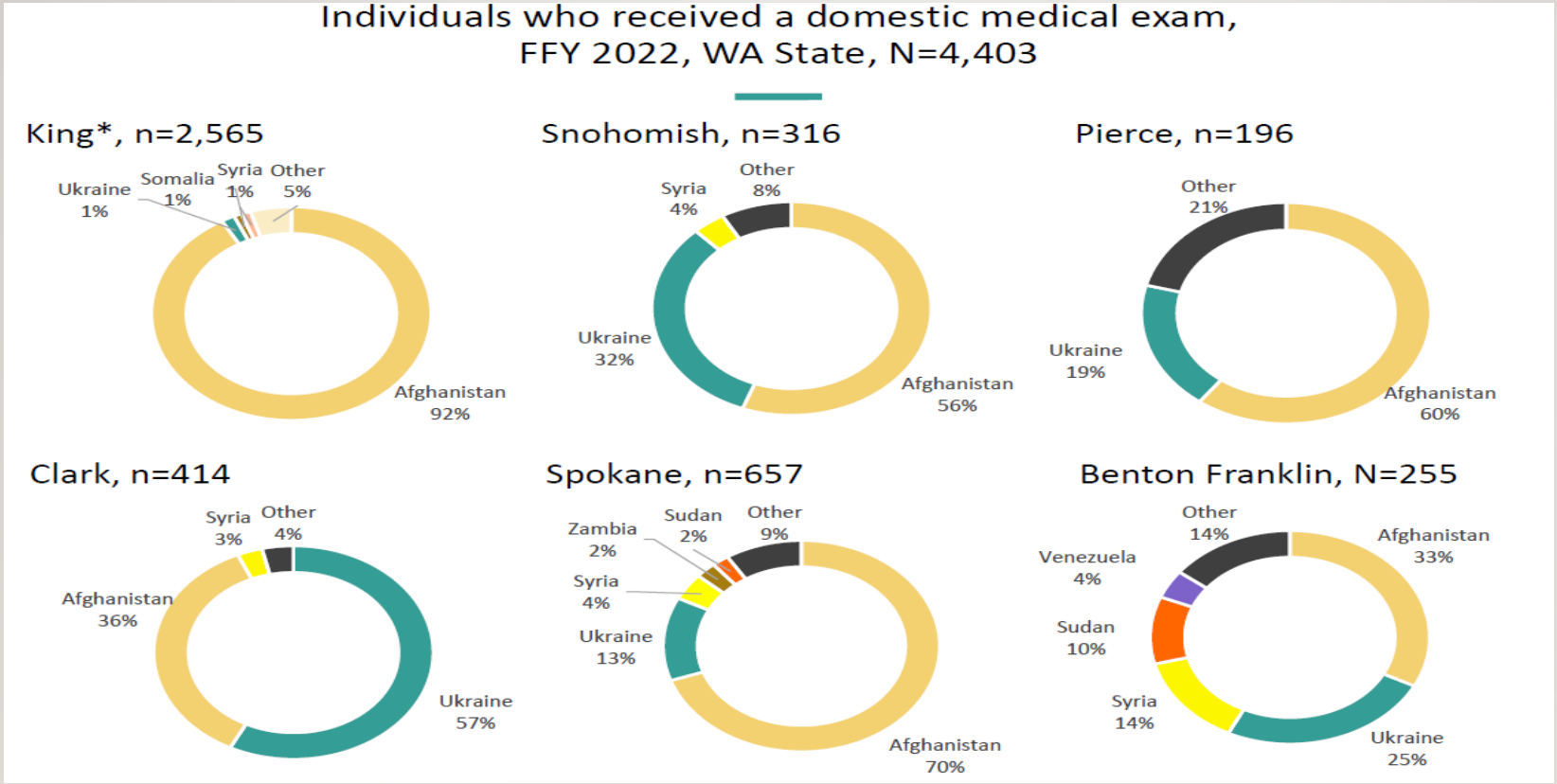
Top Countries



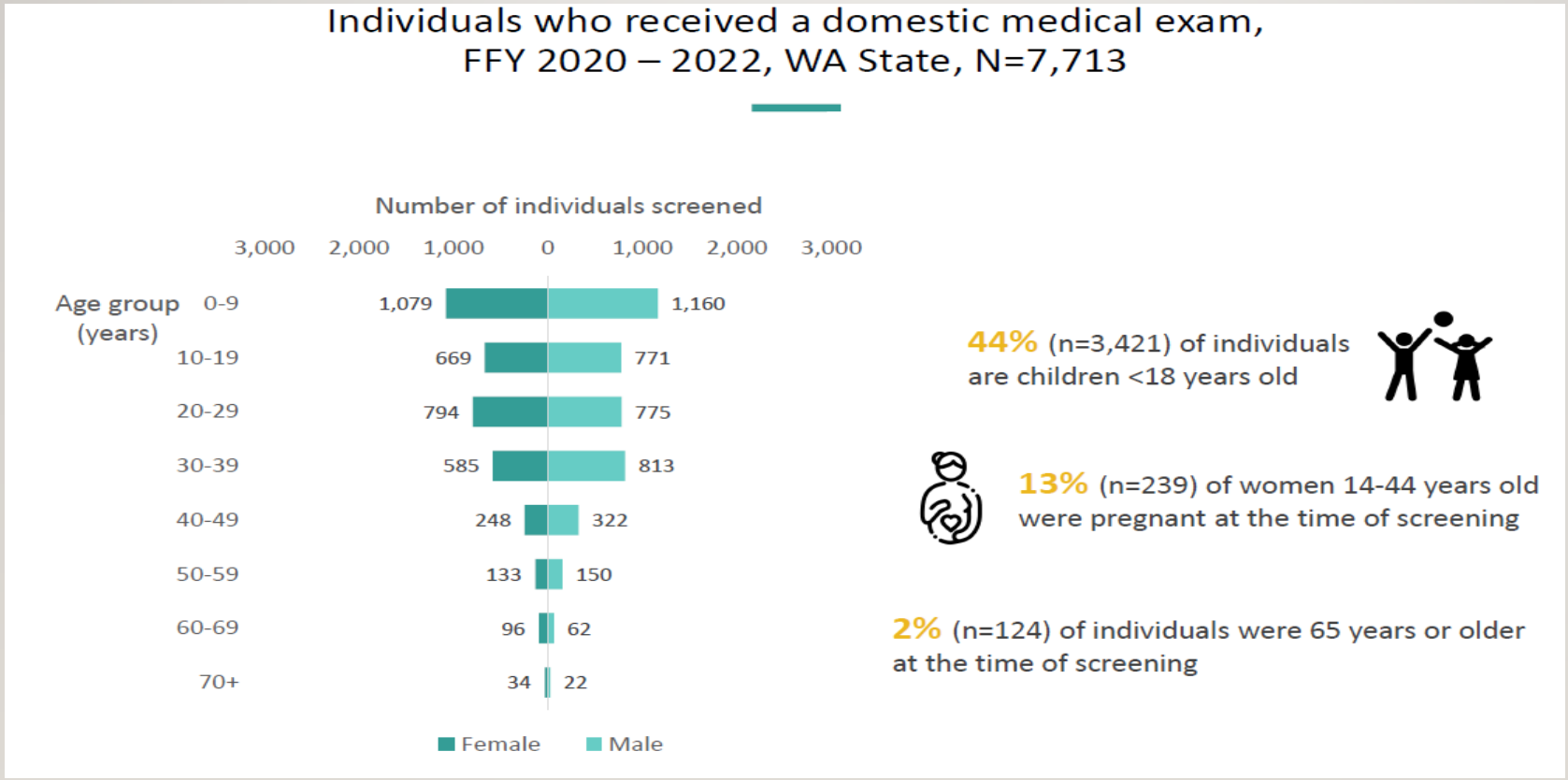
Top Primary Languages

Dari (58%)
Pashto (17%)
Ukrainian (11%)
Arabic (5%)
Russian (3%)

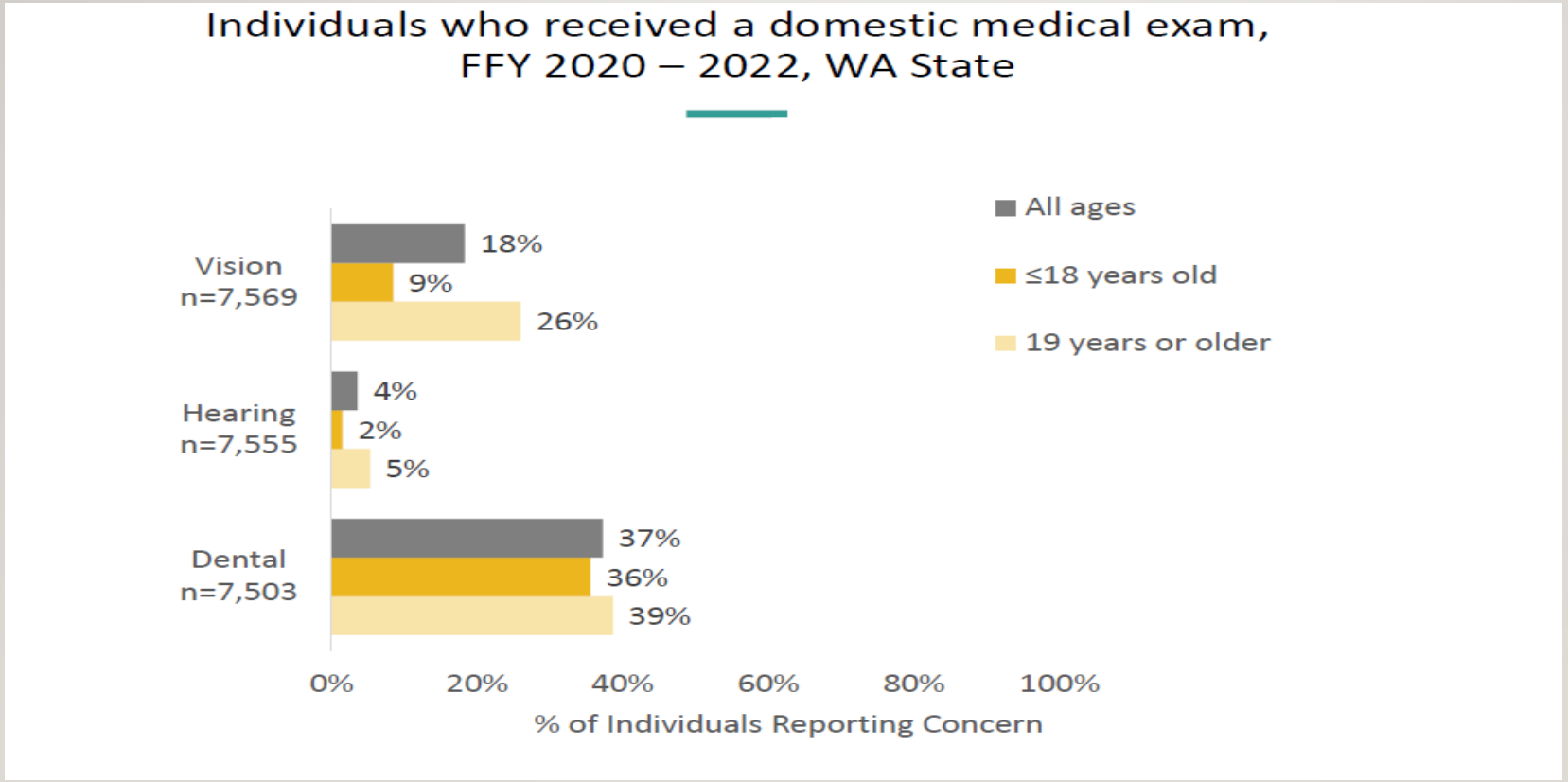
COUNTRY OF ORIGIN BY COUNTY



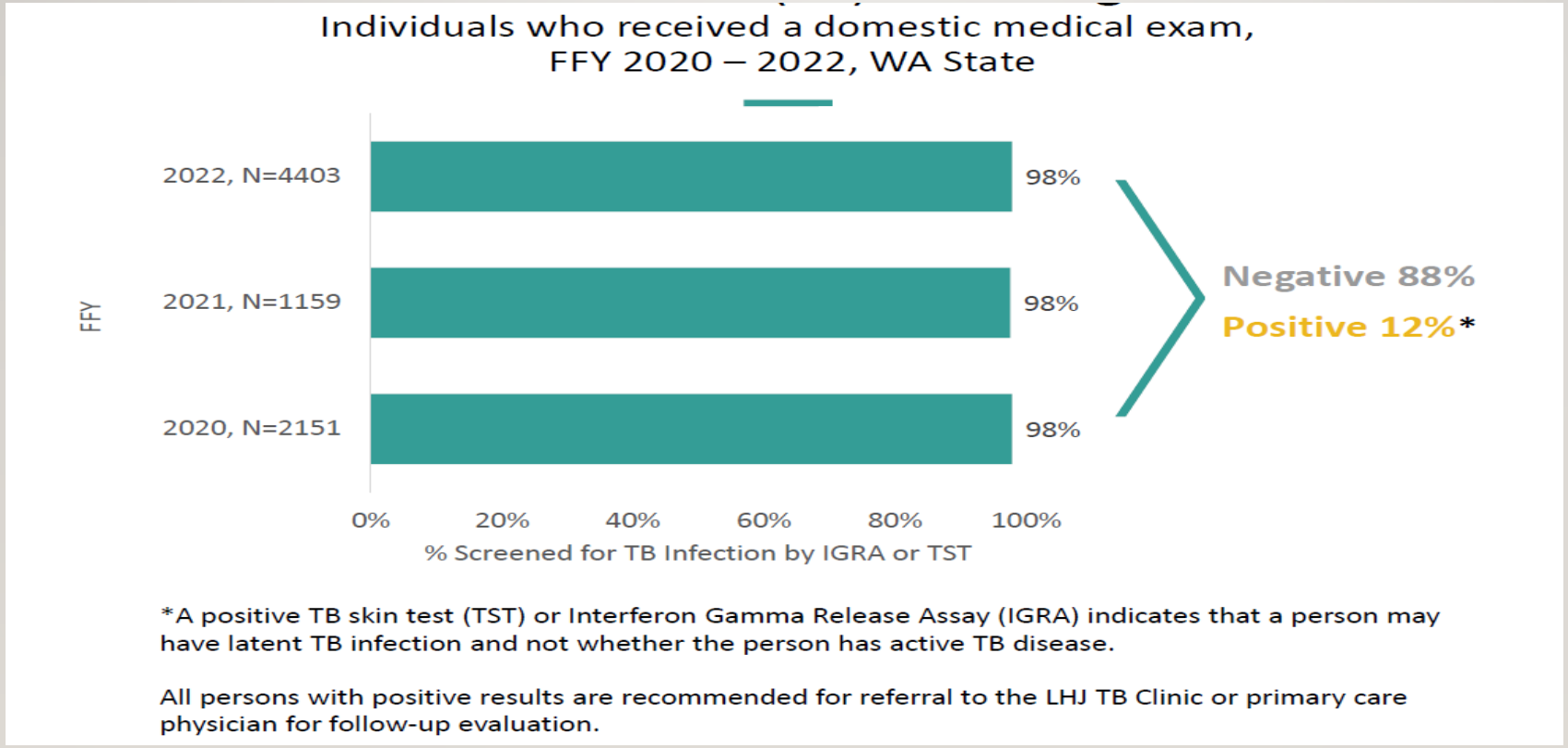
AGE, GENDER AND PREGNANCY STATUS



HEARING, VISION AND DENTAL PROBLEMS



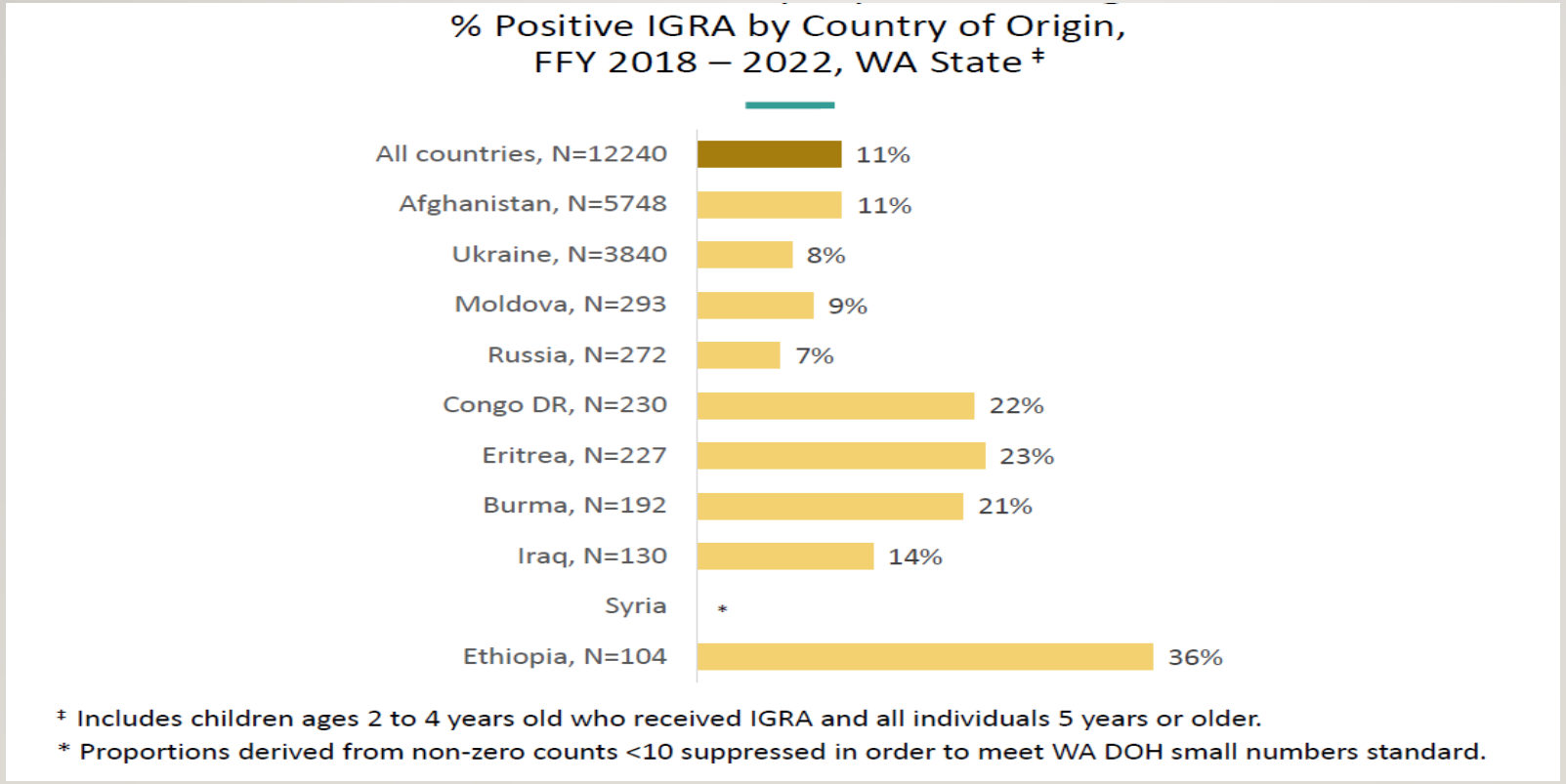
TUBERCULOSIS (TB) SCREENING



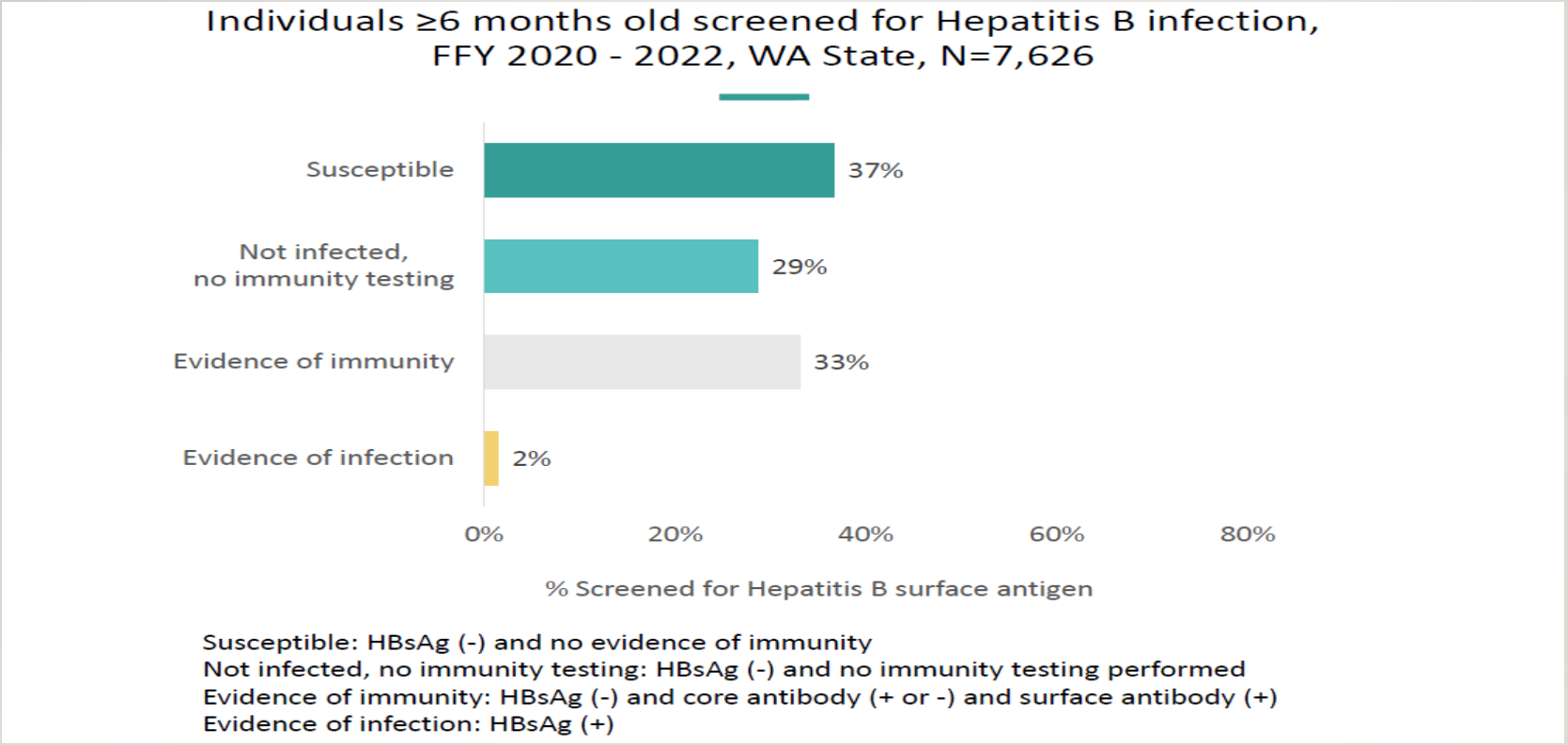
*A positive TB skin test (TST) or Interferon Gamma Release Assay (IGRA) indicates that a person may have latent TB infection and not whether the person has active TB disease.

All persons with positive results are recommended for referral to the LHJ TB Clinic or primary care physician for follow-up evaluation.

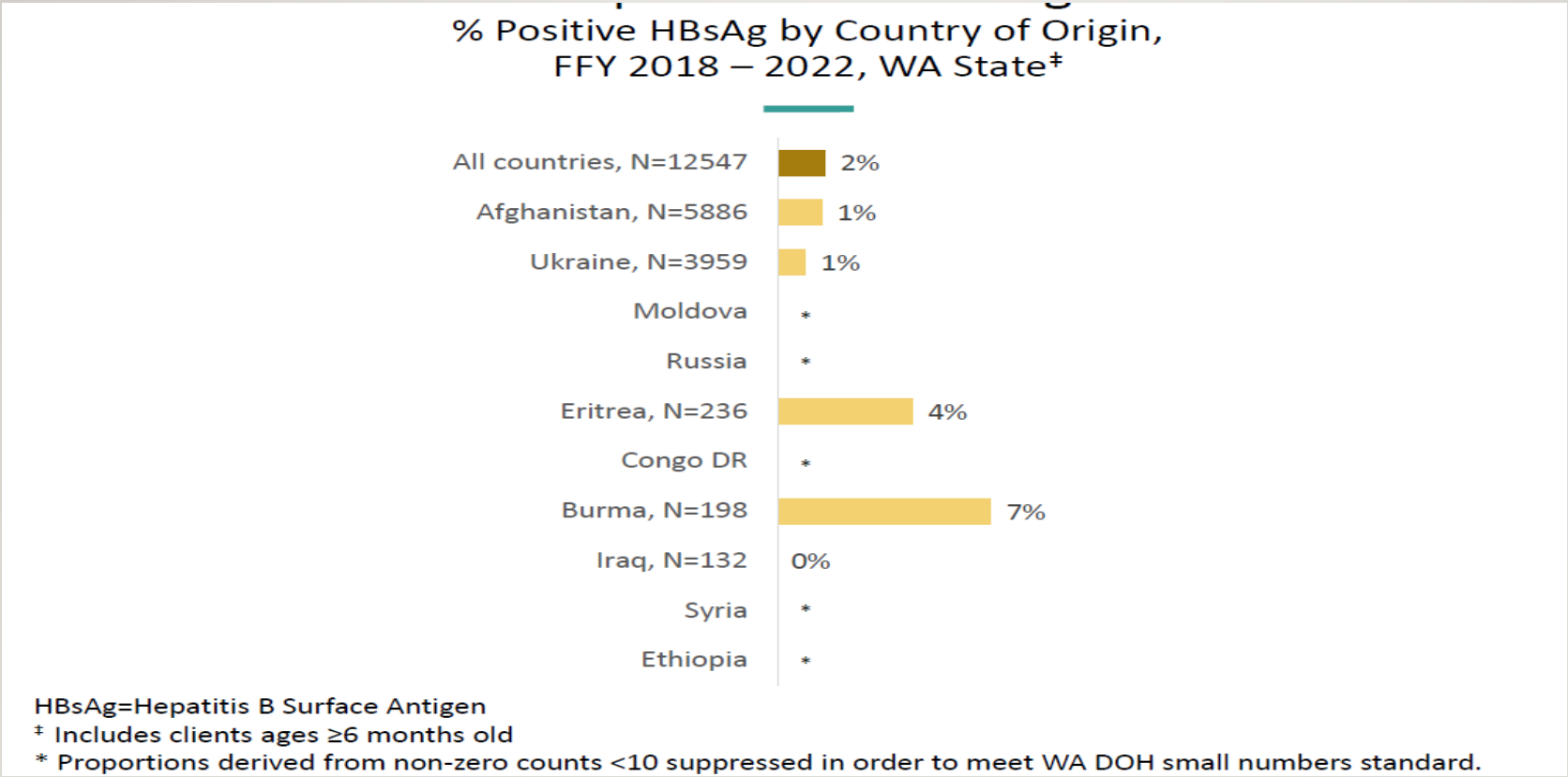
TUBERCULOSIS (TB) SCREENING



HEPATITIS B SCREENING

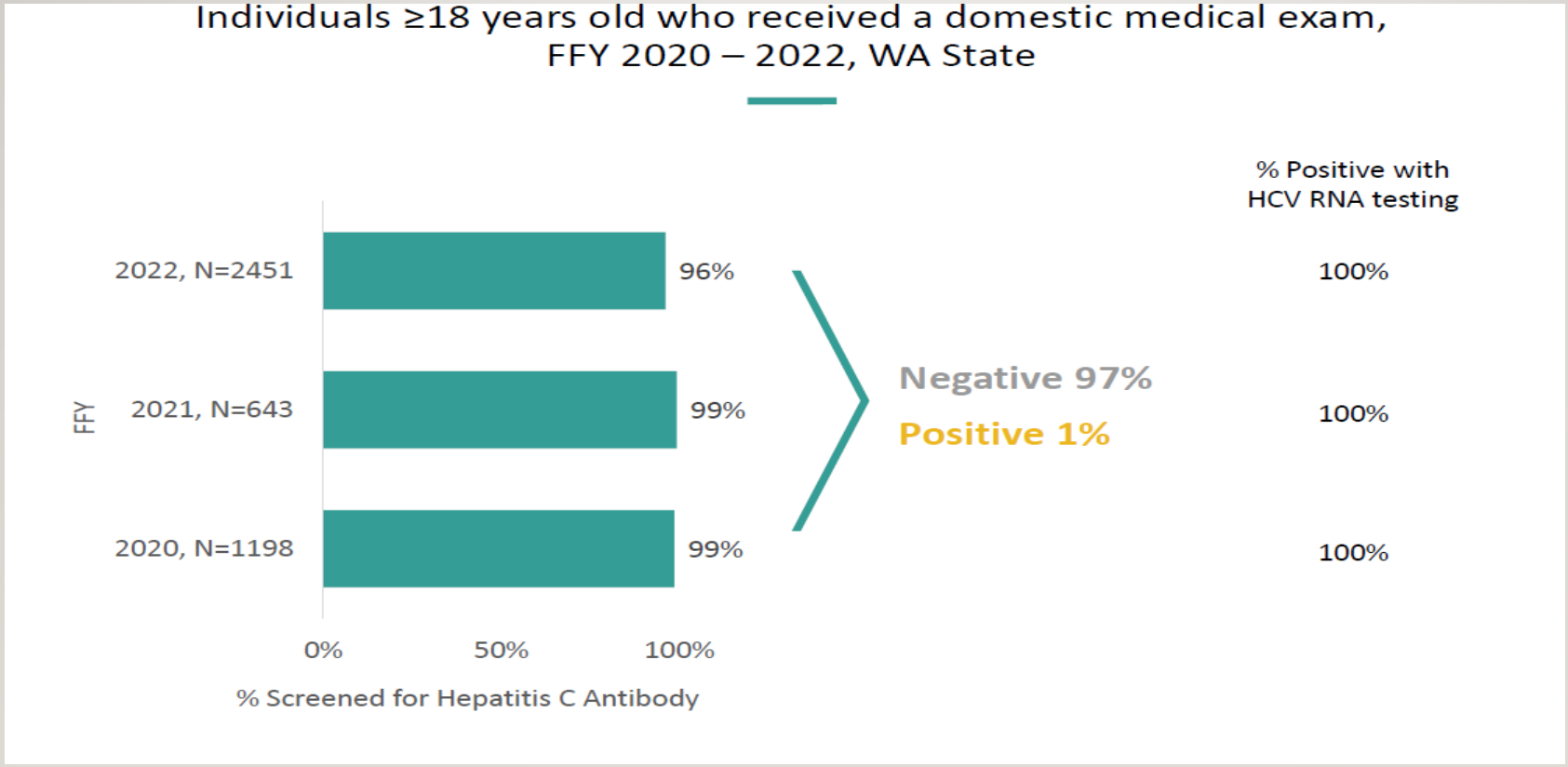


HEPATITIS B SCREENING



HBsAg=Hepatitis B Surface Antigen
‡ Includes clients ages ≥6 months old
* Proportions derived from non-zero counts <10 suppressed in order to meet WA DOH small numbers standard.

HEPATITIS C SCREENING



HEPATITIS C SCREENING

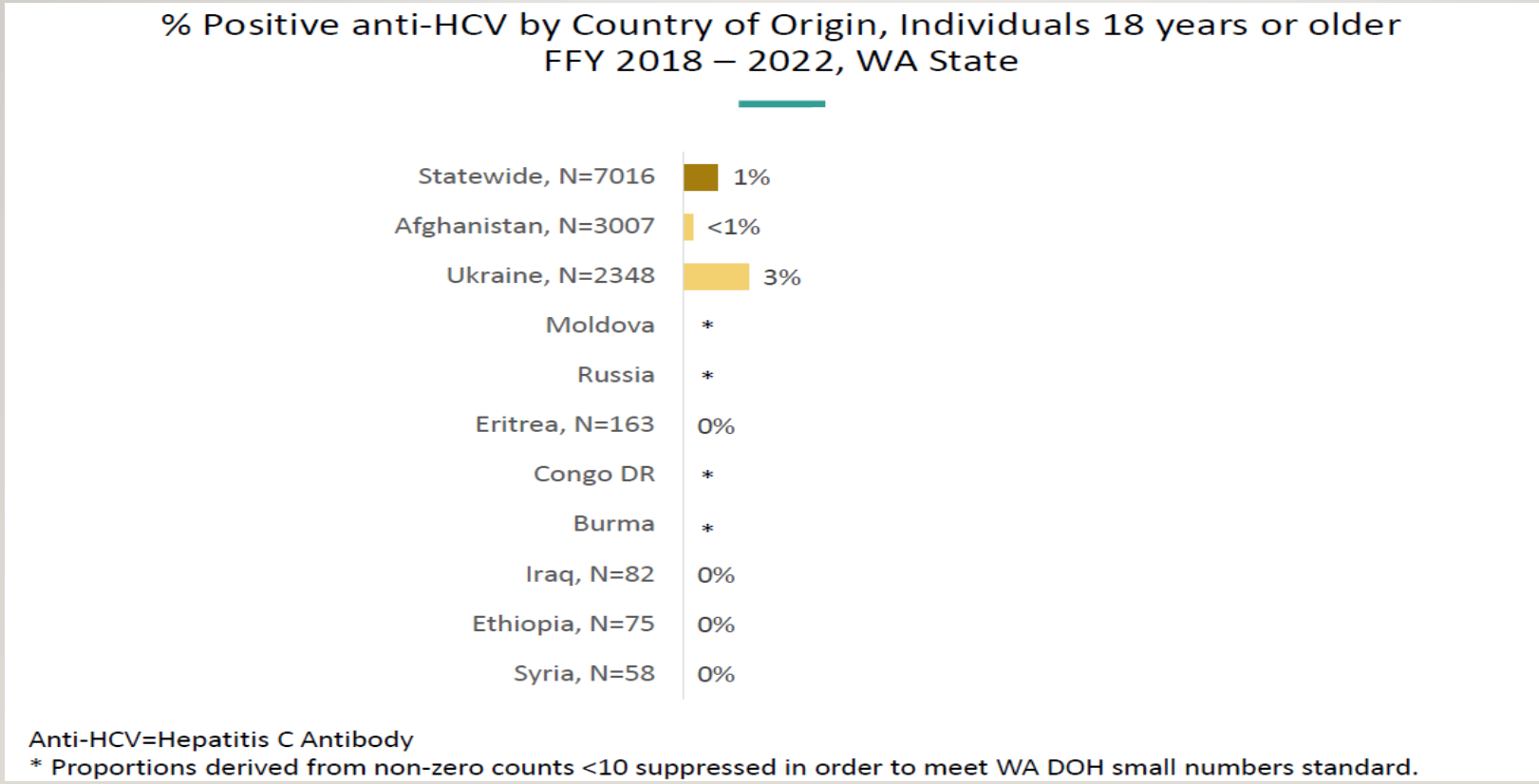
Individuals ≥18 years screened for anti-HCV,
FFY 2020 – 2022, WA State

Screened for hepatitis C antibody	4,179 (97%)

Outcome	n (%)
No. Individuals screened for anti-HCV	4,179
Chronic hepatitis C infection (anti-HCV +, HCV RNA +)	26 (0.6%)
Cleared infection (anti-HCV +, HCV RNA -)	27 (0.6%)
No Infection	4,126 (99%)

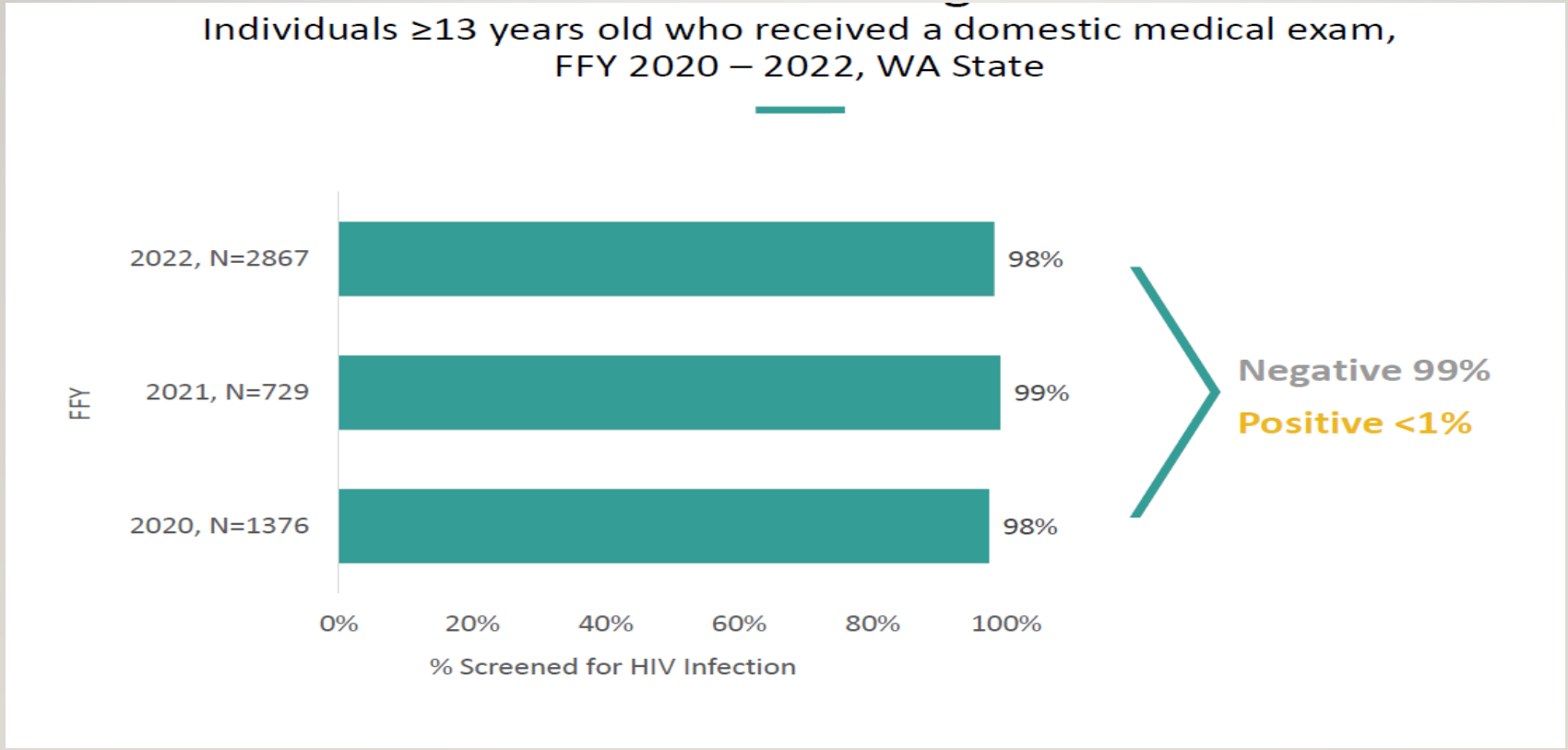
Anti-HCV=Hepatitis C Antibody
HCV RNA=Hepatitis C RNA

HEPATITIS C POSITIVE ANTIBODY OUTCOMES

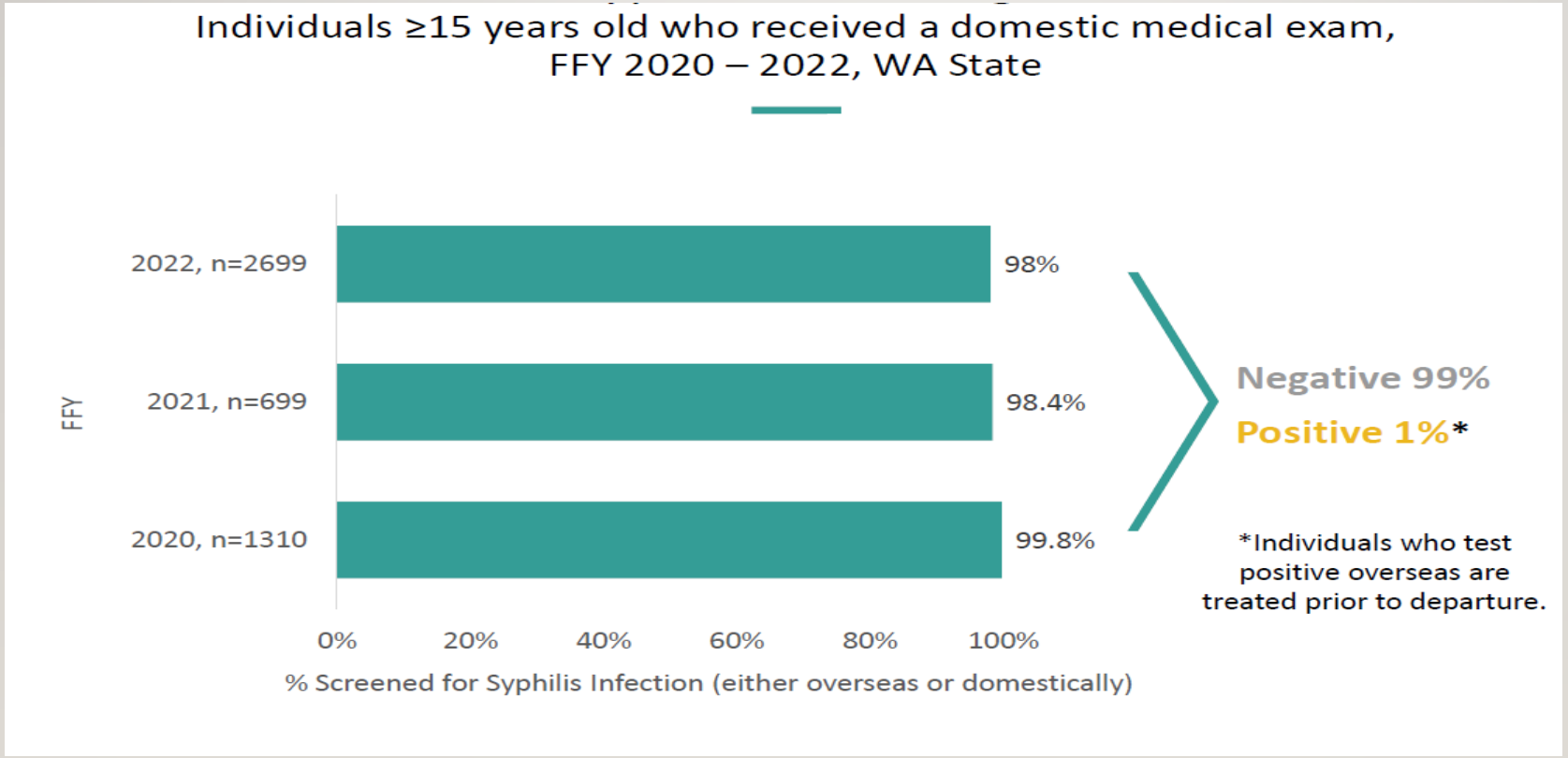


Anti-HCV=Hepatitis C Antibody
* Proportions derived from non-zero counts <10 suppressed in order to meet WA DOH small numbers standard.

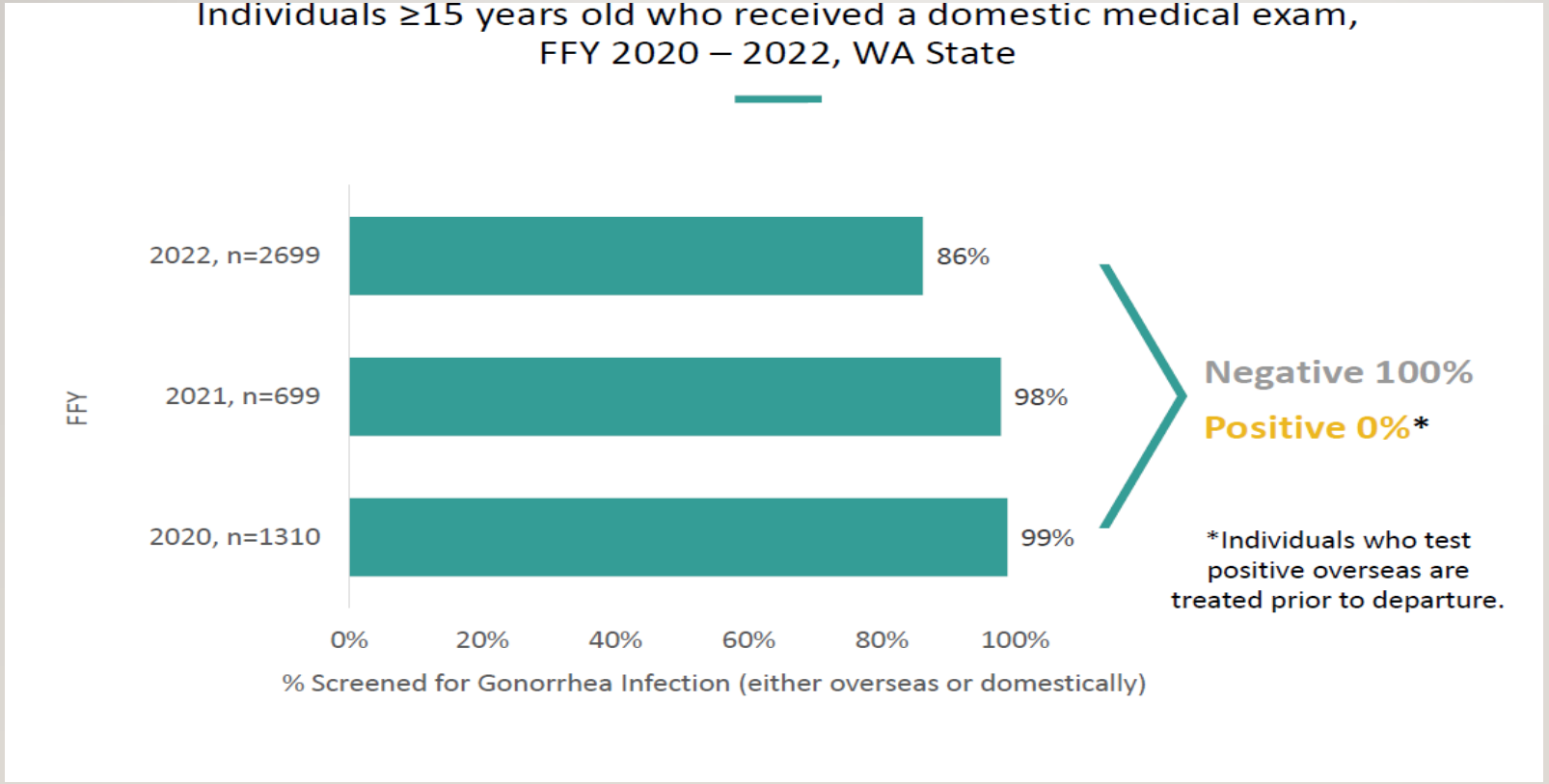
HIV SCREENING



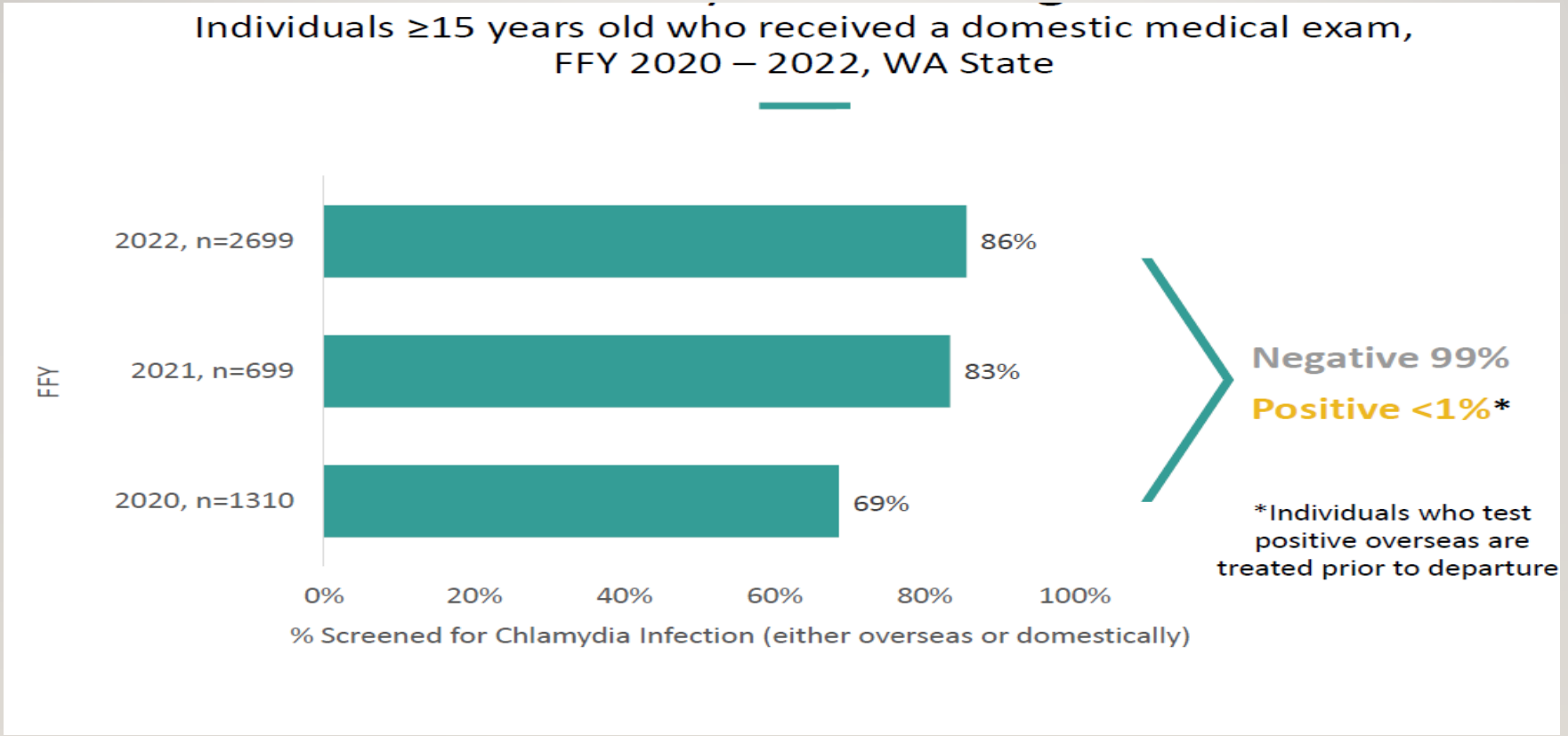
SYPHILIS SCREENING



GONORRHEA SCREENING



CHLAMYDIA SCREENING



PARASITE SCREENING

Individuals who received a Domestic Medical Exam, FFY 2022, WA State

Strongyloides (N=3,771 clients from non-Loa Loa endemic countries; excluding FSU countries)

- 426 clients had documentation of presumptive overseas treatment with Albendazole or Ivermectin
- 1,021 clients received or were referred to their PCP for domestic presumptive treatment
- 151 clients received serology testing and were treated when positive
- 2,247 clients did not receive presumptive treatment or testing

Schistosomiasis (N=141 clients 4+ years old from Sub-Saharan Africa)

- 88 clients received overseas presumptive treatment with Praziquantel
- 46 clients received or were referred to their PCP for domestic presumptive treatment
- 16 clients received serology testing and were treated when positive
- 23 clients did not receive presumptive treatment or testing

Malaria (N=141 clients 4+ years old from Sub-Saharan Africa)

- 67 clients received overseas presumptive treatment with Coartem
- 41 clients received or were referred for domestic presumptive treatment
- 36 clients were tested for malaria and found to be negative; no treatment was provided
- 14 clients did not receive presumptive treatment or testing

DIAGNOSIS AND TREATMENT OF MOST COMMON PARASITES

- Strongyloidiasis
  - Diagnostics: 3 consecutive stool samples for microscopy or serology
  - Treatment See presumptive and identified treatment in next slide
- Schistosomiasis
  - Diagnostics 3 consecutive stool samples for microscopy or serology. Urine also for *japonicum*
  - Treatment See presumptive and identified treatment in next slide
- Malaria
  - Diagnostics Thick/Thin smears are still gold standard but antigen and pcr available
  - Treatment Depends on species

CDC PRESUMPTIVE PARASITE TREATMENT

Recommended Medication Regimen for Presumptive Treatment or Treatment of Identified Parasitic Infections in Adults, Pregnant Women, and Children[x]

Adults			
Refugee Population	Treatment Regimens by Pathogen		
	Albendazole for Soil-transmitted Helminths	*Ivermectin for Strongyloidiasis*	*Praziquantel for Schistosomiasis*
Asia, Middle East, North Africa, Latin America, and Caribbean	400 mg orally as a single dose	200 µg/kg orally once a day for 2 days	Not recommended
Sub-Saharan Africa (non *Loa loa*-endemic)	400 mg orally as a single dose	200 µg/kg orally once a day for 2 days	40 mg/kg‡ orally for one day
Sub-Saharan Africa (*Loa loa*–endemic)	400 mg orally as a single dose	200 µg/kg orally once a day for 2 days if no Loa loa infection	40 mg/kg‡ orally for one day

CDC PRESUMPTIVE PARASITE TREATMENT

Pregnant Women§			
Refugee Population	Treatment Regimens by Pathogen		
	Albendazole for Soil-transmitted Helminths	*Ivermectin for Strongyloidiasis*	*Praziquantel for Schistosomiasis*
Asia, Middle East, North Africa, Latin America, and Caribbean	Not recommended for presumptive treatment. Relative contraindication for diagnosed infection	Not recommended for presumptive treatment. Relative contraindication for diagnosed infection	Not recommended
Sub-Saharan Africa	Not recommended for presumptive treatment. Relative contraindication for diagnosed infection	Not recommended for presumptive treatment. Relative contraindication for diagnosed infection	40 mg/kg‡ orally for one day

CDC PRESUMPTIVE PARASITE TREATMENT

Children‖			
Refugee Population	Treatment Regimens by Pathogen		
	Albendazole for Soil-transmitted Helminths	*Ivermectin or High-dose Albendazole for Strongyloidiasis*	*Praziquantel for Schistosomiasis*
Asia, Middle East, North Africa, Latin America, and Caribbean	Presumptive therapy is not recommended for any infant less than 12 months of age. 12–23 months of age: 200 mg orally for 1 day >2 years: 400 mg orally for 1 day	200 µg/kg orally once a day for 2 days Should not be used *presumptively* if child is <15 kg or from *Loa loa*-endemic country	Not recommended
Sub-Saharan Africa	*Presumptive* therapy is not recommended for any infant less than 12 months of age. 12–23 months of age: 200 mg orally for 1 day ≥2 years: 400 mg orally for 1 day	200 µg/kg orally once a day for 2 days Should not be used *presumptively* if ≤15 kg or from *Loa loa*-endemic country	Presumptive treatment is not recommended for children < 4 years of age. ≥ 4 years: 40 mg/kg‡ orally for one day.

CDC RECOMMENDATIONS FOR A GENERAL OR PRESUMPTIVE APPROACH TO MALARIA TREATMENT

- **P. falciparum or Species Not Identified** — Acquired in Areas With Chloroquine Resistance For P. falciparum infections acquired in areas with chloroquine resistance, four treatment options are available.
- artemether-lumefantrine (Coartem®), which is the preferred option if readily available.
- atovaquone-proguanil (Malarone™). These are fixed-dose combination therapies that can be used for pediatric patients ≥5 kg.
- Quinine sulfate plus doxycycline, tetracycline.
- Clindamycin is also a treatment option.

CDC DIAGNOSTIC ASSISTANCE FOR PARASITES

Hotlines for Parasitic Disease Cases (not including Malaria)

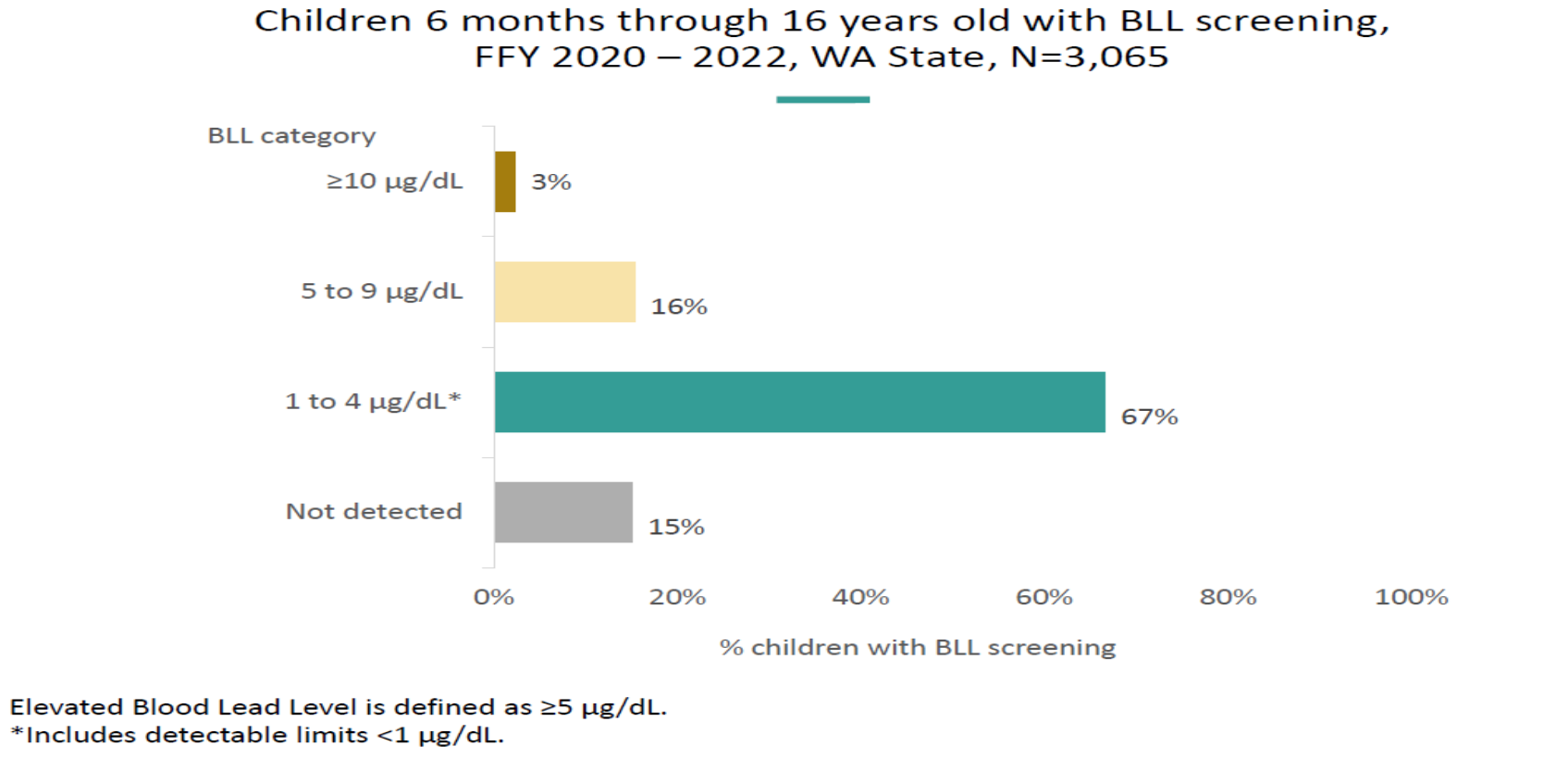
Hotline	Phone Number
Parasitic Diseases Hotline (M–F; 8am–4:00pm EST)	404-718-4745
Emergency, after-hours hotline	770-488-7100

For malaria cases, health professionals should call one of the following CDC Malaria Hotlines. Guidance for diagnosis and treatment of malaria is also available at CDC's Malaria website.

Hotlines for Malaria

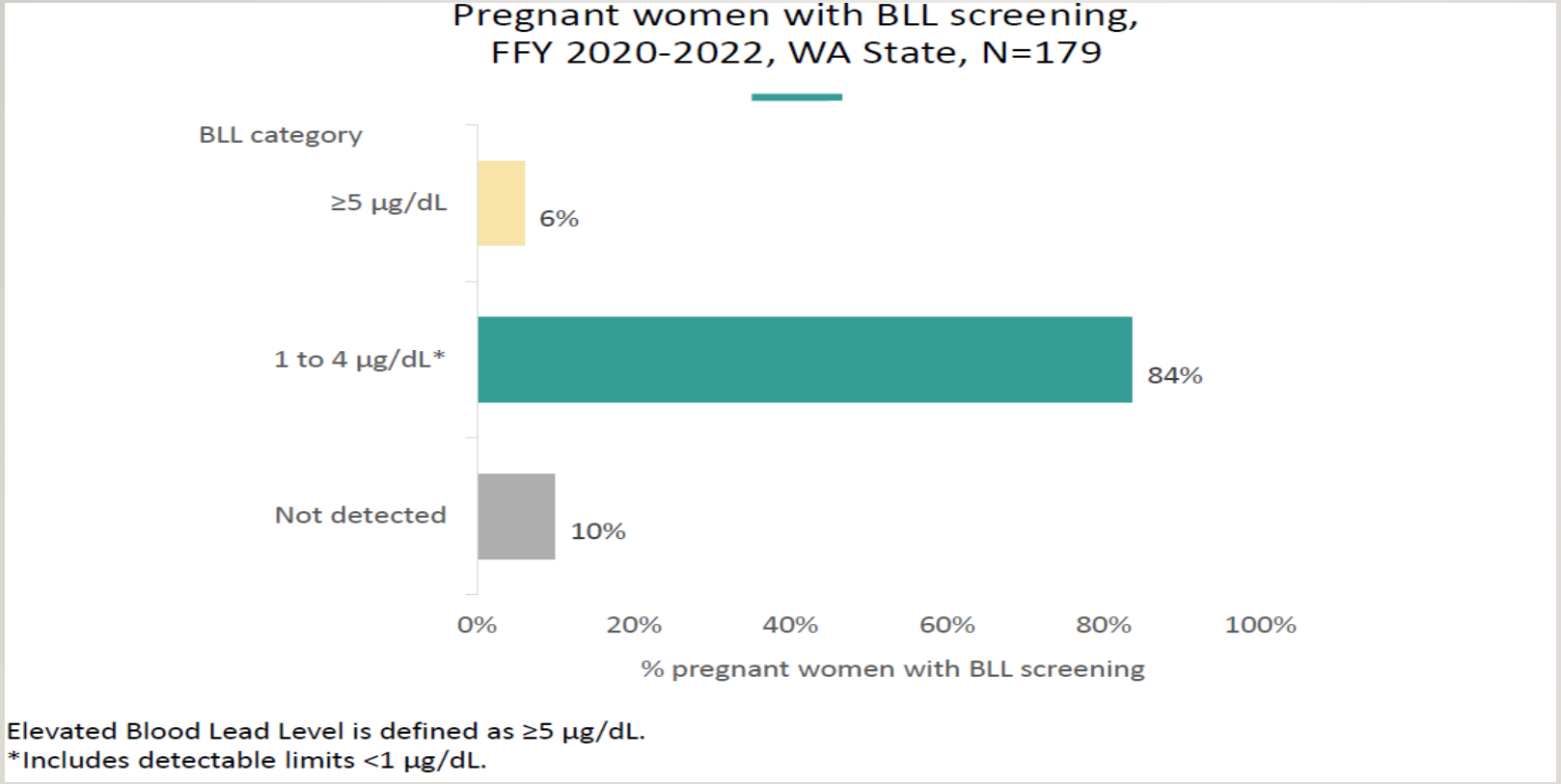
Hotline	Phone Number
Malaria Hotline (M–F; 9am–5pm EST)	770-488-7788 or 855-856-4713 toll free
Emergency, after-hours hotline	770-488-7100

BLOOD LEAD SCREENING



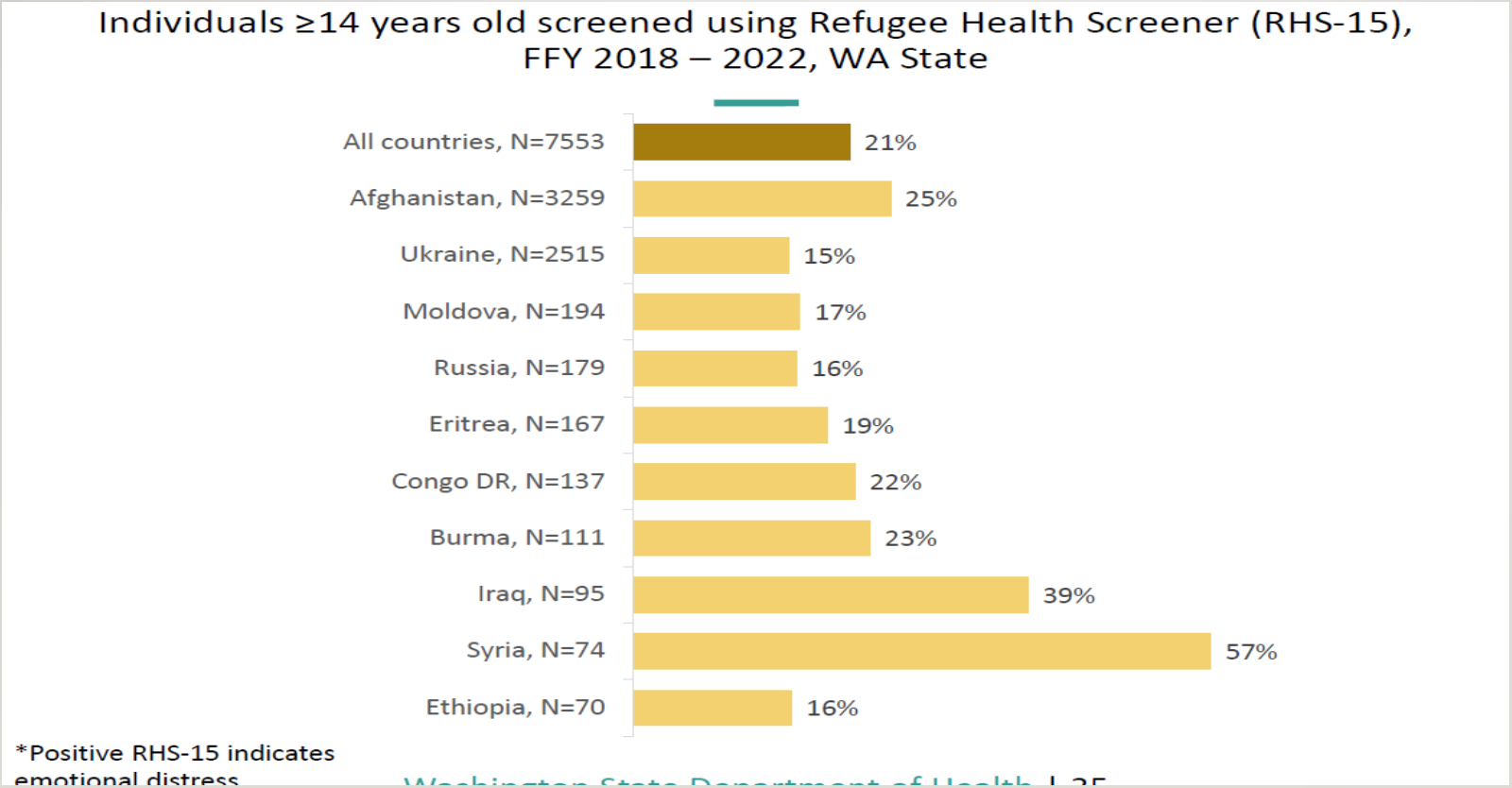
Elevated Blood Lead Level is defined as ≥5 µg/dL.
*Includes detectable limits <1 µg/dL.

LEAD SCREENING WOMEN



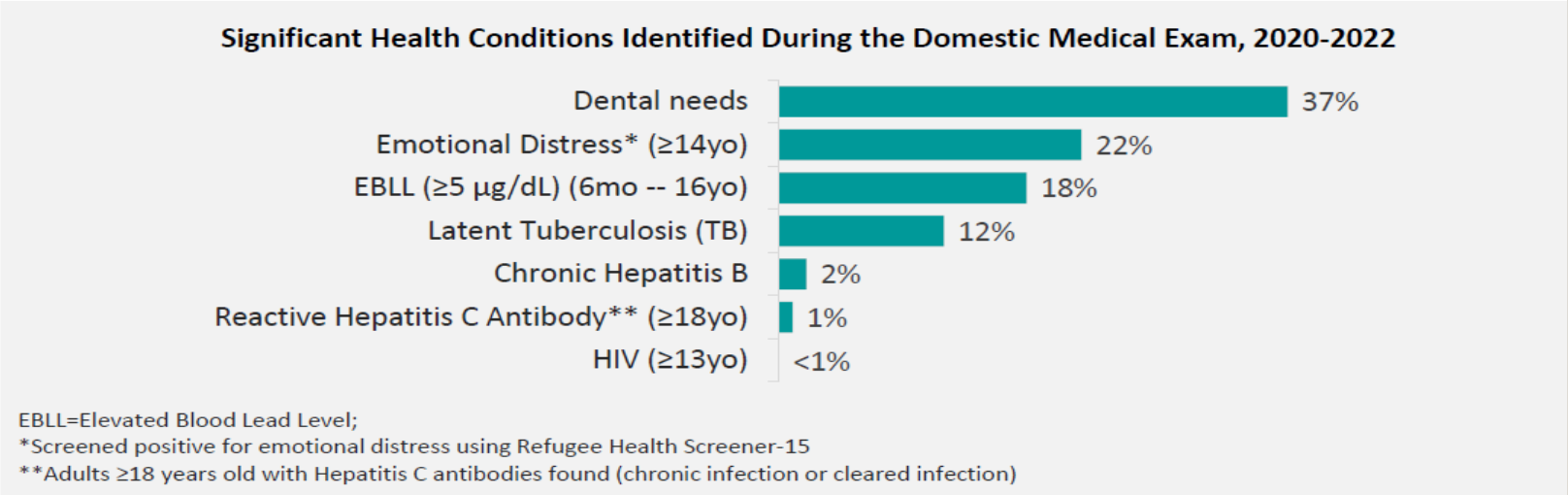
Elevated Blood Lead Level is defined as ≥5 µg/dL.
*Includes detectable limits <1 µg/dL.

EMOTIONAL DISTRESS SCREENING



SUMMARY OF KEY HEALTH INDICATORS AMONG INDIVIDUALS WHO RECEIVED A DME

- The DME is an important and timely part of health care for newly arriving humanitarian entrants.
  - Despite increased arrivals in 2022, 53% clients completed the exam within 90 days of arrival.
- 99% clients were referred to a primary care provider for ongoing medical management of conditions identified and routine health care.
- Significant health conditions identified from 2020-2022 are summarized in the graph.

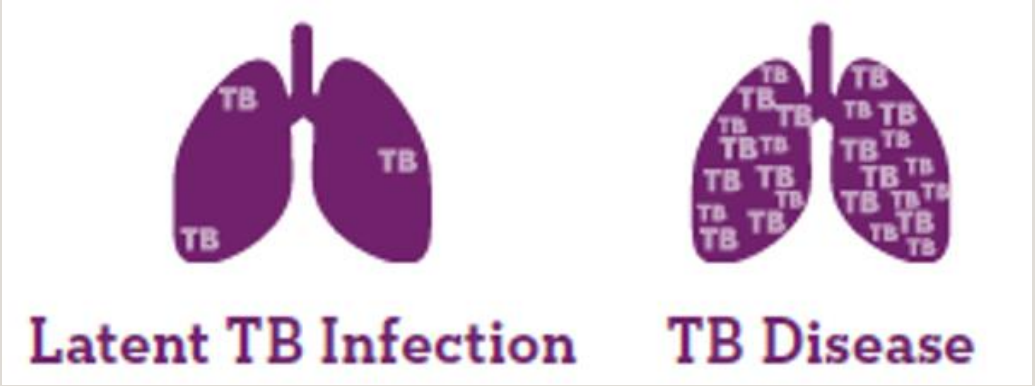


EBLL=Elevated Blood Lead Level;
*Screened positive for emotional distress using Refugee Health Screener-15
**Adults ≥18 years old with Hepatitis C antibodies found (chronic infection or cleared infection)

CURRENT DIAGNOSTIC AND TREATMENT GUIDELINES FOR LATENT TB INFECTION

LATENT TB INFECTION (LTBI)

LTBI is the presence of *M. tuberculosis* organisms (tubercle bacilli) without signs and symptoms or radiographic or bacteriologic evidence of TB disease.



LTBI VS. PULMONARY TB DISEASE – 1

Latent TB Infection

- Positive TST* or IGRA† result
- Chest radiograph normal

Pulmonary TB Disease

- TST or IGRA is usually positive
- Chest radiograph is usually abnormal

*tuberculin skin test

†Interferon-Gamma Release Assay

LTBI VS. PULMONARY TB DISEASE – 2

Latent TB Infection

- No symptoms or physical findings suggestive of TB
- If done, respiratory specimens are smear and culture negative

Pulmonary TB Disease

- Symptoms *may* include one or more of the following: fever, cough, night sweats, weight loss, fatigue, hemoptysis, decreased appetite
- Respiratory specimens are usually culture positive (smear positive in about 50% of patients)

INCREASED RISK FOR PROGRESSION TO TB DISEASE - 1

Persons more likely to progress from LTBI to TB disease include:

- HIV-infected persons
- Those with a history of prior, untreated TB or fibrotic lesions on chest radiograph
- Children ≤ 5 years with a positive TST

INCREASED RISK FOR PROGRESSION TO TB DISEASE - 2

Persons more likely to progress from LTBI to TB disease include:

- Underweight or malnourished persons
- Substance abusers (such as smoking, alcohol abusers, or injection drug use)
- Those receiving TNF-α antagonists for treatment of rheumatoid arthritis or Crohn's disease

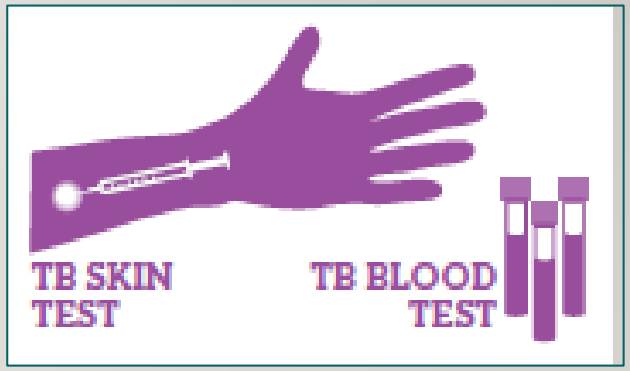
INCREASED RISK FOR PROGRESSION TO TB DISEASE - 3

Persons more likely to progress from LTBI to TB disease include:

- Those with certain medical conditions such as:
  - Silicosis
  - Diabetes mellitus
  - Chronic renal failure or on hemodialysis
  - Solid organ transplantation (e.g., heart, kidney)
  - Carcinoma of head or neck
  - Gastrectomy or jejunoilial bypass

TESTING FOR *M. TUBERCULOSIS* INFECTION

- There are two testing methods available for the detection of *M. tuberculosis* infection in the United States:
  - Mantoux tuberculin skin test (TST)
  - Interferon-gamma release assays (IGRA)



- These tests do not exclude LTBI or TB disease

- Decisions about medical and public health management should include other information, and not rely only on TST or IGRA results

FACTORS THAT MAY CAUSE FALSE-POSITIVE TST REACTIONS

- Nontuberculous mycobacteria
  - Reactions caused by nontuberculous mycobacteria are usually ≤10 mm of induration

- BCG vaccination
  - Reactivity in BCG vaccine recipients generally wanes over time; positive TST result is likely due to TB infection if risk factors are present

FACTORS THAT MAY CAUSE FALSE-NEGATIVE TST REACTIONS -1

- Anergy
  - Inability to react to a TST because of a weakened immune system
  - Usefulness of anergy testing in TST-negative persons who are HIV infected has not been demonstrated

FACTORS THAT MAY CAUSE FALSE-NEGATIVE TST REACTIONS - 2

- Recent TB Infection
  - Defined as less than 10 weeks after exposure

- Very young age
  - Newborns (< 6 months)

FACTORS THAT MAY CAUSE FALSE-NEGATIVE TST REACTIONS - 3

- Live virus vaccination
  - For example, measles or smallpox
  - Can temporarily suppress TST reactivity
- Overwhelming TB Disease
- Poor TST administration technique
  - For example, TST injection too shallow or too deep, or wheal is too small

SELECTING A TEST TO DETECT TB INFECTION - 1

- IGRAs are preferred method of testing for
  - Groups of people who have poor rates of returning to have TST read
  - Persons who have received BCG vaccine

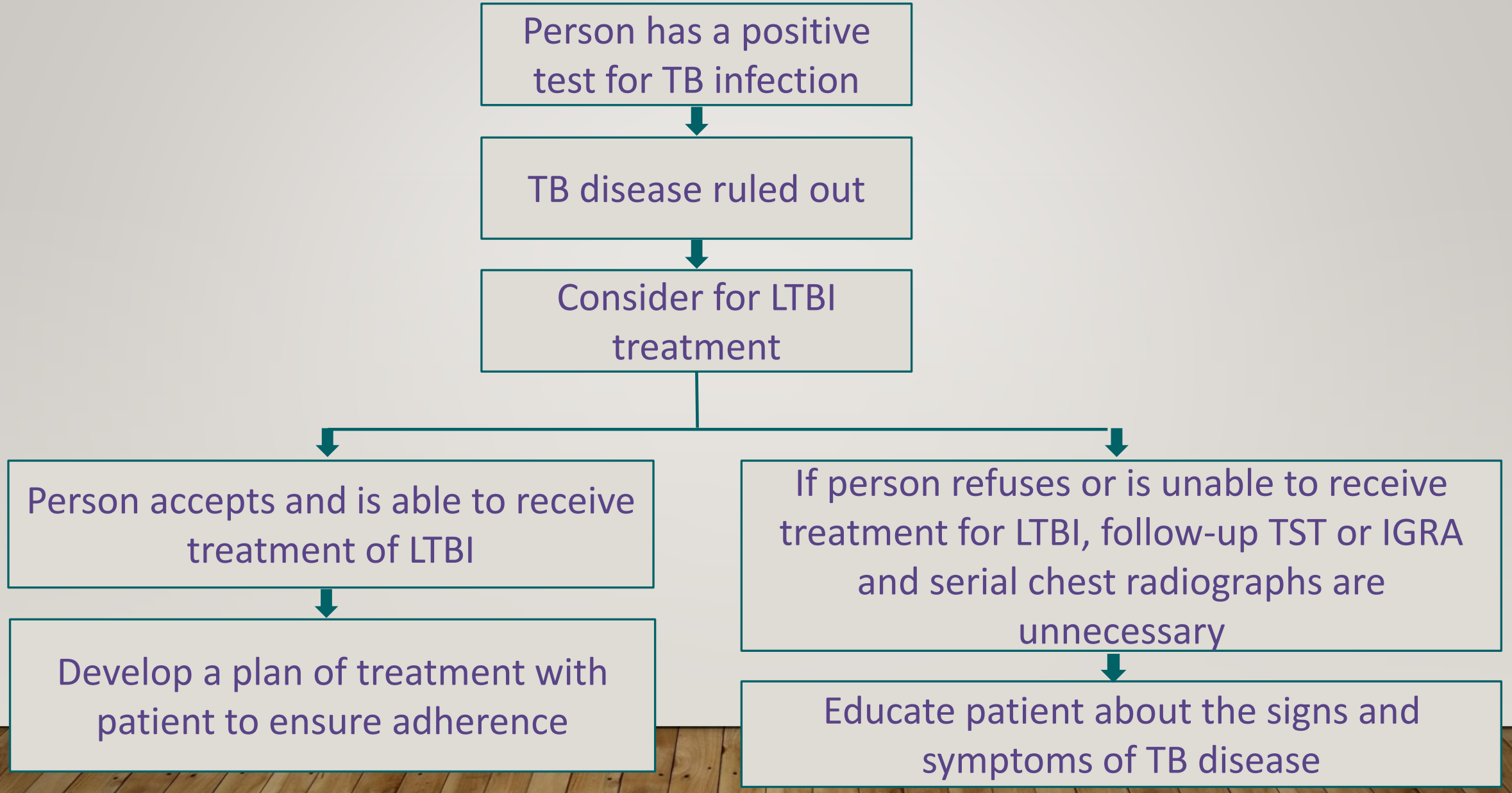
- TST is the preferred method of testing for
  - Children under the age of 5

SELECTING A TEST TO DETECT TB INFECTION - 2

Before initiating treatment for LTBI

- Either TST or IGRA can be used without preference for other groups that are tested for LTBI
- Routine testing with TST and IGRA is *NOT* recommended

EVALUATION OF PERSONS WITH POSITIVE TB TEST RESULTS



INITIATING TREATMENT

Before initiating treatment for LTBI

- Rule out TB disease by history, physical examination, chest radiography and, when indicated, bacteriologic studies
- Determine prior history of treatment for LTBI or TB disease
- Assess risks and benefits of treatment
- Determine current and previous drug therapy

TREATMENT REGIMENS FOR LATENT TB INFECTION

Drug(s)	Duration	Interval	Minimum Doses
Isoniazid	9 months	Daily	270
		Twice weekly	76
	6 months	Daily	180
		Twice weekly	52
Isoniazid & Rifapentine	3 months	Once weekly	12
Rifampin	4 months	Daily	120

Note: Rifampin (RIF) and Pyrazinamide (PZA) should not be offered to persons with LTBI. RIF and PZA should continue to be administered in multidrug regimens for the treatment of persons with TB disease.

LATENT TB INFECTION TREATMENT REGIMENS – ISONIAZID (INH) AND RIFAPENTINE (RPT) - 1

- 3-month regimen of INH and RPT is an option equal to 9-month INH regimen for treating LTBI in certain groups, such as otherwise healthy people, 12 years of age and older, who were recently in contact with infectious TB or who had tuberculin skin test conversions or positive blood test for TB*
- Must use directly observed therapy (DOT)

*_MMWR_ . Recommendations for Use of an Isoniazid–Rifapentine Regimen with Direct Observation to Treat Latent _Mycobacterium tuberculosis_ Infection
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6048a3.htm?s_cid=mm6048a3_w

LATENT TB INFECTION TREATMENT REGIMENS – ISONIAZID (INH) AND RIFAPENTINE (RPT) - 2

- Not recommended for children younger than 12 years of age, HIV-infected people taking antiretroviral therapy, pregnant women, or women expecting to be pregnant within the 12-week regimen
- INH and RPT once a week for 3 months - 12 doses within 4 months

CLINICAL MONITORING - 1

Instruct patient to report signs and symptoms of adverse drug reactions:

- Fever
- Headache
- Rash
- Anorexia, nausea, vomiting, or abdominal pain in right upper quadrant
- Fatigue or weakness
- Dark urine
- Persistent numbness in hands or feet

CLINICAL MONITORING - 2

Monthly visits should include a brief physical exam and a review of:

- Rationale for treatment
- Adherence with therapy
- Symptoms of adverse drug reactions
- Plans to continue treatment

CLINICAL MONITORING - 3

- Incidence of hepatitis in persons taking INH is lower than previously thought (as low as 0.1%)
- Hepatitis risk increases with age
  - Uncommon in persons < 20 years old
  - Nearly 2% in persons 50 to 64 years old
- Risk increases with underlying liver disease or heavy alcohol consumption

LABORATORY MONITORING - 1

Baseline liver function tests (e.g., AST, ALT, and bilirubin) are not necessary except for patients with risk factors:

- HIV infection
- History of liver disease
- Regular alcohol use
- Pregnancy or in early postpartum period

LABORATORY MONITORING - 2

Repeat laboratory monitoring if patient has:

- Abnormal baseline results
- Current or recent pregnancy
- High risk for adverse reactions
- Symptoms of adverse reaction
- Liver enlargement or tenderness during examination

LABORATORY MONITORING - 3

- Asymptomatic elevation of hepatic enzymes seen in 10%-20% of people taking INH
  - Levels usually return to normal after completion of therapy
- Discontinue treatment if transminase level exceeds 3 times the upper limit of normal if patient has symptoms of hepatoxicity, and 5 times the upper limit of normal if patient is asymptomatic

THE END

- Thank you for your attention