

# Treating Patient, Not Disease: People-Centered Approach

7th TB Symposium – Ministry of Health of the Kyrgyz Republic  
and Médecins Sans Frontières

1-2 March , 2018, BISHKEK , KYRGYZSTAN

Experiences on TB diagnosis among  
children

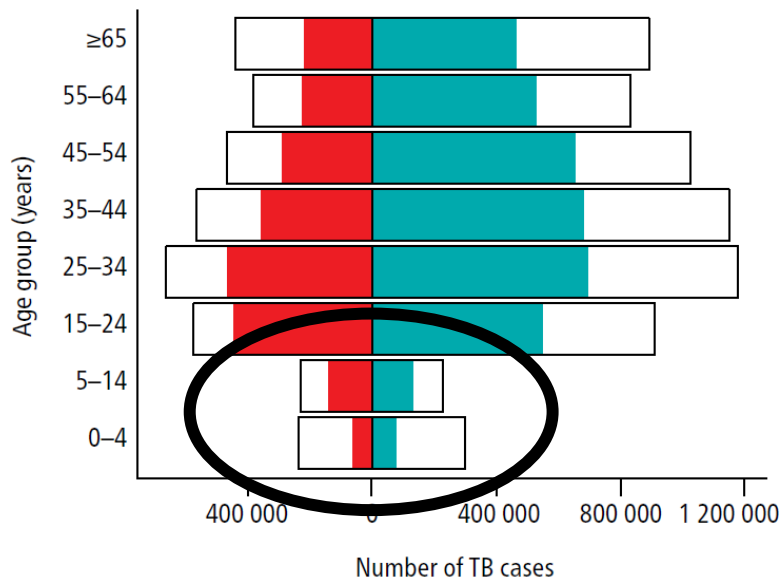
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# The gap in the diagnosis of TB in the pediatric population still remains

**FIG. 3.30**

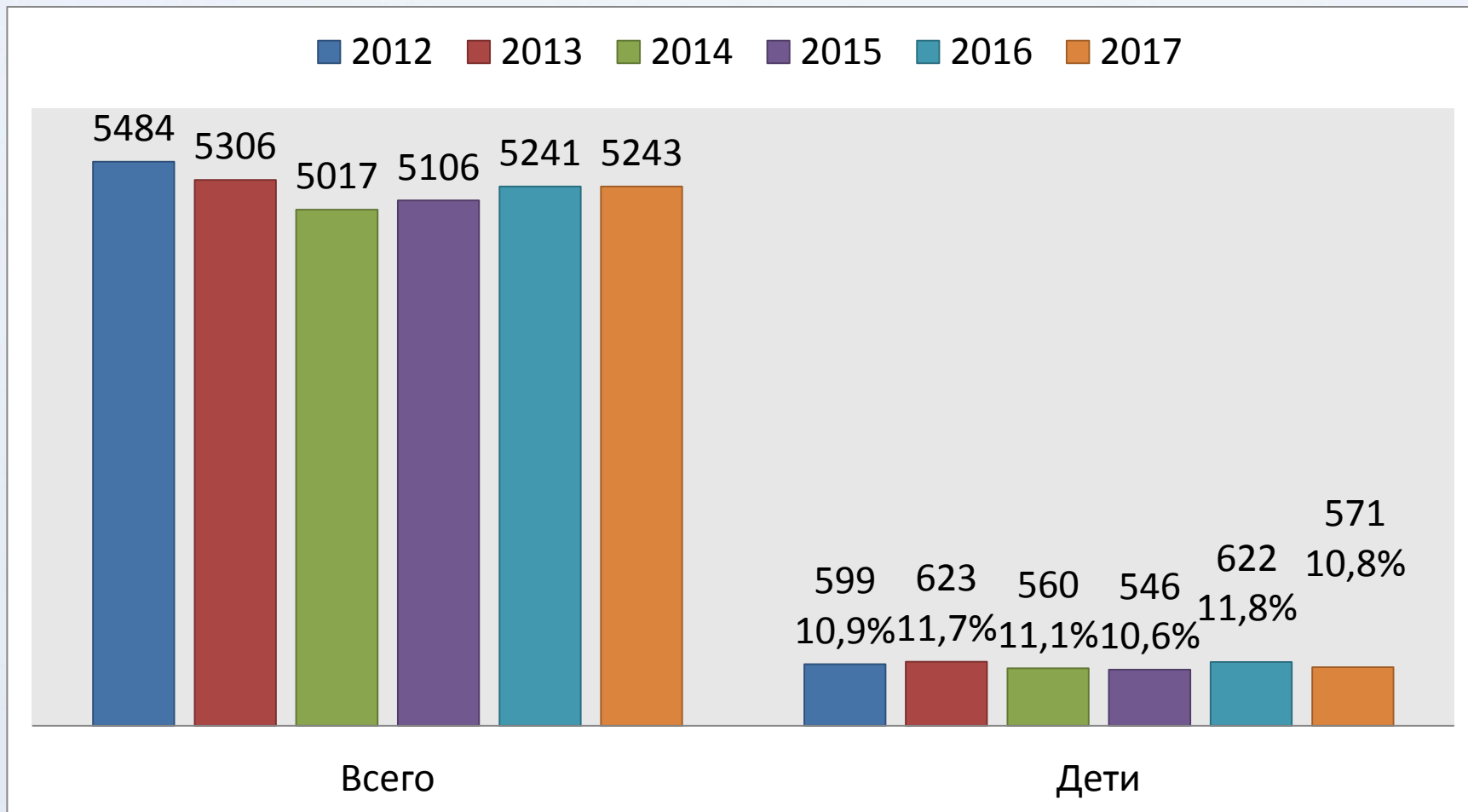
Global estimates of TB incidence (black line) and case notifications disaggregated by age and sex (female in red; male in green), 2016



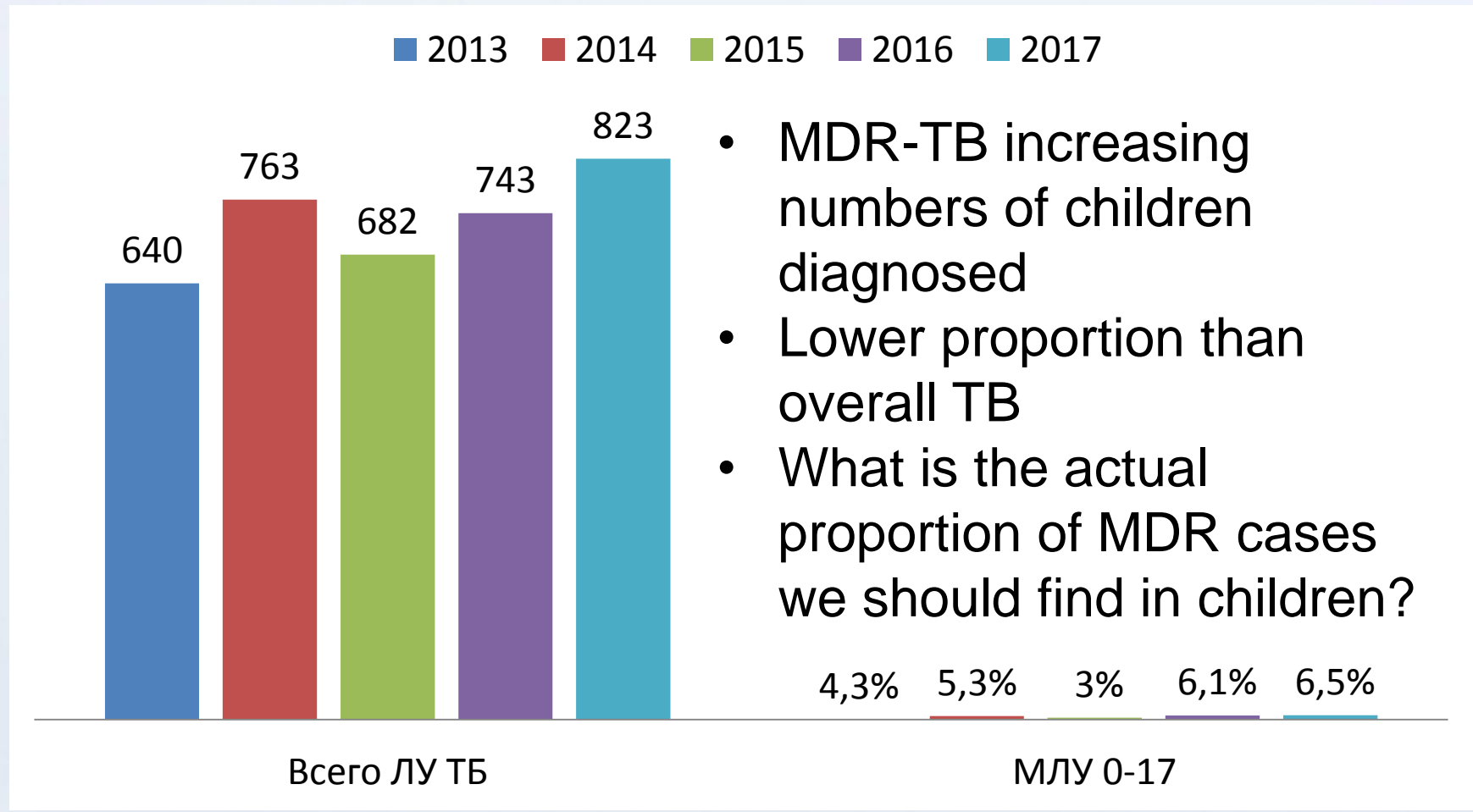
According to this figure TB is underdiagnosed, in particular in children under 5 years

WHO report  
2017

# Correlation of children with TB to total number of TB cases 2012-2017

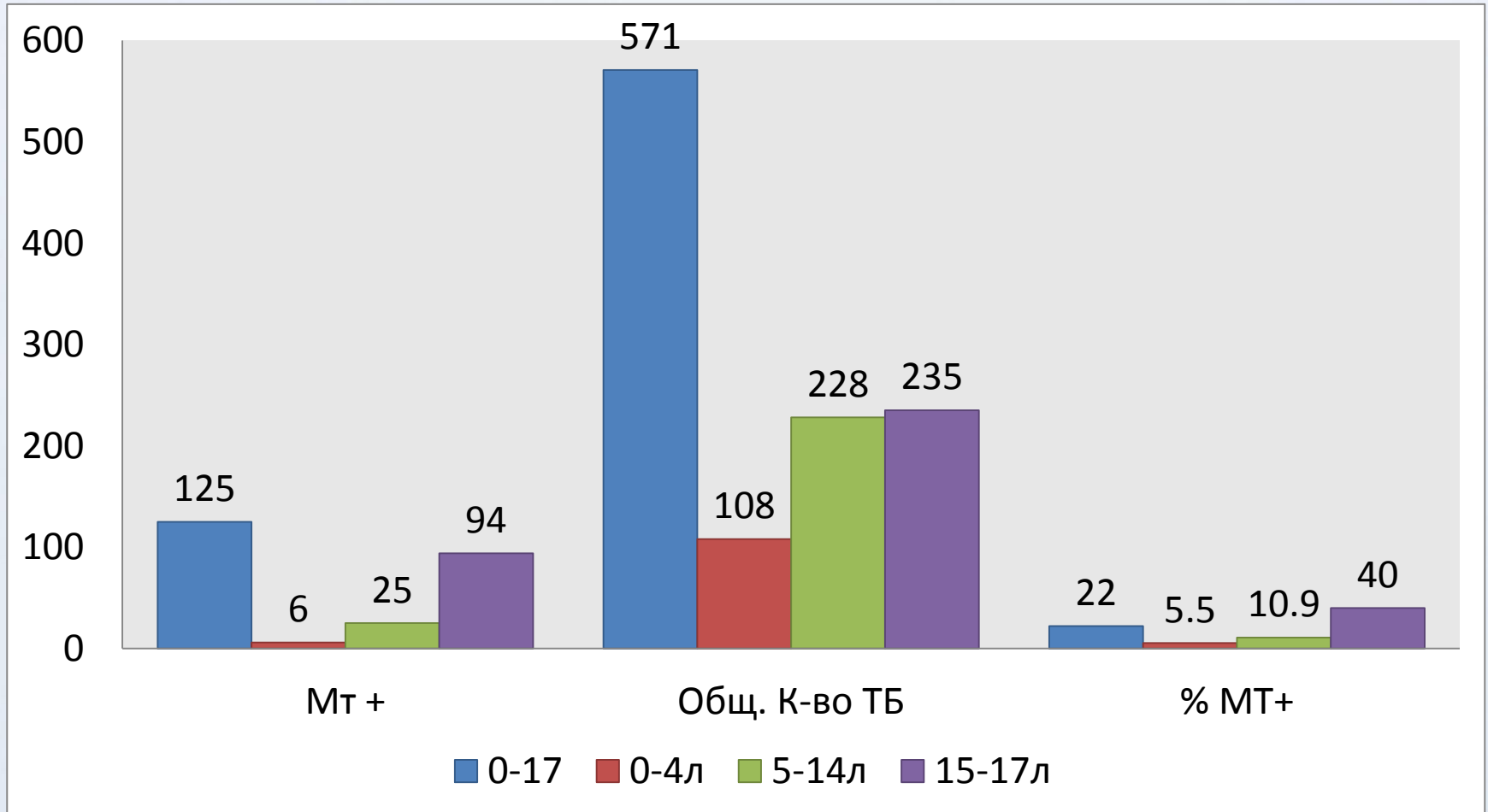


# Total number of children with MDR TB from total number of MDR TB for 2013-1017



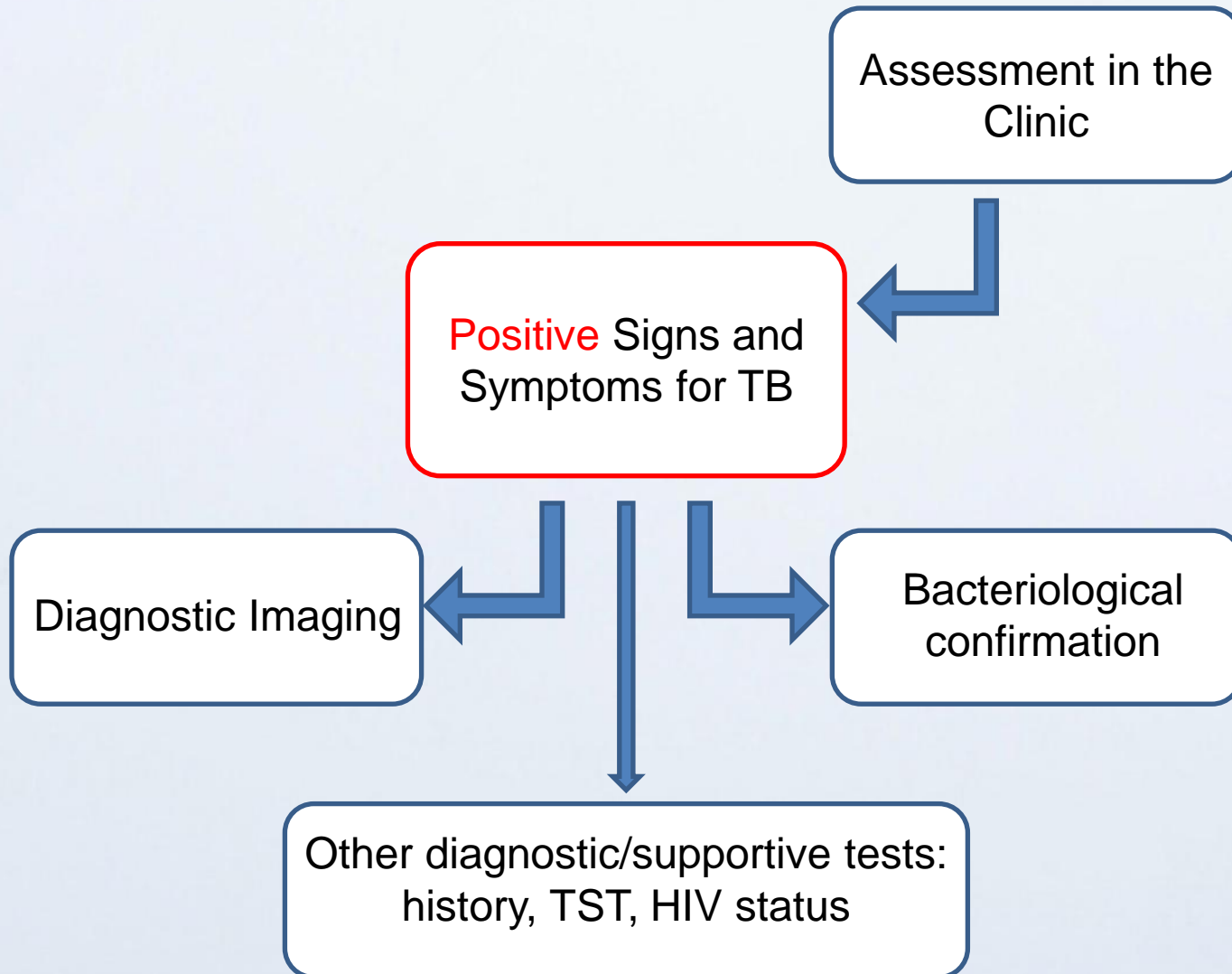
- MDR-TB increasing numbers of children diagnosed
- Lower proportion than overall TB
- What is the actual proportion of MDR cases we should find in children?

# Quantity of children with pulmonary TB MT + for 2017



But for MDR TB there are more children diagnosed in 15-17 year old

# Early Diagnosis



Diagnosis in children usually relies on the passive  
case finding:  
symptomatic child attends the clinic

- **Persistent cough**, more than 2 weeks, shortness of breath
- **Fever/night sweat**
- **Weight loss / Failure to thrive**
- Tiredness/reduced playfulness/bad academic progress
- Loss of appetite / less breastfeeding
- **Signs of extrapulmonary TB are more frequent in children**

# Leads to guide the decision on TB diagnosis in a symptomatic child

## **1. History:**

Presence of **index case** (not diagnosed?)

## **2. Diagnostic imaging:**

X-Ray – unspecific (primary TB vs reactivation),  
Lateral X-Ray, CT scan an option

## **3. Tuberculin Skin Testing:**

requires skilled personnel, not very cost efficient

## **4. Bacteriological confirmation**

## **5. HIV status**



# Bacteriological confirmation in a child

## How to obtain the appropriate sample?

**Sputum:** spontaneous expectoration comes only with certain age



**Sputum induction/Gastric lavage**



Resistance of parents to any invasive procedure



**Easily obtainable materials** like stool are **not yet recommended by WHO** for the testing by GenX  
TB Lam (urine) currently recommended **only for HIV positive with severe immunosuppression/severely ill**

# Practical experiences

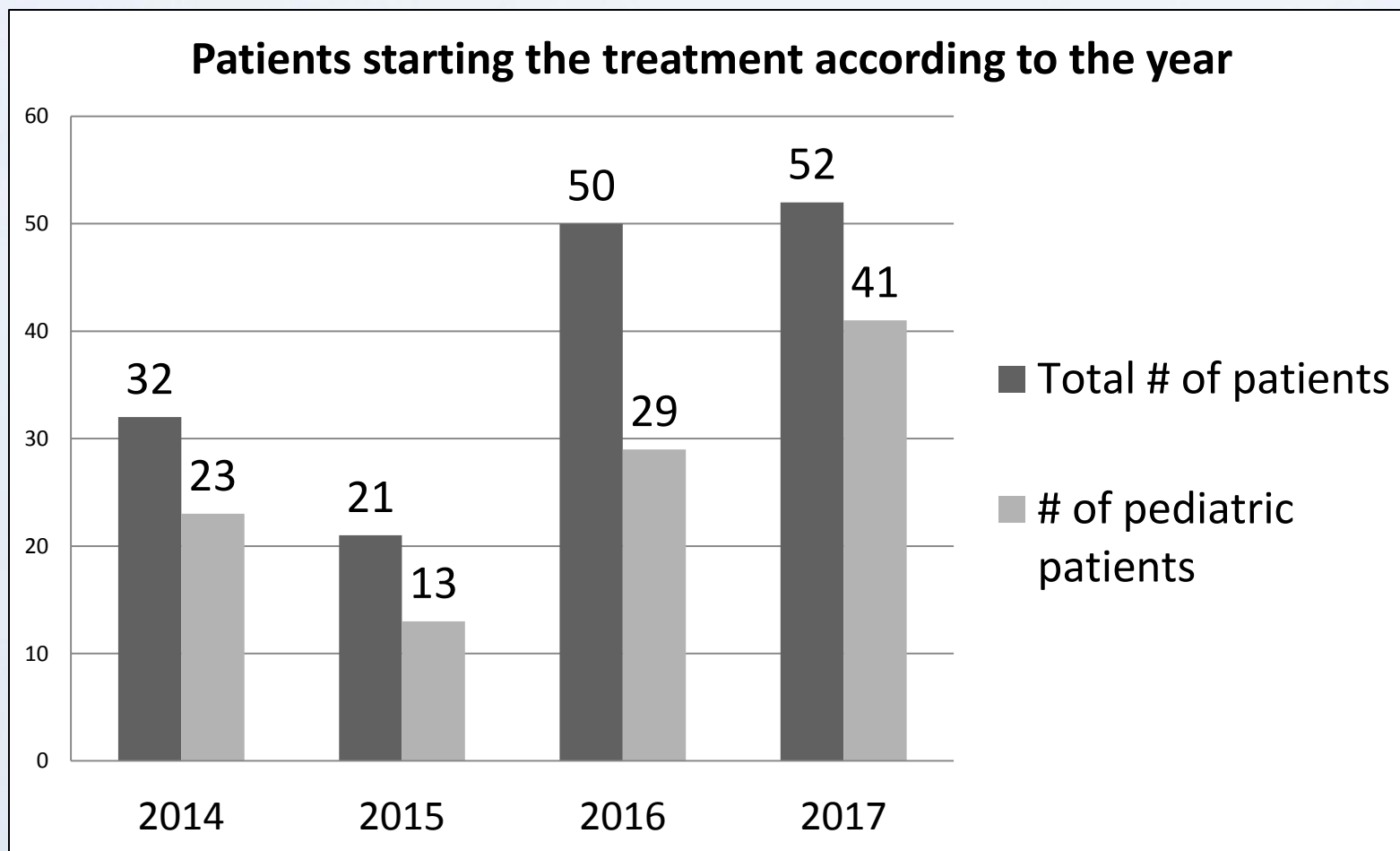
- MSF closely collaborating with MoH is focusing on the pediatric case finding and treatment
- To improve the case detection rate, **sputum induction** was implemented in 2013
- To improve the case detection rate, **contact tracing** became one of core activities in 2016

# Sputum Induction in the Pediatric TB Hospital in Dushanbe

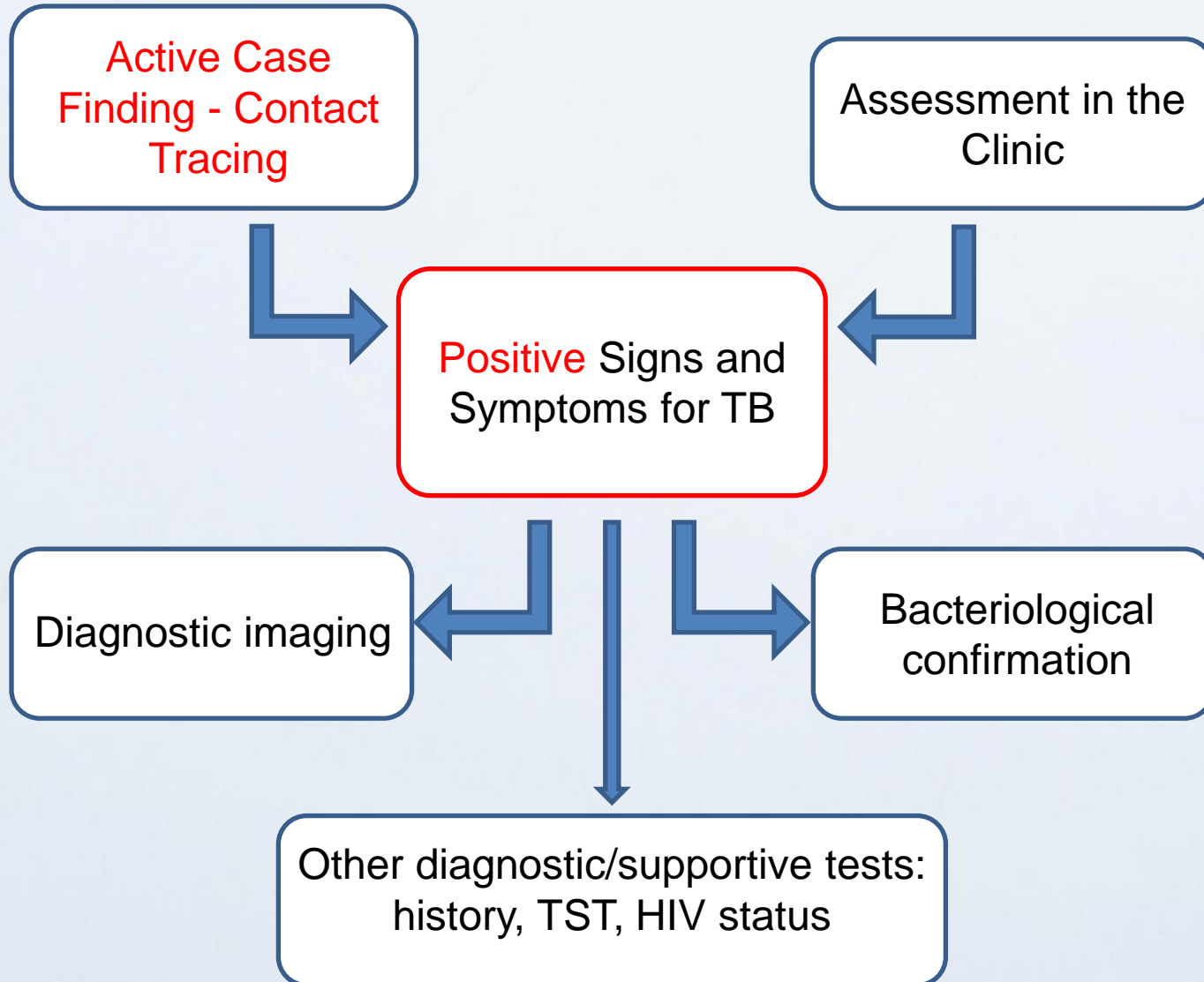
- SI Started in 2013
  - No severe complications reported

Year	2014	2015	2016	2017
Total # of patients undergoing sputum induction	526	753	1353	1502
# patients smear positive	3	3	22	23
Smear Positivity rate	0.5%	0.4%	1.6%	1.8%
# of patients GenX positive	33	43	114	113
GenX Positivity rate	6.2%	5.7%	8.4%	7.5%

**Despite introduction of sputum induction in 2013, significant increase in the number of DR TB cases came in 2016 and 2017 after contact tracing activities were started**

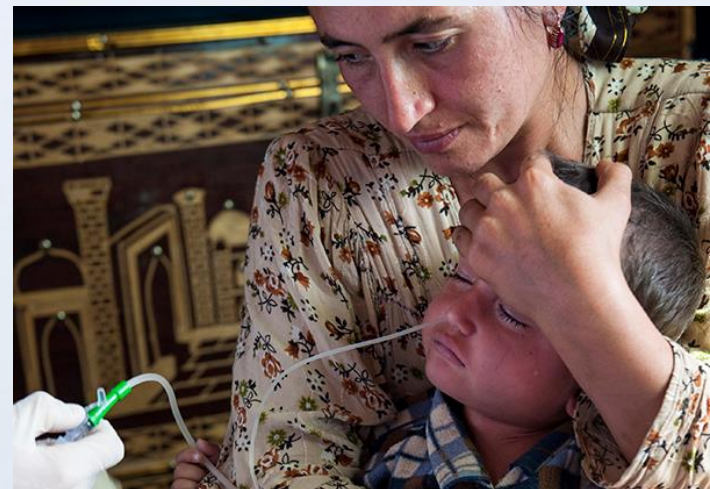


# Early Diagnosis



# Early diagnosis requires active case finding and a proper diagnosis

- Contact tracing is now routine activity performed by the nurses daily in the afternoon (mornings the teams are seeing existing patients)
- Sputum induction is a routine activity in pilot area; it is currently being implemented around the Tajikistan to enable early detection of TB among pediatric population



# Summary

- **Be vigilant**
  - TB in children has different presentation and requires a high degree of suspicion
- **Sputum induction** can improve the detection rate BUT
- Early diagnosis relies heavily on timely **active case findings** (is more efficient than the general TST screening)
- Techniques allowing more suitable materials to be analyzed in children are in great need