The Continuum of Care for TB/HIV Co-Infected

Identifying Factors for Improvement in Suriname

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DISCLAIMER

- The opinions and conclusions expressed in this presentation are my own and are not necessarily those of the Ministry of Health Suriname

- No further conflicts to declare in the scope of this presentation

Learning Objectives

- Describe the evaluation of the TB/HIV care continuum and apply it as a tool for monitoring program implementation

- Recognize how sociodemographic and clinical factors impact treatment outcomes and use this information to guide clinical and policy decision-making for improvement of treatment success.

Outline

Background: Demographics and general statistics

Organization of Health Care Services

HIV and TB Program in Suriname

TB and HIV Epidemiology

TB/HIV continuum of care

Definitions
Calculations for Suriname
Associated factors

Conclusions & Recommendations

Background

Demographics and general statistics

- Area: 63,251 sq mile

- Inhabitants: 541,638 (census 2012)

- Capital Paramaribo: 60%

  inhabitants

- Life Expectancy 2012: 72.4 years

  (females: 75.5 , males: 69.4 years)

- Average population growth: 1.2%

Socio-Economical Demographics

- Multi-ethnic population

- GDP: 4.878 billion (Worldbank 2015)

- Expenditures on Health (2016):
  - Per capita: 362 USD
  - % of GDP: 6.1%

Health Care
structure

Organizing the
services

Organization of Health Care Services

<u>Coastal (Urban/Rural):</u>

- RGD- Regional Health Services(1)
  - 63 clinics

- Private physicians (2)
  - 150 clinics

- Hospitals
  - 4-PBO capital city (A)
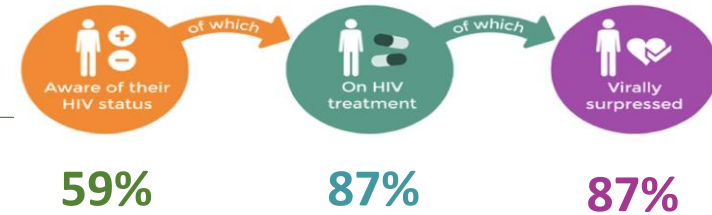 - 1-Nickerie/ western border (B)

<u>Interior:</u>

- Medical Mission (3)
  - 51 clinics

- 1 Hospital: Marowijne District bordering Fr. Guyana (c)

Policies and strategies

For Tuberculosis and HIV

HIV Program

59%   87%   87%

- Prevalence 15-49 year: 1.4%

- Estimated 5600 people living (2018); higher in risk groups

- Decentralized system – PH approach

- Treat all: 2018

- ART free through 5 dispensing hospital pharmacies

- TB screening

Tuberculose Program

- Incidence 38 (29-48) per 100,000
- Sputum collection NTP and decentralized sites with transportation system in place
- TB diagnosis: 1 lab culture, 3 lab: Xpert, microscopy
- Treatment initated by the pulmonologist with follow-up by NTP
- DOTS implemented since 2012
- DOTS community workers and incentive program implemented
- HIV screening of all TB cases is protocol
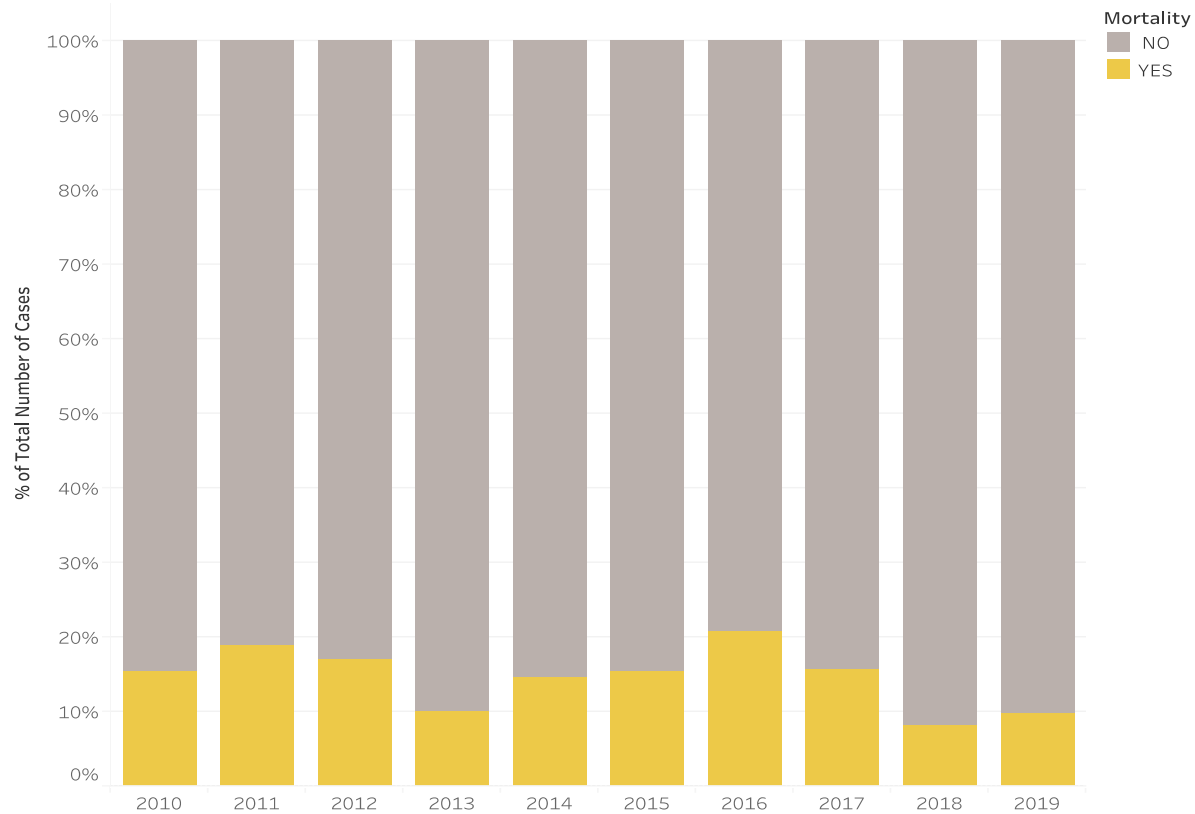- Initiation of both TB and HIV treatment

TB /HIV Epidemiology

TB Cases notified
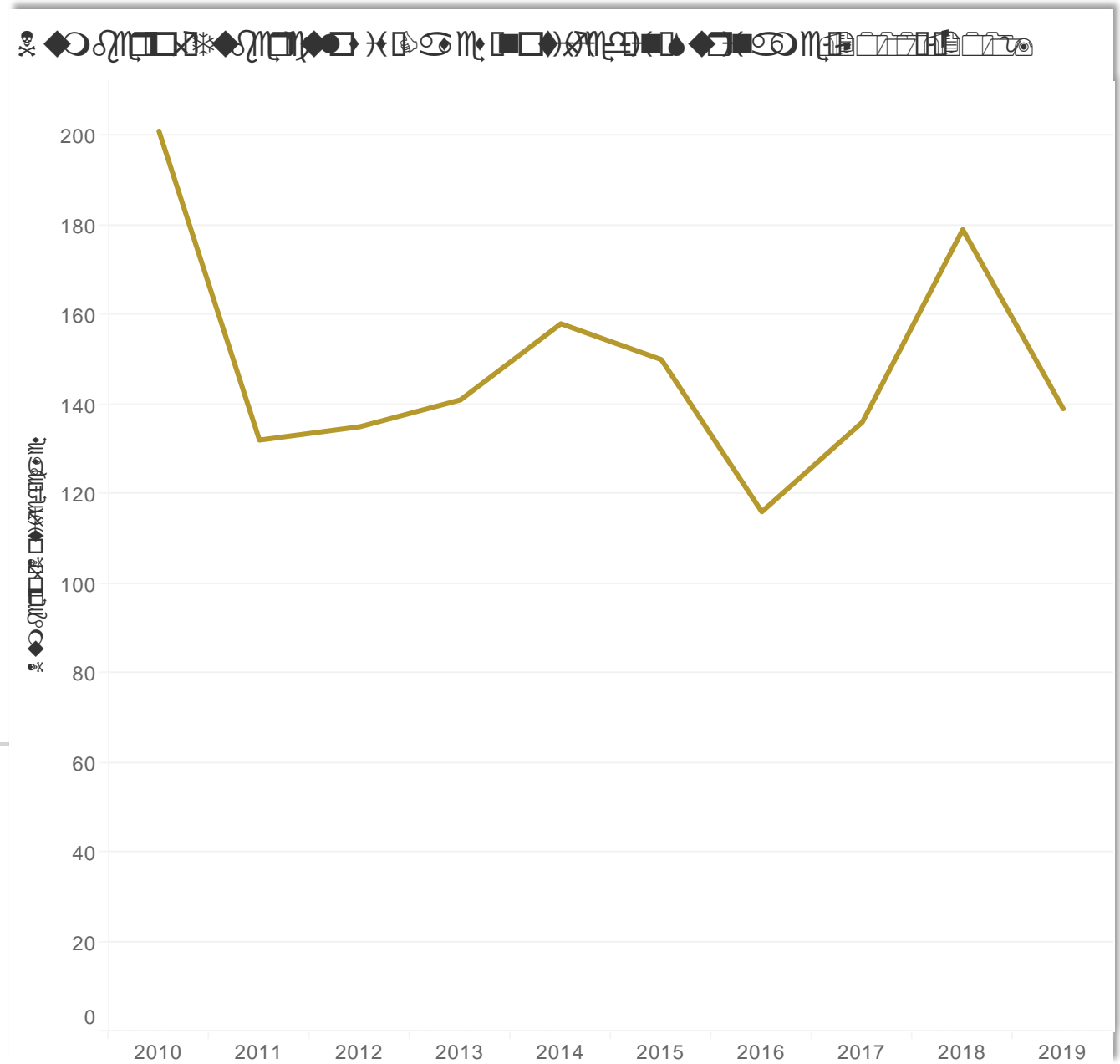
TB Mortality and case fatality

Case Fatality Ratio among TB cases, 2010 - 2019

Factors associated with Case Fatality

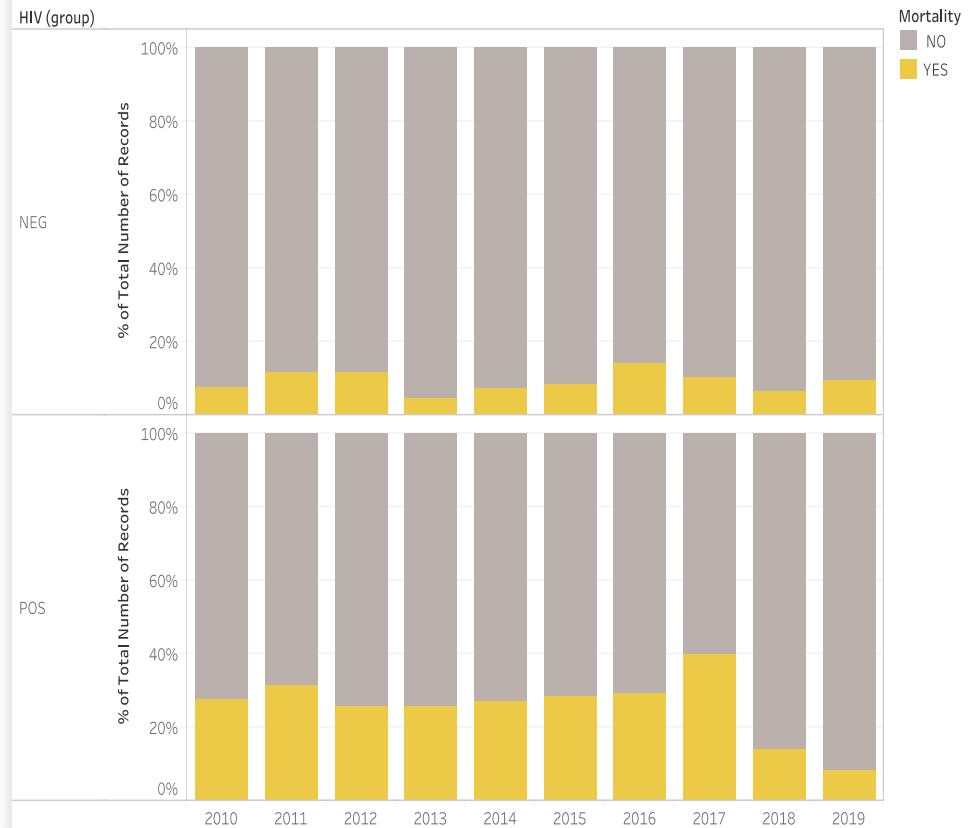2010 -2015 cohort, survival probability with Kaplan Meier

TB cohort

- **HIV (aHR2.08)**

- Age: 60+ (aHR 5.84)

- DOT (aHR 0.13)

- TB treatment (aHR 0.04)

TB/HIV cohort

- DOT (aHR 0.16)

- ART started either early or late (aHR 0.15 and aHR 0.25)
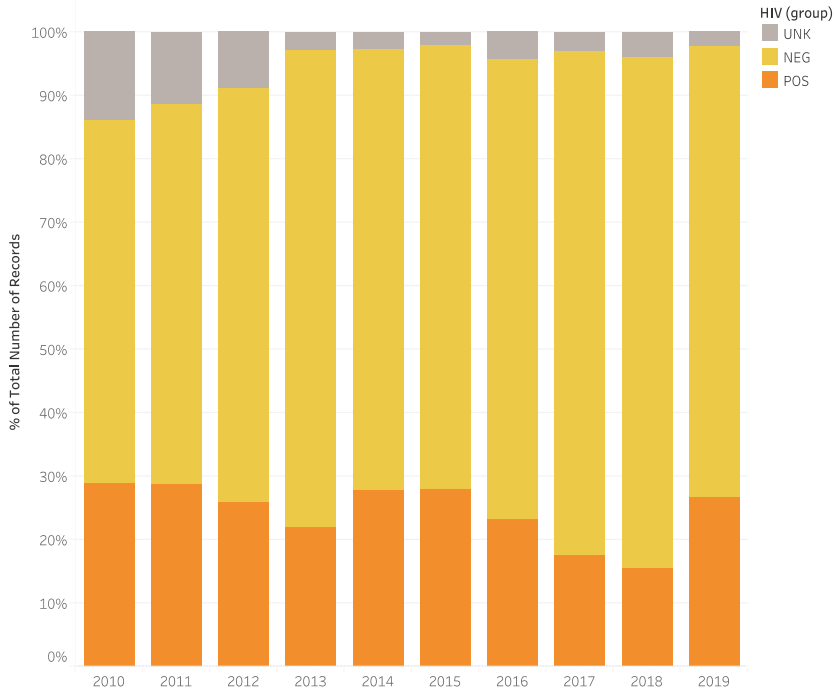
- CD4 at diagnosis TB (aHR 1.3 → 5.83)

Percentage of Mortality by positive and negative HIV status, 2010 - 2019

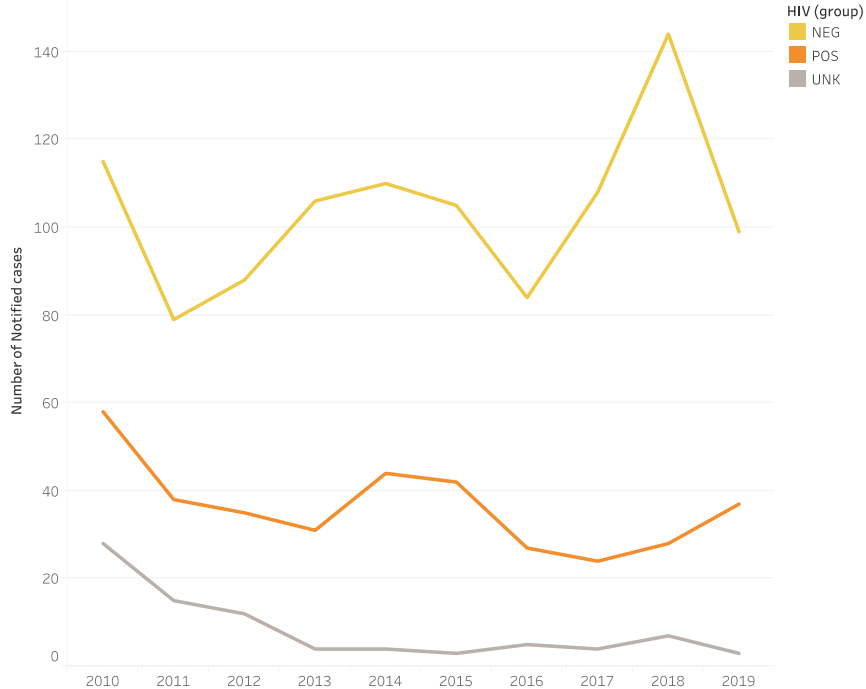HIV (group)

Mortality
- NO
- YES

HIV in the TB population

HIV testing coverage among Tuberculosis Cases notified in Suriname, 2010 - 2019
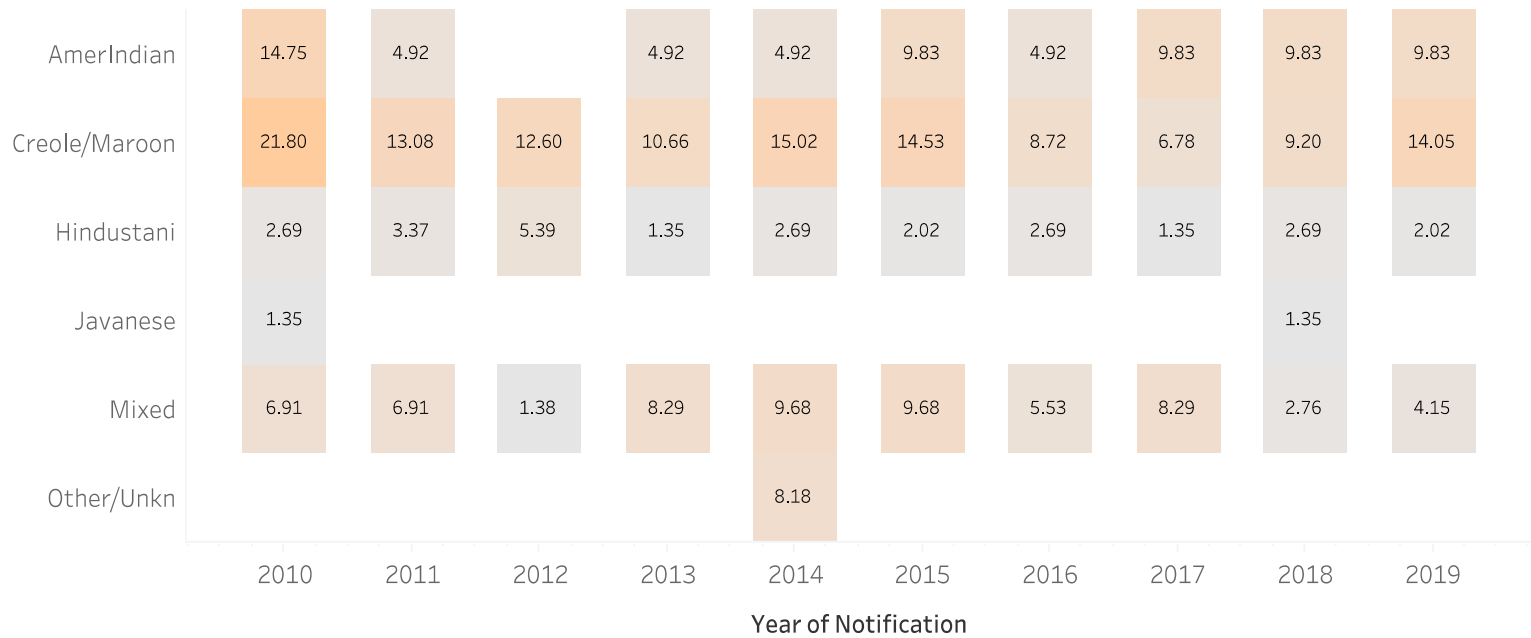
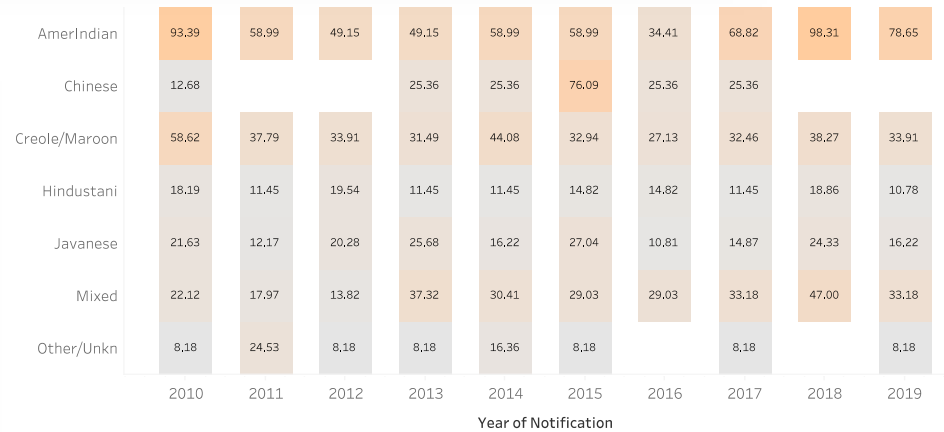Number of Tuberculosis Cases notified in Suriname, 2010 - 2019

HIV Testing coverage and notification
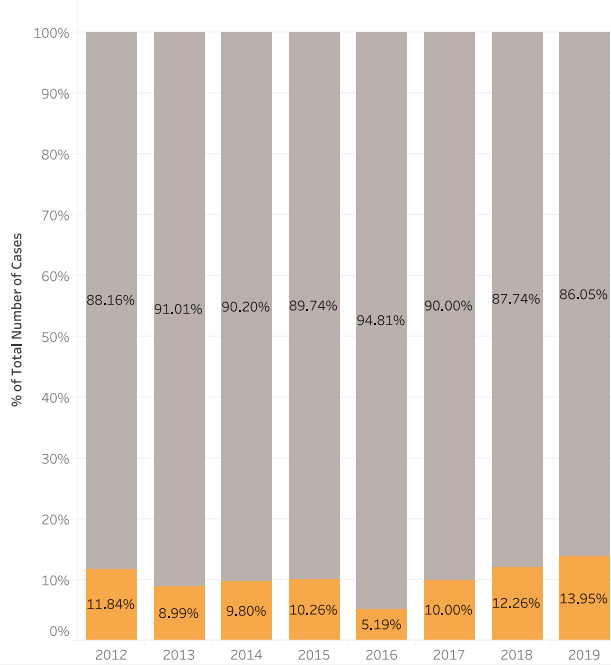
Ethnicity

Ethnicity rate for the TB/HIV cohort, 2010-2019

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
AmerIndian	14.75	4.92		4.92	4.92	9.83	4.92	9.83	9.83	9.83
Creole/Maroon	21.80	13.08	12.60	10.66	15.02	14.53	8.72	6.78	9.20	14.05
Hindustani	2.69	3.37	5.39	1.35	2.69	2.02	2.69	1.35	2.69	2.02
Javanese	1.35								1.35	
Mixed	6.91	6.91	1.38	8.29	9.68	9.68	5.53	8.29	2.76	4.15
Other/Unkn					8.18					

Year of Notification

Ethnicity rate for the TB cohort, 2010 - 2019

|	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
AmerIndian	93.39	58.99	49.15	49.15	58.99	58.99	34.41	68.82	98.31	78.65
Chinese	12.68			25.36	25.36	76.09	25.36	25.36		
Creole/Maroon	58.62	37.79	33.91	31.49	44.08	32.94	27.13	32.46	38.27	33.91
Hindustani	18.19	11.45	19.54	11.45	11.45	14.82	14.82	11.45	18.86	10.78
Javanese	21.63	12.17	20.28	25.68	16.22	27.04	10.81	14.87	24.33	16.22
Mixed	22.12	17.97	13.82	37.32	30.41	29.03	29.03	33.18	47.00	33.18
Other/Unkn	8.18	24.53	8.18	8.18	16.36	8.18		8.18		8.18

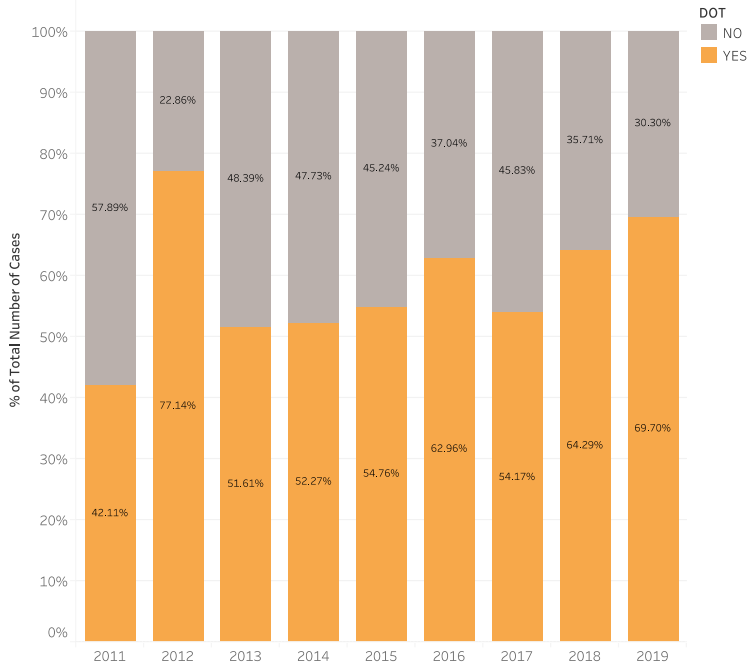**Year of Notification**

Rifampicine Resistance

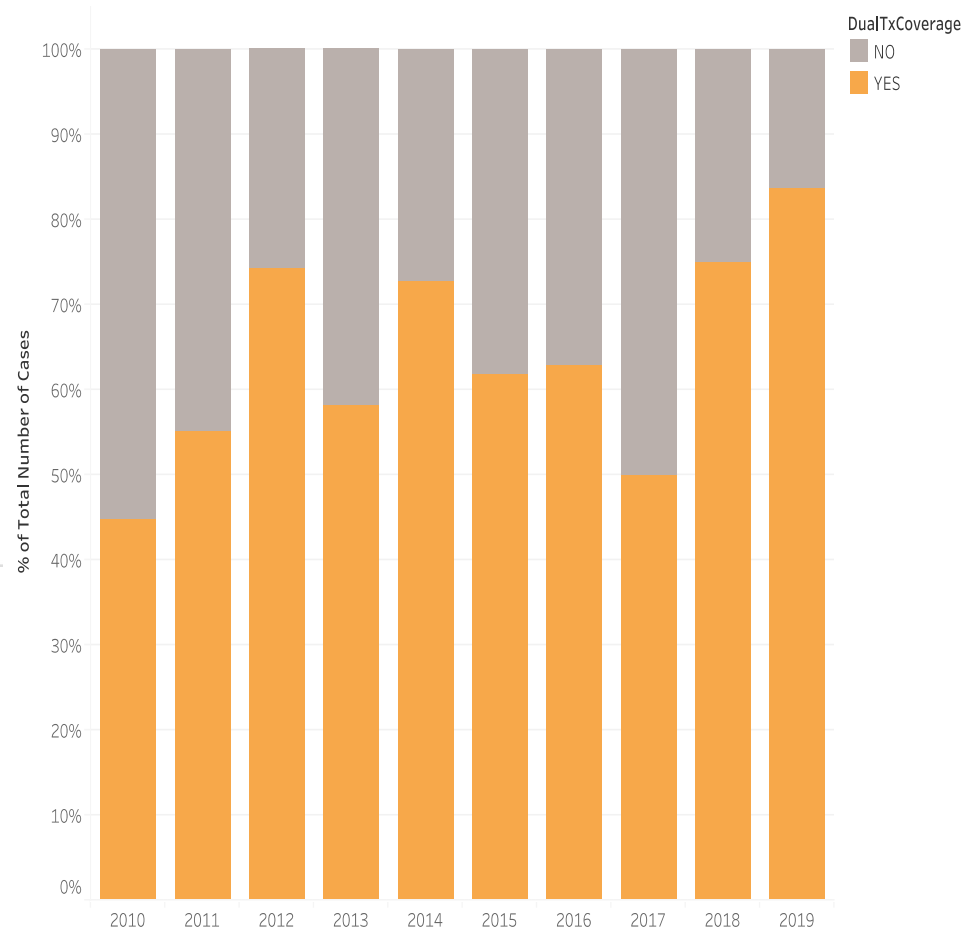Rifampicine resistence among the TB cases in Suriname, 2010 - 2019

Rifampicine resistence among the TB/HIV cases in Suriname, 2010 - 2019
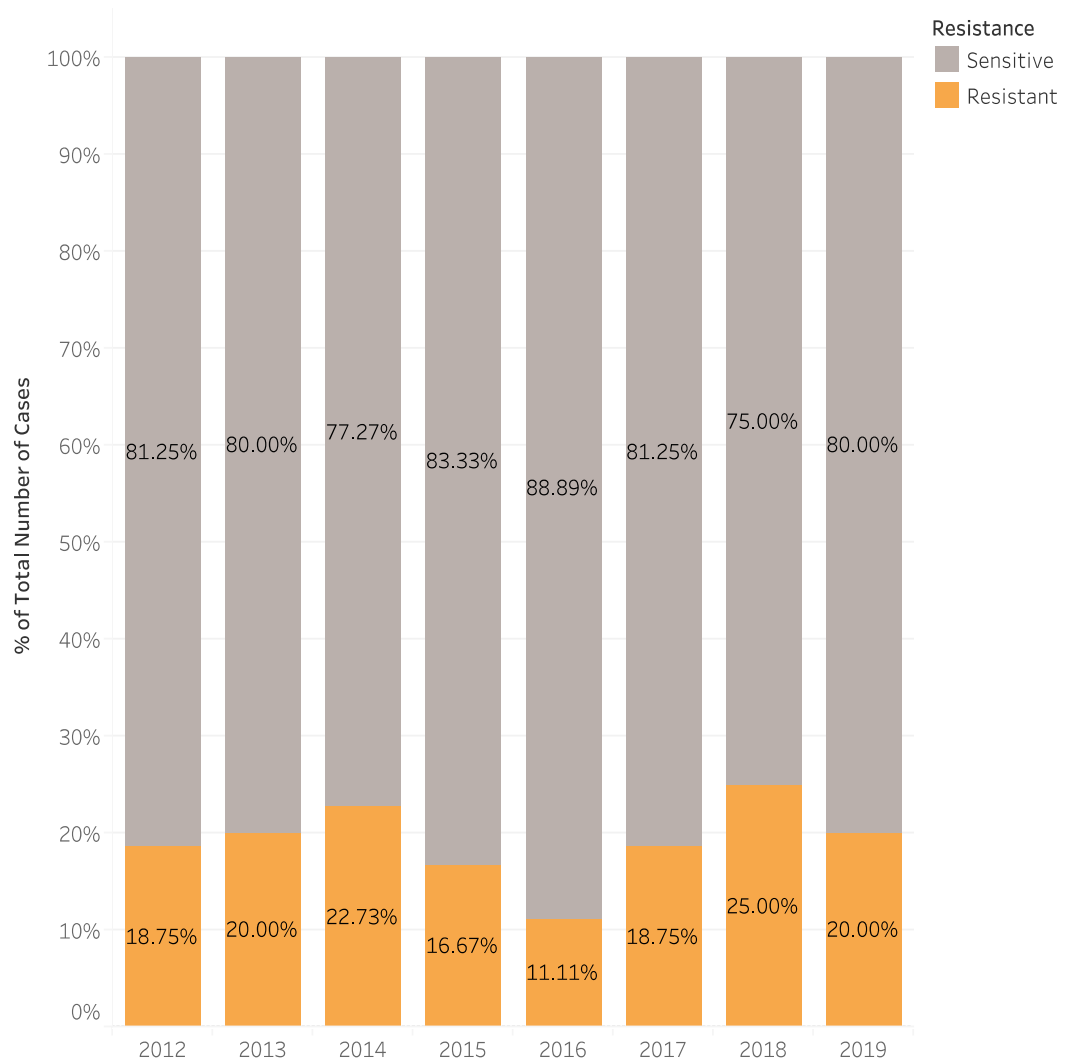
Percentage of DOT among TB/HIV cohort, 2010 - 2019

Percentage receiving HIV and TB treatment among the TB/HIV cohort, 2010 - 2019
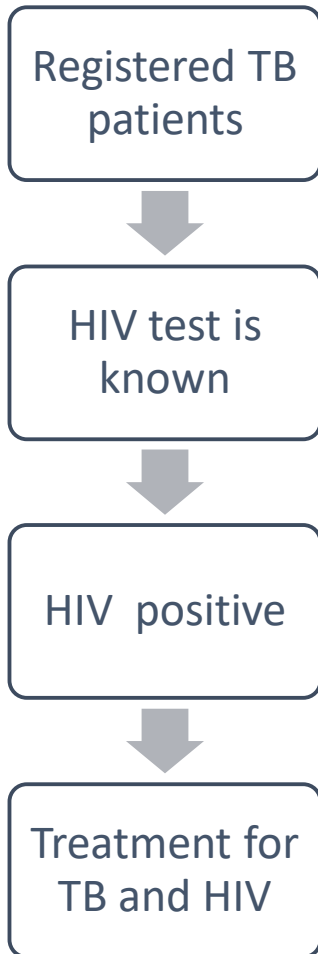
TB/HIV dual treatment and DOT

TB/HIV continuum of Care

Cascade: A framework for monitoring and evaluation

Definitions

Asia and the Pacific

Registered TB patients

↓

HIV test is known

↓

HIV positive

↓

Treatment for TB and HIV

WHO cascade data use manual

TB/HIV co-infection estimate

↓

New and Relapse TB with HIV notified

↓

New and Relapse TB/HIV on ART and TB medication

↓

Succesfully completed

Estimate TB/HIV cases

↓

Notified cases

↓

TB and HIV Treatment

↓

TB successfully completed
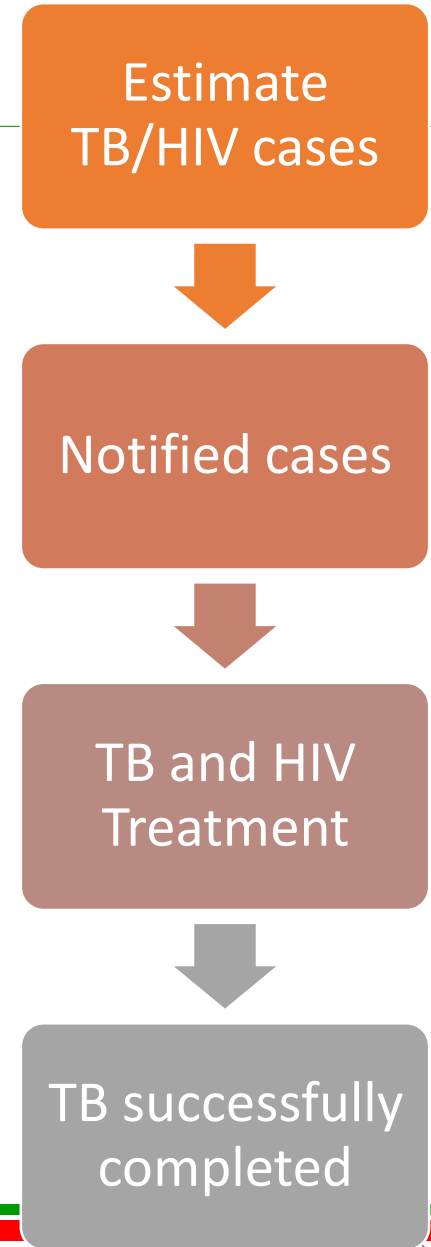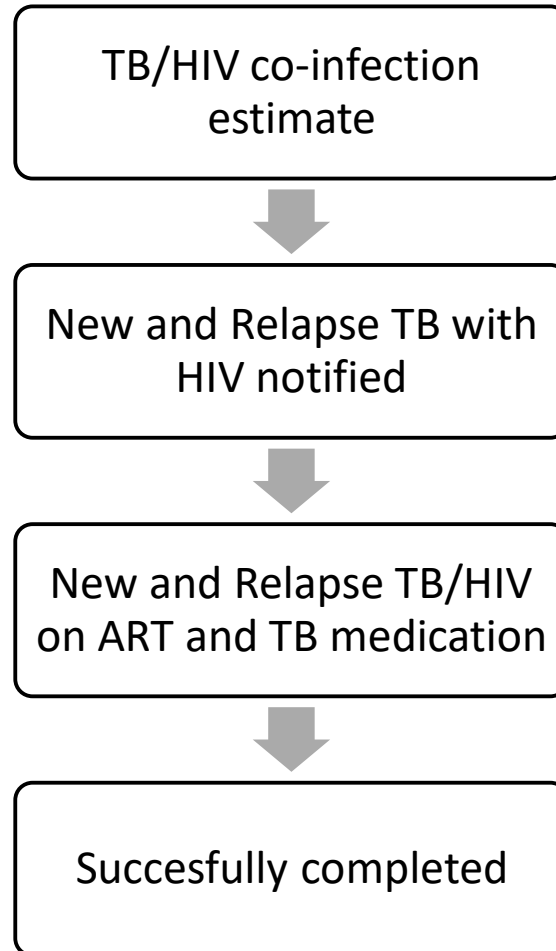
Prerequisite

- Up to date data system

- Completeness data

- Data quality

- Case based surveillance

- Electronic data since 2010

- Continue improvement

- Online real time data system created and implemented since 2018

TB/HIV Care Cascade 2018

TB/HIV Care Cascade Trend, 2010-2018

Case Notification ratio, TB/HIV treatment coverage, Treatment success ratio

Legend: Case detection ratio, TB/HIV treatment, Success Rate
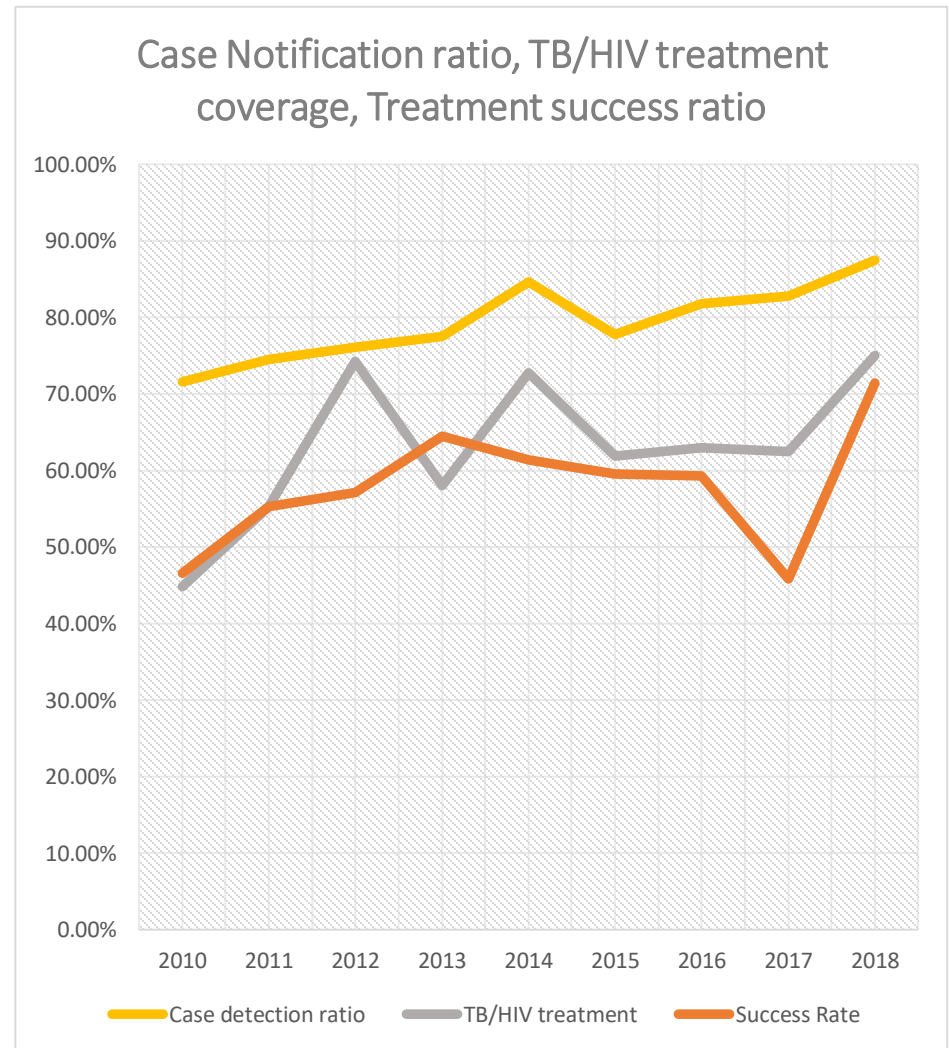
Factors

- Considering: DOT, Disease Location, Age, ethnicity, drugsabuse, caseType, DM, homeless, Prison, living area, Rifampicine Resistance, Drugs use, Sex

- Logistic Regression

TB/HIV treatment use:

- DOT (OR=3.2, 95%CI 1.19-8.35)

- Disease Location (aOR=32, 95%CI 1.3-792) for Pulmonary

Treatment succes:

- Bivariate analysis DOT and getting treatment for both HIV and TB

- Multivariate analyses: Getting both HIV and TB treatment (aOR9.8, 95%CI 2.6-37.0)

TB/HIV continuum of care 2016-2018

Case detection ratio	TB/HIV treatment coverage	Success Rate
84.03%	66.82%	58.84%
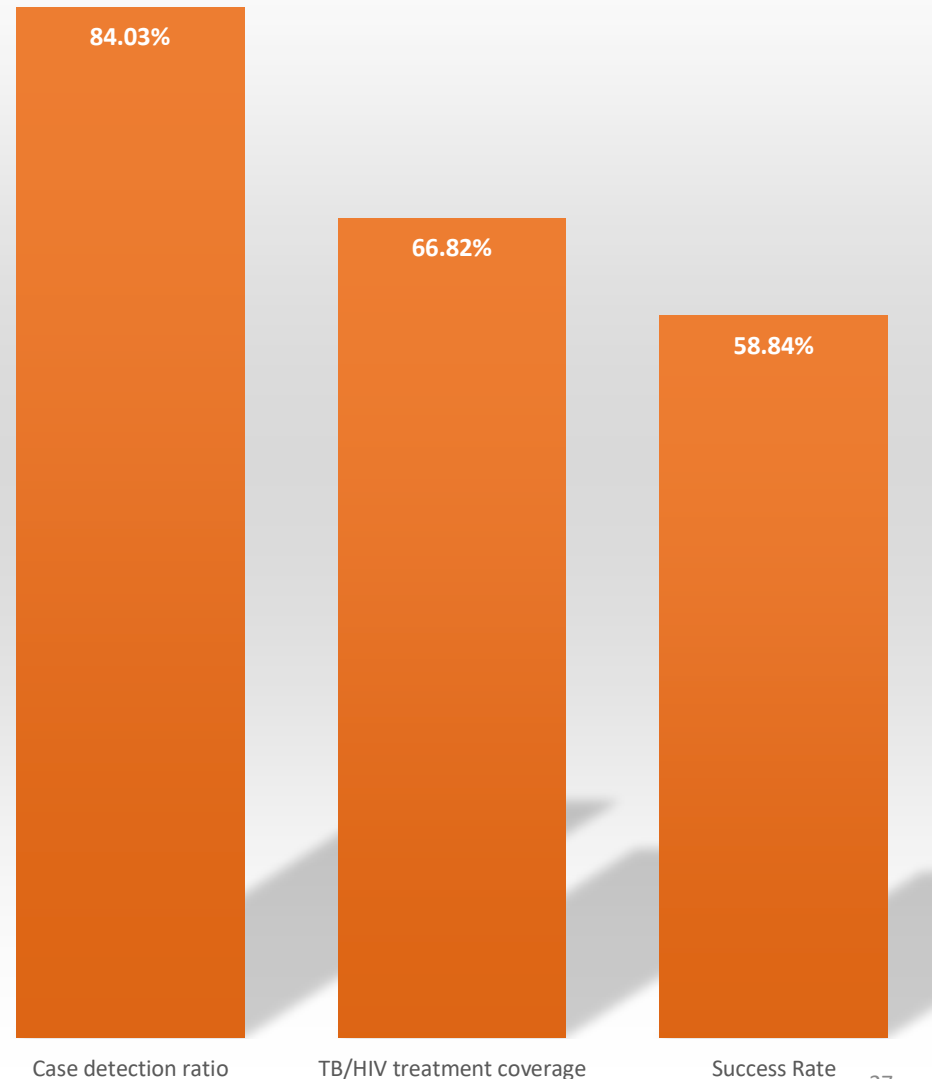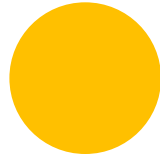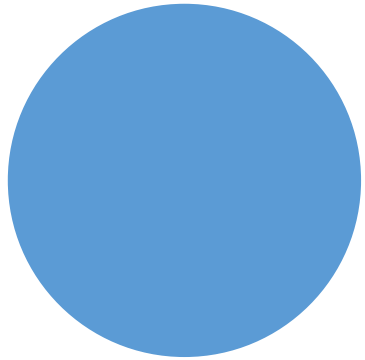
Discussion, Conclusions and Recommendations
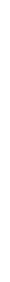
Discussion

Care Cascade useful tool for monitoring and identifying gaps in the continuum of care, planning, strengthening and designing program activities

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Some Important prerequisites e.g.:

- data system in place (completeness, good estimates, etc.)

- Analysis capacity

Alternative framework

Colleen F. Hanrahan and Annelies Van Rie, Journal of the International AIDS Society 2017

- Issues current care cascade
  - Emphasis national reporting: loss of granularity
  - No framework relating indicators to one another as well as TB/HIV collaborative activities
- Proposed novel framework for M&E HIV associated TB care devided in 3 stages:
  - Screening & Diagnosis
  - Treatment
  - Preventive Therapy
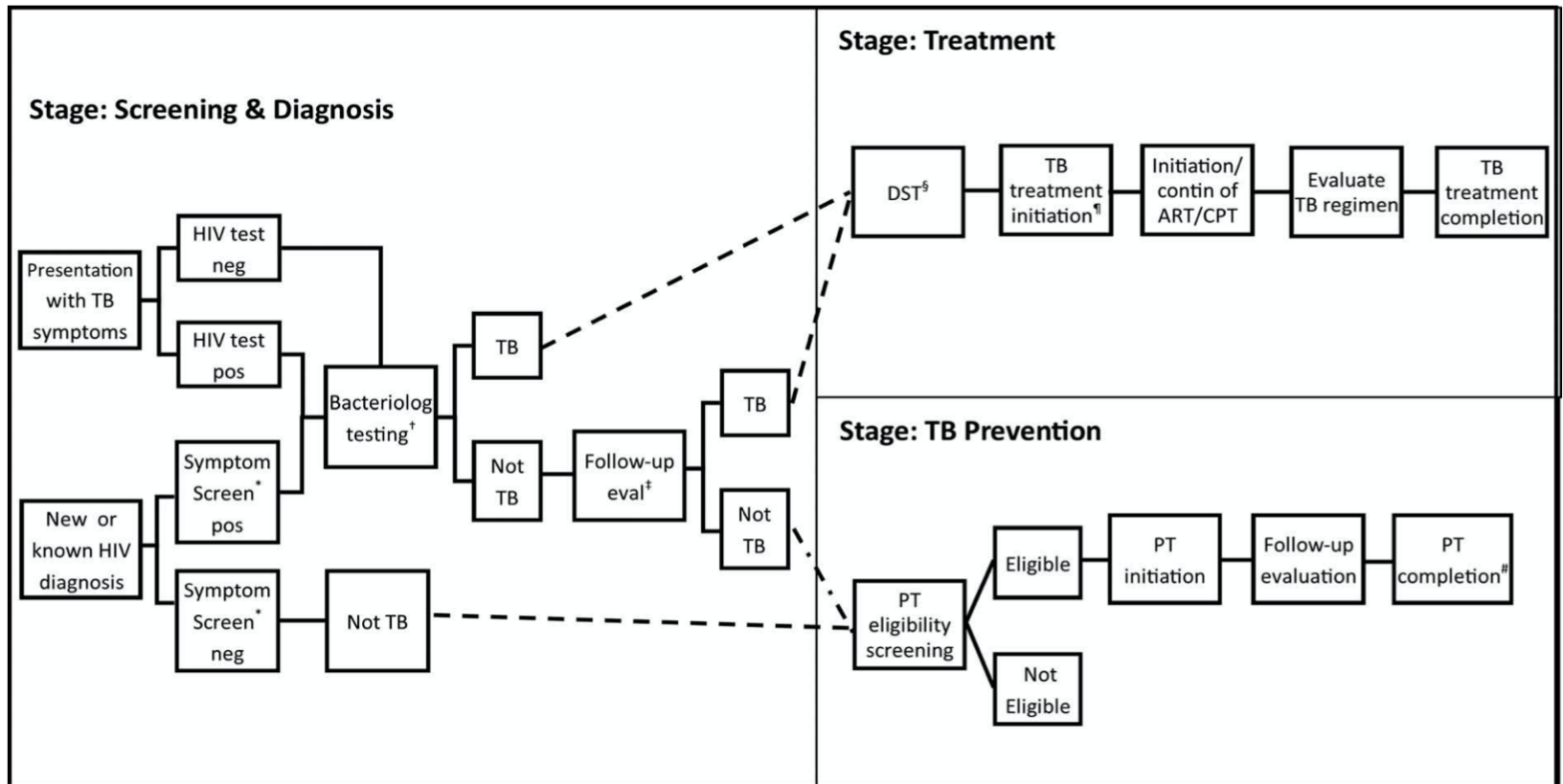
03/23/2020

3-stage framework

Figure 1.: 3 stages of the HIV-associated TB care cascade.

Conclusions and Recommendations

- Continuum of Care analysis (cascade) even simplified good tool for monitoring and identifying priorities
  - For Suriname: intensified focus on getting people on DOTS, guarenteeing early treatment and adherence both TB and HIV treatment
- Need to assure data collection system in place and capacity for analysis
  - Regular check for data quality and completeness
- Regular analysis of care cascade for identifying changes
- Where possible look into expansion to get complete picture along prevention, diagnosis, treatment and care
- Action based on results of analysis

Thank you