



# TB in Correctional Institutions

Maresh C Patel, MD

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I have no financial disclosures

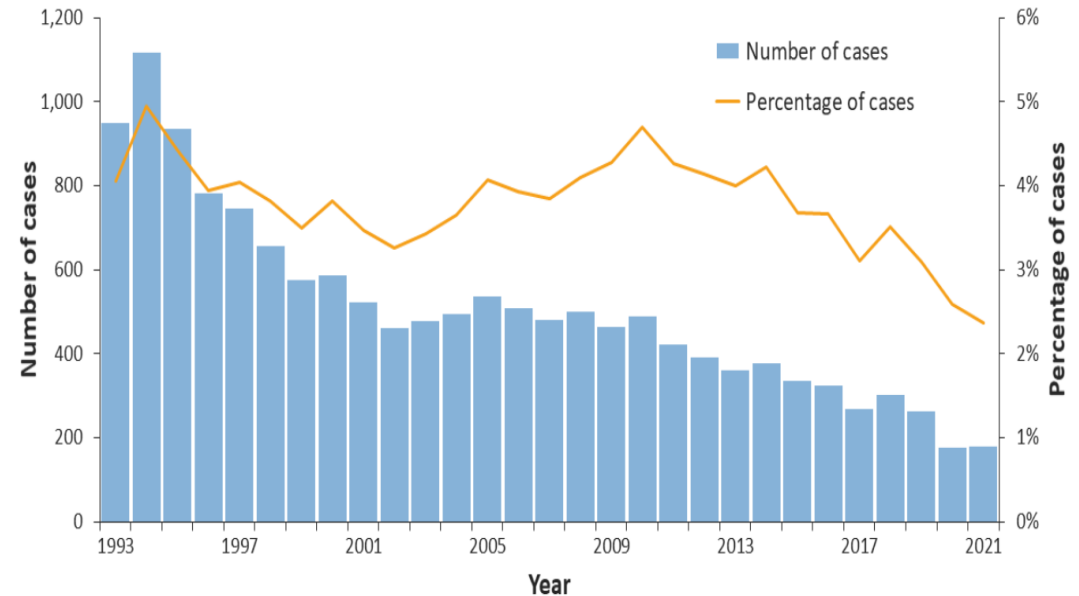


I have no conflicts of interest  
regarding the topic that I will  
be speaking about today

# Epidemiology and Trends

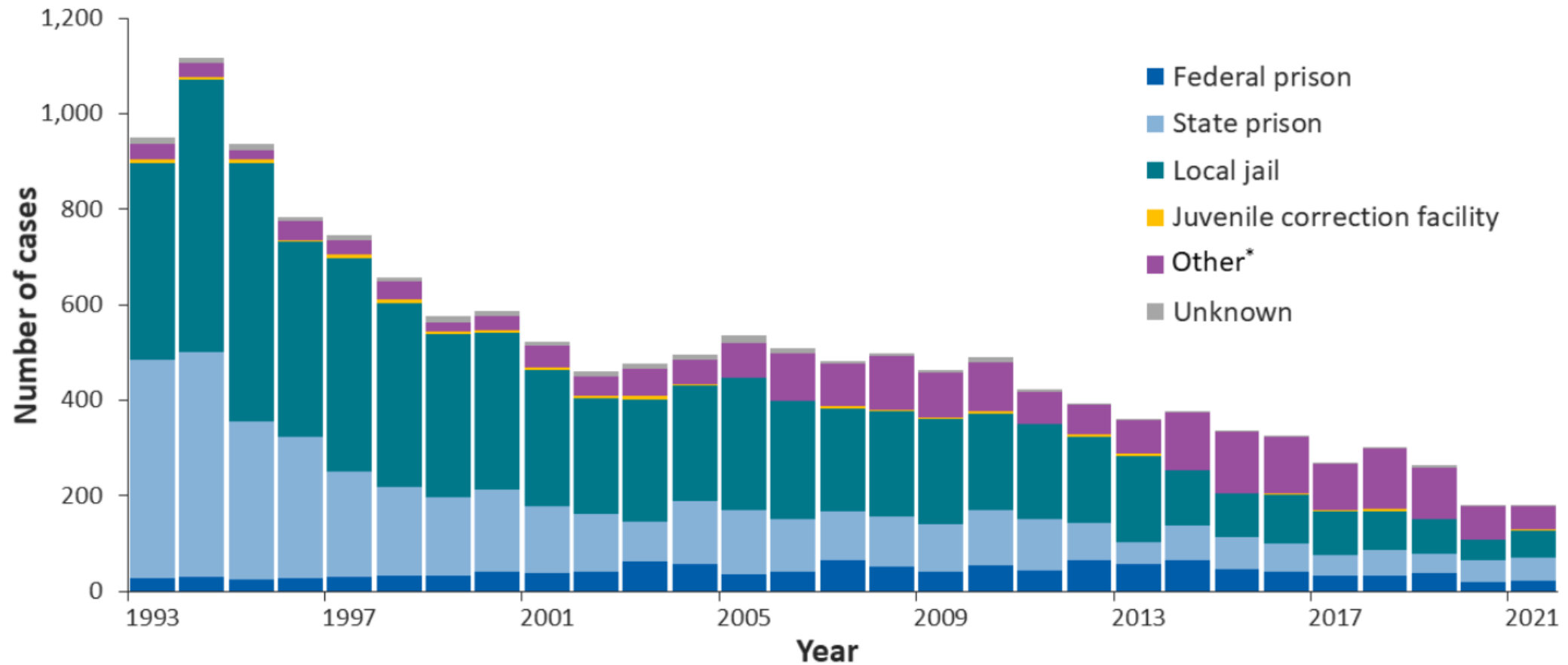
- 7,882 cases of TB in USA
- 179 (2.3%) cases in corrections
- Local jails: 23.0% (2020) → 31.3% (2021)
- State prisons: 26.4% → 27.9%
- Federal prisons: 10.7% → 12.3%
- Other correctional facilities: 38.2% → 27.4%

Number and Percentage of Correctional Facility\* Residents Among Persons Aged ≥15 Years with TB, United States, 1993–2021



\*Correctional facilities include federal prisons, state prisons, local jails, juvenile correctional facilities, other correctional facilities, and unknown or missing types of correctional facility.

## TB Cases Among Correctional Facility Residents Aged ≥15 Years by Type of Facility, United States, 1993–2021



\*Includes Immigration and Customs Enforcement (ICE) detention centers, Indian reservation facilities (e.g., tribal jails), military stockades and jails, federal park police facilities, police lockups (temporary holding facilities for persons who have not been formally charged in court), or other correctional facilities that are not included in the other specific choices

# TB Cases Among Correctional Facility Residents Aged $\geq 15$ Years by Type of Facility, United States, 2021



# Unique Elements of TB Screening in Correctional Settings

Early detection and isolation important to prevent widespread transmission in close quarters (for other inmates and employees)

Need to complete treatment for LTBI PRIOR to release from prison/jail given transient population

Inmate refusal of LTBI treatment is challenging in this high-risk setting

??Concern for more drug-resistant TB in corrections

# Screening for TB

- ALL inmates should be screened for TB symptoms on intake
  - History of previous disease?
  - Blood-tinged sputum?
  - Night sweats?
  - Fever?
  - Weight Loss?
  - Cough?

# Chest Radiograph Screening

- CXR at intake for:
  - Inmates reporting TB symptoms (in particular, cough for 2+ weeks)
  - TST or IGRA positive inmates
  - All HIV-infected inmates
- In Illinois (IDOC) and Cook County Jail, ALL inmates have screening CXRs performed
- In IDOC, ALL inmates have blood drawn for an IGRA





# Latent TB Infection (LTBI)

- Sentences in prison vary and can change quickly, so ideal to get treatment completed as soon as possible.
- 12-dose regimen of Isoniazid (INH) and Rifapentine
- 4 months of Rifampin
- 9 months of INH

Numbers in  
Illinois Dept of  
Corrections  
(IDOC)

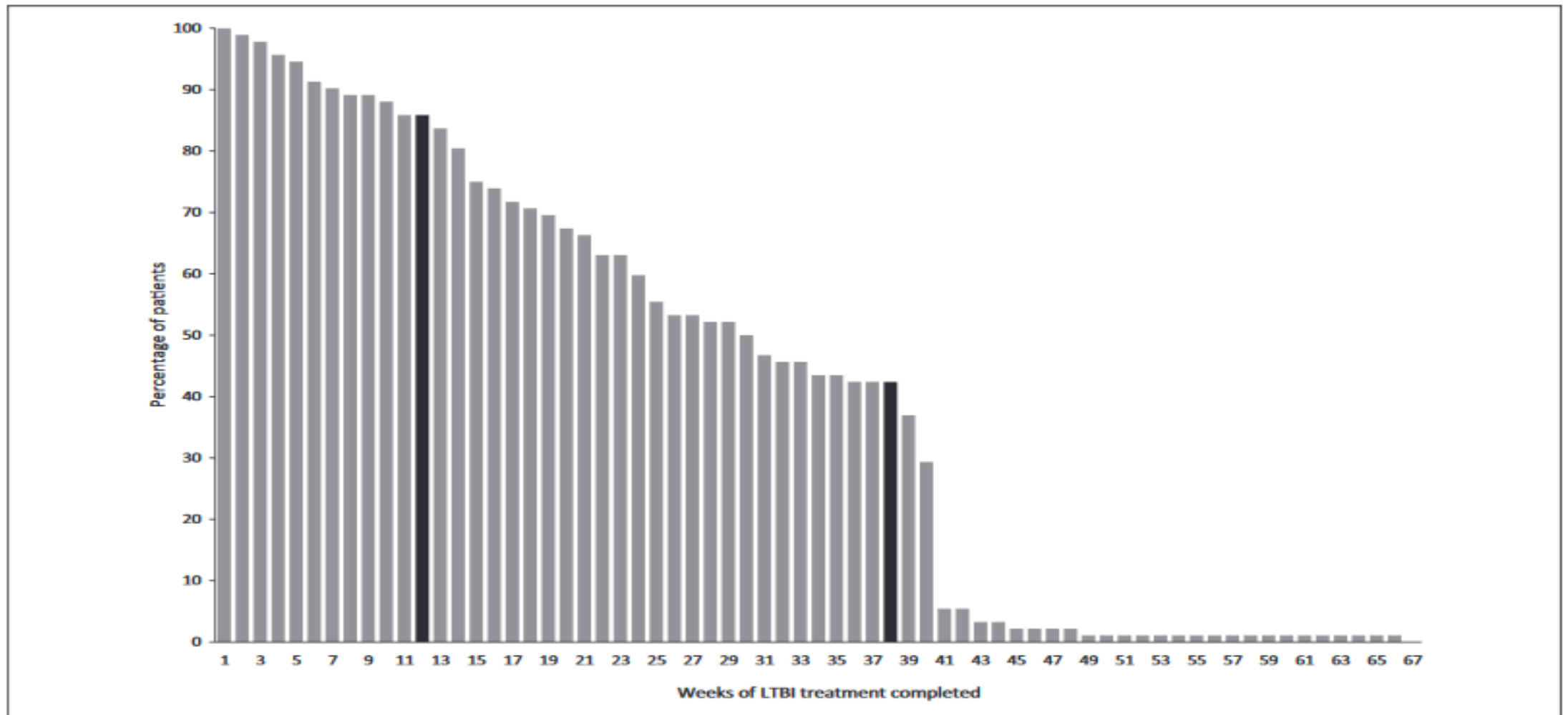
- Inmates Diagnosed with TB: Zero
- Inmates Diagnosed with Latent TB Infection (LTBI): 247 (8/22-8/23)
- Inmates Treated for LTBI: 247 (all of them)
  - INH and RPT: 195 (79%)

# Fed Bureau of Prisons: High Completion Rate of INH-RPT x 12 Weeks

- 463 Federal inmates
  - Median age: 36 years (range: 20-71 years)
  - 70% male.
  - 12% white, non-Hispanic; 8% black, non-Hispanic; 2% Asian; 1% American Indian, and 77% Hispanic.
  - Two-thirds of participants were foreign-born; 19.9% were contacts to a known TB case
- 424 (92%) completed treatment
  - Discontinuation in 39 (8%)
    - 17 (44%) signs/symptoms associated with treatment
    - 9 (23%) transfer or release
    - 8 (21%) treatment refusal
    - 5 (13%) provider error.
  - Five patients who stopped INH-RPT because of symptoms subsequently completed treatment using either INH or rifampin.

# Completion Rates, Adverse Effects and Costs of 3-month vs. 9-month regimens

- Wheeler and Mohle-Boetani: California Inmates, 2011-2014
- 9 months of INH (9H; retrospective): 92 inmates in the study (100 were randomly selected)
  - 42% completed >38 weeks of treatment
  - 58% discontinued treatment before completion
- 3 months of INH and RPT (3HP): 122 accepted treatment
  - 122 (90%) completed treatment!!
  - 25% reported at least one adverse symptom (headache was most common)
- Discontinuation for hepatotoxicity was greater in the 9H only group (14%) vs. the 3HP group (2%)



**Figure 2.** Proportion of patients with latent tuberculosis infection (LTBI) treated with a regimen of 9 months of isoniazid twice per week (9H) whose last isoniazid dispense date was in October or November 2011 (N = 92), by number of weeks of treatment completed, California Correctional Health Care Services, March 2012. Of 92 patients who started on the 9H regimen, 86% completed  $\geq 12$  weeks of treatment; had they been on the 3HP regimen (12 weeks of isoniazid and rifapentine), 12 weeks would be the time needed to complete treatment. Thus, 79 (86%) patients would be expected to be fully treated with the 3HP regimen by week 12 (black bar at 12 weeks). Of the 92 patients who started on the 9H regimen, 39 (42%) completed the full course of treatment (ie,  $\geq 38$  weeks) (black bar at 38 weeks).

And using  
3HP costs  
less!!

Measure	9H Regimen	3HP Regimen
No. (%) of patients who completed LTBI treatment (among those who initiated treatment, N = 92)	39 (42)	79 (86)
Cost for patients who were partially treated (<38 weeks for 9H group, n = 53; <12 weeks for 3HP group, n = 13), \$ <sup>c</sup>	16 589	4125
Cost for patients who completed LTBI treatment (n = 39 for 9H group; n = 79 for 3HP group), \$ <sup>c</sup>	21 654	47 408
Cost to treat the full cohort (cost to treat patients who were partially treated plus cost to treat patients who completed treatment) (N = 92 patients), \$ <sup>c</sup>	38 243	51 533
Cost per fully treated patient (cost to treat the full cohort [N = 92] divided by the number of patients who completed treatment), \$ <sup>c</sup>	981	652

<sup>a</sup>Cost per fully treated patient is the cost to treat patients who did and did not complete the regimen (eg, completed only 10 weeks of treatment) divided by the number of patients who completed the regimen. If all patients completed the regimen, the cost per fully treated patient would be the same as the cost of the regimen for 1 patient (\$555 for 9H and \$600 for 3HP).

## In summary...

The absolute number and percentage of cases of TB in incarcerated individuals has decreased over the years.

Incarcerated persons are screened aggressively as early detection and isolation are extremely important for those in close quarters and in an effort to complete treatment PRIOR to release from prison/jail

High rate of adherence and completion of INH + RPT x 12 weeks regimens (as well as reduced costs vs. 9H) in multiple correctional settings



# Questions??

- Contact Info
  - Mahesh C Patel, MD
  - Email:  
mp3@uic.edu