

**Drug-resistant TB in foreign-born
TB cases in the US:
Should the drug resistance profile
of the country of origin guide
empiric treatment?**

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Empiric treatment of TB in foreign-born persons

- TB consultants often asked about prevalence of drug-resistance in patient's country of origin to guide empiric treatment
- Population-based prevalence data from >100 countries provided by WHO/IUATLD Global Project on Anti-TB Drug Resistance Surveillance (GDRS)

Drug resistance data on foreign-born cases in the U.S.

- U.S. National TB Surveillance System started routine drug resistance surveillance in 1993
- Drug susceptibility test results on ~84,000 U.S. foreign-born TB cases (USFB) 1993-2006
- >160 Countries

Objective

- **What data will best predict a foreign-born TB patient's likelihood of drug resistance?**
 - Previous global drug resistance survey data?
 - Previous US surveillance data?

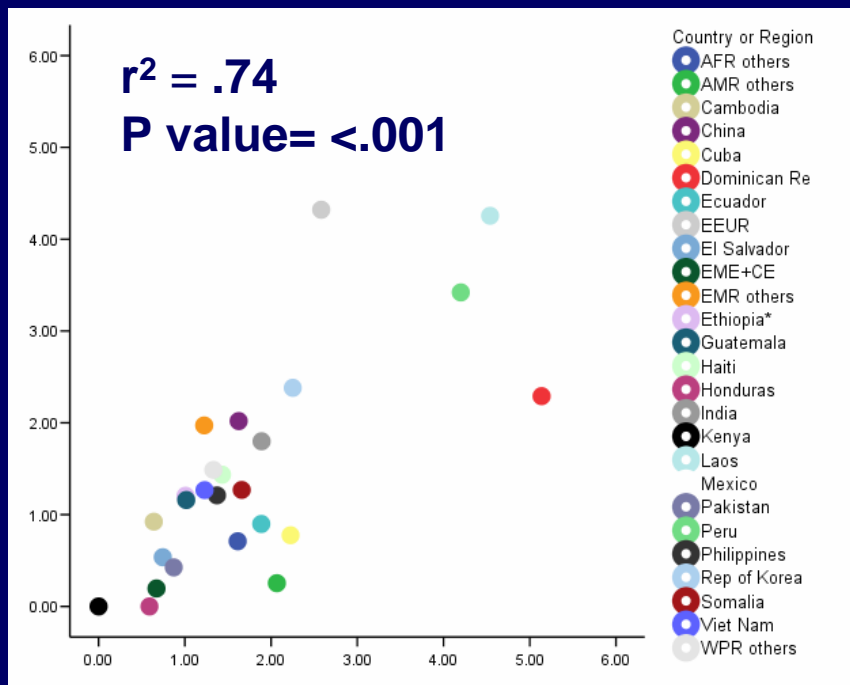
Methods

- **Data sources:**
 - **GDRS from the country of origin**
 - **US National TB Surveillance System (NTSS) foreign born data**
- **Correlate recent USFB data from NTSS (2003-2006) with:**
 - **Previous GDRS data (1994-2002)**
 - **Previous USFB NTSS data (1993-2002)**



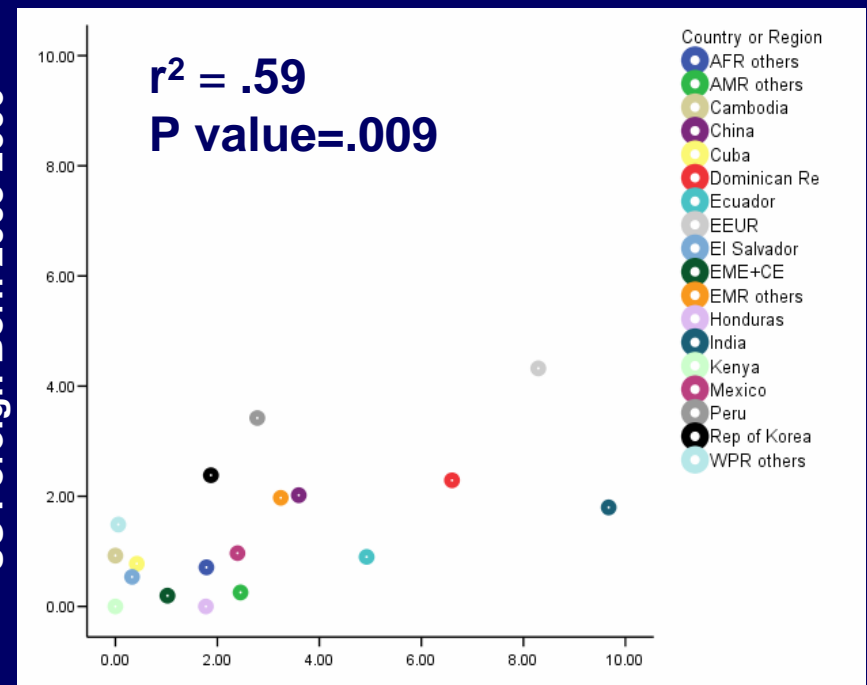
Correlation of previous multidrug resistance data with recent USFB NTSS data 2003-2006

US Foreign Born 2003-2006



US Foreign Born 1993-2002

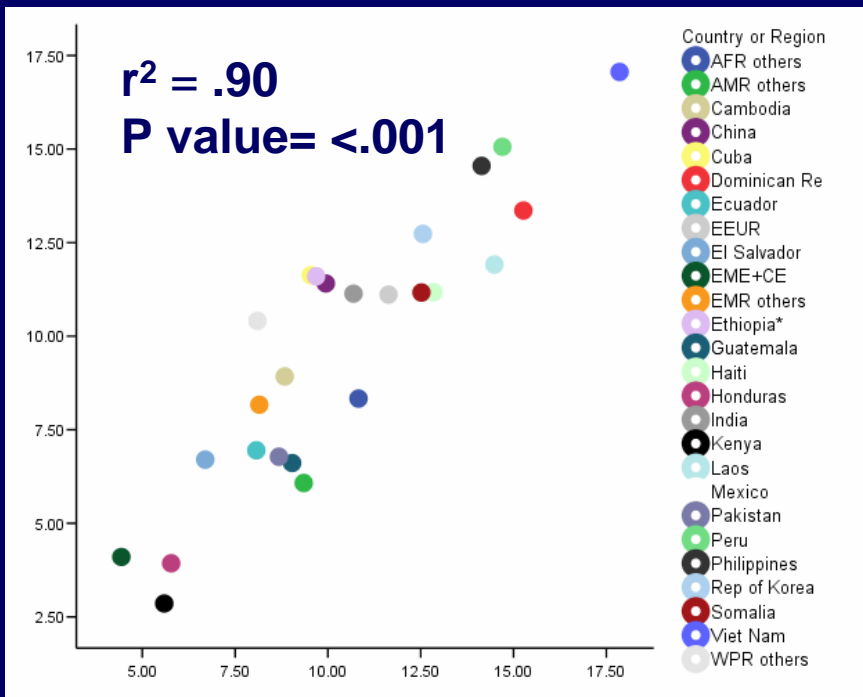
US Foreign Born 2003-2006



Global Drug Resistance Survey 1994-2002

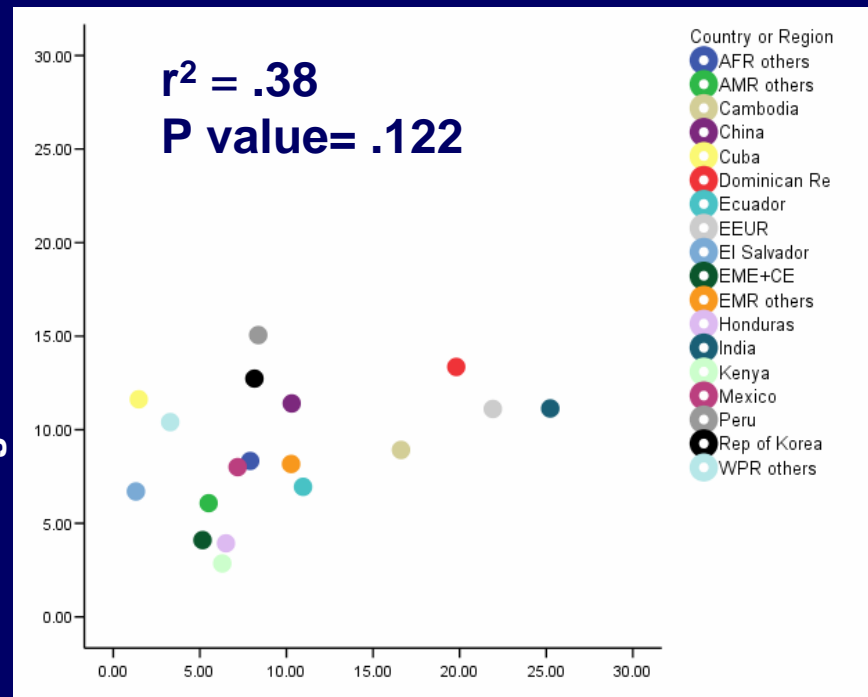
Correlation of previous INH resistance data with recent USFB NTSS data 2003-2006

US Foreign Born 2003-2006



US Foreign Born 1993-2002

US Foreign Born 2003-2006



Global Drug Resistance Survey 1994-2002

Conclusion

- **Prevalence of MDR and INH resistance in most recent USFB cases correlates better with previous US data**

Recommendation

- **Empiric treatment for foreign-born TB cases and patients with LTBI should be guided by prior USFB NTSS data**

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System at CDC, state and
local health departments



Extras



Correlation of previous multidrug resistance data with recent USFB NTSS data 2003-2006

	r^2	P value
Global DRS 1994-2002	.59	.009
USFB NTSS 1993-2002	.74	<.001

Correlation of previous INH resistance data with recent USFB NTSS data 2003-2006

	r^2	P value
Global DRS 1994-2002	.38	.122
USFB NTSS 1993-2002	.90	<.001

Results:

Correlation of multidrug resistance data in earlier time periods

Outcome	Predictor	r ²	P value
USFB 1997-1999	MDR GDRS 1994-1996	.400	.198
	MDR USFB 1993-1996	.645	<.001
USFB 2000-2002	MDR GDRS 1994-1999	.317	.372
	MDR USFB 1993-1999	.655	<.001



Results :

Correlation of INH resistance data in earlier time periods

Outcome	Predictor	r ²	P value
USFB 1997-1999	INH GDRS 1994-1996	.392	.208
	INH USFB 1993-1996	.670	<.001
USFB 2000-2002	INH GDRS 1994-1999	.674	.032
	INH USFB 1993-1999	.666	<.001

