TB Burden of Disease

A Global and Regional Trend Analysis

Understanding the Data: A double-edged sword

- Understanding the data with a Non-medical background was a key process and the greatest challenge

- Documentation to the rescue.

- Difference between disease prevalence, disease incidence

- Understanding the different methods of derivation, especially Vital Registration (VR and VR Imputed)

- Understanding why so many columns repeated themselves and used 'per 100 000 population

- Missing data and lots of countries countries clouded trends

- Inspired me to focus on regional differences and global trends

UNDERSTANDING AND USING TUBERCULOSIS DATA

World Health Organization

Main Questions

What similarities and differences existed between the most and least burdened regions?

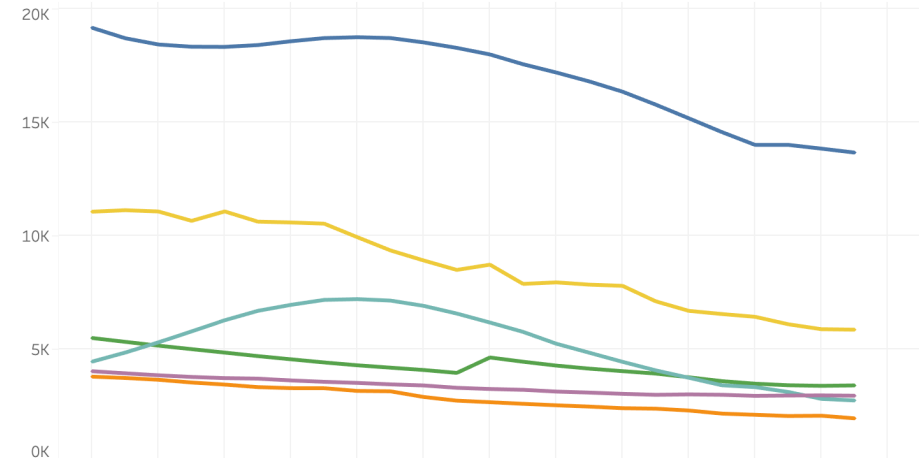What, if anything, could be done to help?

Identifying Regional Trends and More Quesitons

- Africa by far most heavily burdened region by TB in prevalence, incidence, and mortality.

- Similar shape to best overall region Europe except for mortality.

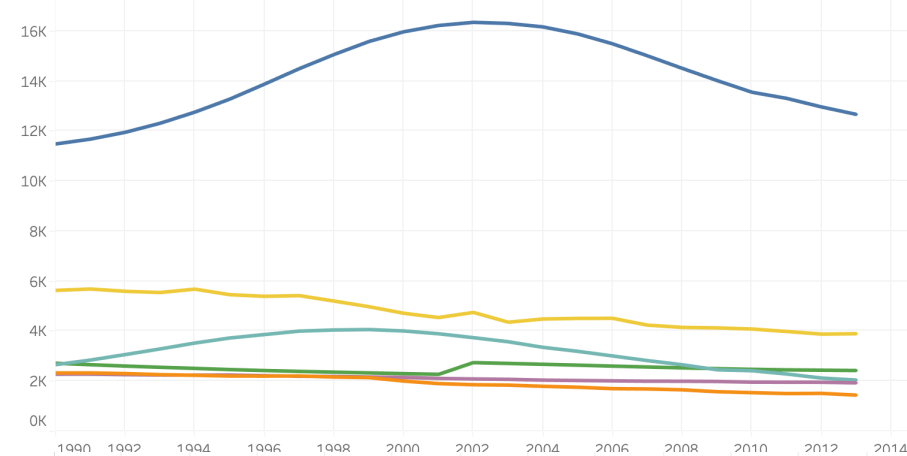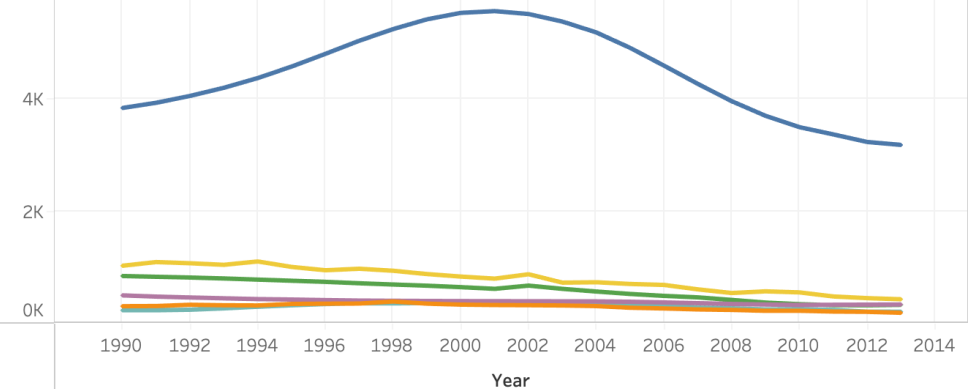- What is working for Europe? Can it be transferable to Africa?

TB Prevalence

TB Incidence
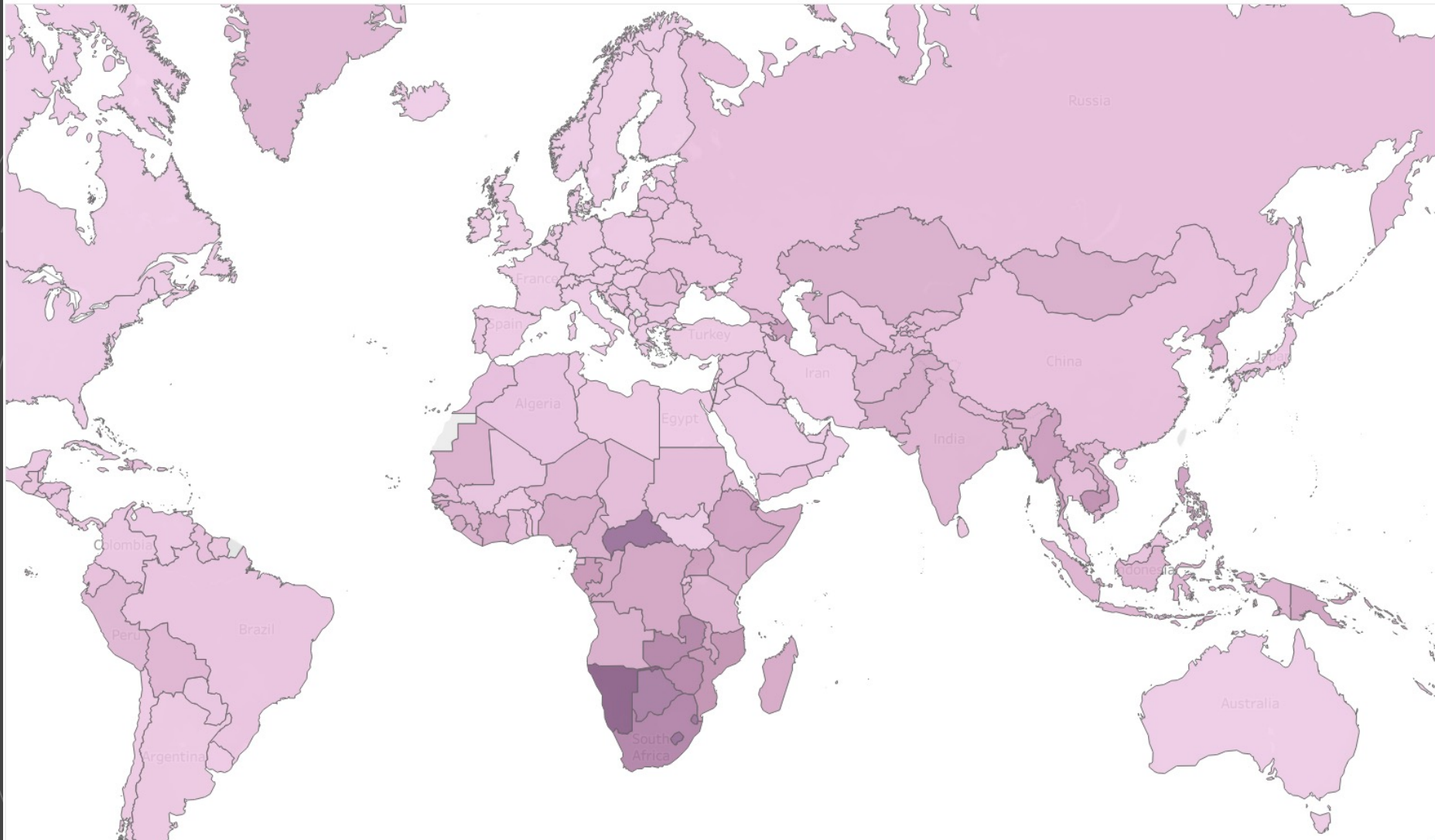
TB Mortality
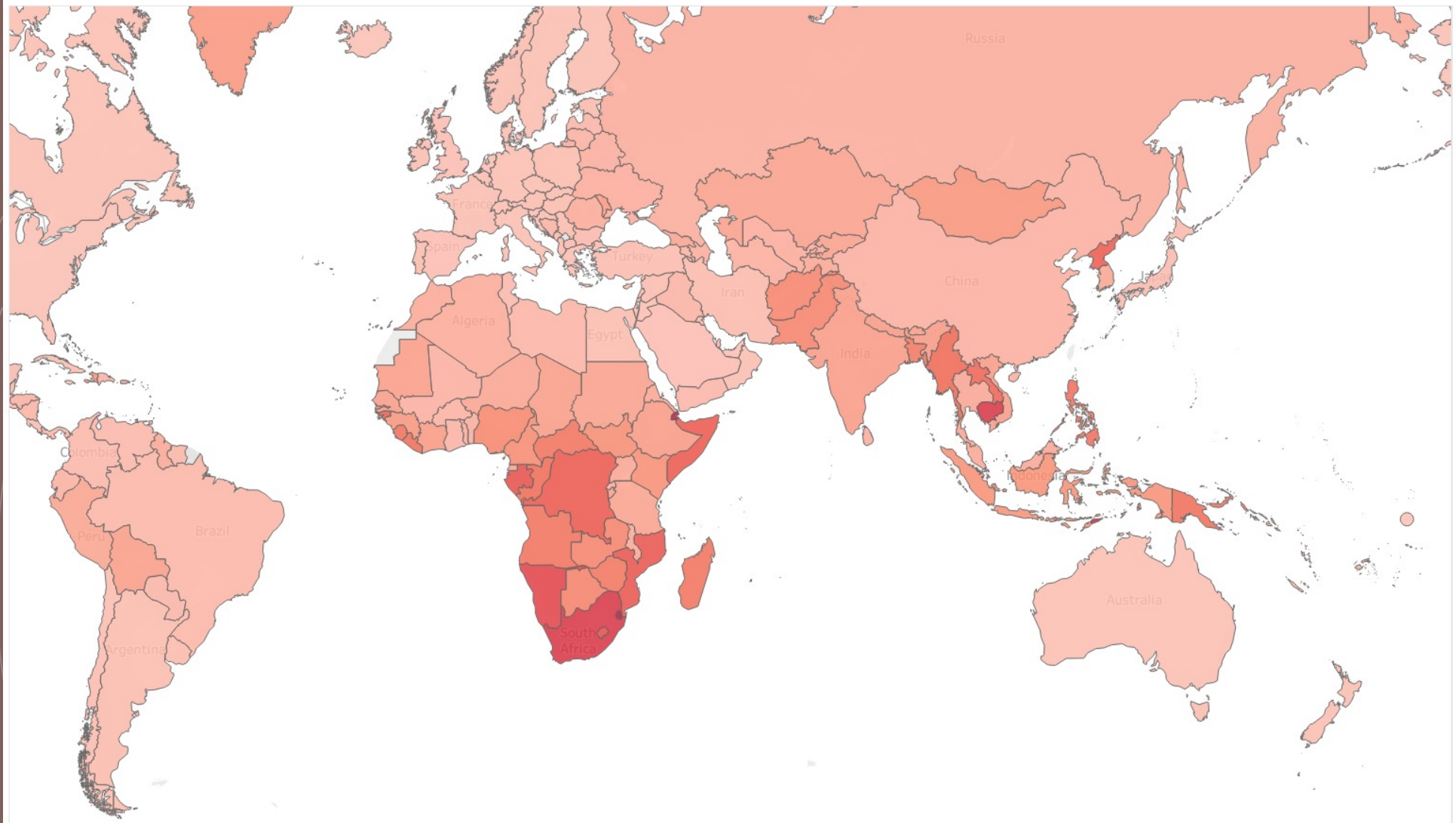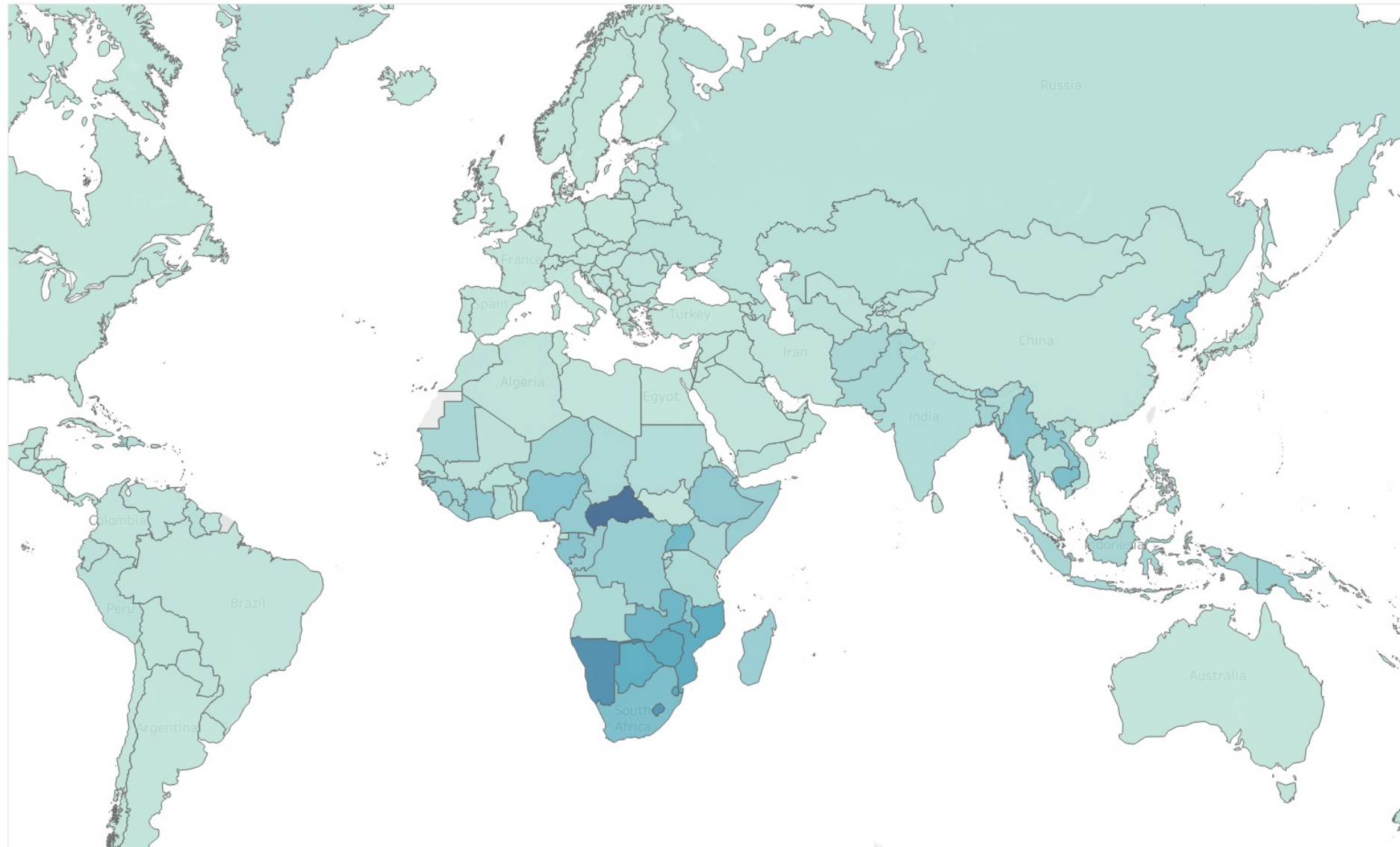
Most effective means of data collection and CDR%

Mortality M..	Incidence Meth..	Preval..	
Indirect	High income	predicted	87.00
	Mortality	predicted	84.00
VR	Cap-Recap	predicted	88.09
	Expert opinion	predicted	96.79
	High income	predicted	86.73
		NTP	86.90
	Mortality	predicted	59.76
	Survey	predicted	80.45

Eur
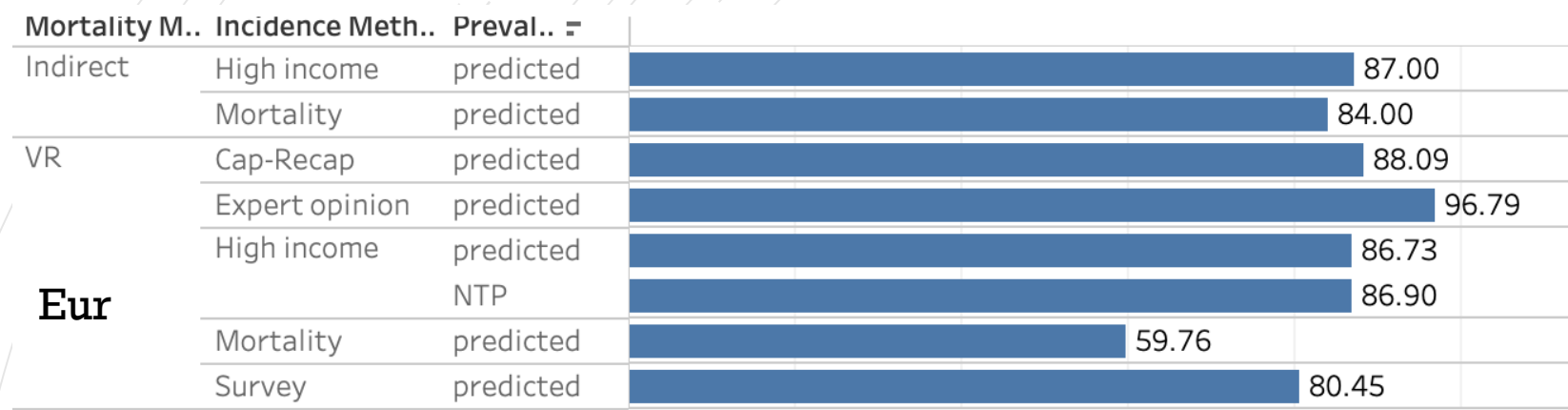
Data Collection Methods and Case Detection Rate %

| Mortality M..	Incidence M..	Prevalenc..	
Indirect	Trends ARI	predicted	51.42
VR	Mortality	predicted	48.67
	Trends ARI	pooled surveys	60.00
		survey imputed	56.18

SEA

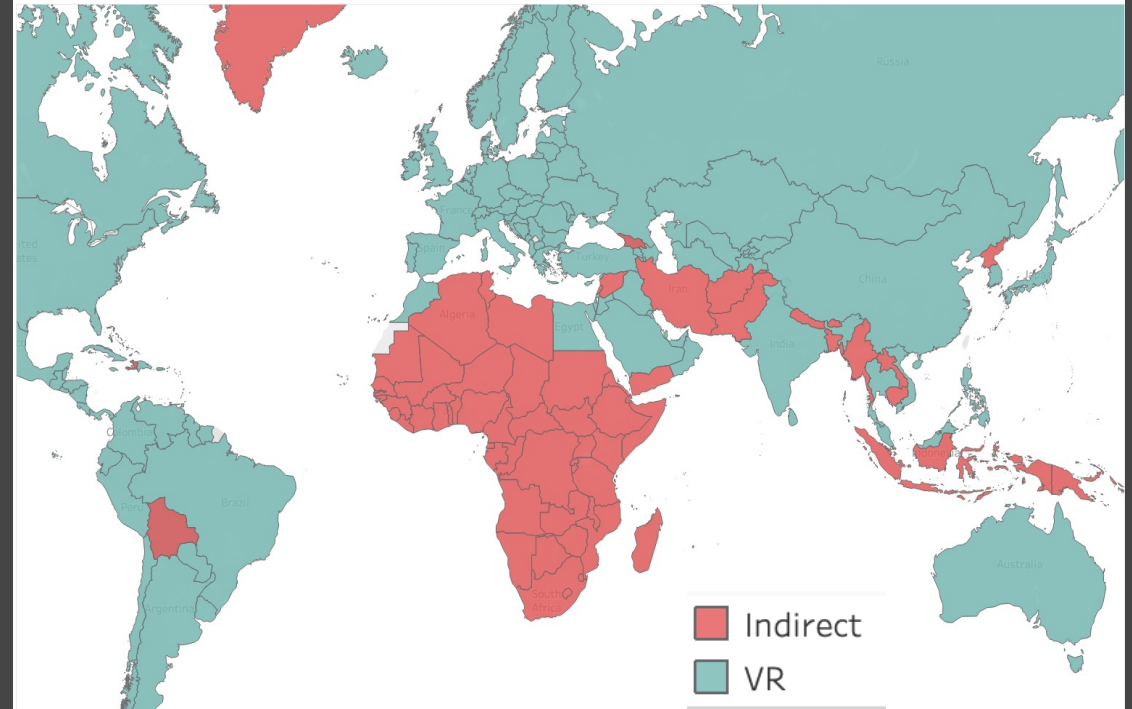| Mortality M..	Incidence Meth..	Prevalenc..	
Indirect	Mortality	survey imputed	75.35
		survey	70.00
		predicted	46.88
	Neighbour	predicted	46.67
	Prevalence	survey	69.00
		survey imputed	41.68
VR	Expert opinion	predicted	87.00

Afr

Which method of data collection have the best relationship to CDR? Which is shared by the most burdened areas?
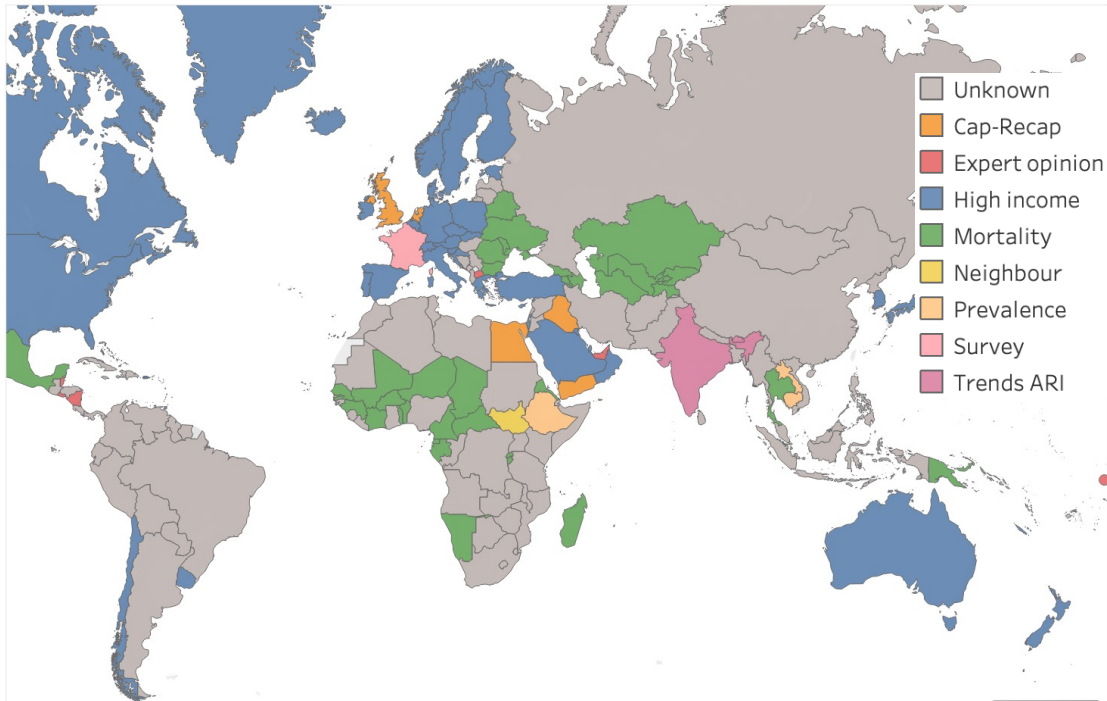
For incidence it is 'high income'

For mortality it is 'VR'

Median Case Detection Rate to Case Fatality Risk

| Region			
AFR	Median CDR as % (all for..		50.00
	Median CFR as % (INCLUD..	26.25	
AMR	Median CDR as % (all for..		80.00
	Median CFR as % (INCLUD..	10.94	
EMR	Median CDR as % (all for..		80.00
	Median CFR as % (INCLUD..	10.17	
EUR	Median CDR as % (all for..		84.00
	Median CFR as % (INCLUD..	7.57	
SEA	Median CDR as % (all for..		57.00
	Median CFR as % (INCLUD..	18.45	
WPR	Median CDR as % (all for..		81.00
	Median CFR as % (INCLUD..	9.54	
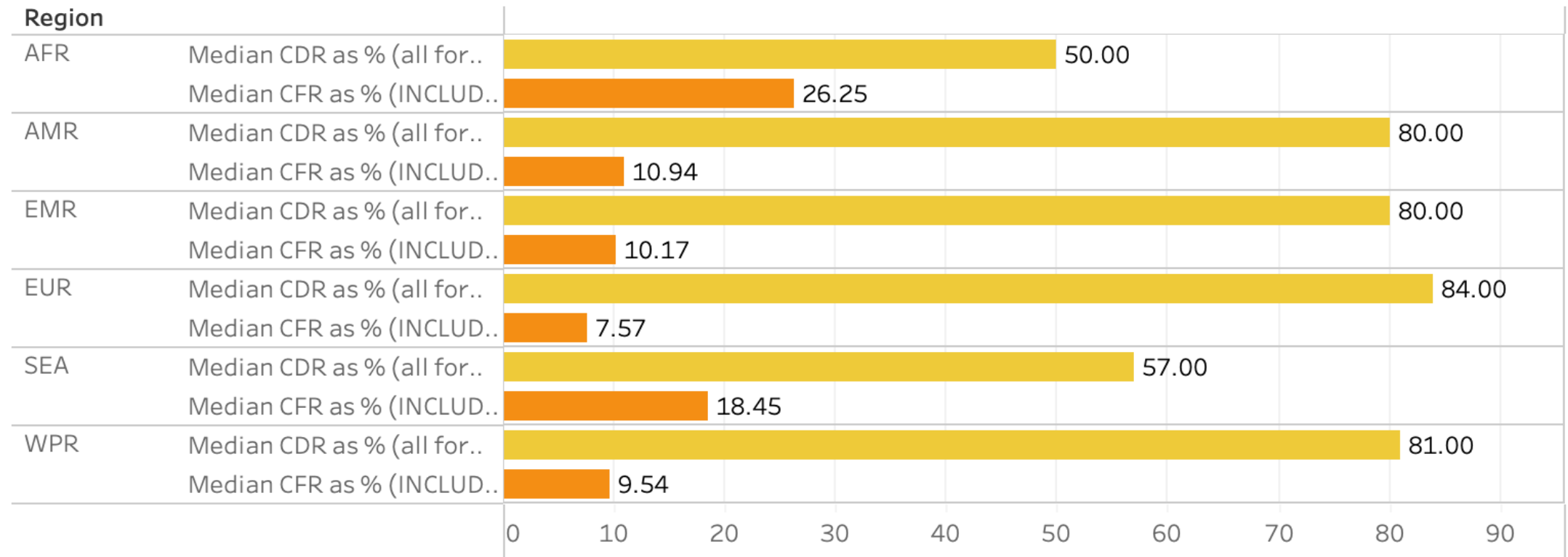
CDR = Case Detection Rate
CFR = Case Fatality Risk

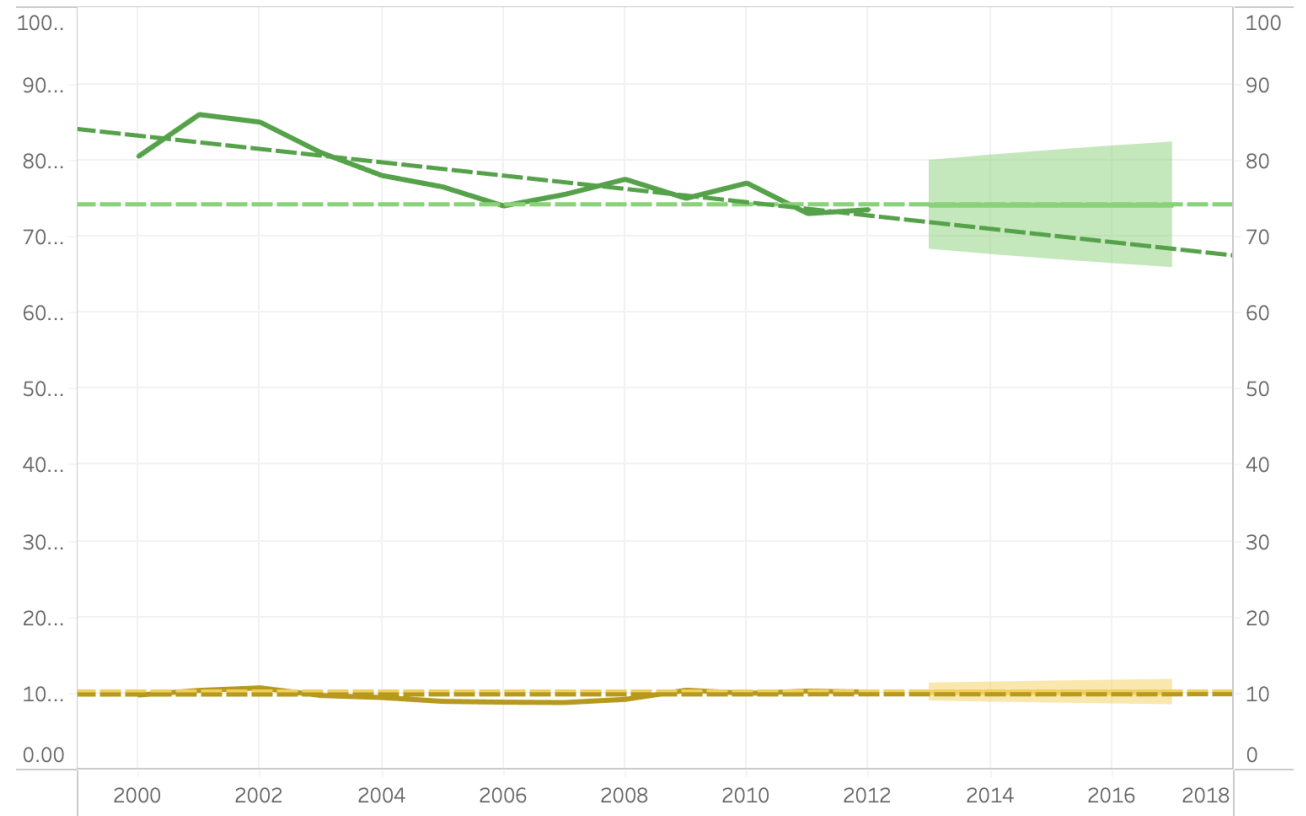Africa from year 2000

CDR% and CFR% with Program Targets
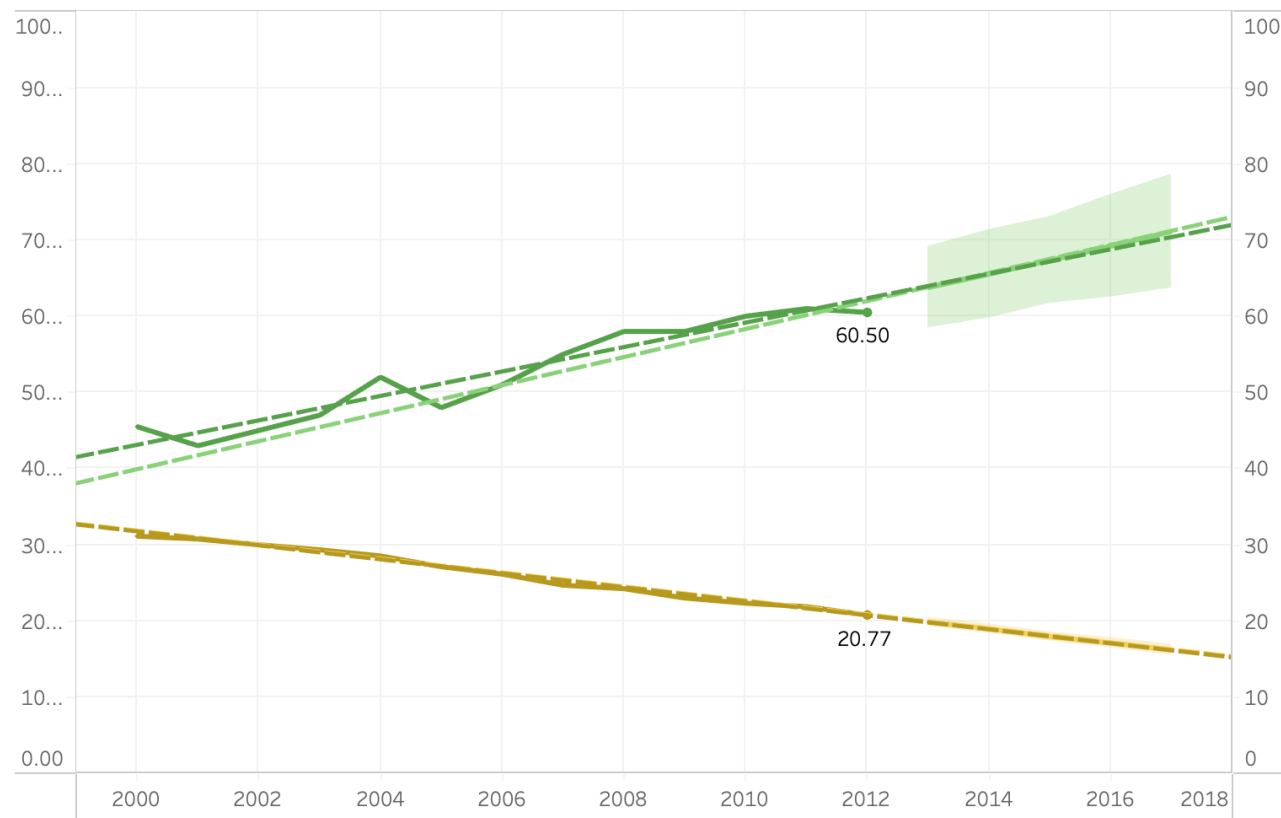
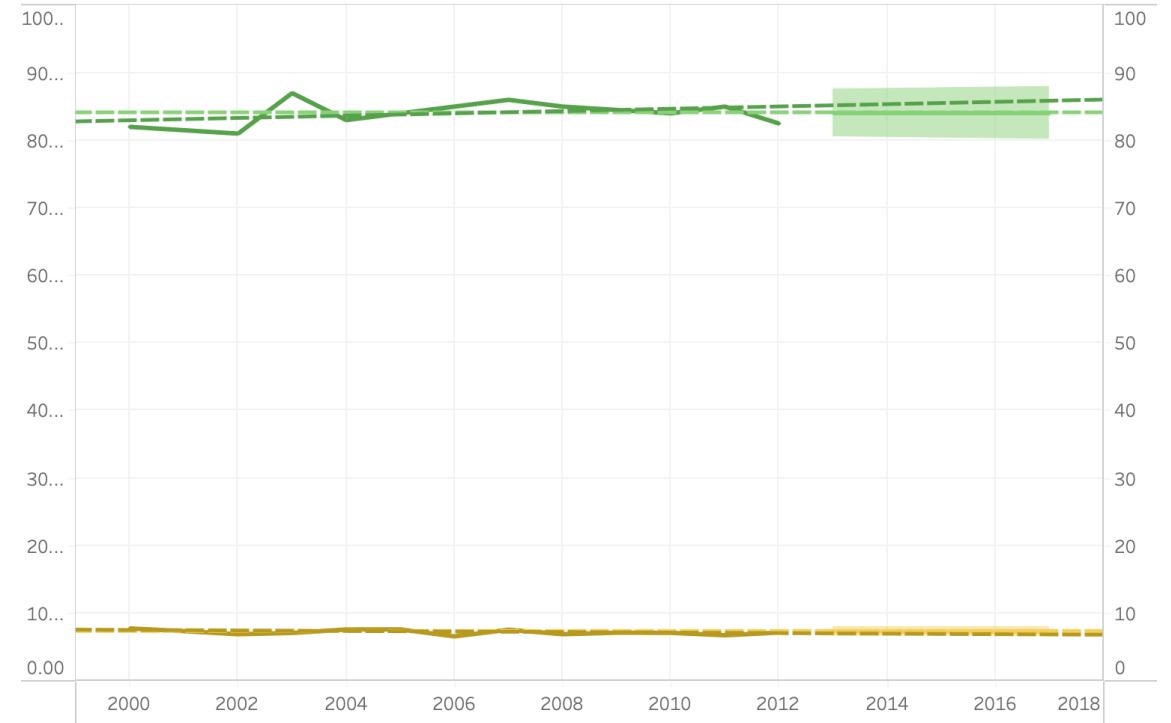Americas from year 2000

CDR% and CFR% with Program Targets
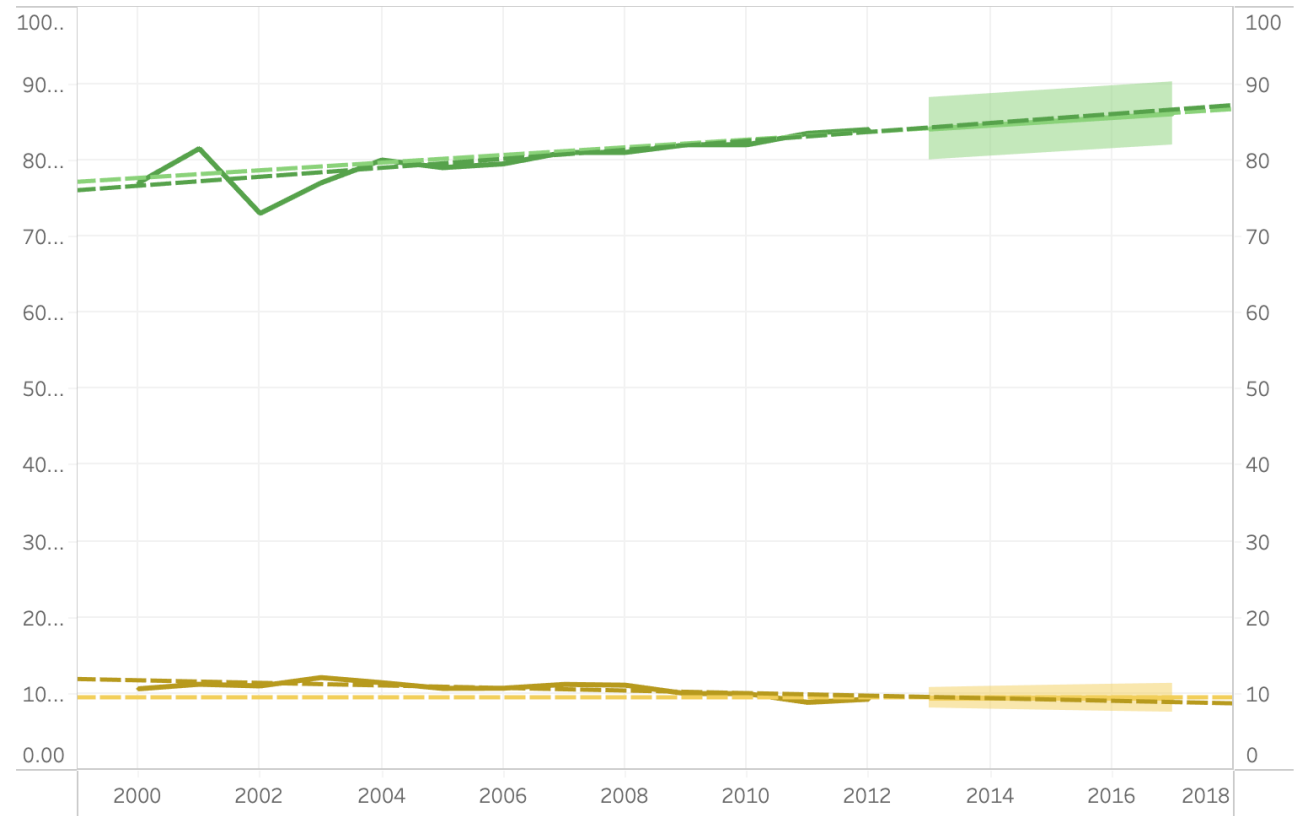
EMR from year 2000

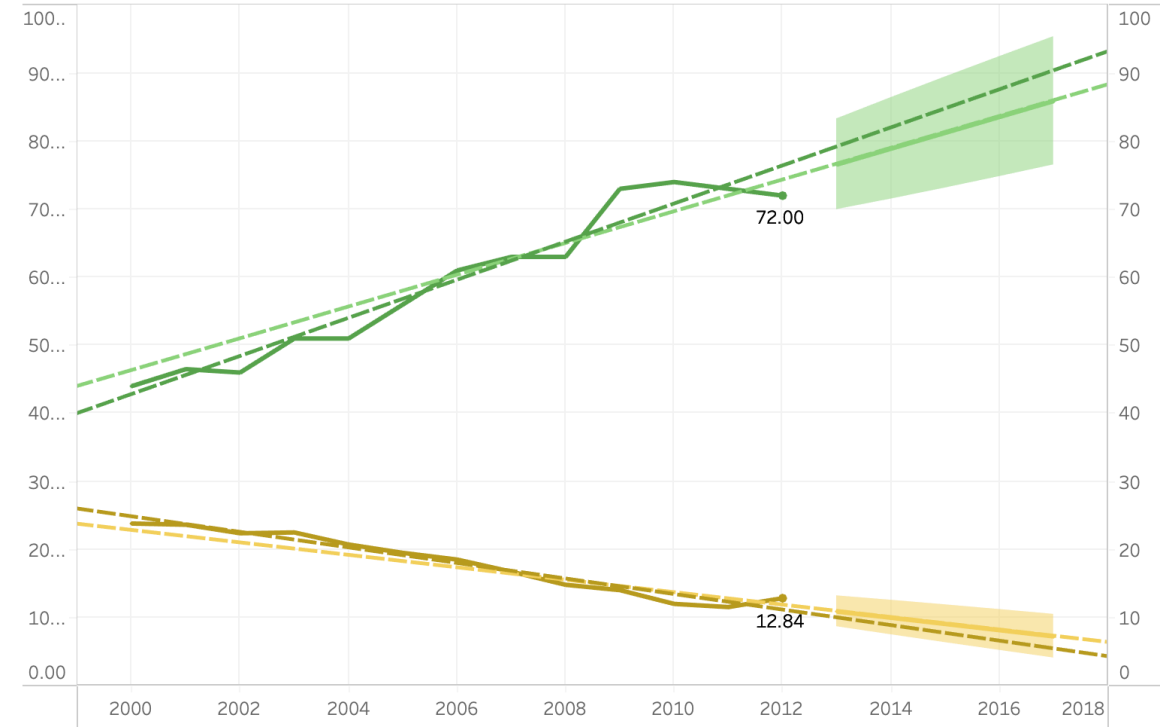CDR% and CFR% with Program Targets

Europe from year 2000

CDR% and CFR% with Program Targets

SEA from year 2000

CDR% and CFR% with Program Targets

WPR from year 2000

CDR% and CFR% with Program Targets