

# Health Care Service Delivery Quality in Sub-Saharan Africa

Findings from the Service Delivery Indicators Health Surveys 2010-2019

# What do we know about quality health care?

## Rethinking assumptions about delivery of healthcare: implications for universal health coverage

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Simply providing more resources for universal coverage is not enough to improve health, argue **Jishnu Das and colleagues**. We also need to ensure good quality of care

Most countries have high *availability* of health care providers but there are severe deficits in quality due to two “weak links in the chain”

- Medical *qualifications* don't imply medical knowledge.
- Large “*know-do gaps*” exist between what medical providers know and what they do

## HOWEVER

In the absence of systematic surveys, these findings are based on limited studies, typically in smaller samples

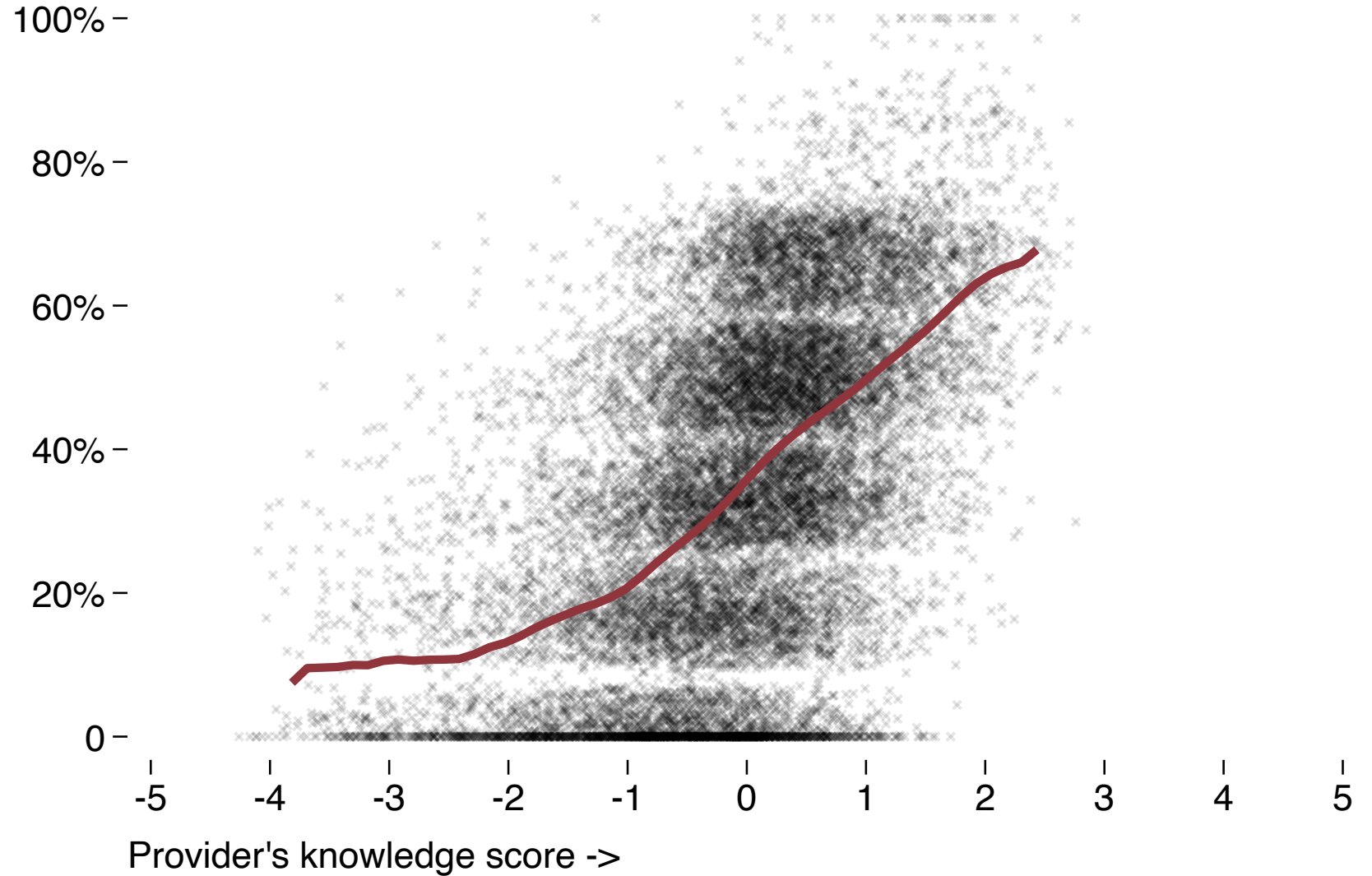
# What does SDI data add to our knowledge?

- 1. Service Delivery Indicators are the first large scale assessments of medical knowledge**
  - 87,153 providers in 11 Sub-Saharan African countries completing medical vignettes for seven common clinical conditions
- 2. Medical vignettes use the same case for multiple providers and allow us to detect incorrect, over and under-treatment**
  - Provide an *upper-bound* of what providers could do
  - Directly policy relevant as they are closely linked to the quality of medical training

# Diagnostic knowledge predicts treatment

Moving provider from 5<sup>th</sup> to the 95<sup>th</sup> *knowledge* percentile increases frequency of correct *management*.

Percent of Conditions Treated Correctly

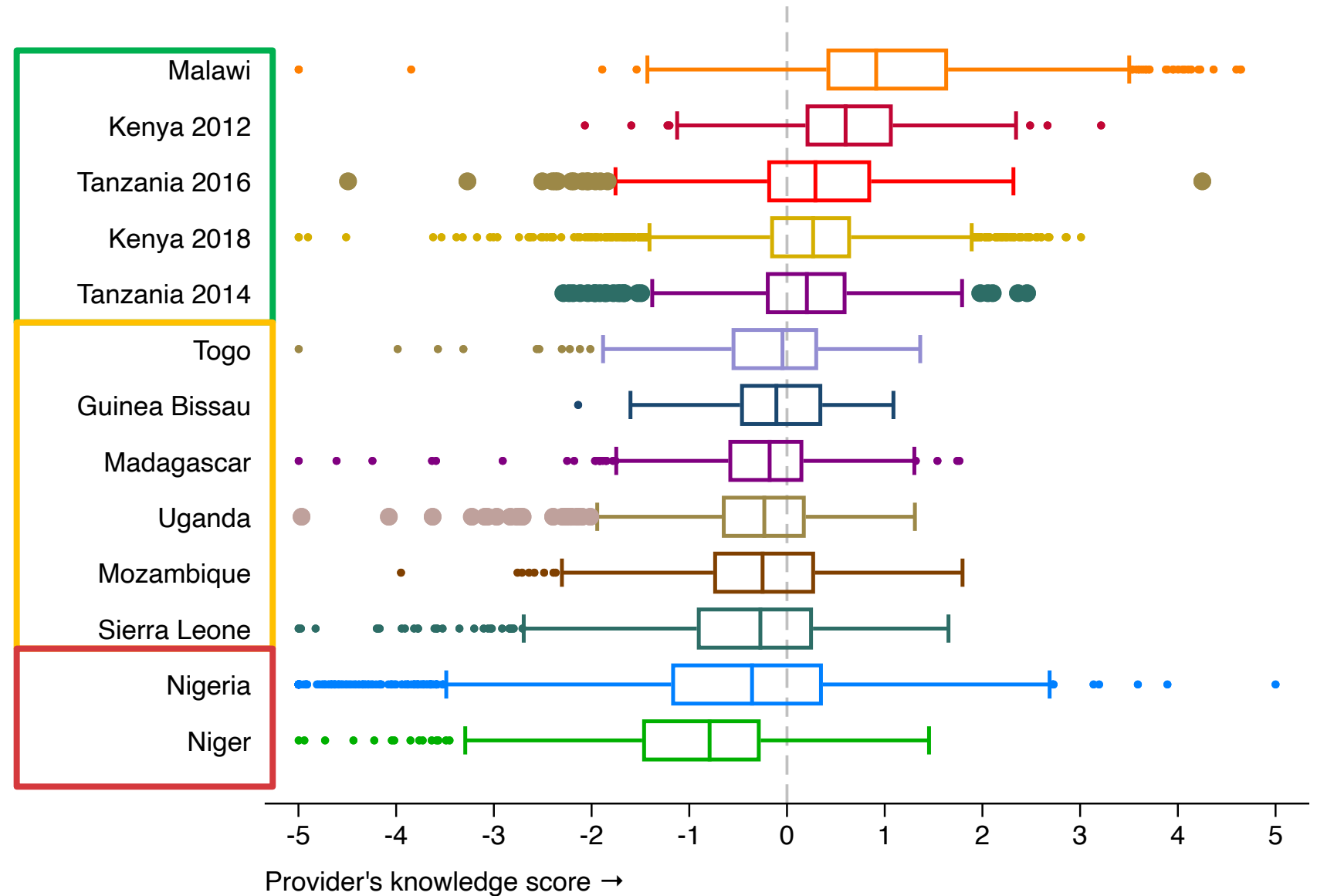


# Variability within and across countries

Countries fall into three groups:

- “high-performing” countries  
Kenya, Tanzania, and Malawi
- “average” countries  
Togo, Guinea Bissau, Madagascar, Uganda, Mozambique, and Sierra Leone
- “low-performing countries”  
Niger and Nigeria

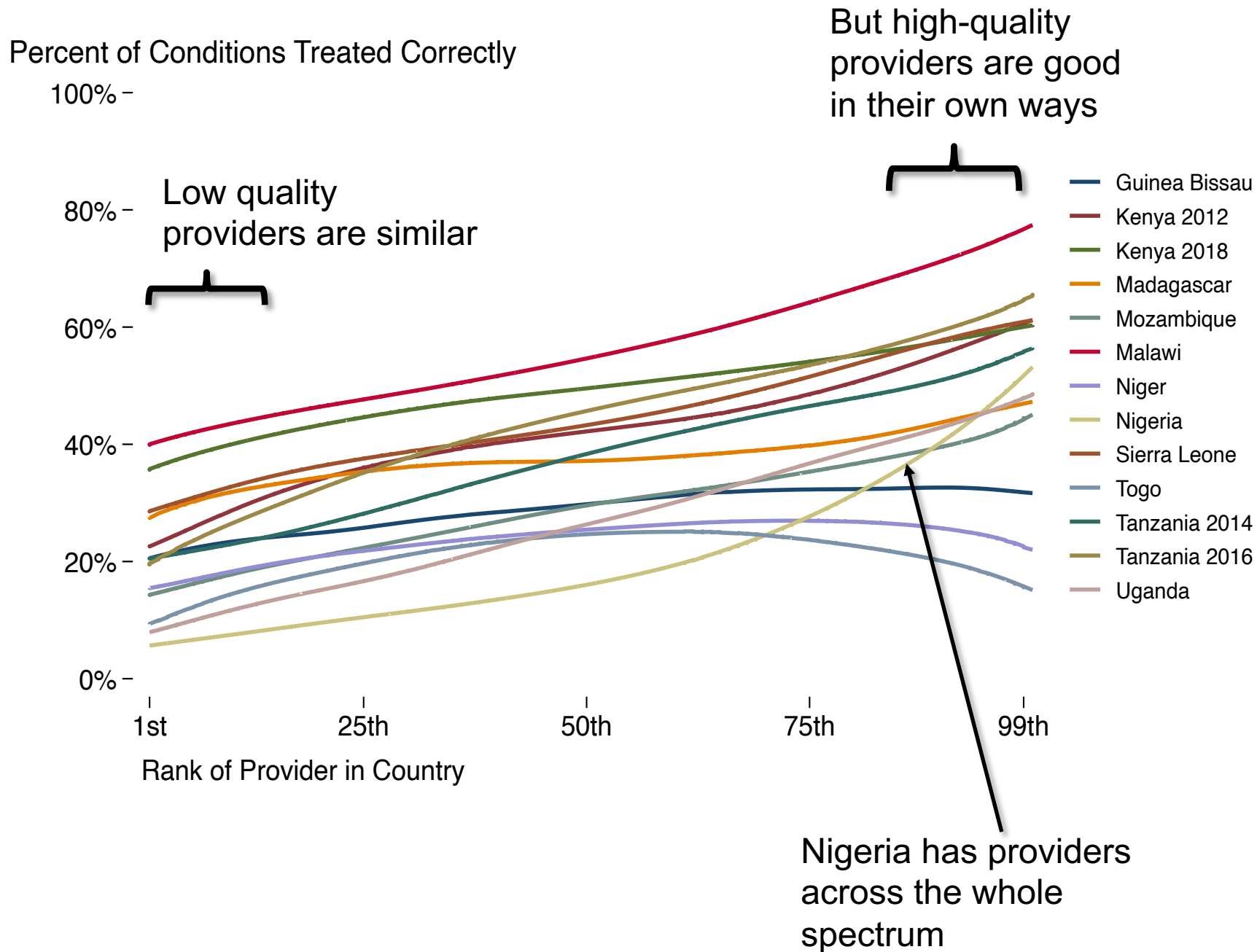
But averages are not everything: each country has high- and low-performing providers!



# Variation differs across the quality spectrum

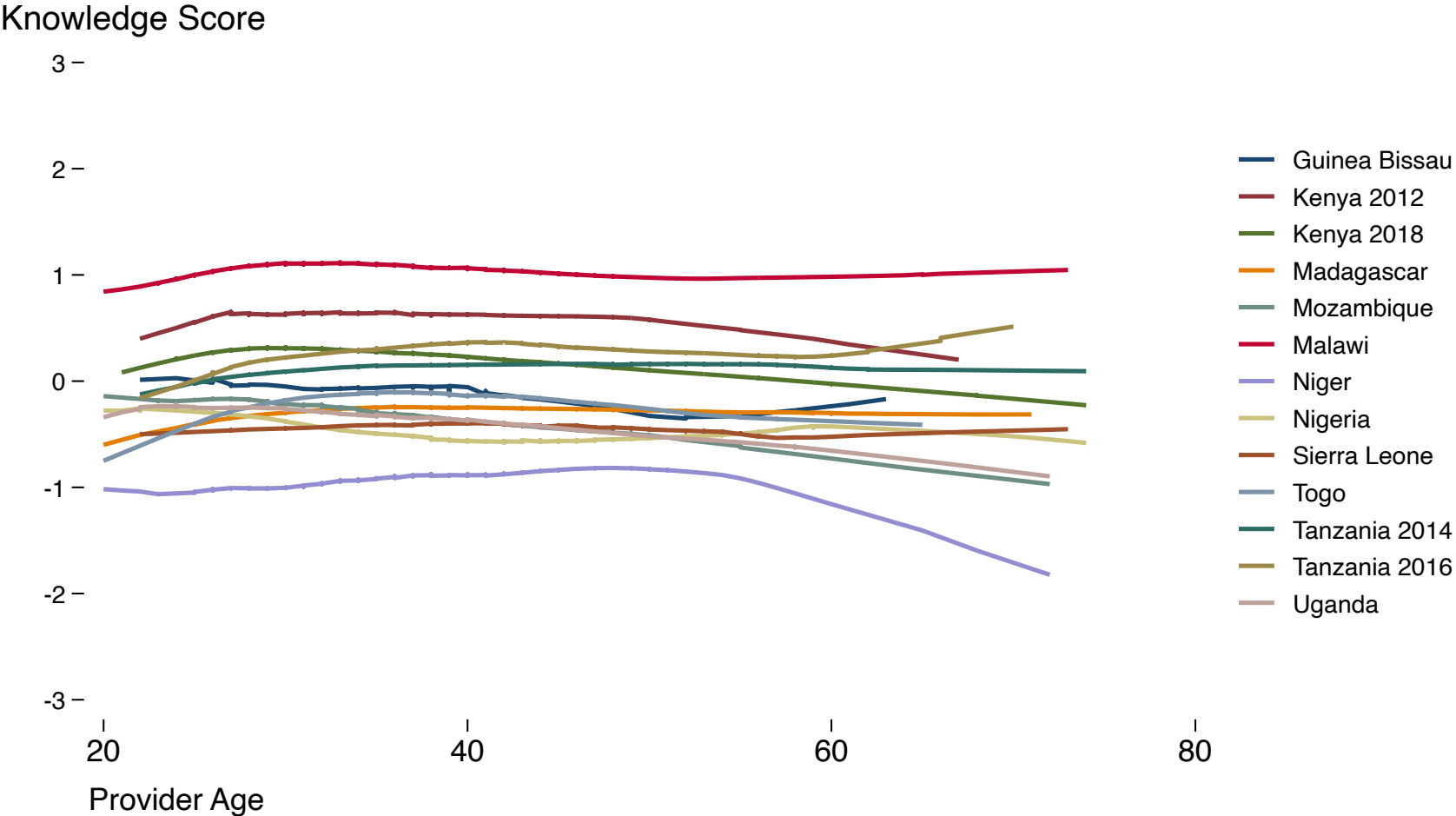
Malawi providers outperform all others in their treatment knowledge. The least knowledgeable Kenyan provider treats more conditions correctly than the most knowledgeable provider in Togo, Senegal, Niger, and Madagascar.

Providers in Nigeria span the breadth of treatment accuracy, where providers have the least accuracy and near the most at the top end of their distribution.



# Variation in age differs across countries

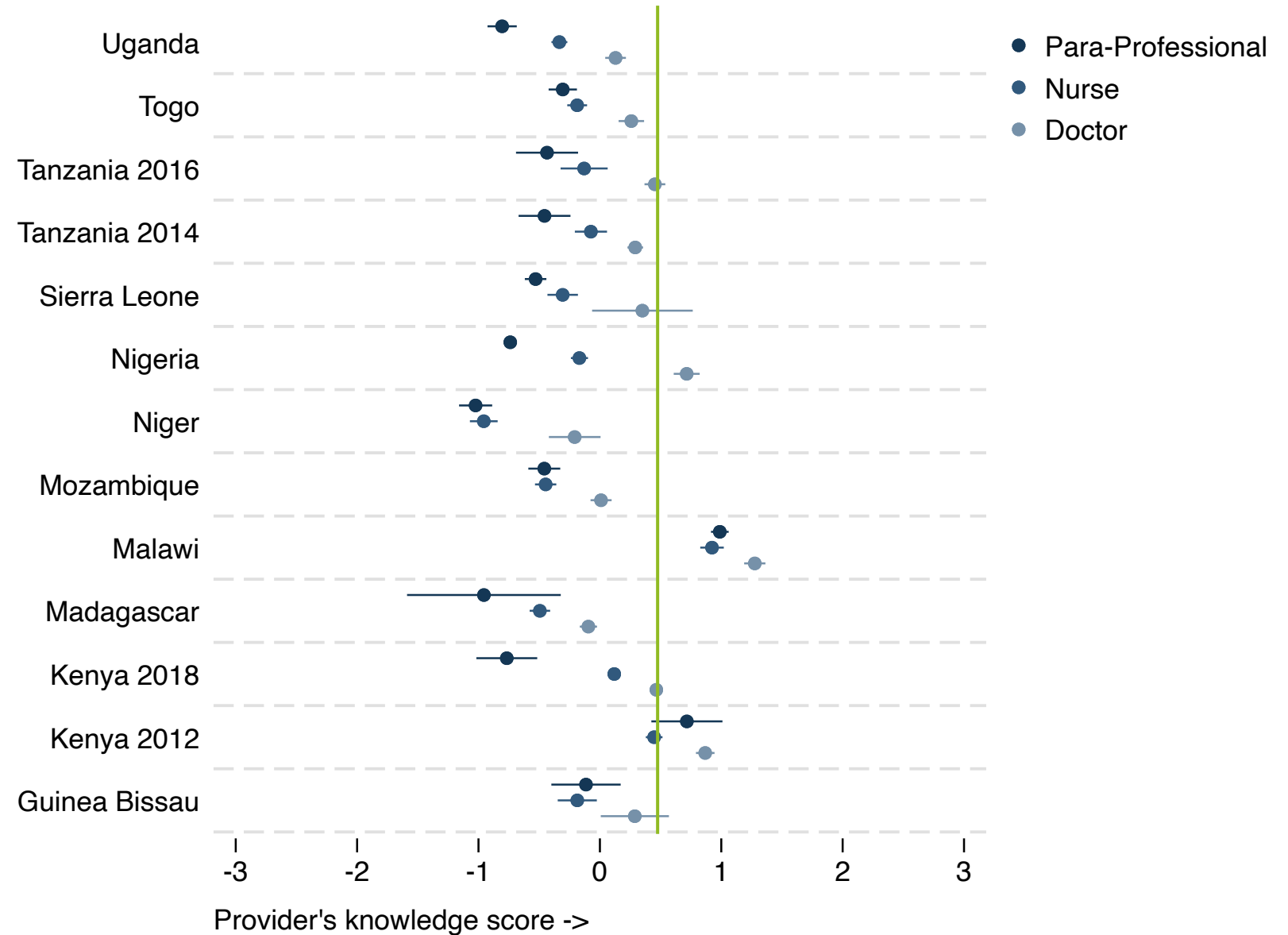
No real trend in knowledge score the ages of providers but there are differences between countries..



# Variation among different cadres

In each country, doctors typically outperform clinical officers who outperform nurses.

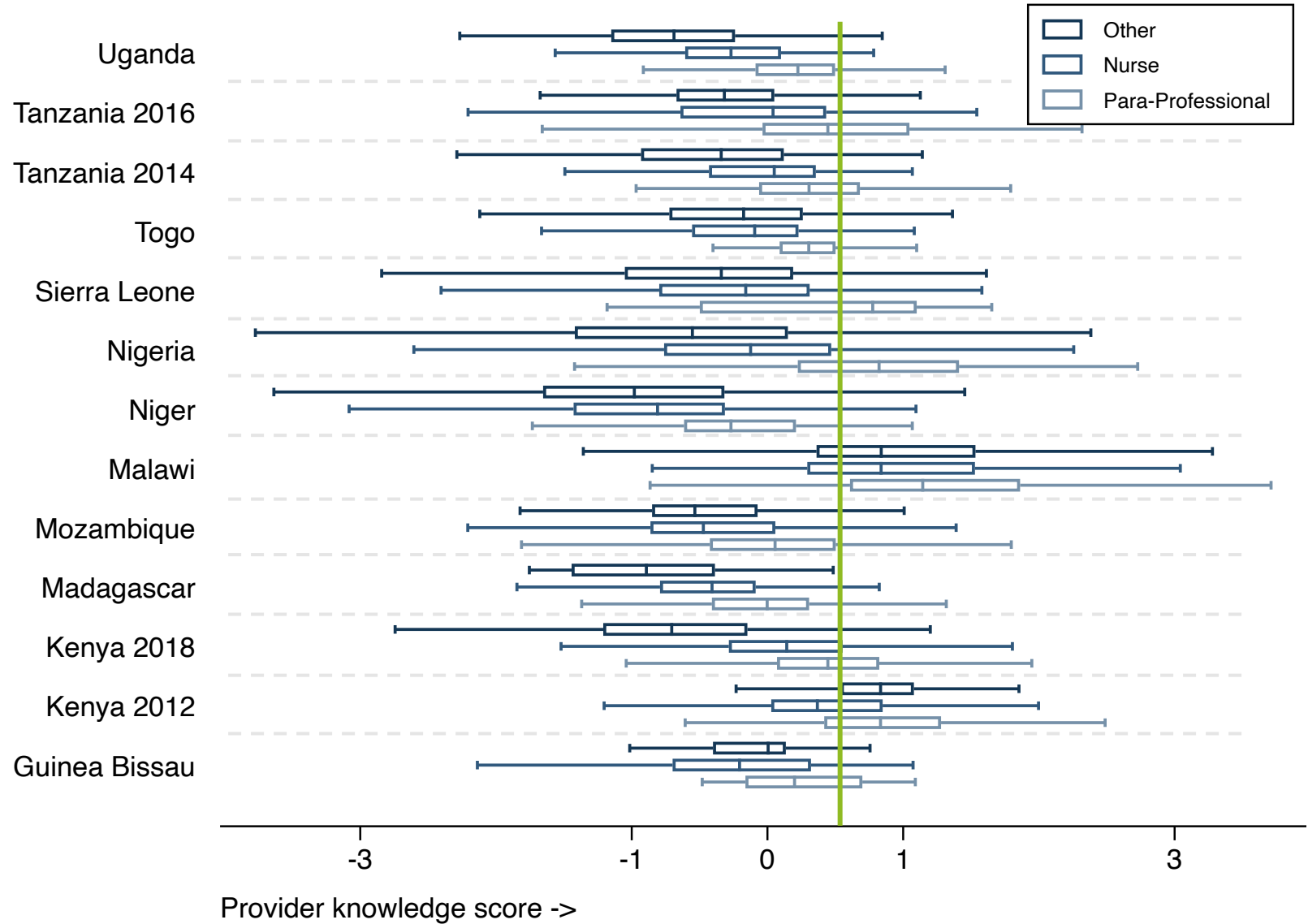
Nurses – the worst performing group in Kenya – are better than doctors and clinical officers in most countries.





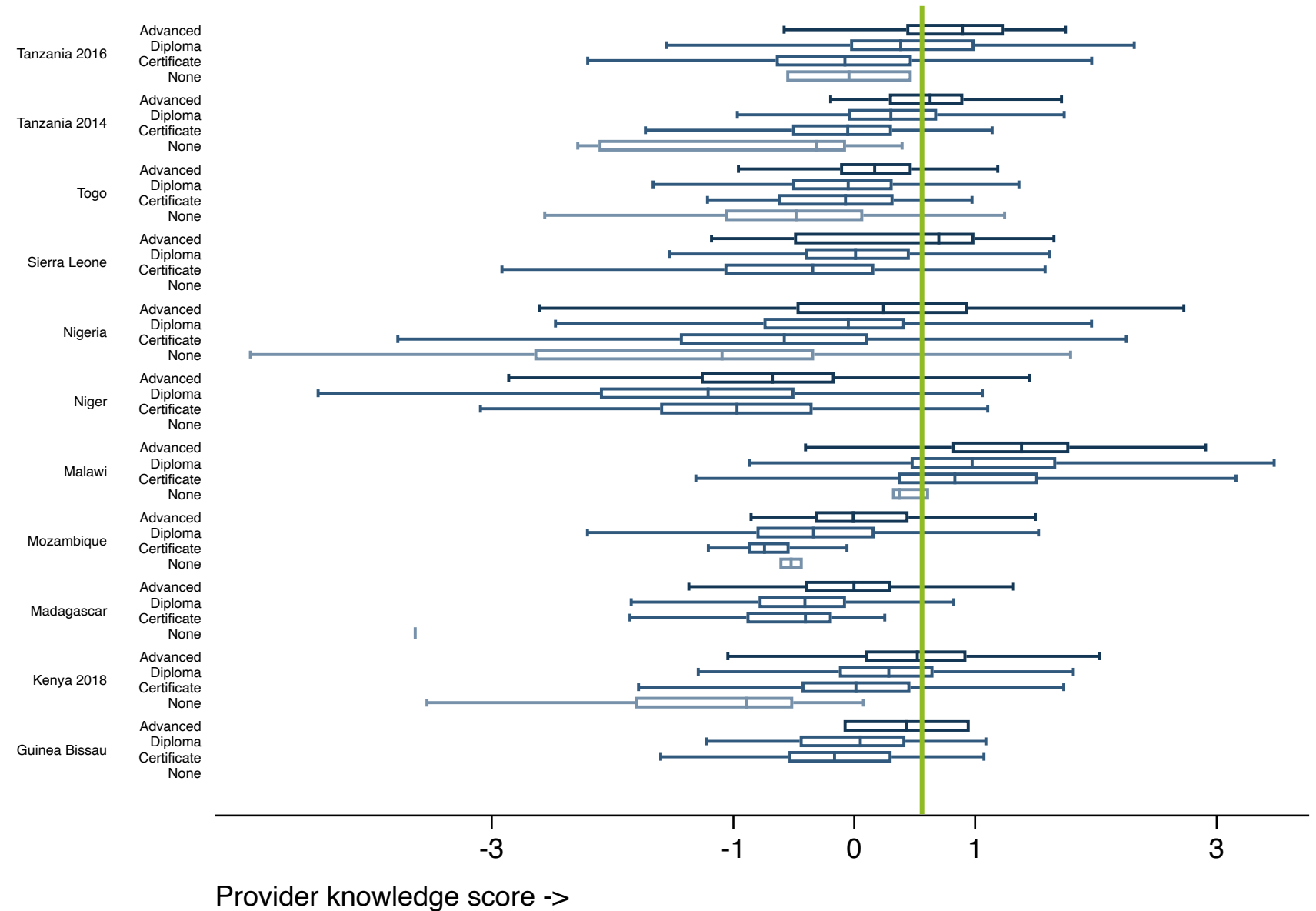
# Averages do not tell the whole story

Variation in knowledge within professional cadres is high in every group!



# Averages do not tell the whole story

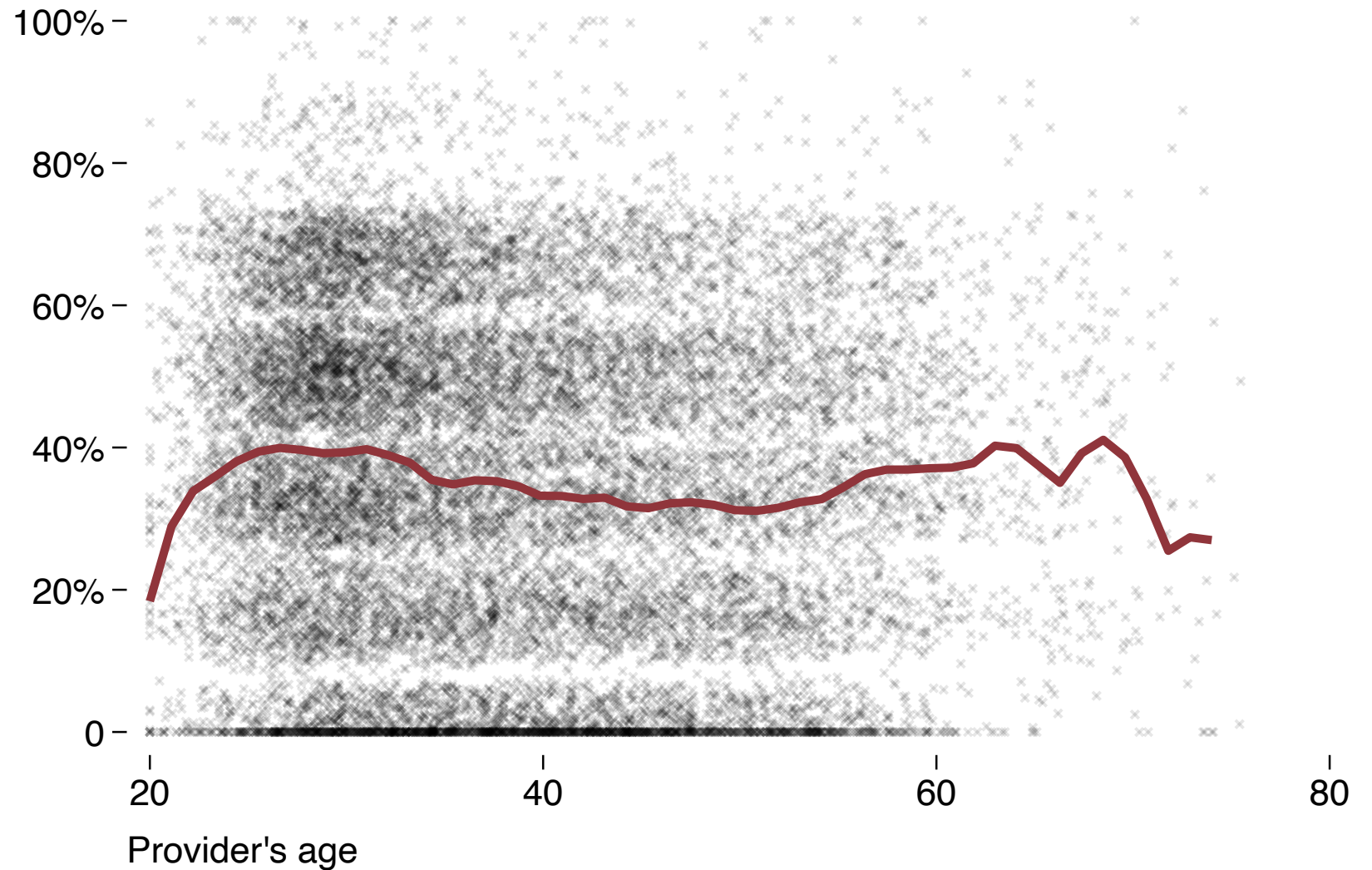
Variation in knowledge within medical qualification level is high in every group!



# Does a provider's age affect their treatment decisions?

No real trend in treatment knowledge across the ages of providers.

Percent of Conditions Treated Correctly



# Regression model

Facility fixed effects explain a lot of the provider knowledge score (in part due to many facilities with just one provider)

There is plenty of within-provider variance on correct treatment and antibiotic use.

	Knowledge Score		Treats Condition Correctly		Prescribe Inappropriate Antibiotics	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Provider Characteristics</i>						
Doctor	0.654*** (0.029)	0.543*** (0.042)	0.124*** (0.005)	0.103*** (0.007)	-0.00597 (0.010)	-0.00328 (0.013)
Nurse	0.291*** (0.025)	0.243*** (0.038)	0.0637*** (0.004)	0.0463*** (0.005)	0.0353*** (0.008)	0.0219** (0.011)
Age	-0.00616*** (0.001)	-0.00363*** (0.001)	-0.000737*** (0.000)	-0.000216 (0.000)	-0.000390 (0.000)	-0.000713* (0.000)
<i>Facility Characteristics</i>						
Hospital	0.309*** (0.025)		0.0604*** (0.005)		0.0412*** (0.009)	
Health Center	0.0755*** (0.020)		0.0221*** (0.004)		-0.00470 (0.007)	
Urban	-0.0468** (0.020)		-0.0147*** (0.003)		-0.0190*** (0.006)	
Private	-0.0107 (0.019)		-0.0276*** (0.004)		-0.00122 (0.007)	
Country fixed effects	X		X		X	
Facility fixed effects			X		X	
Observations	15166	16613	93277	101873	29474	32339
R2	0.277	0.829	0.082	0.184	0.034	0.390