

**Table S1.** Treatment regimens

	<b>Conventional regimen Indonesia</b>	<b>Conventional regimen Kyrgyzstan</b>	<b>Conventional regimen Nigeria</b>	<b>BPaL</b>
<b>Intensive phase</b>	Bedaquiline Clofazimine Ethionamide Cycloserine Linezolid Ethambutol Pyrazinamide Isoniazid (high dose) Pyridoxin	Bedaquiline Clofazimine Cycloserine Imipenem-Cilastatin Amoxicillin-Clavulanic acid Linezolid Pyridoxin	Bedaquiline Clofazimine Delamanid Isoniazid (high dose) Linezolid PAS-(H)-4-(S)-30 Pyrazinamide Pyridoxin	Bedaquiline Pretomanid Linezolid Pyridoxin
<b>Continuation phase</b>	Ethionamide Cycloserine Linezolid Clofazimine Ethambutol Pyrazinamide Isoniazid (high dose) Pyridoxin	(no different continuation phase regimen)	Bedaquiline Clofazimine Linezolid PAS-(H)-4-(S)-30 Pyrazinamide Pyridoxin	
<b>Duration of intensive phase</b>	6 months	Not applicable	6 months	Not applicable
<b>Total duration</b>	20 months	20 months	20 months	6 months

**Table S2.** Unit costs of the cost components and the quantities of use for the current regimens and BPAL for treating XDR-TB in Indonesia, Kyrgyzstan, and Nigeria.

	Unit costs (USD, 2017)			Quantities of use				Source Unit costs Indonesia/Kyrgyzstan/Nigeria
	Indonesia	Kyrgyzstan	Nigeria	Conventional XDR-TB regimen			BPAL <sup>i</sup> (Indonesia), <sup>k</sup> (Kyrgyzstan), <sup>n</sup> (Nigeria)	
				Indonesia	Kyrgyzstan	Nigeria		
<b>Drugs</b>								
<b>Intensive phase</b>								
Bedaquiline 100 mg	5.71	2.16	2.16	188	356	188	200	national e catalogue / GDF Nov 2018 / GDF Nov 2018
Clofazimine 100 mg	1.13	1.00	1.00	540	600	180	0	national e catalogue / GDF Nov 2018 / GDF Nov 2018
Cycloserine 250 mg	0.19	0.23	NA	540	1,800	-	0	national e catalogue / GDF Nov 2018
Delamanid 50 mg	NA	NA	2.77	0	0	720	0	GDF Nov 2018
Ethambutol 400 mg	0.03	NA	NA	540	0	0	0	national e catalogue /
Ethionamide 250 mg	0.08	NA	NA	540	0	0	0	national e catalogue /
Imipenem-Cilastatin 500 mg/500 mg	NA	3.40	NA	0	2,400	0	0	GDF Nov 2018
Amoxicillin-Clavulanic acid 250 mg/ 125 mg	NA	0.12	NA	0	1,200	0	0	GDF Nov 2018
Isoniazid 300 mg	0.03	NA	0.02	360	0	900	0	national e catalogue / GDF Nov 2018
Linezolid 600 mg	6.39	1.20	1.20	180	600	180	265	national e catalogue / GDF Nov 2018 / GDF Nov 2018
PAS-(H)-4-(S)-30	NA	NA	1.46	0	0	360	0	GDF Nov 2018
Pyrazinamide 400 mg	0.02	NA	NA	720	0	0	0	national e catalogue
Pyrazinamide 500 mg	NA	NA	0.06	0	0	540	0	GDF Nov 2018
Pretomanid 200 mg	2.00	2.00	2.00	0	0	0	182	TB Alliance 2019 <sup>a</sup>
<b>Continuation phase*</b>								
Bedaquiline 100 mg	NA	NA	2.16	0	0	156	0	national e catalogue / GDF Nov 2018
Clofazimine 100 mg	1.13	NA	1.00	1,260	0	420	0	national e catalogue / GDF Nov 2018
Cycloserine 250 mg	0.19	NA	NA	1,260	0	0	0	national e catalogue
Ethambutol 400 mg	0.03	NA	NA	1,260	0	0	0	national e catalogue

Ethionamide 250 mg	0.08	NA	NA	1,260	0	0	0	national e catalogue
Isoniazid 300 mg	0.03	NA	NA	840	0	0	0	national e catalogue
Linezolid 600 mg	6.39	NA	1.07	420	0	420	0	national e catalogue / GDF Nov 2018
PAS-(Na)-4-(S)-30	NA	NA	1.36	0	0	840	0	GDF Nov 2018
Pyrazinamide 400 mg	0.02	NA	NA	1,680	0	0	0	national e catalogue
Pyrazinamide 500 mg	NA	NA	0.06	0	0	1,260	0	GDF Nov 2018
Ancillary drugs								
Pyridoxine 50 mg	NA	NA	0.10	0	0	1,200	0 <sup>I,K</sup> , 360 <sup>N</sup>	Private pharmacy
Pyridoxine 100 mg	0.04	0.03	NA	600	600	0	180 <sup>I,K</sup> , 0 <sup>N</sup>	national e catalogue / GDF Nov 2018
Treatment management								
Hospitalization day	212.05	17.91	81.08	1	49	0	1 <sup>I</sup> , 30 <sup>K</sup> , 0 <sup>N</sup>	National insurance / microcosting / literature(1)
Consultation at hospital	NA	2.93	8.42	0	21	1	0 <sup>I</sup> , 9 <sup>K</sup> , 1 <sup>N</sup>	Microcosting / WHO CHOICE
Consultation at health center	1.45	NA	5.75	19	0	20	9 <sup>I</sup> , 0 <sup>K</sup> , 8 <sup>N</sup>	Microcosting / microcosting / WHO CHOICE
DOT at health center	2.69	0.55	6.78	600	550	600	149 <sup>K</sup> , 180 <sup>I,N</sup>	Microcosting / microcosting / literature(1)
DOTS at hospital	NA	1.51	NA	0	1	0	0 <sup>I</sup> , 1 <sup>K</sup> , 0 <sup>N</sup>	Microcosting
Home visit	NA	1.60	119.35	0	20	20	0 <sup>I</sup> , 6 <sup>K,N</sup>	Microcosting / literature(1)
Patient support per month	53.68	14.75	16.50	20	20	20	6	NTP / microcosting / top down KNCV
Laboratory tests for patients safety								
ECG	7.63	2.95	16.50	8	22	22	8	Microcosting / Fee at private labs / fee at private lab
Audiometry	13.03	6.05	8.25	1	9	9	0	Fee at private hospitals / Fee at private labs / top down KNCV
Color vision testing	5.80	NA	NA	1	0	0	1 <sup>I</sup> , 0 <sup>K,N</sup>	Fee at private and public hospitals
Complete blood counts	4.77	4.87	9.90	1	22	22	12	Microcosting / Fee at private labs / fee at private lab
HIV rapid test	NA	NA	3.30	0	0	3	0	fee at private lab

Liver function tests	4.61	16.96	16.50	7	14	14	7	Microcosting / Fee at private labs / fee at private lab
Pregnancy test	NA	NA	3.30	0	0	0.29	0 <sup>I,K</sup> , 0.29 <sup>N</sup>	fee at private lab
Serum creatinine	2.48	3.98	9.90	1	7	7	1	Microcosting / Fee at private labs / fee at private lab
Serum glucose	1.81	2.95	3.30	1	1	1	1	microcosting Fee at private labs / fee at private lab
Thyroid stimulating hormone	17.89	12.68	33.00	4	4	4	0	Fee at private lab / Fee at private labs / fee at private lab
Amylase	NA	NA	16.13	0	0	1	0 <sup>I,K</sup> , 1 <sup>N</sup>	fee at private lab
Lipase	7.07	6.49	32.27	0	1	1	1	Microcosting / Fee at private labs / fee at private lab
Serum albumin	1.88	3.69	4.84	0	0	1	1	Microcosting / Fee at private labs / fee at private lab
Serum potassium	5.94	2.51	6.45	6	7	7	1	Fee at private lab / Fee at private labs / fee at private lab
Hepatitis B Ag	NA	NA	3.30	0	0	1	0 <sup>I,K</sup> , 1 <sup>N</sup>	fee at private lab
Hepatitis C Ag	NA	NA	6.45	0	0	1	0 <sup>I,K</sup> , 1 <sup>N</sup>	fee at private lab
XDR-TB treatment monitoring test								
Smear	1.92	5.45	9.45	13	21	21	7	Microcosting / microcosting / literature(1)
Liquid culture	20.46	NA	NA	13	0	0	6 <sup>I</sup> , 0 <sup>K,N</sup>	Fee at public lab
Solid culture	NA	20.67	54.69	0	13	13	0 <sup>I</sup> , 6 <sup>K,N</sup>	Microcosting / literature(1)
CXR	4.76	2.97	9.90	5	4	5	2	Microcosting / Fee at private labs / top down KNCV

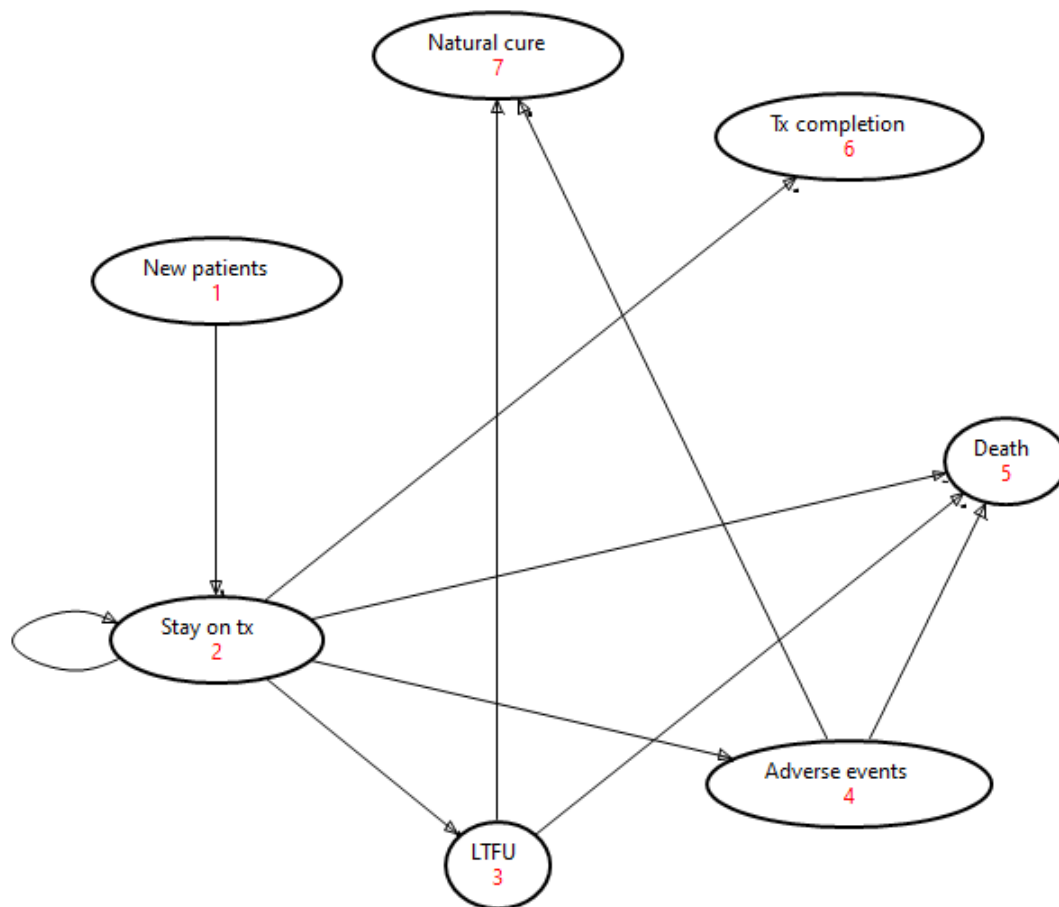
\*In Kyrgyzstan no distinction was made between intensive and continuation phase

NA: Not applicable

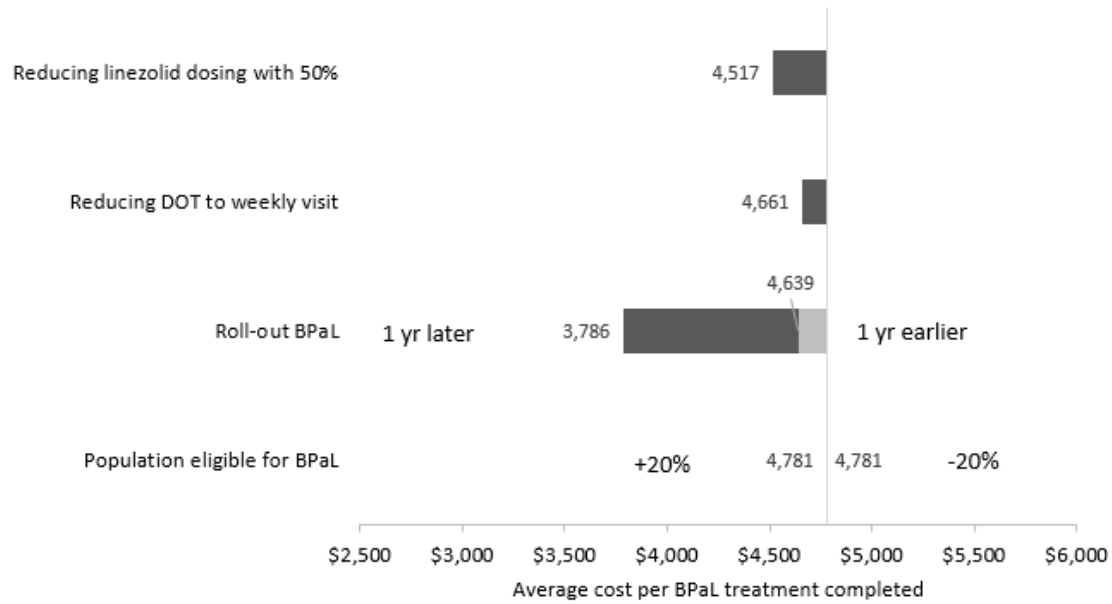
<sup>a</sup>Applicable to all countries

**Cost analysis**

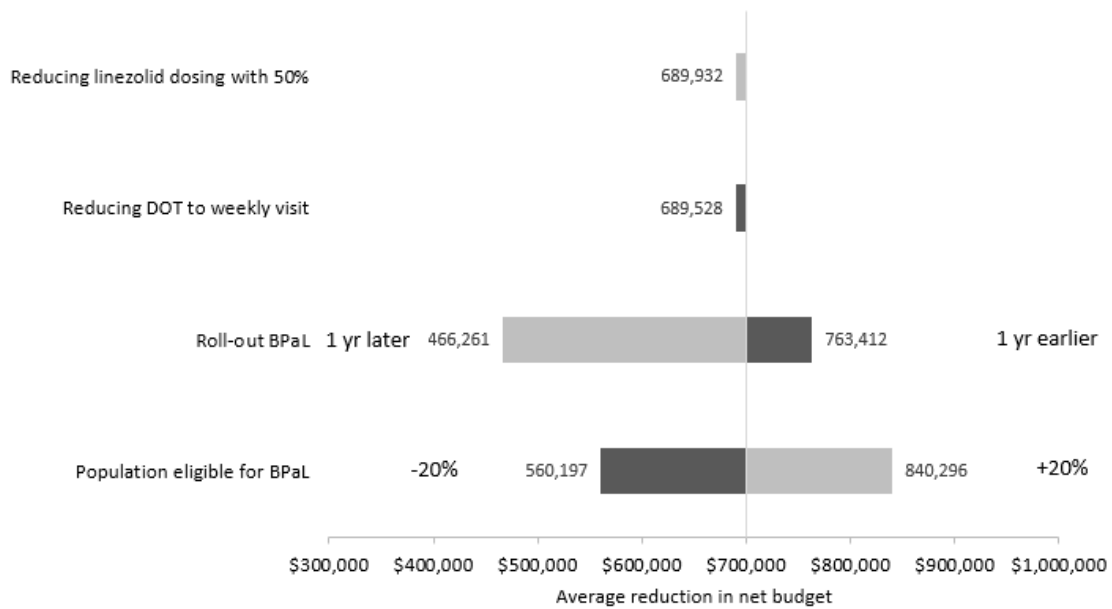
The unit costs for inpatient days were calculated using a top-down method for Kyrgyzstan, based on the annual financial report of the national TB hospital and the statistics on inpatient days of TB patients. In Nigeria, the inpatient costs were extracted from the earlier costing study and inflated to the actual cost in USD for 2017 (1). In Indonesia, the costs for inpatient days referred to the standard tariff under National Health Insurance scheme, given that most TB patients are covered by the government. This included the costs for administration, buildings, catering, cleaning, radiology, pharmacy (without the cost of drugs), consumables, laundry, maintenance, security, staff, transportation, and other costs. The unit costs for outpatient consultations included costs for consumables, overhead, staff, transportation allowance, other supplies, and direct personnel costs and were obtained empirically in Kyrgyzstan in the three health facilities mentioned above, and in Indonesia and Nigeria from recent costing studies (Indonesian findings being prepared for publication) (1).



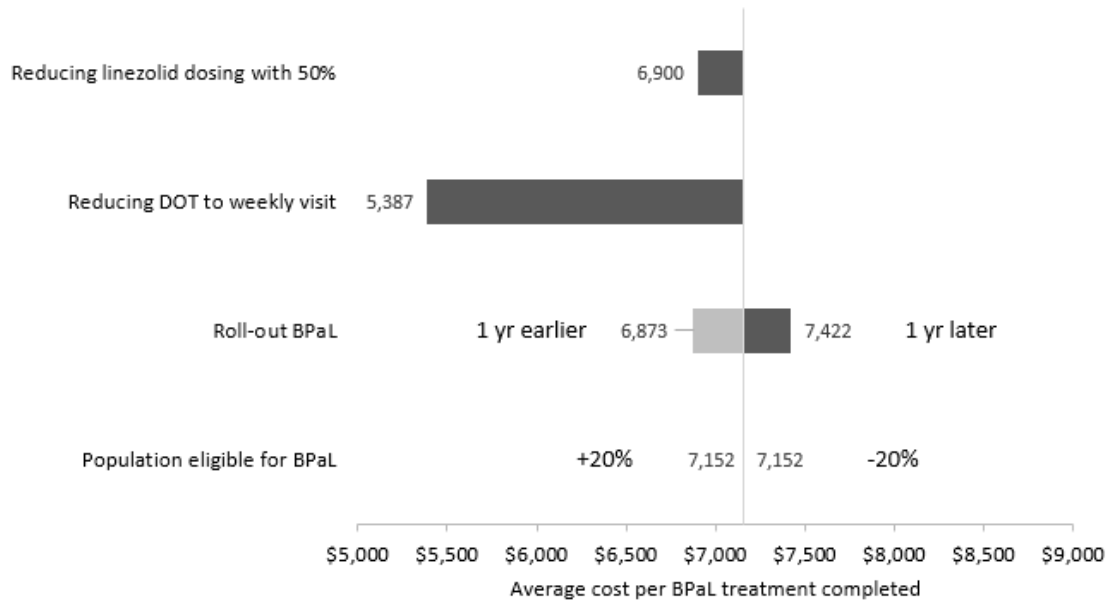
**Figure S1.** Design of the Markov model for the conventional regimen and the BPAL regimen. For patients on the BPAL regimen who permanently discontinued treatment we assumed that 50% would be switched to the conventional regimen.



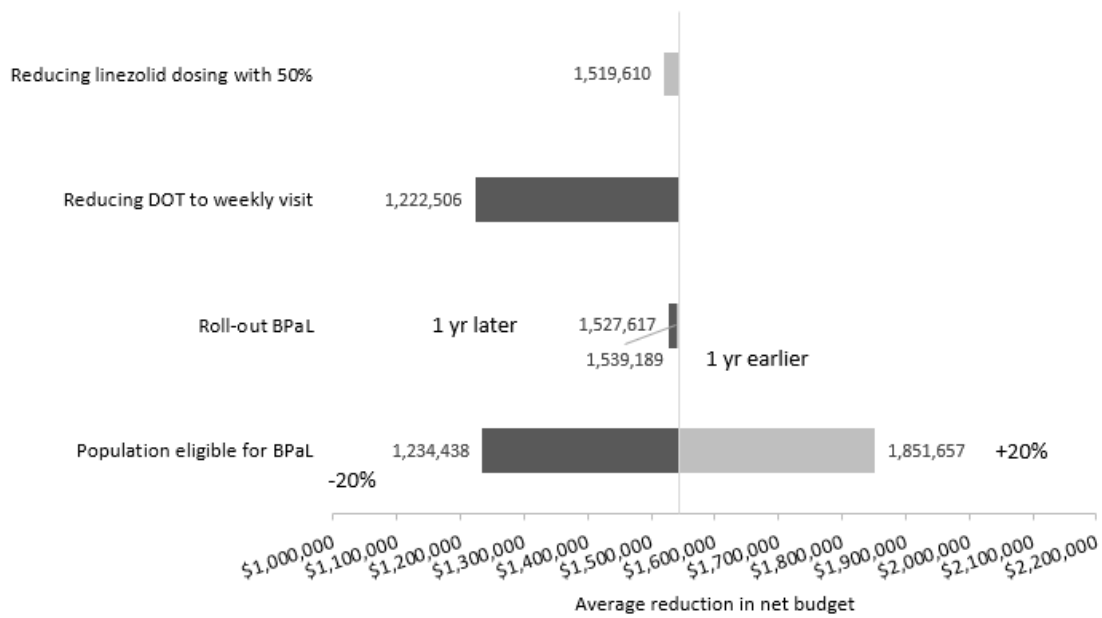
**Figure S2A.** One-way sensitivity analysis for the average cost per BPaL treatment completed in Kyrgyzstan



**Figure S2B.** One-way sensitivity analysis for the average reduction in the net budget in Kyrgyzstan



**Figure S3A.** One-way sensitivity analysis for the average cost per BPaL treatment completed in Nigeria



**Figure S3B.** One-way sensitivity analysis for the average reduction in the net budget in Nigeria



**References**

1. Bada FO, Okpokoro E, Blok N, et al. Cost of three models of care for drug-resistant tuberculosis patients in Nigeria. *BMC Infect Dis.* 2019;19(1):41.