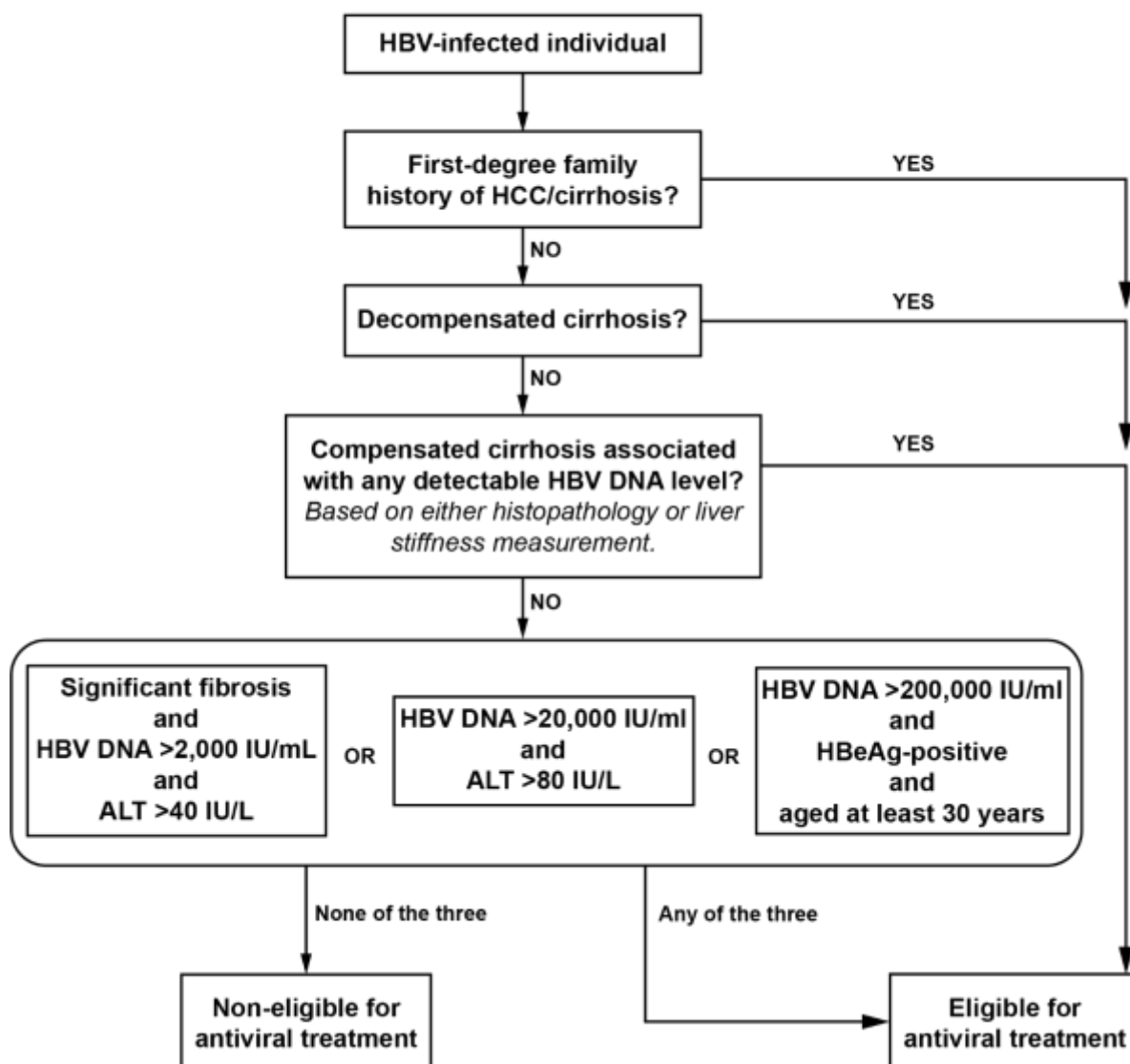


EASL 2017 eligibility criteria (clinical reference standard)



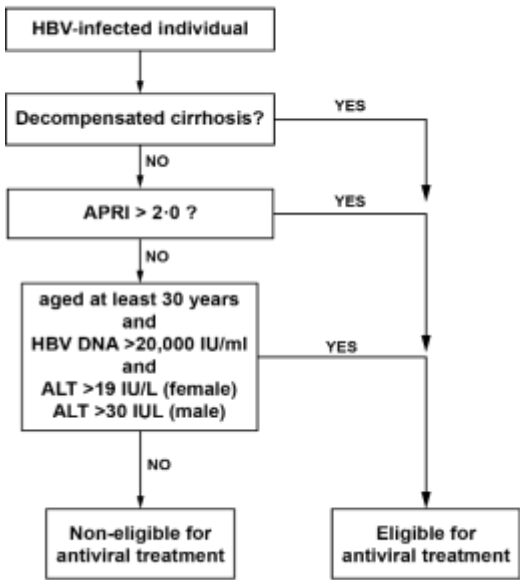
515

516 Please note that these algorithms correspond only to the transcription of more complete

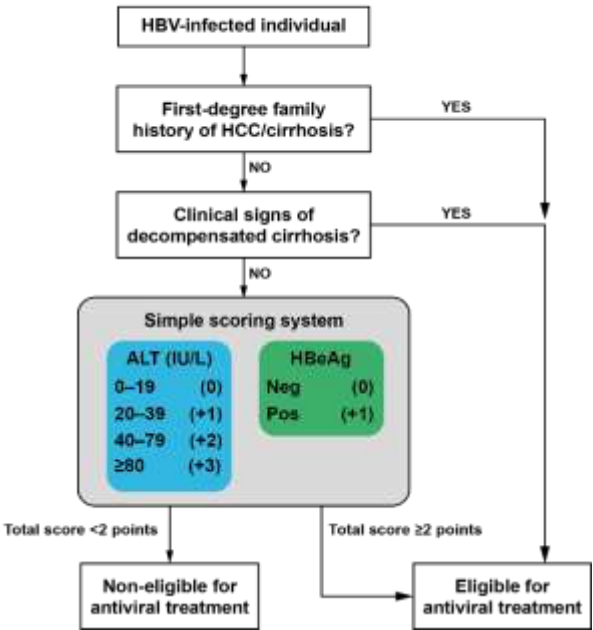
517 guidelines into decision algorithms for eligibility to treatment for the purpose of our analysis.

Supplementary Appendix 2: Eligibility criteria of two comparative algorithms. WHO 2015 guidelines, and TREAT-B decision algorithm.

WHO 2015 eligibility criteria

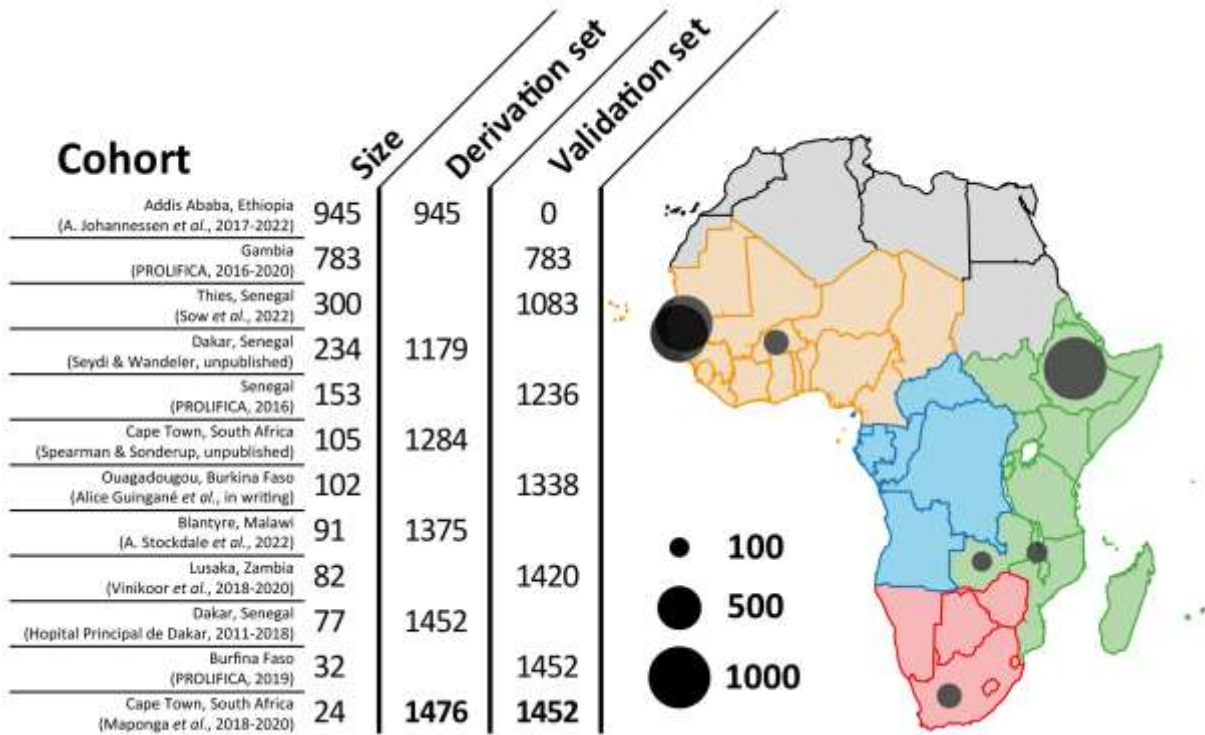


TREAT-B decision algorithm



Please note that these algorithms correspond only to the transcription of more complete guidelines into decision algorithms for eligibility to treatment for the purpose of our analysis.

Supplementary Appendix 3: Geographic origin of included cohorts in the derivation and validation sets



527 **Supplementary appendix 4: Clinical and laboratory parameters associated with the**
528 **treatment eligibility determined by the EASL 2017 guidelines (N=2,928)**

Variable	No. with missing information	EASL non-eligible (n=2530)	EASL eligible (n=398)	p-value
Male sex		1474 (58.3%)	291 (73.1%)	<0.001
Age (years)		35±11 (33)	35±10 (33)	0.361
≥30		1688 (66.7%)	272 (68.3%)	0.522
HBeAg		92 (4.0%)	145 (38.1%)	<0.001
ALT (IU/L)		27±18 (23)	58±64 (39)	<0.001
AST (IU/L)		29±21 (26)	64±75 (41)	<0.001
Platelets (10 ⁹ /L)		244±82 (237)	201±96 (186)	<0.001
GGT (IU/L)	n=584	30±29 (23)	69±96 (40)	<0.001
Bilirubin (mg/dL)	n=796	0.7±0.9 (0.6)	1.4±3.1 (0.7)	<0.001
INR	n=2803	1.1±0.1 (1.1)	1.3±0.4 (1.1)	0.002

529 Values are reported as mean±standard deviation (median), or n (percentage).

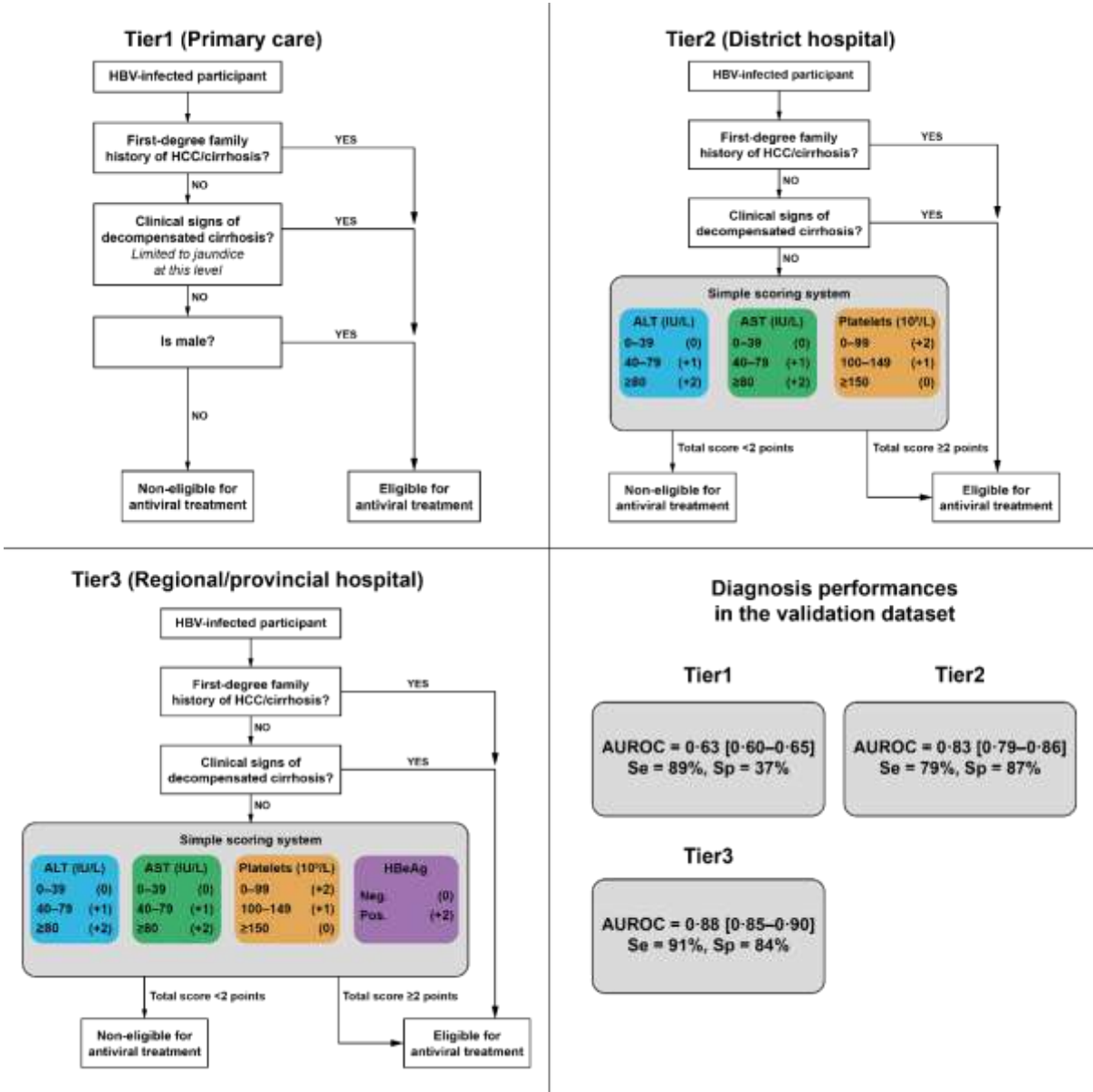
Supplementary Appendix 5: Simplified scoring system enabling to assess treatment eligibility at the district hospital level

Parameter	Category	Reference	β	Regression distance $\Delta_{ref.} * \beta$	Points
<i>Scoring system available in Tier2 (district hospital level)</i>					
Platelets ($10^9/L$)	≥ 150	5.298	-1.467	0 (base category)	0
	100–149	4.828		0.690	1
	< 100	4.437		1.264	2
AST (IU/L)	< 40	3.239	0.794	0 (base category)	0
	40–79	4.094		0.679	1
	≥ 80	4.883		1.305	2
ALT (IU/L)	< 40	3.157	1.223	0 (base category)	0
	40–79	4.094		1.147	1
	≥ 80	4.771		1.974	2

Multivariable regression analysis enabled the quantification of the risk increase or decrease associated with changes in the parameters' values. Normalization using a constant facilitated the generation of distances within a practical and usable range. Rounding the normalized distances resulted in a simplified point-based system.

NB: the reference is expressed as the natural logarithm of the continuous variables.

Supplementary Appendix 6: Tier-specific HEPsANET algorithms to identify people eligible for antiviral therapy in sub-Saharan Africa*



AUROC, sensitivity (Se) and specificity (Sp) reported here correspond to that measured in the validation dataset.

Supplementary Appendix 7: Subgroup analysis for the performance of tier-specific
HEPSANET algorithms to identify people eligible for antiviral therapy according to the EASL
2017 guidelines (derivation dataset: n=1,452)

Test	n	(%)	AUROC [95% CI]	p-value	Se (%)	Sp (%)
District hospital (Tier2)						
Overall	1452		0.83 [0.79–0.86]	-----	79	87
Sex	1452			0.462		
Female	516	(35.5)	0.85 [0.78–0.91]		77	92
Male	936	(64.5)	0.82 [0.78–0.86]		80	83
Age (years)	1452			0.725		
<30	378	(26.0)	0.82 [0.76–0.88]		79	85
≥30	1074	(74.0)	0.83 [0.79–0.87]		79	87
Excessive alcohol intake	991			0.941		
No	872	(88.0)	0.83 [0.79–0.88]		81	86
Yes	119	(12.0)	0.84 [0.74–0.93]		83	84
Region	1452			0.127		
West SSA	1370	(94.4)	0.84 [0.80–0.87]		80	87
East/South SSA	82	(5.6)	0.74 [0.63–0.86]		74	75
Hospital/community	1452			0.735		
Hospital-based	777	(53.5)	0.82 [0.78–0.87]		79	85
Community-based screening	675	(46.5)	0.83 [0.78–0.89]		79	88
Regional hospital (Tier3-HBeAg)						
Overall	1439		0.88 [0.85–0.90]	-----	91	84
Sex	1439			0.215		
Female	510	(35.4)	0.90 [0.85–0.95]		90	90
Male	929	(64.6)	0.86 [0.83–0.89]		92	81
Age (years)	1439			0.010		
<30	378	(26.3)	0.82 [0.77–0.88]		85	79
≥30	1061	(73.7)	0.90 [0.87–0.93]		94	86
Excessive alcohol intake	979			0.666		
No	863	(88.2)	0.90 [0.87–0.92]		95	84
Yes	116	(11.8)	0.88 [0.81–0.95]		94	82
Region	1439			0.036		
West SSA	1365	(94.9)	0.88 [0.86–0.91]		91	85
East/South SSA	74	(5.1)	0.77 [0.68–0.87]		89	66
Hospital/community	1452			0.045		
Hospital-based	764	(53.1)	0.86 [0.82–0.89]		89	83
Community-based screening	675	(46.9)	0.91 [0.87–0.94]		95	86
Regional hospital (Tier3-DNA)						
Overall	1452		0.85 [0.82–0.88]	-----	88	82
Sex	1452			0.370		
Female	516	(35.5)	0.86 [0.80–0.93]		82	91
Male	936	(64.5)	0.83 [0.80–0.86]		90	76
Age (years)	1452			0.998		
<30	378	(26.0)	0.84 [0.80–0.89]		92	77
≥30	1074	(74.0)	0.84 [0.81–0.88]		86	83
Excessive alcohol intake	991			0.561		
No	872	(88.0)	0.88 [0.85–0.91]		92	83
Yes	119	(12.0)	0.85 [0.77–0.93]		89	81

Region	1452			0.998		
West SSA	1370	(94.4)	0.84 [0.81–0.87]		86	82
East/South SSA	82	(5.6)	0.84 [0.78–0.90]		100	68
Hospital/community	1452			0.066		
Hospital-based	777	(53.5)	0.82 [0.78–0.86]		87	78
Community-based screening	675	(46.5)	0.88 [0.83–0.92]		89	86

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