

Engagement with HBV care in Rwanda was low. Levels of HBV treatment initiation and retention was satisfactory.

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Individuals followed at district hospitals were more likely to be engaged in care, eligible for HBV treatment, and initiate HBV treatment.



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HBV Care Cascade in Rwanda BC Centre for Disease Control A population-based study from 2016-2023

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Introduction

- The global burden of viral hepatitis B (HBV) is substantial, and monitoring progress across the care cascade is essential for effective elimination strategies(1).
- HBV care cascade outlines the proportion of individuals achieving each step in the continuum of care, including diagnosis, linkage to care, and retention(2).
- In Sub-Saharan Africa, data on the HBV care cascade are limited(3).

Aim

• To construct the HBV care cascade in Rwanda among people diagnosed with HBV infection between 2016 and 2023.

Method

- We used data from the District Health Information System 2 (DHIS2) from January 2016 to June 2023.
- DHIS2 includes information on screening, diagnosis, treatment, follow-up, outcomes, and demographic characteristics and comorbidities.
- We included individuals aged 2 years and above at diagnosis.
- The HBV care cascade was analyzed across five stages: (1) lifetime prevalence, (2) diagnosis, (3) engagement with care, (4) treatment initiation, and (5) retention in HBV treatment.
- Infections were defined as having at least one reactive antigen or nucleic acid test. Prevalence was estimated as the sum of diagnosed and estimated undiagnosed cases.
- Multivariable logistic regression was used to identify progression-related factors through the different stages of care cascade.

Results

- Among the 4,604,468 persons screened, 57,520 tested positive for HBsAg (HBV infection diagnosed) (Figure 1).
- Of these 55,820 individuals, 52,827 (91.8%) had HBV mono-infection, and 4,693 (8.2%) had HBV/HIV co-infection (Figure 2).
- Among all HBV-positive individuals, 21,247 (36.9%) were engaged in care, and 6,429 (30.3%) were eligible for HBV treatment.
- Of those treatment eligible, 4,893 (76.1%) initiated treatment, and 4,839 (98.9%) were retained in treatment.
- Individuals enrolled at district hospitals were more likely to be engaged in care (adjusted odds ratio [aOR]: 2.62; 95% CI, 1.89, 3.62), eligible for HBV treatment (aOR: 4.20; 95% CI, 2.57, 6.85), and initiate HBV treatment (aOR: 2.50; 95% CI, 1.54, 4.08), compared to those followed up at health centres.(Table 1)
- Compared to those at 30-minute distance, those living at a distance of >30 and ≤1 hour from a facility were less likely to be engaged with care, and to be retained in care; in contrast, those living at > 1hour were more likely to be engaged with care.
- Individuals living with HIV were more likely to be engaged in care and less likely to initiate HBV treatment.



Figure 2. HBV care cascade by HIV status in Rwanda Figure 1. HBV care cascade in Rwanda; Orange color is for undiagnosed individuals and blue color is for diagnosed individuals where meetals are adjusted for all coveriates listed in the table

Table 1.	Predictors	of each	stage of	care	cascades.	

	Engaged with care	Eligible for	Initiated HBV	Retention in
		treatment	treatment	HBV treatment
	aOR (95%CI)	aOR (95%CI)	aOR (95%CI)	aOR (95%CI)
HIV status				
Positive	1.23(1.10,1.37)	NA	0.41(0.27,0.63)	1.57(0.36,6.90)
Period of screening				
Jul 2019- June 2023	5.80(5.40,6.22)	2.84(2.41,3.33)	1.01(0.76,1.35)	0.14(0.05,0.42)
Age group				
35 to <55 years old	1.18(1.11,1.26)	0.86(0.76,0.97)	1.44(1.12,1.84)	2.32(0.98,5.47)
55 years old and above	1.00(0.92,1.09)	0.74(0.62,0.87)	1.27(0.91,1.77)	1.16(0.38,3.49)
Missing	2.01(1.86,2.16)	0.79(0.68,0.93)	1.68(1.28,2.20)	2.85(0.88,9.16)
Sex				
Male	1.15(1.10,1.21)	1.52(1.38 <i>,</i> 1.66)	1.06(0.89,1.27)	0.97(0.48,1.98)
Type of health facility				
District Hospital	2.62(1.89,3.62)	4.20(2.57,6.85)	2.50(1.54,4.08)	1.73(0.24,12.26)
Provincial or Referral hospital	2.84(1.41,5.73)	8.56(4.06,18.04)	2.48(0.97,6.38)	0.38(0.02,8.59)
Level of access to health facility				
Out of the catchment area (>30 min and \leq 1hr)	0.45(0.39,0.53)	1.08(0.83,1.41)	0.78(0.46,1.33)	0.18(0.05,0.61)
In different province (> 1hr)	2.53(1.79,3.57)	1.25(0.87,1.80)	1.19(0.59,2.39)	0.73(0.14,3.70)
HCV coinfection				
Yes	1.73 (1.36,2.20)	1.75(1.18,2.61)	0.54(0.27,1.08)	NA
Missing	NA	0.04(0.03,0.05)	0.04(0.03,0.05)	1.79(0.48,6.69)

Conclusions

- care, eligible and initiate the HBV treatment, compared to people who were seen at health centres.
- understand role of district hospitals and mechanism for better engagement at district hospitals.

References

1. World Health Organization. Global hepatitis report, 2017. 2017. 2. H. Nina Kim. Examining the Hepatitis B Care Cascade Through an Equity Lens. JAMA Netw Open [Internet]. 2023;6(4):1–2.







Overall, engagement with care was low. Individuals followed at district hospitals were more likely to be engaged in

Effects are needed to enhance engagement with care to enable treatment initiation. Further work is needed to



