Table S1：An overview of NOS scores included in the study

Study	Year	Selection	Comparability	Outcome	NOS Score
Li L	2023	4	1	3	7
Zhang Q	2024	4	1	2	7
Peng WT	2023	4	2	2	8
Rong X	2024	4	1	2	7
Li Y	2024	4	2	3	9
Zeng QL	2024	4	1	1	6
Liu Z	2021	4	2	3	9
Liu Z	2023	4	2	3	9
Chen R	2024	4	2	2	8
Zhang D	2023	3	2	2	7
Zhang JS	2024	3	2	2	7
Nguyen THP	2024	4	1	2	7
Lim J	2022	4	1	2	7
Li J	2021	4	1	1	6
Liu R	2024	4	1	3	8
Jeong S	2022	4	1	3	8
Tang HT	2024	4	1	3	8
Chang CD	2023	4	1	1	6
Wang FD	2022	4	1	3	8
Shun Kaneko	2019	4	2	3	9
Hao S	2024	4	2	3	9
Qiu X	2025	4	2	3	9

Table S2：Funding and Basic Information of Included TMF-Related Studies

Study	Year	Drug		Manufacturer		Formulation		Reporting Quality	Research Type
		T	C	T	C	T	C		
Shun Kaneko	2019	TDF	TAF	Gilead Sciences	Gilead Sciences	Tablet	Tablet	Complete	Cohort
Agarwal K	2018	TDF	TAF	Gilead Sciences	Gilead Sciences	Tablet	Tablet	Complete	RCT
Buti M	2016	TDF	TAF	Gilead Sciences	Gilead Sciences	Tablet	Tablet	Complete	RCT
Chang CD	2023	TDF	TAF	NA	NA	Tablet	Tablet	Complete	Cohort
Chan HLY	2016	TDF	TAF	Gilead Sciences	Gilead Sciences	Tablet	Tablet	Complete	RCT
Childs-Kean LM	2018	TDF	TAF	Gilead Sciences	Gilead Sciences	Tablet	Tablet	Complete	RCT
Hou J	2021	TDF	TAF	Gilead Sciences	Gilead Sciences	Tablet	Tablet	Complete	RCT
Jeong S	2022	TDF	TAF	NA	NA	Tablet	Tablet	Complete	Cohort
Li J	2021	TDF	TAF	NA	NA	Tablet	Tablet	Complete	Cohort

Lim J	2022	TDF	TAF	Gilead Sciences	Gilead Sciences	Tablet	Tablet	Complete	Cohort
Liu R	2024	TDF	TAF	GlaxoSmithKline	Gilead Sciences	Tablet	Tablet	Complete	Cohort
Nguyen THP	2024	TDF	TAF	Gilead Sciences	Gilead Sciences	Tablet	Tablet	Complete	Cohort
Pan CQ	2021	TDF	TAF	Gilead Sciences	Gilead Sciences	Tablet	Tablet	Complete	RCT
Wang FD	2022	TDF	TAF	Gilead Sciences	Gilead Sciences	Tablet	Tablet	Complete	Cohort
Tang HT	2024	TDF	TAF	Qilu Pharmaceutical Co., Ltd.	Chia Tai Tianqing Pharmaceutical Co., Ltd.	Tablet	Tablet	Complete	Cohort
Liu Z	2021	TMF	TDF	Hansoh Pharma	Gilead Sciences	Tablet	Tablet	Complete	Cohort
Liu Z	2023	TMF	TDF	Hansoh Pharma	GlaxoSmithKline	Tablet	Tablet	Complete	Cohort
Li Y	2024	TMF	TDF	Hanso	NA	Table	Tablet	Complete	Cohort

				h Pharma		t			
Hao S	2024	TMF	TAF	NA	NA	Tablet	Tablet	Complete	Cohort
Qiu X	2025	TMF	TAF	Hansoh Pharma	Patheon Inc., Ontario	Tablet	Tablet	Complete	Cohort
Chen R	2024	TMF	TAF	Hansoh Pharma	Gilead Sciences	Tablet	Tablet	Complete	Cohort
Li L	2023	TMF	TAF	Hansoh Pharma	Gilead Sciences	Tablet	Tablet	Complete	RCT
Peng WT	2023	TMF	TAF	Hansoh Pharma	Gilead Sciences	Tablet	Tablet	Complete	Cohort
Rong X	2024	TMF	TAF	Hansoh Pharma	Gilead Sciences	Tablet	Tablet	Complete	Cohort
Zeng QL	2024	TMF	TAF	NA	NA	Tablet	Tablet	Complete	Cohort
Zhang Q	2024	TMF	TAF	NA	NA	Tablet	Tablet	Complete	Cohort
Zhang JS	2024	TMF	TAF	Hansoh Pharma	Gilead Sciences	Tablet	Tablet	Complete	Cohort
Zhang D	2023	TMF	TAF	Hansoh Phar	Chengdu Bet	Tablet	Tablet	Complete	Cohort

				ma	ter Ph armace utical Co., L td.				
Sheng QJ	2024	TMF TDF →TA F	TAF	NA	NA	NA	NA	Complete	Cohort
Byrne R	2018	TDF →TA F	TAF	NA	NA	NA	NA	Complete	RCT
Buti M	2024	TDF →TA F	TAF	Gilead Scien ces	Gilead Scien ces	Table t	Tablet	Complete	RCT
Chan HLYY	2017	TDF →TA F	TAF	Gilead Scien ces	Gilead Scien ces	Table t	Tablet	Complete	RCT
Chan HLYY	2024	TDF →TA F	TAF	Gilead Scien ces	Gilead Scien ces	Table t	Tablet	Complete	RCT
Choi J	2023	TDF →TA F	TAF	Gilead Scien ces	Gilead Scien ces	Table t	Tablet	Complete	RCT
Seto WK	2016	TDF →TA F	TAF	Gilead Scien ces	Gilead Scien ces	Table t	Tablet	Complete	RCT
Hou J	2024	TDF →TA F	TAF	Gilead Scien ces	Gilead Scien ces	Table t	Tablet	Complete	RCT
Mandana K	2020	TDF →TA	TAF	Gilead Scien	Gilead Scien	Table t	Tablet	Complete	RCT

		F		ces	ces				
		TDF		Gilead	Gilead				
Ogawa E	2017	→TA	TAF	Scien	Scien	Table	Tablet	Complete	RCT
		F		ces	ces	t			
		TDF		Gilead	Gilead				
Ahn SH	2020	→TA	TDF	Scien	Scien	Table	Tablet	Complete	RCT
		F		ces	ces	t			
		TDF							
Byun KS	2021	→TA	TDF	NA	NA	NA	NA	Complete	RCT
		F							
		TDF							
Chan HLYY	2019	→TA	TDF	NA	NA	Table	Tablet	Complete	RCT
		F				t			

Note: All studies are marked in the 'Study Type' column as 'RCT' or 'Cohort' for clarity.

Table S3：CINeMA Evidence Quality Assessment Table [Details of Comparisons among Treatment Options

Comparison	Number of studies	Within-study bias	Reporting bias	Indirectness	Imprecision	Heterogeneity	Incoherence	Confidence rating
TAF:TDF	14	No concerns	Low risk	No concerns	Some concerns	No concerns	No concerns	Moderate
TAF:TDF-to-TAF	9	No concerns	Low risk	No concerns	No concerns	Some concerns	No concerns	Moderate
TAF:TMF	10	No concerns	Low risk	No concerns	Some concerns	No concerns	No concerns	Moderate
TDF:TDF-to-TAF	3	No concerns	Low risk	No concerns	No concerns	Some concerns	No concerns	Moderate
TDF:TMF	3	No concerns	Low risk	No concerns	No concerns	Some concerns	No concerns	Moderate
TDF-to-TAF:TMF	0	No concerns	Low risk	No concerns	Some concerns	No concerns	No concerns	Moderate

Table S4：Stratified Study Characteristics by Intervention Type [Including Patient Subgroups and Outcome Definitions]

Study	Year	Patient Subgroup	Key Outcome Definitions	Follow-up Duration [Weeks]
Shun Kaneko	2019	1;4;5;6	①③	24
Hao S	2024	1;5	②③	48
Qiu X	2025	1;3;4;5	①③	24
Agarwal K	2018	1;4;5	①③	144
Buti M	2016	1;4	①③	96
Chang CD	2023	1;3;5	①③	48
Chan HLY	2016	1;4;5	①③	48
Childs-Kean LM	2018	1;3;4;5;6	①③	96
Hou J	2021	2;3;4;5	①③	144
Jeong S	2022	1;3;5	①③	48
Li J	2021	2;3;4;5;6	①③	48
Lim J	2022	1;3;5;6	①④	96
Liu R	2024	1	①③	24
Nguyen THP	2024	1;4;5	①③	192
Pan CQ	2021	1;4;5	①③	24
Wang FD	2022	1;4;5	①③	96
Tang HT	2024	1;3	①③	48
Chen R	2024	2;4	②③	48
Li L	2023	2;4;5	②③	24
Liu Z	2021	1;3;4;5	①④	48
Liu Z	2023	1;3;4;5	②③	96
Li Y	2024	1;3;4;5	②④	48
Peng WT	2023	1;3;4	②③	48
Rong X	2024	1;3;4;5	②③	48

Zeng QL	2024	1;4	①③	48
Zhang Q	2024	1;4	①③	48
Zhang JS	2024	1;4;5	②③	48
Zhang D	2023	1;4	②③	48
Sheng QJ	2024	1;4;5	②③	48
Byrne R	2018	1;4;5	①③	384
Buti M	2024	1;3;4;5	①③	240
Chan HLYY	2017	1;4;6	①③	144
Chan HLYY	2024	1;3;4;5	①③	144
Choi J	2023	2;6	②③	144
Seto WK	2016	1;4;5	①④	96
Hou J	2024	1;3;4;5	①③	144
Mandana K	2020	2	①④	96
Ogawa E	2017	1;4	①③	120
Ahn SH	2020	2	①③	144
Byun KS	2021	2;5	①③	384
Chan HLYY	2019	2	①③	96

Patient subgroup annotations: 1 = treatment-naïve patients; 2 = treatment-experienced patients; 3 = compensated cirrhosis; 4 = high viral load [≥4log10 IU/mL]; 5 = HBeAg-positive; 6 = renal dysfunction [eGFR <90 mL/min]. "-" indicates that the relevant subgroup characteristics were not explicitly reported in the study.

HBV DNA response definitions: ① = HBV DNA < 29 IU/mL; ② = HBV DNA < 60 IU/mL [only for studies with non-standardized reporting].

ALT normalization definitions: ③ = international standards [ALT < 40 U/L]; ④ = local laboratory standards [varies by study, as reported in original publications].

Table S5：Begg's Test Results for Outcome Indicators

Outcome Indicator	Number of Included Studies	Begg's Test Statistic	P-value
Virological response rate	34	0.92	0.358
Clearance rate of HBsAg	14	-0.05	0.956
The rate of HBeAg loss	21	-0.30	0.763
ALT normalization rate	28	1.82	0.069

Table S6： Inconsistency and Transitivity Analysis Results for Outcome Indicators

Outcome Indicator	Global Inconsistency Test [Q; P-value]	Loop 1 Consistency [Max Inconsistency Effect Size; 95% CI; P-value]	Loop 2 Consistency [Max Inconsistency Effect Size; 95% CI; P-value]	Node-Splitting Test [P-value Range]
Virological response rate	Q=0.14, P=0.9330	0.367 [0.00, 2.15], P=0.714	0.403 [0.00, 1.87], P=0.687	0.777-0.973
Clearance rate of HBsAg	Q=3.86, P=0.1449	0.882 [0.00, 3.22], P=0.378	1.898 [0.00, 6.34], P=0.058	0.074-0.540
The rate of HBeAg loss	Q=1.51, P=0.4692	0.685 [0.00, 0.69], P=0.493	1.077 [0.00, 1.89], P=0.281	0.296-0.567
ALT normalization rate	Q=1.68, P=0.4312	1.599 [0.00 0.75], P=0.110	0.369 [0.00 0.80], P=0.712	0.228-0.564

Notes:

Loop 1 refers to the treatment network "A-B-D", where:

A = TAF, B = TDF, D = TMF.

Loop 2 refers to the treatment network "A-B-C", where:

A = TAF, B = TDF, C = TDF-to-TAF (switch therapy from TDF to TAF).

Consistency analyses for both loops evaluate the robustness of efficacy comparisons withintheir respective treatment networks, ensuring the reliability of indirect and direct evidence integration.

Table S7：Subgroup Analyses of Treatment Strategies by Patient Characteristics

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I^2（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I^2（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I^2（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I^2（%）	P value
TMF vs. TAF	All patients	11	1.23 [0.93, 1.63]	0.0	0.70	9	1.26 [0.91, 1.76]	0.0	0.99	6	1.08 [0.73, 1.60]	0.0	0.71	2	0.72 [0.19, 2.70]	0.0	0.51
	Excluding liver cirrhosis	8	1.53 [1.04, 2.24]	0.0	0.03	6	1.31 [0.86, 1.98]	0.0	0.21	4	1.24 [0.77, 2.00]	0.0	0.38	2	0.72 [0.19, 2.70]	0.0	0.51
	Including only	3	0.95 [0.63,	0.0	0.83	3	0.73 [0.22,	66.0	0.61	2	0.80 [0.39	0.0	0.52	NA	NA	NA	NA

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I^2（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I^2（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I^2（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I^2（%）	P value
	liver cirrhosis		1.44]				2.45]				, 1.61]						
	Using internationally accepted ALT cut-offs	11	1.23 [0.93, 1.63]	0.0	0.70	9	1.26 [0.91, 1.76]	0.0	0.99	6	1.08 [0.73, 1.60]	0.0	0.71	2	0.72 [0.19, 2.70]	0.0	0.51
	Studies with locally defined ALT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I^2（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I^2（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I^2（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I^2（%）	P value
	cut-offs																
	High viral load only	10	1.21 [0.91, 1.61]	0.0	0.18	8	1.20 [0.86, 1.67]	0.0	0.28	6	1.08 [0.73, 1.60]	0.0	0.71	2	0.72 [0.19, 2.70]	0.0	0.51
	Including only low viral load	1	2.00 [0.35, 11.58]	NA	0.44	1	1.85 [0.11, 32.01]	NA	0.67	NA	NA	NA	NA	NA	NA	NA	NA
	HBeAg positive	7	1.40 [0.96, 2.03]	0.0	0.08	5	1.09 [0.62, 1.93]	25.0	0.77	2	1.00 [0.47, 2.13]	0.0	0.99	2	0.72 [0.19, 2.70]	0.0	0.51

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I²（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I²（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I²（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I²（%）	P value
	HBeAg negative	4	1.04 [0.69, 1.59]	0.0	0.28	4	1.29 [0.81, 2.05]	0.0	0.28	4	1.11 [0.70, 1.76]	0.0	0.67	0	NA	NA	NA
	Treatment-naïve patients	9	1.12 [0.82, 1.52]	0.0	0.47	7	1.17 [0.79, 1.74]	6.0	0.44	4	0.98 [0.59, 1.70]	0.0	0.94	0	NA	NA	NA
	Treatment-experienced	2	2.01 [1.00, 4.02]	0.0	0.05	2	1.31 [0.67, 2.57]	0.0	0.43	2	1.19 [0.68, 2.10]	0.0	054	2	0.72 [0.19, 2.70]	0.0	0.51
	HBV DNA <29 IU/mL	3	0.91 [0.57, 1.46]	0.0	0.95	3	0.53 [0.09, 3.16]	68.0	0.48	2	1.37 [0.56, 3.34]	0.0	0.49	NA	NA	NA	NA

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I^2（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I^2（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I^2（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I^2（%）	P value
	HBV DNA <60 IU/mL	8	1.44 [1.02, 2.04]	0.0	0.04	7	1.28 [0.90, 1.82]	0.0	0.17	4	1.02 [0.65, 1.58]	0.0	0.94	2	0.72 [0.19, 2.70]	0.0	0.51
TDF vs. TAF	All patients	14	0.99 [0.88, 1.11]	26.8	0.17	11	0.64 [0.57, 0.72]	22.5	0.23	7	0.67 [0.54, 0.82]	0.0	0.94	4	0.70 [0.28, 1.75]	22.0	0.44
	Excluding liver cirrhosis	7	0.93 [0.75, 1.16]	38.0	0.54	6	0.63 [0.47, 0.84]	55.0	0.05	4	0.67 [0.50, 0.89]	0.0	0.006	1	0.50 [0.06, 4.48]	NA	0.53
	Including only liver	7	1.00 [0.80, 1.25]	24.0	0.99	5	0.62 [0.52, 0.74]	0.0	＜0.001	3	0.66 [0.49, 0.90]	0.0	0.009	3	0.32 [0.02, 4.75]	69.0	0.41

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I^2（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I^2（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I^2（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I^2（%）	P value
	cirrhosis																
	Using internationally accepted ALT cut-offs	13	0.93 [0.80, 1.07]	14.0	0.3	10	0.64 [0.53, 0.76]	30.0	0.17	7	0.67 [0.54, 0.82]	0.0	0.94	4	0.70 [0.28, 1.75]	22.0	0.44
	Studies with locally defined ALT cut-offs	1	1.24 [0.96, 1.59]	NA	0.09	1	0.62 [0.45, 0.86]	NA	0.004	NA	NA	NA	NA	NA	NA	NA	NA

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I^2（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I^2（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I^2（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I^2（%）	P value
	High viral load only	9	0.94 [0.78, 1.12]	29.0	0.46	8	0.62 [0.49, 0.77]	50.0	＜0.001	6	0.64 [0.51, 0.81]	0.0	0.0002	4	0.70 [0.28, 1.75]	22.0	0.44
	Including only low viral load	5	1.03 [0.73, 1.44]	36.0	0.88	3	0.67 [0.50, 0.88]	0.0	0.005	1	0.88 [0.22, 3.52]	NA	0.86	NA	NA	NA	NA
	HBeAg positive	11	0.97 [0.82, 1.15]	41.0	0.73	10	0.64 [0.54, 0.75]	30.0	＜0.001	7	0.67 [0.54, 0.82]	0.0	0.001	4	0.70 [0.28, 1.75]	22.0	0.44
	HBeAg negative	3	0.87 [0.55, 1.37]	0.0	0.54	1	0.62 [0.36, 1.06]	NA	0.08	NA	NA	NA	NA	NA	NA	NA	NA

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I^2（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I^2（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I^2（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I^2（%）	P value
	Treatment-naïve patients	12	0.97 [0.83, 1.14]	36.0	0.74	10	0.65 [0.55, 0.76]	27.0	＜0.001	6	0.65 [0.52, 0.81]	0.0	0.001	3	0.91 [0.41, 2.02]	0.0	0.82
	Treatment-experienced	2	0.78 [0.41, 1.48]	0.0	0.44	1	0.51 [0.29, 0.90]	NA	0.02	1	0.92 [0.39, 2.17]	NA	0.85	1	0.07 [0.00, 1.14]	NA	0.06
	HBV DNA <29 IU/mL	14	0.99 [0.88, 1.11]	26.8	0.17	11	0.64 [0.57, 0.72]	22.5	0.23	7	0.67 [0.54, 0.82]	0.0	0.94	4	0.70 [0.28, 1.75]	22.0	0.44
	HBV DNA <60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I^2（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I^2（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I^2（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I^2（%）	P value
	IU/mL																
TDF-to-TAF vs. TAF	All patients	9	1.20 [1.04, 1.39]	83.7	<0.001	8	0.63 [0.56, 0.71]	74.3	<0.001	8	0.83 [0.71, 0.97]	0.0	0.02	8	1.05 [0.59, 1.88]	0.0	0.454
	Excluding liver cirrhosis	6	1.53 [0.80, 2.94]	90.0	0.2	5	0.60 [0.45, 0.82]	70.0	0.001	5	0.78 [0.64, 0.96]	0.0	0.02	6	0.73 [0.30, 1.80]	0.0	0.5
	Including only liver cirrhosis	3	1.12 [0.76, 1.65]	39.0	0.58	3	0.86 [0.69, 1.07]	44.0	0.18	3	0.88 [0.69, 1.12]	30.0	0.29	2	2.06 [0.76, 5.61]	0.0	0.16

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I^2（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I^2（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I^2（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I^2（%）	P value
	Using internationally accepted ALT cut-offs	7	1.29 [0.74, 2.24]	89.0	0.37	6	0.78 [0.65, 0.93]	28.0	0.06	6	0.83 [0.69, 0.99]	0.0	0.04	7	1.03 [0.52, 2.03]	12.0	0.93
	Studies with locally defined ALT cut-offs	2	0.86 [0.59, 1.27]	0.0	0.45	2	0.42 [0.34, 0.53]	0.0	＜0.001	2	0.78 [0.58, 1.06]	29.0	0.12	1	1.00 [0.14, 7.28]	NA	1.00
	High	7	1.45	88.	0.1	4	0.68	79.	0.0	5	0.86	0.0	0.0	4	0.97	32.	0.9

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I²（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I²（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I²（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I²（%）	P value
	viral load only		[0.91, 2.30]	0	2		[0.51, 0.90]	0	08		[0.72, 1.01]		7		[0.43, 2.21]	0	5
	Including only low viral load	2	0.83 [0.41, 1.68]	0.0	0.60	4	0.95 [0.73, 1.24]	37.0	0.70	3	0.56 [0.31, 1.02]	0.0	0.06	4	1.78 [0.41, 7.75]	14.0	0.44
	HBeAg positive	5	1.64 [0.72, 3.72]	92.0	0.23	5	0.68 [0.47, 0.97]	83.0	0.03	5	0.85 [0.71, 1.02]	0.0	0.08	4	1.03 [0.40, 2.66]	45.0	0.95
	HBeAg negative	4	1.11 [0.91, 1.36]	0.0	0.31	3	0.71 [0.57, 0.88]	0.0	0.002	3	0.74 [0.52, 1.07]	0.0	0.11	4	1.12 [0.26, 4.81]	26.0	0.88

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I^2（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I^2（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I^2（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I^2（%）	P value
	Treatment-naïve patients	6	1.35 [0.73, 2.50]	91.0	0.35	5	0.68 [0.51, 0.90]	79.0	0.008	5	0.86 [0.72, 1.01]	0.0	0.07	5	0.95 [0.45, 2.00]	22.0	0.89
	Treatment-experienced	3	1.77 [0.98, 3.20]	0.0	0.06	3	0.92 [0.64, 1.31]	37.0	0.64	3	0.56 [0.31, 1.02]	0.0	0.06	3	1.01 [0.23, 4.48]	0.0	0.99
	HBV DNA <29 IU/mL	8	1.37 [0.89, 2.10]	0.0	0.15	7	0.66 [0.50, 0.86]	75.0	0.002	7	0.84 [0.71, 0.98]	0.0	0.03	7	1.01 [0.59, 2.03]	4.0	0.77
	HBV DNA <60	1	0.64 [0.10, 3.95]	NA	0.63	1	1.13 [0.53, 2.39]	NA	0.76	1	0.65 [0.25, 1.71]	NA	0.38	1	0.34 [0.01, 8.39]	NA	0.51

Treatment strategy	Subgroup characteristics	Number	Virological response rate [OR, 95% CI]	I^2（%）	P value	Number	ALT normalization rate [OR, 95% CI]	I^2（%）	P value	Number	The rate of HBeAg loss [OR, 95% CI]	I^2（%）	P value	Number	Clearance rate of HBsAg[OR, 95% CI]	I^2（%）	P value
	IU/mL																

Table S8：Subgroup Analysis of TDF Monotherapy by Study Type [RCTs/Cohort Studies] for Outcome Indicators

Study Type	Outcome Indicator	Number of Included Studies	OR [95%CI]	I^2（%）	Heterogeneity P-value	Notes
RCTs	Virological response rate	6	1.00 [0.86, 1.16]	8.8	0.36	-
	The rate of HBeAg loss	4	1.48 [0.18, 1.85]	0	0.795	-
	ALT Normalization Rate	6	0.67 [0.58, 0.77]	0	0.784	-
	Clearance rate of HBsAg	-	-	-	-	Not analyzed due to small sample size
Cohort Studies	Virological response rate	8	0.97 [0.82, 1.15]	42.7	0.094	-
	The rate of HBeAg loss	3	1.65 [0.92, 2.97]	0	0.721	-
	ALT Normalization Rate	5	0.57 [0.45, 0.71]	55.8	0.06	-
	Clearance rate of	-	-	-	-	Not analyzed due to small sample

Study Type	Outcome Indicator	Number of Included Studies	OR [95%CI]	I^2（%）	Heterogeneity P-value	Notes
	HBsAg					size

Table S9:Subgroup Analysis of TDF-to-TAF Switch Therapy by Duration [≤96 Weeks vs. >96 Weeks] for Outcome Indicators

Treatment Strategy	Duration	Outcome Indicator	Number of Included Studies	OR [95%CI]	I^2	Heterogeneity P-value
TDF-to-TAF vs. TAF	≤96 Weeks	Virological response rate	2	0.86 [0.59, 1.27]	0	0.980
		The rate of HBeAg loss	2	1.28 [0.94, 1.73]	28.2	0.238
		ALT Normalization Rate	2	0.42 [0.34, 0.52]	0	0.873
		Clearance rate of HBsAg	1	1.00 [0.14, 7.21]	0	＜0.001
	>96 Weeks	Virological response rate	6	1.27 [1.09, 1.49]	86.9	＜0.001
		The rate of HBeAg loss	6	1.17 [0.97, 1.41]	0	0.842
		ALT Normalization Rate	6	0.76 [0.66, 0.88]	28.2	0.223
		Clearance rate of HBsAg	7	1.06 [0.58, 1.94]	11.2	0.344

Table S10：Subgroup Analysis of TMF Monotherapy by Innovator Drug Status for Outcome Indicators

Innovator Drug Status	Outcome Indicator	Number of Included Studies	OR [95%CI]	I^2	Heterogeneity P-value
Original drugs	Virological response rate	6	1.19 [0.85, 1.67]	0	0.536
	The rate of HBeAg loss	4	0.98 [0.63, 1.52]	0	0.852
	ALT Normalization Rate	5	1.21 [0.83, 1.77]	0	0.983
	Clearance rate of HBsAg		Not analyzed due to small sample size		
Drugs of unknown origin	Virological response rate	5	1.31 [0.80, 2.14]	0	0.545
	The rate of HBeAg loss	2	0.73 [0.30, 1.78]	0	0.802
	ALT Normalization Rate	4	1.44 [0.74, 2.80]	0	0.797
	Clearance rate of HBsAg		Not analyzed due to small sample size		

Table S11: Quantitative Analysis of Safety Outcomes (Renal Function and Bone Mineral Density)

Safety Outcome	Comparison of Treatment Strategies	Number of Studies	Effect Size (95% CI)	Heterogeneity (I^2)	P value
Renal Function (eGFR change, mL/min/1.73m²)	TDF-to-TAF vs. TAF	8	-0.85 (-0.90 , -0.79)	99.1%	＜0.001
	TMF vs. TAF	2	1.06 (0.85 , 1,27)	0.0%	0.959
	TDF-to-TAF vs. TDF	2	-1.81 (-1.96 , -1.65)	99.1%	＜0.001
	TDF vs. TAF	7	-0.70 (-0.78 , -0.62)	98.6%	＜0.001
Bone Mineral Density (Spine BMD change, %)	TDF-to-TAF vs. TAF	8	-1.18 (-1.24 , -1.12)	99.6%	＜0.001
	TMF vs. TAF	0	Not applicable	-	No available data
	TDF-to-TAF vs. TDF	1	-0.35 (-0.49 , -0.21)	0.0%	＜0.001
	TDF vs. TAF	6	-1.42 (-1.49 , -1.34)	99.7%	＜0.001
Bone Mineral Density (Hip BMD change, %)	TDF-to-TAF vs. TAF	8	-1.11 (-1.17 , -1.04)	99.5%	＜0.001

Safety Outcome	Comparison of Treatment Strategies	Number of Studies	Effect Size (95% CI)	Heterogeneity (I^2)	P value
	TMF vs. TAF	0	Not applicable	-	No available data
	TDF-to-TAF vs. TDF	1	-0.06 (-0.20 , 0.08)	0.0%	＜0.001
	TDF vs. TAF	6	-1.74 (-1.82 , -1.66)	99.7%	＜0.001
Changes in total cholesterol levels	TDF-to-TAF vs. TAF	1	0.12 (-0.18 , 0.42)	0.0%	＜0.001
	TMF vs. TAF	3	-0.22 (-0.39 , -0.05)	77.8%	0.011
	TDF-to-TAF vs. TDF	1	-0.72 (-1.02 , -0.41)	0.0%	＜0.001
	TDF vs. TAF	3	-1.17 (-1.37 , -0.98)	0.0%	0.413
Serious adverse reactions	TDF-to-TAF vs. TAF	3	0.50 (0.33 , 0.74)	91.9%	＜0.001
	TMF vs. TAF	0	Not applicable	-	No available data
	TDF-to-TAF vs. TDF	1	6.00 (1.38 , 26.05)	0.0%	＜0.001
	TDF vs. TAF	4	1.06	0.0%	0.705

Safety Outcome	Comparison of Treatment Strategies	Number of Studies	Effect Size (95% CI)	Heterogeneity (I^2)	P value
			(0.76 , 1.48)		

Notes: eGFR = estimated glomerular filtration rate; BMD = bone mineral density; TDF = tenofovir disoproxil fumarate; TAF = tenofovir alafenamide; TMF = tenofovir amibufenamide. (eGFR assessment follows KDIGO standards; BMD measurements of hip and spine adhere to ISCD recommendations.)

Effect size for eGFR: Negative values indicate greater decline in the first group vs. the comparator.

Effect size for BMD: Negative values indicate greater BMD loss in the first group vs. the comparator.

No available data: No studies reported this comparison.

Table S12：Stratified Analysis of Safety Outcomes (Renal Function and Bone Mineral Density) by Follow-up Duration

Safety Indicator	Comparison of Treatment Strategies	Follow-up Duration Stratification	Number of Studies	Effect Size (95% CI)	Heterogeneity (I^2)	P-value
Renal Function (eGFR change, mL/min/1.73m²)	TDF-to-TAF vs. TAF	＜144 weeks	3	-1.48 (-1.57, -1.39)	99.4%	＜0.001
		≥144 weeks	5	-0.44 (-0.51, -0.36)	96.9%	＜0.001
	TDF vs. TAF	＜144 weeks	4	-0.71 (-0.86, -0.57)	95.2%	＜0.001
		≥144 weeks	3	-0.69 (-0.79, -0.60)	99.5%	＜0.001
	TDF-to-TAF vs. TDF	＜144 weeks	1	-2.28 (-2.46, -2.11)	0.0%	＜0.001
		≥144 weeks	1	-0.42 (-0.72, -0.12)	0.0%	＜0.001
	TMF vs. TAF	＜144 weeks	2	-1.06 (-0.85, -1.27)	0.0%	0.959
		≥144 weeks	NA	NA	NA	NA
Bone Mineral Density (Hip BMD change, %)	TDF-to-TAF vs. TAF	＜144 weeks	3	-1.53 (-1.62, -1.43)	99.8%	＜0.001
		≥144 weeks	5	-0.78	98.9%	＜

Safety Indicator	Comparison of Treatment Strategies	Follow-up Duration Stratification	Number of Studies	Effect Size (95% CI)	Heterogeneity (I^2)	P-value
				(-0.87, -0.70)		0.001
	TDF vs. TAF	＜144 weeks	4	-1.47 (-1.57, -1.37)	99.8%	＜ 0.001
		≥144 weeks	2	-2.28 (-2.42, -2.14)	99.8%	＜ 0.001
	TDF-to-TAF vs. TDF	＜144 weeks	NA	NA	NA	NA
		≥144 weeks	1	-0.06 (-0.20, 0.08)	0.0%	＜ 0.001
	TMF vs. TAF	＜144 weeks	NA	NA	NA	NA
		≥144 weeks	NA	NA	NA	NA
Bone Mineral Density (Spine BMD change, %)	TDF-to-TAF vs. TAF	＜144 weeks	3	-1.38 (-1.47, -1.28)	99.8%	＜ 0.001
		≥144 weeks	5	-1.01 (-1.10, -0.92)	99.4%	＜ 0.001
	TDF vs. TAF	＜144 weeks	4	-1.07 (-1.16, -0.98)	99.8%	＜ 0.001
		≥144 weeks	2	-2.11 (-2.25, -1.98)	99.7%	＜ 0.001

Safety Indicator	Comparison of Treatment Strategies	Follow-up Duration Stratification	Number of Studies	Effect Size (95% CI)	Heterogeneity (I^2)	P-value
	TDF-to-TAF vs. TDF	＜144 weeks	NA	NA	NA	NA
		≥144 weeks	1	-0.35 (-0.49, -0.21)	0.0%	＜0.001
	TMF vs. TAF	＜144 weeks	NA	NA	NA	NA
		≥144 weeks	NA	NA	NA	NA
Changes in total cholesterol levels	TDF-to-TAF vs. TAF	＜144 weeks	0	-1.48 (-1.57, -1.39)	99.4%	＜0.001
		≥144 weeks	1	0.12 (-0.18, 0.42)	0.0%	＜0.001
	TDF vs. TAF	＜144 weeks	2	-1.11 (-1.44, -0.78)	35.0%	0.215
		≥144 weeks	1	-1.21 (-1.46, -0.96)	0.0%	＜0.001
	TDF-to-TAF vs. TDF	＜144 weeks	NA	NA	NA	NA
		≥144 weeks	1	-0.72 (-1.02, -0.41)	0.0%	＜0.001
	TMF vs. TAF	＜144 weeks	3	-0.22 (-0.39, -0.05)	77.8%	0.011

Safety Indicator	Comparison of Treatment Strategies	Follow-up Duration Stratification	Number of Studies	Effect Size (95% CI)	Heterogeneity (I^2)	P-value
		≥144 weeks	NA	NA	NA	NA
Serious adverse reactions	TDF-to-TAF vs. TAF	＜144 weeks	1	1.21 (0.61, 2.41)	0.0%	＜0.001
		≥144 weeks	2	0.32 (0.19, 0.52)	93.3%	＜0.001
	TDF vs. TAF	＜144 weeks	2	1.18 (0.54, 2.59)	0.0%	0.322
		≥144 weeks	2	1.03 (0.71, 1.50)	0.0%	0.564
	TDF-to-TAF vs. TDF	＜144 weeks	NA	NA	NA	NA
		≥144 weeks	1	6.00 (1.38, 26.05)	0.0%	＜0.001
	TMF vs. TAF	＜144 weeks	NA	NA	NA	NA
		≥144 weeks	NA	NA	NA	NA

Table S13: Stratified Analysis of Efficacy by Follow-up Duration (TMF vs. TAF)

Efficacy Indicator	Follow-up Duration	Number	Efficacy Outcome	Heterogeneity
Virological Response Rate	＜48 weeks	1	OR = 2.56 (95% CI: 0.94–6.96)	I^2 = 0.0%, P=＜0.001
	≥48 weeks	9	OR = 1.20 (95% CI: 0.87–1.67)	I^2 = 0.0%, P=0.772
ALT Normalization Rate	＜48 weeks	1	OR = 1.12 (95% CI: 0.44–2.88)	I^2 = 0.0%, P=＜0.001
	≥48 weeks	7	OR = 1.28 (95% CI: 0.89–1.82)	I^2 = 0.0%, P=0.962
HBeAg Loss Rate	＜48 weeks	1	OR = 1.16 (95% CI: 0.45–3.00)	I^2 = 0.0%, P=＜0.001
	≥48 weeks	4	OR = 1.06 (95% CI: 0.69–1.64)	I^2 = 0.0%, P=0.887
Clearance rate of HBsAg	≥48 weeks	4	OR = 0.72 (95% CI: 0.19–2.70)	I^2 = 0.0%, P=0.551
Key Note	>96 weeks	1	Limited data available; trends consistent with short-term results but not validated	-

Note: All studies investigating the clearance rate of HBsAg had a follow-up duration of ≥48 weeks.

Table S14: Stratified Analysis of Efficacy by Follow-up Duration (TDF vs. TAF)

Efficacy Indicator	Follow-up Duration	Number	Efficacy Outcome	Heterogeneity
Virological Response Rate	≤48 weeks	7	OR = 0.85 (95% CI: 0.67–1.07)	I^2 = 15.1%, P=0.314
	＞48 weeks	7	OR = 1.04 (95% CI: 0.91–1.18)	I^2 = 29.0%, P=0.207
ALT Normalization Rate	≤48 weeks	4	OR = 0.65 (95% CI: 0.50–0.83)	I^2 = 0.0%, P=0.824
	＞48 weeks	6	OR = 0.62 (95% CI: 0.54–0.72)	I^2 =51.4%, P=0.068
HBeAg Loss Rate	≤48 weeks	2	OR = 1.28 (95% CI: 0.80–2.05)	I^2 = 0.0%, P=0.853
	＞48 weeks	5	OR = 1.56 (95% CI: 1.23–1.98)	I^2 = 0.0%, P=0.867
Clearance rate of HBsAg	≤48 weeks	1	OR = 2.01 (95% CI: 0.22–18.2)	I^2 = 0.0%, P＜ 0.001
	＞48 weeks	3	OR =1.25 (95% CI: 0.55–2.83)	I^2 = 39.4%, P=0.192

Table S15: Stratified Analysis of Efficacy by Follow-up Duration (TDF-to-TAF vs. TAF)

Efficacy Indicator	Follow-up Duration	No. of Studies	Efficacy Outcome	Heterogeneity
Virological Response Rate	≤96 weeks	2	OR = 0.86 (95% CI: 0.59–1.27)	I^2 = 0.0%, P=0.980
	＞96 weeks ≤144 weeks	5	OR = 1.18 (95% CI: 0.98–1.43)	I^2 = 0.0%, P=0.785
	＞144 weeks	2	OR = 1.54 (95% CI: 1.14–2.09)	I^2 = 97.6% , P＜0.001
ALT Normalization Rate	≤96 weeks	2	OR = 0.42 (95% CI: 0.34–0.52)	I^2 = 0.0%, P=0.873
	＞96 weeks ≤144 weeks	4	OR = 0.83 (95% CI: 0.68–1.01)	I^2 = 44.8%, P=0.142
	＞144 weeks	2	OR = 0.70 (95% CI: 0.57–0.86)	I^2 = 0.0% , P= 0.648
HBeAg Loss Rate	≤96 weeks	2	OR = 1.28 (95% CI: 0.94–1.73)	I^2 = 28.2%, P=0.238
	＞96 weeks ≤144 weeks	4	OR = 1.13 (95% CI: 0.87–1.46)	I^2 = 0.0%, P=0.632
	＞144 weeks	2	OR = 1.22 (95% CI: 0.92–1.61)	I^2 = 0.0%, P=0.712
Clearance Rate of HBsAg	≤96 weeks	1	OR = 1.00 (95% CI: 0.43–2.20)	I^2 = 0.0%, P＜0.001
	＞96 weeks ≤144 weeks	4	OR = 1.17 (95% CI: 0.47–2.92)	I^2 = 48.2%, P= 0.122
	＞144 weeks	3	OR = 0.98 (95% CI: 0.43–2.20)	I^2 = 0.0%, P= 0.642

Table S16： Comparison of Pooled Effect Sizes Before and After Excluding High-Risk Studies

Outcome Indicator	Comparison Group	Original Pooled OR (95% CI)	OR After Excluding High-Risk Studies (95% CI)	I^2 Before Exclusion	I^2 After Exclusion
Virological response rate	TDF vs. TAF	0.99 (0.88, 1.11)	0.99 (0.88, 1.11)	26.8%	35.0%
	TMF vs. TAF	1.23 (0.93, 1.63)	1.28 (0.95, 1.71)	0.0%	0.0%
	TDF-to-TAF vs. TAF	1.20 (1.04, 1.39)	1.21 (1.04, 1.40)	83.7%	85.6%
HBsAg clearance rate	TDF vs. TAF	0.70 (0.28, 1.75)	0.70 (0.28, 1.75)	22.0%	22.0%
	TMF vs. TAF	0.72 (0.19, 2.70)	0.72 (0.19, 2.69)	0.0%	0.0%
	TDF-to-TAF vs. TAF	1.05 (0.59, 1.88)	1.09 (0.60, 1.96)	0.0%	5.0%
HBeAg loss rate	TAF vs. TDF	1.50 (1.22, 1.85)	1.50 (1.22, 1.85)	0.0%	0.0%
	TAF vs. TMF	0.92 (0.62, 1.37)	0.96 (0.63, 1.46)	0.0%	0.0%
	TAF vs. TDF-to-TAF	1.20 (1.02, 1.41)	1.19 (1.01, 1.40)	0.0%	0.0%
ALT normalization rate	TDF vs. TAF	0.64 (0.57, 0.72)	0.63 (0.55, 0.71)	22.5%	20.0%
	TMF vs. TAF	1.26 (0.91, 1.76)	1.24 (0.88, 1.74)	0.0%	0.0%
	TDF-to-TAF vs. TAF	0.63 (0.56, 0.71)	0.62 (0.55, 0.71)	74.3%	75.9%

Table S17: Results of Stratified Sensitivity Analyses Based on Loss-to-Follow-Up/Missing Data Handling Methods

Core Comparison	Outcome Indicator	Analysis Scenario	Included Studies (n)	Pooled OR (95% CI)	Fluctuation vs. Original Result
TDF vs. TAF	Virological Response Rate	Original analysis	14	0.99 (0.88–1.11)	—
		Stratified 1: Only RCTs using ITT analysis	12	1.03 (0.91–1.17)	< 3%
		Stratified 2: Only studies using complete case analysis	4	1.01 (0.86–1.18)	< 2%
TMF vs. TAF	ALT Normalization Rate	Original analysis	9	1.26 (0.91–1.76)	—
		Stratified 1: Only RCTs using ITT analysis	8	1.27 (0.87–1.83)	< 2%
		Stratified 2: Only studies using complete case analysis	3	1.21 (0.67–2.19)	< 4%
TAF vs. TDF-to-TAF	HBeAg Loss Rate	Original analysis	8	1.20 (1.02–1.41)	—
		Stratified 1: Only RCTs using ITT analysis	6	1.20 (0.98–1.48)	< 2%

Core Comparison	Outcome Indicator	Analysis Scenario	Included Studies (n)	Pooled OR (95% CI)	Fluctuation vs. Original Result
		Stratified 2: Only RCTs using complete case analysis	7	1.20 (1.00–1.45)	< 2%

Abbreviations: OR = odds ratio; CI = confidence interval; TDF = tenofovir disoproxil fumarate; TAF = tenofovir alafenamide; TMF = tenofovir amibufenamide; ITT = intention-to-treat; HBeAg = hepatitis B e antigen; ALT = alanine aminotransferase; RCT = randomized controlled trial.

Note: "Fluctuation vs. Original Result" refers to the percentage change in pooled OR between stratified analysis and the original analysis in Clear manuscript .docx; all 95% CIs showed no significant shift.

Table S18: Sensitivity Analysis of Publication Bias in the TMF Subgroup (Stratified by Comparison Type)

Comparison Type	Outcome Indicator	Number of Included Studies	Begg's Statistic	Z-Value
TMF vs. TAF	Virological response rate	11	0.043	2.02
	ALT normalization rate	9	0.917	0.10
	HBeAg loss rate	6	0.851	1.00
	HBsAg clearance rate	2	NA	NA
TMF vs. TDF	Virological response rate	3	0.602	-0.52
	ALT normalization rate	3	0.117	-1.57
	HBeAg loss rate	2	0.117	-1.57
	HBsAg clearance rate	2	0.601	0.52

Table S19： Conversion of Reported eGFR Statistics to Mean ± SD

Study ID	Reported Statistic	Sample Size (n)	Calculation	Converted Mean ± SD (g/cm^2)	Notes
Ogawa E 2017	Mean = -0.6； 95% CI: -1.8–0.60	581	SD = (0.60 – (-1.80) / (2 × 1.96) ≈ 0.612	-0.6 ± 0.612	CI → SD
Byun KS 2021	Mean = 7.3; SD = 15.1	87	Not required	7.3 ± 15.1	Direct extraction
Agarwal K 2018	Median = -1.20; IQR = -5.9– 2.3	866	SD ≈ (2.3 – (-5.9) / 1.35 ≈ 6.07	-1.20 ± 6.07	Hozo approximation

Table S20: Standardization of Safety Endpoints Across Included Studies

First Author (Year)	DXA Site	Original eGFR Formula	Standardized eGFR Formula	≤144 w / >144 w
Buti M 2024	Fem neck + L1–L4	MDRD / C-G	CKD-EPI 2021	≥144 weeks
Agarwal K 2018	Fem neck + L1–L4	MDRD / C-G	CKD-EPI 2021	≥144 weeks
Childs-Kean LM 2018	NA	CKD-EPI 2021	NA	＜144 weeks
Byun K 2021	Fem neck + L1–L4	MDRD / C-G	CKD-EPI 2021	≥144 weeks
Chan HLYY 2019	Fem neck + L1–L4	MDRD / C-G	CKD-EPI 2021	＜144 weeks
Chan HLYY 2024	Fem neck + L1–L4	MDRD / C-G	CKD-EPI 2021	≥144 weeks
Chan HLYY 2017	Fem neck + L1–L4	MDRD / C-G	CKD-EPI 2021	≥144 weeks
Choi J 2023	Fem neck + L1–L4	MDRD / C-G	CKD-EPI 2021	≥144 weeks
Seto WK 2016	Fem neck + L1–L4	MDRD / C-G	CKD-EPI 2021	＜144 weeks
Hou J 2024	Fem neck + L1–L4	MDRD / C-G	CKD-EPI 2021	≥144 weeks
Ogawa E 2017	Fem neck + L1–L4	CKD-EPI 2021	NA	＜144 weeks
Chan HLYY 2016	NA	MDRD / C-G	CKD-EPI 2021	＜144 weeks
Pan CQ 2021	NA	CKD-EPI 2021	NA	＜144 weeks
Hou J 2021	Fem neck + L1–L4	MDRD / C-G	CKD-EPI 2021	≥144 weeks
Buti M 2016	NA	MDRD / C-G	CKD-EPI 2021	＜144 weeks

Abbreviation: C-G = Cockcroft-Gault.

Example Conversion for Buti M (2024)

Cockcroft-Gault Formula:

$$ClCr = \frac{(140 - age) \times weight}{72 \times serum\ creatinine} \times 0.85\ (for\ female\ patients)$$

TAF Group:

Age (years): 40

Weight (kg): 70

Serum Creatinine (mg/dL): 1.0

Calculation:

$$\mathrm{ClCr_{TAF}} = \frac{(140-40)\times 70}{72\times 1.0} = \frac{100\times 70}{72} \approx 97.22\ \mathrm{ml/min}$$

Adjusted for 1.73 m²:

$$\mathrm{eGFR_{TAF}} = \frac{97.22}{1.73} \approx 56.2\ \mathrm{ml/min/1.73\ m^2}$$

TDF Group:

Age (years): 42

Weight (kg): 72

Serum Creatinine (mg/dL): 1.2

Calculation:

$$\mathrm{ClCr_{TDF}} = \frac{(140-42)\times 72}{72\times 1.2} = \frac{98\times 72}{86.4} \approx 82.35\ \mathrm{ml/min}$$

Adjusted for 1.73 m²:

$$\mathrm{e}GFR_{TDF} = \frac{82.35}{1.73} \approx 47.6\ \mathrm{m}l/\mathrm{m}in/1.73\ \mathrm{m^2}$$

CKD-EPI Formula:

$$\mathrm{eGF}R_{\mathrm{CKD-EPI}} = 141 \times \min\left(\frac{Scr}{k}, 1\right)^{-0.329(female), -0.411(male)} \times \max\left(\frac{Scr}{k}, 1\right)^{-1.209} \times 0.993^{\mathrm{age}} \times \times 1.018\ (\text{if female}) \times 1.159\ (\text{if black})$$

TAF Group:

Age (years): 40

Serum Creatinine (mg/dL): 1.0

Calculation:

$$\mathrm{eGFR_{CKD-EPI,TDF}} = 141 \times \min\left(\frac{1.2}{0.9}, 1\right)^{-0.411} \times \max\left(\frac{1.2}{0.9}, 1\right)^{-1.209} \times 0.993^{42}$$

$$\mathrm{e}GFR_{CKD-EPI,TDF} = 141 \times 1^{0.411} \times 1.333^{-1.209} \times 0.993^{42}$$

$$\mathrm{e}GFR_{CKD-EPI,TDF} \approx 141 \times 1 \times 0.452 \times 0.418 \approx 26.1\ \mathrm{m}l/\mathrm{m}in/1.73\ \mathrm{m^2}$$

Note: The conversion from Cockcroft-Gault to CKD-EPI eGFR was performed using the reported baseline serum creatinine, age, and sex. No additional raw data were requested.

Table S21: Meta-regression and subgroup analysis results for virological response rate (TDF-to-TAF switch vs. TAF monotherapy), stratified by patient drug resistance status

Analysis Type	Subgroup/Variable	Number of Studies	Effect Size (95% CI)	Heterogeneity (I^2, P-value)	Meta-regression P-value
Meta-regression	Patient drug resistance status	41	-	-	0.017
Subgroup Analysis	Non-resistant patients	7	1.04 (0.87, 1.24)	0.0%, P=0.56	-
	Resistant patients	2	3.24 (0.37, 28.12)	97.0%, P＜0.00001	-

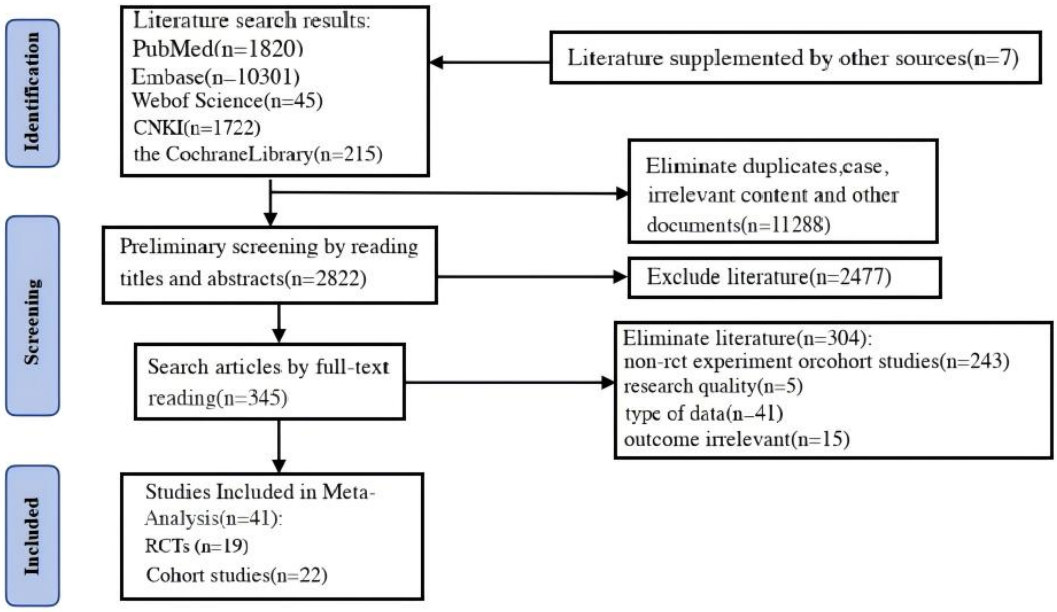

Figure S1：Flow chart of literature screening

Note: Seto 2016 conference abstract included as unpublished data.

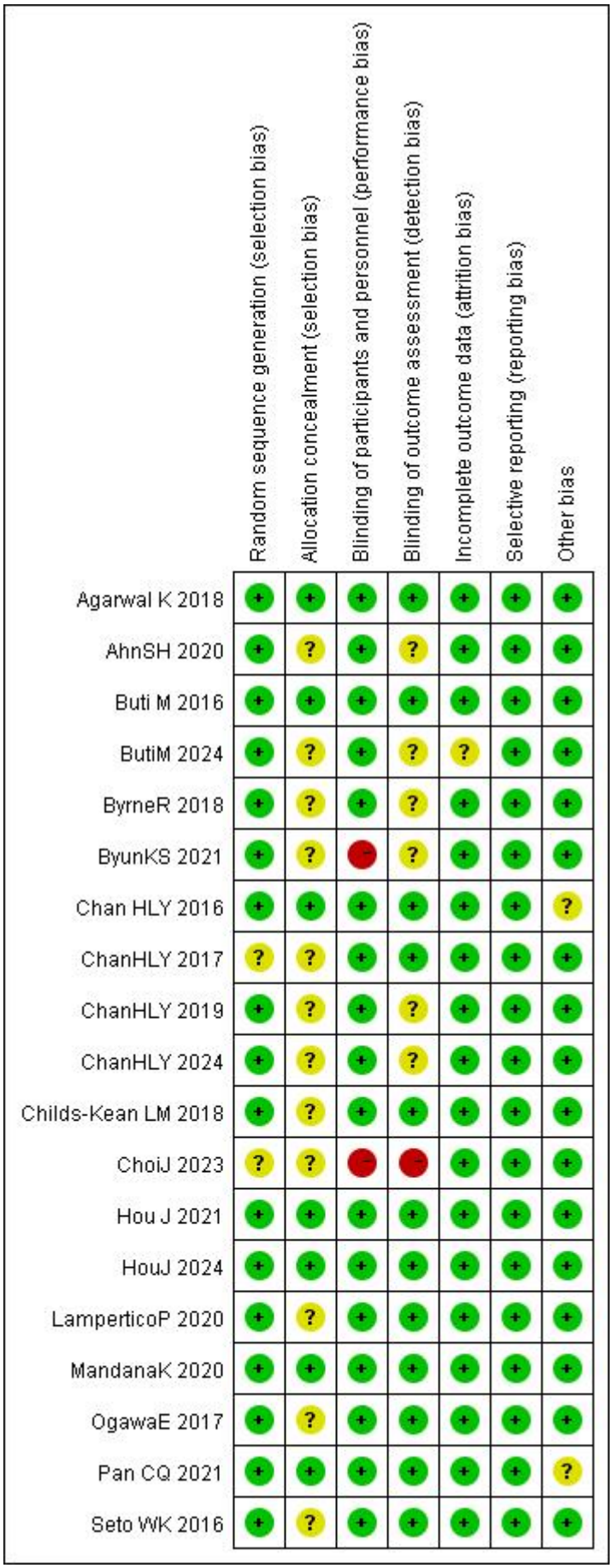

Figure S2： Evaluation graph of risk of bias

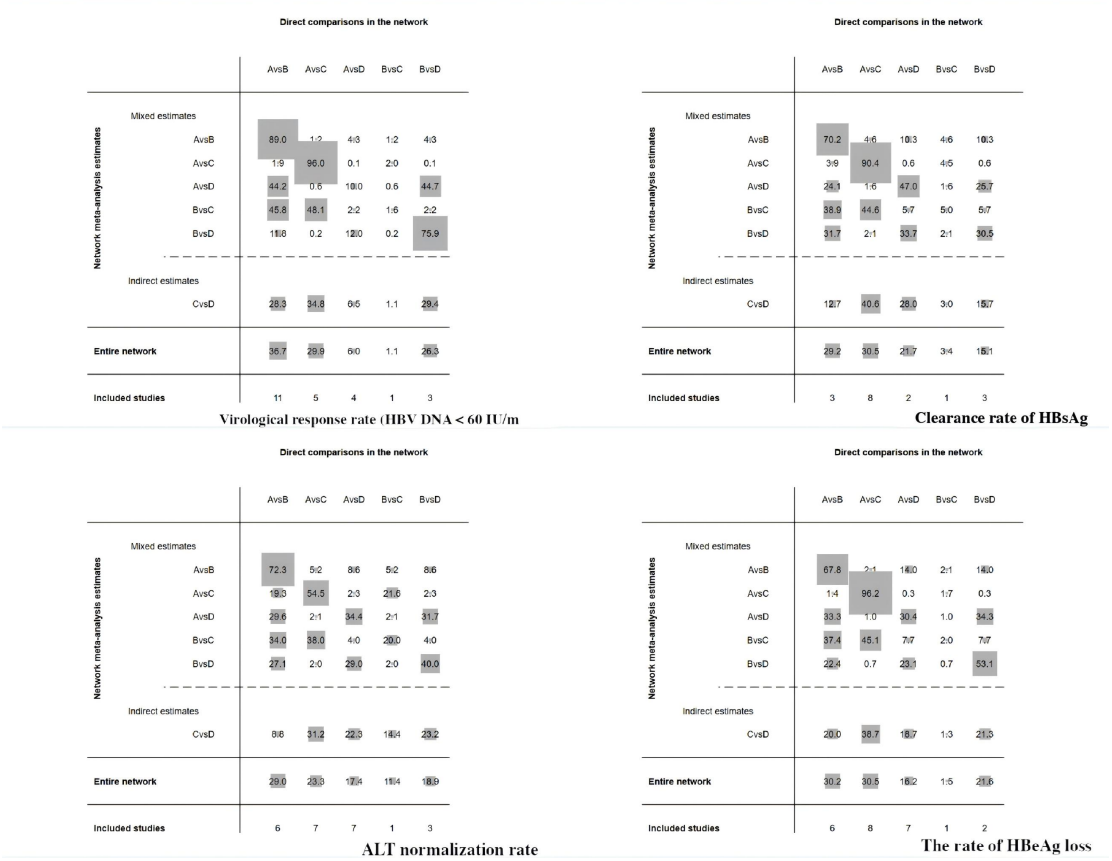

Figure S3：Network Meta - Analysis Matrix of Direct and Indirect Intervention Comparisons

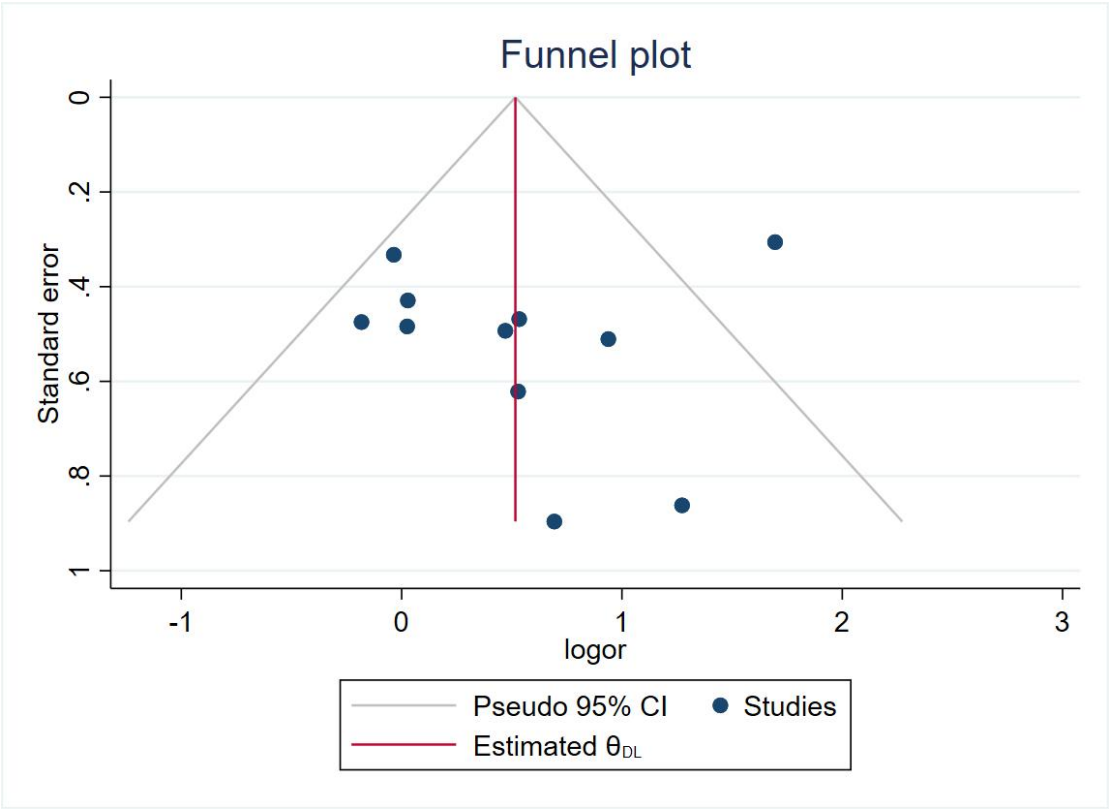

Figure S4： Trim - and - Fill Funnel Plot: TMF vs. TAF