Variance Between Experts and Community Clinicians in Treatment of Chronic Hepatitis B Infection
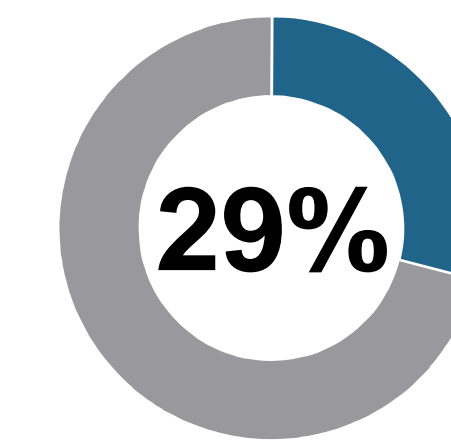
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1. Background

- Recent updates to the AASLD practice guidelines for chronic HBV infection—and the approval in 2016 of the first new HBV therapy since 2008—require clinicians to reappraise their treatment plans for patients with HBV infection
- We developed an online decision support tool based on recommendations from multiple experts for select HBV patient scenarios based on key criteria

2. Methods

- 5 HBV experts provided first-line management recommendations for 433 unique HBV case scenarios based on a simplified set of patient variables:
  - HBeAg status
  - HBV genotype
  - HBV DNA level
  - ALT level
  - Liver histology
  - Renal or bone disease
  - Age
  - Pregnancy plans
- We then developed an online decision support tool that enabled participants to specify a patient scenario using these variables and then select their intended first-line management plan

Online Decision Support Tool Provides Patient-Specific Recommendations From HBV Experts

1. Participant enters patient and disease factors
2. Participant indicates management plan
3. Participant receives expert recommendations
4. Participant is asked if expert recommendations changed their management plan

3. Participant Demographics

- Between November 2017 and September 2018, N = 902 participants (79% hepatology, gastroenterology, ID, IM, FP/GP) entered 1820 patient case scenarios

MD	76%
Pharmacist, Nurse, NP/PA	12%
Other	11%

North America	34%
Asia	24%
Europe	23%
Other	19%

4. Comparison of Expert and Community Clinicians' First-line Management Choices
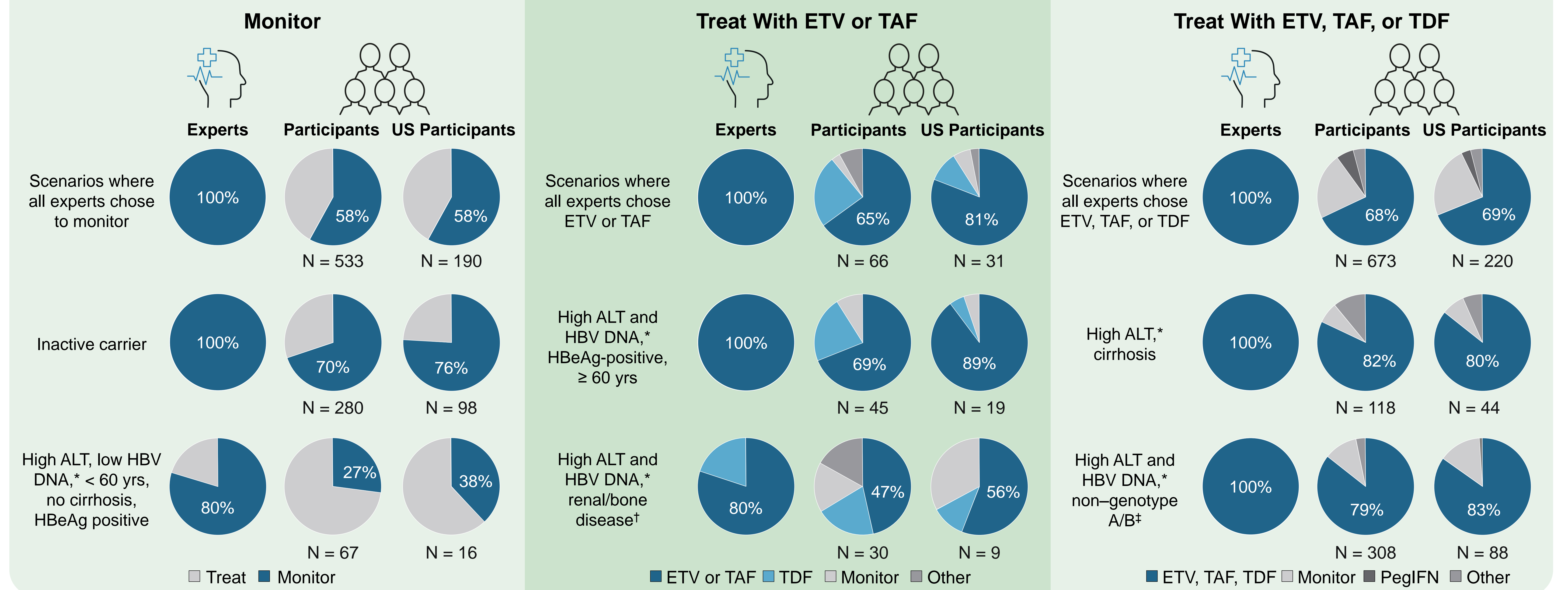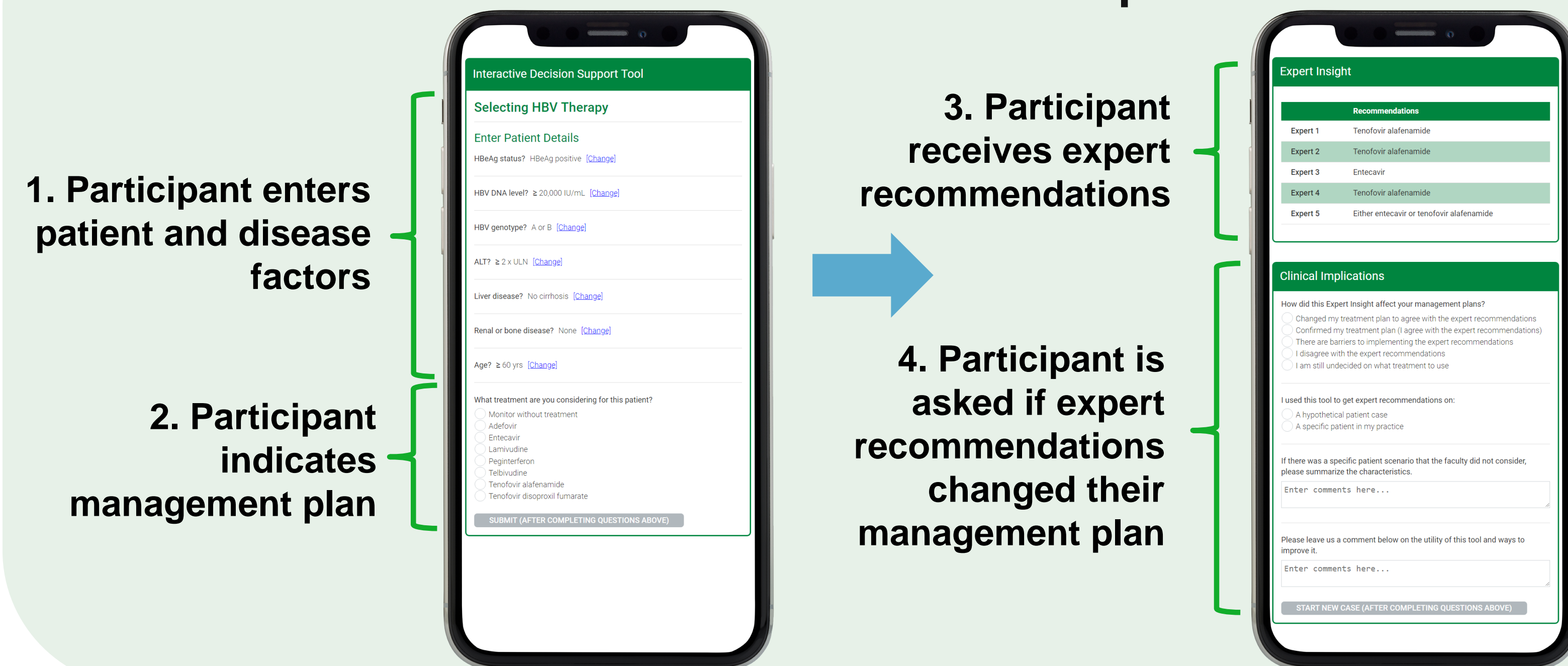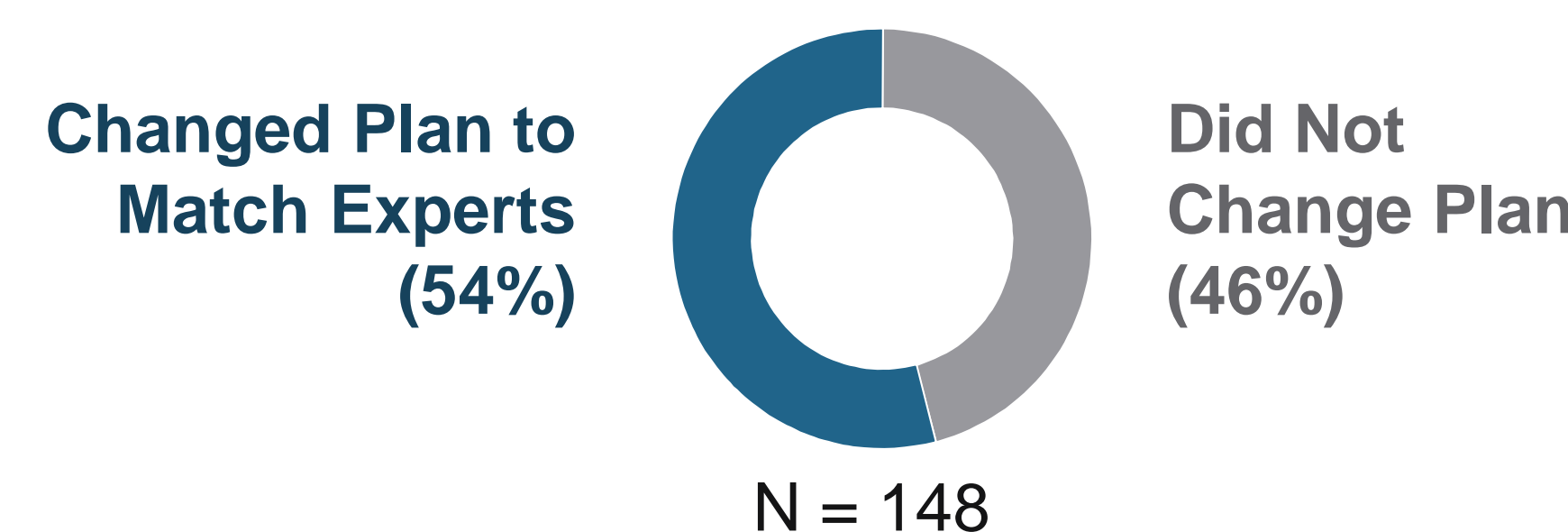
29%

- Overall, in 29% (534/1820) of cases entered, the participant planned a first-line management approach that differed from the experts (28% [165/581] for US participants)

5. Comparison of First-line Management Choices by Patient Scenario

Monitor

	Experts	Participants	US Participants
Scenarios where all experts chose to monitor	100%	58% N = 533	58% N = 190
Inactive carrier	100%	70% N = 280	76% N = 98
High ALT, low HBV DNA,* < 60 yrs, no cirrhosis, HBeAg positive	80%	27% N = 67	38% N = 16

□ Treat ■ Monitor

Treat With ETV or TAF

	Experts	Participants	US Participants
Scenarios where all experts chose ETV or TAF	100%	65% N = 66	81% N = 31
High ALT and HBV DNA,* HBeAg-positive, ≥ 60 yrs	100%	69% N = 45	89% N = 19
High ALT and HBV DNA,* renal/bone disease†	80%	47% N = 30	56% N = 9

■ ETV or TAF ■ TDF □ Monitor ■ Other

Treat With ETV, TAF, or TDF

	Experts	Participants	US Participants
Scenarios where all experts chose ETV, TAF, or TDF	100%	68% N = 673	69% N = 220
High ALT,* cirrhosis	100%	82% N = 118	80% N = 44
High ALT and HBV DNA,* non–genotype A/B‡	100%	79% N = 308	83% N = 88

■ ETV, TAF, TDF □ Monitor ■ PegIFN ■ Other

*ALT cutoff, ≥ 2 x ULN; HBV DNA cutoff ≥ 20,000 IU/mL (HBeAg positive), ≥ 2000 IU/mL (HBeAg negative). †Not planning pregnancy and, if HBeAg positive, non–genotype A/B. ‡If HBeAg positive, not planning pregnancy.

6. Impact

Intent to Change Among Participants Differing From Expert Consensus

Changed Plan to Match Experts (54%)

Did Not Change Plan (46%)

N = 148

"This is great! Like having a panel of experts in your back pocket!!"

"I love the tool and when I see 5 people [with] the same opinion it does make me feel better."

7. Conclusions

- This online decision support tool showed substantial **variability** in first-line management strategies for chronic HBV infection **between experts and community clinicians**
- In many cases, participants chose an approach that no expert chose
  - Participants would often treat patients that experts would monitor
  - Where experts chose ETV or TAF, 24% of participants chose TDF (10% in US)
  - Where experts chose any recommended nucleos(t)ide analogue (ETV, TAF, or TDF), 32% of participants did not
  - In 5% of all cases, participants chose agents not recommended by guidelines (adefovir, lamivudine, telbivudine)
- Expert recommendations **changed the intended treatment plan for most participants**, suggesting the tool's use can help optimize care of patients with chronic HBV infection