Effectiveness of an Online, Tailored CME Curriculum on Chronic Hepatitis B Virus Management

Nancy Reau, MD[1]; Catherine Capparelli, CCMEP[2]; Jennifer Garick[3]; Wendy Cerenzia, MS[3]; Simi T. Hurst, PhD[2]
[1]Center for Liver Diseases, University of Chicago Medical Center, Chicago, IL, USA; [2]Medscape, LLC, New York, NY, USA; [3]CE Outcomes, Birmingham, AL, USA

BACKGROUND AND OBJECTIVES

- Approximately 800,000 -1.4 million persons are estimated to have chronic hepatitis B viral (HBV) infection[1,2]
- Untreated HBV infection can lead to significant morbidity and mortality, including hepatocellular carcinoma (HCC) and liver failure
- Only 10%-15% of persons with chronic HCV infection are thought to receive treatment[3]
- The US Department of Health and Human Services has identified the need to "build a U.S. healthcare workforce prepared to prevent and diagnose viral hepatitis and provide care and treatment to infected persons" as one of the top priorities in its Action Plan for the Prevention, Care, & Treatment of Viral Hepatitis (Updated 2014-2016)[2]
- This study evaluated the effectiveness of an online, tailored (personalized) learning curriculum in improving healthcare providers' overall performance with respect to the evaluation and ongoing care of persons with chronic HBV
- This educational curriculum sought to
  - Improve provider ability to interpret laboratory tests and characterize HBV infection
  - Increase application of guideline-based recommendations for patient monitoring and treatment
  - Improve effective communication between patients and providers

Figure 1. The Personalized Learning Pathway: A Targeted Approach to Education

METHODS

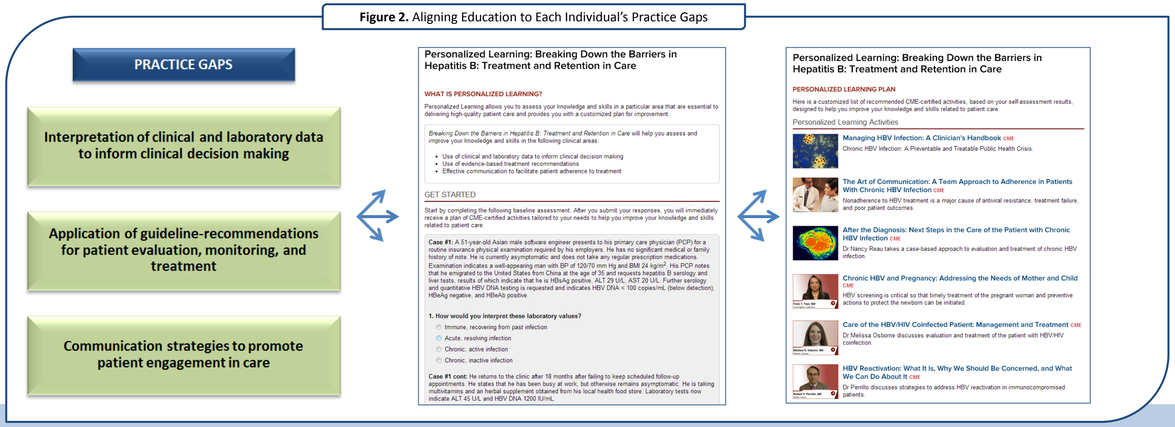
STUDY DESIGN: THE PERSONALIZED LEARNING (PL) MODEL

- Healthcare providers often participate in educational activities that reinforce what they already know versus those that address their true educational needs[4,5]
- Changes to practice are more likely to occur if learners evaluate their own practice and commit to change following participation in educational endeavors[6]
- Personalized Learning is a needs-driven educational solution that directs learners to educational programming based on their individual practice gaps (Figure1)
- An online clinical practice self-assessment (SA) was used to identify individuals' gaps in knowledge, skills, or performance as they related to caring for patients with chronic HBV infection
  - The SA contained a series of case vignettes with 19 associated questions, and was pilot tested for clarity and accuracy
  - Each SA question was aligned to 1 of 3 practice gaps and 1 of 6, interactive, CME-certified multimedia educational modules (Figure 2)
  - A tailored communication and educational reinforcement plan ensured continued learner engagement throughout the program
- Each physician was directed to 1 or more relevant CME modules based on their individual educational needs identified through the SA
- The SA and all 6 CME modules were launched online simultaneously on June 26, 2012

ASSESSMENT OF EDUCATIONAL EFFECTIVENESS

- Each CME module included post-assessment questions matched to questions from the SA
- Educational effectiveness was measured through statistical comparison between the SA and post-assessment responses
- The study population for this analysis was limited to:
  - Physicians who completed both SA and post-assessment questions
  - Physicians indicating they cared for patients with chronic HBV
- IBM SPSS Statistics 20 was used for data extraction, transformation, and statistical analyses
- Data are presented in aggregate to maintain study participant confidentiality

Figure 2. Aligning Education to Each Individual's Practice Gaps



RESULTS

PROVIDER DEMOGRAPHICS

- To date, over 9000 healthcare providers have participated in the PL curriculum, including:
  - 887 gastroenterologists/hepatologists
  - 2869 PCPs
  - 473 infectious disease specialists
  - 685 nurse practitioners and physician assistants
  - 2454 nurses
- The 359 physicians who participated in the PL curriculum between June 26, 2012–September, 2012 are presented in this analysis
- The study population was stratified based on specialty
  - Primary care physicians (PCPs; family medicine, general practice, and internal medicine)
  - Specialists (General gastroenterologists, hepatologists, infectious disease specialists)

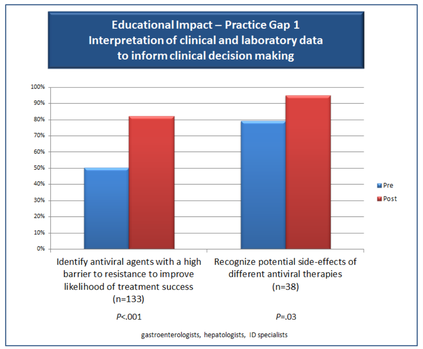
EDUCATIONAL IMPACT

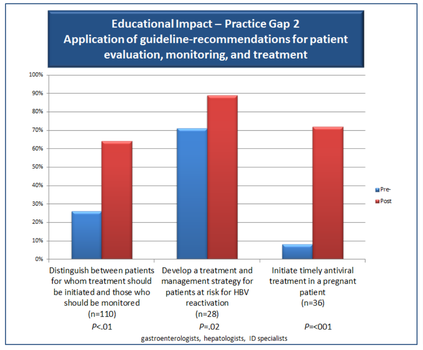
Compared to baseline, both primary care and specialist physicians were significantly more likely to make evidence-based decisions with respect to:

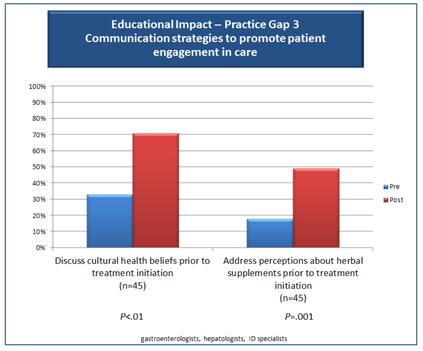
- Distinguishing among indications for patient monitoring vs treatment initiation
- Developing a management strategy for patients at risk for HBV reactivation
- Addressing the needs of pregnant women with chronic HBV infection
- Developing a management strategy for patients with HIV/HBV coinfection
- Incorporating culturally sensitive strategies into patient care

Table. Demographics of Physician Participants

	Participants (n = 359)
Specialty:	
Gastroenterology	20%
Infectious diseases	10%
Hepatology	1%
Family medicine	17%
Internal medicine	42%
General practice	8%
OB/GYN	3%
Number of patients with HBV seen each week	
1-10	81%
11-20	9%
21-30	3%
31-40	1%
> 40	6%
Practice location	
Urban	50%
Suburban	37%
Rural	13%
Present employment	
Solo practice	26%
Group practice	40%
Medical school	9%
HMO	3%
Non-governmental hospital	10%
Government	12%
Gender	
Male	1%
Female	29%







DISCUSSION AND NEXT STEPS

- The *Breaking Down Barriers in Hepatitis B: Treatment and Retention in Care* Personalized Learning curriculum provided a tailored educational experience based on each providers' individual gaps
- Engagement in the PL curriculum, resulted in significantly improved confidence, competence, and performance – across all three practice gaps – among PCPs, gastroenterologists/hepatologists, and infectious disease specialists
- The personalized learning model has merit and applicability in several other therapeutic areas, including, but not limited to, hepatitis C, HIV infection, diabetes, menopause, and contraception

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DISCLOSURES

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