

Introducing Behavioral Health into the Treatment of Chronic Liver Disease (CLD): An Integrated Hybrid Model

The burden of Chronic Liver Disease (CLD) is on the rise in United States. CLD is complicated by behavioral illnesses at a higher prevalence (8-31%) than the general population (1.8%).¹ The most common cause for CLD leading to early death is Hepatitis C (HCV), followed by

alcohol abuse, metabolic syndrome (*diabetes, overweight, hyperlipidemia, and hypertension*) and fatty liver.² Three behavioral health issues common in CLD include alcohol abuse, substance abuse, and depression. These either occur prior to the disease or develop as a result of the

disease, its treatment or complications (like depression). Very few patients with CLD have access to behavioral health services, and the stigma associated with these health issues can create barriers to care. There is a need to integrate collaborative behavioral health approaches within conventional hepatology, in an effort to improve patient health, raise the quality of care and reduce the total health care costs.

Figure 1. Key Implementation Steps and Interventions

Behavioral Health Implementation Steps	Intervention
1. Routine universal screening for alcohol, substance use and depression, using three validated questions at the time of check-in at the Hepatology practice.	<p>Questions include:</p> <ul style="list-style-type: none"> • How many times in the past year have you used an illegal drug or used a prescription medication for non-medical reasons?⁷ • How many times in the past year have you had X or more drinks in a day?⁸ • Over the past 2 weeks, how often have you been bothered by any of the following problems? <ul style="list-style-type: none"> a) Little interest or pleasure in doing things b) Feeling down, depressed or hopeless.⁹
2. All patients positive for alcohol/substance abuse, depression are approached by the social worker.	Specific brief instruments are utilized to assess the problem severity e.g. AUDIT (Alcohol Use Disorders Identification Test) for alcohol, DAST-10 (Drug Abuse Screen Test) for substance abuse and PHQ-9 (Personal Health Questionnaire) for depression.
3. Brief Interventions are offered to each patient by the social worker, based on a standard algorithm (Figure 2) related to SBIRT (Screening Brief Intervention and Referral to Treatment) model. ¹⁰	<p>Brief Interventions are based on a combination of transtheoretical model, motivational interviewing and cognitive behavioral therapy. Brief interventions:</p> <ul style="list-style-type: none"> • Identify ambivalence, self-efficacy, and build commitment to change. • Educate patients to reduce risky behaviors. • Therapy goals are focused on treatment for alcohol and substance abuse; treatment of depression; and improvement of medication adherence to foster better health outcomes.
4. Patients are followed up by phone at 1 month, and at 3 and 6 months in the office.	Assessments repeated at 3 and 6 months and actions plans are modified.

The adaptation of integrated care in patient-centered medical homes (PCMH) in primary care has shown to reduce fragmentation, with enhanced continuity and care coordination.³ According to the American Hospital Association 2014 report, behavioral health integration throughout the health care delivery system will serve the patients' individual needs at the point of required service, thereby promoting patient outcomes and reducing overall costs.⁴ This paper describes an innovative project integrating behavioral health services within routine care for CLD population in an outpatient hepatology clinic. While there are a few studies that have shown the positive effects of an integrated behavioral health care model for HCV patients in veteran populations,^{5,6} the use of this model for CLD patients (*offering universal screening and services for the triad of alcohol, substance abuse and depression*) is a new concept.

Einstein conceived an **integrated hybrid model** through creating an on-site team of a hepatologist and a social worker (SW) to offer universal screening and management for alcohol, substance abuse and depression. *Integrated* care can be described as offering screening and brief intervention services together at the point of care (routine office visit). A *hybrid* model

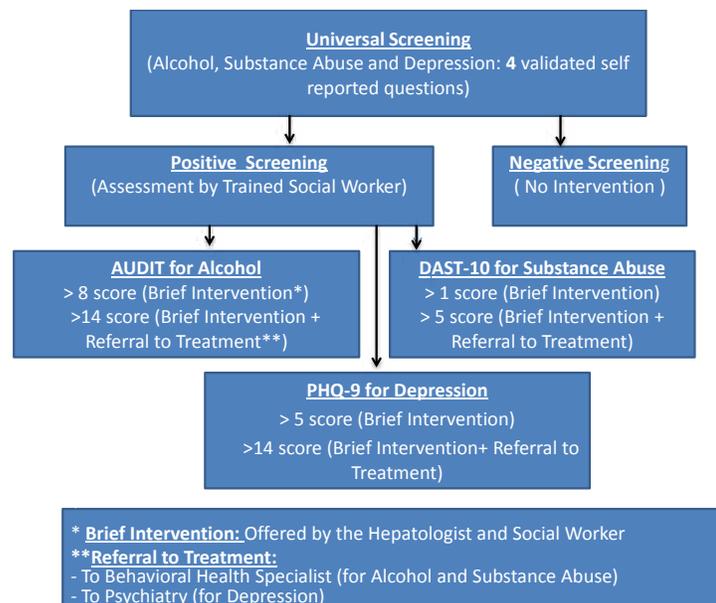
CONTINUED ON PAGE 2

consists of direct access and referral to a specialist behavioral health management service for advanced or complex cases. This program is supported by the **Albert Einstein Society (AES)**. The AES supports innovative programs within Einstein Network, and serves as a vehicle for leading-edge programs to find new ways to provide care for their patients, and foster the mission of the institution towards improved patient centered care. The behavioral health model within hepatology practice includes a number of key implementation steps, with universal screening and tailored interventions (Figure 1).

Procedures: At baseline visit, the SW completes all the necessary assessments (AUDIT, DAST-10, PHQ-9), and discusses the results of their responses. The SW then explains the impact of the corresponding behaviors on the patient's health and well-being, and identifies the main concerns of patients. She also identifies the patient's perception of the issue, willingness to change and the stage of change. Based on this information, the patient and SW together create a plan of action, and identify appropriate resources needed. The SW communicates with the physician taking care of the patient for any urgent issues, and documents a note within electronic medical records. At 3 and 6 months, the assessments are repeated and action plans are modified to achieve the target of being abstinent and/or improved depression. This project was implemented in August 2015, and within three months, 330 outpatients have been screened. Of the screened, 13% were positive for alcohol, 36% for depression and 9% for substance abuse. 95% of the patients screened positive have agreed to participate in the program.

Impact of the Model: This model is one of the first of its kind, showing the acceptability and feasibility of behavioral health services within liver clinics. This has made a unique place within the clinical workflow, as both the providers and patients see its added

Figure 2: Standard Clinical/ Behavioral Health Integration Protocol (based on SBIRT Model)



value. Social work staff can be vital to these integrated approaches, in providing screening and brief interventions, identifying patient's concerns and linking them to appropriate resources necessary for continued care targeting improved outcomes. The direct benefits to patients include immediate access to behavioral health assessment and intervention, which potentially mitigates the risky behaviors and situations, overcoming the obstacles of scheduling, travel and stigma. Furthermore, identifying and initiating expedient treatment of behavioral health issues, including depression, is expected to have **positive effects** on many parameters, including health outcomes, utilization of health services (hospitalization and rehospitalization rates), patient experience and quality of life. These improvements will reduce health care costs among a group of patients with CLD who are high utilizers of healthcare services. The anticipated cost savings will more than offset the salary of a health professional trained in behavioral health techniques, including motivational interviewing as would be conducted by a social worker.

This project will inform a future research project **to test the effectiveness** of behavioral interventions to improve the quality of life, patient experience and health outcomes, with reduced healthcare costs for patients with CLD and coexisting behavioral illnesses. Funding resources could be from PCORI (Patient Centered Outcomes Research Institute), AHRQ (Agency for Healthcare Research and Quality), or Substance Abuse Mental Health Services Administration (SAMHSA).

Acknowledgement: Albert Einstein Society

Manisha Verma MD, MPH
Senior Research Scientist, Hepatology
Einstein Healthcare Network
VermaM@einstein.edu

Victor Navarro, MD
Chairman, Hepatology
Einstein Healthcare Network
NavarroV@einstein.edu

REFERENCES

1. Ghany MG, Strader DB, Thomas DL, Seeff LB. Diagnosis, management, and treatment of hepatitis C: An update. *Hepatology*. 2009;49(4):1335-1374.
2. Younossi ZM, Stepanova M, Afendy M, et al. Changes in the prevalence of the most common causes of chronic liver diseases in the United States from 1988 to 2008. *Clinical Gastroenterology and Hepatology*. 2011;9(6):524-530. e1.
3. Grumbach K, Grundy P. Outcomes of implementing patient centered medical home interventions. *Wash. DC Patient-Centered Prim. Care Collab* 2010; 1-16.
4. American Hospital Association. Integrating behavioral health across the continuum of care. Chicago, IL: Health Research & Educational Trust. February, 2014.
5. Ho SB, Groessl E, Dollarhide A, Robinson S, Kravetz D, Dieperink E. Management of chronic hepatitis C in veterans: The potential of integrated care models. *Am J Gastroenterol*. 2008;103(7):1810-1823.
6. Proeschold-Bell RJ, Patkar AA, Naggie S, et al. An integrated alcohol abuse and medical treatment model for patients with hepatitis C. *Dig Dis Sci*. 2012;57(4):1083-1091.
7. Smith PC, Schmidt SM, Allensworth-Davies D, Saitz R. A single-question screening test for drug use in primary care. *Arch Intern Med*. 2010;170(13):1155-1160.
8. Smith PC, Schmidt SM, Allensworth-Davies D, Saitz R. Primary care validation of a single-question alcohol screening test. *Journal of general internal medicine*. 2009;24(7):783-788.
9. Arroll B, Goodyear-Smith F, Crengle S, et al. Validation of PHQ-2 and PHQ-9 to screen for major depression in the primary care population. *Ann Fam Med*. 2010;8(4):348-353. doi: 10.1370/afm.1139 [doi].
10. Madras BK, Compton WM, Avula D, Stegbauer T, Stein JB, Clark HW. Screening, brief interventions, referral to treatment (SBIRT) for illicit drug and alcohol use at multiple healthcare sites: Comparison at intake and 6 months later. *Drug Alcohol Depend*. 2009;99(1):280-295.