

Optimizing HCV Care: Leveraging Clinical Decision Support and Disease Registries

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Title: Optimizing Care: Managing the Hepatitis C Patient Registry

- Correctional healthcare programs can utilize Clinical Decision Support (CDS) and Disease Registries (DR) to improve communication, safety, prioritization, identification of population trends and longitudinal management of individuals who have Hepatitis C.



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Educational Objectives

- Objective 1: Describe the advantages of using external Clinical Decision Support
- Objective 2: Describe the advantages of creating and/or customizing internal Clinical Decision Support
- Objective 3: Describe the advantages of creating Disease Registries



Clinical Decision Support

Clinical Decision Support as defined by  *Agency for Healthcare Research and Quality*:

“Clinical decision support (CDS) provides timely information, usually at the point of care, to help inform decisions about a patient's care. CDS tools and systems help clinical teams by taking over some routine tasks, warning of potential problems, or providing suggestions for the clinical team and patient to consider.”. ¹



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American Association for the Study of Liver Diseases/Infectious Diseases Society of America²



- Open source website run by two respected organizations
- Widely considered to be “the primary source” for HCV information
- Can be difficult to navigate for first time users and people who are not familiar with HCV



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- Subscription based website that provides evidence based clinical decision support at the point of care.
- HCV has multiple subtopics including but not limited to: Overview of the management of HCV, Screening and diagnosis of chronic HCV, Overview of renal disease associated with HCV infection, Clinical manifestations and natural history of chronic HCV infection
- Drug-Drug interactions





Hepatitis C Online⁴

- Open source website run by the University of Washington
- Free CMEs offered (through a grant from the CDC)
- Clinical calculators including: AST to Platelet Ratio Index (APRI), Fibrosis 4 (FIB-4), Child-Turcotte-Pugh (CTP), Model for End-Stage Liver Disease (MELD)



Centers for Disease Control and Prevention ⁽⁵⁾

- Printable handout information for patients
- Great information on interpretation of Hepatitis B (HBV) serologies and who needs the HBV vaccination series





Veterans Administration's Chronic Hepatitis C virus Infection: Treatment Considerations⁶

- Updated March 18, 2021
- Has useful tables including:
 - Diagnosis of Advised Fibrosis and Compensated Cirrhosis
 - Interpretation of HBV Serologic tests and Recommendations for Monitoring and Treatment During Direct Acting Antiviral (DAA) Treatment




Internal Clinical Decision Support Tools

- Clinical Guidance/Guidelines
- Hepatitis C Committee
- Consent Forms
- Cost Table
- Patient Registry
- Patient Education Information



Clinical Guidance/Guidelines

- Can have single or multiple Clinical Guidelines for an organization
- Can be customized to specific population or workflow
-  Federal Bureau of Prisons Clinical Guidance of Hepatitis C Virus Infection⁷



Hepatitis C Committee

- Prevents point of care provider from having to continuously research the changing and evolving
 - Costs of medication, dosing parameters and/or new medications
 - Recommendations for work up & monitoring for pre, during and post treatment labs
 - Hepatocellular carcinoma screening
 - Any other updates from the AASLD/IDSA and/or medical & scientific community
- Allows the organization to recognize risks and best practices



Consent Forms

- Standardizes the language around consent
- Provides a check list of side effects to educate patients and clinical staff
- Allows patients to understand the medication and lab requirements
- Education on reinfection



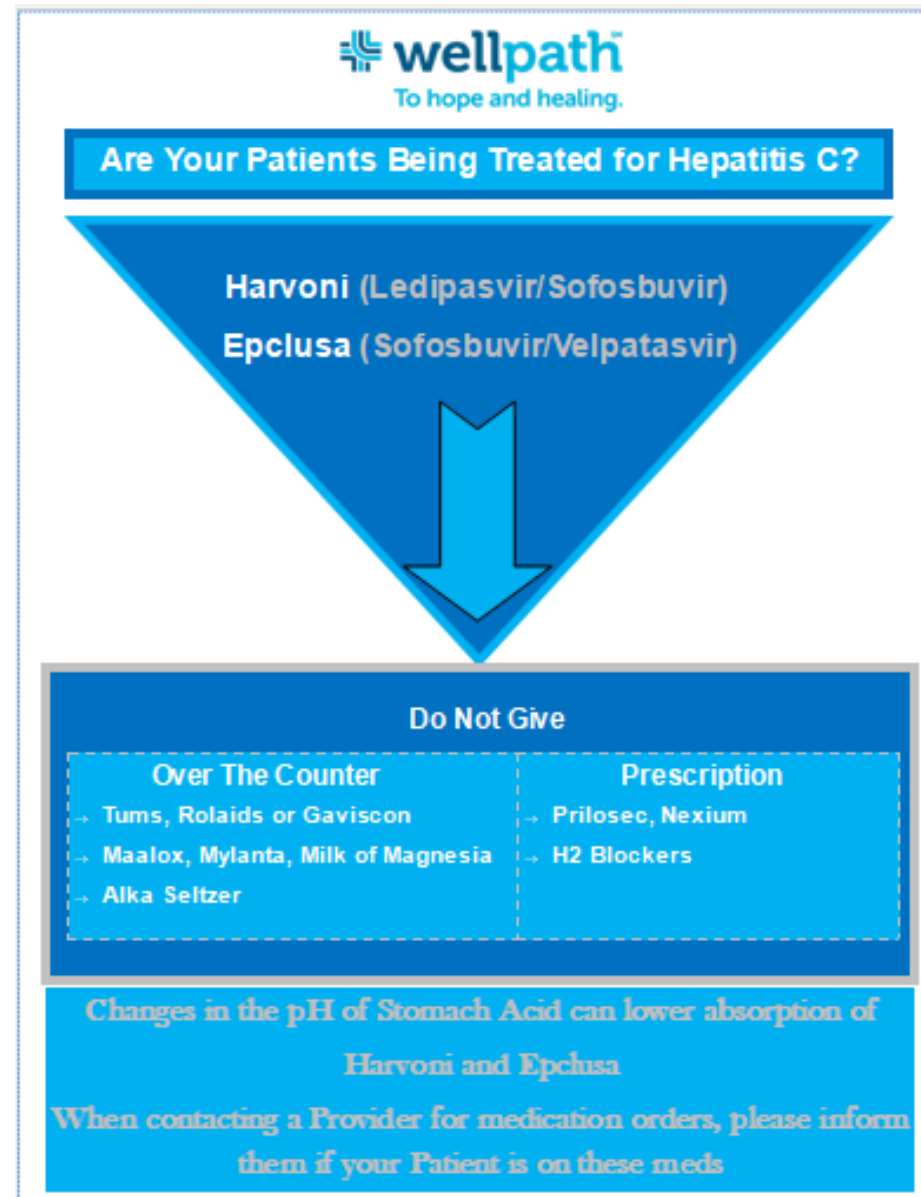
Cost Table

- Can choose the best value
- Example- Specialist drug for patient with decompensated cirrhosis

DAA Brand Name	Epclusa	Harvoni	Mavyret	Zepatier	Vosevi
DAA Generic Name	sofosbuvir/velpatasvir	sofosbuvir/ledipasvir	glecaprevir/pibrentasvir	elbasvir/grazoprevir	sofosbuvir/velpatasvir/voxilaprevir
cost Diamond	12 weeks - \$	8 weeks - \$ 12 weeks - \$	8 weeks - \$ 12 weeks - \$	12 weeks - \$	12 weeks - \$
cost Correct Rx	12 weeks - \$	8 weeks - \$ 12 weeks - \$	8 weeks - \$ 12 weeks - \$	12 weeks - \$	12 weeks - \$
Cost -CompleteRx	12 weeks - \$	8 weeks - \$ 12 weeks - \$	8 weeks - \$ 12 weeks - \$	12 weeks - \$	12 weeks - \$
cost Recoverv Solutions (sites using)	12 weeks - \$	8 weeks - \$ 12 weeks - \$	8 weeks - \$ 12 weeks - \$	12 weeks - \$	12 weeks - \$
cost Maxor	12 weeks - \$	8 weeks - \$ 12 weeks - \$	8 weeks - \$ 12 weeks - \$	12 weeks - \$	12 weeks - \$
Used with Genotypes	all	1,4,5,6	all	1,4,	1,2,3,4
Tx naïve -viral load	all - 12w	Genotype 1-< 6,000,000 - 8w	8w	12w	N/A
Compensated cirrhosis	ok 12w	ok 12w	8w	12w	ok
Decompensated cirrhosis	ok 24w or 12w + ribavirin	ok 24w or 12w + ribavirin			Use is not recommended



Med Cart Signs




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Frequently used labs for Hepatitis C work up (with LabCorp⁹ codes)

- HCV VL (LC-550080)
- HCV VL reflex to Genotype (LC-550090)
- HCV Genotyping Non Reflex (LC-550475)
- HCV Genotype Reflex NS5A 1a Assay (LC- 550615)
- PT/INR (LC- 005199)
- FibroSure (LC – 550123)
- NS5A for 1a HCV Drug Resistance Assay (LC- 550-325- pearl top; spin and freeze and indicate patient genotype with order)
- NS5A for 3 HCV GT3 NS5A Drug Resist Assay (LC-550603- pearl top; spin and freeze and indicate patient genotype with order)
- HBV core antibody, total (LC-006718)
- HBV Surface Antibody, qualitative (006395)
- HBV Surface Antigen, qualitative (006510)
- HBV Viral Load (LC- 551610)
- HBV IgM (LC-016881)



Disease Registries

-  National Institutes of Health (NIH): “Patient registries contain clinical data about individuals who have a specific condition or type of disease as well as contact and demographic information, such as age and gender. ” ¹⁰
- The presentation will explain the advantages of using spreadsheets and pivot tables to risk stratify and identify specific clinical parameters.
- Assist in the identification of candidates for Direct Acting Antiviral treatment, but also:
 - Uncovering patients that may benefit from Medication Assisted Therapy
 - Other discharge planning and/or community resources



Use of Excel optimized with filtering and pivot tables

- Ability to quickly compile statistics
- Identify clinical outliers – It is a de facto white board for a particular disease
- It is a check list for time sensitive diagnostic and therapeutic interventions
 - Labs
 - Ultrasounds
 - Immunizations
 - Release dates



Patient Registry

Last Name	First Name	ADC#	Facility	ADC ADMISSION DATE	Sentence	DOB	AGE	HCV Antibody +?	Lab Date	Work up complete	Albumin	AST	ALT	PLT	INR	Billirubin	APRI	Fib4	Child Puge	Genotype HCV	Quant HCV	Ultrasound Date	Ultrasound Normal?	NS5A	FibroSURE
			ORCU	7/18/1995	8/10/2031-8/10/2031		58	Y	11/2/2021	Y	4	92	137	225		0.5	1.02	2.03		1a	1,250,000			no RAVs	0.50, F2
			Varner	4/6/2015	4/26/23-4/14/35		40	Y	112/2021	N	4.2	61	95	156		0.6	0.98	1.60		1a	4,590,000			no RAVs	0.55, F2
			EARU	10/18/2007	6/17/25 - 1-16/53		42	Y	12/2/2021	Y	4.4	67	110	251		0.3	0.67	1.07		1a	736,000	11/6/2019	Y	see comment	0.55, F2
			TRCC	5/30/2019	12/10/20 - 2/14/29		42	Y	10/13/2021	Y	4.1	29	27	174		0.3	0.42	1.35		1a	16,800			no RAVs	0.55, F2
			EARU	3/4/2016	6/7/22-5/4/45		36	Y	8/26/2021	Y	4.5	50	48	153		0.6	0.82	1.70		2b	10,700,000				0.51, F2
			ORCU	8/30/1994	12/3/29-9/24/2134		122	Y	10/7/2021	Y	4.1	40	42	190		0.3	0.53	3.96		1a	1,660,000			no RAVs	.48,F1-2

ANTI Hbc	HepB Surface Ab	HBV PCR	Immunization	HIV	Diabetes	Seizure meds	PPI/H2	Statin	Notes	Treatment recommendations
neg	pos			N	N	N	N	N		12 weeks of zepatier
neg	neg			N	N	N	Omeprazole	N		12 weeks of zepatier
neg	neg			N	N	N	N	N	No Medications	8 weeks of Mavyret
pos	neg			N	N	N	N	N	Lisinopril 20mg QD, HCTZ 25mg QD	12 weeks of zepatier
pos	pos			N	N	N	N	N	h/o HCC s/p partial hepatectomy	12 weeks of eplcusa, Change IBU to tylenol 635mg PO TID PRN
neg	neg			N	N	Keppra	N	Y	↓Rosuvastatin to 10 mg QD	↓Rosuvastatin to 10 mg QD, 12 weeks of zepatier



References

- Reference 1: <https://www.ahrq.gov/cpi/about/otherwebsites/clinical-decision-support/index.html>
- Reference 2: www.hcvguidelines.org
- Reference 3: www.uptodate.com
- Reference 4: www.hepatitis.uw.edu
- Reference 5: www.cdc.gov
- Reference 6: www.hepatitis.va.gov/hcv/treatment/hcv-treatment-considerations.asp
- Reference 7: www.bop.gov/resources/pdfs/hcv_guidance
- Reference 8: www.labcorp.com
- Reference 9: www.nih.gov/clinical/registries



Other Helpful CDS Websites

- National Clinician Consultation Center www.nccc.ucsf.edu/clinician-consultation/hepatitis-c-management
 - Provides clinician to clinician advice on HCV infection
 - Has a portal to submit a case for clinical consultation
- Hep Drug Interactions - www.hep-druginteractions.org
 - Open source for drug- drug interactions operated by the University of Liverpool
 - Uses only generic names of medications
- Project ECHO www.hsc.unm.edu/ucho
 - Developed nearly 20 years ago by a GI physician who created a virtual “community of practice” where providers could learn from experts by discussing real-life case examples.
 - Covers other diseases and chronic conditions



Questions?



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