

IMPACT of **Chronic** **Liver Disease**

on **Healthcare Systems**

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Innovative Models of Chronic Liver Disease Care

Ziad Gellad, MD MPH AGAF

Associate Professor of Medicine
Duke University School of Medicine
Durham, NC

Objectives

- Raise awareness of social determinants of health and impact on liver disease
- To review innovative models of chronic disease care in the context of cirrhosis

Case Presentation

Case Presentation

- 58 y.o female with NASH cirrhosis complicated by refractory ascites, grade 2 esophageal varices and hepatic encephalopathy
- She is on Cipro for SBP prophylaxis and rifaximin for difficult to manage encephalopathy
- Seen in clinic every 3 months with interim hospitalizations at each visit
- At last hospitalization discharge, plan to proceed with Denver Shunt but then had a fall at home and was back in the emergency room within 24 hours

Case Presentation

- At clinic visit 9/2017

“She is having **difficulty obtaining medication prescription coverage** for her rifaximin, and we will attempt to assist with this...”

“The patient is having some **ongoing difficulty with her housing**. She is return to her independent living, but apparently has a \$10,000 bill pending there. She previously had been getting financial assistance from her husband in New Jersey, from whom she is divorced. He apparently has developed cancer, and is now undergoing chemotherapy, and does not have the funds to assist her at the present time. She tells me as she is **working with a local social worker on a Medicaid application, that but this has not been approved**”

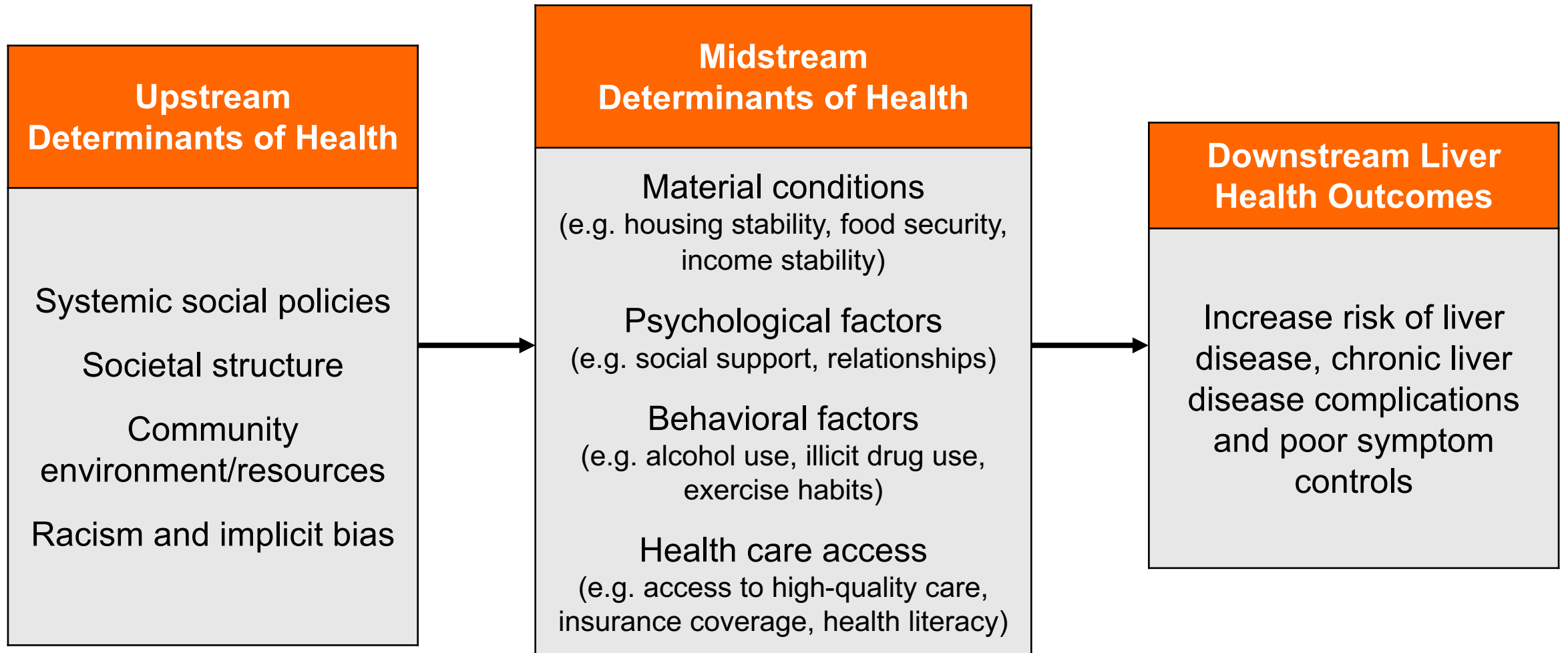
Case Presentation

- Hospitalized 12/2017 for encephalopathy
“Patient admitted to CCU 12/19 for acute obtundation most likely 2/2 acute encephalopathy from hepatic source related to multiple medications combined with no BM and inability to take lactulose PO or PR due to lack of cooperation”
- Likely bacterial pneumonia primary cause. Hospital course complicated by GI bleed and VRE bacteremia with ARDS
- Patient died during 12/2017 hospitalization

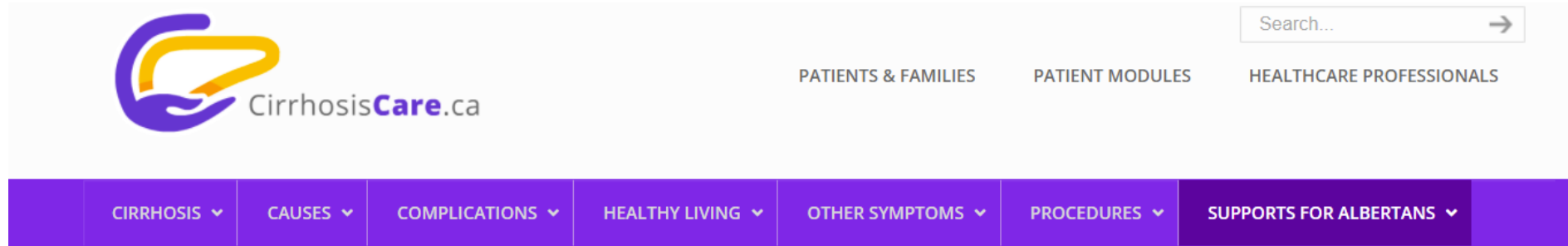
Case Presentation – Debrief

- Patient with complicated Cirrhosis
- Comorbid mental health illness
- High social stressors and impediments to care
- Fragmented care
- High utilization (of high-cost services)
- Poor functional outcome
 - How could the management have been different *in our current system*?
 - How can we *build a better system* to help manage these patients

Social Determinants of Health



Social Determinants of Health



The screenshot shows the top section of the CirrhosisCare.ca website. On the left is the logo, which consists of a stylized blue and yellow shape resembling a hand or a protective shield, with the text "CirrhosisCare.ca" to its right. To the right of the logo is a search bar with the placeholder text "Search..." and a right-pointing arrow. Below the search bar are three navigation links: "PATIENTS & FAMILIES", "PATIENT MODULES", and "HEALTHCARE PROFESSIONALS". At the bottom of the header is a dark blue navigation bar with white text and dropdown arrows for "CIRRHOSIS", "CAUSES", "COMPLICATIONS", "HEALTHY LIVING", "OTHER SYMPTOMS", "PROCEDURES", and "SUPPORTS FOR ALBERTANS".

[Home](#) → [Tools](#) → [Housing Resources](#)

Housing Resources



Talk to your healthcare provider or social worker if you are experiencing or at risk for homelessness.

Accessible Housing

Accessible housing refers to housing programs, co-ops, and organizations that provide housing that is accessible to people with developmental and or physical disabilities, or other barriers like addictions and risk for homelessness. Contact your Income Support/AISH/PDD worker or social worker for more information for supports available in your community. Use the [Government of Alberta Website search tool](#) to find supports and housing resources available in your community. You can also call 2-1-1 or ask your social worker for a referral to programs and agencies you may be eligible for.

Health Care Delivery Innovation

Harvard
Business
Review

Insight Center

Innovating for Value in Health Care

Exploring cutting edge ways to lower costs and improve quality.

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Medtronic

We Interviewed Health Care Leaders About Their Industry, and They're Worried

by Michael Poku and Kevin A. Schulman

DECEMBER 14, 2016



“There is growing realization that the transformation of the health care system will require existing organizations to develop new business models and new organizational structures.”

Cirrhosis Is an Ideal Target for Innovative Care Models

- Well defined disease
- Adult prevalence 0.27%, kills 60,000 per year in US
- High rates of readmissions
- Quality of Care Gaps
- Social Determinants impact care
- Estimated direct costs > \$20B/yr

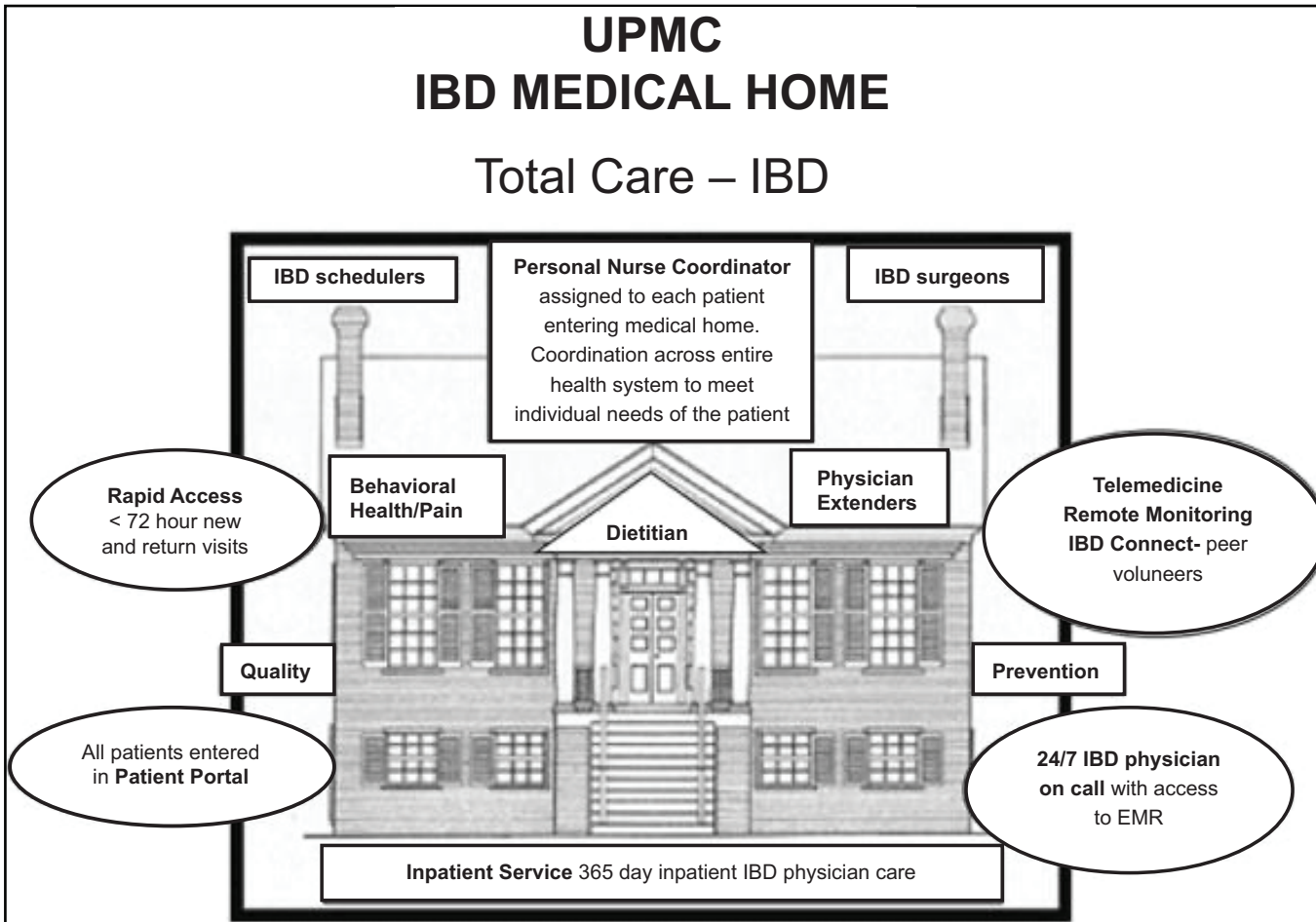
Opportunities for Improving Value in Cirrhosis

Cost Drivers	Interventions
(Re)hospitalizations	Improved discharge process Patient/caregiver education regarding lactulose titration Availability of urgent clinic and paracentesis slots
Duplicate testing	Subspecialty medical home
Unnecessary testing	Identify and reduce variation by sharing best practices Disseminate “Choosing Wisely” topics
High utilization patients	Intensive case management Palliative care

IBD Medical Home

UPMC IBD MEDICAL HOME

Total Care – IBD



UPMC Health plan funded:

Personnel

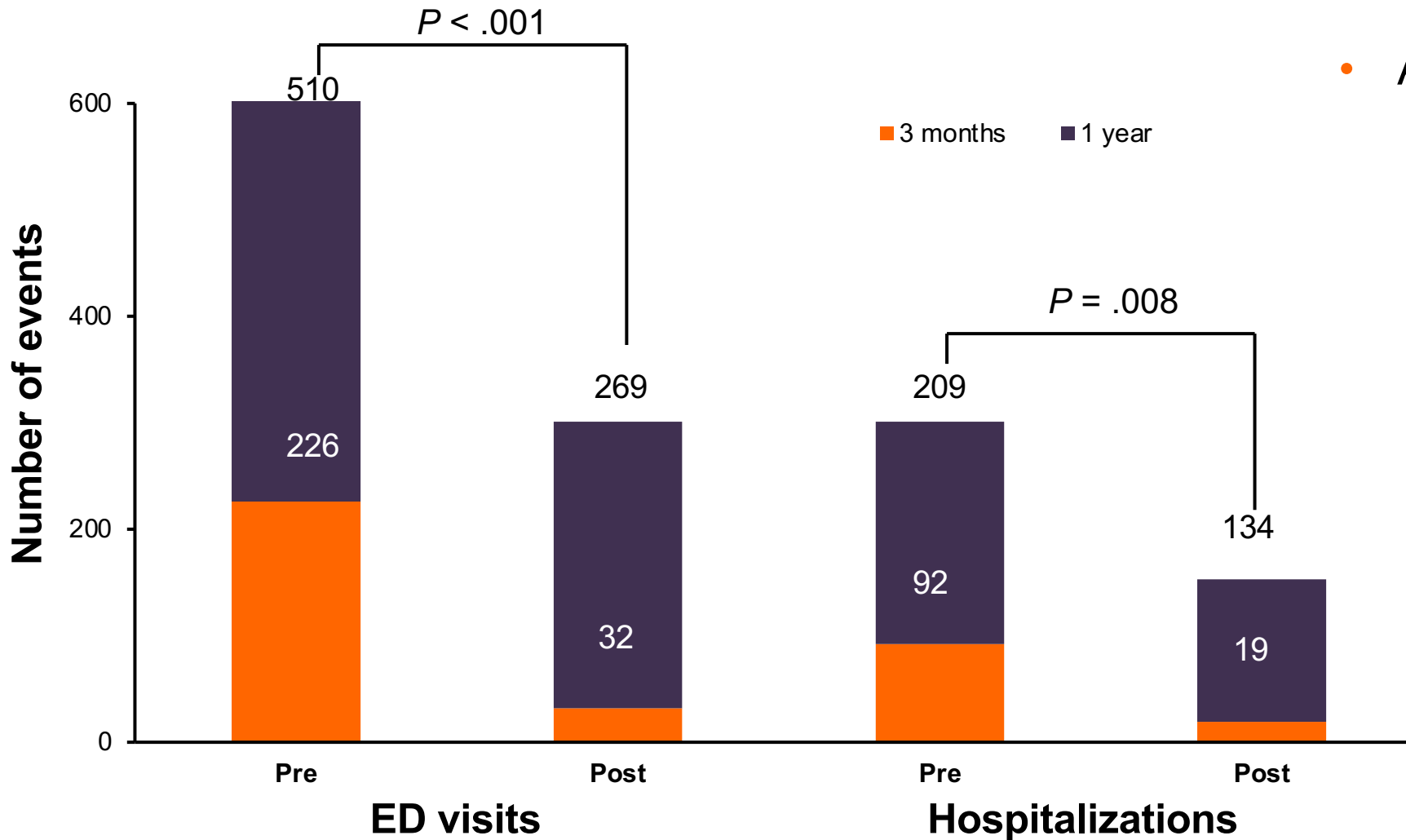
- 2 nurse coordinators
- 2 nurse practitioners
- 1 dietician
- 1 social worker
- 1 psychiatrist
- 1 Health coach

Assistance with pharmacy pre-approval

Data analytics

* Initial referrals from the health plan for those patients in whom >25% of costs was for IBD

UPMC IBD Specialty Medical Home

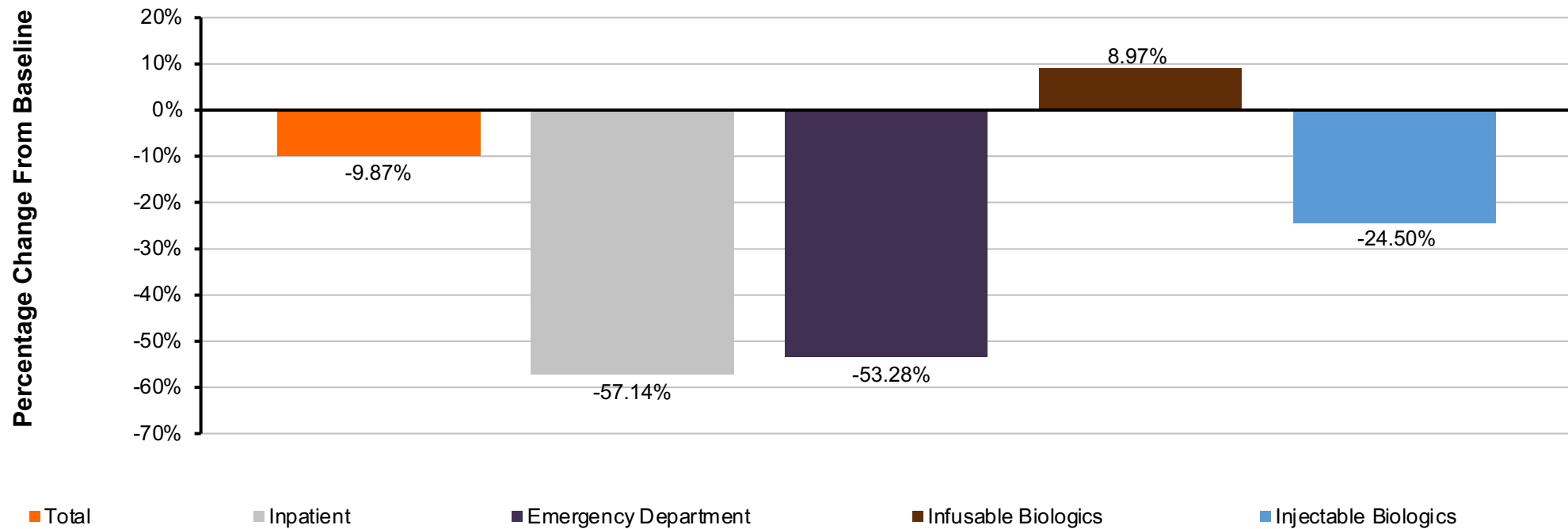


- At 1 year:
 - Reduced unplanned care
 - Reduced disease burden
 - Increased QOL
 - Decreased Costs

- IBD Specialty Home supported by a novel mobile health platform
- Founded by Larry Kosinski of Illinois Gastroenterology Group joint venture with BCBS Illinois
- Leverages nurse coordinators, clinical guidelines, clinical decision support, patient engagement, and predictive algorithms to improve outcomes



Change in Crohn's Disease Payments From Baseline



Differences in Healthcare Costs During Study Period	Outpatient	Inpatient	Pharmacy	Total
Non-pinging Patients (n = 81)	\$3,297.25	\$2,097.89	\$2,718.64	\$5,140.53
Pinging Patients (n = 73)	-\$4,703.70	-\$2,382.15	\$1,187.24	-\$3,691.48
Cost Difference	-\$8,000.95	-\$4,480.04	-\$1,531.40	-\$8,832.01

Oncology Care Model (OCM)

- Section 3021 of the Affordable Care Act
- Five year model (2016-2021)
- 184 practices
- 6,500 practitioners
- 150,000 unique beneficiaries per year
- 200,000 episodes of care per year
- 13 commercial payers participating
- Real-time monthly payments for enhanced services



Source: Centers for Medicare & Medicaid Services

Oncology Care Model (OCM)

- Patient-Centered Care
 - No change in patient experience
 - No change in ED visits
 - Small impact on hospitalization rates at end of life
- Cancer treatment patterns
 - No significant change in chemotherapy drug treatments
 - No evidence of changes in radiation therapy
 - More cost-conscious use of costly supportive therapy (filgrastim)
- Net financial loss to Medicare

Oncologists worry they may have to reduce staff or enhanced care after payment model ends in June: survey


By Robert King · Jan 31, 2022 12:37pm

[Oncologists worry they may have to reduce staff or enhanced care after payment model ends in June: survey | Fierce Healthcare](#)

Exhibit ES-2: OCM Resulted in Net Losses for Medicare

	PP1	PP2	PP3	PP4	Total PP1-4
Gross Savings: Estimated change in gross Medicare spending due to TEP relative reduction	-\$12,443,592	-\$38,918,897*	-\$42,694,680**	-\$50,665,174**	-144,722,343
Net Medicare spending (losses)	\$100,527,424	\$72,669,902*	\$65,802,010**	\$76,766,478**	315,665,814

With model payments included, OCM resulted in net losses for Medicare.



*Statistically significant at p<0.10; **Statistically significant at p<0.05; ***Statistically significant at p<0.01.

Source: Medicare claims 2014-2018. OCM first true-up reconciliations, PP1-PP4.⁶

Notes: PP: performance period; TEP: total episode payments; Orange=not statistically significant.

Evaluation of the Oncology Care Model <https://innovation.cms.gov/data-and-reports/2021/ocm-evaluation-pp1-5>.

What About a Cirrhosis Medical Home?

- RCT recruiting currently at Indiana University (Eric Orman, PI)
- Goal is to improve quality of life of patients discharged from the hospital with cirrhosis and to reduce acute health care utilization
- Intervention (6months)
 - The care coordinator will conduct a visit within 72 hours of hospital discharge to assess the patient's physical, cognitive, and psychological status, and will complete a **needs assessment & care plan for both the patient and family caregiver**
 - Every 2 weeks, the coordinator will meet with the participant to revisit the care plan and to facilitate care.

Actual Study Start Date ⓘ : September 17, 2020

Estimated Primary Completion Date ⓘ : December 31, 2024

Estimated Study Completion Date ⓘ : December 31, 2025

Summary

- Cirrhosis is an ideal target for innovative care models due to its burden on patients, caregivers and the healthcare system
- Social determinants of health are particularly relevant in chronic liver disease care
- Innovative models of care have been developed in similar chronic diseases like IBD, Oncology
- Partnerships between payer and clinicians are needed to advance these models