

2024 VIZIENT CONNECTIONS SUMMIT

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# Hepatitis C Virus CURES

Cascade Utilizing Routinized screening through treatment to Eliminate Syndemics

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# Learning Objectives

- Discuss the importance of identifying persons with chronic hepatitis C virus (HCV) infection in the U.S. due to its high morbidity and mortality burden.
- Explain the transformative impact of curative treatments on HCV infection, turning it from a life-threatening condition into a manageable one.



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# Background: The HCV Epidemic

- HCV is a leading cause of liver disease, liver cancer, and liver transplants
- In the US, HCV causes more deaths than all of the 60 other reportable infectious diseases combined including HIV and TB (Pre-COVID)
- Recent 10 year aggregated KY Medicaid claims analysis: Identified 77,000 HCV RNA+ patients with only 10% of cohort screened (10% HBV co-infection)
- National Academy of Science: HCV eradication by 2030
- Despite years of interaction with the healthcare system, many are already in advanced stages of disease upon diagnosis

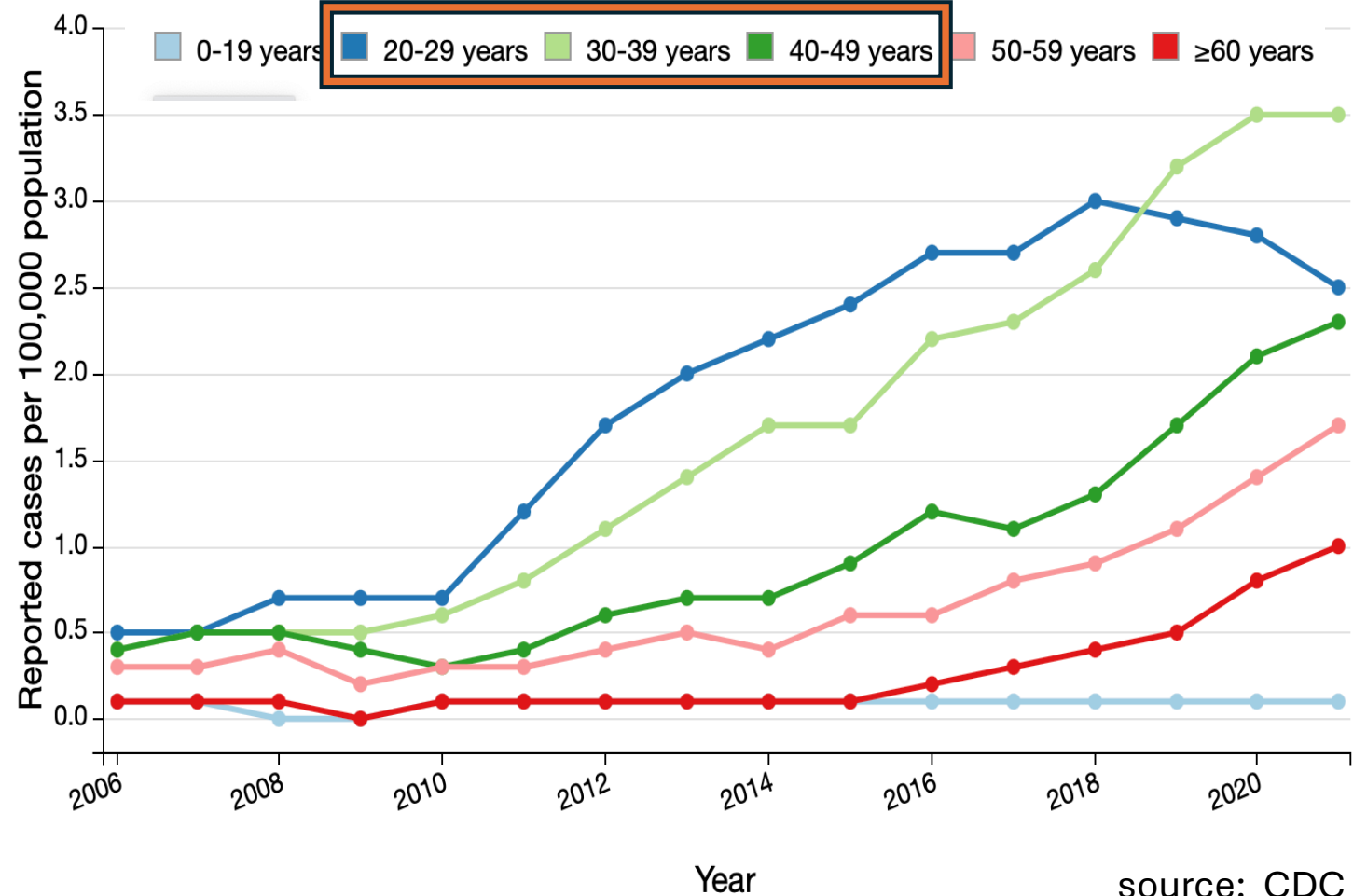
# Cost of Inaction: The Economic Burden of HCV

- Direct Medical care: 1/3 of costs, ~\$6-10B annually (if EHM included, add \$1.5B)
- Indirect/Productivity: 2/3 of costs (lost wages, productivity, etc.)
- When accounting for extrahepatic manifestations (EHM) for HCV, treatment can save ~\$25,000 PPPY
- Costs related to HCV EHM equal to liver transplants
- Cost to UK HealthCare: estimated ~\$800M over the next decade
- As DAA's decrease in price, focus must shift from cost-effective rationing of therapy to total healthcare cost savings and widespread access to treatment!

**Treatment is Prevention**

# HCV: The Silent Epidemic

- ~70,000 new cases/year
- Driven by the opioid epidemic
- ~4M chronically infected Americans
  - no progress made from previous time period studied (2017-20 vs. 2013-16)\*
- 32% still unaware of diagnosis
- At least 2/3 of chronically infected patients have not been treated!
- HCV cases have risen 129% since 2014



source: CDC

\*Hall et al. Hepatology, 2024.

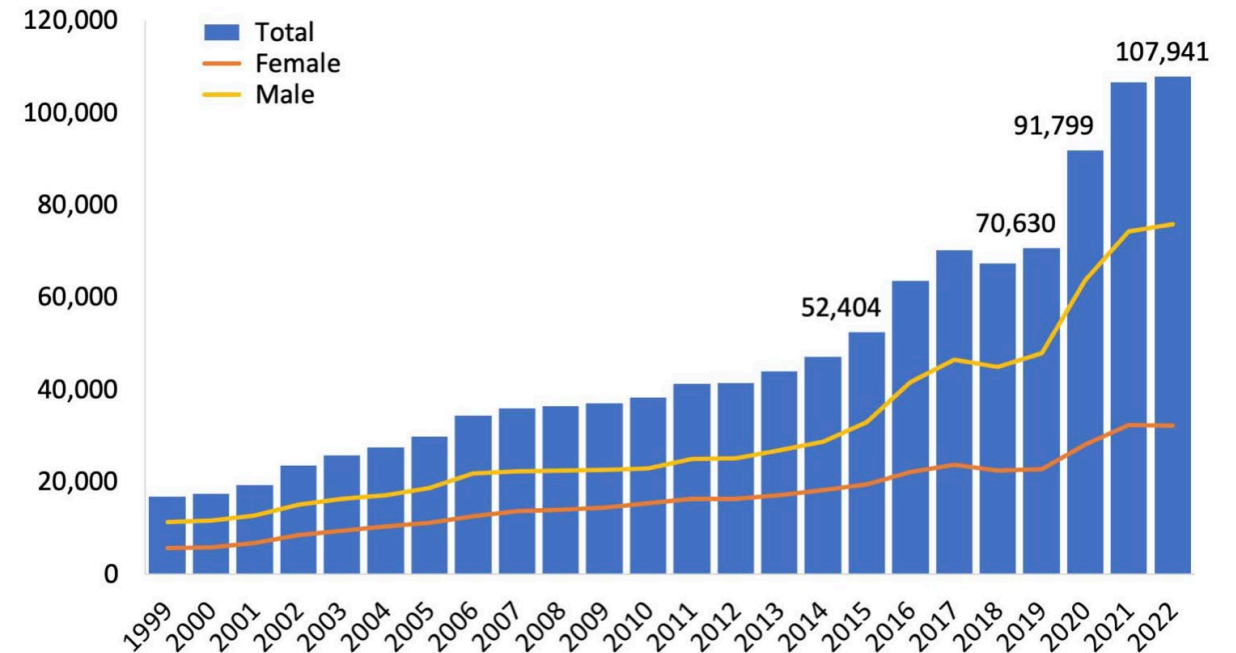


# The Opioid Epidemic

- **>1,000,000** Drug Overdose Deaths in the US since 1999
- **>75%** involved an opioid
- Disproportionately affects Medicaid recipients who highly utilize Emergency Departments for their healthcare needs

\*source: NCHS

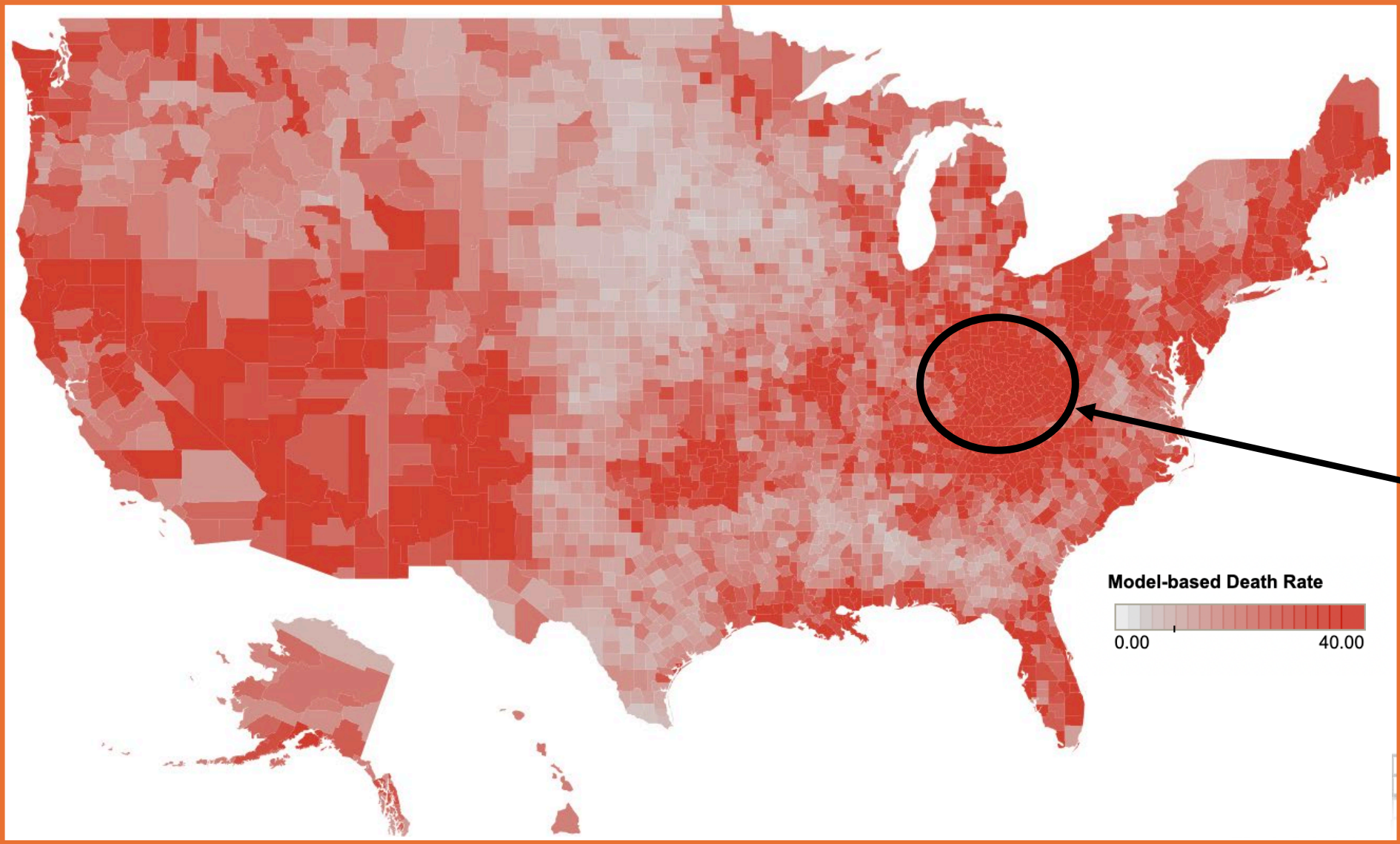
Figure 1. National Drug Overdose Deaths\*, Number Among All Ages, by Sex, 1999-2022



\*Includes deaths with underlying causes of unintentional drug poisoning (X40–X44), suicide drug poisoning (X60–X64), homicide drug poisoning (X85), or drug poisoning of undetermined intent (Y10–Y14), as coded in the International Classification of Diseases, 10th Revision. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2022 on CDC WONDER Online Database, released 4/2024.

# Syndemic: Disproportionately Affecting Appalachia

## NCHS Drug Overdose Mortality 2005-2021



**UK HealthCare  
Catchment Area**

**Model-based Death Rate**  
0.00 40.00

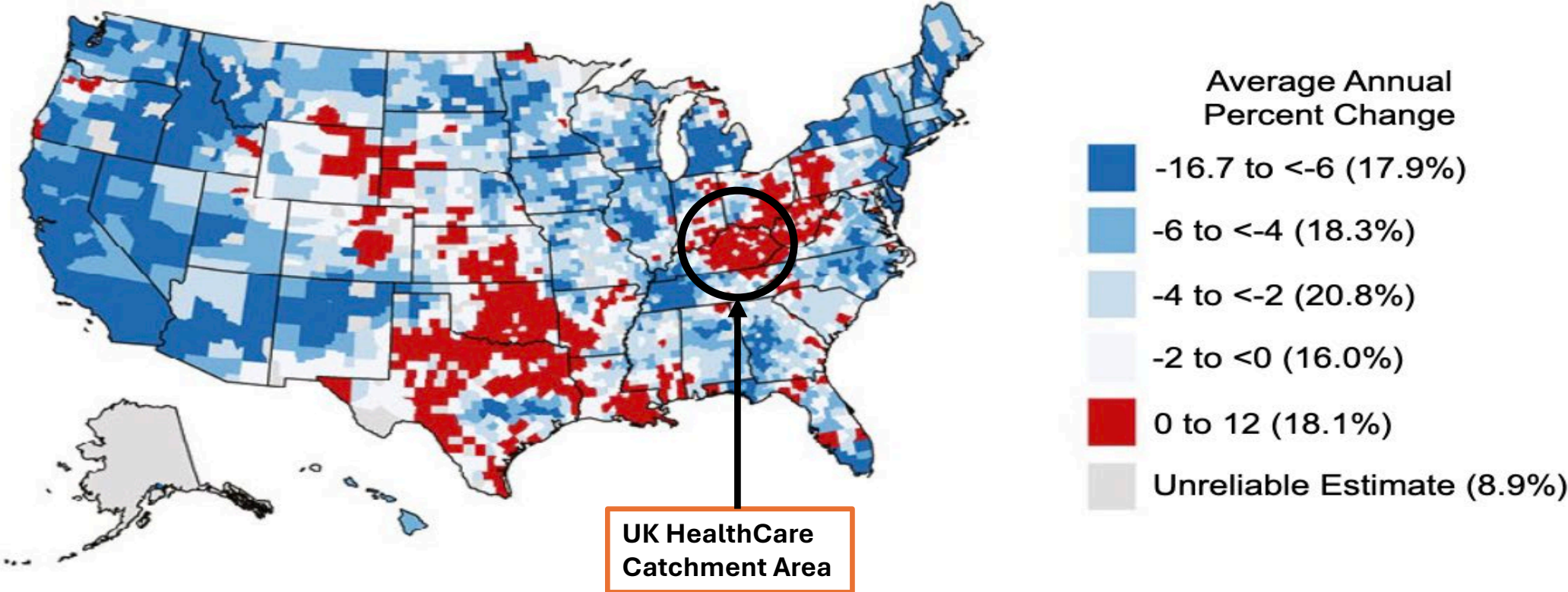
# Syndemic: Disproportionately Affecting Appalachia



# Syndemic: Disproportionately Affecting Appalachia



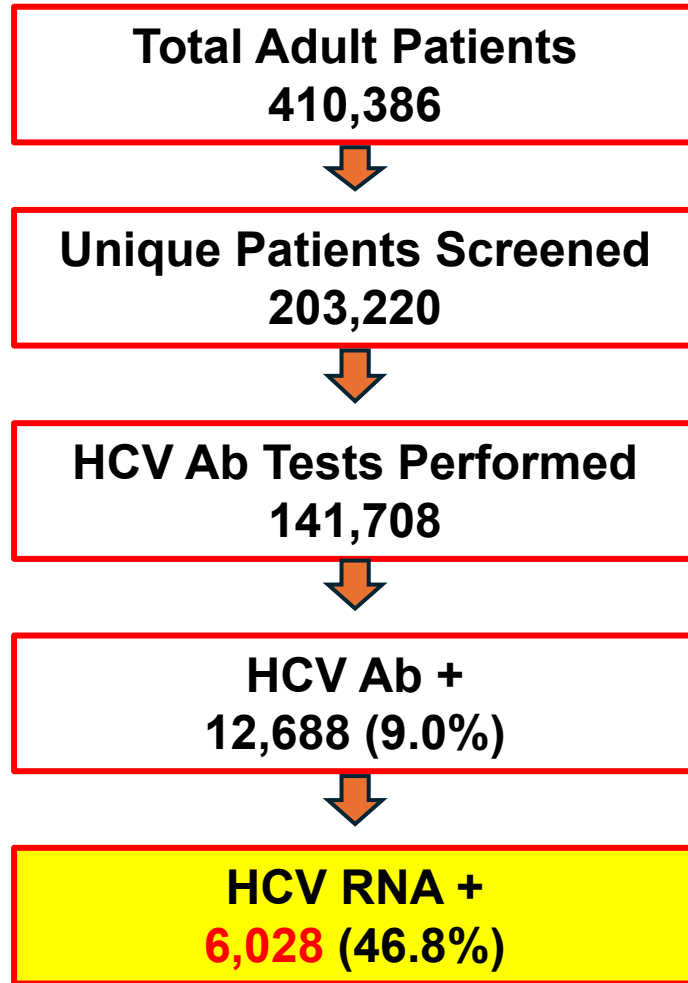
### Percent Change in Hepatitis C Death Rates, 2013-2017



\*Hall et al., Hepatology, 2021



# UKHC Adult Non-Targeted HCV Screening Began July 2018 Expanded to GSH ED March 2022



### Of Those HCV RNA+ Who Are They?

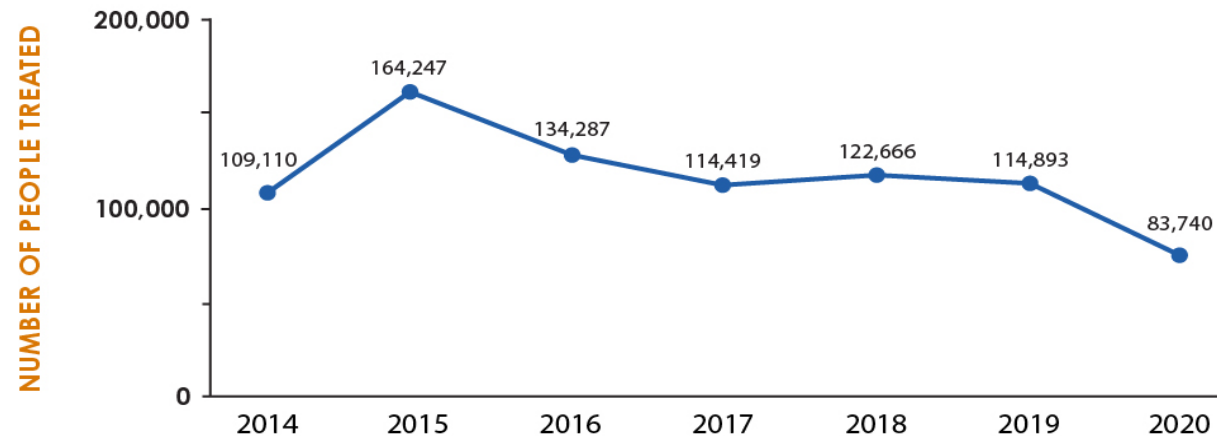
- **White**  
89%
- **Young**  
82% < 55 years old
- **Under/Uninsured**  
73% Medicaid  
20% Medicare, Uninsured, Self-Pay
- **Without Advanced Fibrosis**  
FIB4 <3.25: 85%  
FIB4 <1.45: 63%

\*As of 7/23/24

# National Failure to Reach Elimination Goals

## THE NUMBER OF PEOPLE WHO INITIATED\* HEPATITIS C TREATMENT IN THE U.S. DECLINED FROM 2015 TO 2020

COVID-19-related disruptions to hepatitis C testing and treatment likely contributed to the decline in 2020



\*Based on national prescription claims data

For more information, visit [cdc.gov/nchhstp/newsroom](https://cdc.gov/nchhstp/newsroom)

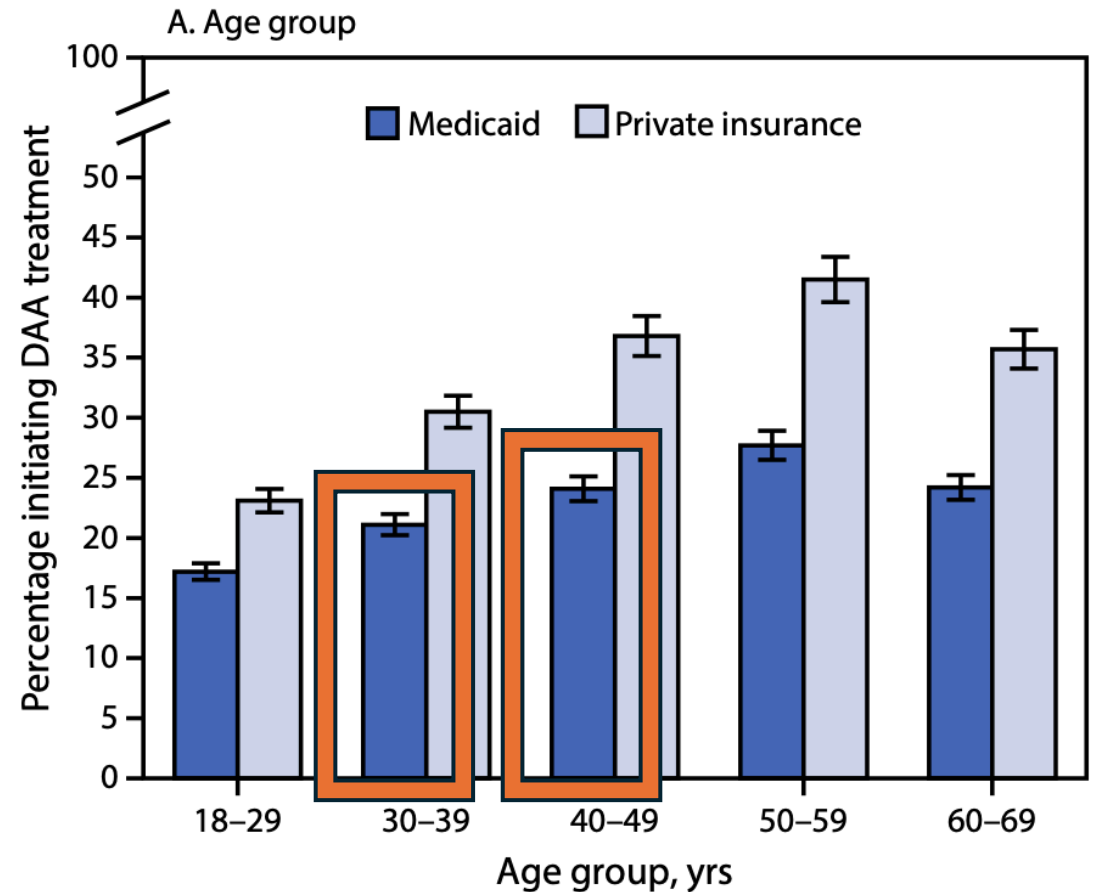
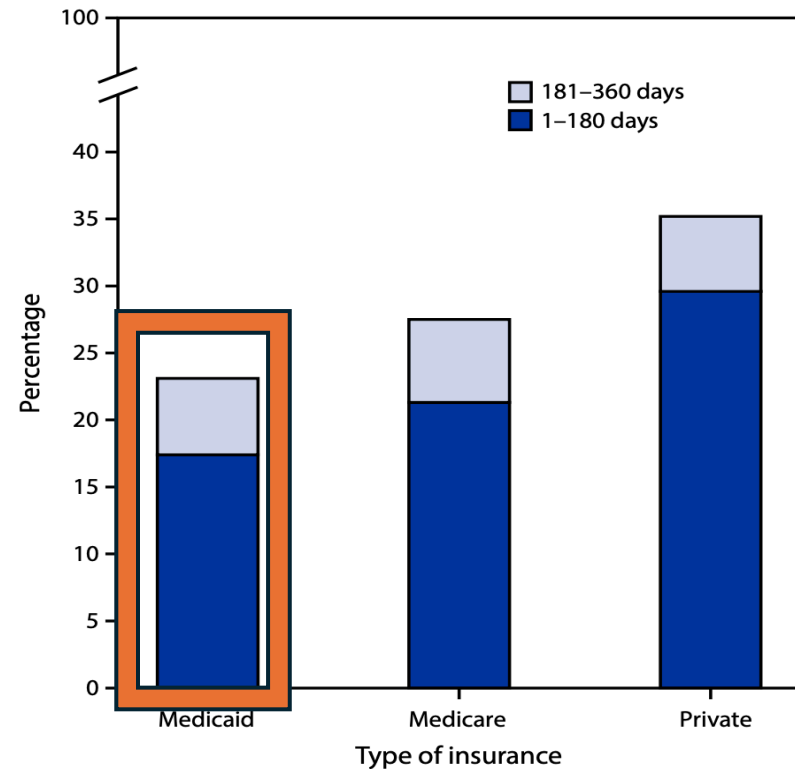


U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

- In 2015 the National Academies of Science and Medicine estimated 260,000 people needed to be treated annually to eliminate HCV by 2030

# National Failure to Reach Elimination Goals

**FIGURE 1. Percentage of adults with hepatitis C initiating direct-acting antiviral treatment within 360 days of diagnosis, by number of days after diagnosis and insurance type — United States, 2019–2020**

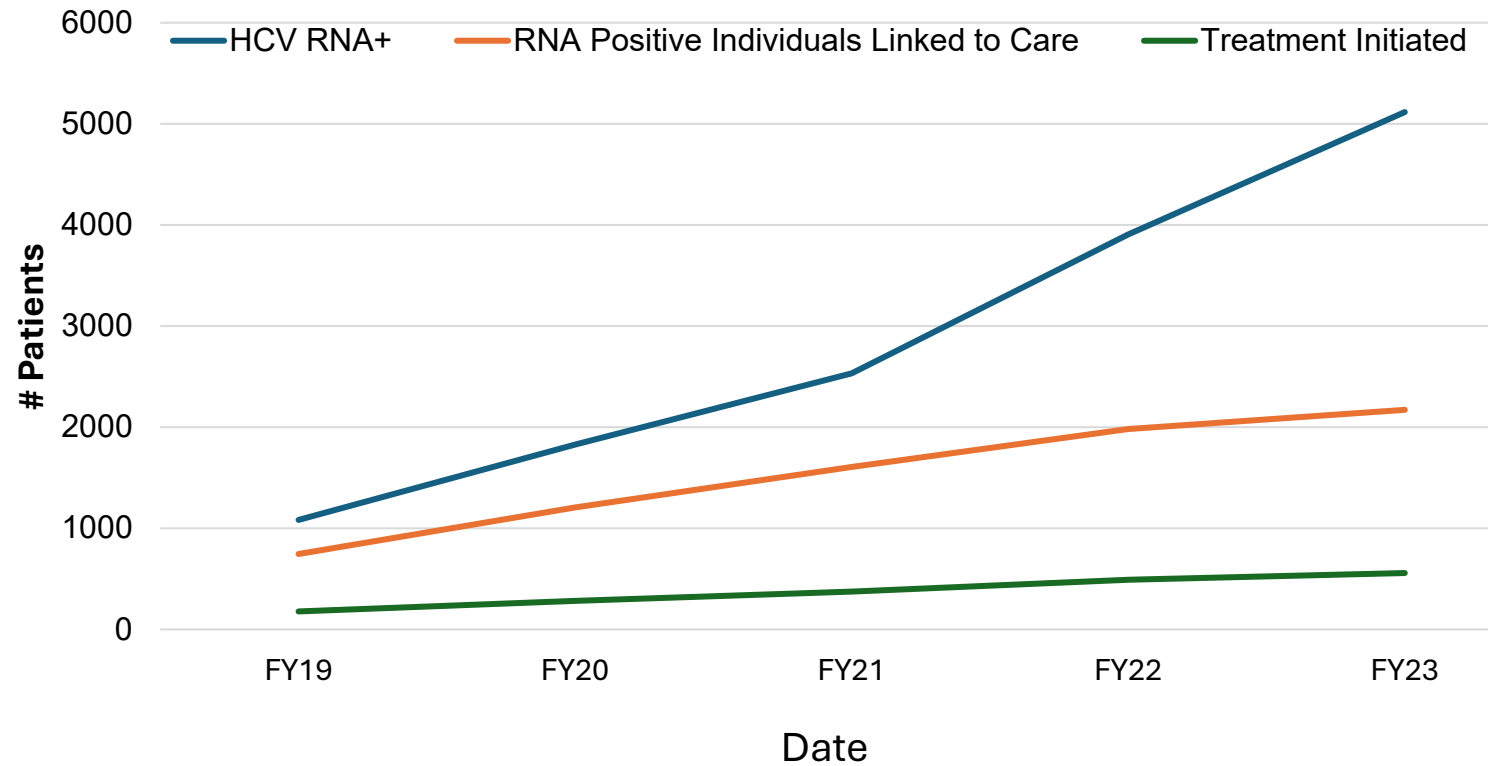


# Local Failure to Reach Elimination Goals

## UKHC

- **50% linkage** despite extensive efforts
- **10.89% treatment** uptake since inception – July 2018-May 2023 (**557/5116**)\*
- Average diagnosis to Treatment Initiation: **421 days** (Standard Deviation **401 days**)
- Novel processes were needed as diagnosis rate cannot outpace linkage rate in order to eradicate HCV
- **Vertically Aligned Total Care:** Patient, Provider, Pharmacy

## ED HCV Diagnosis Vs. Treatment





# Designing Waste and Variation Out of the System



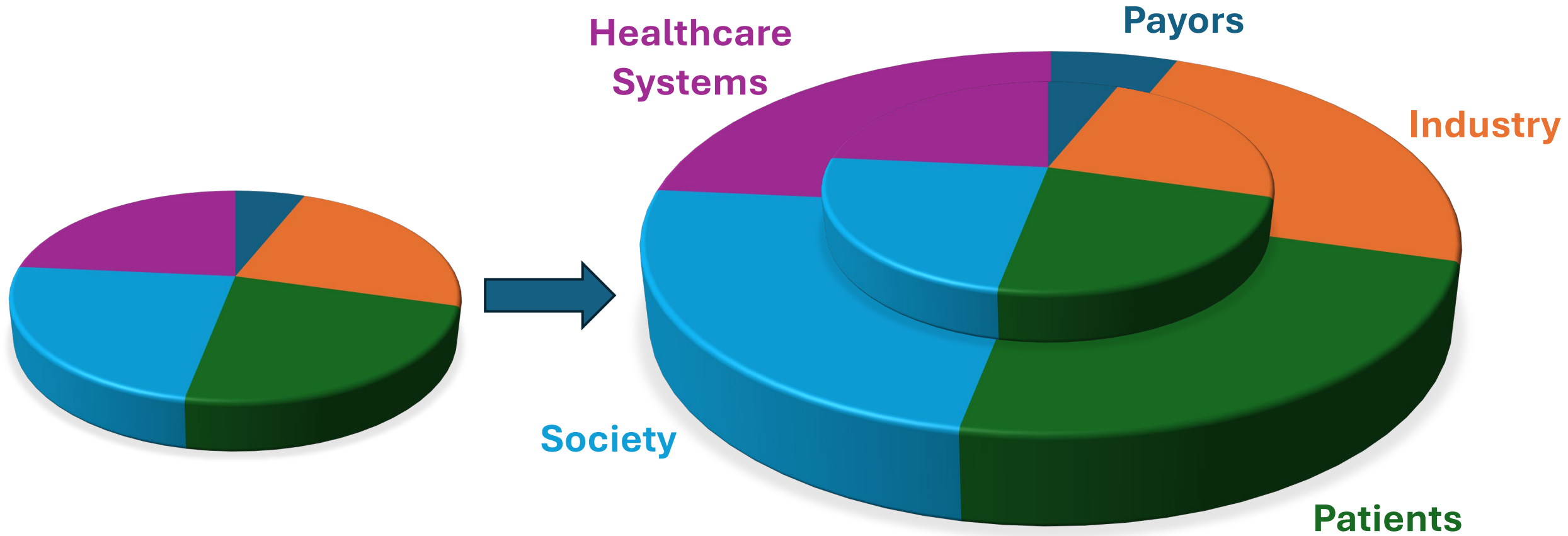
- Pharmacy, Data/Analytics, Quality/Value, ED Gilead FOCUS Team
- Kaizen event
- Current state value process mapping
- Future state design eliminating waste and variation
- KPIs defined to track progress

# Novel Model of Care Created

- Specialty pharmacy driven, ED based intervention utilizing collaborative care agreements following patient through to cure
- IDSA/AASLD best practices carried out at the point of care
- Aimed specifically at eliminating waste and variation and creating value for all stakeholders in the process

# Grow the Pie: Add Value to All Stakeholders

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- With Sustained Virologic Response (SVR), **decreases**: liver inflammation, fibrosis, cirrhosis, liver transplant, Hepatocellular Carcinoma (HCC), liver related mortality, Extra Hepatic Manifestations (EHM)
- With SVR **increases**: life satisfaction, energy, social health, emotional and physical well being
- Decreasing SVR in Persons Who Inject Drugs (PWID) population **decreases** disease transmission

# Stakeholder: Industry/Direct Acting Antivirals (DAA) Manufacturers

(in millions)	Year Ended December 31, 2023				Year Ended December 31, 2022				Year Ended December 31, 2021			
	U.S.	Europe	Other International	Total	U.S.	Europe	Other International	Total	U.S.	Europe	Other International	Total
<b>Product sales:</b>												
<i>Chronic hepatitis C virus ("HCV")</i>												
	39	12	19	70	46	17	51	115	84	31	97	212
	859	323	355	1,537	844	355	331	1,530	815	316	331	1,462
	104	43	12	160	115	40	10	166	119	74	14	207
	1,002	378	386	1,767	1,005	413	392	1,810	1,018	421	442	1,881

years ended December 31 (dollars in millions)			Percent change						
			At actual currency rates		At constant currency rates				
			2023	2022	2023	2022			
	United States	\$	659	755	754	(12.7)%	0.2%	(12.7)%	0.2%
	International		771	786	956	(1.9)%	(17.8)%	1.0%	(8.5)%
	Total	\$	1,430	1,541	1,710	(7.2)%	(9.9)%	(5.7)%	(4.7)%

- Majority of economic value (90%) of curing HCV with DAA are health benefits to patients and net-costs to society
- Only 6.5% of of aggregate economic value is realized by drug manufacturers (Garrison et. al, Value in Health, 2024)
- US Market: ~\$1.8B drug sales annually

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# Stakeholder: Payors/Society

Cost of Inaction >> Cost of Action

Patients Cured	UKHC Revenue	Insurance Savings
34,782	\$350M-\$450M	\$4.2-6.5B*

**MAXIMUM 5 YEAR  
IMPACT WITHIN UKHC**

Reau et al. Prevalence and Economic Burden of Extrahepatic Manifestations of Hepatitis C Virus Are Underestimated But Can Be Improved With Therapy. *Hep Communications*, 2017.

Stepanova et al. Economic Burden of HCV Infection, *Clin. Liv. Dis.* 2017.

Barber, Melissa J. et al. 2020. "Price of a hepatitis C cure: Cost of production and current prices for direct-acting antivirals in 50 countries." *Journal of Virus Eradication*. <https://doi.org/10.1016/j.jve.2020.06.001> (Cost to cure \$19,051)

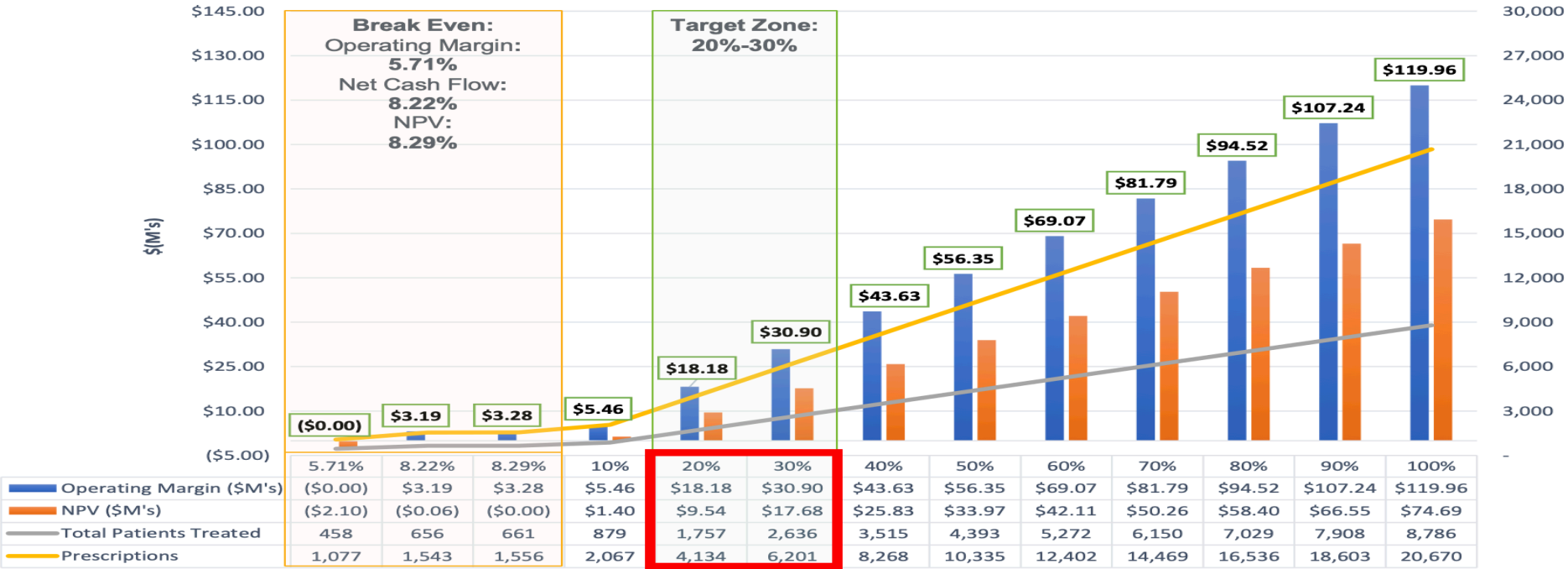
Razavi, Homie et al. 2013. "Chronic Hepatitis C Virus (HCV) Disease Burden Cost in the United States." *Hepatology*. <https://doi.org/10.1002/hep.26218> (Ave. Cost w/o cure: 205,760)

\*\$186,709 cost savings per patient cured

These estimates include UK Chandler and GSH ED; ambulatory Expansion and KD Expansion

## FINANCIAL PROFORMA

5YR - HCV Sensitivity Projection (FY23-FY27)



- 5 Year Target Zone**
- 20-30% success
  - \$18.18-30.9 M operating margin
  - \$9.54-17.68 NPV
  - 1757-2636 patients cured
  - 4,134-6201 Rx's



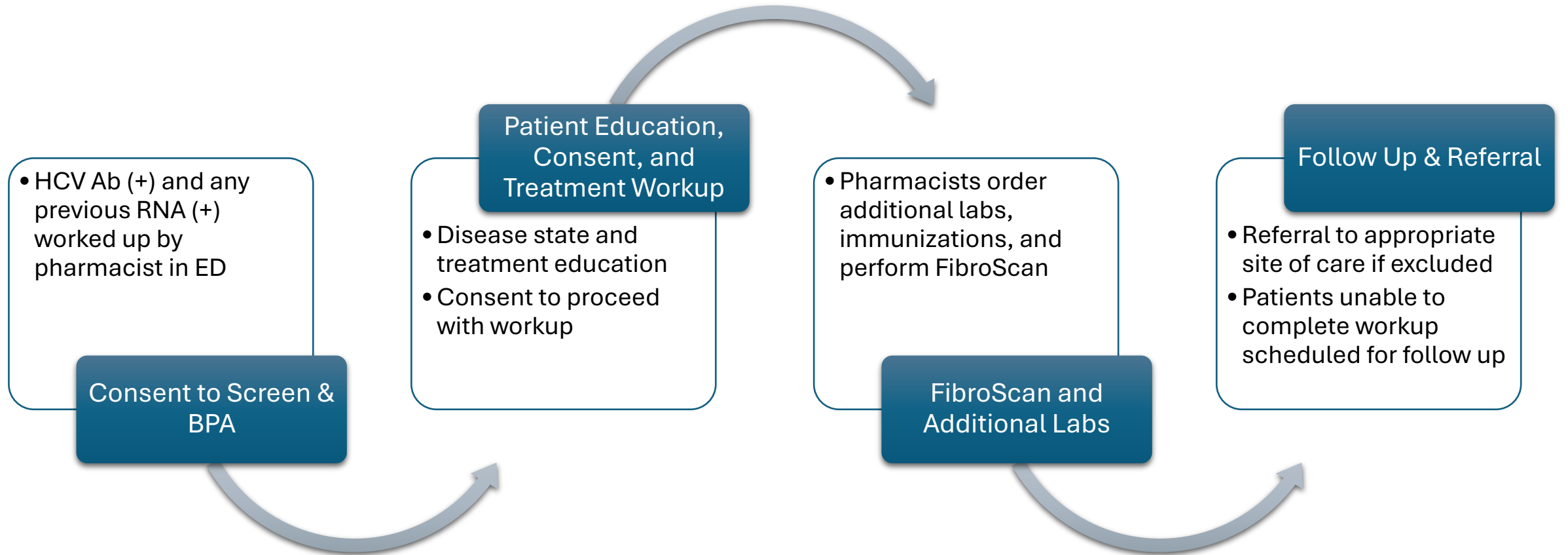
### Approval of UKHC Leadership To Move Forward With New Intervention

\*proforma and sensitivity analysis based on a range of estimates which could fluctuate given a number of different factors



# UK-CURES

## Cascade Utilizing Routinized screening through treatment to Eliminate Syndemics





# UK CURES Clinical Outcomes



<b>Pre UK CURES</b> July 2018 – June 2023	<b>Post UK CURES</b> July 2023 – July 2024
Treatment Uptake <b>10.9%</b>	Treatment uptake: <b>65.3%*</b>
Avg time to treatment (SD): <b>421 (401) days</b>	Avg time to treatment (median): <b>29 (17) days</b>

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# UK CURES Financial Outcomes

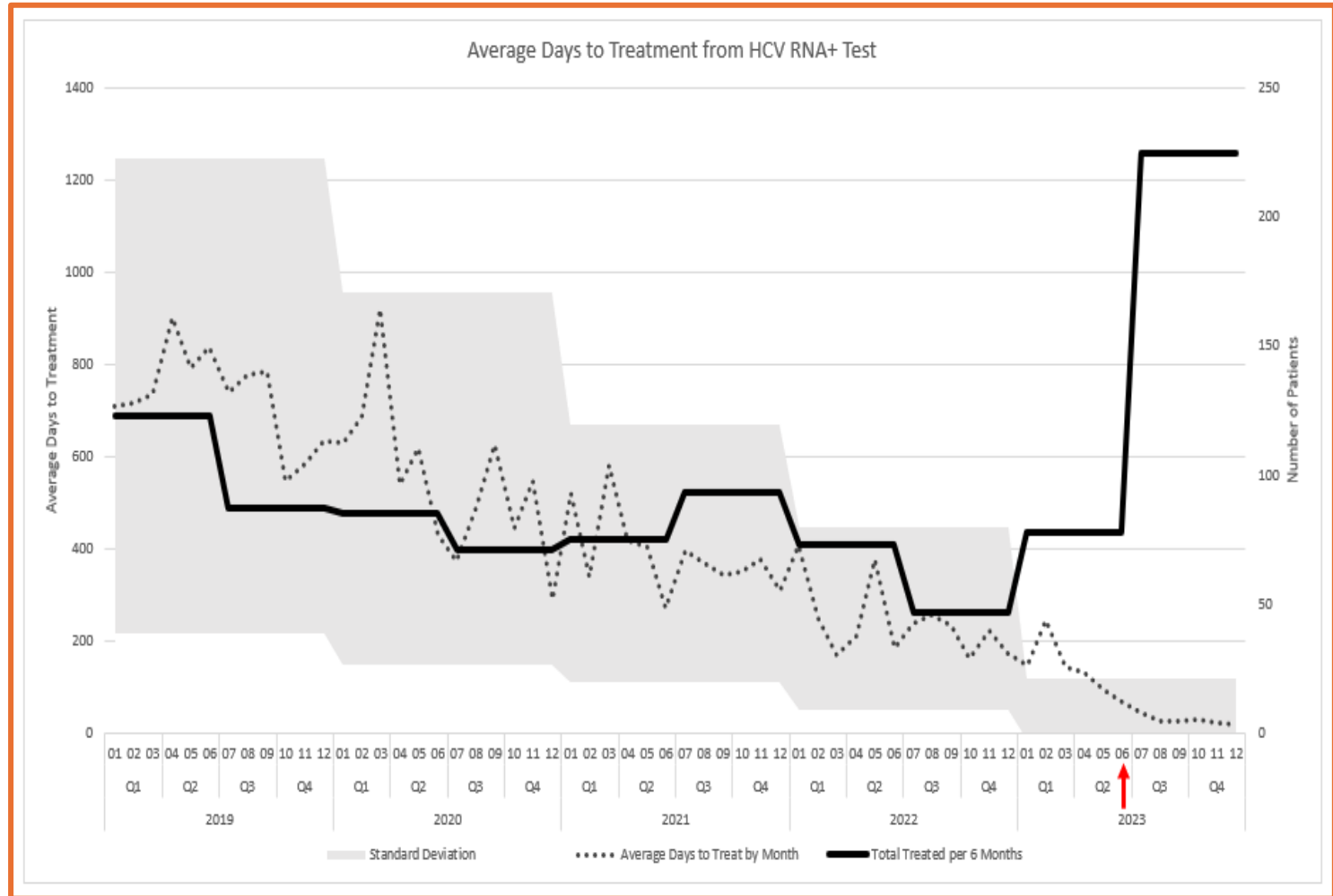


## Before UK CURES

- **\$8.7M** HCV Drug margin
- **557** patients initiated curative therapy within UKHC
  - **10.9%** of 5,116 eligible RNA+ patients

## After UK CURES

- **\$3.5M** HCV Drug margin
- **339** patients initiated curative therapy within UKHC
  - **60%** of 569 eligible RNA+ patients



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- The HCV epidemic, driven by the opioid epidemic, is an ongoing and worsening healthcare crisis in the US with predictable downstream morbidity, mortality and societal costs of inaction
- Current delivery models of care have failed to reach treatment rates necessary to improve HCV prevalence, let alone reach elimination goals
- Our pharmacist led ED model of care improves treatment rates and time to treatment providing a replicable, best practice model that could aid in national elimination efforts while adding value to all stakeholders

- Engage C-suite executives at your hospital to discuss the value proposition for developing a similar model
- Implementation Events
  1. Screening: There are available awards/grants to accomplish this
  2. Develop a business plan with an emphasis on your organization's ROI
  3. Consider other braided funding sources
  4. Design a model specific to your needs eliminating waste and variation
- Contact our UK-CURES team if you would like more information about our specific model

Questions?



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## Contact:

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