AASLD

AMERICAN ASSOCIATION FOR THE STUDY OF LIVER DISEASES

AASLD COVID-19 Clinical Oversight & Publications Subcommittee Presents

COVID-19 & the Liver: Telemedicine During the COVID-19 Pandemic and Beyond

June 4, 2020
5-6 pm ET

Presenters:

Marina Serper, MD, MS
Oren K. Fix, MD, MSc, FAASLD
Elliot B. Tapper, MD

Moderator:

Nancy Reau, MD, FAASLD

Webinar Moderator

Nancy Reau, MD, FAASLD

Professor of Internal Medicine, Richard B. Capps Chair of Hepatology, Associate Director of Solid Organ Transplantation, and Section Chief of Hepatology

Rush University Medical Center

Webinar Presenter

Oren K. Fix, MD, MSc, FAASLD

Medical Director of the Liver Transplant Program – Swedish Medical Center

Clinical Associate Professor – Washington State University Elson S. Floyd College of Medicine

Webinar Presenter

Marina Serper, MD, MS

Assistant Professor of Medicine

University of Pennsylvania
Perelman School of Medicine

Webinar Presenter

Elliot B. Tapper, MD

Assistant Professor of Medicine

University of Michigan Health System

Connect with AASLD

aasld.org/twitter
@AASLDtweets

aasld.org/linkedin

aasld.org/facebook

aasld.org/instagram

aasld.org/youtube

For resources and updates on COVID-19 and the liver, visit aasld.org/COVID19

AASLD Member Benefits

- Special Interest Group participation
- Priority housing and registration with discounts to The Liver Meeting® and DDW®
- Free or discounted subscriptions to AASLD journals HEPATOLOGY and *Liver Transplantation*
- Complimentary access to premier hepatology online education in Liver*Learning*®
- Individual and corporate non-physician memberships available

Join or Renew Today: aasld.org/membership

Join the COVID-19 Discussion Community on Engage

engage.aasld.org/covid19

New AASLD Journals App

Access all four AASLD Journals in a single app

aasld.org/publications

Submit abstracts at aasld.org/LMabstracts

AASLD FOUNDATION
KNOWLEDGE
PRACTICE
CURE®

You can help invest in the future of hepatology by supporting more research & advanced career training.

Donate today to AASLD Foundation

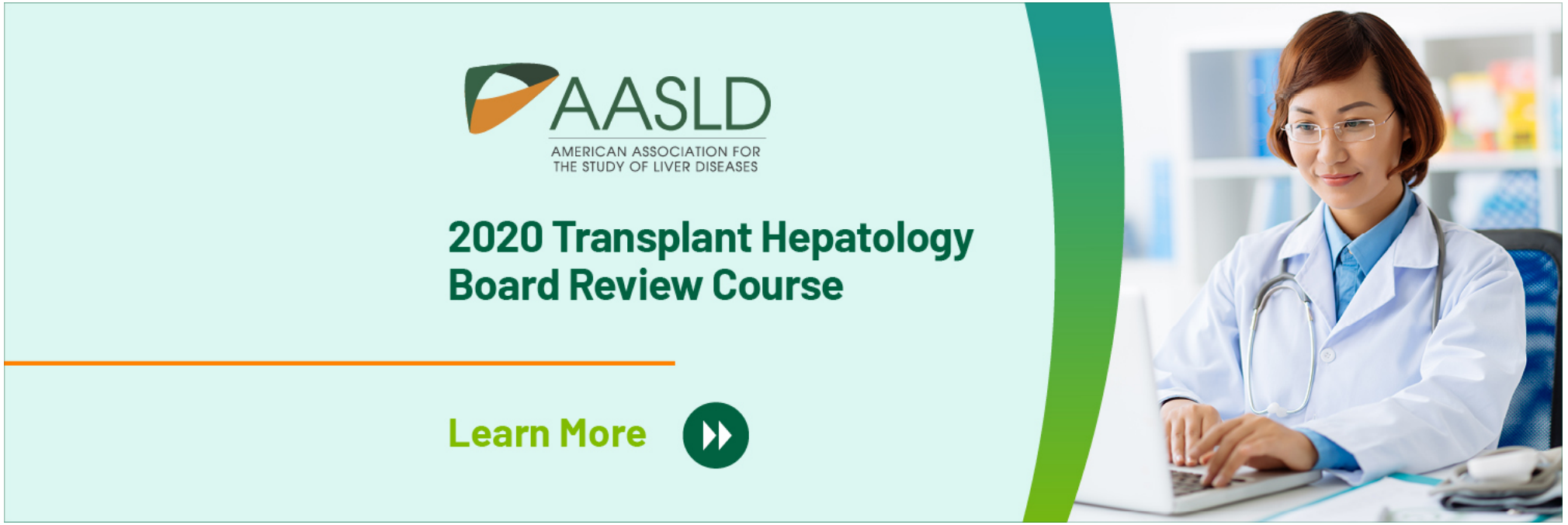
aasldfoundation.org/donate

Follow us on Twitter **@AASLDFoundation**

Stay Up-To-Date with the latest AASLD Events & Educational Offerings

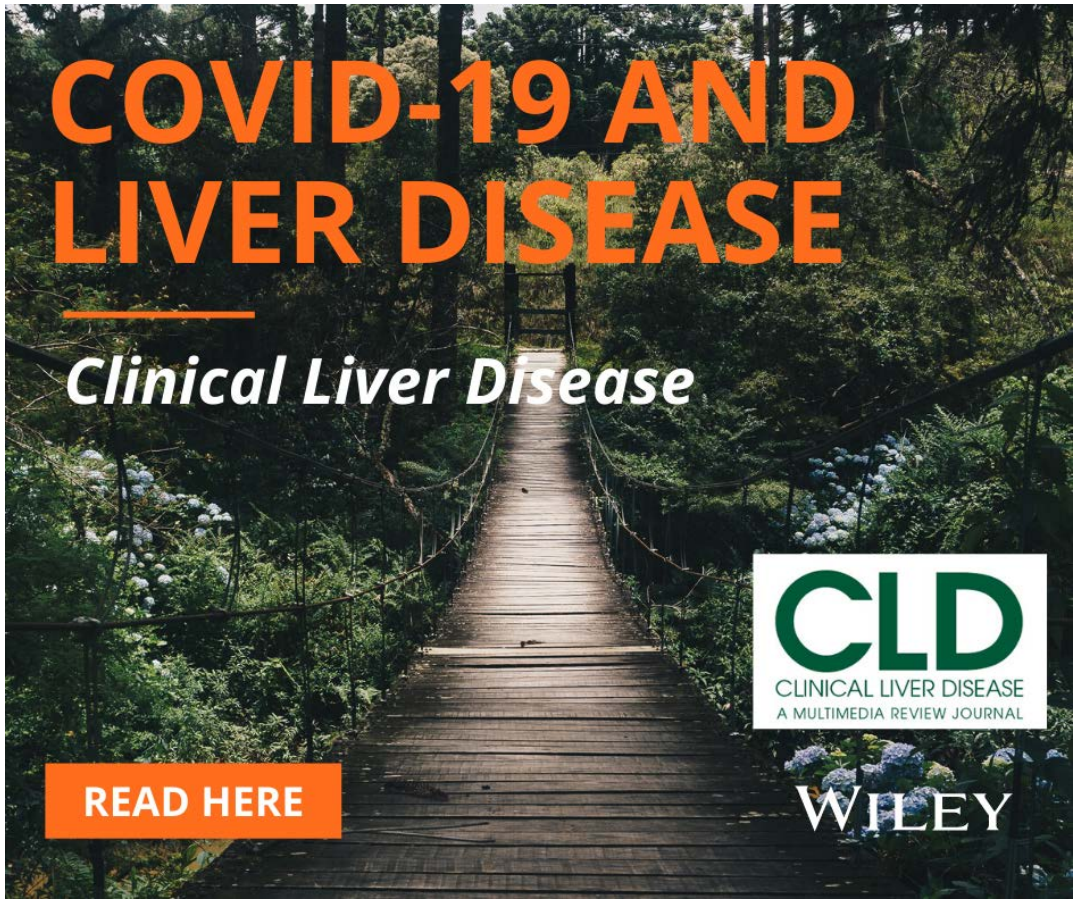
aasld.org/calendar

Prepare for ABIM and ABP certification and maintenance of certification exams in transplant hepatology and pediatric transplant hepatology



aasld.org/TransplantReview

View the Latest issue of CLD, AASLD's multimedia journal: COVID-19 & Liver Disease



cldlearning.com

COVID-19 and the Liver - Telemedicine During the COVID-19 Pandemic and Beyond

Nancy Reau, MD
Professor of Medicine
Richard B. Capps Chair of Hepatology
Chief, Section of Hepatology
Associate Director, Solid Organ Transplantation
Rush University Medical Center

Webinar Agenda

- Webinar Contributors
- Presenter Introductions – Dr. Nancy Reau
- Housekeeping Items – Dr. Nancy Reau
- Telemedicine Implementation & Patient Satisfaction – Dr. Nancy Reau
- Telemedicine Introduction, Regulatory and Financial Issues – Dr. Oren Fix
- Telemedicine Integration In Liver Disease Care – Dr. Marina Serper
- Telemedicine challenges to quality care delivery – Dr. Elliot Tapper
- Panel Discussion / Q&A

Clinical Oversight & Publications Subcommittee

- Co-chair, Oren K. Fix, MD, MSc, FAASLD, Swedish Medical Center (Washington)
- Co-chair, Elizabeth C. Verna, MD, MS, Columbia University (New York)
- Kimberly Brown, MD, Henry Ford Health System (Michigan)
- Jaime Chu, MD, Icahn School of Medicine at Mount Sinai (New York)
- Bilal Hameed, MD, University of California (California)
- Laura M. Kulik, MD, Northwestern Medical Faculty Foundation (Illinois)
- Ryan M. Kwok, MD, Uniformed Services University (Maryland)
- Brendan M. McGuire, MD, University of Alabama (Alabama)
- Jennifer C. Price, MD, PhD, University of California, San Francisco (California)
- Daniel S. Pratt, MD, FAASLD, Massachusetts General Hospital (Massachusetts)
- Nancy S. Reau, MD, Rush University (Illinois)
- Mark W. Russo, MD, MPH, FAASLD, Carolinas Medical Center (North Carolina)
- Michael Schilsky, MD, FAASLD, Yale University (Connecticut)
- Norah Terrault, MD, MPH, FAASLD, Keck Medicine of USC (California)
- Andrew Reynolds, (Patient Advocate)
- Raymond Chung and K. Rajender Reddy (ex-officio)

Webinar Moderator

Nancy Reau, MD, FAASLD

Professor of Internal Medicine, Richard B. Capps Chair of Hepatology, Associate Director of Solid Organ Transplantation, and Section Chief of Hepatology

Rush University Medical Center

Webinar Presenter

Oren K. Fix, MD, MSc, FAASLD

Medical Director of the Liver Transplant Program – Swedish Medical Center

Clinical Associate Professor – Washington State University Elson S. Floyd College of Medicine

Webinar Presenter

Marina Serper, MD,MS

Assistant Professor of Medicine

University of Pennsylvania
Perelman School of Medicine

Webinar Presenter

Elliot B. Tapper, MD

Assistant Professor of Medicine

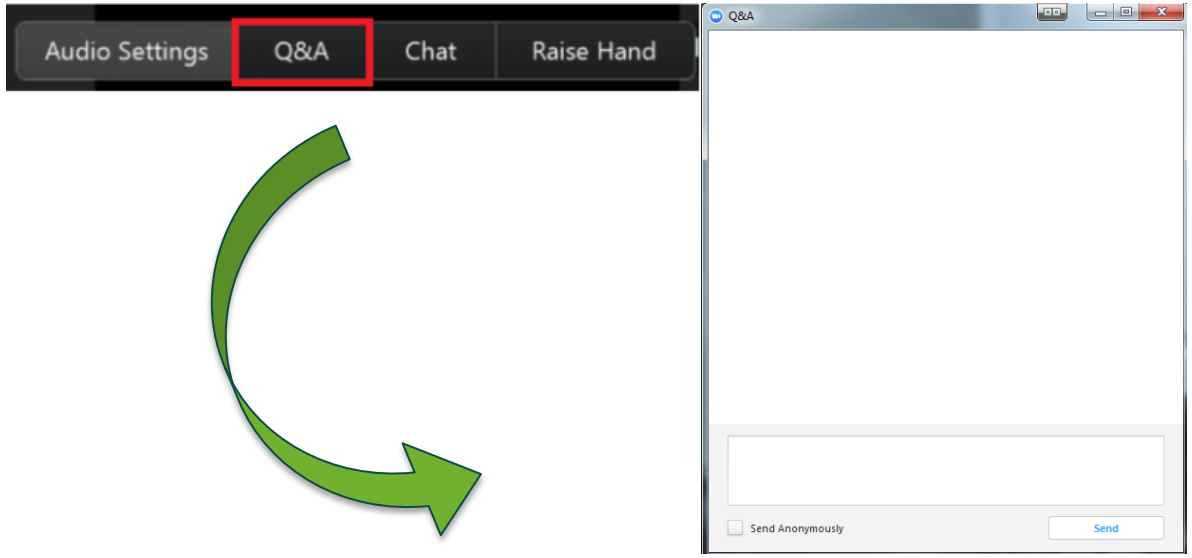
University of Michigan Health System

Webinar Panelist

- **Laura M. Kulik, MD**, Northwestern Medical Faculty Foundation
- **Jennifer C. Price, MD, PhD**, University of California, San Francisco
- **Andrew Reynolds**, Patient Advocate, San Francisco AIDS Foundation
- **Ashina Singh, MD**, Henry Ford Health System
- **Norah Terrault, MD, MPH, FAASLD**, Keck Medicine of USC

Webinar Q&A

Submit your questions in the Q&A box at the top or bottom of your screen.



Questions will be answered at the end of the presentation.

We Get a Daily Alert

June 2, 2020

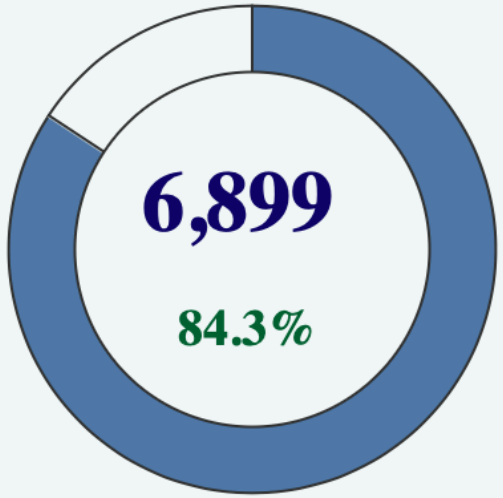
- Across the Rush system, we have screened 33,750 patients since the beginning of the COVID-19 outbreak. As we continue to screen and treat patients, 8,545 have tested positive. We currently have 134 admitted as inpatients across the system.

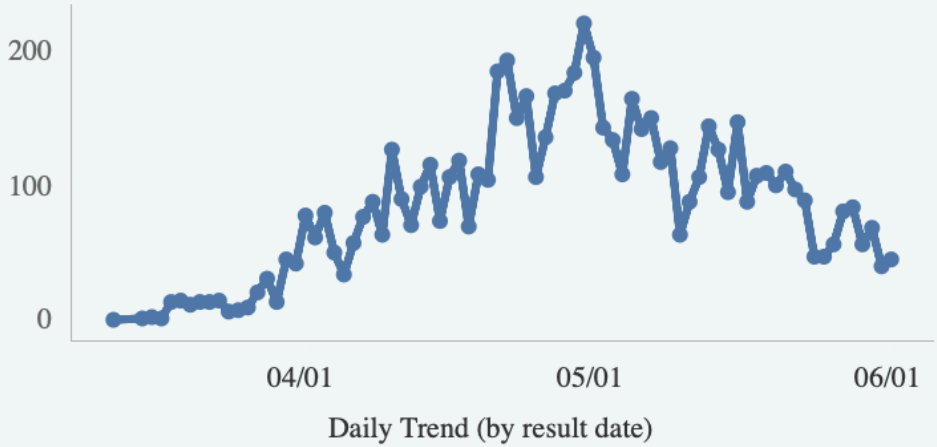
Clinical Summary

- Rush University Medical Center currently has 110 patients admitted with COVID-19 (66 on the general medical floor and 44 in the intensive care unit). Of the 44 in the intensive care unit, 29 are intubated. We currently have seven patients on extracorporeal membrane oxygenation (ECMO).
- We have extubated 109 patients and discharged 885 patients. The survival rate for COVID-19 patients at Rush remains at 90% for all hospitalized patients.

Outcome for COVID-19 Positive Patients as of 6/1/2020 (Day Prior)

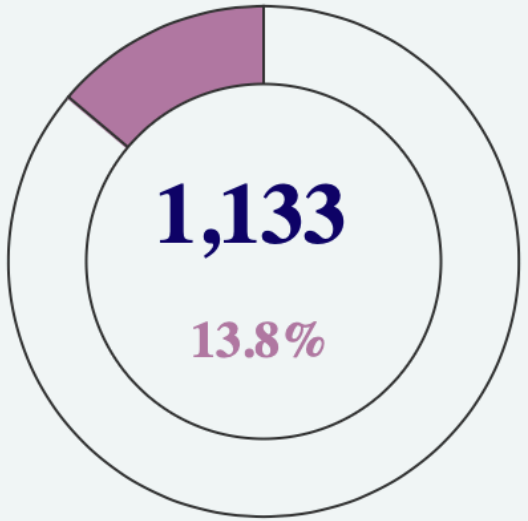
Did Not Require Hospitalization

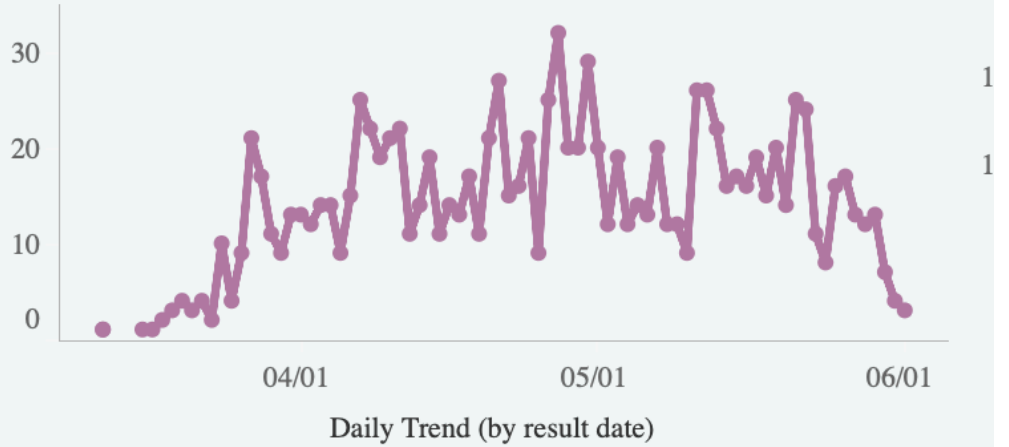




Daily Trend (by result date)

Hospitalized and Discharged Home

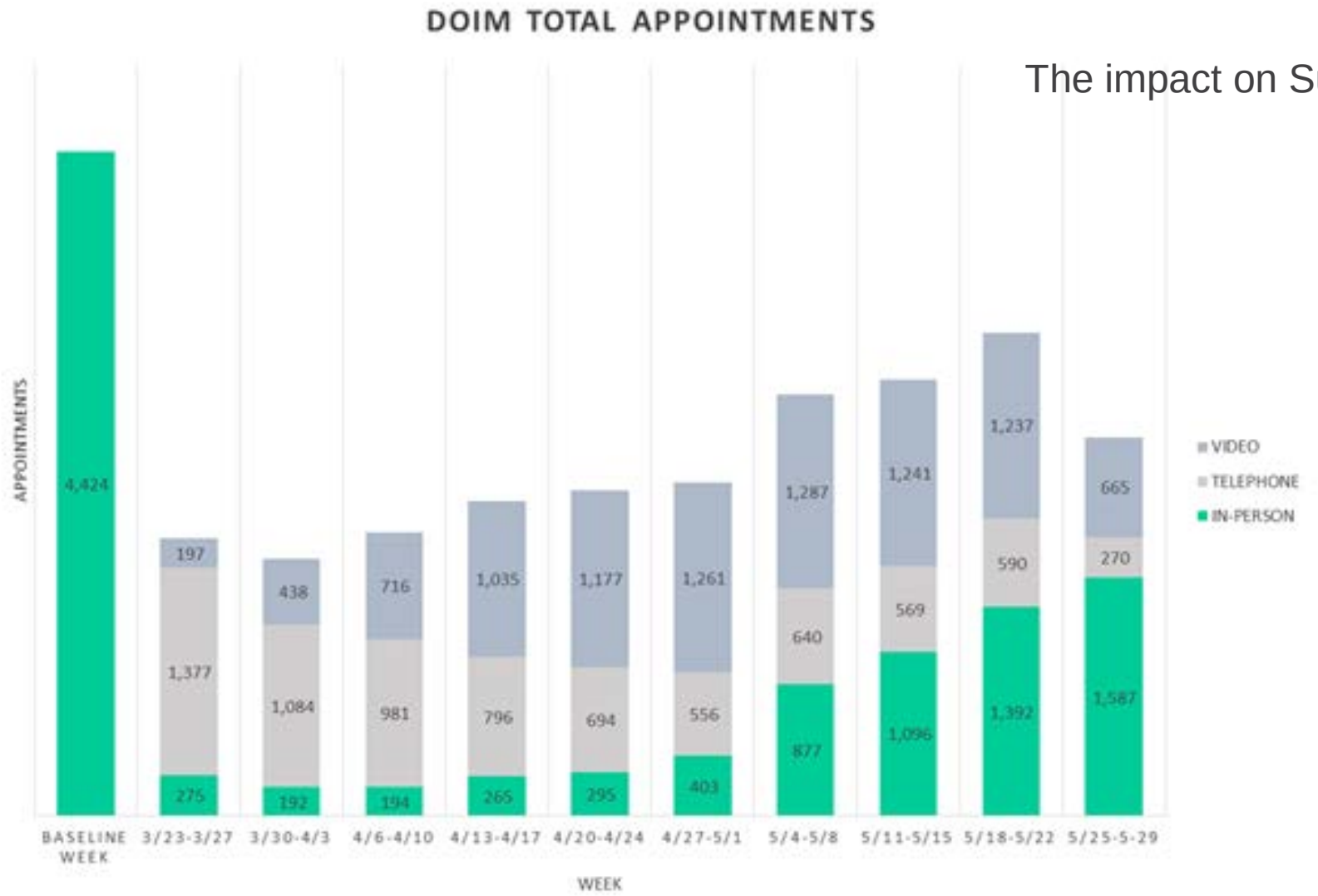




Daily Trend (by result date)

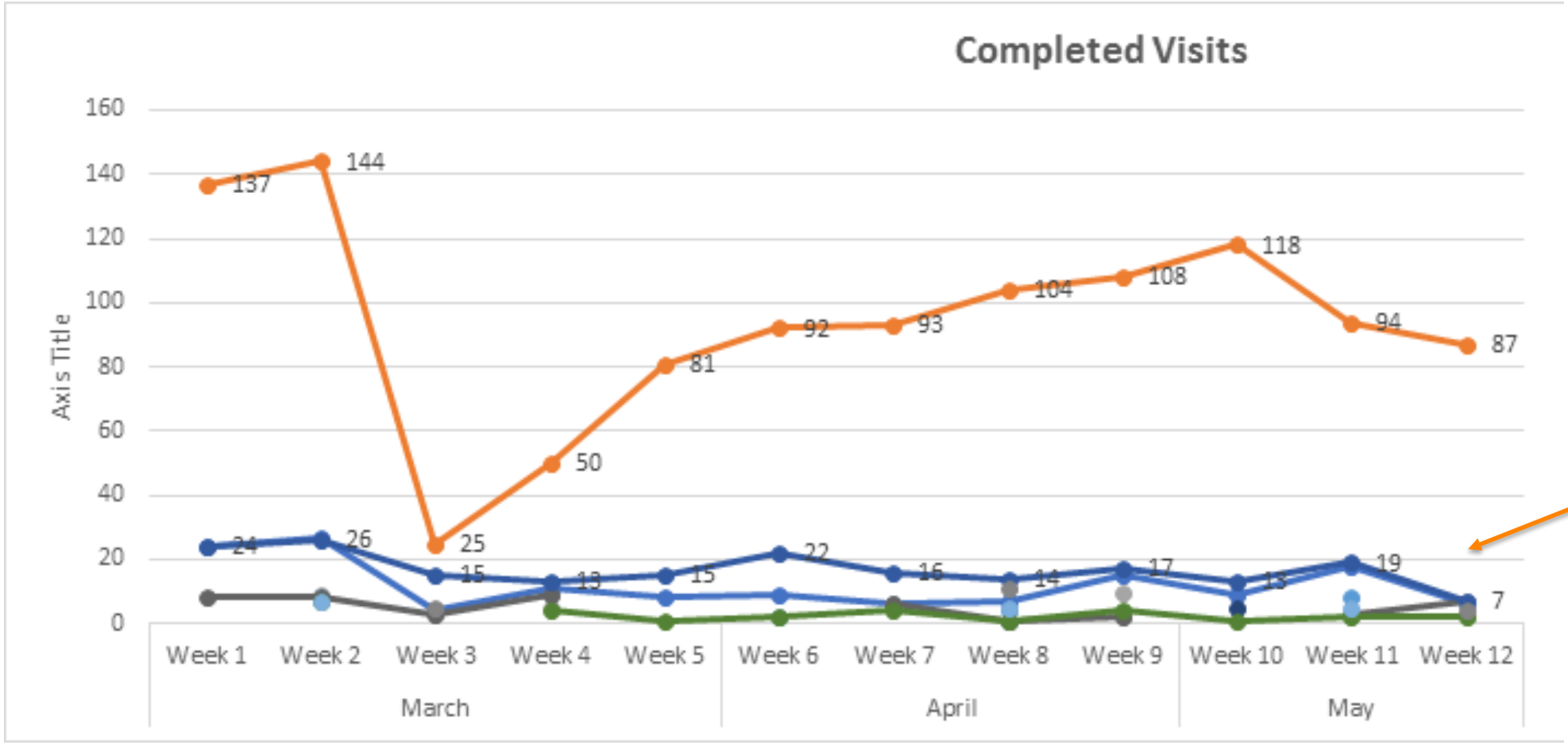
5/22/2020: statement from our CMO

- We put 18 patients on ECMO (extracorporeal membrane oxygenation) and just last week, removed the ventilator from our 100th patient successfully treated for severe critical respiratory failure.
- But this doesn't reflect the real impact

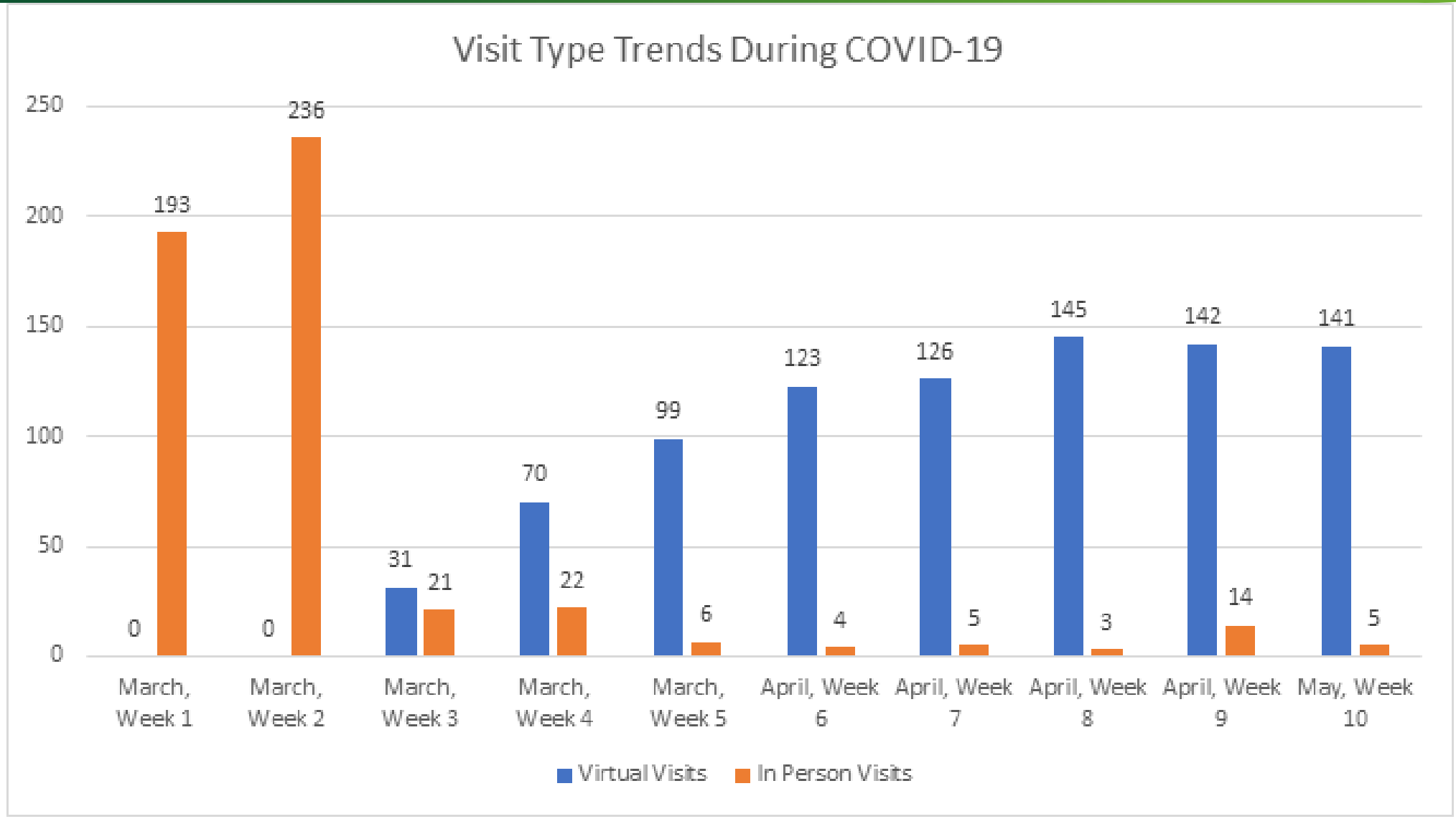


The impact on Surgery was more pronounced

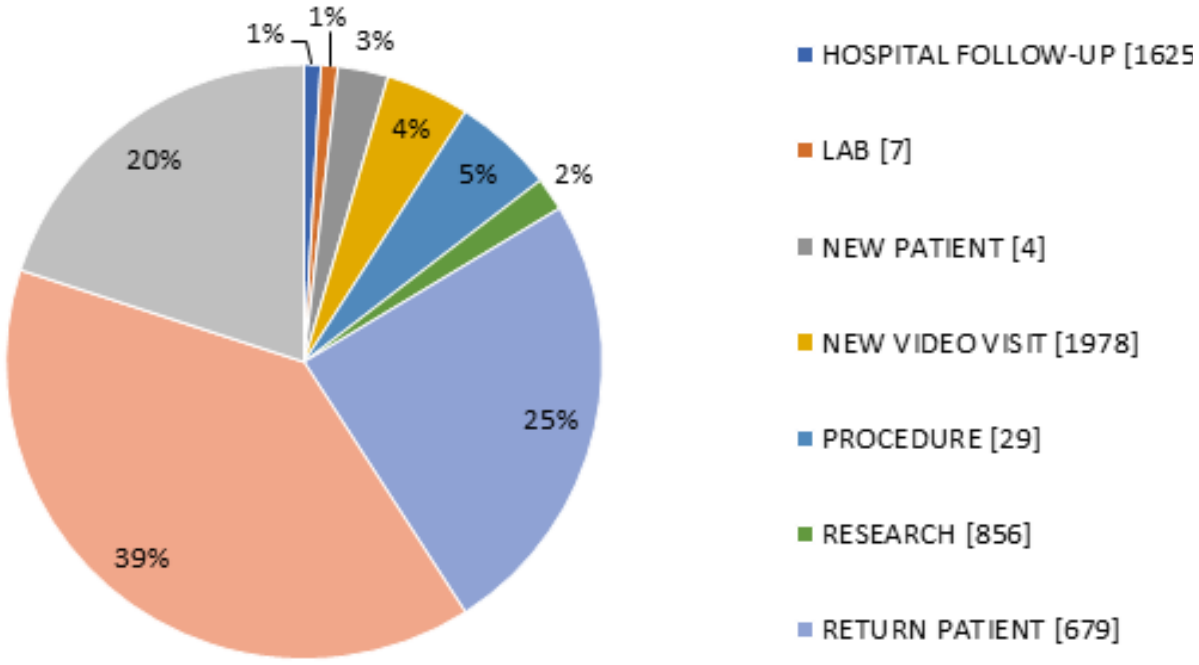
Liver Clinic



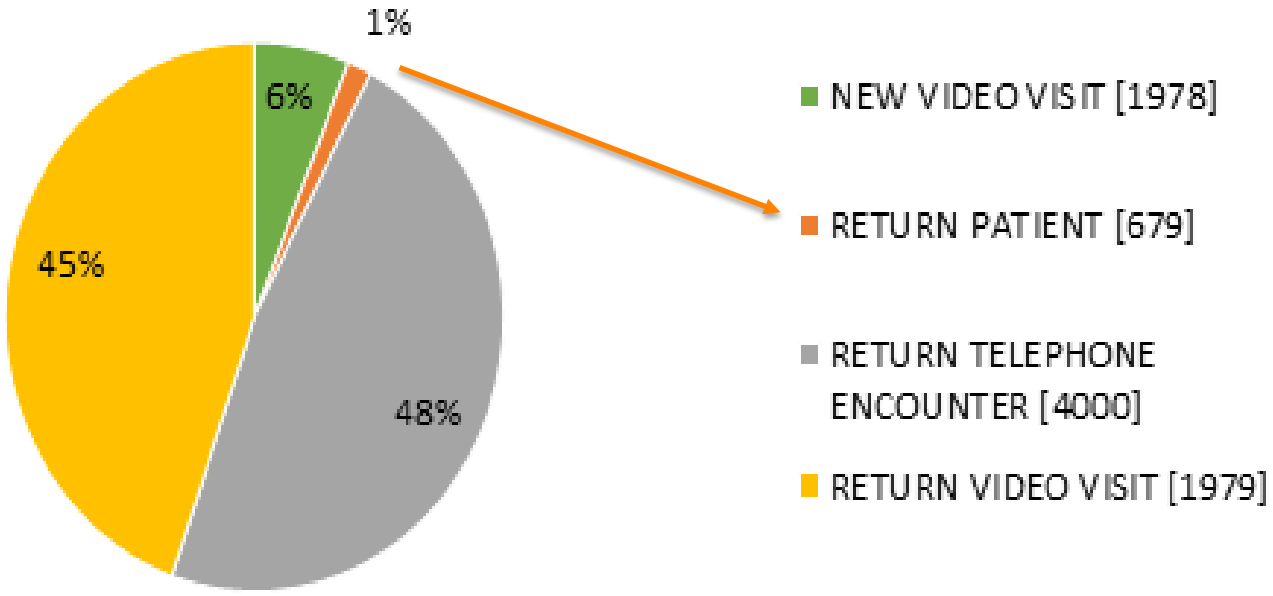
Off Site



Completed Visits_Week of 5/15



Completed Visits_Week of 5/4



Liver Clinic “opened” this week

Our no-show rate dropped drastically from 15.7% in March (fairly typical) to a confirmed no-show rate of 5.8% in April.

- Patient Satisfaction actually went up
  - Despite rescheduling, social distancing, visitor restrictions
- Off Site were less affected
- No show rates changed significantly
- We have not yet recovered

Telemedicine During the COVID-19 Pandemic and Beyond

Oren Fix, MD, MSc, FAASLD

Medical Director, Liver Transplant Program

Swedish Medical Center, Seattle, WA

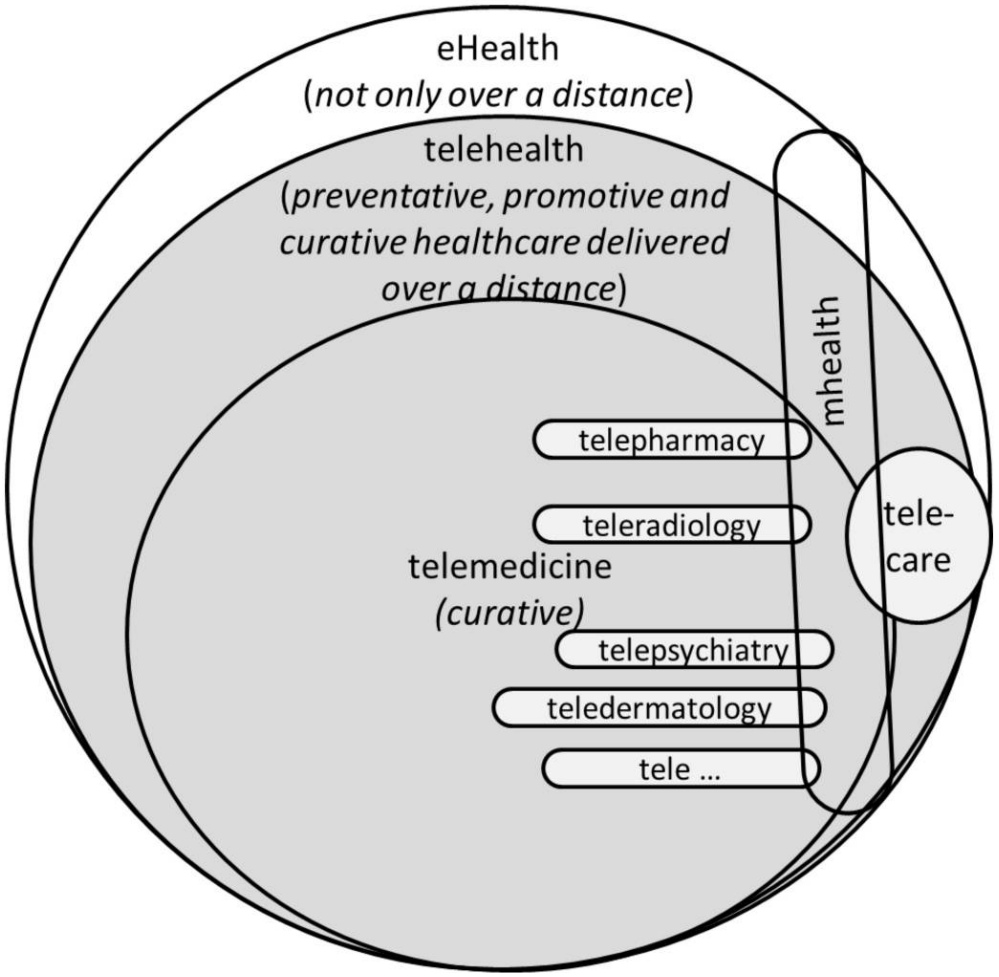
Clinical Associate Professor

Washington State University Elson S. Floyd College of Medicine

Outline

- Definitions
- Pre-COVID-19 barriers to telemedicine adoption
- Telemedicine waivers for the COVID-19 public health emergency
- Documentation and coding
- Telemedicine limitations

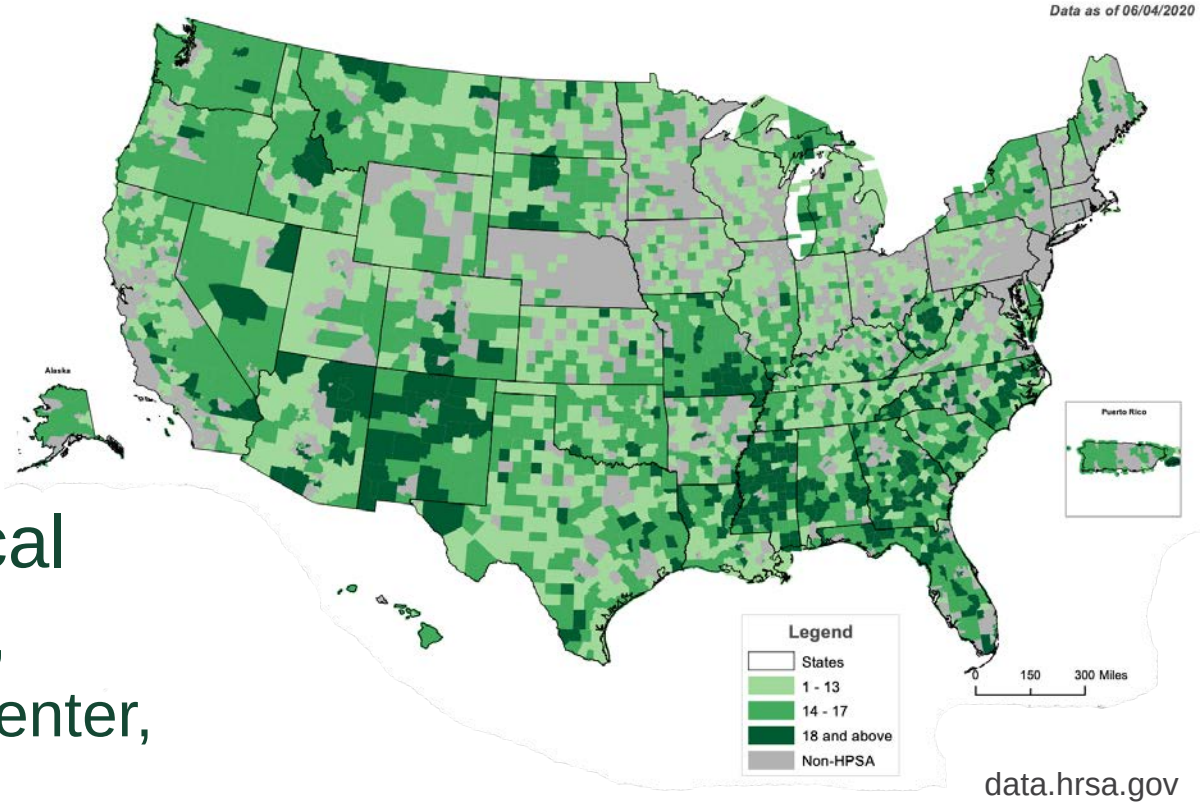
Definitions



Van Dyk. A review of telehealth service implementation frameworks. Int J Environ Res Public Health 2014;11:1279-88.

Pre-COVID-19 Barriers to Telemedicine Adoption

- Restricted to patients who reside outside Metropolitan Statistical Areas or in rural Health Professional Shortage Area
- Patient must travel to local medical facility, e.g., physician office, hospital, CAH, FQHC, hospital-based dialysis center, SNF, community mental health center



data.hrsa.gov

Medicare.gov. Telehealth. Available at https://www.medicare.gov/coverage/telehealth

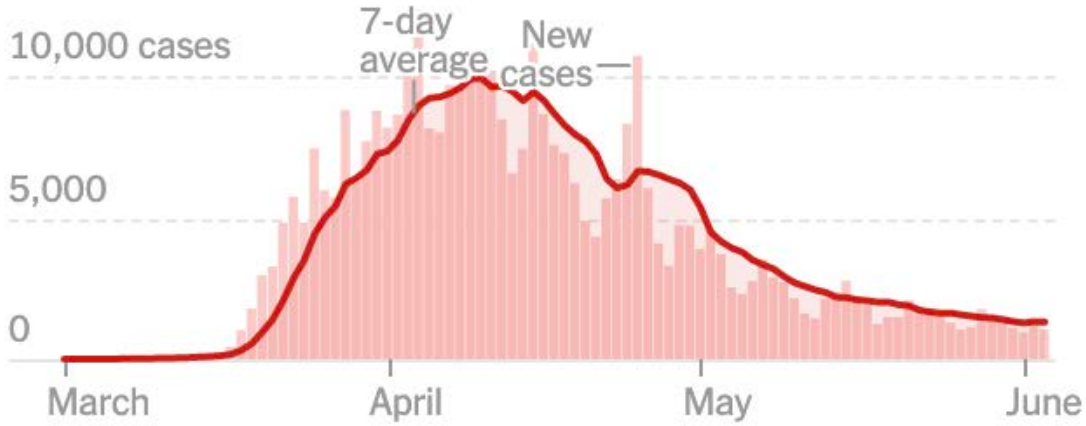
Pre-COVID-19 Barriers to Telemedicine Adoption

- Not covered by all private insurers
- Not all states have parity laws requiring private payers to reimburse the same amount for telemedicine services as analogous in-person services
- Limited by technology requirements such as HIPAA-compliant audiovisual equipment

"I want you to find a bold and innovative way to do everything exactly the same way it's been done for 25 years!"

Telemedicine Waivers for the COVID-19 Public Health Emergency

- March 6, 2020: Coronavirus Preparedness and Response Supplemental Appropriations Act (H.R. 6074)
  - Waives the rural area requirement and the originating site restrictions
  - Allows use of phones
  - Telemedicine services paid at the same amount as in-person services



H.R. 6074. 116th Cong https://congress.gov/bill/116th-congress/house-bill/6074

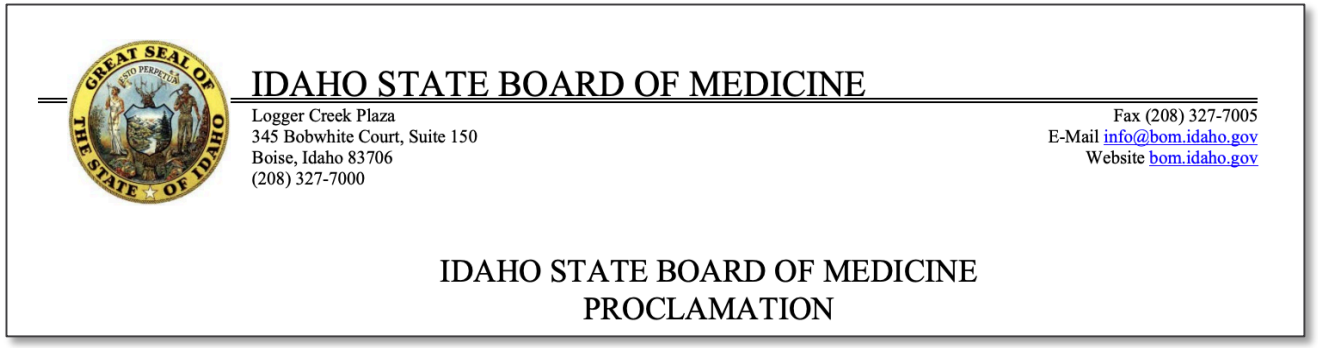
Telemedicine Waivers for the COVID-19 Public Health Emergency

- March 13, 2020: President Trump declared a national emergency
- March 17, 2020: HHS Office of Civil Rights announcement
  - No penalties for the good faith provision of telemedicine during the COVID-19 public health emergency
  - Even if remote communication technologies used for such services may not fully comply with HIPAA requirements
- April 30, 2020: CMS announced temporary increased payments for telephone visits to match in-person and video visits

Proclamation No. 9994. 85 FR 15337 https://www.whitehouse.gov/presidential-actions/proclamation-declaring-national-emergency-concerning-novel-coronavirus-disease-covid-19-outbreak/; HHS https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html

Telemedicine Interstate Issues

- In most states, providers must be licensed in the state where the patient is located at the time of the visit



IDAHO STATE BOARD OF MEDICINE

Logger Creek Plaza
345 Bobwhite Court, Suite 150
Boise, Idaho 83706
(208) 327-7000

Fax (208) 327-7005
E-Mail info@bom.idaho.gov
Website bom.idaho.gov

IDAHO STATE BOARD OF MEDICINE
PROCLAMATION

- Most states are providing streamlined emergency license applications for the provision of telemedicine services during the public health emergency

Documentation and Coding: Phone

- Medicaid/Commercial: 99441-99443
- Medicare is reimbursing for these codes during the public health emergency at same rates as 99212-99214
- May be used for new and established visits during the public health emergency
- Documentation:
  - Total time spent with patient
  - Medical Decision Making (MDM)

CMS FAQs on Medicare Fee-for-Service Billing https://www.cms.gov/files/document/03092020-covid-19-faqs-508.pdf

Documentation and Coding: Video

- Same codes as usual New (99201-99205) or Established (99211-99215) visits
- Documentation same as in-person visits under which you would bill these codes

CMS FAQs on Medicare Fee-for-Service Billing https://www.cms.gov/files/document/03092020-covid-19-faqs-508.pdf

Documentation and Coding: Video

- For video visits, CMS is allowing use of 2021 coding guidelines during the public health emergency
- For E&M coding, history and exam elements are not required and the complexity of MDM alone determines appropriate code
  - History and exam are important components to support medical necessity and complexity (i.e., Hierarchical Condition Categories, HCC)

American Medical Association https://www.ama-assn.org/system/files/2019-06/cpt-office-prolonged-svs-code-changes.pdf

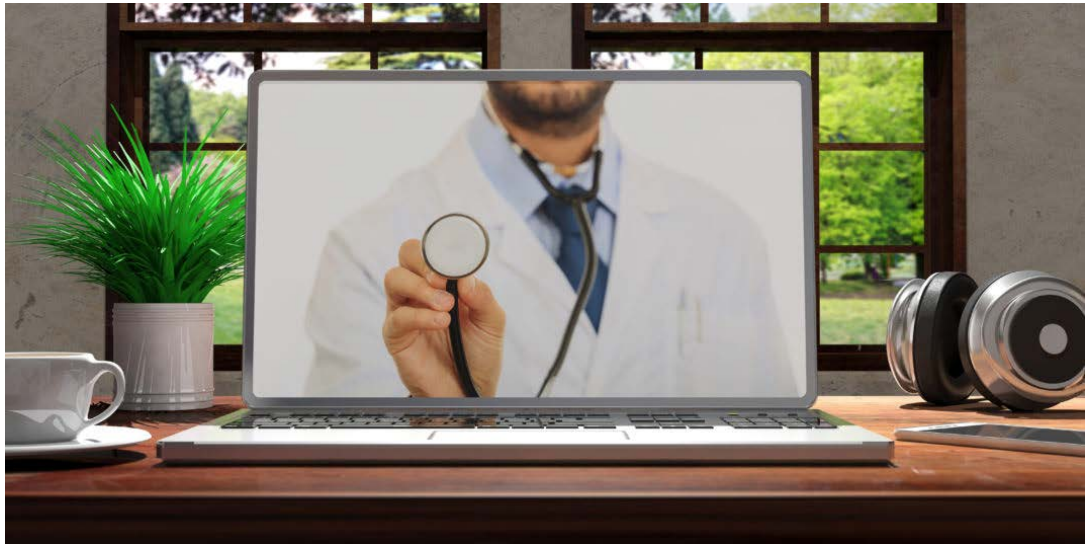
Documentation and Coding: Video

- For video visits, time-based coding includes all the time spent caring for the patient
- Total time (face-to-face and non-face-to-face) personally spent on the day of the encounter
- From chart prep/review through completion of documentation

American Medical Association https://www.ama-assn.org/system/files/2019-06/cpt-office-prolonged-svs-code-changes.pdf

Telemedicine Limitations

- Technology requirements (device and internet)
- Able to manage the technology
- Incomplete physical examination: What else are we missing?
- “Webside manner”
- Health care disparities: Are we closing or widening the gap?
- Sustainability



Nouri S et al. Addressing equity in telemedicine for chronic disease management during the Covid-19 pandemic. NEJM Catalyst 2020 May 4
https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0123

Telemedicine for Liver Disease During COVID-19 and Beyond

Marina Serper, MD, MS
Assistant Professor of Medicine
University of Pennsylvania Perelman School of Medicine
Leonard Davis Institute of Health Economics

o Financial Disclosures

- None

o Overview

- Pre COVID telemedicine use
- Current use
  - Tools, infrastructure
  - Patient, provider perspectives
  - Potential barriers

Telehealth-Based Evaluation Identifies Patients Who Are Not Candidates for Liver Transplantation

Venkata Rajesh Konjeti,[*] Douglas Heuman,[*,‡] Jasmohan S. Bajaj,[*,‡] HoChong Gilles,[‡] Michael Fuchs,[*,‡] Phillip Tarkington,[*,§] and Binu V. John[*,‡]

*Department of Medicine, Virginia Commonwealth University, Richmond, Virginia; ‡Division of Gastroenterology, §Department of Internal Medicine, McGuire VA Medical Center, Richmond, Virginia

190 patients referred to Richmond VA, **48%** SCAN-ECHO 2012-2016

- **Format** - Previously placed electronic consults for transplant discussed at ECHO conference, 30 min didactics on transplant or non-transplant topics
- **0%** in SCAN-ECHO deemed non-candidates at initial referral versus **41%** in traditional model
- **23%** in SCAN-ECHO versus **56%** ultimately not listed

Clinical Gastroenterology and Hepatology 2019;17:207–209

Use of Telehealth Expedites Evaluation and Listing of Patients Referred for Liver Transplantation

Binu V. John,[*,‡] Eleanor Love,[§] Bassam Dahman,[‖] Nargiza Kurbanova,[¶] Venkata Rajesh Konjeti,[¶] Latha Thankam Sundaram,[*] Yangyang Deng,[‖] Sean Aubuchon,[§] Douglas Heuman,[*] Jasmohan S. Bajaj,[*,‡] Hochong Gilles,[*] Michael Chang,[#] Rehan Qayyum,[¶] and Mohammad S. Siddiqui[‡]

[*]Department of Gastroenterology and Hepatology, [#]Department of Radiation Oncology, McGuire VA Medical Center, Richmond, Virginia; [‡]Division of Gastroenterology and Hepatology, Department of Medicine, [‖]Department of Health Behavior and Policy, [¶]Department of Hospital Medicine, Virginia Commonwealth University, Richmond, Virginia; [§]Virginia Commonwealth University School of Medicine, Richmond, Virginia

- **232** patients evaluated for transplant via telehealth compared to in-person
- **22 days** to complete evaluation via **telehealth** vs. **80 days** with traditional model
- Patients with low MELD-Na scores benefited disproportionately from telehealth given faster than usual evaluation times

Clinical Gastroenterology and Hepatology 2020;Epub

Penn Telehepatology Program

- In 2018 partnered with large gastroenterology group in Lancaster, PA (about 60 miles from Philadelphia)

- Group with clinical need for hepatology
  - 36 GI practitioners
  - Retirement of the only part-time hepatologist

- **Original program intent** – recruit patients within 2 weeks of liver-related hospitalization to help manage complications

Penn Medicine

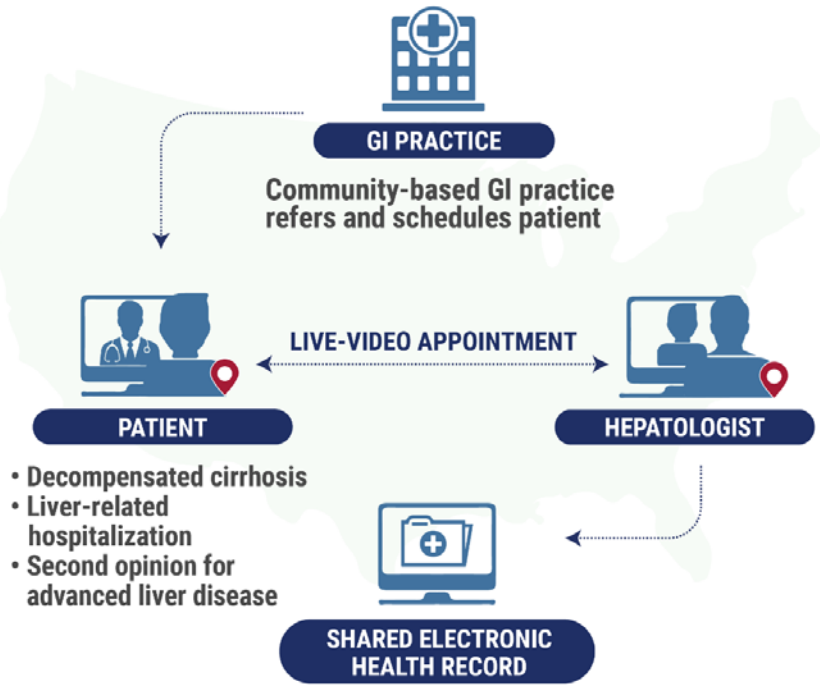
Serper M, et al. Hepatology. 2020 Apr 10. doi: 10.1002/hep.31276

Regional Gi

TELEMEDICINE IN LIVER DISEASE AND BEYOND

The hepatology workforce cannot meet the demand of patients with liver disease nationwide. Telemedicine holds tremendous promise to increase access but is limited in scale by interstate licensing restrictions and reimbursement barriers.

TELEHEPATOLOGY WORKFLOW



OUTCOMES

FEASIBILITY & FIDELITY
- 94% of referred patients scheduled
- 85% with video visits

ACTIONABLE CLINICAL RECOMMENDATIONS
- 45% new tests ordered
- 45% medication changes
- 18% transplant referral

PATIENT ACCEPTABILITY
- Net Promoter Score 92 indicating excellent experience and satisfaction

PROVIDER ACCEPTABILITY
- A valued service
- Allows for expert consultations

BARRIERS

- Interstate licensing
- Payer reimbursement
- Access/comfort with technology

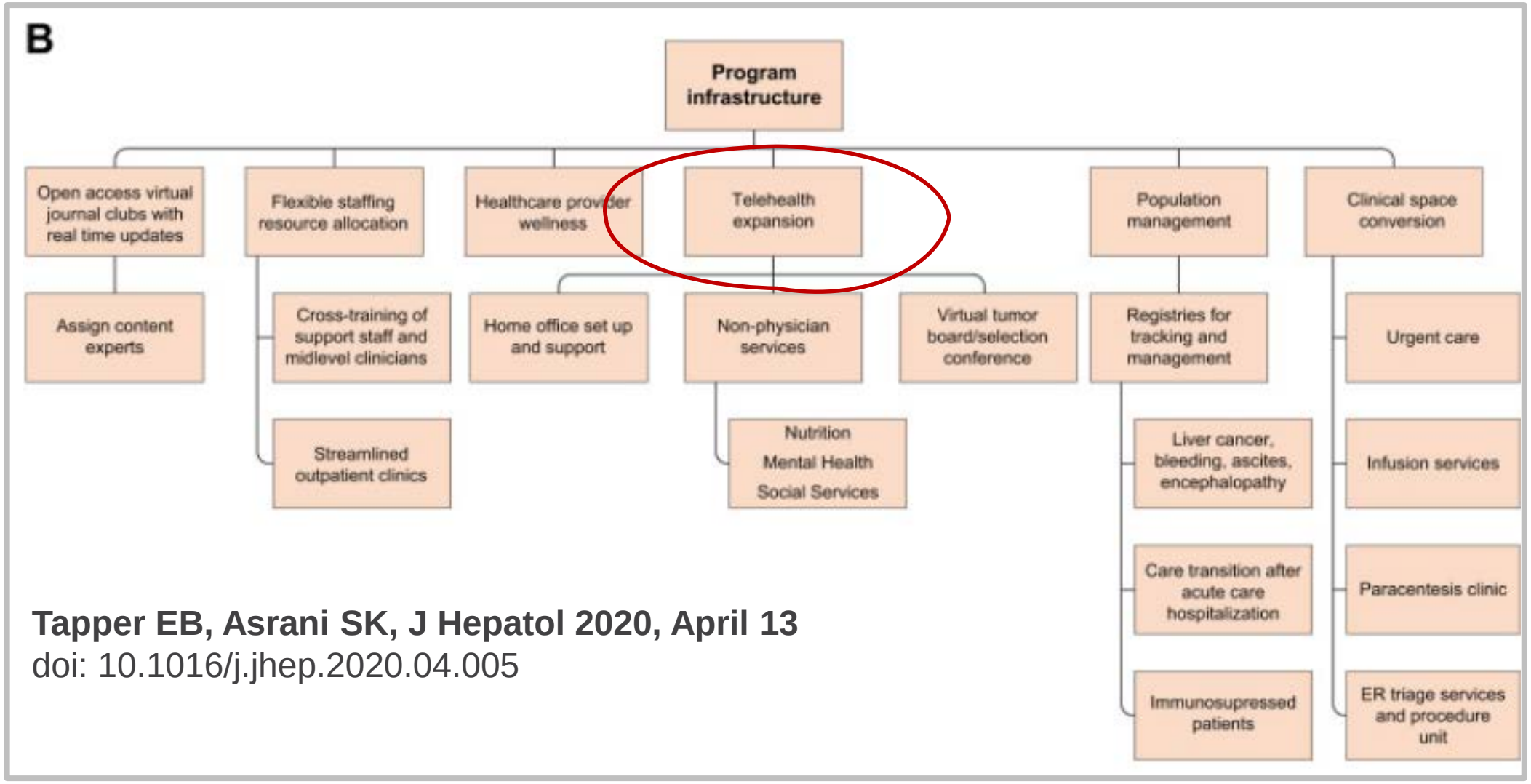
THE PATH FORWARD

Major Temporary Regulatory Changes in Payer Policies as Response to COVID-19 Pandemic

- Opportunity for widespread implementation
- Further study for patient/provider health-system issues needed

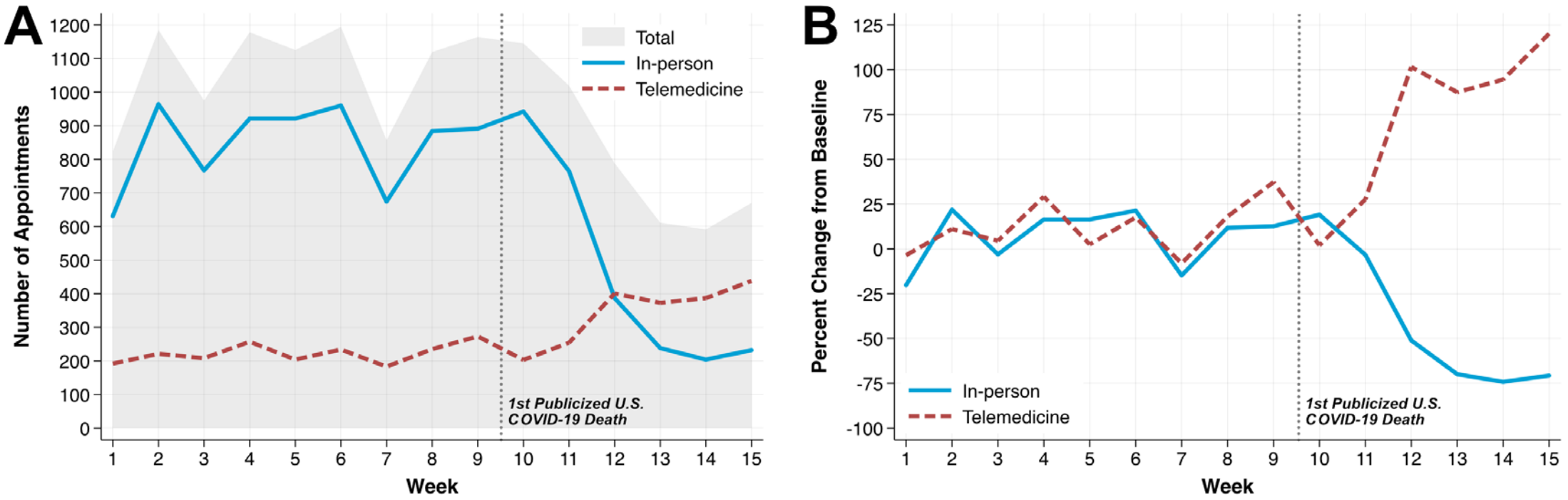
Serper M, et al. Hepatology. 2020 Apr 10. doi: 10.1002/hep.31276

Care Redesign During and Beyond COVID-19



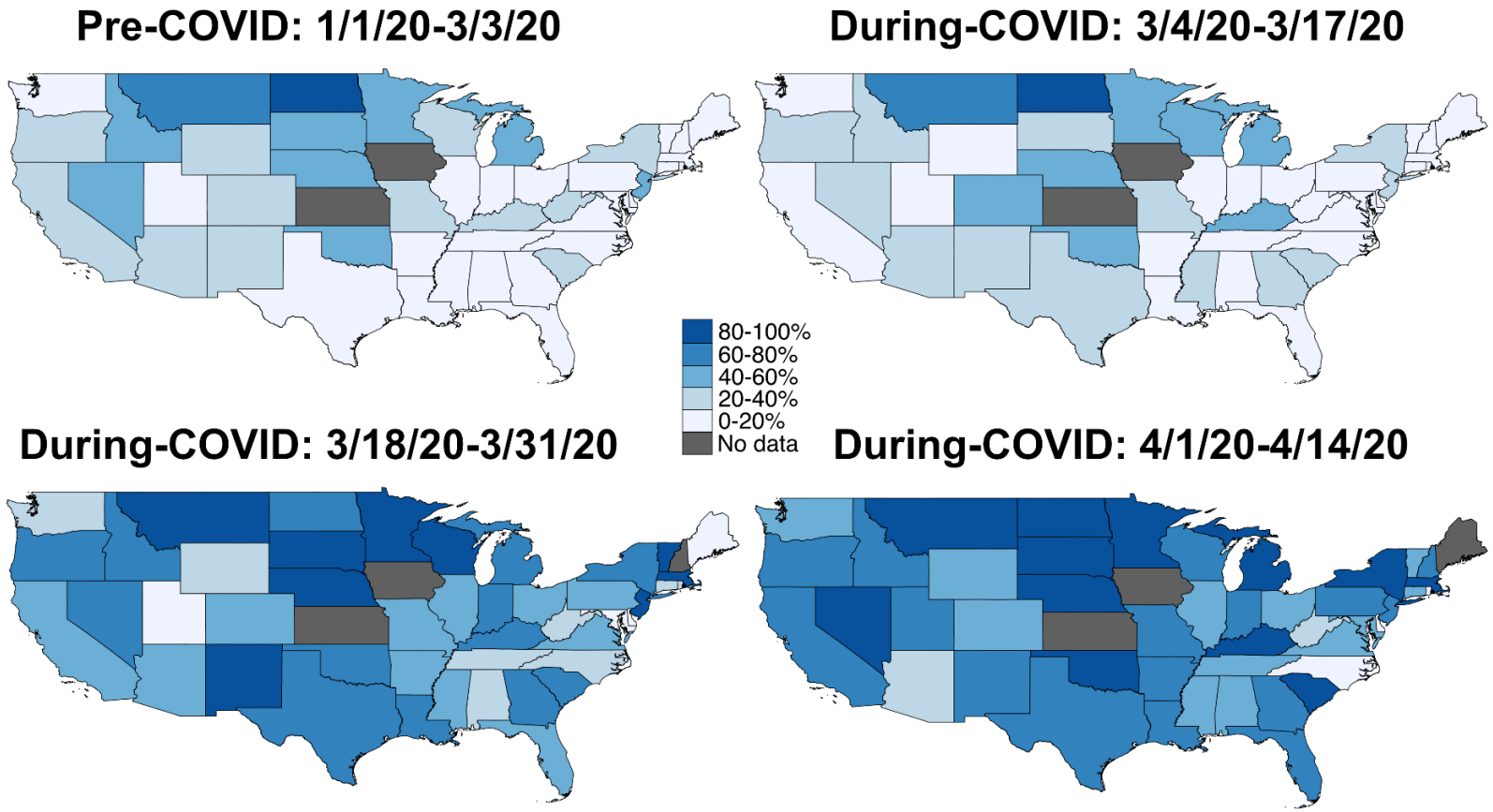
Tapper EB, Asrani SK, J Hepatol 2020, April 13
doi: 10.1016/j.jhep.2020.04.005

Changes in Care Delivery with COVID-19 in the Veterans Affairs



Unpublished data. Courtesy of Nadim Mahmud.

Proportion of Telemedicine Use for Cirrhosis GI/Hepatology in the VHA



Unpublished data. Courtesy of Nadim Mahmud.

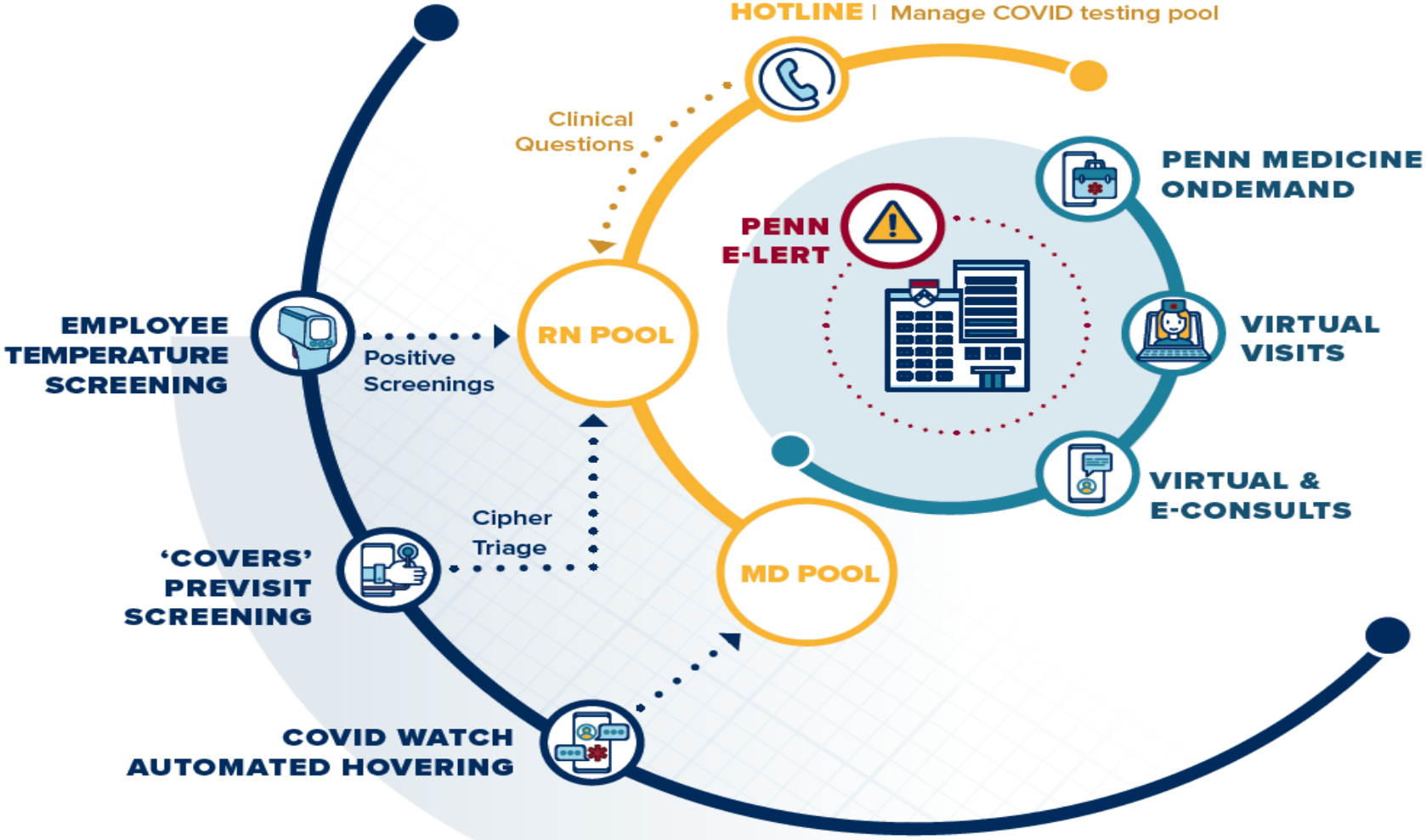
Penn Medicine

TELEMEDICAL EFFORTS

Across the Health System

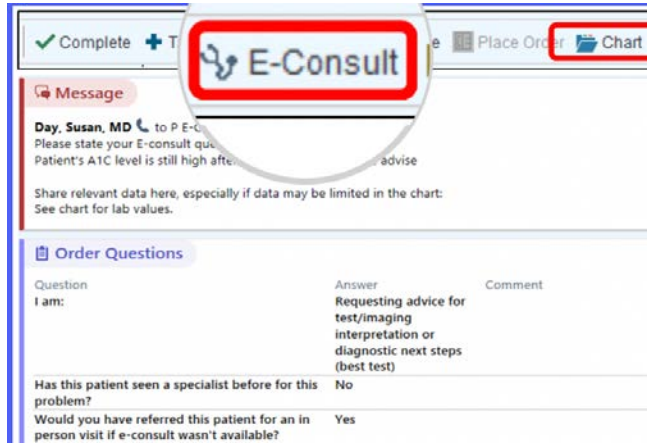
Telemedicine has been deployed in a series of mutually reinforcing layers:

- An outer screening layer to prevent uncontrolled entry of COVID into the system
- A hotline staffed 24 hr/day by RNs for employee and patient questions
- Providers (MD's, NP's) engaged in Penn Medicine on Demand, virtual visits with patients
- Virtual and limited e-consults between providers
- Penn E-lert virtual ICU for the care of the sickest patients

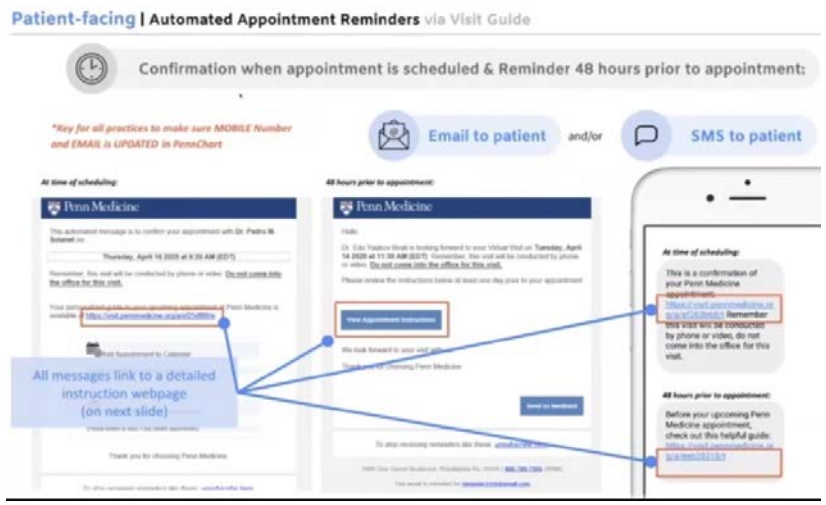


The Local Response to the "Emergent State"

- Working with local Connected Health Team
- Outpatient transplant evaluations ongoing in-person vs. telemed based on clinical urgency
- Most routine waitlisted and post-transplant visits converted to telephone and/or video
- Electronic Consultations
- Inpatient Video consults
- Virtual Switchboard to facilitate automation



Telemedicine Switchboard Helps with Automation



73% of patients download App
40% able to test App ahead of appointment

Chat Bot Support for Switchboard

New feature: W2H Text Bot - Pre-visit Quick Tips | Outpatient Switchboard — *Live 5.26.20*

To ensure patients use the W2H Text Bot:
("see next slide for screenshots of text bot")

At time of scheduling:
1. Confirm patients received appointment instructions text
2. **Make sure patients have opted in to texts:**
   Patients can text "pennmed" to 622-622
3. Instruct patients to reply "GO" to begin setup

If patients did not receive texts:
1. Ensure a single, correct mobile # is listed in PennChart
2. Make sure patients have opted in to texts:
   Patients can text "pennmed" to 622-622
3. Patients also have the option to text "GO" to 215-330-2406 to start the setup protocol

Did you know?
Of the patients who start the texting protocol:
73% download the app on their own
>40% download AND test their meeting audio and video!

See which patients did BlueJeans setup successfully through the W2H Text Bot:

Look for green setup statuses (live updates when patients successfully complete the W2H texting bot setup protocol)

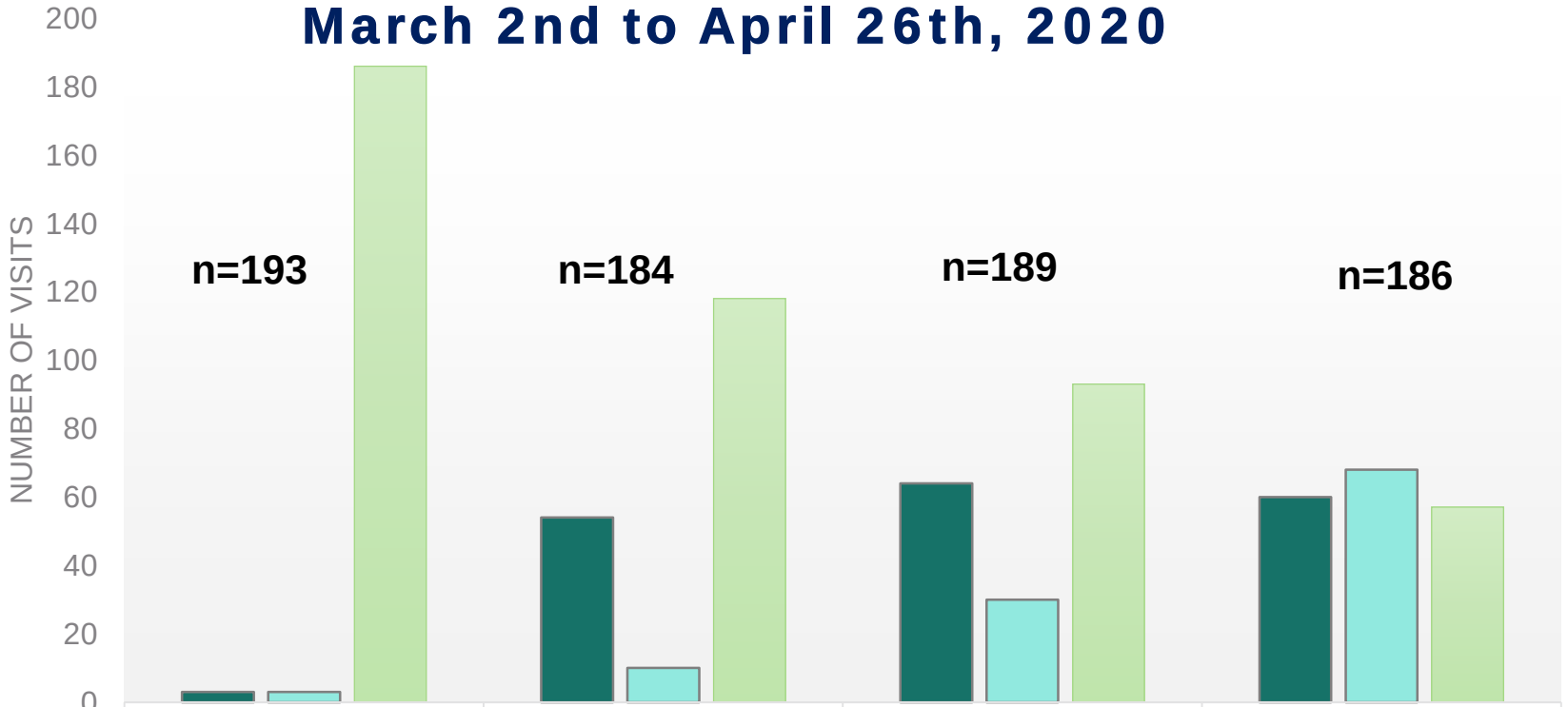
and/or

Use the meeting log to see if patients tested the room

Patient has successfully set up Bluejeans
Video meeting | Send to patient | Send to other
Patient: (m) , (h)
: 10:30am - 10:39am (8 min)
Patient may not have set up Bluejeans on their phone
Video meeting | Send to patient | Send to other
Patient: (m)

Penn Medicine 16

Advanced Liver Disease and Post-Liver Transplant Visits from March 2nd to April 26th, 2020



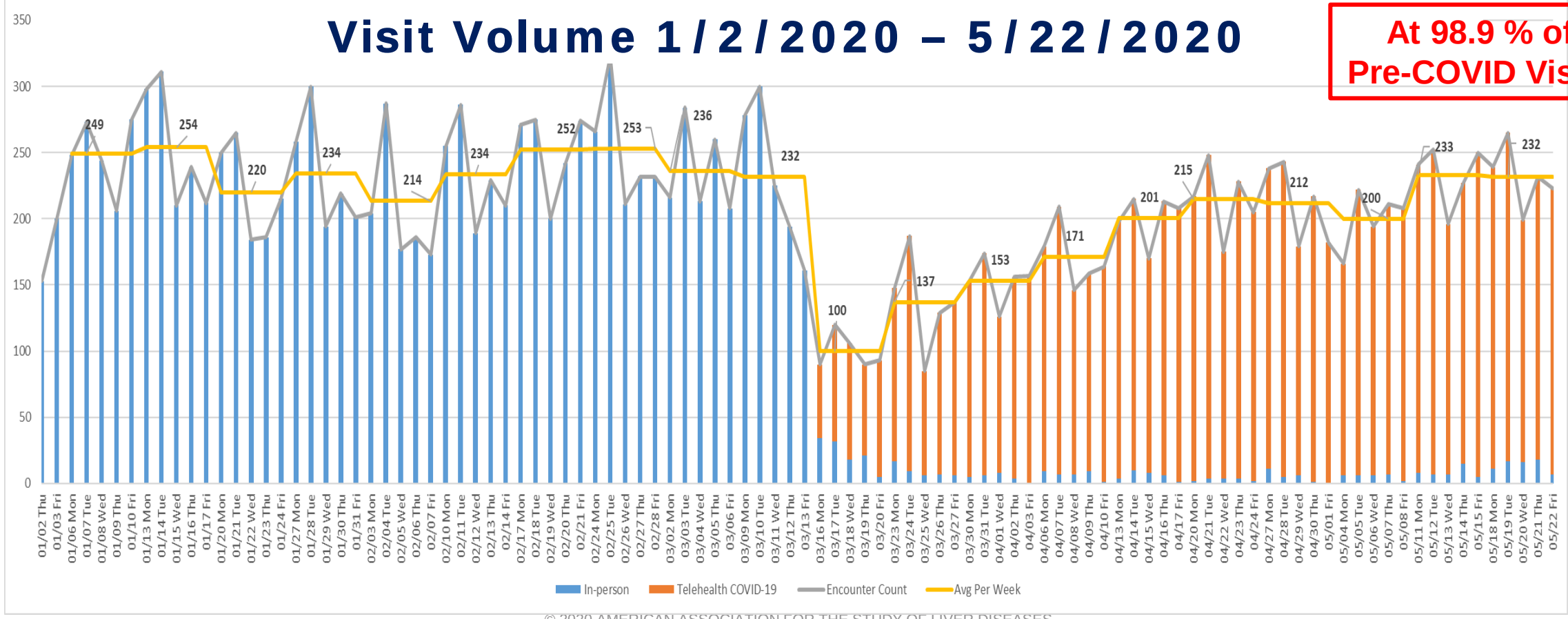
	Pre-COVID-19	Week 1-2	Week 3-4	Week 5-6
Telephone	3	54	64	60
Video	3	10	30	68
In-Person	186	118	93	57

Serper et al. J Hepatology, 2020
https://doi.org/10.1016/j.jhep.2020.05.022

Penn Division of Gastroenterology and Hepatology

Visit Volume 1/2/2020 – 5/22/2020

At 98.9 % of Pre-COVID Visits



Key Partners for Telemedicine Infrastructure

Legal / Regulatory

Reviews all Connected Health contracts prior to piloting. Regular engagement with Office of General Cousel over legal/ regulatory/ licensing questions.

Clinical

Clinical program leads, BAs, and COOs are critical for program development and integrating connected health activities into the clinical programs.

Technology

Organizational commitment and IT support to a video solution that is HIPAA compliant and integrated into EMR.

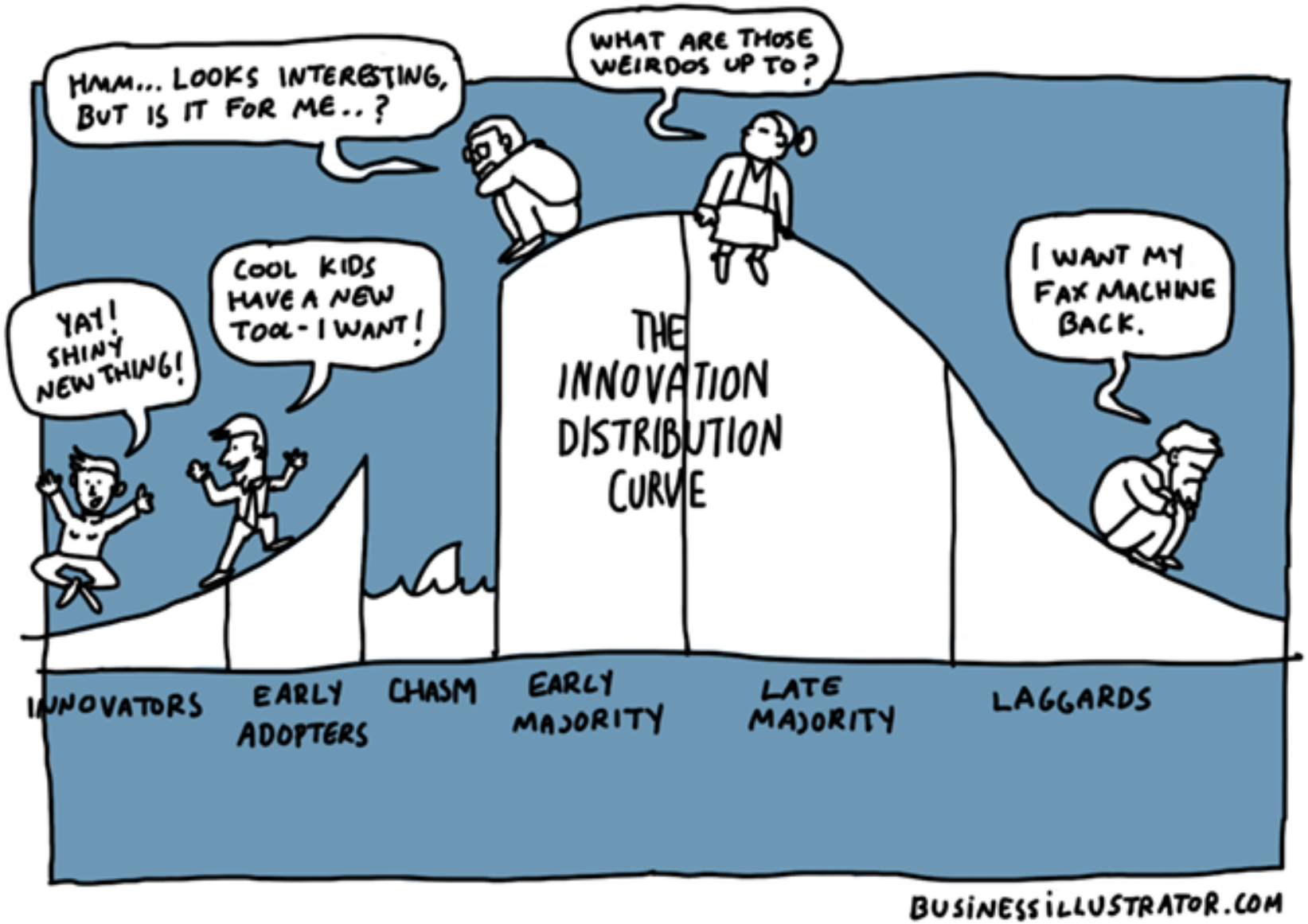
Billing/Compliance

Understand opportunities for reimbursement. Facilitated the ability to charge patients in Epic and identifying which patients we can bill either directly or to the insurance company.

Administration

Formalizing the program development process and connecting the program leads to other parts of the organization. Helps to standardize Connected Health programs across Penn Medicine and actively looking for new opportunities to scale select programs.

Courtesy of Liz Deleener, Penn Connected Health

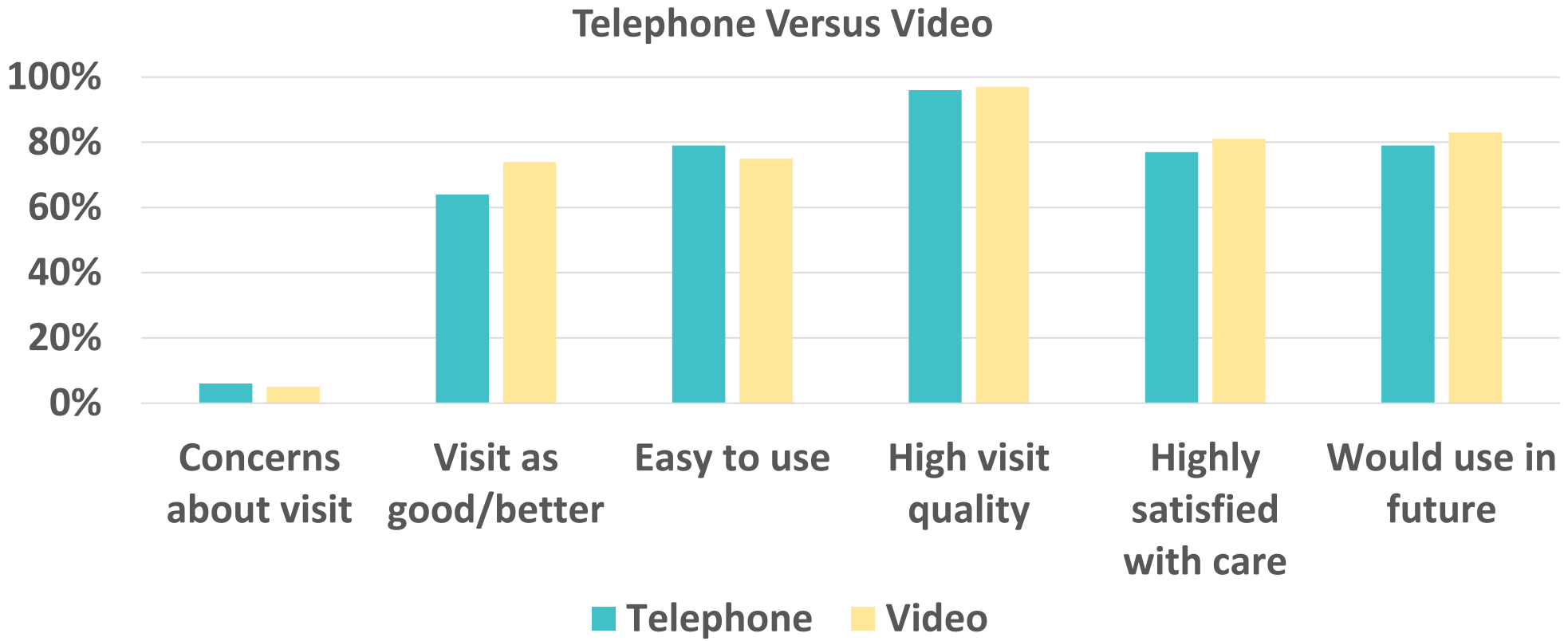

HMM... LOOKS INTERESTING, BUT IS IT FOR ME..?
WHAT ARE THOSE WEIRDOS UP TO?
YAY! SHINY NEW THING!
COOL KIDS HAVE A NEW TOOL - I WANT!
I WANT MY FAX MACHINE BACK.
THE INNOVATION DISTRIBUTION CURVE
INNOVATORS
EARLY ADOPTERS
CHASM
EARLY MAJORITY
LATE MAJORITY
LAGGARDS
BUSINESSILLUSTRATOR.COM

How do Providers Feel About Telemedicine?

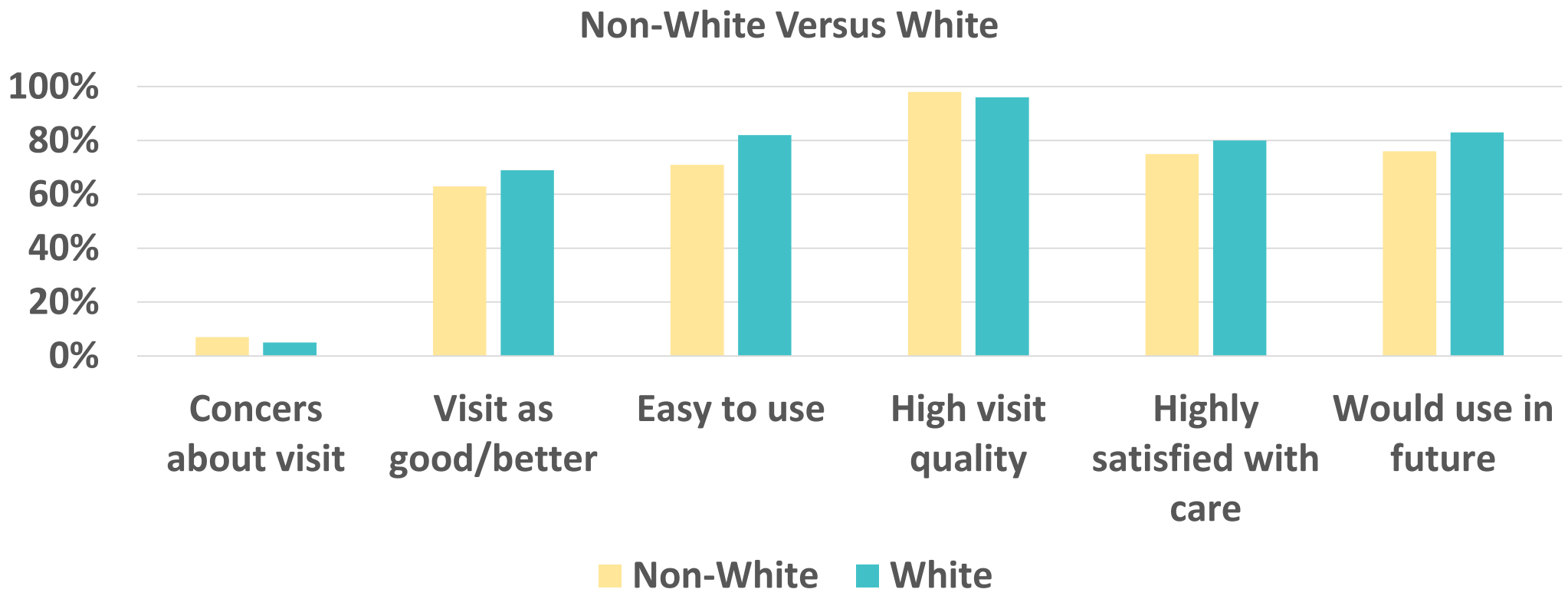
Providers: Concerns About Using Telemedicine (n=63)

	Total	In Practice < 20 years	In Practice 20+ years	*P* value
	N=63	N=47	N=16	
Ease of software download				0.076
Very dissatisfied	2 (3.3%)	4 (9%)	0 (0%)	
Somewhat issatisfied	1 (1.6%)	16 (35%)	5 (31%)	
Neither satisfied nor dissatisfied	4 (6.6%)	23 (50%)	10 (63%)	
Somewhat satisfied	14 (23.0%)	3 (7%)	1 (6%)	
Very satisfied	40 (65.6%)	6 (51%)	6 (38%)	
Overall visit quality				1.00
Very dissatisfied	1 (1.6%)	1 (2%)	0 (0%)	
Neither satisfied nor dissatisfied	7 (11.3%)	5 (11%)	2 (13%)	
Somewhat satisfied	28 (45.2%)	21 (46%)	7 (44%)	
Very satisfied	26 (41.9%)	19 (41%)	7 (44%)	
Overall satisfaction with care provided				0.057
Very dissatisfied	1 (1.6%)	1 (2%)	0 (0%)	
Somewhat issatisfied	3 (4.8%)	0 (0%)	3 (19%)	
Neither satisfied nor dissatisfied	6 (9.7%)	4 (9%)	2 (13%)	
Somewhat satisfied	25 (40.3%)	20 (43%)	5 (31%)	
Very satisfied	27 (43.5%)	21 (46%)	6 (38%)	
Would use telemedicine in the future				0.12
Probably will not	1 (1.6%)	0 (0%)	1 (6%)	
Not Sure	3 (4.9%)	1 (2%)	2 (13%)	
Probably will	13 (21.3%)	10 (22%)	3 (19%)	
Definitely will	44 (72.1%)	34 (76%)	10 (63%)	
Net Promoter Score (50+ considered excellent)	52	54	44	NS

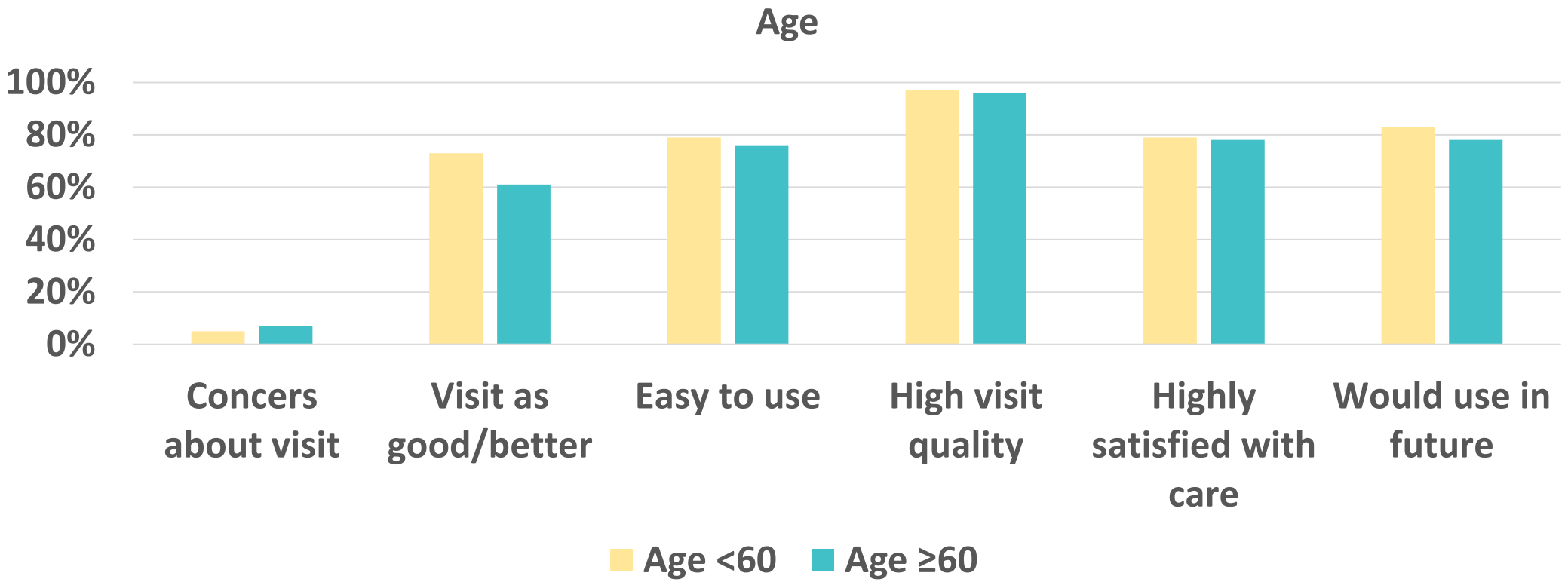
Patient Perceptions: First 4 weeks of COVID-19 Response (n=788)



Patient Perceptions: First 4 weeks of COVID-19 Response (n=788)



Patient Perceptions: First 4 weeks of COVID-19 Response (n=788)

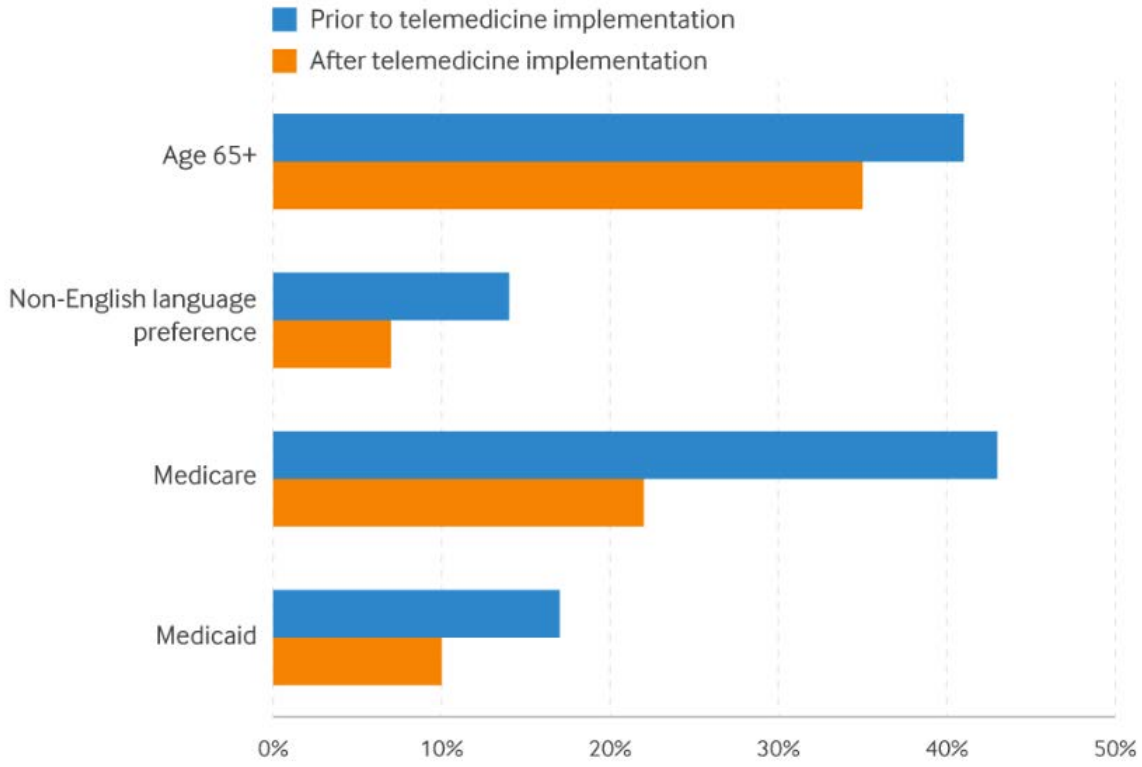


Patients: Top Words or Phrases that Come to Mind about Telemedicine

What About Disparities in Telemedicine?

Patient Visits by Age, Language, and Insurance Before and After Telemedicine Scale-Up

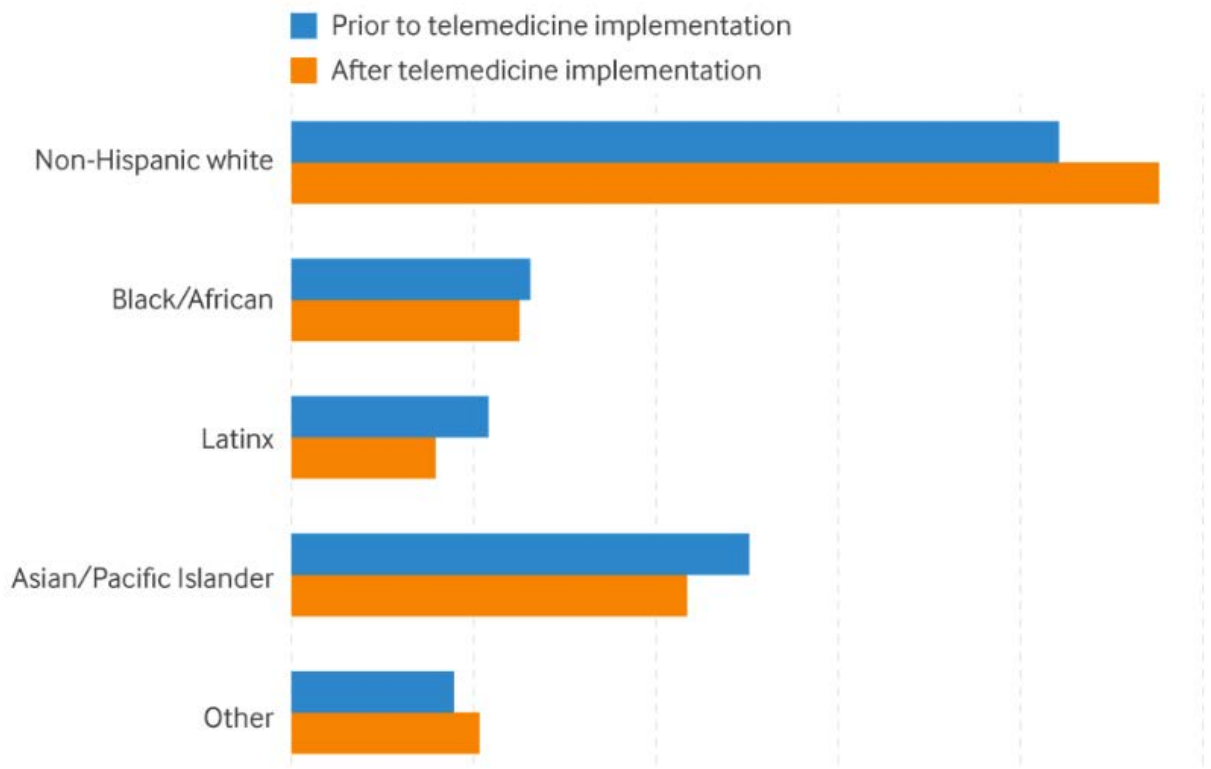
This chart shows the proportion of patient visits seen by age, language preference, and insurance type prior to (2/17–2/28/2020) and after (3/23–4/3/2020) scaled-up telemedicine implementation to address the Covid-19 pandemic at the UCSF General Internal Medicine Primary Care Practice (P=0.002 for age ≥65 and P<0.001 for other comparisons). A significantly smaller proportion of visits after scaled-up telemedicine implementation were with vulnerable patients.



https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0123

Patient Visits by Race/Ethnicity Before and After Telemedicine Scale-Up

This chart shows the proportion of patient visits seen by patient race/ethnicity prior to (2/17–2/28/2020) and after (3/23–4/3/2020) scaled-up telemedicine implementation to address the Covid-19 pandemic at the UCSF General Internal Medicine Primary Care Practice (P=0.006 using chi-squared test). A smaller proportion of visits with vulnerable populations occurred after implementation.



https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0123

Equity in Telemedicine: Best Practices

Pay attention to vulnerable populations: older age, lower SES, limited English Proficiency

Ensure high-quality interpreter services

Mitigate digital literacy and resource barriers: train patients in technology use, provide information on affordable broadband options

Be flexible in offering video and telephone

Advocate for policy changes to support sustained and equitable access

https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0123

Conclusions

- Role of telemedicine was rapidly expanding, but has been exploding since COVID-19 with lifting of regulatory and reimbursement hurdles
- Evidence for high patient satisfaction, easy integration into clinical workflow, and even superior patient outcomes
- Changes with COVID pandemic - opportunity NOT to revert to the previous state and leverage telemedicine to improve care for our patients
- Must pay attention to unintended consequences & potential to exacerbate health disparities

Useful Links

- **Coronavirus Legislation:** https://congress.gov/bill/116th-congress/house-bill/6074/
- **Medicare Regulations:** https://www.cms.gov/newsroom/fact-sheets/medicare-telemedicine-health-care-provider-fact-sheet
- **General Telehealth Resources** https://www.cchpca.org/resources/covid-19-telehealth-coverage-policies
- **Licensure**: https://www.fsmb.org/advocacy/covid-19/

Acknowledgements

Michael Volk, Lauren S. Jones, Peter Reese, Allen Cubell, Roy Rosin, Liz Deleener, Diane Peyton, Kim Forde, Jackie Lyons, Tara Casher, Dale Whitebloom, Dale Rosenberg, Shivan Mehta, Nadim Mahmud, David Kaplan

This work was supported by the Penn Center for HealthCare Innovation

Marina Serper is supported by National Institute of Diabetes and Digestive and Kidney Diseases, award **#1K23DK115897-03**

Tweet to @serperm

marinas2@pennmedicine.upenn.edu

Achieving the goals of quality care while embracing telehealth

Elliot Tapper MD
University of Michigan

Elliot B. Tapper, M.D.

Assistant Professor of Medicine
University of Michigan

@ebtapper

This presenter has the following declarations of relationship with industry:

- NIH K23 research grant
- Grants to Michigan: Gilead, Valeant
- Ad boards: Rebiotix, Mallinckrodt, Bausch
- Consulting: Allergan, Axcella, Kaleido, Novartis, Novo Nordisk

Goals of:

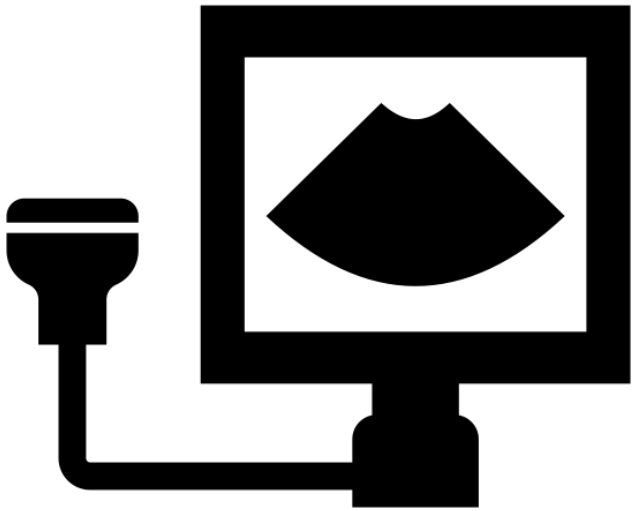
These 10 minutes

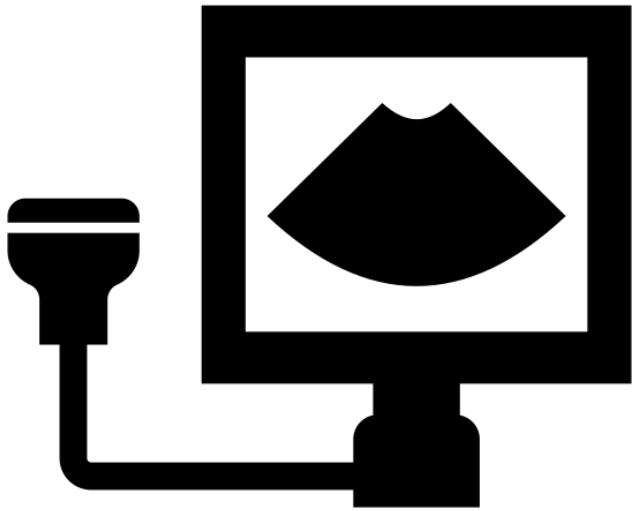
Quality care

Procedures

Tests

Visits

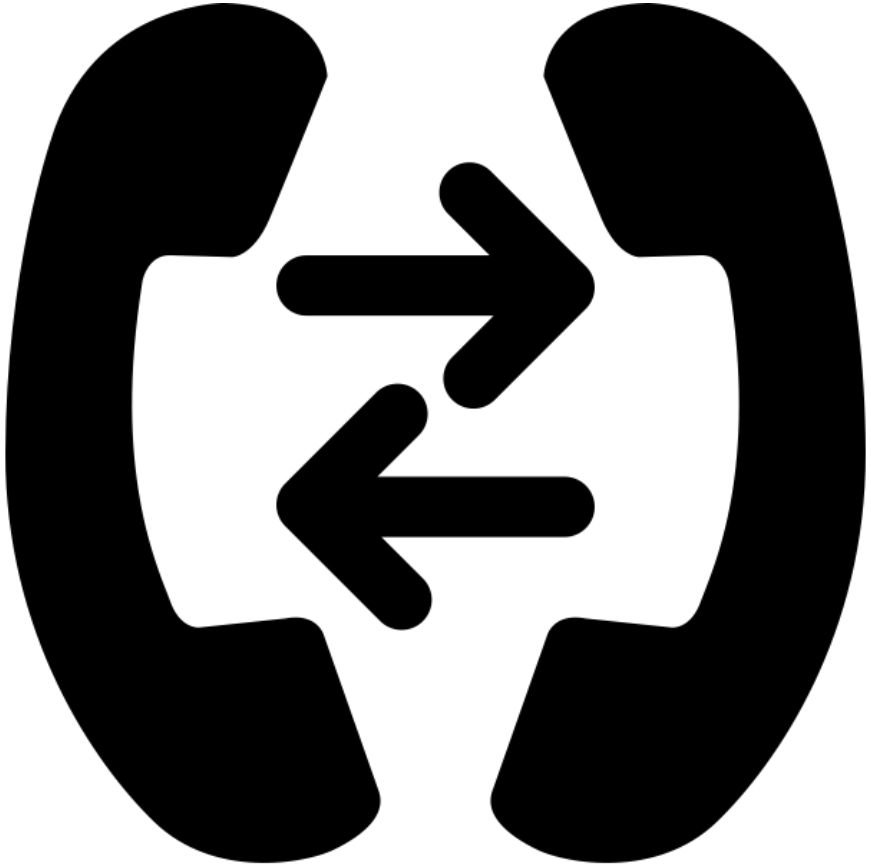




Is our use ultrasound a threat to telemed?

Who needs HCC screening?

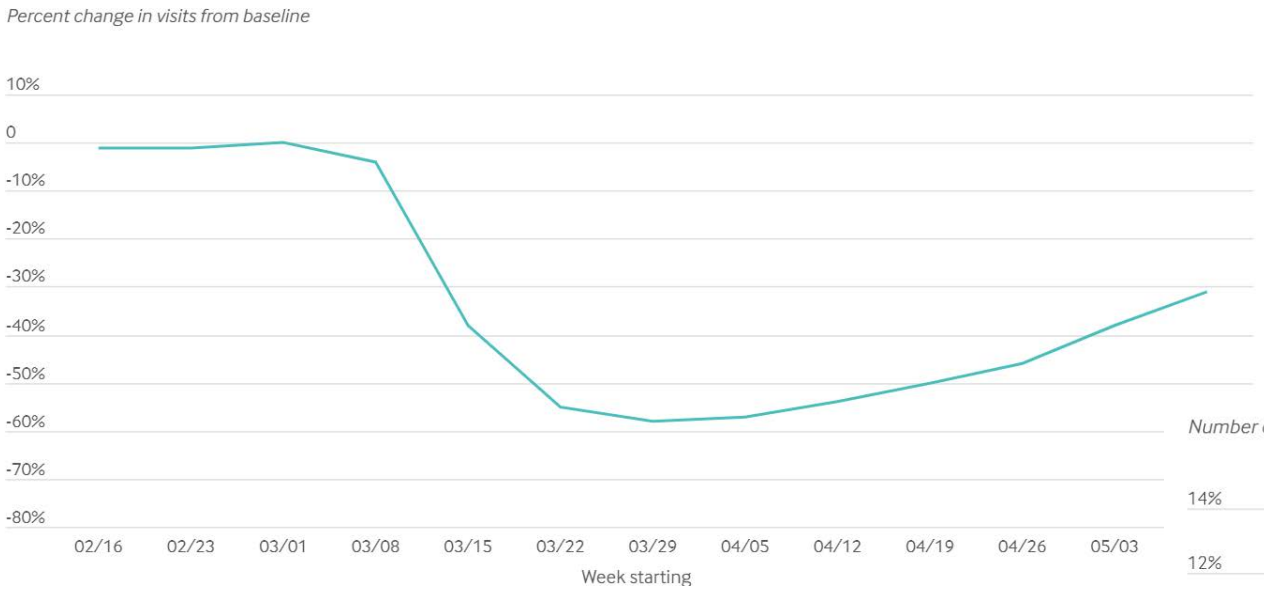
Why do they come to clinic?



Two things

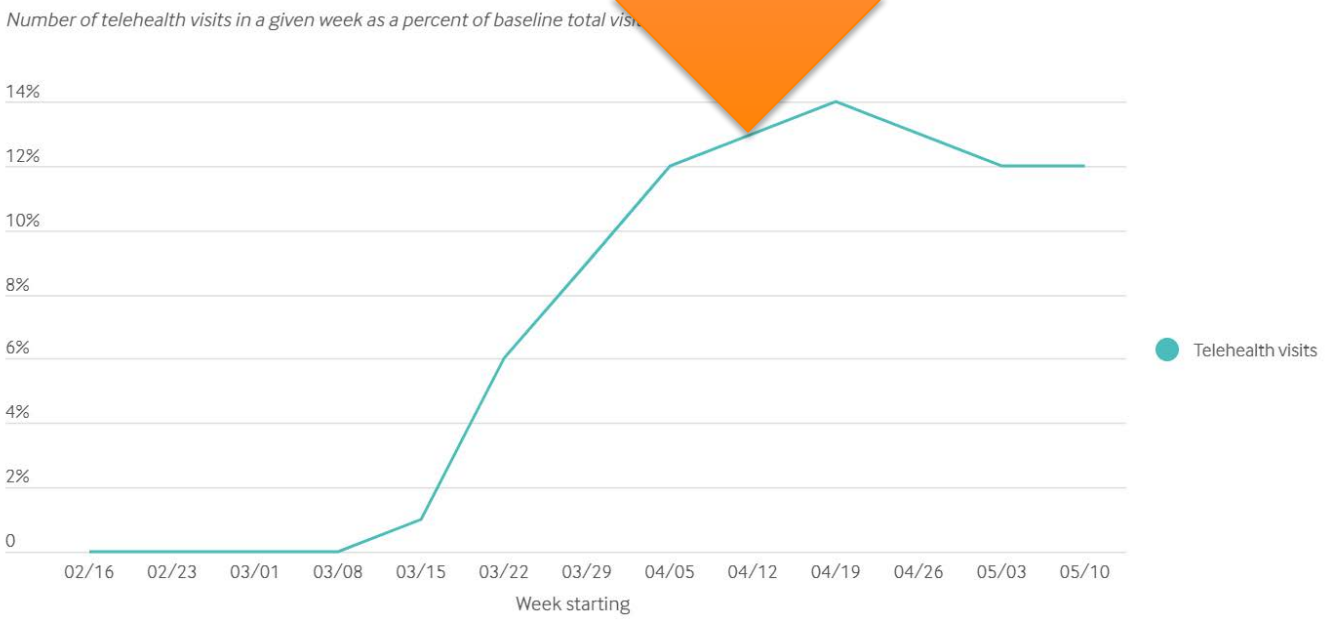
Track

Accommodate



COVID Visit Kinetics

Proportion Telemed visits

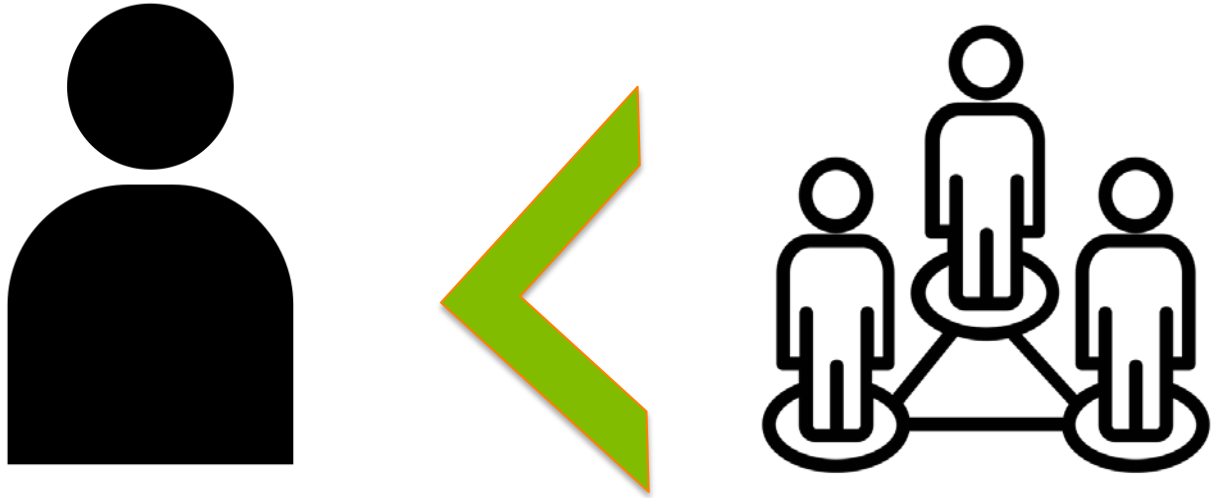


Phreesia data, Mehrotra, Commonwealth Fund

How will quality survive?

Collaboration

Optimal outcomes take a village



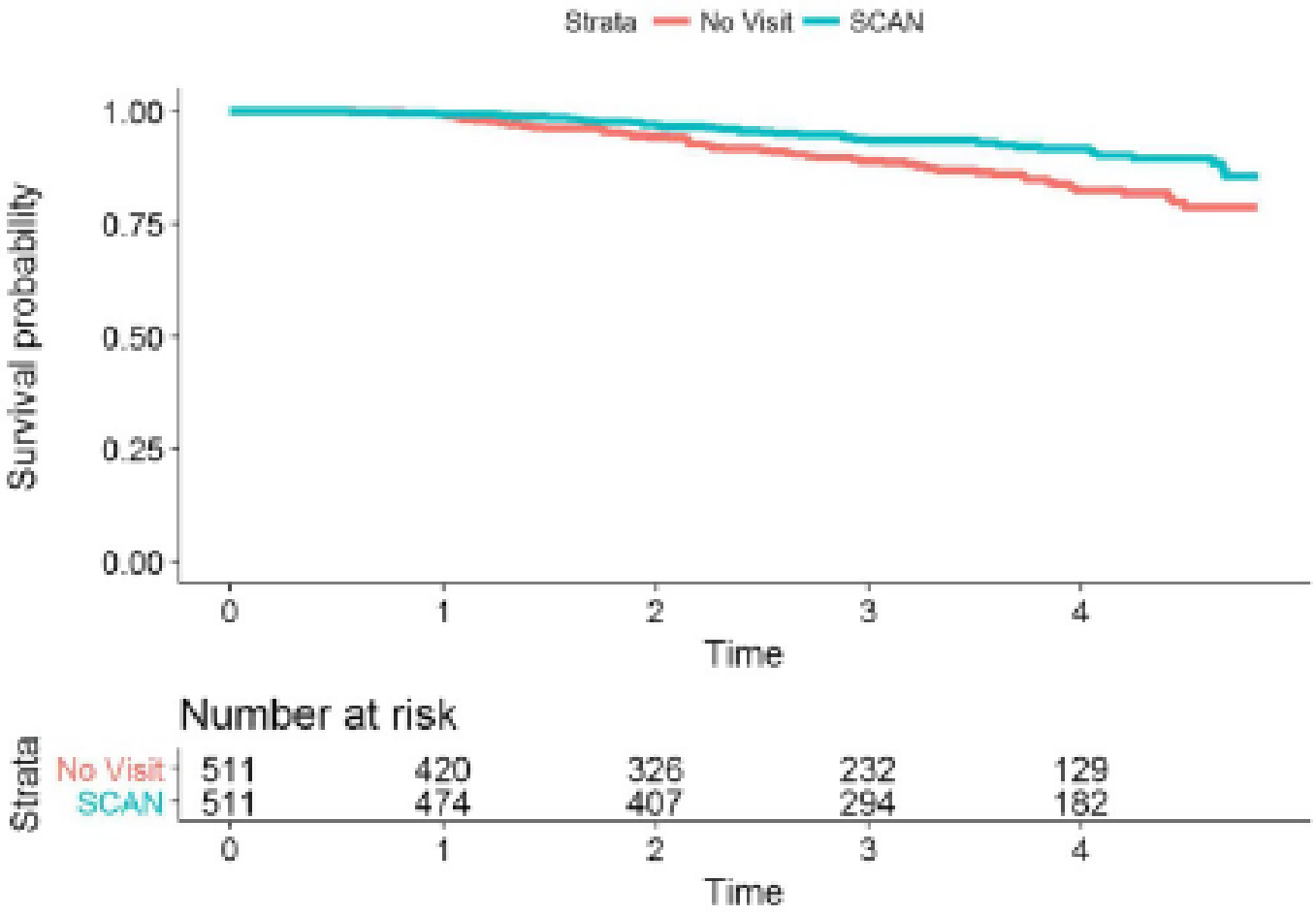
Outcomes optimized by less concentrated care

Clinical Gastroenterology and Hepatology

Cohen-Meckelburg S, epub

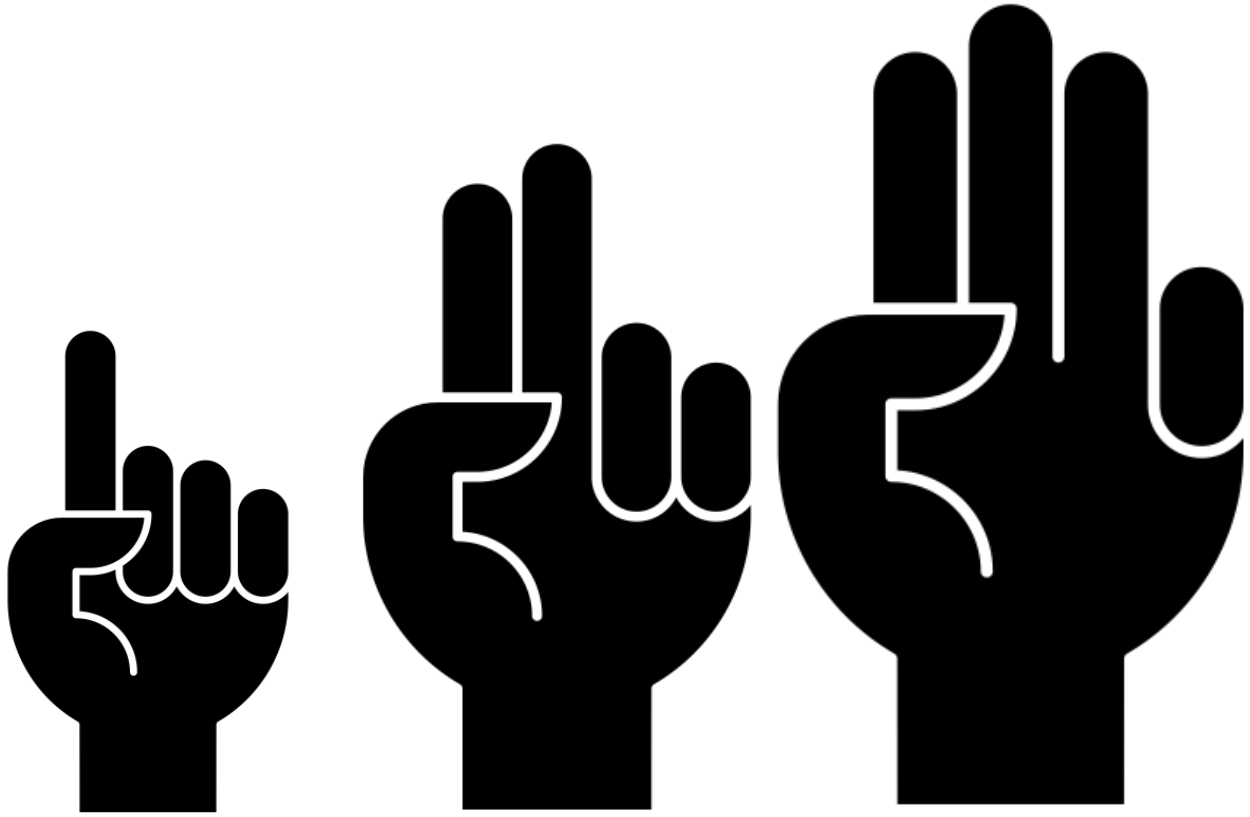
Leeds, Annals of Surgery 2020;271(1):114–121

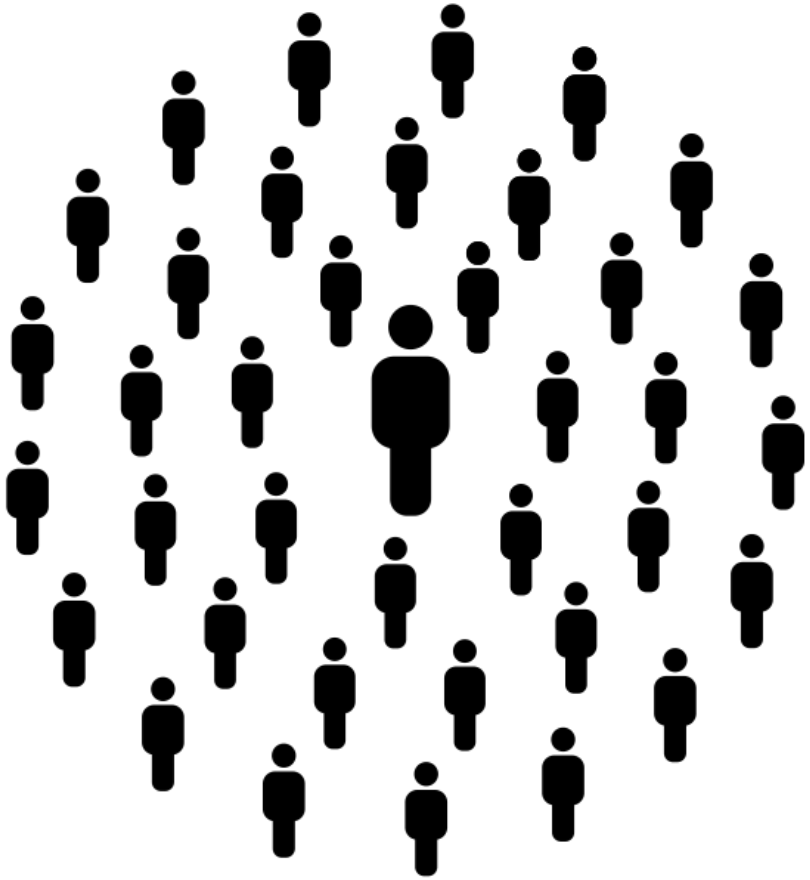
The ECHO model

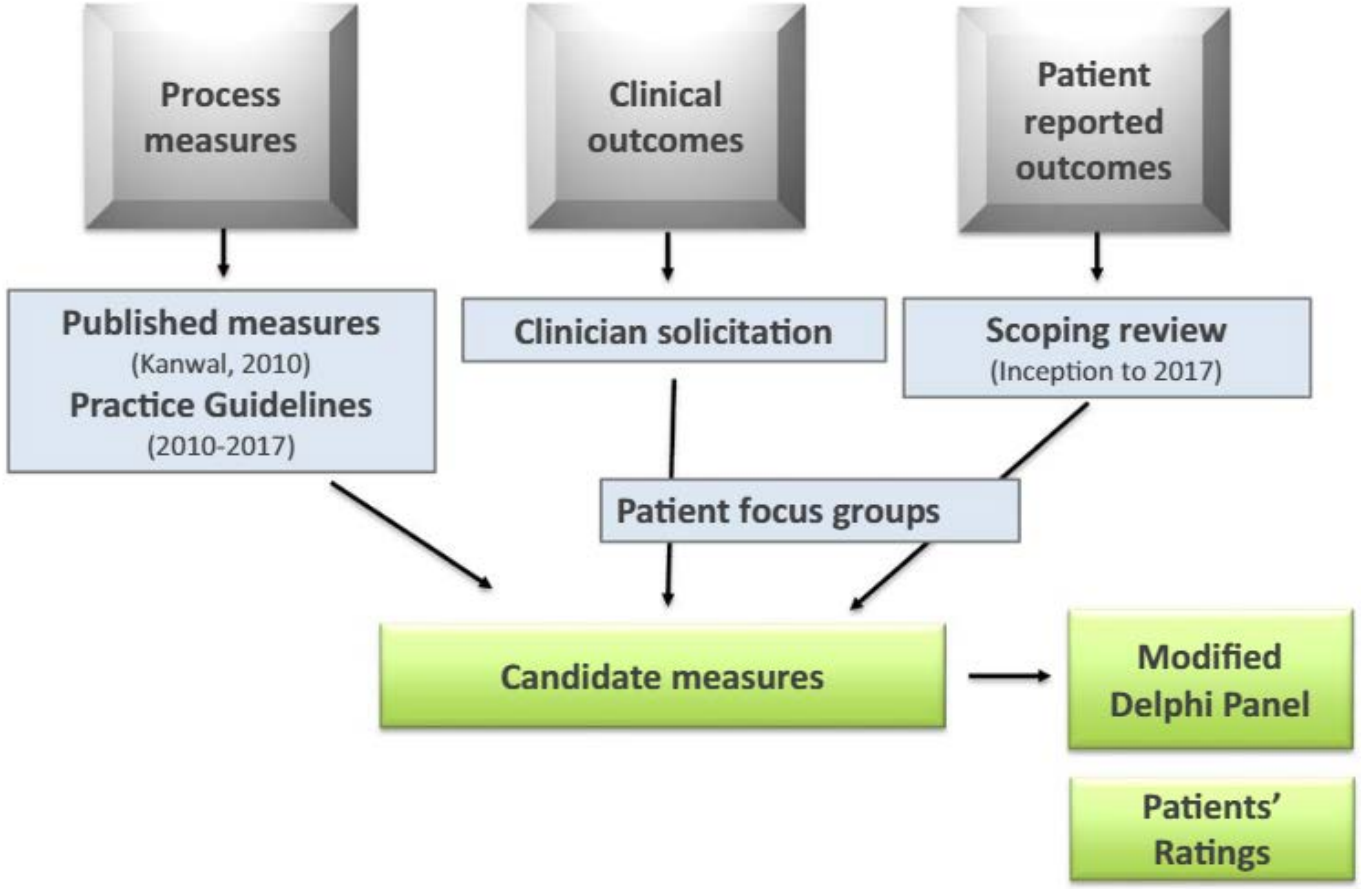


Su et al Hepatology 2018

How will quality thrive?







Hepatology. 2019;69(4):1787-1797

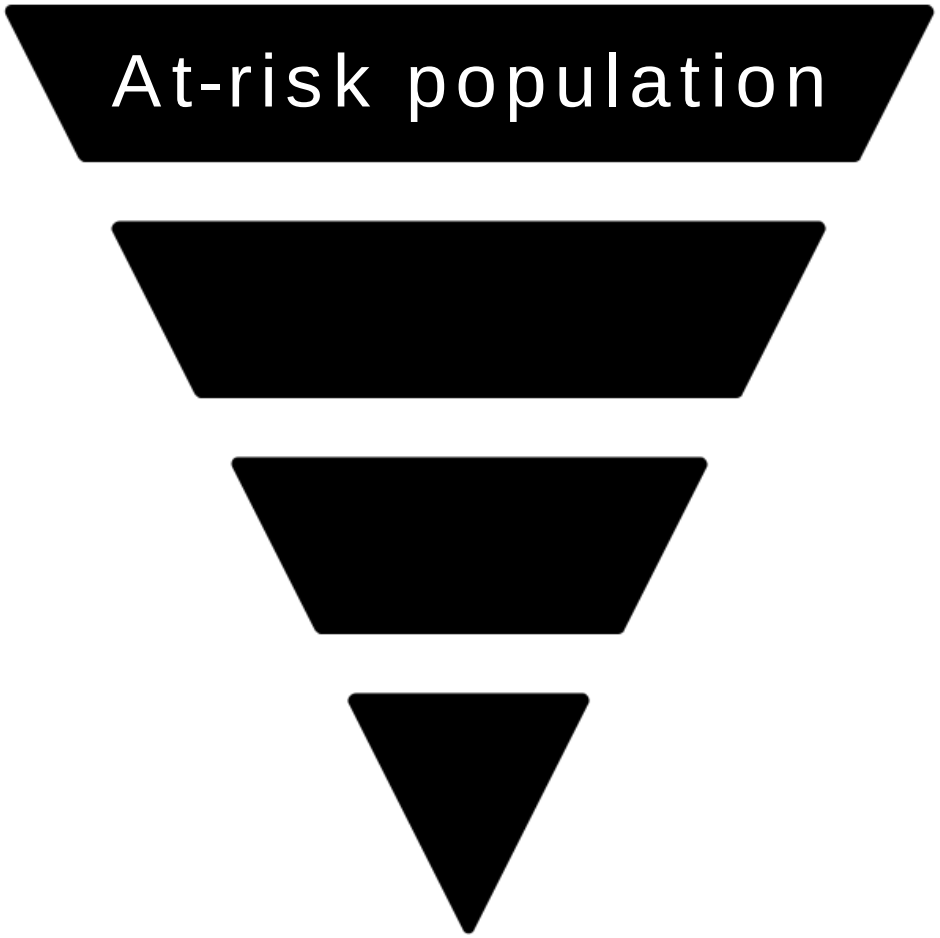
TABLE 3. Patient Ratings of Patient-Reported Outcomes

Patient-Reported Item	Not Important (%)	Somewhat Important (%)	Very/Extremely Important (%)
Fluid in the legs (edema)	8.9	14.1	76.9
Fluid in the belly (ascites)	3.8	5.1	91.1
Confusion (encephalopathy)	1.3	10.1	88.6
Concentration/memory	6.4	16.7	76.9
Itching (pruritus)	5.2	12.9	81.8
Muscle cramps	12.9	36.4	50.7
Falls	12.8	17.9	69.2
Medication side effects	8.9	17.9	73.1
Depression	7.6	21.7	70.5
Stigma of having liver disease	5.1	14.1	80.8
Ability to drive	10.1	22.8	67.1
Burden on family	35.1	5.2	59.8
Ability to avoid alcohol	17.1	18.4	64.4

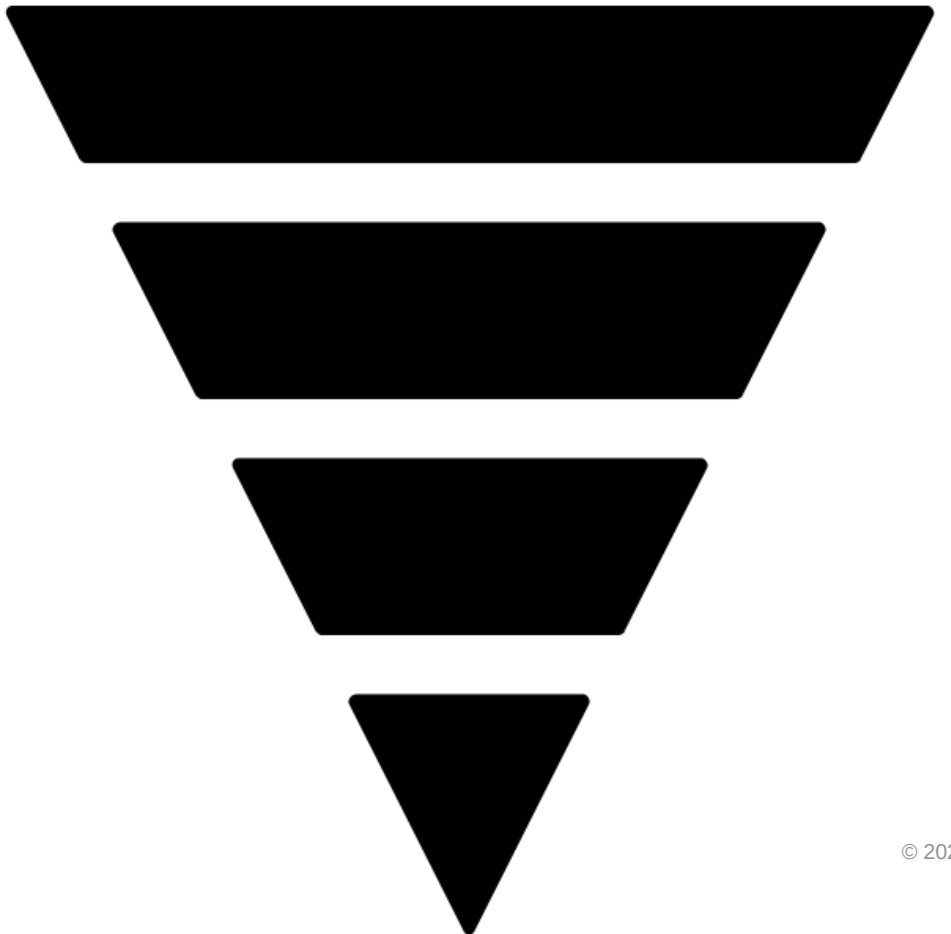
Hepatology. 2019;69(4):1787-1797

Sample Question(s)	Therapeutic Options
• How often during the last 2 weeks have you had muscle cramps?	• Normalize electrolytes and fluid balance • Taurine (3 g daily) • Vitamin E (300 mg three times a day) • Baclofen (5–10 mg three times a day as needed)
• How much of the time have you been troubled by itching during the last 2 weeks?	• Moisturizing cream for dry skin • Cholestyramine (4 g daily) • Naltrexone (50 mg daily) • Sertraline (75–100 mg daily) • Ursodeoxycholic acid (13–15 mg/kg/day in 2 doses)
• Have you had difficulty sleeping at night? • Have you felt sleepy during the day?	• Optimize treatment for HE • Optimize sleep hygiene • Referral to sleep specialist to assess for sleep apnea • Mindfulness training • Melatonin (3–5 mg daily)
• Have you had any sexual activity in the past few weeks? • How satisfied were you with your sexual function during the past few weeks?	• Phosphodiesterase inhibitors (e.g., sildenafil 25–100 mg as needed) • Sex therapy referral • Referral to Urology

Am J Gastroenterol 2018;113: 927–931

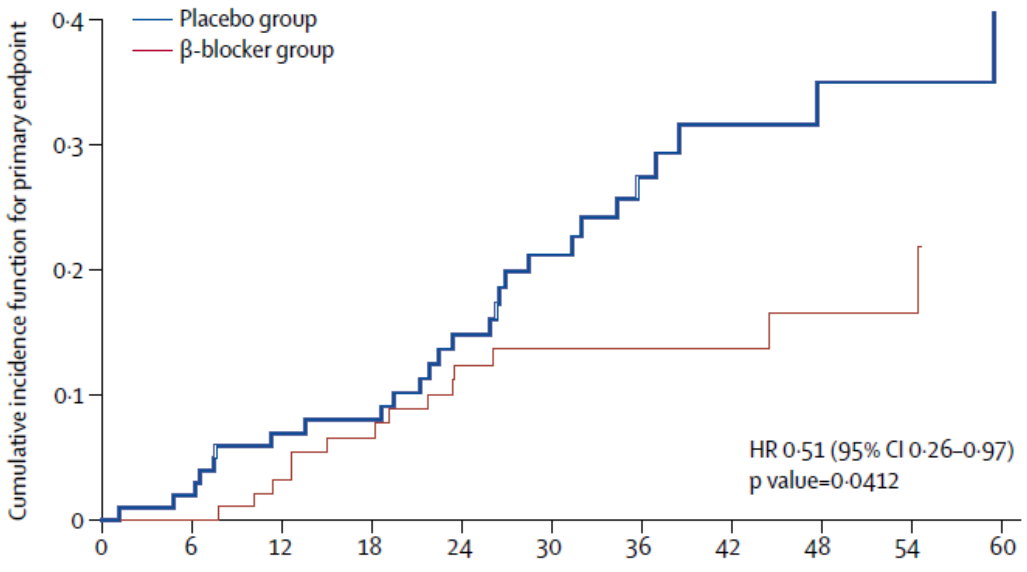


Proactive beta-blocker

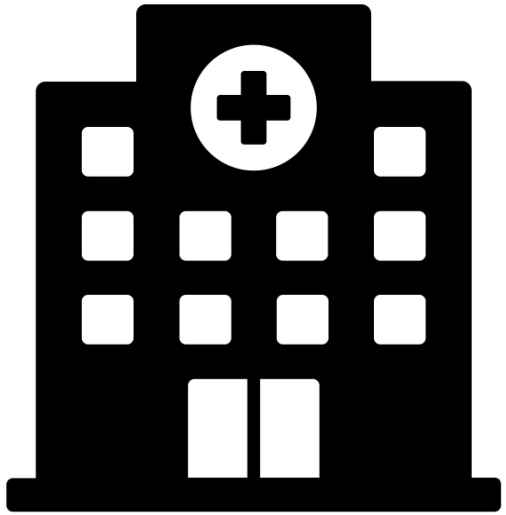


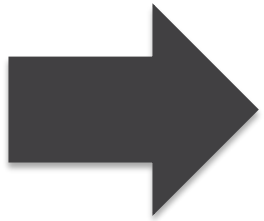
β blockers to prevent decompensation of cirrhosis in patients with clinically significant portal hypertension (PREDESCI): a randomised, double-blind, placebo-controlled, multicentre trial

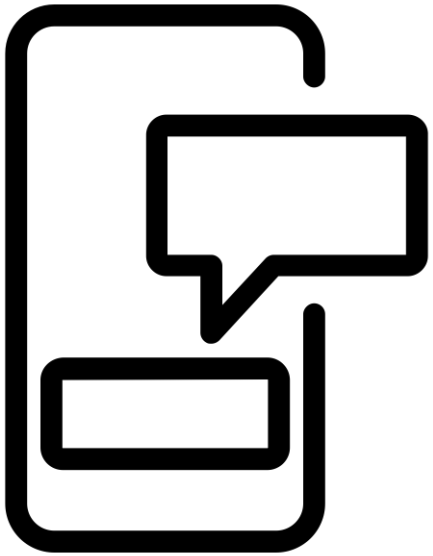
A

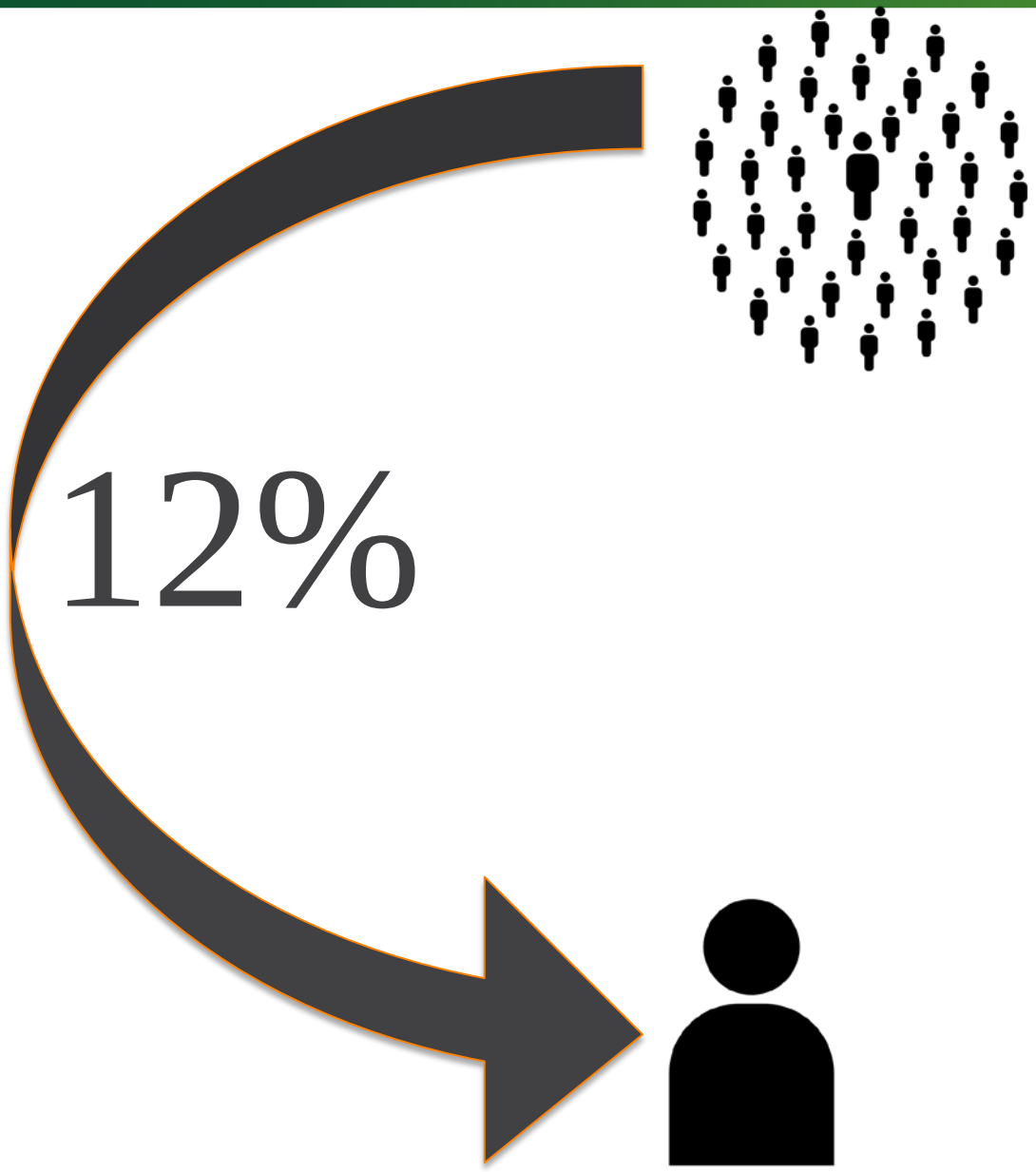


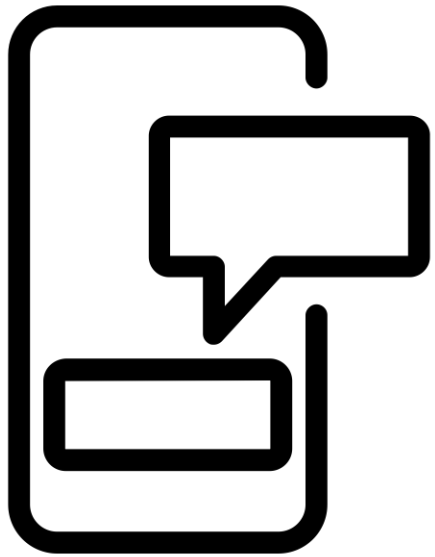
Patients at risk											
β blockers	100	96	87	80	69	60	48	31	20	15	7
Placebo	101	99	94	86	72	59	42	26	19	13	6
Primary outcome (deaths)											
β blockers		1 (1)	3 (1)	4 (2)	5 (2)	1 (1)	0	0	1 (1)	0	1
Placebo		2 (2)	5 (1)	1	6 (2)	5 (1)	4 (3)	2 (1)	1 (1)	0	1
Censoring events											
β blockers		3	6	3	6	8	12	17	10	5	7
Placebo		0	0	7	8	8	13	14	6	6	6



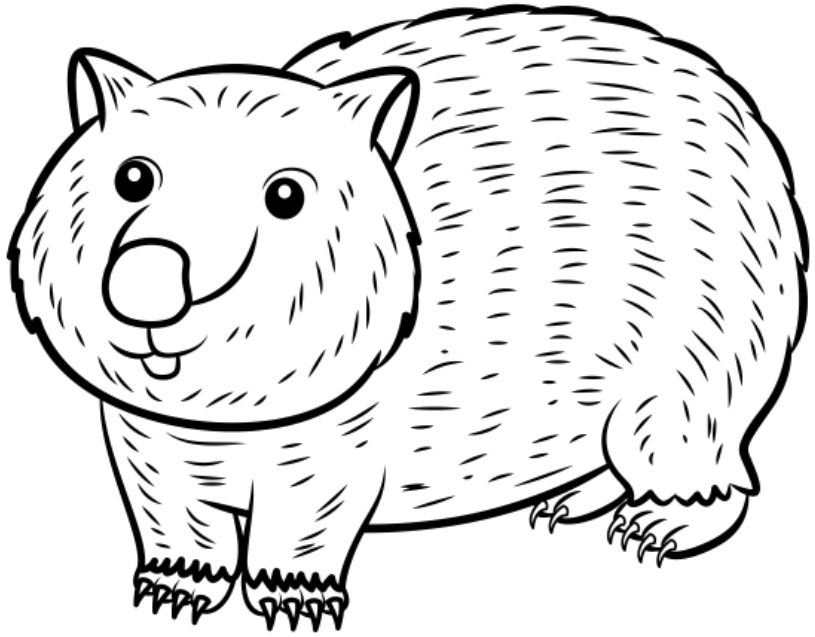








Louissaint. Liver International 2020

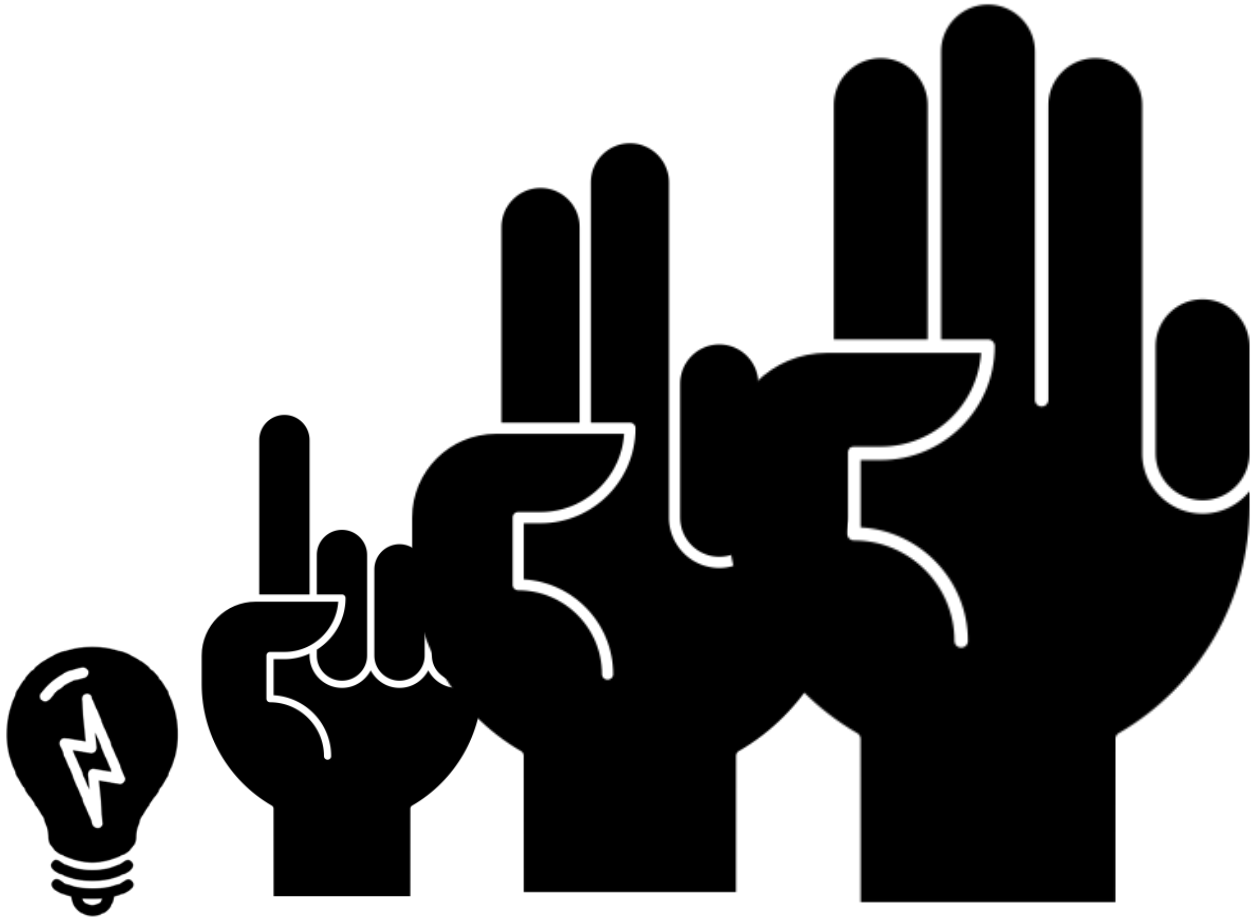


Campagna. Hepatology. 2017

Collaboration

Expansion

Pro-action



Panel Discussion

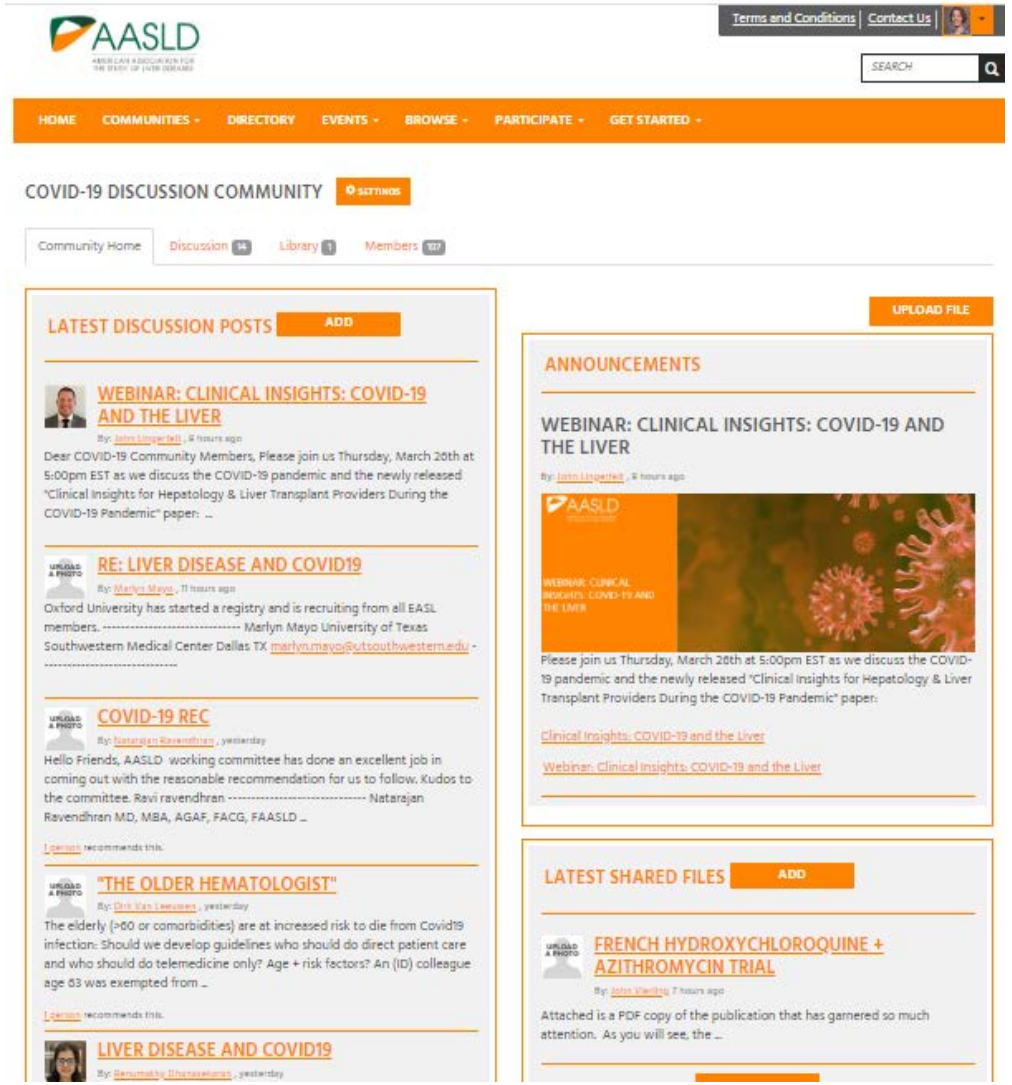
Please submit your questions to the Q&A Chat now.

AASLD's COVID-19 Resources

Follow/Share: COVID-19 Resources Webpage: www.aasld.org/covid19

Join/Engage: COVID-19 Care Community on AASLD's online community, Engage. Open to all members. Log in to Engage with your AASLD user name and password: engage.aasld.org/covid19

Submit: *Hepatology, Liver Transplantation, Hep Commun* all accepting and fast tracking review of COVID-19 original articles, case reports



Submit abstracts at aasld.org/LMabstracts