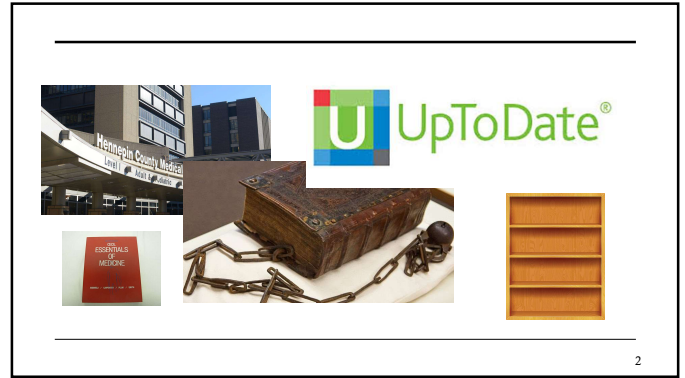
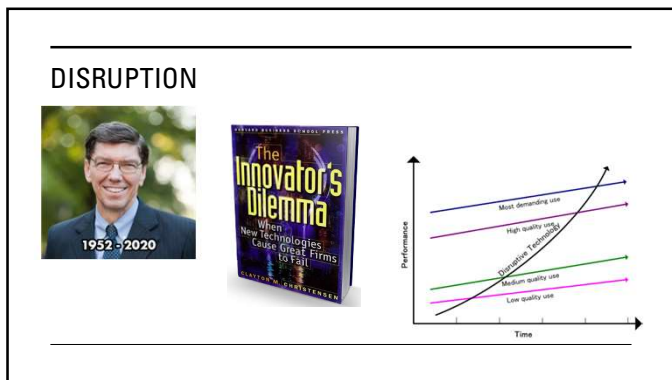




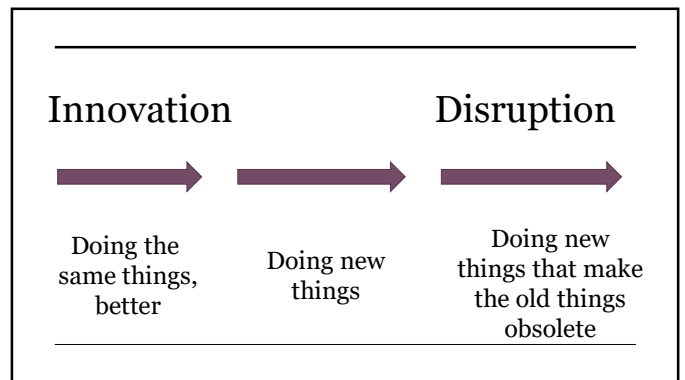
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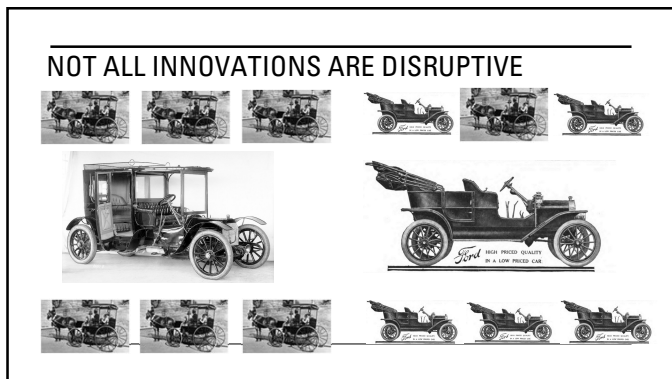
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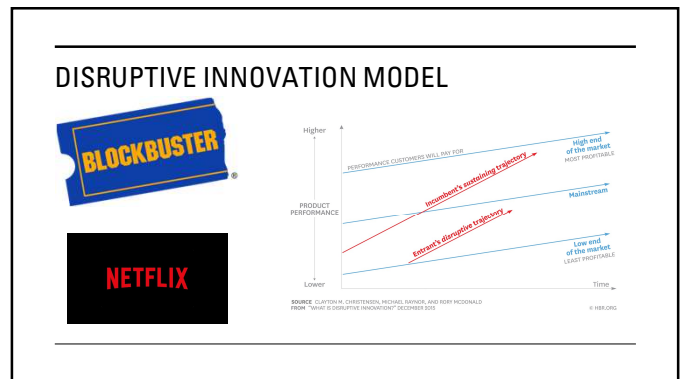
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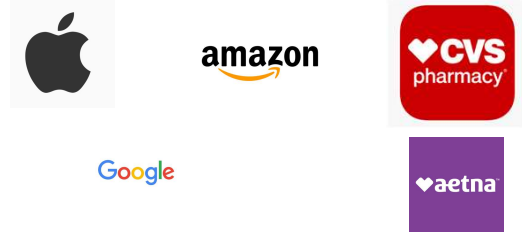
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WHY DO I AS A PROVIDER CARE?

- Meaningful change starts and ends with providers
- You don't have to be a disruptor, but we need your help in the process
- I hope none of this is new to you: we want to be ready

7

CURRENT HEALTHCARE DISRUPTORS



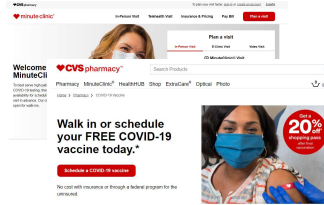
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CURRENT HEALTHCARE DISRUPTORS



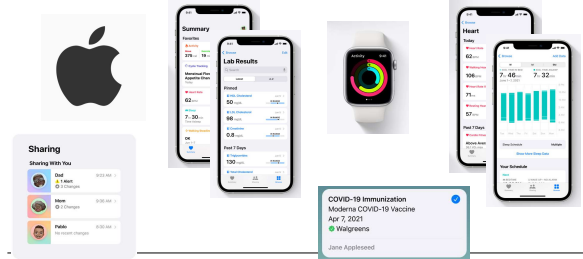
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CURRENT HEALTHCARE DISRUPTORS



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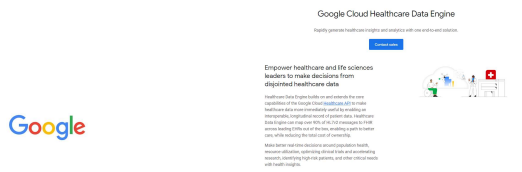
CURRENT HEALTHCARE DISRUPTORS



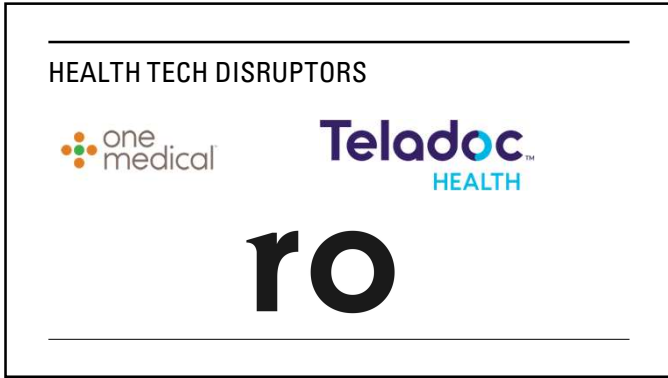
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CURRENT HEALTHCARE DISRUPTORS

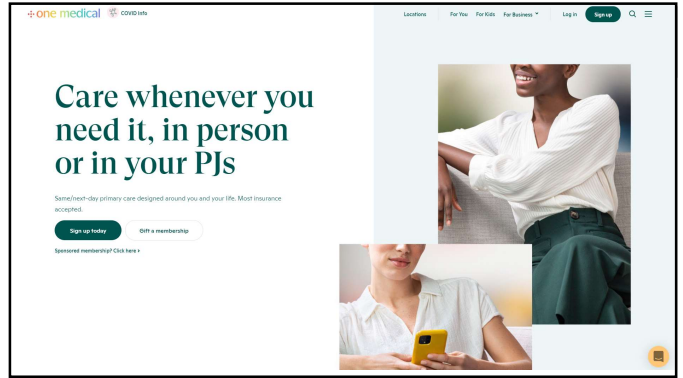
WSJ NEWS EXCLUSIVE | HEALTH
Google Strikes Deal With Hospital Chain to Develop Healthcare Algorithms
 Tech giant expands health-sector presence in latest deal to develop tools to improve medical care, as privacy concerns arise



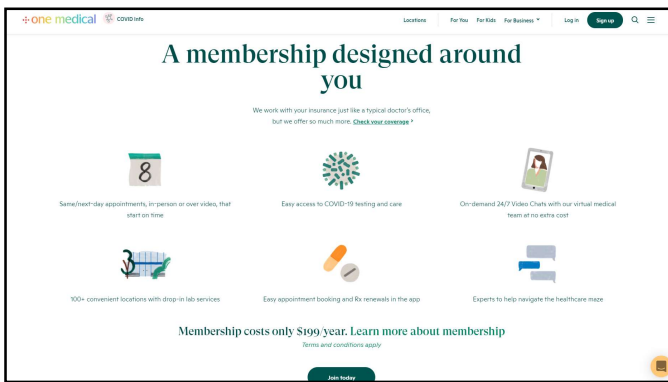
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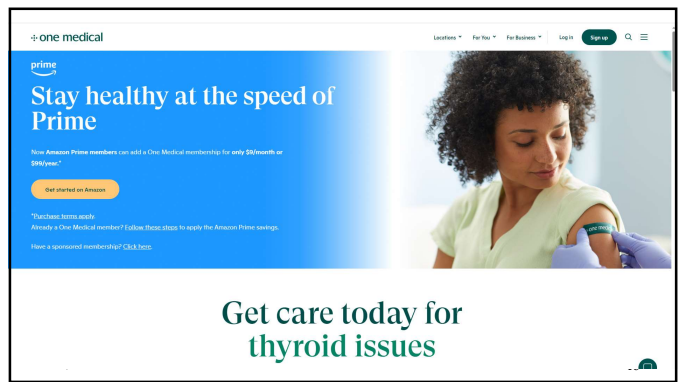
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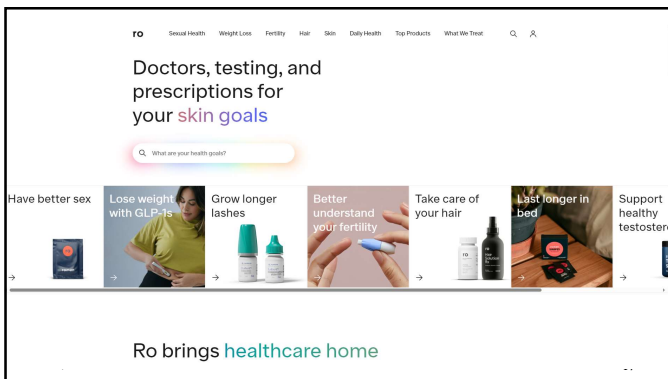
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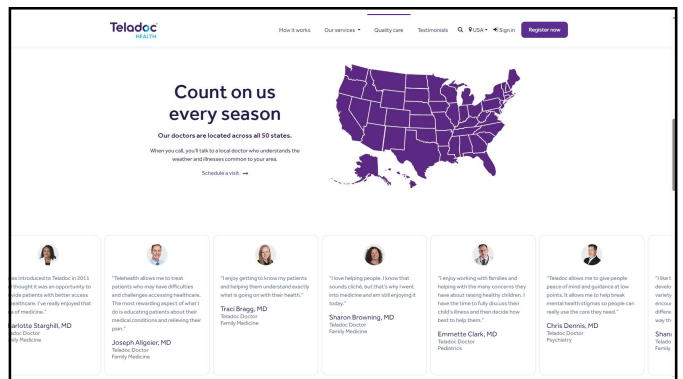
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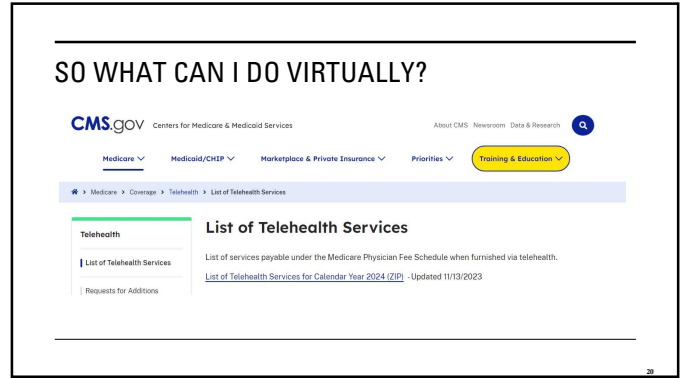
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19



20

MEDICARE TELEHEALTH SERVICES

ICD-10 Code	Service Description	Telehealth	Request for Addition
98.01	Office consultation visit new	No	permanent
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98.03	Office consultation visit new	No	permanent
98.04	Office consultation visit new	No	permanent
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SANFORD HEALTH VIRTUAL CARE

72 SPECIALTIES
83 ORIGINATING SITES
26+ MILLION MILES SAVED

VOLUME BREAKDOWN

VERBAL VISITS	102,886
E-VISITS	90,539
VIDEO VISITS	534,279
TOTAL VISITS	731,154

Setting a population of 1.4+ MILLION PEOPLE in 4 STATES

VIRTUAL CARE SERVICES LIST

- Video Visits
- E-Visits
- Verbal Visits
- Home Monitoring
- Emergency
- Hospitalist
- Inpatient
- Pharmacy
- Radiology
- Long Term Care
- Education and Support Groups

SANFORD EMERGENCY SERVICE

- 3,400 ER VISITS
- 52% avoided transfer rate YTD
- 17% thrombolytics administration rate

Volumes reflect Jan. 2011 – November 2023

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E - VISITS

E-Visits

Through e-visits, you'll complete an online questionnaire to inform an experienced health care provider about your symptoms without going to or calling a clinic.

After you submit your information, the next available provider will assess your condition and get back to you within four hours with:

- A diagnosis
- A prescription (if needed)
- A recommendation to visit a clinic for further evaluation or testing (if needed)

You'll receive this response through My Sanford Chart.

[Start an E-Visit](#)

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E - VISITS

E-visits are appropriate for several common issues including:

2 months to 2 years old

- Diaper rash 2 months and older
- Abrasions and scrapes
- Eyelid infection (blepharitis)
- Head lice
- Insect bites
- Pink eye
- Skin infections

2 years and older

- COVID-19

6 years and older

- Allergies and hay fever
- Rash
- Sunburn

12 years and older


- Acne
- Athlete's foot

18 years and older

- Back pain
- Breastfeeding mastitis
- Cough
- Diarrhea
- Flu
- Heartburn
- Sinus problems
- Urinary problems (females up to age 65)
- Vaginal discharge

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VIDEO VISITS



Video Visits

A video visit is a video call with a Sanford Health provider using your mobile device and My Sanford Chart account. During a video visit, a provider will ask you about your symptoms and care:

- Discuss a treatment plan with you
- Order prescriptions (if needed)
- Advise you if you should visit a clinic for further evaluation or testing

[Start a Video Visit](#)

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VIDEO VISITS

On-demand video visits are appropriate for urgent care health needs, including:

- Acne
- Allergies or hay fever*
- Athlete's foot
- Back pain†
- Breastfeeding mastitis
- Cold and influenza (flu) symptoms*
- Cuts and scrapes
- Head lice and insect bites
- Nausea*
- Heartburn and diarrhea†
- Pink eye or eyelid infections
- Rashes or sunburns
- Runny or stuffy nose*
- Sinus problems
- Urinary symptoms
- Vaginal discharge

*Best care option for this condition

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SANFORD HEALTH VIRTUAL CARE



72 SPECIALTIES
83 ORIGINATING SITES
26+ MILLION MILES SAVED

VOLUME BREAKDOWN

VERBAL VISITS	102,886
E-VISITS	90,539
VIDEO VISITS	534,279
TOTAL VISITS	731,154

Serving a population of **1.4+ MILLION PEOPLE** in **4 STATES**

VIRTUAL CARE SERVICES LIST

- Video Visits
- E-Visits
- Verbal Visits
- Home Monitoring
- Emergency
- Hospitalist
- Inpatient
- Pharmacy
- Radiology
- Long Term Care
- Education and Support Groups


SANFORD EMERGENCY SERVICE

- 3,450 EIT VISITS
- 52% avoided transfer rate YTD
- 17% thrombolytics administration rate

Volumes reflect Jan 2021 – November 2023

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VIRTUAL BEHAVIORAL HEALTH



Virtual Behavioral Health

A Virtual Behavioral Health visit is a video call with a licensed therapist or psychiatrist using your mobile device, tablet or computer and My Sanford Chart account. During a Virtual Behavioral Health visit, a provider can:

- Identify and diagnose mental, behavioral or emotional disorders
- Create treatment plans
- Order prescriptions (if needed)

[Make an Appointment](#)

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Schedule an online behavioral health visit with a therapist if you're experiencing:

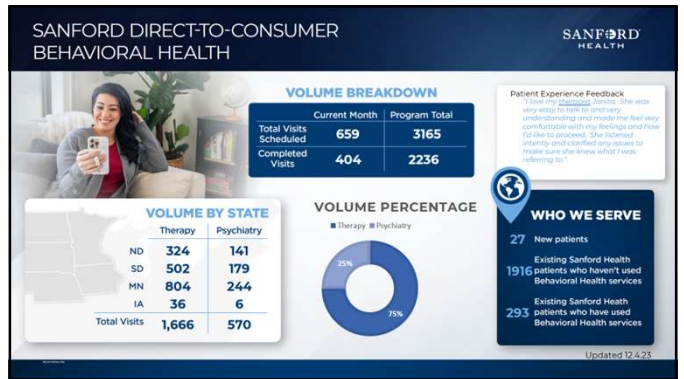
- A change in your eating or sleeping habits
- A lack of interest in activities you once enjoyed
- A new mental health concern
- Symptoms of burnout
- Relational or emotional issues, including trouble managing emotions
- Unhealthy habits that are affecting your quality of life

Schedule an online behavioral health visit with a psychiatrist if you:

- Are noticing significant changes in your mood, such as going from feeling sad to energetic in a short period of time
- Are taking medications for conditions such as bipolar disorder, ADHD or schizophrenia
- Have seen a psychiatrist in the past
- Have seen or heard things that others do not

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SANFORD DIRECT-TO-CONSUMER BEHAVIORAL HEALTH



VOLUME BREAKDOWN

	Current Month	Program Total
Total Visits	659	3165
Scheduled Visits	404	2236
Completed Visits		

VOLUME BY STATE

	Therapy	Psychiatry
ND	324	141
SD	502	179
MN	804	244
IA	36	6
Total Visits	1,666	570

VOLUME PERCENTAGE

25% Therapy, 75% Psychiatry

Patient Experience Feedback

"I've never experienced anything like this. She was very easy to talk to and very understanding and made me feel very comfortable with my feelings and how I'd like to proceed. She listened attentively and clarified any issues to make sure she knew what I was referring to."

WHO WE SERVE

- 27 New patients
- 1916 Existing Sanford Health patients who haven't used Behavioral Health services
- 293 Existing Sanford Health patients who have used Behavioral Health services

Updated 12/4/23

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VIRTUAL CARE

TytoApp™ for conducting guided exams with your doctor (iOS and Android)

Travel Case

Tongue depressor adapter for the throat

TytoCare Device with Exam Camera and Thermometer

Otoscope Adapter for examining the ears

Stethoscope adapter for heart & lung sounds

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REQUIREMENTS

- For most non-behavioral health visit, you must use 2-way, interactive, audio-visual technology
- Some loopholes for audio only telehealth
- Behavioral or mental telehealth can use 2-way, interactive audio only

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PLATFORMS

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PLATFORMS

- What is easiest for providers?
- What can you standardize for support?
- What is your security team confident in?

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ELIGIBLE LOCATIONS

- Originating Site
 - Physical Location of the Patient
- Distant Site
 - Where a physician or practitioner provides telehealth

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ELIGIBLE LOCATIONS

Provider Office
Hospital
Critical Access Hospital
Clinic
Federal Health Center
Hospital based dialysis center
Skilled nursing facility
Community mental health center
Renal dialysis center
Patient's home

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LICENSING

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LICENSING

- Typically require a full, unrestricted license in the state where the patient is receiving care
- North Dakota
 - Full unrestricted license
 - No specific regulation for telemedicine
 - Physician is said to be practicing medicine in the location of the patient, not the physician

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LICENSING

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COMPENSATION

40

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CAN I PRESCRIBE CONTROLLED SUBSTANCES?

- Depends on state that you are providing services to and institutional regulatory guidelines

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DO I HAVE TO SEE THE PATIENT IN PERSON BEFORE OR AFTER THE VIRTUAL VISIT?

- No, from a regulatory perspective
- Changing legislation around behavioral health and 6 month in person visits

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42

What Is Evidence-Based Medicine?

Sackett DL, et al. BMJ. 1996;312(7023):71-72

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JAMA Health Forum.

Original Investigation
Use of Telemedicine and Quality of Care Among Medicare Enrollees With Serious Mental Illness

44

44

JAMA Health Forum.

Original Investigation
Use of Telemedicine and Quality of Care Among Medicare Enrollees With Serious Mental Illness

- Medicare beneficiaries with serious mental illness
- Patients receiving care from practices with a higher level of telemedicine usage using the pandemic had more mental health visits per year compared with prepandemic levels
- No differential changes in any observed quality metrics

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Annals of Internal Medicine ORIGINAL RESEARCH

Telemedicine Versus In-Person Primary Care: Treatment and Follow-up Visits

Mary Reed, DrPH; Jie Huang, PhD; Madeline Somers, MPH, MS; Loretta Houck, PhD; Ilana Gravitz, PhD; Andrea Millman, MA; Emilie Muehly, MD, PhD; and Anjali Gopalan, MD

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Annals of Internal Medicine ORIGINAL RESEARCH

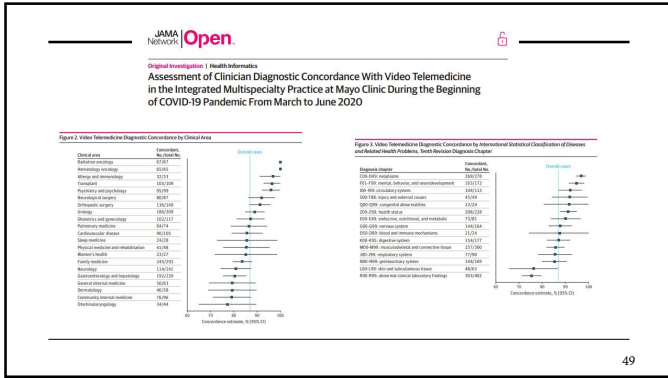
Telemedicine Versus In-Person Primary Care: Treatment and Follow-up Visits

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- Primary Care telemedicine visits resulted in lower treatment rates and higher rates of followup health care use compared with in person office visits
- Overall, rates of followup ED visits and hospitalizations were low, and differences between in person visits and telemedicine visits were small

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JAMA Network Open
 Original Investigation | Health Informatics
Assessment of Clinician Diagnostic Concordance With Video Telemedicine in the Integrated Multispecialty Practice at Mayo Clinic During the Beginning of COVID-19 Pandemic From March to June 2020

- Overall 86.9% concordance between provisional diagnoses offered at the time of telemedicine and subsequent in person visit
- Primary care video telemedicine programs designed to accommodate new patients or new problems may benefit from a lowered threshold for timely in person followup for conditions confirmed by physical exam, neurological testing, or pathology

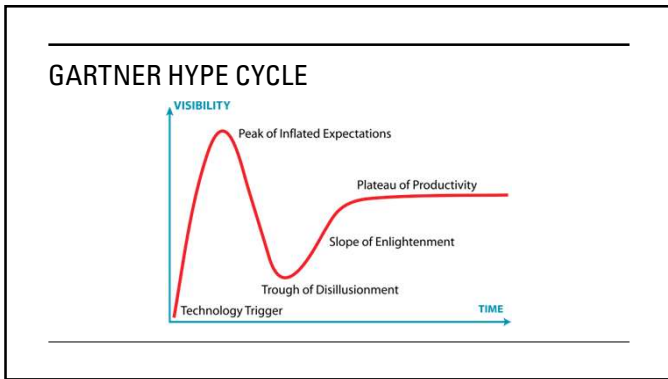
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U.S. Department of Health and Human Services
 Enhancing the health and well-being of all Americans

Home | About | News | FACT SHEET: Biden-Harris Administration Announces Voluntary Commitments from Leading Healthcare Companies to Harness the ...

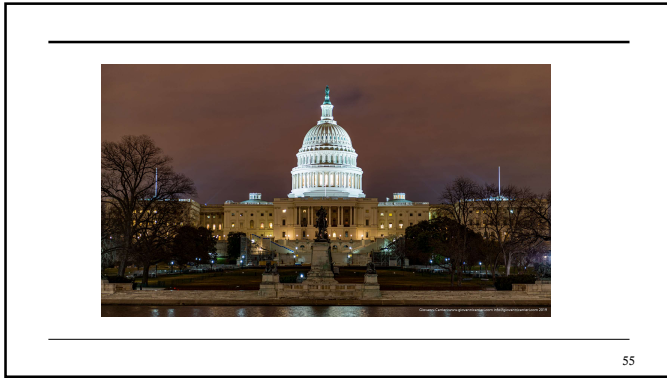
FOR IMMEDIATE RELEASE
 December 14, 2023

Contact: HHS Press Office
 202-690-6343
 media@hhs.gov

FACT SHEET: Biden-Harris Administration Announces Voluntary Commitments from Leading Healthcare Companies to Harness the Potential and Manage the Risks Posed by AI

Voluntary commitments – underscoring safety, security, and trust – mark a critical step toward ensuring responsible AI in healthcare

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- Vigorously developing AI solutions to optimize healthcare delivery and payment by advancing health equity, expanding access, making healthcare more affordable, improving outcomes through more coordinated care, improving patient experience, and reducing clinician burnout.
- Working with their peers and partners to ensure outcomes are aligned with fair, appropriate, valid, effective, and safe (FAVES) AI principles, as established and referenced in HHS' *Health Data, Technology, and Interoperability: Certification Program Updates, Algorithm Transparency, and Information Sharing (HTI-1)* rule.
- Deploying trust mechanisms that inform users if content is largely AI-generated and not reviewed or edited by a human.
- Adhering to a risk management framework that includes comprehensive tracking of applications powered by frontier models and an accounting for potential harms and steps to mitigate them.
- Researching, investigating, and developing AI swiftly but responsibly.

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Health. Virtually. Everywhere.

The ATA's Artificial Intelligence (AI) Principles

Utility of AI in Healthcare - including health equity - can improve quality and service capability at every stage of the care journey. The ATA supports efforts to ensure that utility of AI in healthcare, including in diagnosis, prognosis, and treatment, is centered on the needs of healthcare decision-making. The ATA supports patient, provider, and regulatory frameworks that enhance patient and provider trust, safety, and efficacy of AI adoption as a tool in healthcare, including in health equity.

Accountability & Governance - AI should operate under clear and fair AI risk management components to clinical decision-making. However, the patient/provider relationship, expectations of adherence to the applicable standard of care, and accompanying accountability mechanisms remain central to patient health outcomes.

Transparency and Explainability - Clinicians should know systems, processes, capabilities, and the general public to understand when and how data is being processed, used, shared, and stored and how algorithms are developed to ensure that analysis are secure, trustworthy, clinically appropriate, and reliable.

Robustness & Mitigation against Bias - AI solutions that supports clinical care should provide clear and publicly available evidence that algorithms and associated data are in rapid iteration or are free from bias or algorithmic bias. The source, identity, collection, and use of data should be transparent and the general public to understand when and how data is being processed, used, shared, and stored and how algorithms are developed to ensure that analysis are secure, trustworthy, clinically appropriate, and reliable.

Other Regulatory Considerations - A robust AI regulatory framework of the future must be essential for consistent compliance across the national level and should take regulatory considerations into account. Regulatory bodies should establish consistent parameters, standards, and measures that regulate AI use, ensuring a robust approach. Other regulatory, legislative, and policy considerations should align with international AI healthcare standards. While regulatory, risk, and compliance frameworks exist, regulatory bodies should ensure that AI solutions in healthcare are supported by robust regulatory frameworks to ensure that AI solutions are used in a safe and effective manner. Regulatory bodies should ensure that AI solutions are used in a safe and effective manner.

Economic and Workforce Considerations - AI adoption has the potential to address critical workforce shortages in the healthcare ecosystem, while also the ability to improve the efficiency and productivity of the workforce. AI adoption should be placed in context for both current and upcoming healthcare professionals on the importance of AI integration and workforce education. Systems change, such as AI adoption and workforce development programs, should be in place to support the smooth implementation of AI in healthcare. Furthermore, it is essential that healthcare systems and providers actively invest in the education, training, and development of their workforce to ensure that they are equipped to use AI effectively.

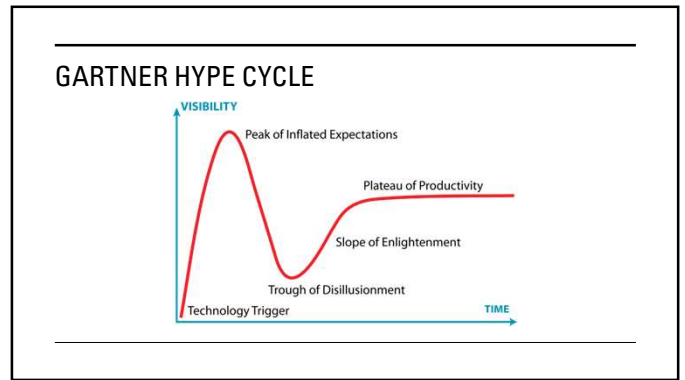
Privacy - Privacy, as it relates to the utilization of AI, should mirror privacy policies and practices across the healthcare system. More on ATA Health Data Privacy Principles for Healthcare can be found here.

Health. Virtually. Everywhere.

Submitted to the ATA Policy Council, September 2023
Approved by the ATA Board of Directors

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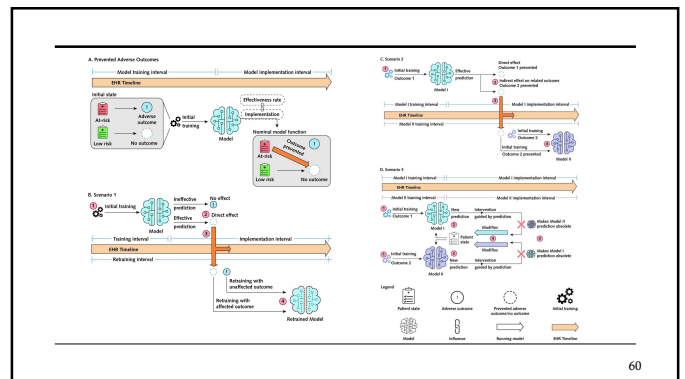
ORIGINAL RESEARCH **Annals of Internal Medicine**

Implications of the Use of Artificial Intelligence Predictive Models in Health Care Settings

A Simulation Study

Akhi Vaid, MD; Ashwin Sawant, MD; Mayra Suarez Farinas, PhD; Juhee Lee, MD; Sanjeev Kaul, MD; Patricia Kovatch, BS; Robert Freeman, RN; Jay Zhang, BS; Pushkala Jayaraman, MS; Gali Fayad, PhD; Edgar Arguello, MD; Starnelle Luskala, MD; Alexander W. Charney, MD, PhD; Fei Wang, PhD; Matthew Levin, MD, PhD; Benjamin Glicksberg, PhD; Jagat Narula, MD, PhD; Ivo Heller, MD; Karandeep Singh, MD, MMSc; and Girish N. Nadkarni, MD, MSc

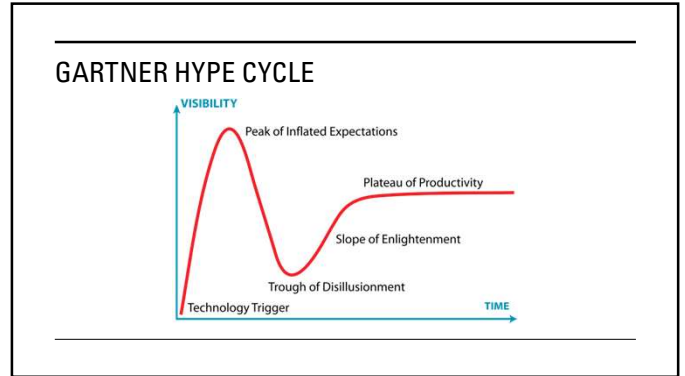
59



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Conclusion: In simulated ICU settings, a universally effective model-updating approach for maintaining model performance does not seem to exist. Model use may have to be recorded to maintain viability of predictive modeling.

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ARTIFICIAL INTELLIGENCE

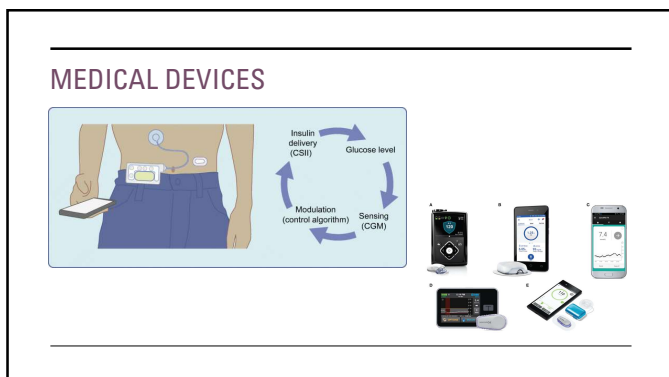
- PREDICTIVE ANALYTICS
- MEDICAL DEVICES
- CLINICAL DECISION SUPPORT
- PROVIDER SUPPORT
- SCHEDULING
- VIRTUAL CARE AIDS

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PREDICTIVE ARTIFICIAL INTELLIGENCE

Diabetes	Obstructive Sleep Apnea (OSA)	Chronic Kidney Disease (CKD)	Behavioral Health Event (PHOBOS)	Lung Cancer
Breast Cancer	Afib	Avoidable ED Identification	INP Falls (Real Time)	Colorectal Cancer
IVF Success Probability	High Risk OB	Sanford Severity Score (SSS)	Clinic No Show Score	GSS Risk of Hospital Readmission

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Patterns
Evaluating progress in automatic chest X-ray radiology report generation

Abstract
The authors present a novel approach to automatically generate radiology reports for chest X-rays. The approach involves a deep learning model that takes an input chest X-ray image and outputs a structured report. The model is trained on a large dataset of chest X-ray images and their corresponding reports. The authors evaluate the performance of their model using a variety of metrics, including accuracy, precision, and recall. They also compare their model to other state-of-the-art methods and find that their model outperforms them in several key areas. The authors conclude that their approach represents a significant step forward in the development of automatic chest X-ray radiology report generation.

Highlights

- Evaluated computer-aided radiology and writing systems by radiologists
- Proposed metrics based on overlap in clinical entities and entities named in ICD-9-CM
- Proposed computer-aided radiology with better alignment with radiologists
- Analyzed failure modes of automated metrics

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CHALLENGING CASES DISCOVERED BY ENDOSCROBE



Conventional

"The World's First Randomized Controlled Trial That Demonstrated Statistically Measurable Improvement in SGI Metrics"

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CLINICAL DECISION SUPPORT



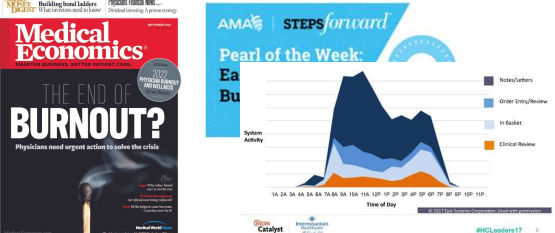
Selected Procedure: NM PET CT SKULL BASE TO MID THIGH (ROUTINE)

May Be Appropriate: CT HEAD W IV CONTRAST

Recommended: MR BRAIN W IV CONTRAST

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PROVIDER SUPPORT



Medical Economics: THE END OF BURNOUT? Physicians need urgent action to solve the crisis

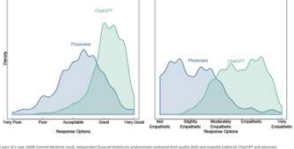
AMA STEPSforward Pearl of the Week

Catalyst

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PROVIDER SUPPORT

Study Finds ChatGPT Outperforms Physicians in High-Quality, Empathetic Answers to Patient Questions




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PROVIDER SUPPORT

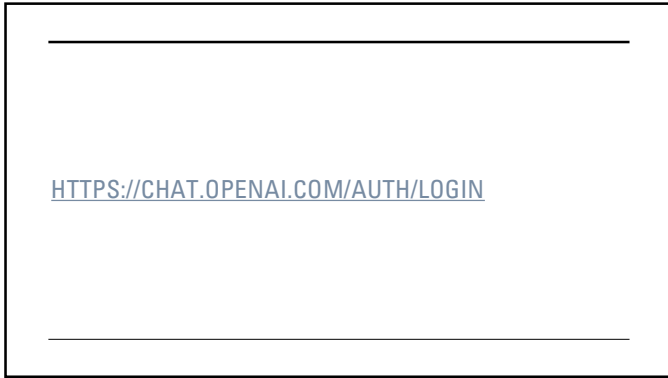
Microsoft partners with Epic to roll out EHR cloud database solution, starting with Mount Sinai

Epic is going all in on generative AI in healthcare. Here's why health systems are eager to test-drive it

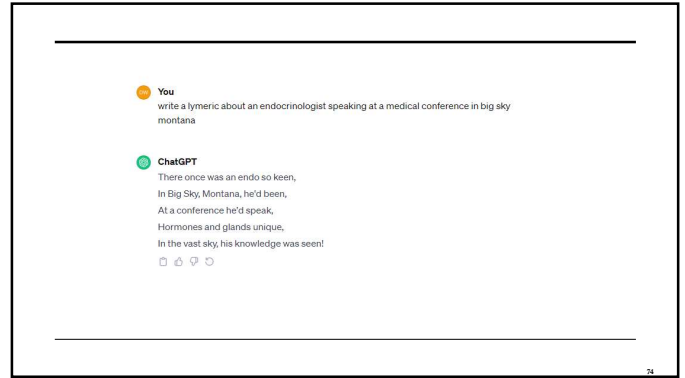
Generative AI Will Transform Healthcare



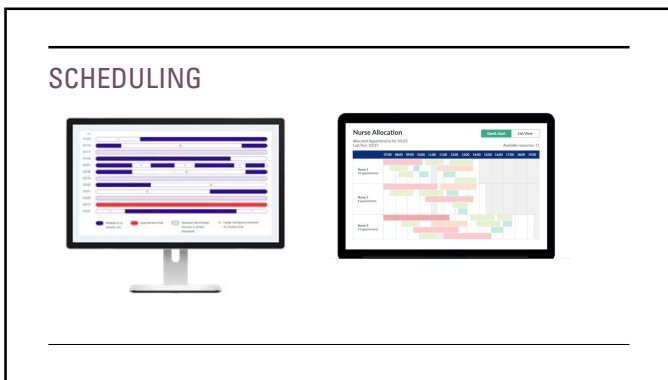
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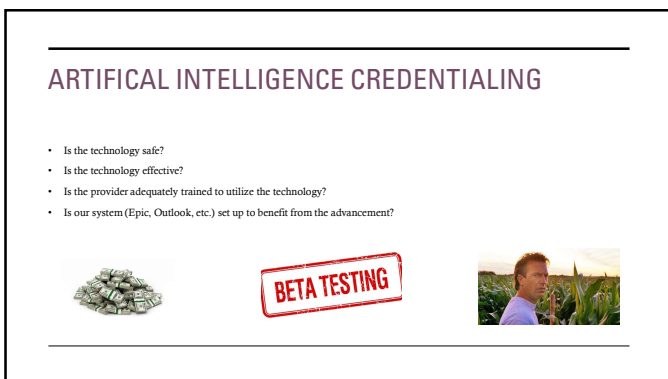
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Epic's widely used sepsis prediction model falls short among Michigan Medicine patients

In A.I. Race, Microsoft and Google Choose Speed Over Caution

Technology companies race to see how far their own artificial intelligence could go. Now the priority is winning control of the industry's next big thing.

UnitedHealth Accused of Using Inaccurate AI Model with 90% Error Rate to Deny Care: Lawsuit

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DECISIONS FOR YOU

- How can I promote change I believe in to my patients, staff, and colleagues

COVID-19 / APRIL 2021

Primary care's role in COVID-19 vaccination

Patients report that they trust their primary care practitioner the most, because a physician can address their problems in a real, personal way.

By Mike Prior

Did you know you're an influencer?

80

PARTING SHOTS

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Better is possible. It does not take genius. It takes diligence. It takes moral clarity. It takes ingenuity. And above all, it takes a willingness to try.

DISRUPTIVE INNOVATION

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