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 American College of
Emergency Physicians®
ADVANCING EMERGENCY CARE 

Welcome

Aisha Terry, MD, MPH, FACEP | ACEP President

Robert Heard, MBA, CAE | ACEP Chief Operations Officer

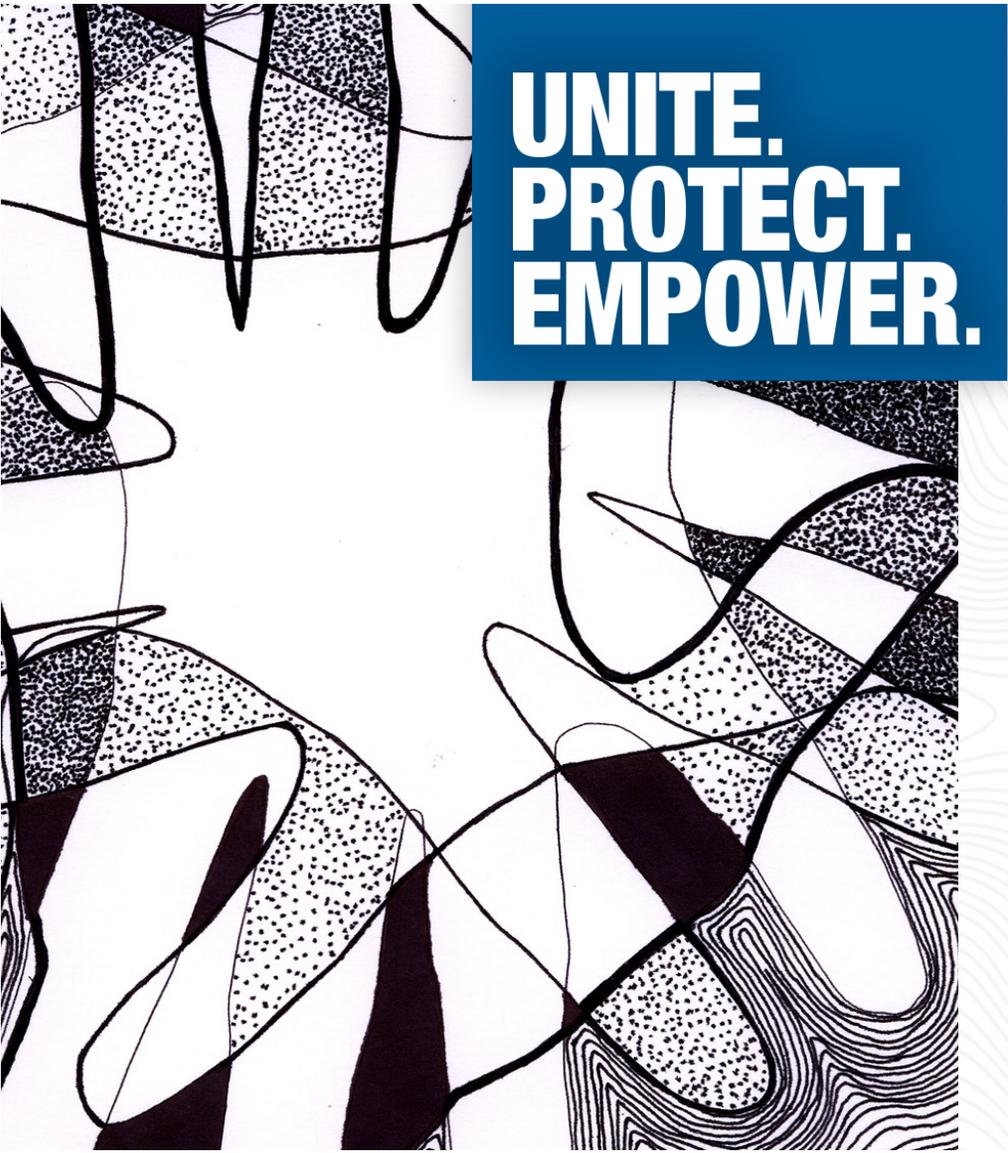
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The State of Emergency Medicine & ACEP's 2024 Focus

Alison Haddock MD, FACEP | ACEP President-Elect

Sandy Schneider MD, FACEP | ACEP Interim Executive Director & SVP, Clinical Affairs



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State of Emergency Medicine

Alison Haddock MD FACEP
President ACEP
Sandra Schneider MD FACEP
Interim Executive Director



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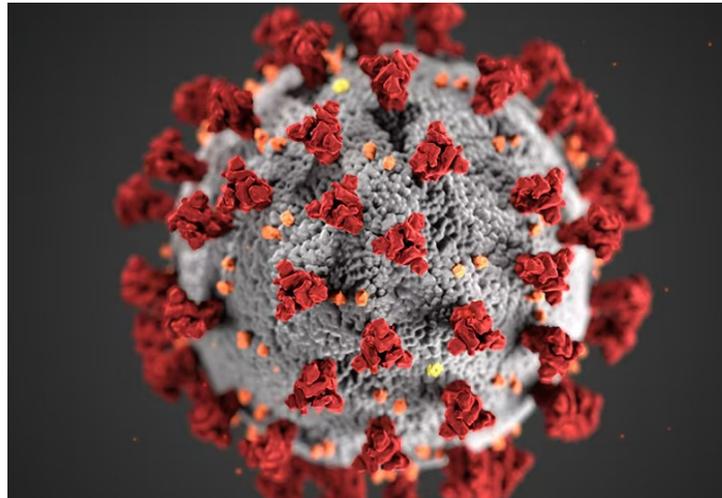
Vision

To help people live happier, healthier lives.

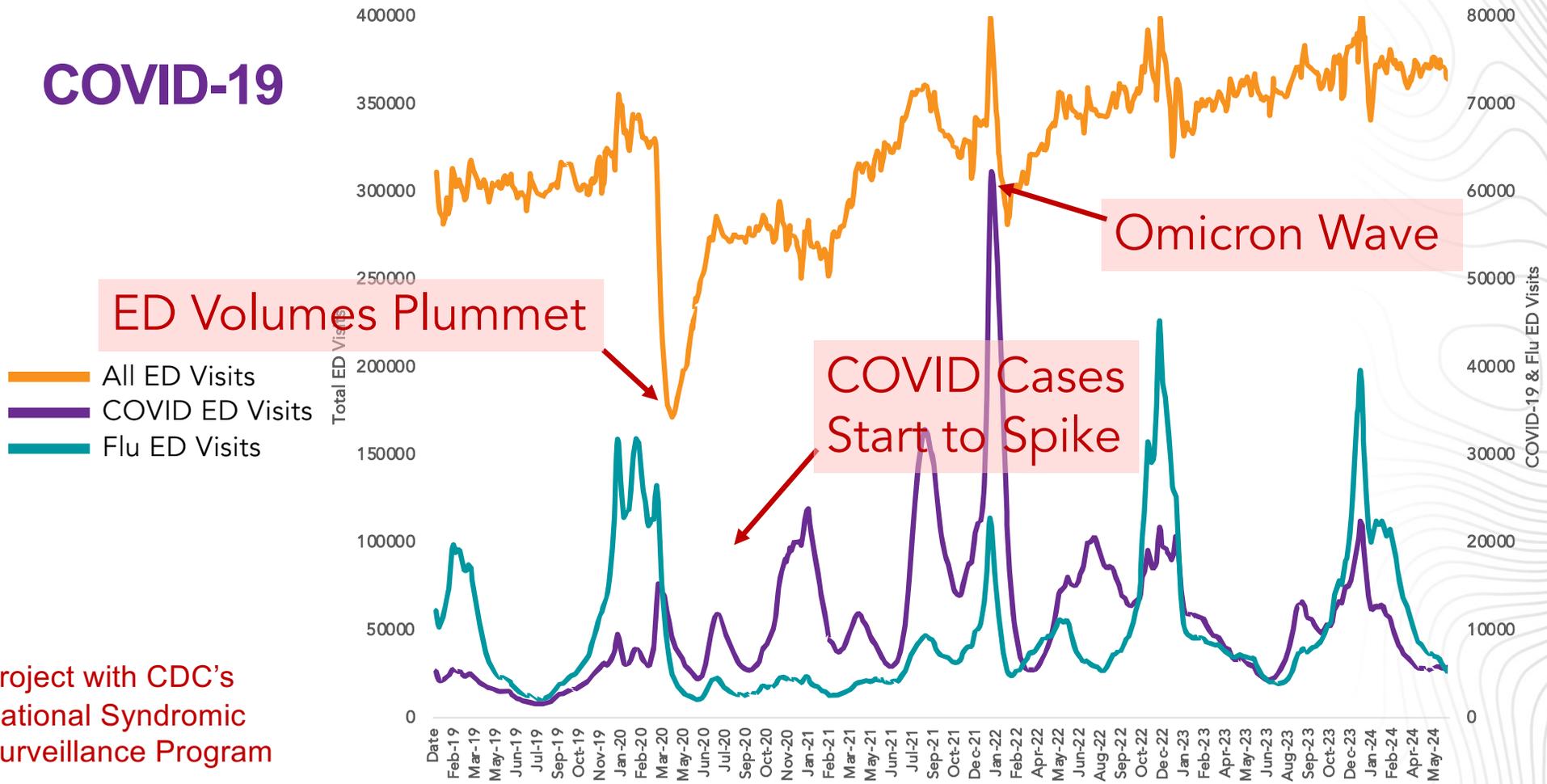
Mission

To elevate the impact & visibility of
emergency medicine and physicians through
insight & innovation.

A lot has happened in the past few years



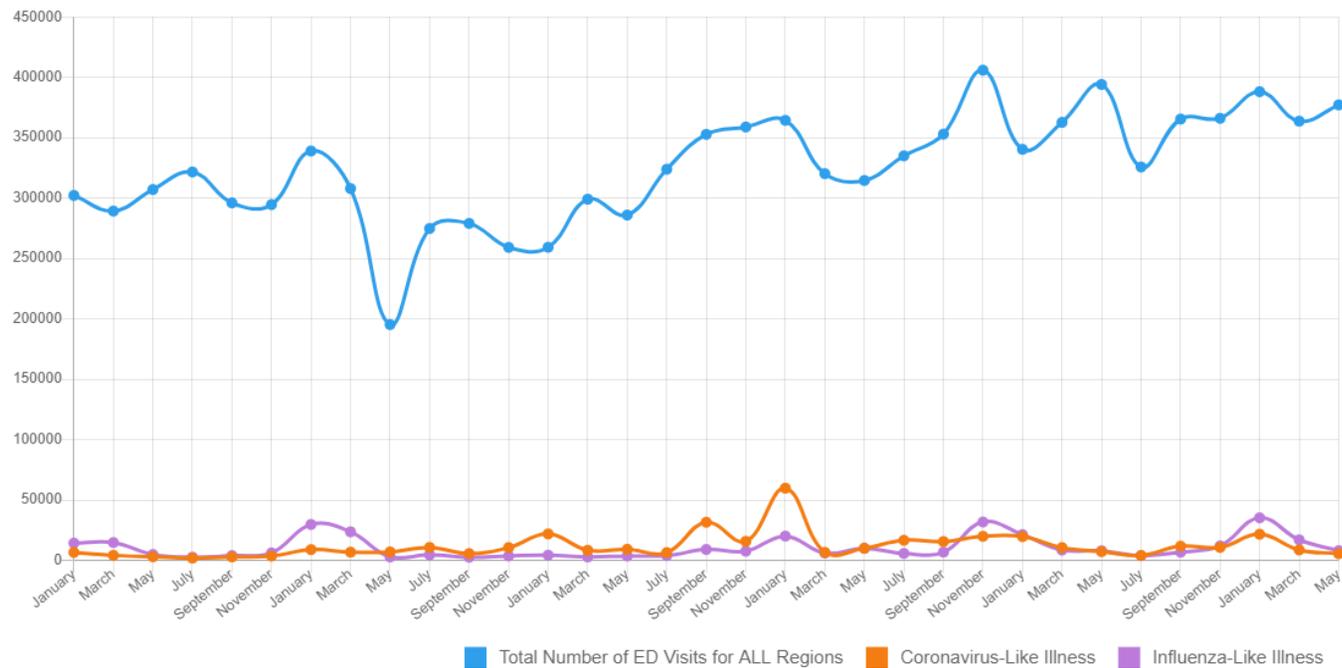
COVID-19

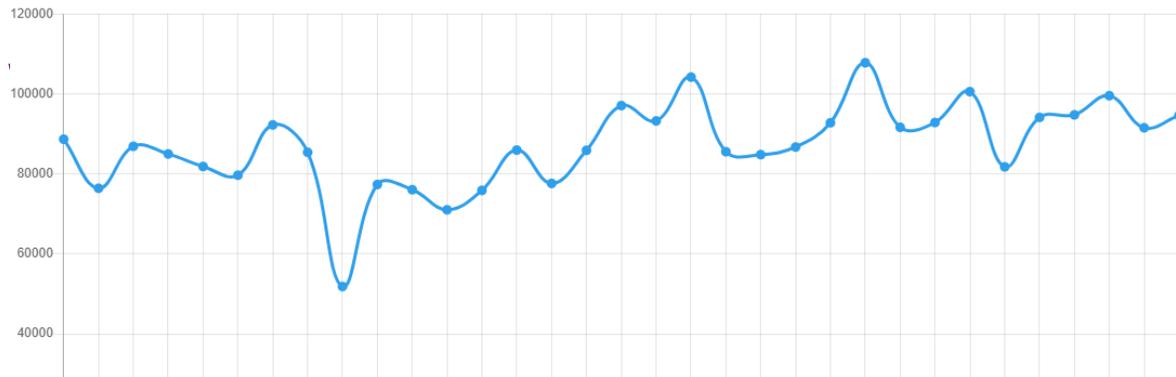


Project with CDC's
National Syndromic
Surveillance Program

Now almost 5 years since COVID

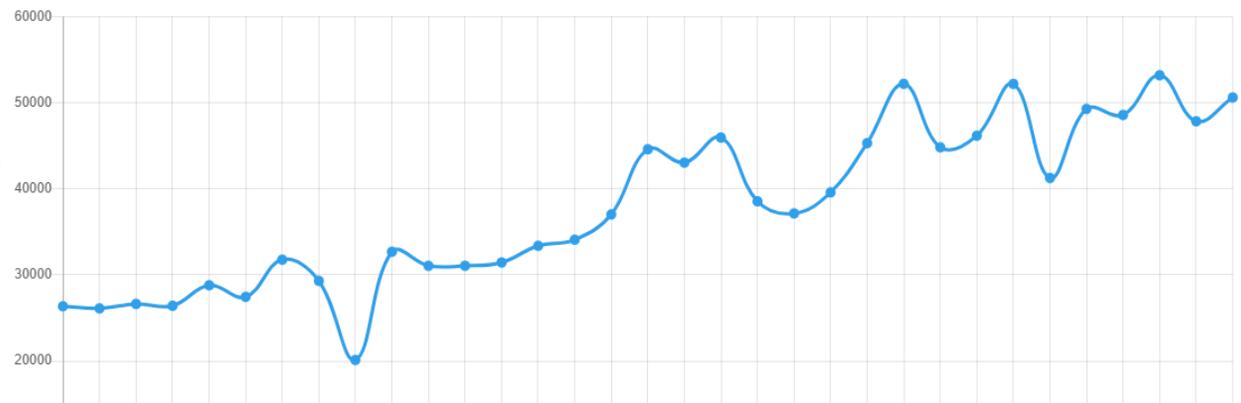
- Dip in ED visits is now gone





California

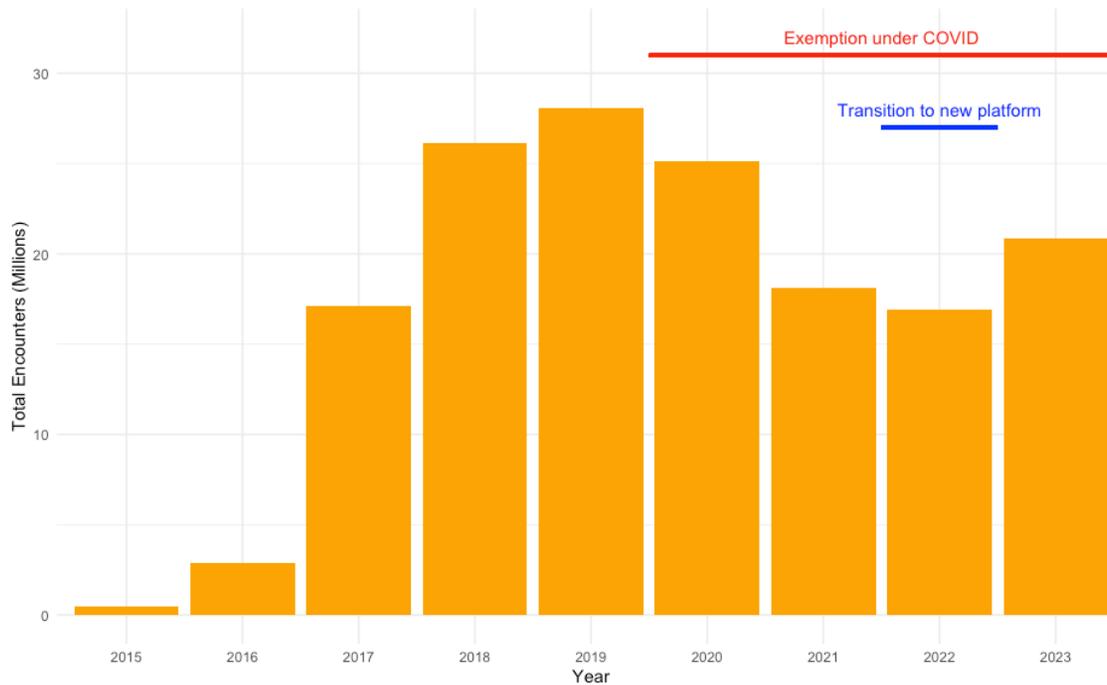
Texas



150 Million visits – who are they?

- Acutely ill and injured
- Very young and very old
- Uninsured/underinsured
- Disenfranchised with chronic disease
- Can't see their PCP within a reasonable time period

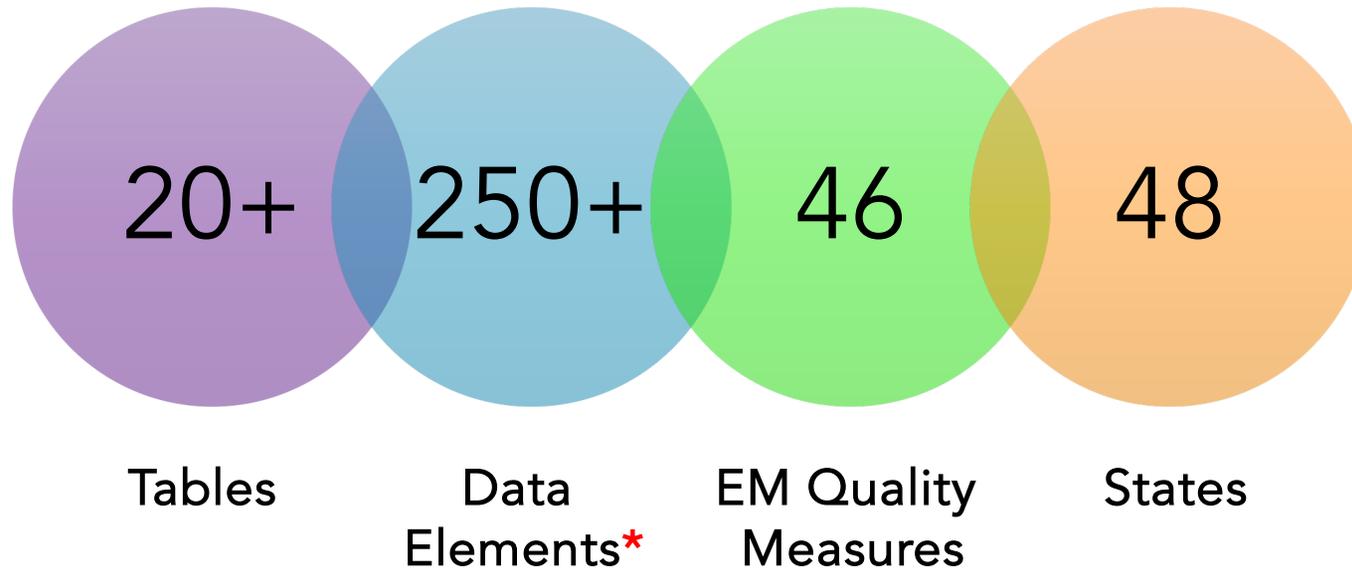
Registry Growth



150M+
Visits

45M+
Patients

Breath of our data



Routinely captured and statistically validated

Top 10 ED Diagnoses

2021 Diagnosis	% Visits	2022 Diagnosis	% Visits	2023 Diagnosis*	% Visits
Contact with COVID-19	16.2%	Contact with COVID-19	11.1%	Contact with COVID-19	6.57%
Essential hypertension	6.8%	Essential hypertension	4.2%	Essential hypertension	4.65%
COVID-19	5.6%	Chest pain	3.5%	Chest pain	4.08%
Chest pain	5.4%	COVID-19	2.8%	Nausea with vomiting	3.45%
Shortness of breath	4.5%	Nausea with vomiting	2.6%	Headache	2.97%
Nausea with vomiting	4.1%	Headache	2.4%	Shortness of breath	2.82%
Headache	3.9%	Shortness of breath	2.4%	Chest pain	2.64%
Fever	3.2%	Fever	2.3%	Fever	2.55%
Long term drug therapy	3.1%	Cough	2.2%	Dizziness & giddiness	2.24%
Abdominal pain	3.1%	Abdominal pain	1.9%	Cough	2.08%

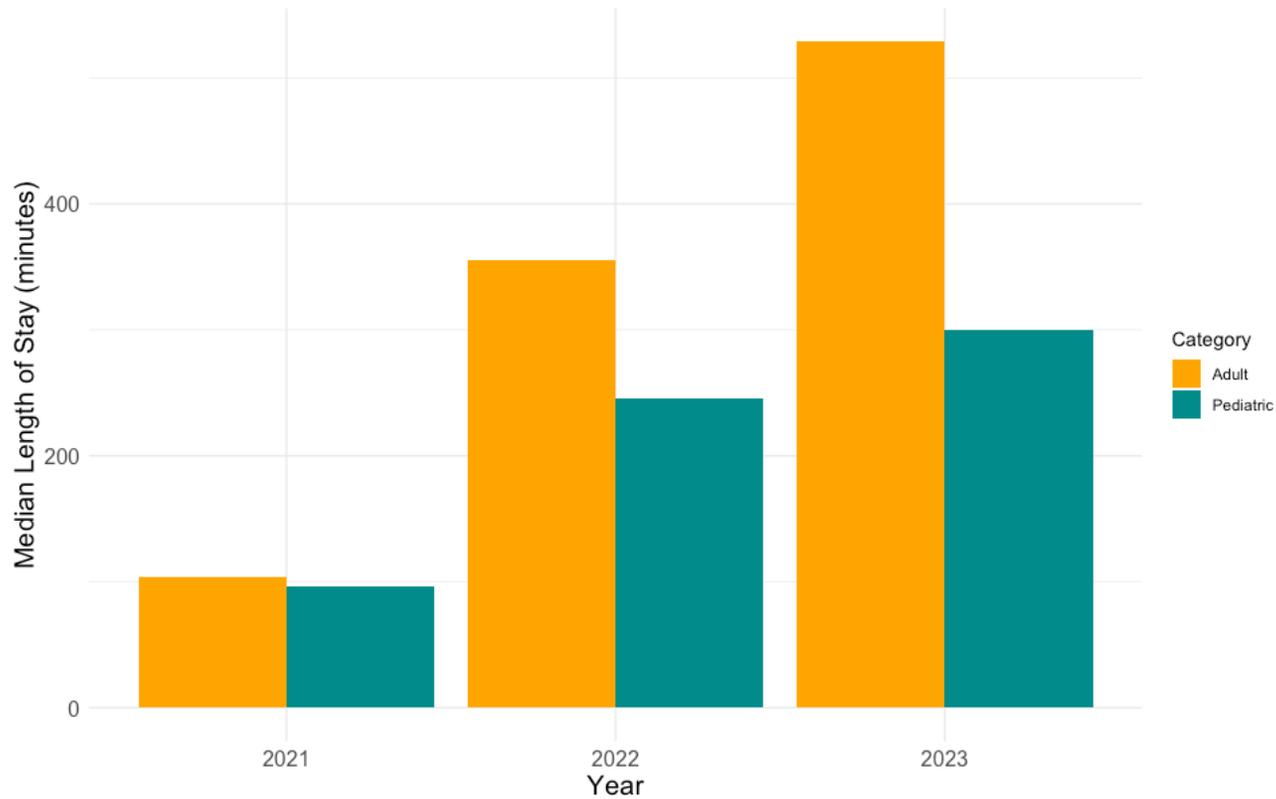
*Preliminary

2021
18.1M
Visits

2022
16.9M
Visits

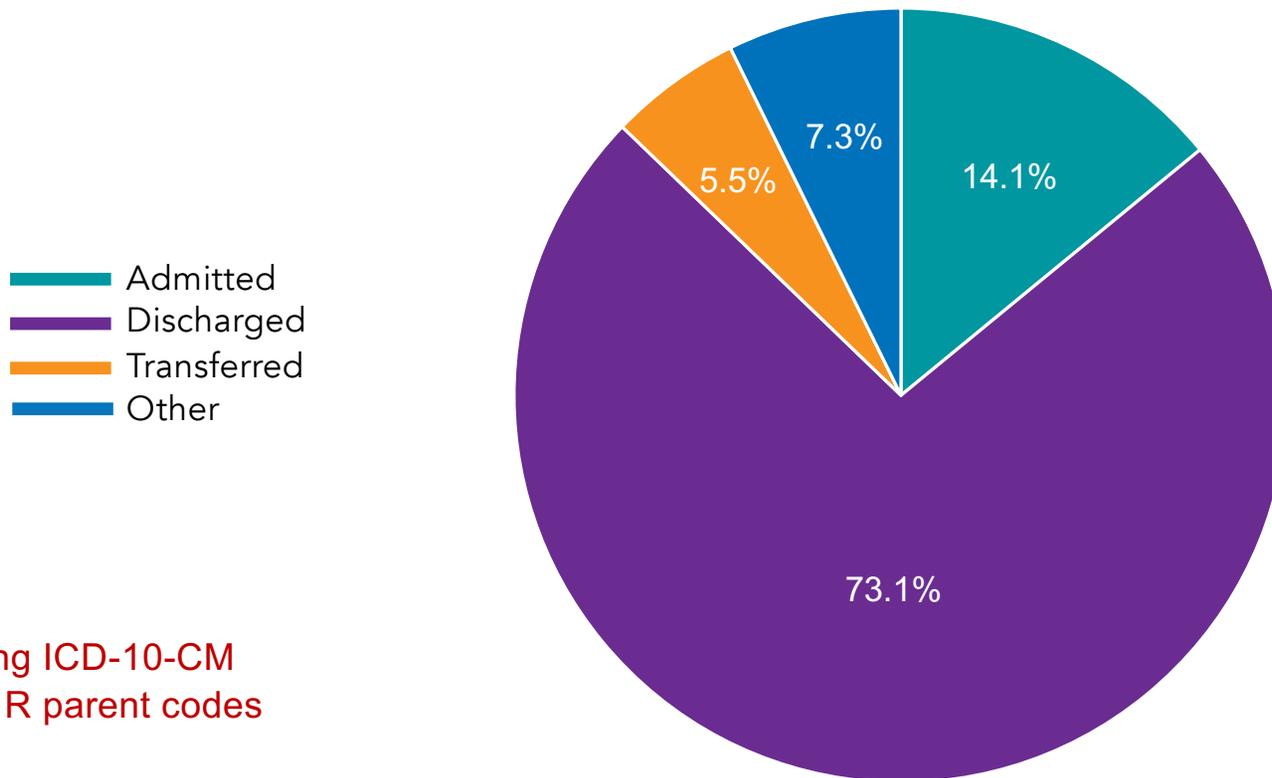
2023
20.8M
Visits

Median Length of Stay



From ACEP 50/51,
CMS-approved
measures.

Length of Stay – Mental Health Diagnoses (2021)



2021
18.1M

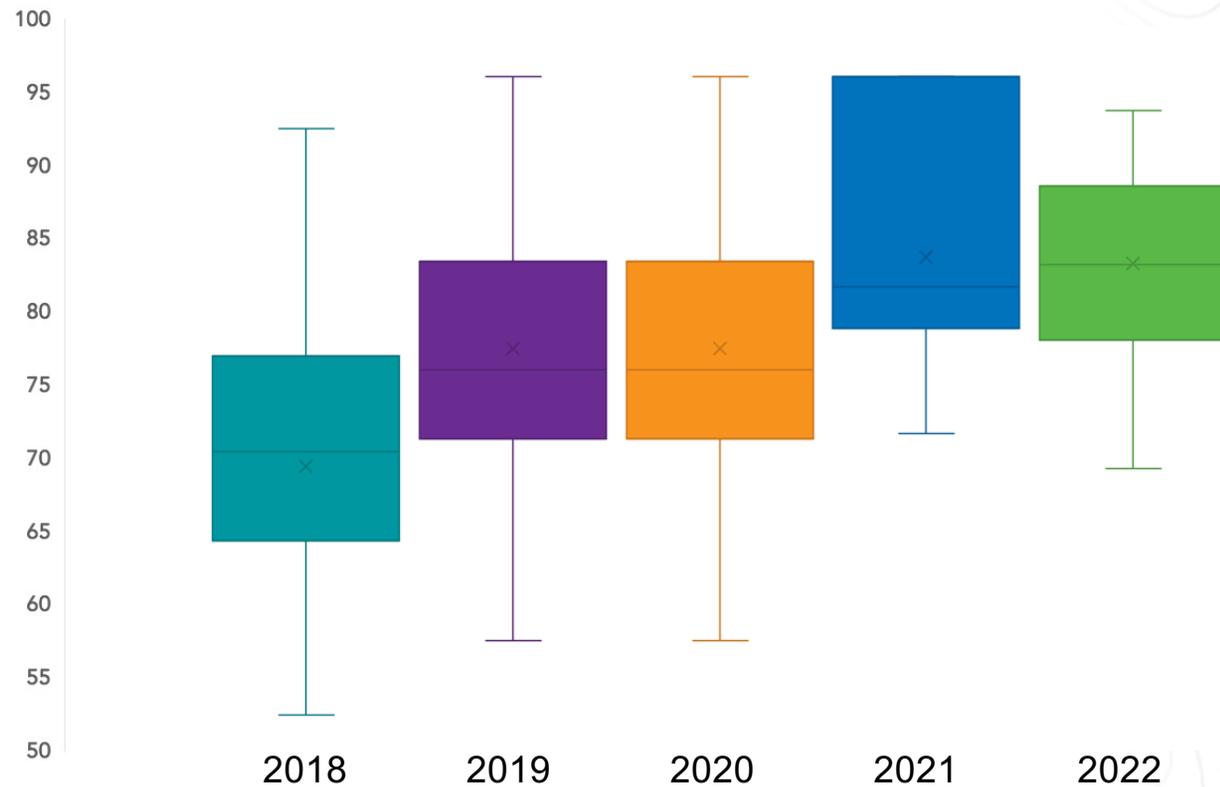
Using ICD-10-CM
F & R parent codes

5-Year Septic Shock Performance

Percent of ED visits with septic shock + elevated serum lactate result

AND subsequent serum lactate level measurement performed with a lactate clearance rate of $\geq 10\%$

From ACEP 30,
CMS-approved
measure.



Primary issues for EDs

Boarding

- We thought it was bad in the past



Consequences of Boarding

Patient

- Delays in diagnosis and treatment
- Increased delirium in elderly
- Frustration, anger
- Infection control

Staff

- Burnout
- Frustration
- Violence

Health care system more fragmented, complex

- Fewer specialists in the rural area = increased transfers – OB, General Surgery, Orthopedics
- Critical Access Hospitals becoming Rural Emergency Hospitals = Emergency Department with a small observation unit
- Super specialists –focused on one disease or injury
- Multiple specialists who may or may not be in-plan with insurance

Team care

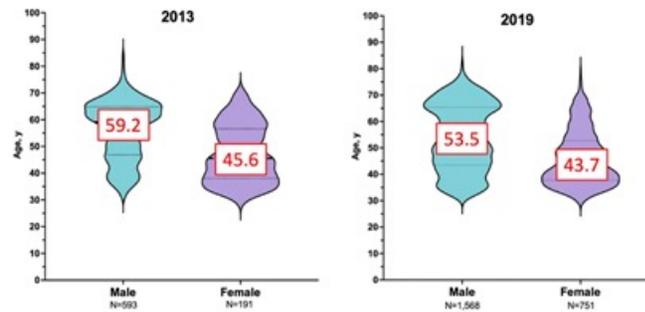
- Physician led teams
 - ▶ NPs/PA
 - ▶ Social work
 - ▶ Pharmacists
 - ▶ Physical Therapy
- Complex, verbose electronic medical records

Emergency Physicians

- Still a young specialty, our doctors are young and diverse
- Most are employed by either a hospital or a group (some physician owned)
- Nearly all have ADHD
 - ▶ Like things in sound bites, bullets
 - ▶ Podcasts, micro ed
- Shift work 24/7/365 – Always has to be someone on duty.

US Emergency Physician Workforce Attrition Median Age by Gender, 2013 and 2019

Authors: Cameron D. Gettel, Mark Courtney, Pooja Agrawal, Tracy E. Madsen, Arjun K. Venkatesh



ACEP

- 35,000 members – residents, attendings, international
- 53 chapters
- Staff of about 150 Dallas, DC and remote

- ACEP.org

How ACEP supports Emergency Physicians

- Meetings
- Expecting over
7000



Meetings

- Accelerate
- Multiple meetings

All in one place



Education

- ACEP Anytime

Join ACEP Anytime, "the Netflix of Emergency Medicine"

Comprehensive New Video Library At Your Fingertips
24/7



Point of Care tools/Smart phrases



Acute Aortic Syndrome – The Ritter Score

Dec 2023

Acute aortic syndrome refers to three diagnoses:
acute aortic dissection, intramural hematoma and...

- **Tick bite (Lyme disease post-exposure prophylaxis prescribed):**

- You came to the Emergency Department (ED) after being bitten by a tick. Some tick bites can cause tickborne disease. Because you live in or visited an area where Lyme disease is common and the tick was engorged with blood, we prescribed you a single dose of doxycycline to reduce the risk of Lyme disease. Testing specific for tickborne diseases was not indicated during this visit.
- Steps to take at home:

- **Tick bite (Lyme disease post-exposure prophylaxis prescribed):**

진드기 물림 (라임병 예방약을 처방한 경우):

- You came to the Emergency Department (ED) after being bitten by a tick. Some tick bites can cause tickborne disease. Because you live in or visited an area where Lyme disease is common and the tick was engorged with blood, we prescribed you a single dose of doxycycline to reduce the risk of Lyme disease. Testing specific for tickborne diseases was not indicated during this visit.

당신은 진드기 물림 때문에 응급실에 오셨습니다. 진드기에 물린 경우 일부 진드기 매개 질병을 발병할 수 있습니다. 당신은 라임병이 흔한 지역에 거주하시거나 지역을 방문하셨고 그 진드기가 피를 빨아먹은 흔적이 있기 때문에 라임병 발병

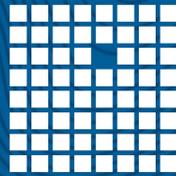
EQUAL Learning Collaborative

- Identify gap
- Gather baseline data
- Educational intervention
- Remeasure gap

- MOC credit for certification

Data CEDR/EMDI

- 120 million patient records
- Starts from entry to ED and goes until the patient leaves the ED
- Data you saw earlier was from EMDI



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Bridging Acute & Long-Term Care

Erik Blutinger, MD, MSc, FACEP

Ryan Stanton, MD, FACEP



TEARING DOWN SILOS: CARE COORDINATION IN EM

Erik Blutinger MD, MSc, FACEP

Ryan Stanton MD, FACEP

ACEP Vice-President of COmmunications

EM IS A TEAM SPORT

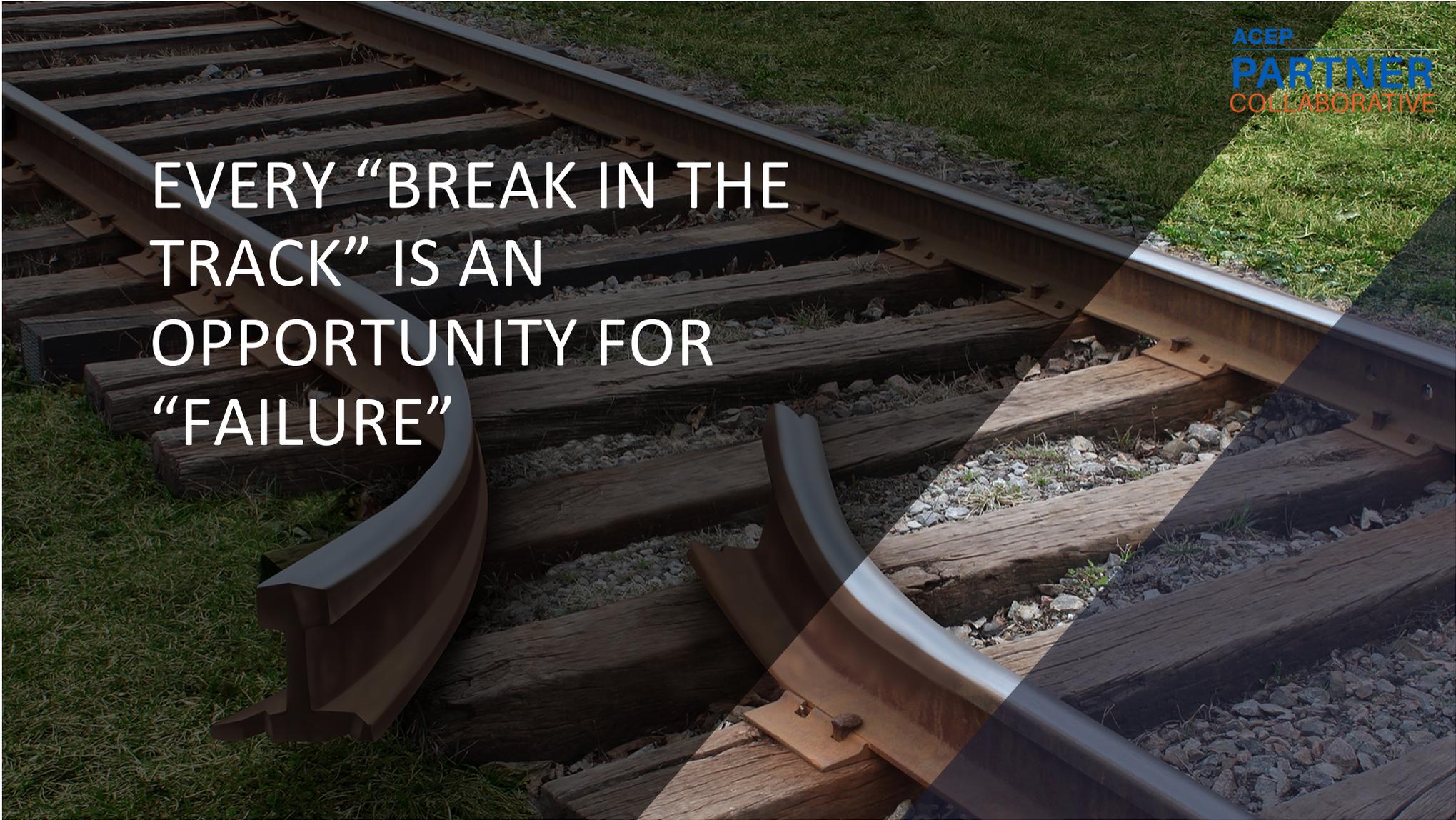
BUT UNFORTUNATELY...US
HEALTHCARE LIVES IN SILOS



WHEN IN REALITY...PATIENT
CARE IS A CONTINUUM

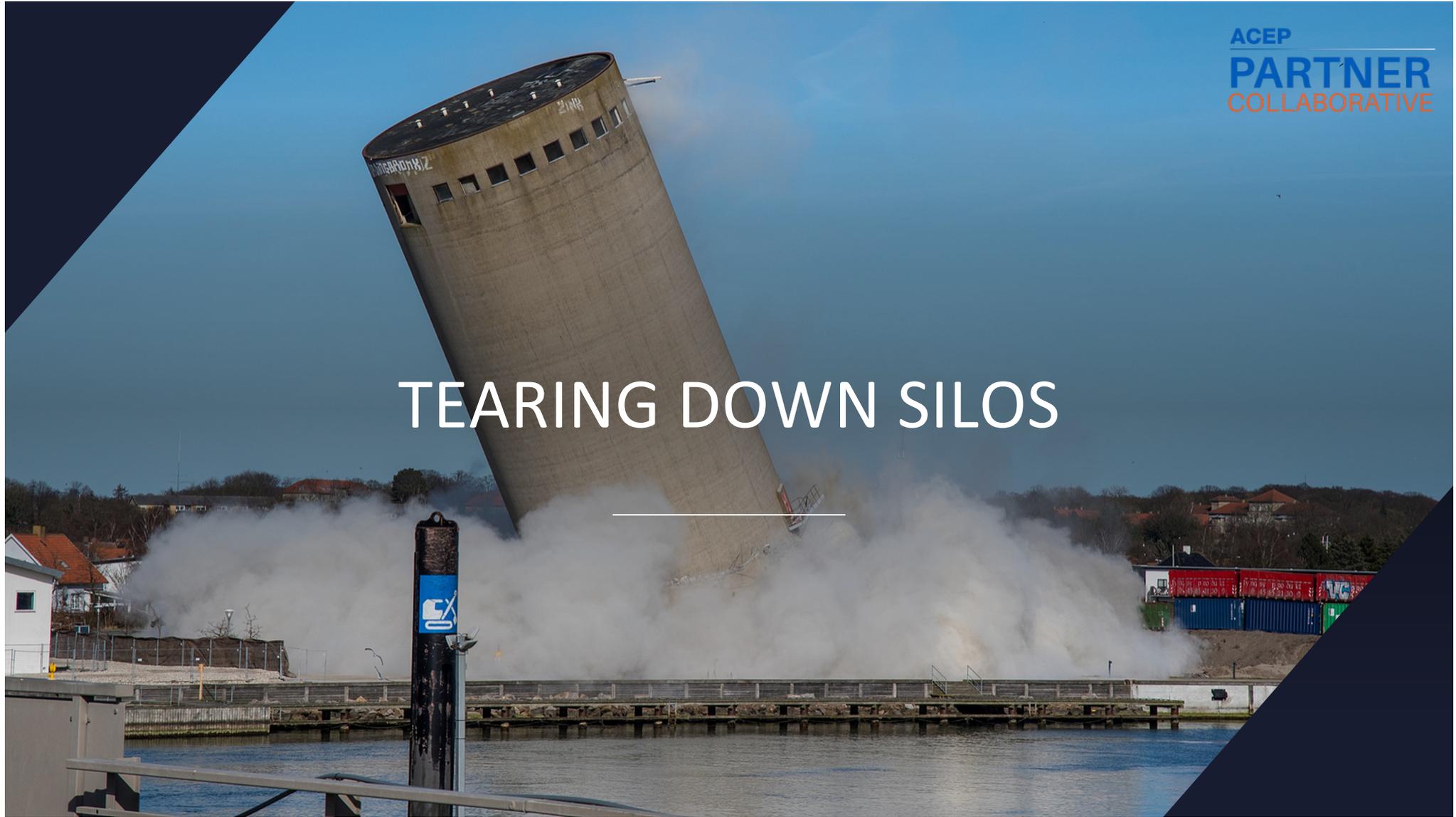


EVERY “BREAK IN THE
TRACK” IS AN
OPPORTUNITY FOR
“FAILURE”



EVERY DAY AND EVERY
PATIENT IS UNIQUE

TEARING DOWN SILOS



KEY PLAYERS



SUCCESSSES

PITFALLS

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BRING IT HOME



QUESTIONS

EM and AI: Saving Lives or Just Conference Agendas?

Henry Pitzele, MD, FACEP | ACEP Board Member

Atul Srivastava | ACEP Chief Information Officer



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EM and AI: Saving Lives or Just Conference Agendas?

Henry Pitzele
Atul Srivastava

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VAEM for life



AI in EM

- Why me?
 - Not a programmer!
 - Clinical Informatics



17 General Hospital
EMERGENCY PROVIDER RECORD
 MVC

TIME SEEN 11:25 ROOM 9 EMS Arrival
 HISTORIAN patient family EMS
 UNABLE TO OBTAIN HISTORY DUE TO
 HPI

chief complaint MVC injury to
 occurred _____ position in vehicle
 just prior to arrival _____ driver passenger front back

context car collision overturned vehicle
 single vehicle accident fatality at the scene
 (last contact / full collapse / seizure / fainting / chest pain / palpitations /
 trouble breathing / profuse sweating)
1 Lost contact 2 to witness

location of pain / injuries

	-right-		-left-
	ribs	hand	ribs
head	face	mouth	shldr
neck	chest	abdomen	hip
back	upper	mid	shldr
	lower		arm
			thigh
			arm
			thigh
			leg
			leg
			foot
			foot

severity of pain mild moderate severe
 associated symptoms lost consciousness / dazed
 remembers impact coming to hospital

site of impact P = primary S = secondary

 force direct glancing rear ended / t boned / head on
 speed < 15 15-30 > 50 mph

ROSt
 recent illness / fever _____ LNMP _____ preg post menop
 vision change / problems _____ neck / back pain
 nasal drainage / congestion _____ rash
 chest pain _____ swollen glands
 hurts to breathe / short of breath _____ headache
 abdominal pain _____ lost feeling / power
 difficulty swallowing blood _____ depression / anxiety
 genital irritation _____ all systems neg except as marked

PAST HX 2 Levon 3
 cardiac disease A / b AMI _____ GI disease _____
 diabetes Type 1 Type 2 _____ immunosuppressed AIDS steroids
 det / oral / insulin neuropathy _____ lung disease asthma COPD _____
 old records reviewed / summary _____

Tetanus immun UTD given in ED
 Medications none see nurses note
 ASA clopidogrel warfarin LMWH Allergies NKDA
 NSAID eye nurses note antibiotic

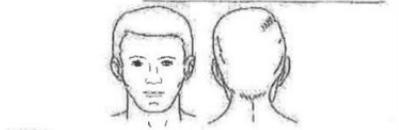


SOCIAL HX smoker 5 drugs 5
 alcohol (recent / heavy / occasional) _____ occupation non-sound
 living situation alone family friend group care facility frat
 FAMILY HX reviewed not relevant 6

Nursing Assessment Reviewed Initial Vial 5:grs Reviewed Telemetry
 BP _____ HR _____ RR _____ Temp _____
 Pulse Ox _____ % RA _____ O₂ Interm _____ nml hypoxic

Glasgow Coma Score SCORE = 15
 Eyes Open spontaneously (4) to voice (3) to pain (2) none (1)
 Speech nml (5) disoriented (4) inapprop (3) incoherent (2) none (1)
 Motor nml (6) localized (5) withdrawn (4) flexor (3) exten (2) none (1)

PHYSICAL EXAM 7 rad
 EXAM LIMITED BY
 General Appearance _____ e collar (PTA / n ED) / backboard
 appears well _____ mild / moderate / severe distress
 _____ anxious / lethargic / combative behavior
 _____ smells of ETOH



HEAD see diagram
 head traumatic _____ racoon eyes / Battle's sign

EYES _____ unequal pupils R _____ mm L _____ mm
 EOM entrapment / palsy
 EOMI _____ subconjunctival hemorrhage

ENT _____ hemotympanum
 TM obscured by wax
 clotted nasal blood
 dental injury / malocclusion
 pain / crepitation
 instability of maxilla mandible

NECK see diagram
 non tender _____ muscle spasm / decreased ROM
 painless ROM _____ pain on movement of neck
 trachea midline

Nexus criteria neg _____ midline tenderness / distracting injury
 altered mental status / neuro deficits
 recent ETOH

RESPIRATORY see diagram (on reverse)
 chest non tender _____ tenderness / seat belt bruising
 no ecchymosis _____ crepitus / subcutaneous emphysema
 breath sounds nml _____ splinting / paradoxical movements
 decreased breath sounds
 wheezes / rales / rhonchi

CVS _____ tachycardia / bradycardia
 heart sounds nml

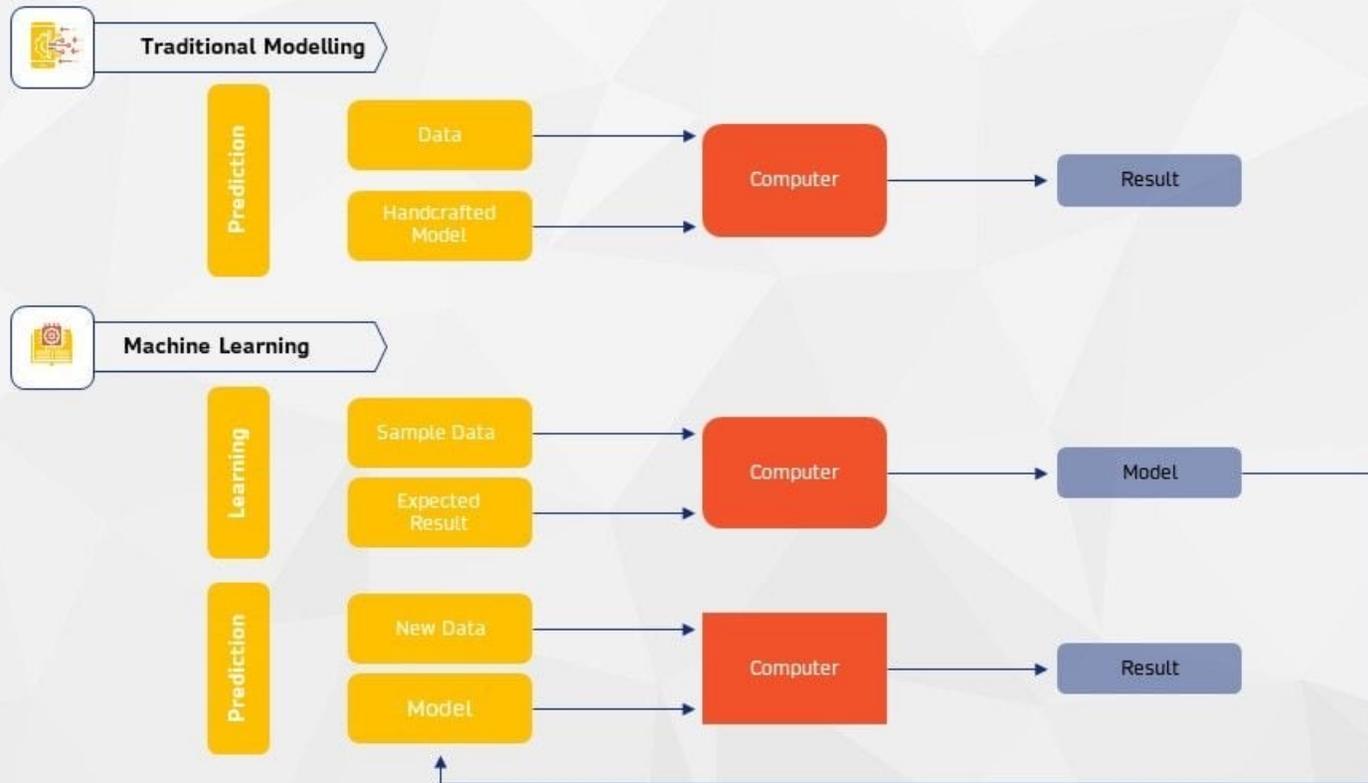
AI in EM

- Why me?
 - Not a programmer!
 - Clinical Informatics
 - CHIO

The screenshot shows the American Board of Preventive Medicine website. The header includes the logo and navigation links: "BECOME CERTIFIED", "CONTINUING CERTIFICATION", "LAP PILOT", and "PHYSICIAN PORTAL". The main heading is "Clinical Informatics Requirements Table". Below this is a table titled "Requirements".

REQUIREMENTS	PATHWAYS		
	Practice (open through 2025)		ACGME-Accredited Fellowship
	<i>Practice Option</i>	<i>Biomedical Informatics Masters or PhD Option</i>	
Pathway Purpose	This option within the practice pathway applies to all applicants who meet the practice activity requirements (3 years of at least 25% time) in the five-year period preceding June 30 of the application year.	This option within the practice pathway applies to physicians who have completed an acceptable Masters or PhD program in Biomedical Informatics.	This pathway is intended for physicians who have completed an ACGME-accredited fellowship program of at least 24 months in Clinical Informatics that is acceptable to the ABPM.

Machine Learning vs. Traditional Programming







AI in EM: categories

- Predictive
- Generative

AI in EM: categories

- Predictive of future risk
- Generative



PRACTICAL
MAGIC

Boards exam ai results



The American Journal of Emergency Medicine
Volume 76, February 2024, Pages 254-255



Accuracy of GPT's artificial intelligence on emergency medicine board recertification exam

Murtaza Akhter^{a b} 

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<https://doi.org/10.1016/j.ajem.2023.11.061> 

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Boards exam ai results

3. Results

Bing AI answered 66.7% (95% CI 58.8–73.9%) of the ABEM questions correctly. ChatGPT fared slightly better, with 68.7% (95% CI 60.9–75.7%) of questions' answered correctly. Neither of them reached the 84% mark required to pass.

54.7% (95% CI 46.7–62.5%) of the questions were answered correctly by both Bing AI *and* ChatGPT. 19.3% (95% CI 13.6–26.2%) of questions were answered incorrectly by *both* platforms.



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Murtaza Akhter, MD

Biography

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Assistant Clinical Professor, Clinical Series, Emergency Medicine

Primary Address

Office

Valleywise Health

2601 East Roosevelt Street

Phoenix, AZ, United States 85008

Biography

Uses....that I'm not going to talk about

- Patient-facing CDS
- Predictive
 - Decision tools
 - Monitoring
 - EMS call queueing
 - Bed availability prediction
 - Wait time (WR) prediction
 - Public health surveillance

Uses....that I *am* going to talk about

- Generative/LLM
 - Translation
 - Discharge
 - Summarizing large volume
 - Coding
 - Ambient notetaking
- Specialty-specific

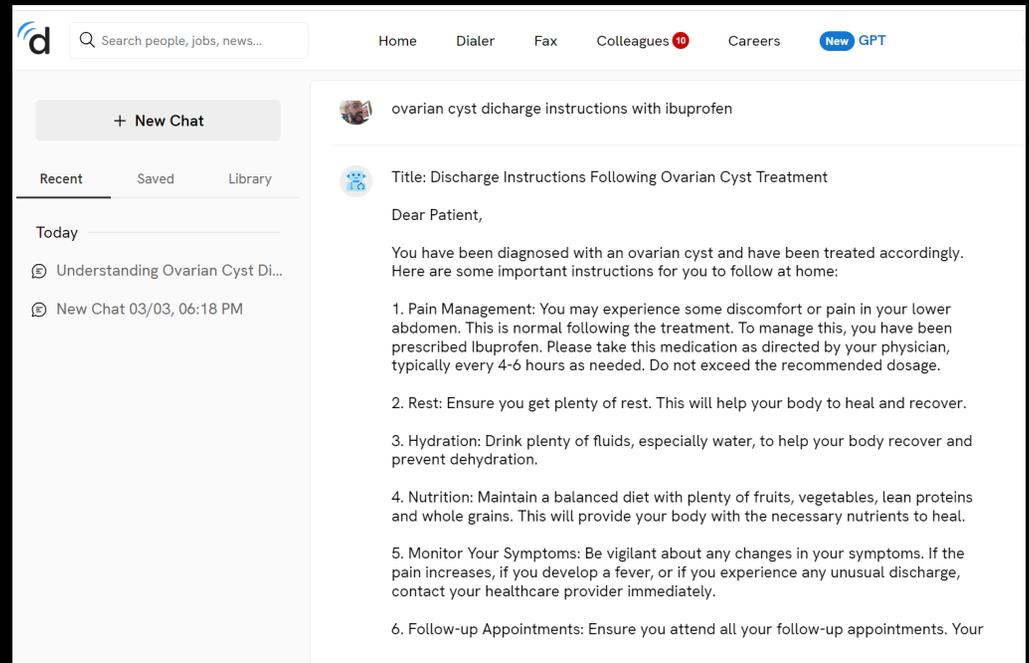
Current AI in EM: LLMs

- Translation
 - Current
 - Google Translate
 - Bing Translate
 - Almost here
 - Microsoft VALL-E/X
- <https://www.youtube.com/watch?v=-Cnv8ZANiq0>



Current AI in EM: LLMs

- Discharge
 - Customize
 - Level of education
 - Language
 - Doximity Docs GPT (uses GPT-4)



The screenshot displays the Doximity Docs GPT interface. At the top, there is a search bar and navigation links for Home, Dialer, Fax, Colleagues (with a notification badge), and Careers. A 'New GPT' button is also visible. The main content area shows a chat window titled 'ovarian cyst discharge instructions with ibuprofen'. The chat history includes a document titled 'Understanding Ovarian Cyst Di...' and a 'New Chat' from 03/03, 06:18 PM. The chat content is as follows:

ovarian cyst discharge instructions with ibuprofen

Title: Discharge Instructions Following Ovarian Cyst Treatment

Dear Patient,

You have been diagnosed with an ovarian cyst and have been treated accordingly. Here are some important instructions for you to follow at home:

1. Pain Management: You may experience some discomfort or pain in your lower abdomen. This is normal following the treatment. To manage this, you have been prescribed Ibuprofen. Please take this medication as directed by your physician, typically every 4-6 hours as needed. Do not exceed the recommended dosage.
2. Rest: Ensure you get plenty of rest. This will help your body to heal and recover.
3. Hydration: Drink plenty of fluids, especially water, to help your body recover and prevent dehydration.
4. Nutrition: Maintain a balanced diet with plenty of fruits, vegetables, lean proteins and whole grains. This will provide your body with the necessary nutrients to heal.
5. Monitor Your Symptoms: Be vigilant about any changes in your symptoms. If the pain increases, if you develop a fever, or if you experience any unusual discharge, contact your healthcare provider immediately.
6. Follow-up Appointments: Ensure you attend all your follow-up appointments. Your

Current AI in EM: LLMs

- Summarize
 - Large previous admission
 - Research paper
 - Med-specific LLM's outperform



↑ Back To Top

Print

Clinical Summary

Creation Date: March 11, 2024, 12:25:19 -0400

FRANCISCAN HEALTH OLYMPIA FIELDS

Gender: Male

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Patient & Contact Information

Healthcare Providers

Allergies

Medications

Problems

Encounters

Social History

Vital Signs

Plan of Care/Treatment

Procedures

Results

Health Concerns

Insurance Providers

Advance Directives

CASE NUMBER: MOL24016116

Authorizing Provider	Result Type		
Saumya Mehta DO	MICROBIOLOGY - GENERAL ORDERABLES		
Performing Organization	Address	City/State/ZIP Code	Phone Number
ALVERNO LABORATORIES	2434 Interstate Plaza Drive	Hammond, IN 46324, USA	800-937-5521

• (ABNORMAL) COMPLETE BLOOD COUNT NO DIFFERENTIAL (02/20/2024 7:22 AM CST):

Component	Value	Ref Range	Test Method	Analysis Time	Performed At	Pathologist Signature
WBC	6.98	4.00 - 11.00 10 ³ /uL		02/20/2024 7:42 AM CST	FRANCISCAN HEALTH OLYMPIA FIELDS LAB	



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Careers

New GPT



An A.I. Writing Assistant



summarize the following admission



You didn't provide any specific information about the admission. Could you please provide more details? For example, patient's condition, diagnosis, treatment plan, or any other relevant information that should be included in the summary.

Copy Save Send as fax Send as text



1. Acute, minimally displaced fracture in the right anterior arch of C1. 2. Age-indeterminate compression deformity of C3. Recommend follow-up MRI for further evaluation if clinically indicated. 3. Severe multilevel degenerative changes of the cervical spine as described above. Results discussed with emergency department physician Carter Bagley by radiology resident Kevin Pugh at 4:17 PM on 2/19/2024. Interpreted by: Kevin Pugh DO I was physically present throughout the procedure and/or personally have reviewed the imaging as well as the resident's interpretation and agree with the above report. Electronically signed by: Kathleen Dumford MD 02/19/2024 04:24 PM CST Workstation: RMCWRS730TZ d: Feb 19 2024 04:24P f: Feb 19 2024 04:24P Authorizing Provider Result Type Brigette L Cowherd PA IMG CT ORDERABLES CT ABDOMEN AND PELVIS WO CONTRAST 74176 (02/19/2024 3:55 PM CST): Anatomical Region Laterality Modality Abdomen, Pelvis, Hip N/A Computed Tomography Specimen (Source) Anatomical Location / Laterality Collection Method / Volume Collection Time Received Time 02/19/2024 1:59 PM CST Impressions 02/19/2024 4:33 PM CST 1. Patchy opacities in the lung bases may represent atelectasis or multifocal infectious process. 2. Suprarenal abdominal aortic aneurysm measuring up to 3.4 cm. Right right common femoral artery aneurysm measuring up to 3.1 cm. Recommend ultrasound follow-up every 3 years. 3. Large lytic lesions of bilateral ischial tuberosities. Several

Regenerate

Tap on prompt library or type here.

Summary of medical reports:

1. CT scan of the head (02/19/2024) showed no evidence of an acute intracranial process. However, a fracture was observed at the anterior arch of C1.
2. CT scan of the abdomen and pelvis (02/19/2024) revealed patchy opacities in the lung bases, a suprarenal abdominal aortic aneurysm, right common femoral artery aneurysm, and large lytic lesions of bilateral ischial tuberosities. Multiple bilateral renal cysts were also observed, including an indeterminate lesion in the left interpolar renal cortex.
3. Chest X-ray (02/19/2024) showed mild atelectasis in the lung bases.
4. ECG (02/19/2024) indicated atrial fibrillation, ventricular ectopic beats, left axis deviation, and non-specific intraventricular conduction delay.
5. Lab results (02/19/2024) showed elevated Troponin I and B-type Natriuretic Peptide levels, suggestive of myocardial injury. The comprehensive metabolic panel showed abnormalities in chloride, glucose, creatinine, carbon dioxide, AST, ALT, BUN, and eGFR levels. Prothrombin time was also elevated.
6. The ultrasound of lower extremities (01/13/2022) showed no evidence of acute deep vein thrombosis. However, mildly complex bilateral Baker's cysts were observed.

The patient has a history of MRSA infection (06/20/2012). Current insurance is through Humana Gold Plus MC Replacement and the patient is under the care of Dr. Mohamed Nahhas (Internal Medicine). The patient's code status is "Full Code".

Regenerate

Tap on prompt library or type here.

Current AI in EM: LLMs

- Summarize
 - Large previous admission
 - Research paper
 - Med-specific LLM's outperform





antibiotics diverticulitis



Search

Advanced Create alert Create RSS

User Guide

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Email

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Sort by:

Best match



Display options



MY NCBI FILTERS

1,184 results



Page

1

of 119



RESULTS BY YEAR



TEXT AVAILABILITY

- Abstract
- Free full text
- Full text

ARTICLE ATTRIBUTE

- Associated data

ARTICLE TYPE

- Books and Documents
- Clinical Trial
- Meta-Analysis



Antibiotics for uncomplicated diverticulitis.

1

Dichman ML, Rosenstock SJ, Shabanzadeh DM.

Cite

Cochrane Database Syst Rev. 2022 Jun 22;6(6):CD009092. doi: 10.1002/14651858.CD009092.pub3.

PMID: 35731704 [Free PMC article.](#) [Review.](#)

Share

Uncomplicated **diverticulitis** has traditionally been treated with **antibiotics**, as **diverticulitis** has been regarded as an infectious disease. ...AUTHORS' CONCLUSIONS: The evidence on **antibiotic** treatment for uncomplicated acute **diverticulitis** sugg ...



Antibiotics for Uncomplicated Diverticulitis.

2

Poola S, Ritchie M.

Cite

Am Fam Physician. 2020 Dec 1;102(11):Online.

PMID: 33252904 [Free article.](#) [Review.](#)

Share

Learn more about the benefits and harms of **antibiotics** for uncomplicated **diverticulitis**...



Diagnosis and management of acute diverticulitis.

3

Wilkins T, Embry K, George R.

Cite

Am Fam Physician. 2013 May 1;87(9):612-20.

PMID: 23668524 [Free article.](#) [Review.](#)

Share

Uncomplicated **diverticulitis** is localized diverticular inflammation, whereas complicated **diverticulitis** is diverticular inflammation associated with an abscess, phlegmon, fistula, obstruction, bleeding, or perforation. ...Hospitalization should be considered if pati ...



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Antibiotics versus no antibiotics for acute uncomplicated diverticulitis: a systematic review and meta-analysis

[PDF] lww.com

M Desai, J Fathallah, V Nutalapati... - Diseases of the Colon & ..., 2019 - journals.lww.com

... of antibiotic use in an episode of uncomplicated diverticulitis. ... uncomplicated diverticulitis can be monitored off antibiotics. ... acute or chronic diverticulitis, uncomplicated diverticulosis ...

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Randomized clinical trial of antibiotics in acute uncomplicated diverticulitis

[PDF] wiley.com

A Chabok, L Pahlman, F Hjerm... - British journal of ..., 2012 - Wiley Online Library

... This study evaluated the need for antibiotic treatment in acute uncomplicated diverticulitis. It showed that antibiotic ... Antibiotics should be reserved mainly for patients with complicated ...

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Use of antibiotics in uncomplicated diverticulitis

[PDF] oup.com

N De Korte, Ç Ünlü, MA Boermeester... - Journal of British ..., 2011 - academic.oup.com

... of acute uncomplicated left-sided diverticulitis is not well ... antibiotics contribute to the (uneventful) recovery from acute uncomplicated left-sided diverticulitis, and which types of antibiotic ...

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Conservative treatment of acute colonic diverticulitis: are antibiotics always mandatory?

[PDF] tandfonline.com

F Hjerm, T Josephson, D Altman... - Scandinavian journal ..., 2007 - Taylor & Francis

... influenced by antibiotic treatment (OR 1.03, CI 95% 0.61–1.74). Conclusions. Our results indicate that antibiotics are not mandatory in mild AD. Treatment without antibiotics appears to ...

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Treatment of uncomplicated acute diverticulitis without antibiotics: a systematic review and meta-analysis

[PDF] lww.com

< Back **All** Adult Pediatric Patient Graphics

- Risk factors for worse outcomes as an outpatient (📄 table 1)

Patients **without** these risk factors have similar outcomes regardless of care setting.

(See "Acute colonic diverticulitis: Medical management", section on 'Inpatient versus outpatient treatment'.)

Graphics

👤 Management of acute colonic diverticulitis

📄 Indications for hospital admission for acute colonic diverticulitis

Outpatient management ⤴

For most patients who are appropriate for outpatient management, we suggest **against** antibiotic treatment (**Grade 2C**). There appear to be similar outcomes regardless of antibiotic use. However, clinicians may reasonably choose to use oral antibiotics in patients who have comorbidities or systemic symptoms (📄 table 2).

Additional supportive care includes:

- Pain control with oral analgesics (eg, acetaminophen, ibuprofen, or oxycodone)
- Liquid diet, advanced based on clinical response (typically in two to three days)
- Clinical reassessment in two to three days and weekly thereafter until complete symptom resolution

Repeat imaging or hospital admission is appropriate for those who deteriorate or do not improve in two to three days. (See "Acute colonic diverticulitis: Medical management", section on 'Outpatient treatment' and "Patient education: Diverticulitis (The Basics)".)

Graphics

📄 Oral antibiotics for acute colonic diverticulitis in adults

📄 Management of acute colonic diverticulitis

do antibiotics help acute diverticulitis

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Antibiotic treatment for acute uncomplicated diverticulitis has historically been a standard of care (Jaung et al., 2021). However, recent research has indicated a shift towards a more selective approach to antibiotic use in uncomplicated cases (Hanna & Kaiser, 2021). Guidelines now recommend selective use of antibiotics in immunocompetent patients with acute uncomplicated diverticulitis (Peery, 2021). Studies have shown that antibiotic treatment neither accelerates recovery nor prevents complications or recurrence in acute uncomplicated diverticulitis (Chabok et al., 2012). Furthermore, evidence supporting antibiotic treatment in acute uncomplicated diverticulitis has always been lacking (Dijk et al., 2020).

The role of antibiotics in acute diverticulitis has been challenged by large randomized trials that showed no benefit in selected patients (Peery & Sandler, 2013). While various antibiotics may be used in the treatment of acute diverticulitis to ensure complete coverage against bacterial strains (Tursi et al., 2015; Tursi, 2014), recent studies have indicated that routine antibiotic therapy in patients with acute uncomplicated diverticulitis may not be necessary (Özen et al., 2023). In fact, some guidelines now suggest selective use of antibiotics in patients with acute diverticulitis (Kamal et al., 2019).

In conclusion, the use of antibiotics in acute uncomplicated diverticulitis is being reconsidered, with a shift towards a more selective approach rather than routine use. While antibiotics have traditionally been a standard of care, recent evidence questions their benefit in uncomplicated cases of diverticulitis. Further research is needed to better understand the role of antibiotics in the management of acute diverticulitis and to establish more tailored and evidence-based treatment strategies.

View searches run to ground this response

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References

Reference #1

"...5 Antibiotics have historically been a cornerstone in the management of acute diverticulitis..."

See full context

"... 5 Antibiotics have historically been a cornerstone in the management of acute diverticulitis..."

See full context

Antibiotics Do Not Reduce Length of Hospital Stay for Uncomplicated Diverticulitis in a Pragmatic Double-Blind Randomized Trial

Rebekah Jaung¹, Sherry Nisbet², M. Gosselink³ et al. 2021 *Clinical Gastroenterology and Hepatology*.

26 | 1 | 18 | 0

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Reference #2

"...There is a growing body of high-level evidence to suggest that a more nuanced selective patient-centric approach is warranted as opposed to routine use of antibiotics in uncomplicated acute diverticul..."

See full context

Section: Non-operative Management Of Diverticulitis

Update on the management of sigmoid diverticulitis

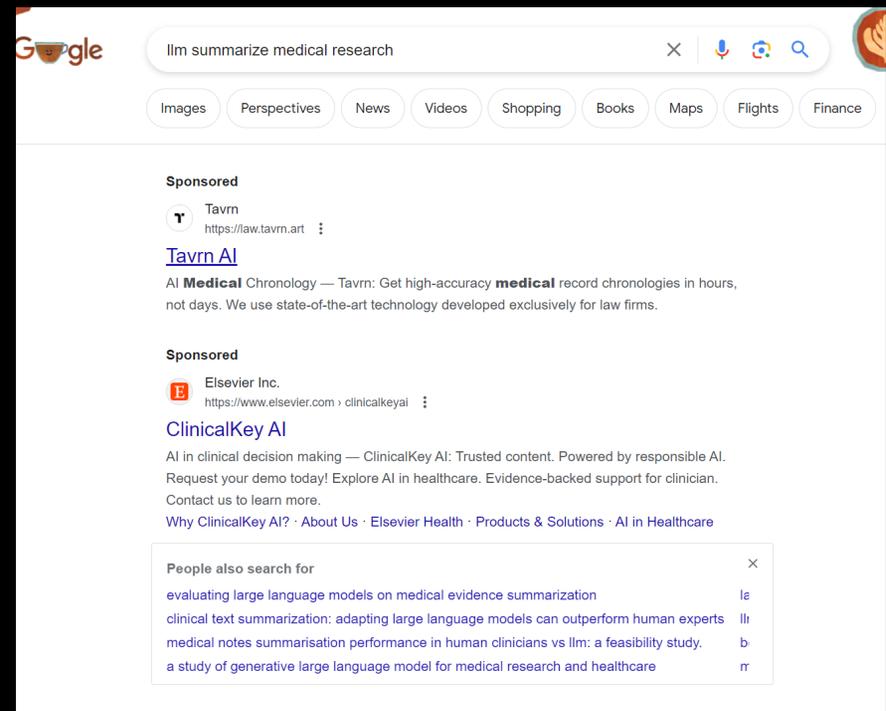
Mark Hanna¹, Andreas M. Kaiser² 2021 *WJG*

30 | 0 | 22 | 0

Current AI in EM: LLMs

- Summarize

- Large previous admission
- Research paper
- Med-specific LLM's outperform



Current AI in EM: Coding



Level of MDM (Based on 2 of 3 Elements of MDM)		Number and Complexity of Problems Addressed	Amount and/or Complexity of Data to be Reviewed and Analyzed <i>*Each unique test, order, or document contributes to the combination of 2 or combination of 3 in Category 1 below.</i>	Risk of Complications and/or Morbidity or Mortality of Patient Management
99281	N/A	N/A	N/A	N/A
99282	Straightforward	Minimal <ul style="list-style-type: none"> 1 self-limited or minor problem 	Minimal or none	Minimal risk of morbidity from additional diagnostic testing or treatment
99283	Low	Low <ul style="list-style-type: none"> 2 or more self-limited or minor problems 1 stable chronic illness 1 acute, uncomplicated illness or injury 1 stable, acute illness 1 acute, uncomplicated illness or injury requiring hospital inpatient or observation level of care 	Limited <i>(Must meet the requirements of at least 1 of the 2 categories)</i> Category 1: Tests and documents <ul style="list-style-type: none"> Any combination of 2 from the following: <ul style="list-style-type: none"> Review of prior external note(s) from each unique source* review of the result(s) of each unique test* ordering of each unique test* Category 2: Assessment requiring an independent historian(s) <i>(For the categories of independent interpretation of tests and discussion of management or test interpretation, see moderate or high)</i>	Low risk of morbidity from additional diagnostic testing or treatment
99284	Moderate	Moderate <ul style="list-style-type: none"> 1 or more chronic illnesses with exacerbation, progression, or side effects of treatment 2 or more stable chronic illnesses 1 undiagnosed new problem with uncertain prognosis 1 acute illness with systemic symptoms 1 acute complicated injury 	Moderate <i>(Must meet the requirements of at least 1 out of 3 categories)</i> Category 1: Tests, documents, or independent historian(s) <ul style="list-style-type: none"> Any combination of 3 from the following: <ul style="list-style-type: none"> Review of prior external note(s) from each unique source* Review of the result(s) of each unique test* Ordering of each unique test* Assessment requiring an independent historian(s) Category 2: Independent interpretation of tests <ul style="list-style-type: none"> Independent interpretation of a test performed by another physician/other qualified health care professional (not separately reported); Category 3: Discussion of management or test interpretation <ul style="list-style-type: none"> Discussion of management or test interpretation with external physician/other qualified health care professional/appropriate source (not separately reported) 	Moderate risk of morbidity from additional diagnostic testing or treatment <i>Examples only:</i> <ul style="list-style-type: none"> Prescription drug management Decision regarding minor surgery with identified patient or procedure risk factors Decision regarding elective major surgery without identified patient or procedure risk factors Diagnosis or treatment significantly limited by social determinants of health
99285	High	High <ul style="list-style-type: none"> 1 or more chronic illnesses with severe exacerbation, progression, or side effects of treatment 1 acute or chronic illness or injury that poses a threat to life or bodily function 	Extensive <i>(Must meet the requirements of at least 2 out of 3 categories)</i> Category 1: Tests, documents, or independent historian(s) <ul style="list-style-type: none"> Any combination of 3 from the following: <ul style="list-style-type: none"> Review of prior external note(s) from each unique source* Review of the result(s) of each unique test* Ordering of each unique test* Assessment requiring an independent historian(s) Category 2: Independent interpretation of tests <ul style="list-style-type: none"> Independent interpretation of a test performed by another physician/other qualified health care professional (not separately reported) Category 3: Discussion of management or test interpretation <ul style="list-style-type: none"> Discussion of management or test interpretation with external physician/other qualified health care professional/appropriate source (not separately reported) 	High risk of morbidity from additional diagnostic testing or treatment <i>Examples only:</i> <ul style="list-style-type: none"> Drug therapy requiring intensive monitoring for toxicity Decision regarding elective major surgery with identified patient or procedure risk factors Decision regarding emergency major surgery Decision regarding hospitalization or escalation of hospital-level of care Decision not to resuscitate or to de-escalate care because of poor prognosis Parenteral controlled substances

Current AI in EM: NLP

- Current: Dictation
- Soon: Ambient
<https://www.youtube.com/watch?v=tBuITCOVWg8>



Current AI in EM: NLP

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COMMENTARY



Ambient Artificial Intelligence Scribes to Alleviate the Burden of Clinical Documentation

Early results with generative artificial intelligence deployed in The Permanente Medical Group yield some promising results and key observations, although the long-term development and wider deployment will require a rigorous evaluation framework that tracks engagement, effectiveness, quality, and safety.

Authors: Aaron A. Tierney, PhD, Gregg Gayre, MD, Brian Hoberman, MD, MBA, Britt Mattern, MBA, Manuel Balleca, MD, Patricia Kipnis, PhD, Vincent Liu, MD, MS, and Kristine Lee, MD [Author Info & Affiliations](#)

Published February 21, 2024 | NEJM Catal Innov Care Deliv 2024;5(3) | DOI: 10.1056/CAT.23.0404 | [VOL. 5 NO. 3](#)



Current AI in EM: NLP



+ New encounter



TODAY

Knee pain for six months

8:08 AM - 2 min

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Knee pain for six months

Transcript Note

Note generated with the "Emergency medicine (multiple sections)" template.

Settings

CHIEF COMPLAINT

- Knee pain for six months
- Tingling in toes
- Difficulty bearing weight on knee
- Fever

HISTORY OF PRESENT ILLNESS

- Patient is Henry Pizzello
- Knee pain started six months ago after bending knee backwards at Pisano's and hearing a pop
- Since then, has experienced tingling in toes and difficulty bearing weight on knee
- Also reports having a fever

PAST MEDICAL HISTORY

- No previous problems with knee
- History of elbow problems

PHYSICAL EXAM

- Full range of motion at knee with slight tenderness on patella
- No effusion on patella
- No bruising or open wounds
- Good stability when pressure applied to knee from sides
- Can feel touch on lower leg

PLAN

Rate this note ☆☆☆☆



☰ Patient instructions

📄 Copy note



Current AI in EM: NLP

-
-

Ambient

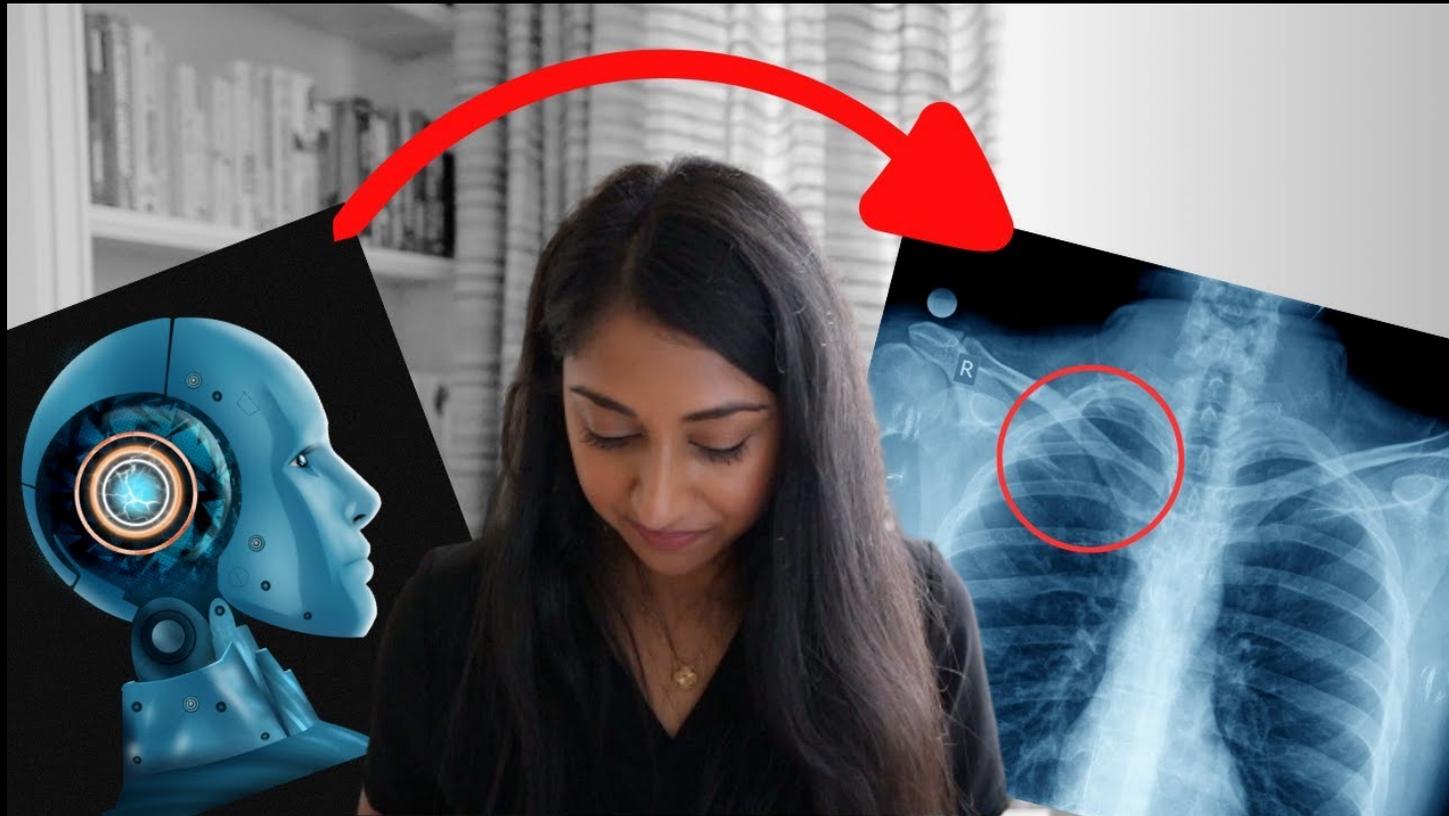
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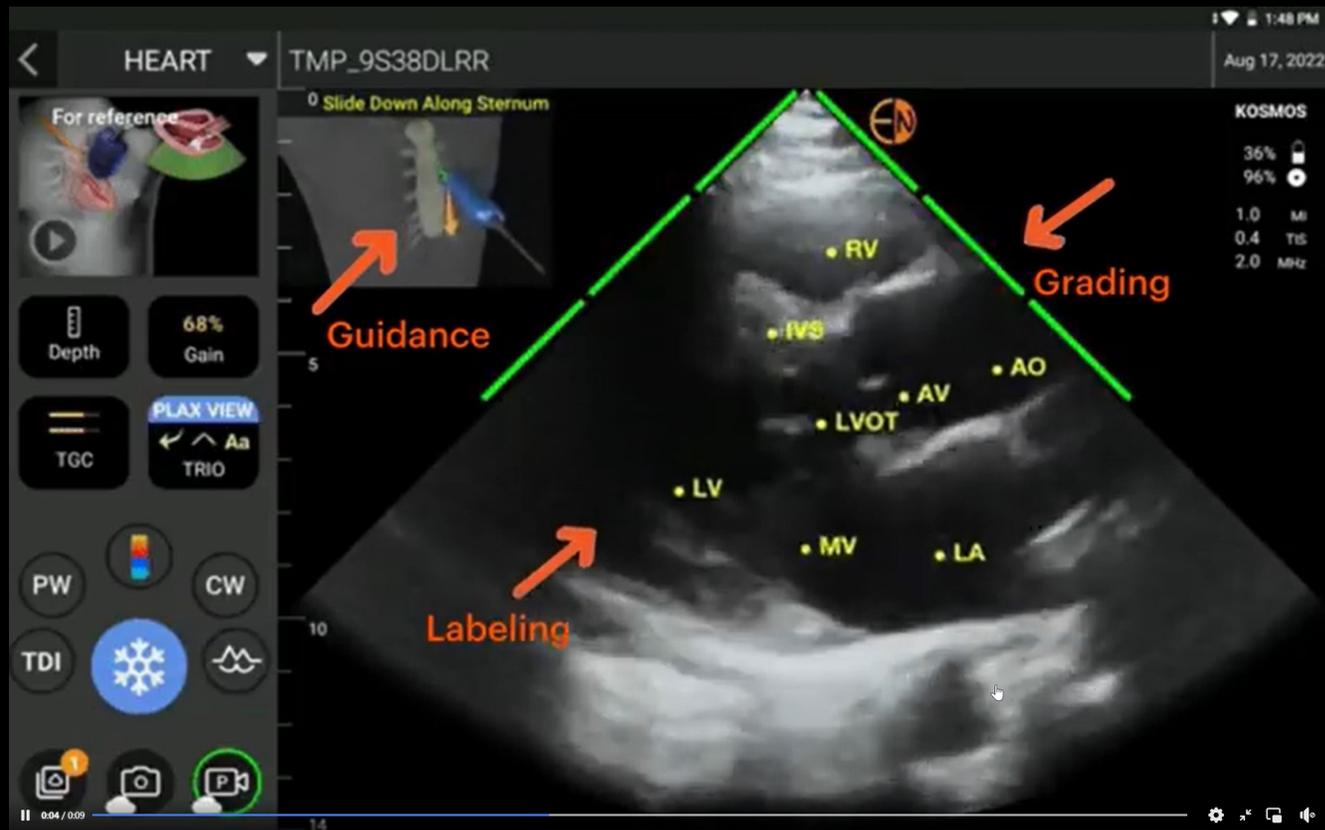
Other specialties: Rads



Other specialties: Rads



Other specialties: Rads



Advanced Imaging Tools

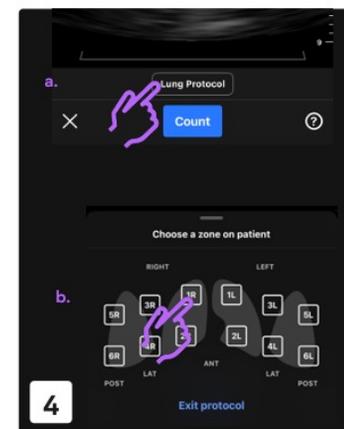
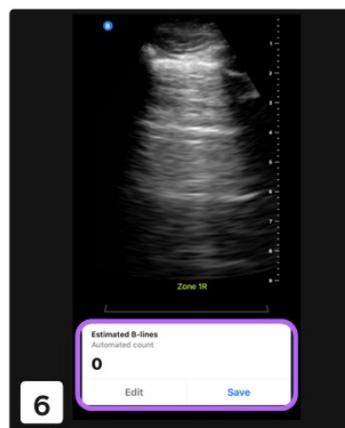
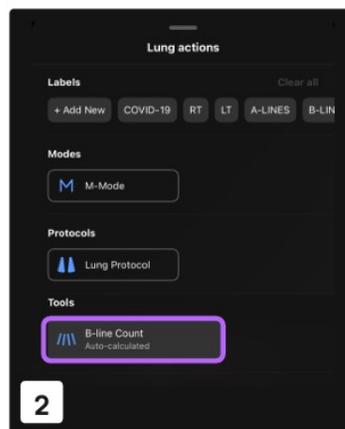
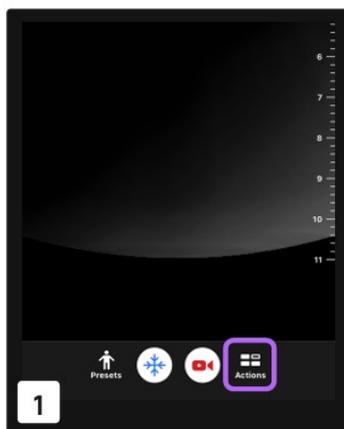
Auto B Line Count.

Counting B-lines assesses an artifact that is a marker of pulmonary disease. Butterfly's Auto B-line Counter leverages AI technology to produce a B-line count from just a six second ultrasound clip — supplementing a manual process with AI accuracy and reliability.

From the scan screen, select the "Lung" preset.

1. On the bottom of the screen, select **Actions**.
2. Under **Tools** select **B-Line Count**.
3. Position the probe in the desired intercostal space. Ensure the pleural line is in between two ribs are visualized with the pleural line in between. Adjust depth and gain as needed. Minimal depth is 8cm. A gray line appears at the bottom of the screen to indicate where the B line count will be measured.
4. If desired, select **Lung Protocol** (a), and then select the appropriate zone being scanned (b). The zone label will appear at the bottom of the screen.
5. Select **Count**. Hold the probe steady while a 6 second clip/cine is being captured.
6. If an AI measurement is successful, the count displays at the bottom of the screen. Counts will display as 0 - > 5. Select **Save** or **Edit**. To capture multiple clips in the same or different locations, repeat steps 4 — 6.

Note: Tapping **Edit** will allow manual count adjustment. The saved count card will then indicate **Manual Count** instead of **Automated Count**.



The Deep Learning AI that Drives the Algorithms:

The B-line counter tool uses a type of AI called deep learning. Its deep neural network is a brain-inspired algorithm that has millions of parameters arranged to convert an ultrasound frame into a list of which parts of the frame have discrete and confluent B-lines. The model predicts the location of B-lines in an image. A region is labeled as one of three classes:

1. Part of a discrete B-line
2. Part of a confluent B-line
3. Background

An innovation in the Butterfly Auto B-Lines Counting Tool is how it utilizes the instant percent counting method to assign a whole number count to confluent B-lines by the percentage of rib space occupied in addition to counting discrete B-lines — a technique that has been found to be more reliable than incumbent individual line counting methods.⁶

Another innovation is the Internal Image Quality Parameter check. This parameter approximates the fraction of sonographers who would indicate that the frame is amenable to counting B-lines. It is used internally to the algorithm and is not shown on the user interface. In pilot studies, it was shown that when the parameter was too low, there was a greater likelihood of disagreement in B-lines count between the model and expert sonographers. Consequently, only frames with image quality scores greater than or equal to a threshold are considered for the overall B-line count prediction.

Advanced Imaging Tools

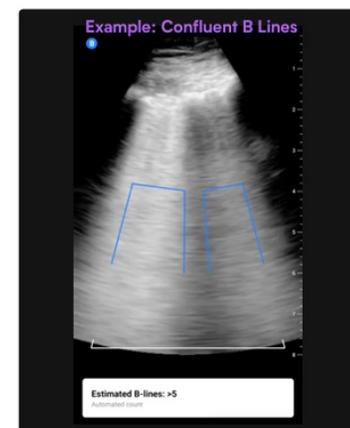
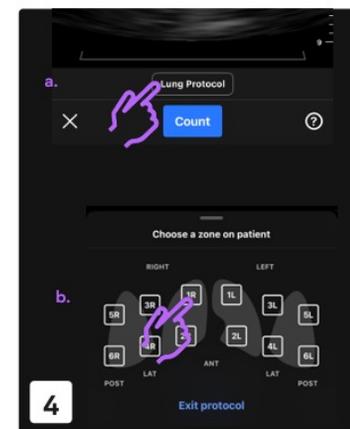
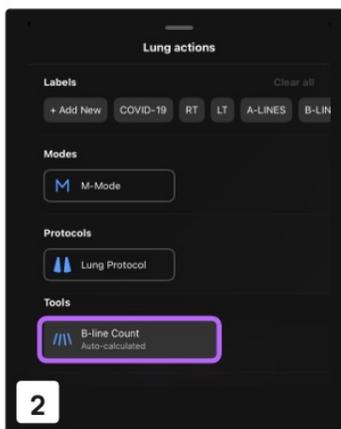
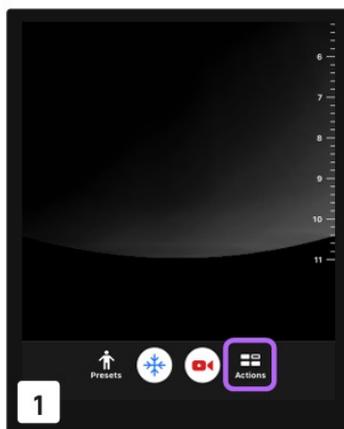
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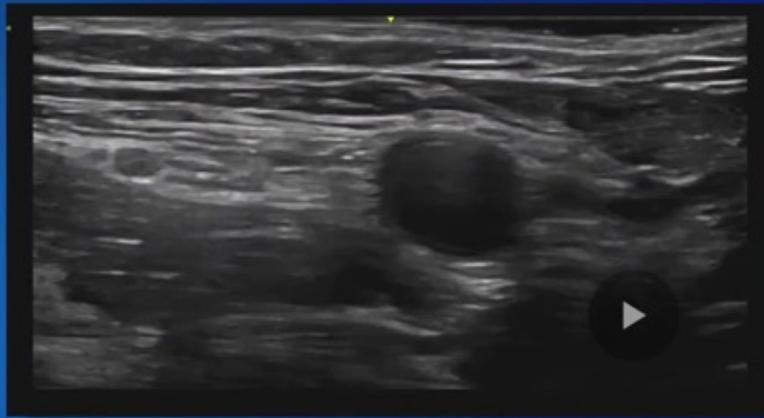
1. On the bottom of the screen, select **Actions**.
2. Under **Tools** select **B-Line Count**.
3. Position the probe in the desired intercostal space. Ensure the pleural line is in between two ribs are visualized with the pleural line in between. Adjust depth and gain as needed. Minimal depth is 8cm. A gray line appears at the bottom of the screen to indicate where the B line count will be measured.
4. If desired, select **Lung Protocol** (a), and then select the appropriate zone being scanned (b). The zone label will appear at the bottom of the screen.
5. Select **Count**. Hold the probe steady while a 6 second clip/cine is being captured.
6. If an AI measurement is successful, the count displays at the bottom of the screen. Counts will display as 0 - > 5. Select **Save** or **Edit**. To capture multiple clips in the same or different locations, repeat steps 4 — 6.

Note: Tapping **Edit** will allow manual count adjustment. The saved count card will then indicate **Manual Count** instead of **Automated Count**.



Other specialties: Rads

Venue Family | Femoral Nerve Block



Volume

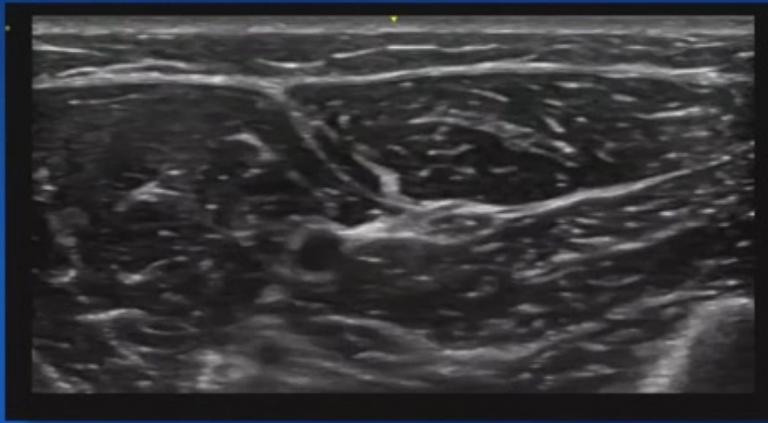
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Other specialties: Rads

Venue Family | Ulnar Nerve Block



⏸ ⏪ 0:00 / 0:09 • Watch full video

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← r/pathology • 1 yr. ago
JuggernautOk6859

AI Stealing Jobs

Is anyone worried about Radiology jobs being taken by AI? Tempus, Paige, Ibex, and PreciseDX seem like really cool tools but I haven't heard any chatter about the job aspect. Just wondering!

Emerging technology (ET) looks like it's scaring people away from radiology and I fear Pathology following suit.

[https://www.academicradiology.org/article/S1076-6332\(22\)00376-2/fulltext?utm_source=scrubs.beehiiv.com&utm_medium=newsletter&utm_campaign=could-ai-steal-pathology-and-radiology-jobs](https://www.academicradiology.org/article/S1076-6332(22)00376-2/fulltext?utm_source=scrubs.beehiiv.com&utm_medium=newsletter&utm_campaign=could-ai-steal-pathology-and-radiology-jobs)

I'm just looking for some fresh new opinions. Thanks.

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 **Kahln3n** • 1y ago

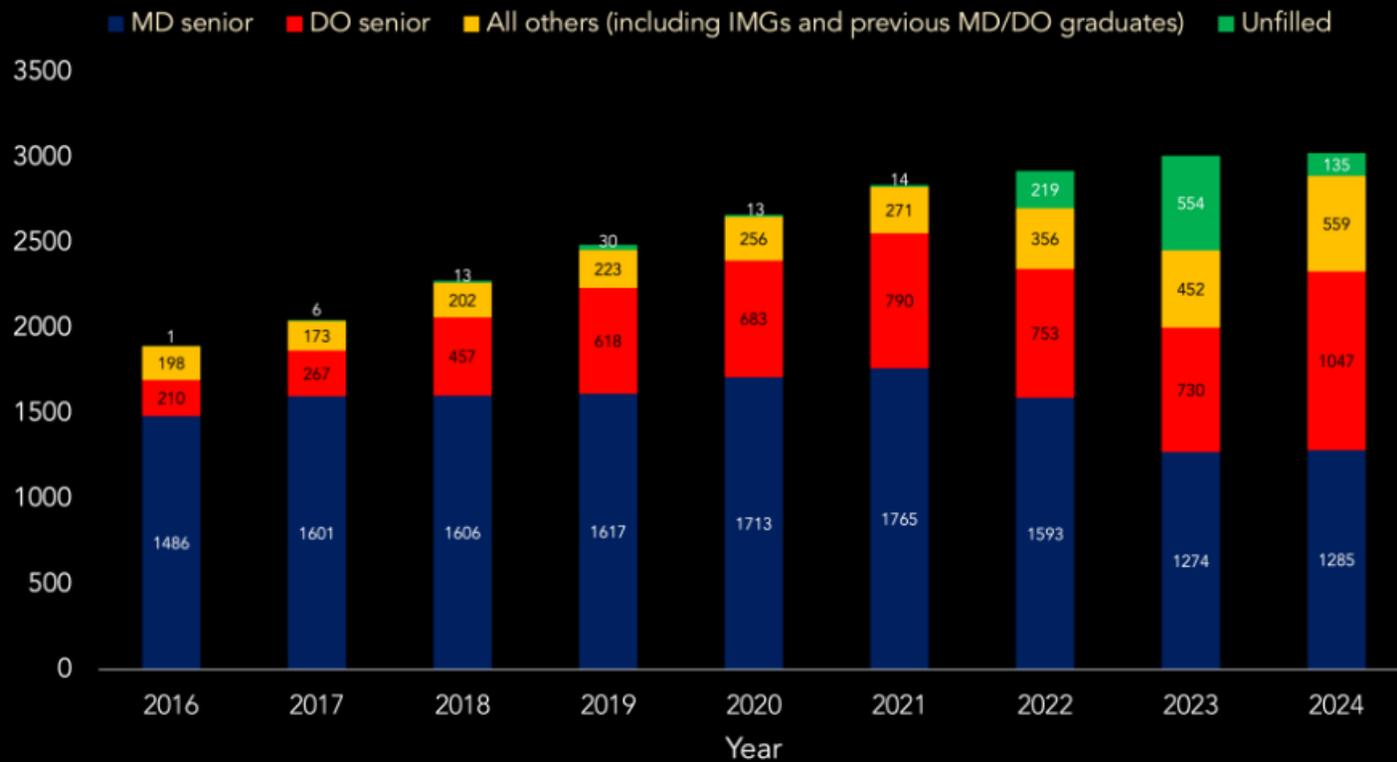
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X @jbcarmody

Other specialties: Derm

Pre-trained Multimodal Large Language Model Enhances Dermatological Diagnosis using SkinGPT-4

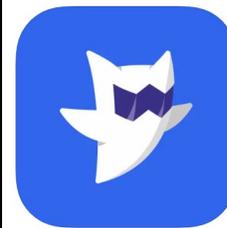
Juexiao Zhou^{1,2,#}, Xiaonan He^{3,#,*}, Liyuan Sun^{4,#}, Jiannan Xu⁴, Xiuying Chen^{1,2}, Yuetan Chu^{1,2}, Longxi Zhou^{1,2}, Xingyu Liao^{1,2}, Bin Zhang^{1,2}, Xin Gao^{1,2,*}

Abstract—Large language models (LLMs) are seen to have tremendous potential in advancing medical diagnosis recently. However, it is important to note that most current LLMs are limited to text interaction alone. Meanwhile, the development of multimodal large language models for medical diagnosis is still in its early stages, particularly considering the prevalence of image-based data in the field of medical diagnosis, among which dermatological diagnosis is a very important task as skin and subcutaneous diseases rank high among the leading contributors to the global burden of nonfatal diseases. Inspired by current state-of-the-art multimodal large language models, we present SkinGPT-4, which is the world's first interactive dermatology diagnostic system based on multimodal large language models. To implement SkinGPT-4, we have designed a new framework that aligned a pre-trained vision transformer with a large language model named Falcon-40B-Instruct, which is based on Falcon. To train SkinGPT-4, we have collected an extensive collection of skin disease images (comprising 52,929 publicly available and proprietary images) along with clinical concepts and doctors' notes and designed a two-step training strategy. To demonstrate the robustness of SkinGPT-4, we have conducted quantitative evaluations on 150 real-life cases, which were independently reviewed by certified dermatologists. With SkinGPT-4, users could upload their own skin photos for diagnosis, and the system could autonomously evaluate the images, identify the characteristics and categories of the skin conditions, perform in-depth analysis, and provides interactive treatment recommendations. Meanwhile, SkinGPT-4's local deployment capability and commitment to user privacy also render it an appealing choice for patients. Though SkinGPT-4 is not a substitute for doctors, it could enhance users' comprehension of their medical conditions, facilitate improve communication between patients and doctors, expedite the diagnostic process for dermatologists, facilitate triage, and potentially promote human-centred care and healthcare equity in underdeveloped areas. In summary, SkinGPT-4 represents a significant leap forward in the field of dermatology diagnosis in the era of large language models and a valuable exploration of multimodal large language models in medical diagnosis.

Index Terms—Dermatology, Deep learning, Large language model

App Store Preview

This app is available only on the App Store for iPhone.



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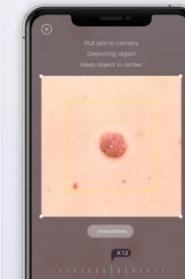
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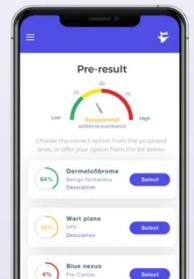


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To take highest-quality photos & evaluate skin conditions.



Health Risk Assessment by AI Get Second opinion to increase the diagnosis precision.



Limitations

- Bias
- Hallucinosiis
- Check the product



What is ACEP doing around AI?

- **AI Task Force**

Guidelines and policies around use of AI in emergency departments

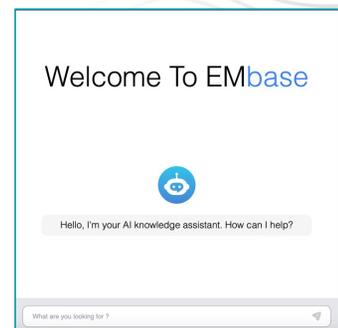
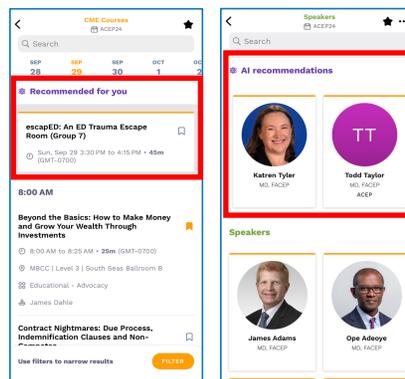
- **ACEP meetings**

AI generated recommendations for sessions to attend, people to meet and exhibitors to visit

- **EMbase**

A generative AI based Knowledge Assistant for Emergency Physicians

- ▶ *Clinical Policies*
- ▶ *Point of Care Tools*
- ▶ *Reimbursement and Coding*
- ▶ *And more...*



Questions?

