

Digital and Precision Approaches to Patient Care

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Chair | Pulmonary and Critical Care

Chief | Integrated Hospital Care Institute (IHI)



President (2025-6) | American Thoracic Society (ATS)

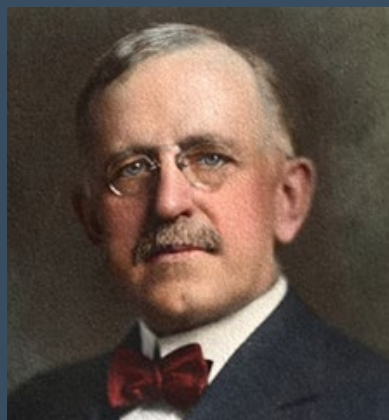


Agenda

- Cleveland Clinic
 - Integrated Hospital Care
- Artificial Intelligence
 - Sepsis Response
- Digital Twin:
 - Perioperative Risk
- Virtual Care:
 - Hospital @ Home
- Preparing for the future:
 - Digital Front Door
 - TIMELEss / NExT



Founders and Focus



Dr. Frank E. Bunts



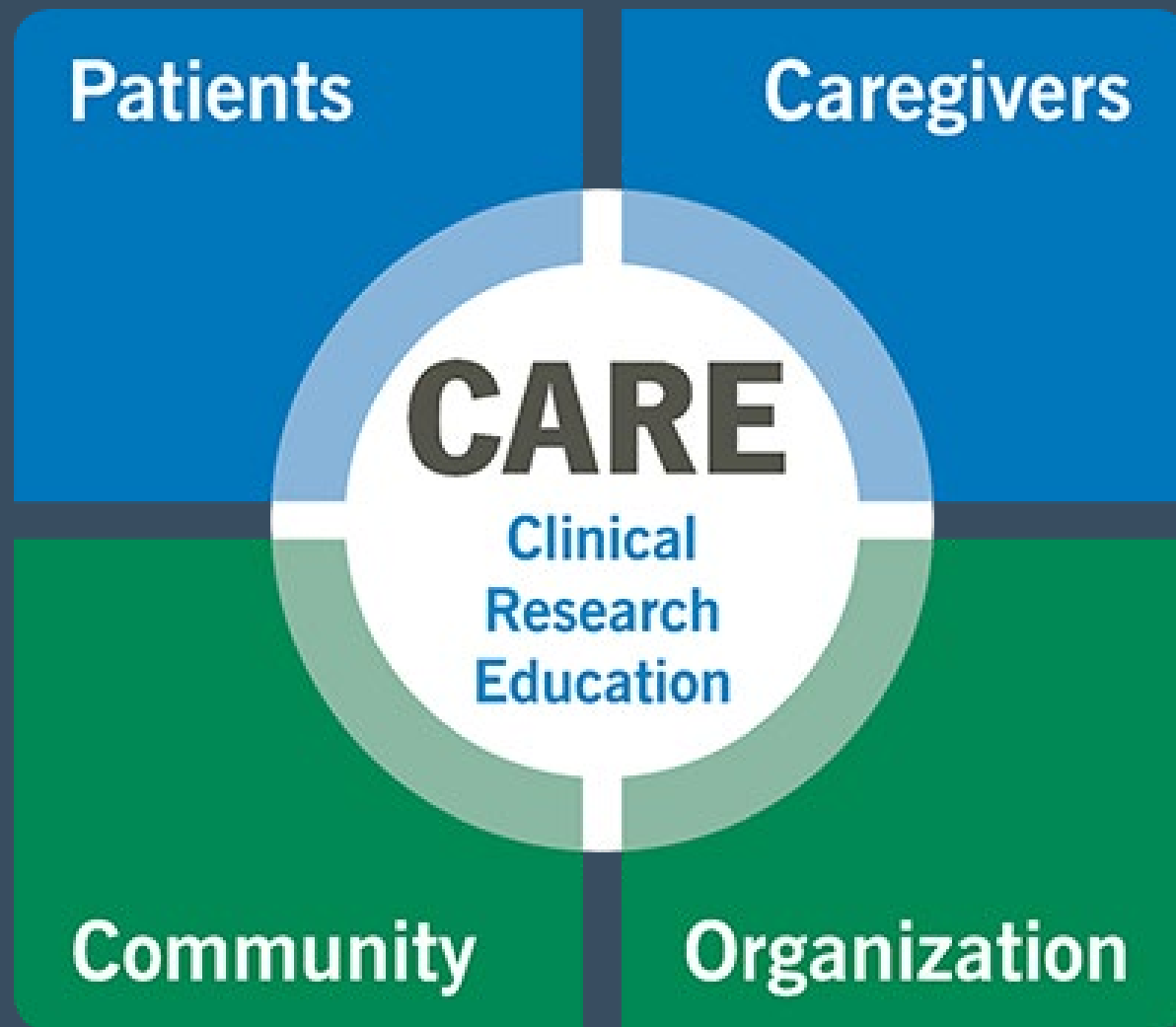
Dr. George W. Crile



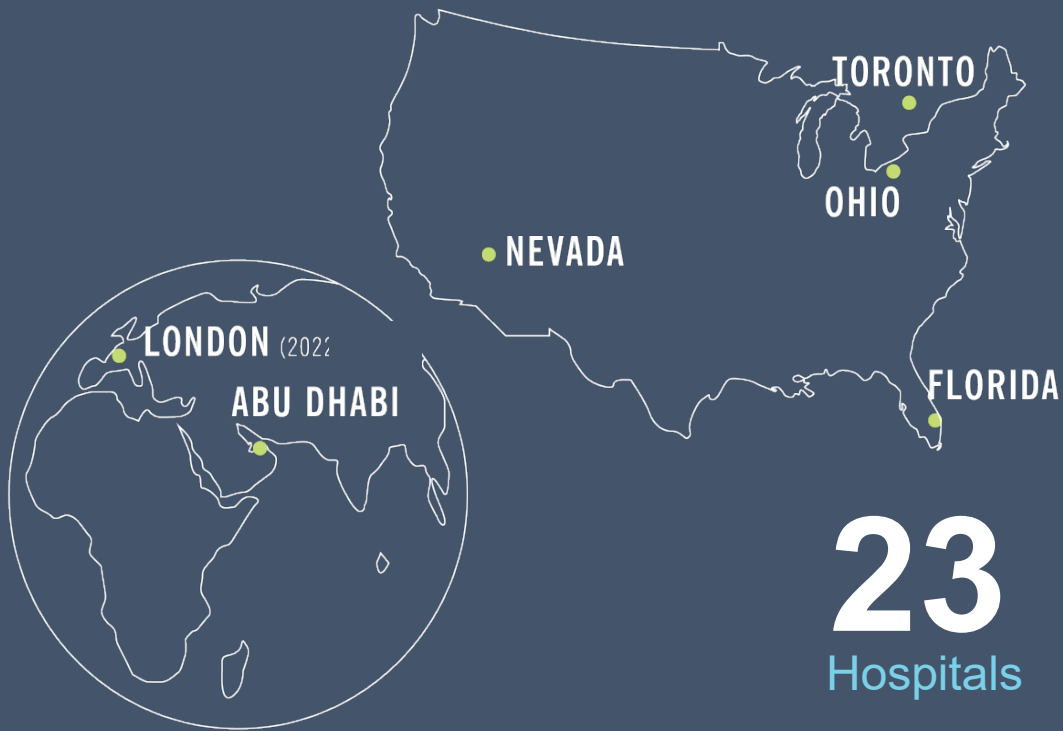
Dr. William E. Lower



Dr. John Phillips



Locations and Structure (Institutes)



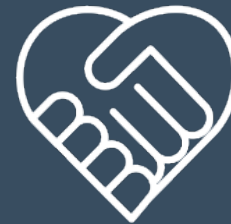
23
Hospitals

280
Outpatient Locations

6,728
Beds



Profession Oriented
Division of Surgery



Patient Oriented
Heart, Vascular &
Thoracic Institute

Enterprise Institutes (Global)

Cancer
Children's Services
Diagnostic Services
Digestive Disease
Heart, Vascular & Thoracic

Medical
Neurological
Primary Care
Surgical
Women's Health



Cleveland Clinic

Integrated Hospital Care

Integrated Hospital-care Institute



Urgent / express care

Emergency Medicine

Critical Care Medicine

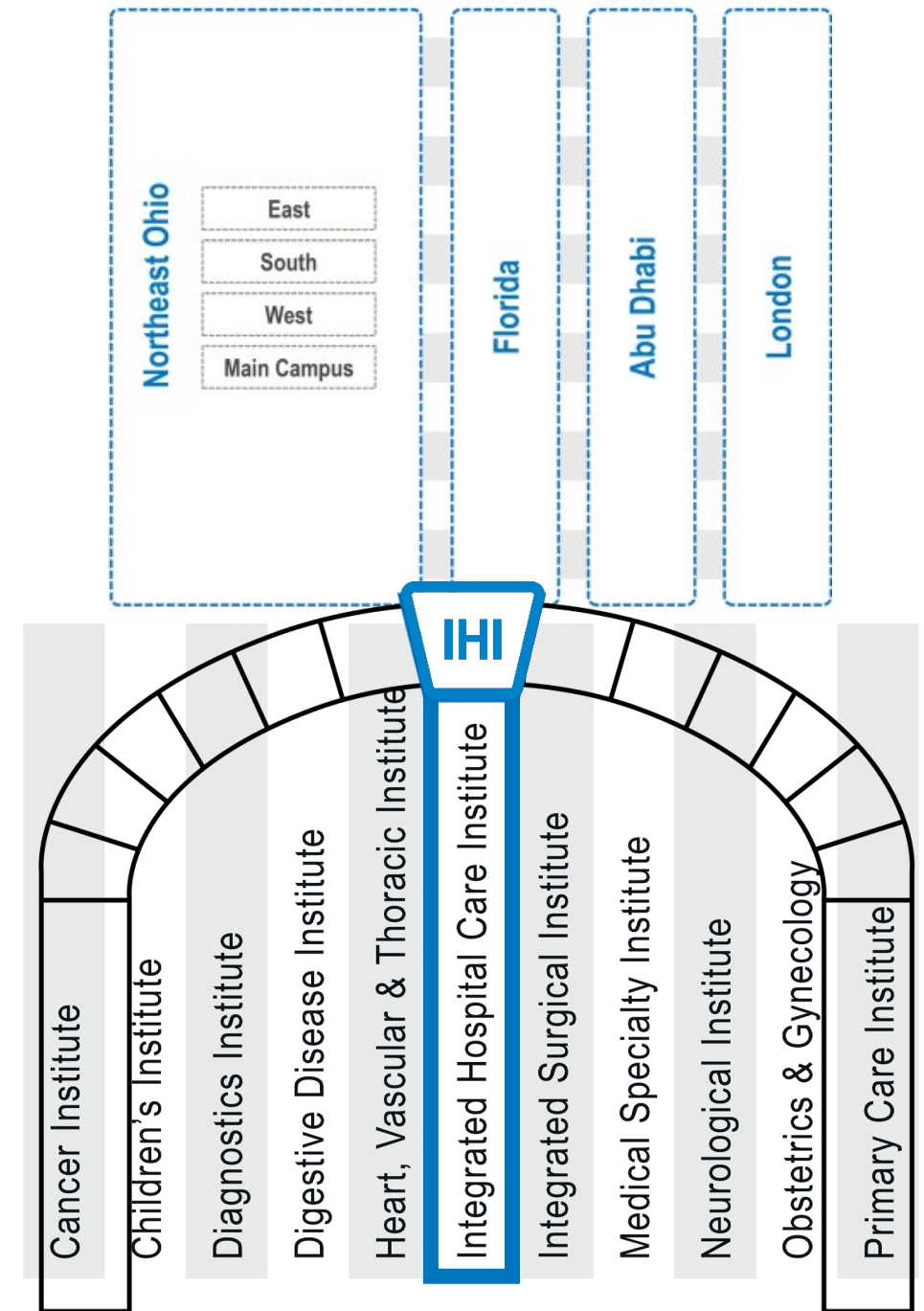
Hospital Medicine

Perioperative Medicine

Anesthesiology

Infectious Disease

Pulmonary Medicine



Integrated Hospital-Care Institute (IHI)

Emergency

Hospital Medicine

Anesthesiology

Respiratory

Infectious Disease

Urgent/Express Care

Perioperative Medicine

Critical Care

Respiratory Therapy

Anesthesiology

Cardiothoracic Anesthesiology

Community Anesthesiology

Intensive Care and Resuscitation

Multispecialty Anesthesiology

Emergency Medicine

Immediate Care: Urgent and Express Care

Hospital Medicine

Respiratory Medicine

Critical Care Medicine

Infectious Disease

Pulmonary Medicine

Critical Care Center

Center for Perioperative Medicine

Enterprise Respiratory Therapy

Enterprise Resuscitation

IHI by the numbers

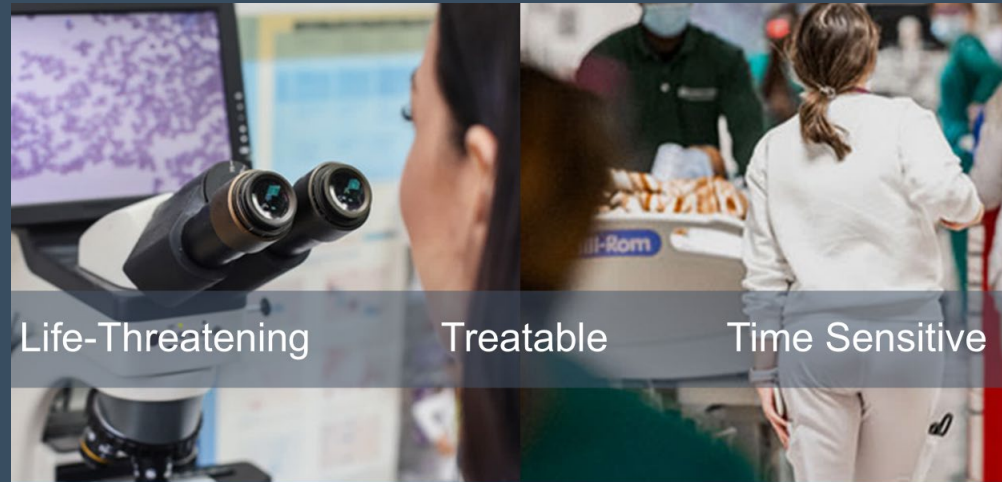
- 1,295 Physicians (25%)
- 1,428 APPs (35%)
- 2 Million encounters / yr



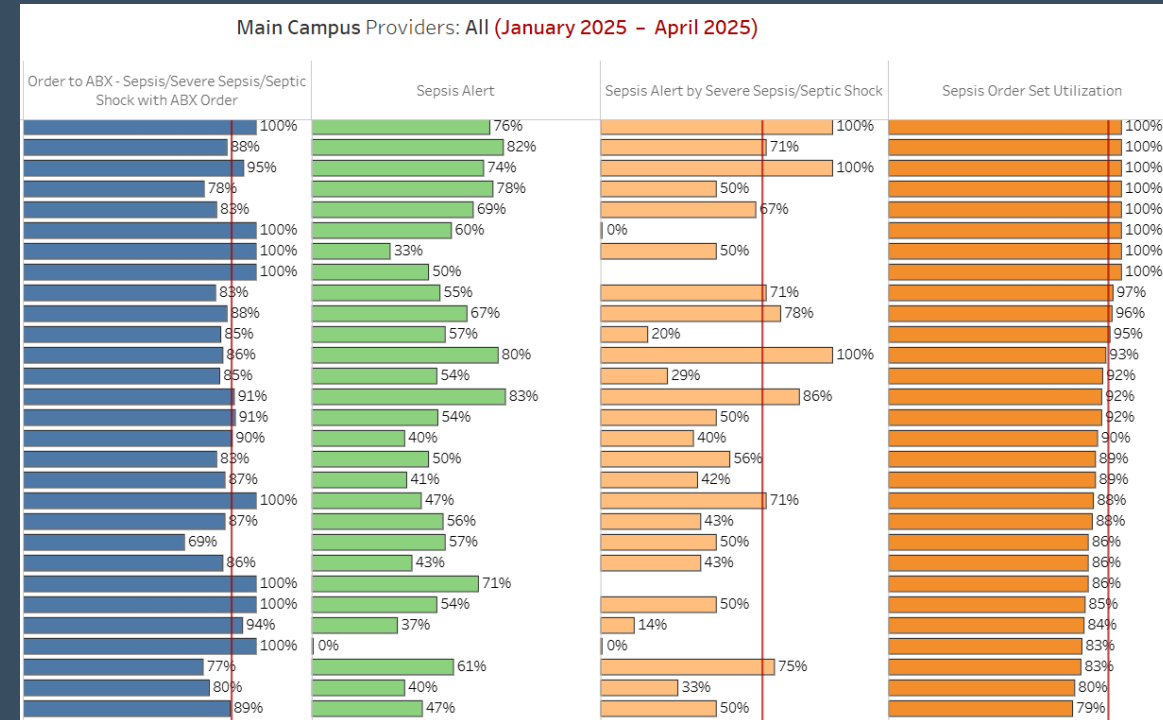
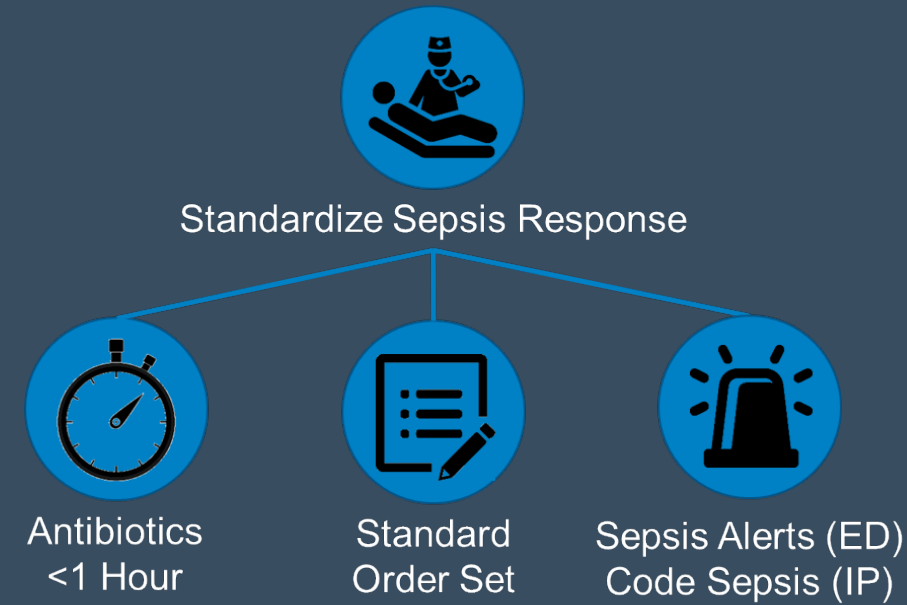
Sepsis

“The most common cause of in-hospital death and the most expensive cause of hospitalization”

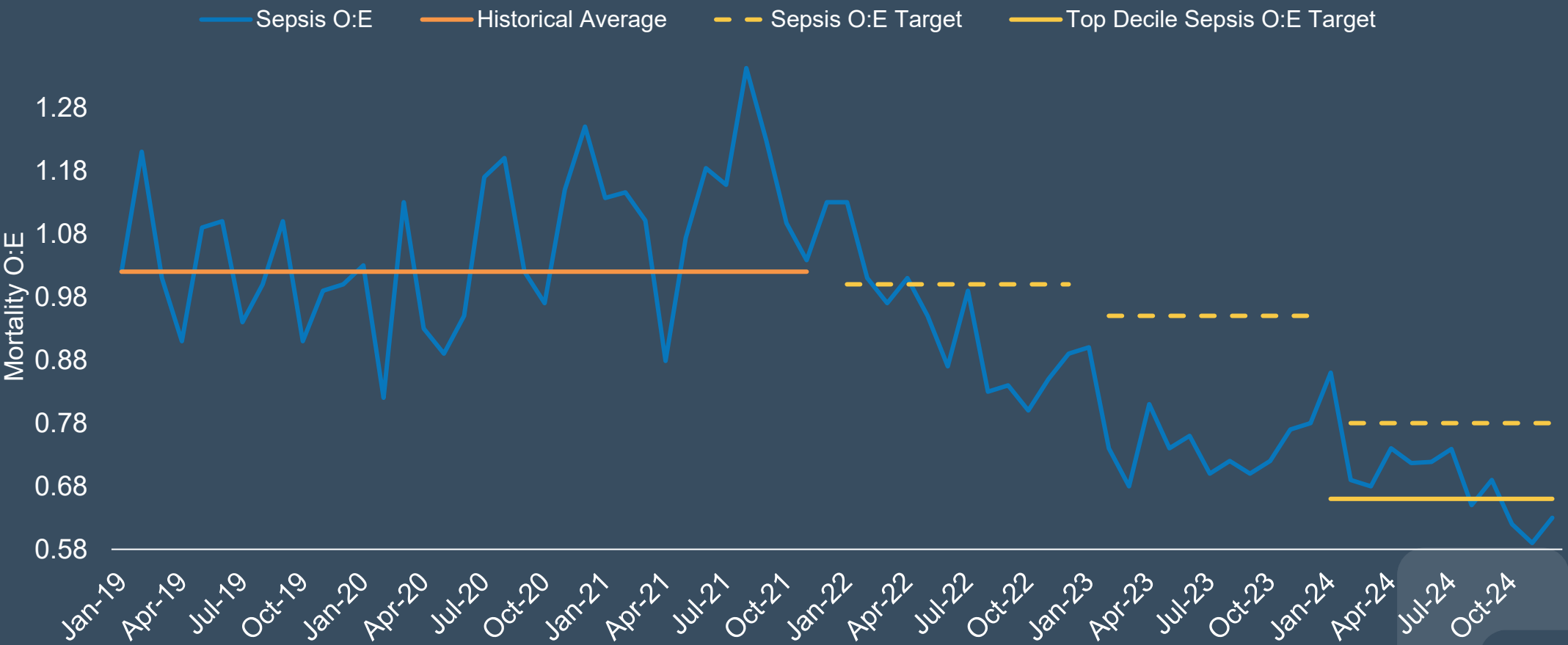
-NEJM 2024



AI Alert in EHR + Granular Provider Level Data



Sepsis Mortality (Observed:Expected)



	2021	2022	2023	2024
Mortality Index (O:E)	1.16	0.95	0.75	0.69

Source: Vizient, 2023 risk model
Includes: All ICD-10 Sepsis Diagnosis Codes

Digital Twin technology in Perioperative risk Stratification and Evaluation

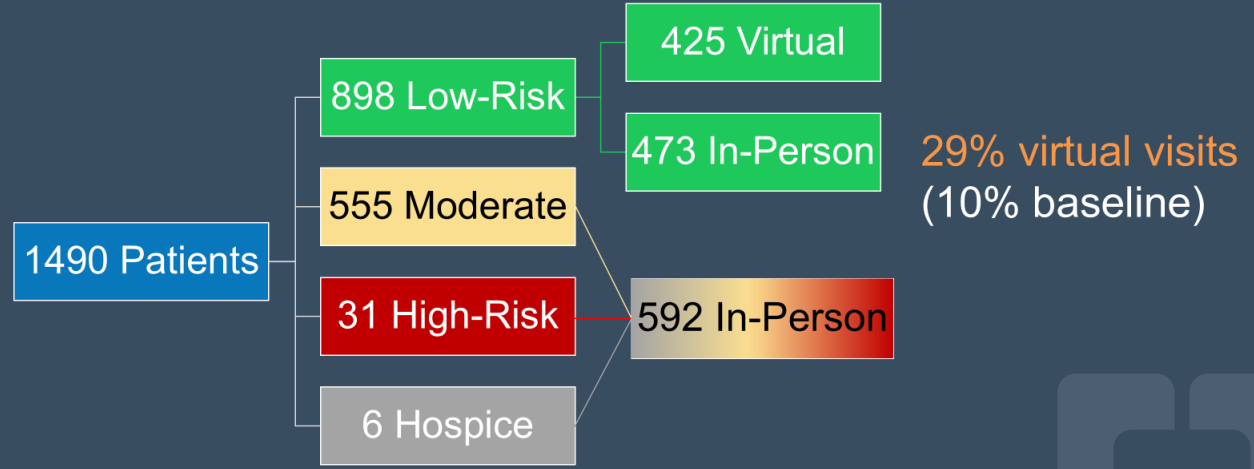
AI Pre-op Risk Stratification Health Data Analytics Institute (HDAI)

SMITH, JANE
Female, 88Y ⓘ
E12345678
ANES - HIGH RISK
Current Location:
CCF Main

SMITH, JANE
Female, 88Y ⓘ
E12345678
ANES - MODERATE RISK
Current Location:
CCF Main

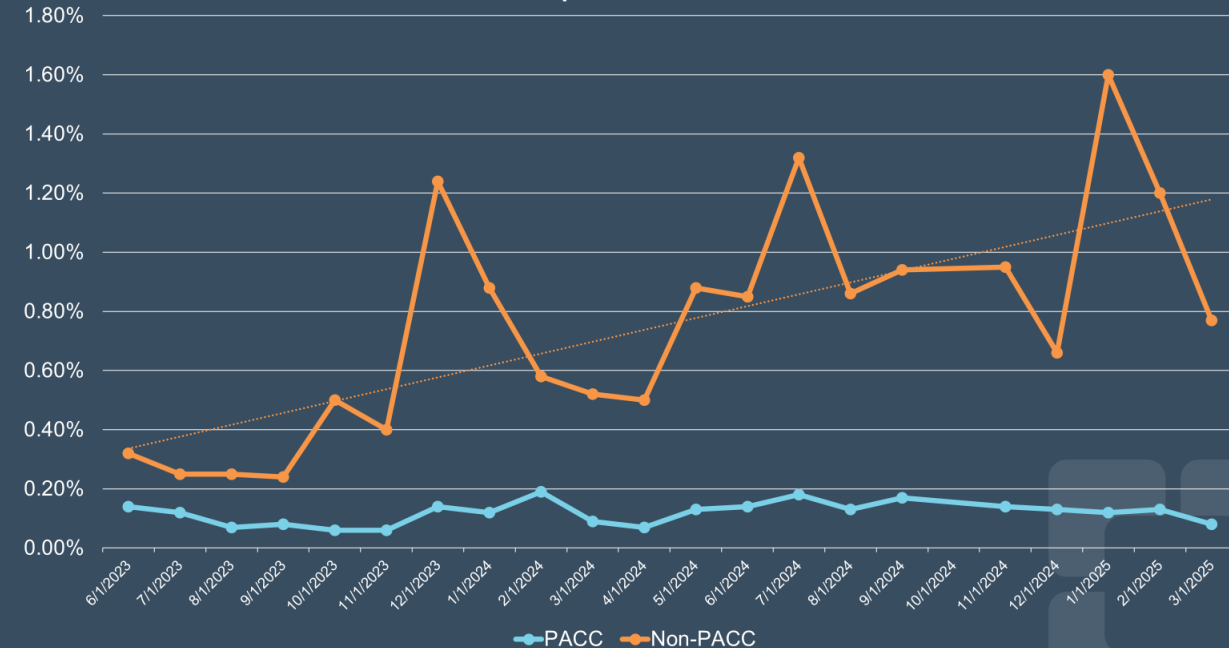
SMITH, JANE
Female, 88Y ⓘ
E12345678
ANES - LOW RISK
Current Location:
CCF Main

Triage Pilot – Orthopedics/CORS

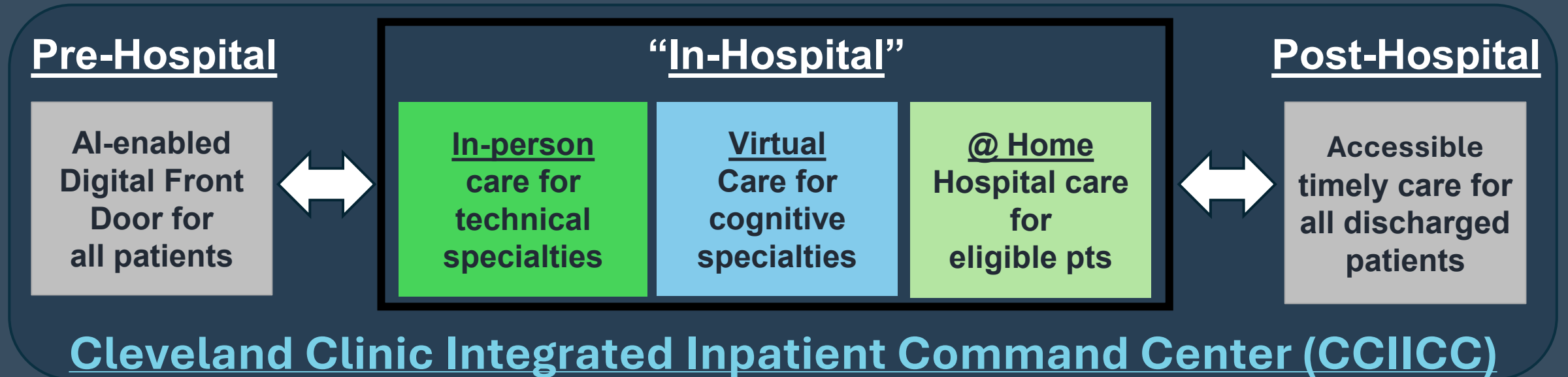


Data as of 4/14/25

Ohio DOS Preop-Related Cancellation Rate



2025 Vision for Hospital Care in 2030



Patient Experience Excellence | patient-centered care

Clinical Excellence | integrated team of teams for complex care

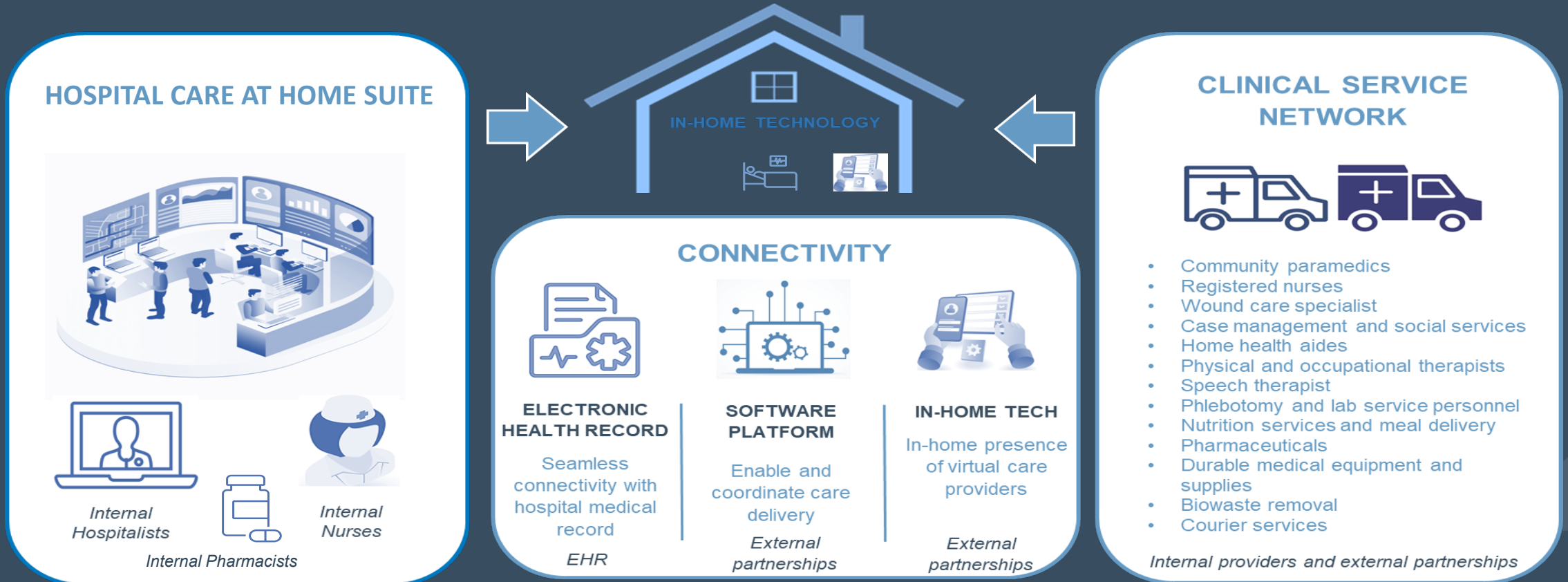
Operational Excellence | relentless pursuit of sustainable growth

AI / Digital Excellence | partner, test, and implement solutions that work

Hospital @ Home

How we deliver care in the homes of our patients

Hospital at Home



Rothman RD, Delaney CP, Heaton BM, Hohman JA (2024). Early experience and lessons following the implementation of a Hospital-at-Home program. J Hosp Med. 2024 Feb 7. doi: 10.1002/jhm.13293

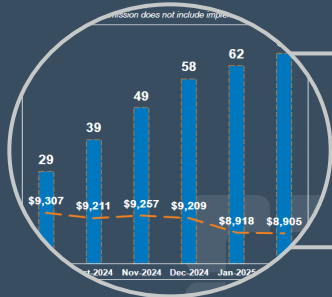
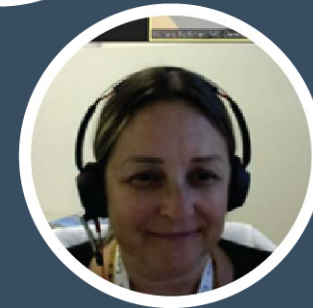
Why Hospital Care At Home?



Improved patient
outcomes and
experience



Improved caregiver
experience and
engagement



Enterprise
sustainability

Digital Front Door (AI enabled)



Immediate Care Model

- Strategic refresh led to enhancing digital tools
- Prime use case to test digital first operational, experiential solutions



Digital First Solutions

- Enhance navigation and experience
- Improve virtual triaging
- Standardize care paths



Digital Front Door

- Reimagine patient experience
- Transforming care
- Enterprise opportunity



Team-Based Interprofessional Multidisciplinary Education (in) Leadership Essentials (TIMELESS)

NExT

Networking for EXcellence in Transitions (NExT)



Key Themes

Problem-based solutions,
anchored in strategic priorities



Partnerships



Prepare next generation





THE FUTURE OF HEALTHCARE SINCE 1921



INTEGRATED HOSPITAL-CARE INSTITUTE