

**MEDITECH**

eBOOK

**Solving Real-World  
Challenges using  
MEDITECH AI**

# INTRODUCTION

At MEDITECH, we don't see artificial intelligence as just a buzzword – we see it as a powerful tool to solve the real problems faced by healthcare providers every day. We're focused on building AI solutions that not only drive innovation but also earn **trust through transparency and real-world impact**.

By collaborating closely with clinicians throughout the development process and continuously refining our approach, we ensure our AI features are **a natural extension of our intelligent EHR**. Our goal is clear: address the most urgent issues in healthcare with solutions that are both practical *and* transformative.

## ***Here is how we do it:***

### **Meaningful Partnerships**

We work side-by-side with customers to craft AI strategies that meet their specific needs and challenges.

### **Active Listening**

We incorporate direct end-user feedback to build AI tools that are both effective and easy to use.

### **Change Management Support**

We make adoption easier by providing practical, straightforward educational resources.

### **Transparency**

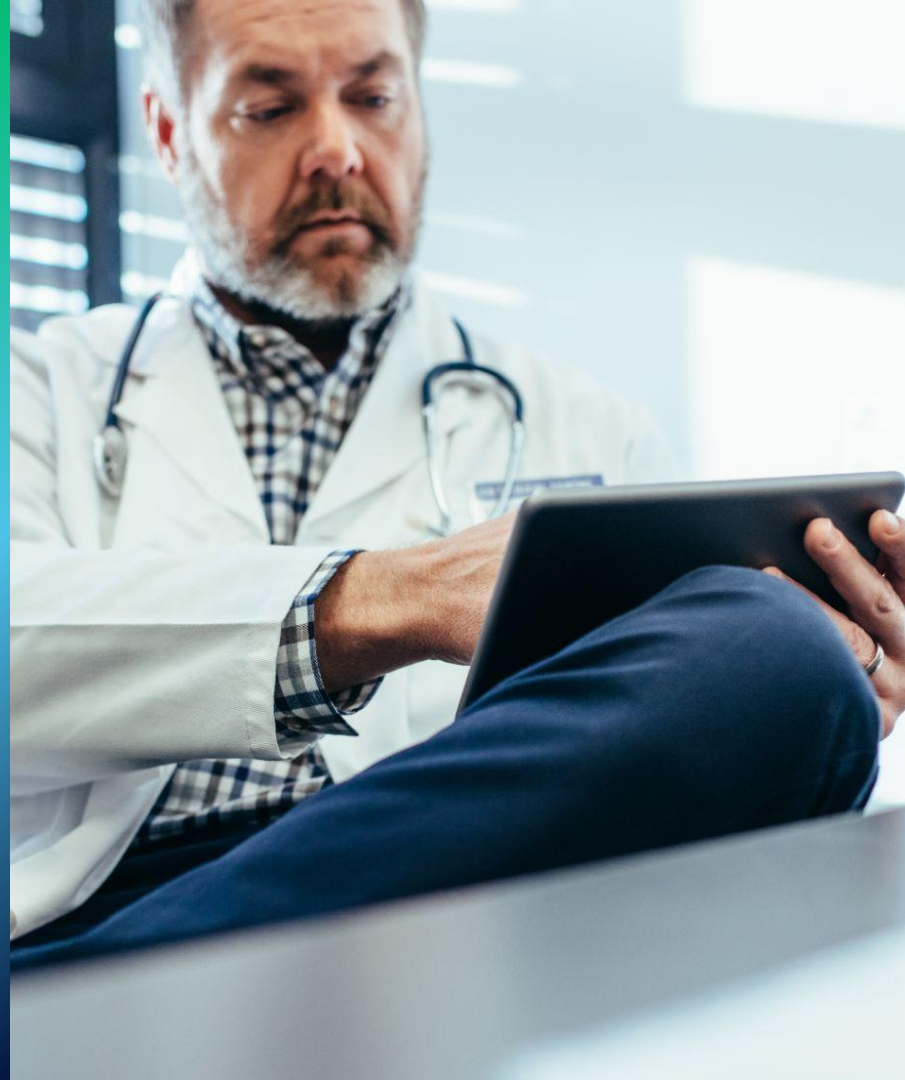
We offer intuitive visual dashboards that turn complex data into understandable insights about a model's performance.

In this eBook, we'll dive into the unique challenges healthcare faces today, share how MEDITECH is tackling them with purpose, and explore how you can implement these innovative solutions in your own organization.



# TABLE OF CONTENTS

<b>Today's Pressing Issues</b>	4
<b>#1: Expanse Navigator, Built on Google Cloud</b>	5
<b>#2: Generative AI for Clinical Documentation</b>	11
<b>#3: Ambient Listening for Clinical Encounters</b>	13
<b>#4: No-Show Appointment Prediction</b>	16
<b>Conclusion</b>	19



# Today's Pressing Issues



## Data Overload

Clinicians are overwhelmed by the volume and variety of patient data they must review before making medical decisions, leading to time constraints and potential oversights.



## Communication Breakdowns

Transitions of care are vulnerable points in a patient's care process.



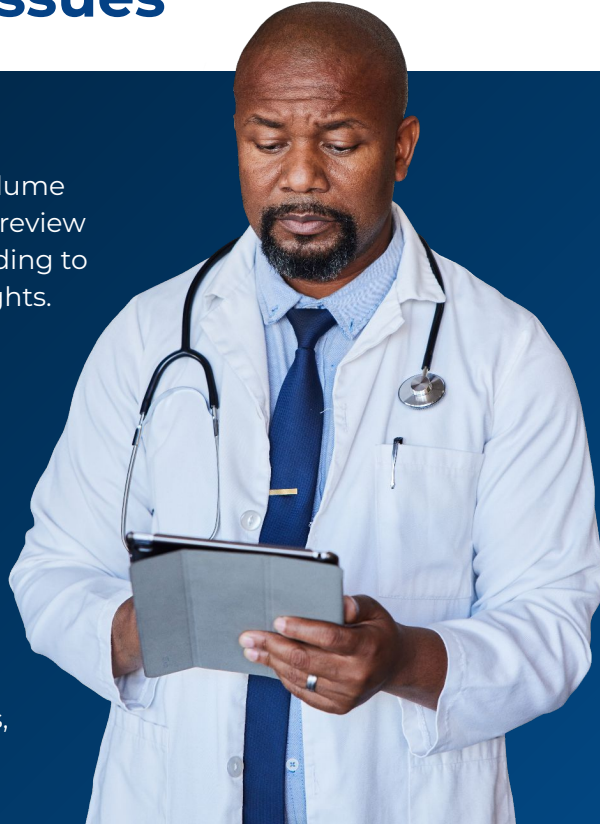
## Distractions from Care

Documenting clinical encounters can be burdensome and take the focus off the patient.



## Missed Appointments

Patient no-shows create inefficiencies, delayed care, and impact cost.



“Two-thirds of providers and 89% of payors express significant concern about **human error in administrative tasks**, with 22% and 49%, respectively, being ‘extremely’ concerned.”

*2024 Report: Measuring the Administrative Burdens on U.S. Healthcare Workers—and How Generative AI Can Help*

“**69%** of clinicians agreed that the volume of patient data is already **overwhelming**.”

*Elsevier 2023 Clinician of the Future*

MEDITECH is actively driving a transformative experience for providers and patients to alleviate these burdens...



# Expanse Navigator, Built on Google Cloud

## Rapid search and data curation across platforms

Expanse Navigator features dynamic data search and summarization capabilities for clinicians. Embedded directly within the provider's workflow, Expanse Navigator is built on Google Cloud using finely-tuned search capabilities, natural language processing, and a large language model.

Instead of relying on specific word matches, clinicians can use terminology, abbreviations, and medical language that makes sense to them to pull information from unstructured data, such as scanned and handwritten documents, and across legacy platforms.

Beyond information synthesis, Expanse Navigator intelligently organizes and presents a longitudinal view of patient records, highlighting the most important conditions and related health data – like labs, vital signs, medications, and notes – for immediate review and comparison.

Through our collaborative work with Mile Bluff Medical Center, we've delivered an innovative and practical tool to the industry with wide-reaching impact.



**Mile Bluff Medical Center clinicians save 7.5 minutes in prep per patient**

### Benefits:

-  Informed decision-making
-  Optimal insights from patient's data
-  Time-savings
-  Reduced cognitive burden
-  Forward momentum in care planning

“ Our providers saw an **immediate impact** upon going live with the **Expense Navigator**’s search and summarization functionality. They appreciated how they can launch the functionality directly from their **Expense Chart Viewer** to get a complete longitudinal view of their patients. Providers were intuitively using the section breakdown within hours of going live to review their provider notes. The solution is already helping to **improve their workflow and efficiency.** ”



**Randy Brandt, PA-C**

Primary Care Physician Assistant

*Mile Bluff Medical Center*

# IMPACT

## Expanse Navigator at Mile Bluff



## Rapid Adoption Across 23 Departments



### CLINICIANS

**Saving ~7.5 minutes per patient**

Pre-visit prep for primary care, sleep medicine; clinic pre-op.



### INFECTION CONTROL

**Saving ~40 hours a month**

~5 SSI reviews/month. Reviews previously took hours or days, now done in 15 minutes.



### HEALTH INFORMATION MANAGEMENT

**Saving ~16.7 hours a week**

Used on 50 patients/week; saves 10-30 minutes per patient, which is a 25-40% reduction of time.

# MEDITECH and the Power of Google Search

The most **relevant information** is **identified, intelligently organized, and presented**, all within an easy-to-view format **directly within Expense**, highlighting meaningful data for immediate review.

Incorporates **Google's intelligent search capabilities** and **NLP** allowing users to search patient data directly from within MEDITECH Expense.

The screenshot shows the MEDITECH interface for user Ruby Davis. A search bar at the top contains the text 'ekg'. Below the search bar, a table lists search results. The first result is highlighted with a red box and has a red arrow pointing to a detailed view of the report. The detailed view shows the following information:

Page 1

HR: 72  
Indications: "NSTEMI years ago, eval heart function"  
Type: Transthoracic **echocardiogram**  
Contrast: None  
Study quality: Good

HR: 72  
Indications: "NSTEMI years ago, eval heart function"  
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Contrast: None  
Study quality: Good

The detailed view also shows a table of findings:

Valve/Artery	Findings
Aortic Valve	Mildly thickened aortic valve leaflets. No AS. No AR
Mitral Valve	Mildly thickened mitral valve leaflets. Trace (+) MR
Tricuspid Valve	Normal tricuspid valve leaflets.
Pulmonic Valve/Artery	Pulmonic valve not completely visualized. No evidence of pulmonic stenosis or PR
Pericardium	Trace pericardial effusion

Conclusions



# The Conditions Feature

An intelligent summary with clinical context designed to **save time** and **increase confidence**. Make **informed decisions** to ensure **positive patient outcomes**.

**Machine learning** evaluates a patient's clinical notes and summarizes the medical history to organize a list of active and historical conditions and relevant procedures, signs, and symptoms.

The screenshot displays a medical dashboard for a patient named Ruby Davis, 57 F. The interface includes a navigation bar with options like 'Return To', 'Home', 'Workload', 'Chart', 'Document', 'Orders', 'Compose', 'More', and 'Suspend'. Below the navigation bar, there are tabs for 'Diagnostics', 'Provider Notes', 'Nurse/Allied Health', and 'Medications'. The main content area is divided into several sections:

- Conditions Explorer:** A list of conditions categorized into Acute and Chronic. Under Acute, there are Fever, Dyspnea, Hypoxemia, Hyperglycemia, Anemia, and Retinopathy. Under Chronic, there is Diabetes mellitus (highlighted), GERD, and Hypertension. Below this, there are sections for Procedures (Central venous catheterization, Cataract removal) and a 'Previous' section.
- Diabetes mellitus:** A detailed view of the selected condition, showing it was last mentioned in a progress note by Calvin Dean 4 hours ago and first mentioned in a history & physical note by Calvin Dean 2 days ago. It includes a 'Notes' table and a 'Vitals' table.
- Notes Table:**

Date	Type	Specialty	Preview
2022 Jan 17 08:45	Progress	Other	... --cont aspirin, lipitor --trend troponin --hold metoprolol and antihypertensives #Diabetes with hyperglycemia --start ISS but...
2022 Jan 15 01:15	History & Physical Admission Note	Other	... BMS in LAD. Was on dual antiplatelets for a short time but has been on asa only. Diabetes, HgbA1c 7.1 in 2018. Not on any ...

- Vitals Table:**

	24H	4D	1W	1M	1Y	ALL
Full panel 8 related observations	Heart Rate 89 bpm 5 hours ago	Arterial Systolic 100 mmHg 5 hours ago	Arterial Diastolic 62 mmHg 5 hours ago	Noninvasive Sy... 110 mmHg 5 hours ago	Noninvasive DL... 62 mmHg 21 hours ago	Weight 86.18 kg 2 years ago
Unit	bpm	mmHg	mmHg	mmHg	mmHg	kg
2022 Jan 17 08:00	89	100	62	110		
2021 Jan 15 16:00	127			91	63	

Displaying all results for all time.

- Labs Table:**

	24H	4D	1W	1M	1Y	ALL
Full panel 5 related observations	Glucose M 115 mg/dL 29 mins ago	% Hemoglobin ... 7.1 % 5 months ago	Creatinine M 1.3 mg/dL 29 mins ago	Urine - Ketones 1+ 46 hours ago	Urine - Glucose Negative 46 hours ago	

## Physician Feedback at Mile Bluff

“We do a lot of patient education. So the ability to visualize data in ways that patients can understand [graphs] is amazing.”



Dr. Timothy Bjelland  
*Family Medicine*

“I spend anywhere between 20-30 mins per patient cleaning up problem lists. This [Conditions] will really help cut down on all that time. Can't wait!”



Dr. Angela  
Gatske-Plamann  
*Family Medicine*

## 2

# Generative AI for Clinical Documentation Hospital course narrative and nurse handoff

MEDITECH's current generative AI efforts focus on auto-generating drafts of clinical documentation within the hospital discharge and nurse handoff workflows. These transitions in care require comprehensive and concise communication of pertinent information necessary to maintain a high quality of care and safety.





In the discharge workflow, providers can use generative AI to create a summary of a patient's hospital course, while nurses can generate a summary of key patient details during transitions of care to ensure continuity.

In both scenarios, the clinician serves as the human in-the-loop, ensuring the accuracy of the summary content through final review and editing.

Free text fields within a workflow are time-consuming to complete and introduce issues relating to a lack of standardization. Summarizing information in the patient's record reduces the cognitive load of gathering initial details and provides clinicians a starting point for communication.

MEDITECH maintains close communication with pilot sites, ensuring clinician input directly influences both the content and format of the summary.

## Benefits:

-  Time-savings
-  Reduced cognitive load
-  Standardized note format
-  Timely sharing of discharge/transfer documentation

# Generative AI for Clinical Documentation

## Hospital Course Narrative

**General Surg - Progress Note** [Preview] [Typicals] [Save] [Draft] [Sign]

Principal Jim Generazo, RN Contributors Last Saved at 08/14/24 7:24 am EDT

S Exam A/P Quality Proc Course Coding

Course [Add Content] [Rapid]

Hospital Course [Generate] [i]

**\*\* This content was generated on 08/07/24 10:41 am EST with the assistance of AI technology. \*\***

A 54-year-old male patient presented to the emergency department with a 12-hour history of severe, sharp, and constant right lower quadrant abdominal pain. The pain began suddenly and progressively worsened. He also experienced nausea, vomiting, and anorexia. He denied any recent trauma, surgeries, or similar episodes in the past.

His medical history included type 2 diabetes mellitus, hyperlipidemia, and hypertension. He was a current every day smoker and denied alcohol or non-prescribed substance use.

Laboratory findings revealed leukocytosis, elevated glucose, and low hemoglobin and hematocrit. An abdominal CT scan showed findings consistent with acute appendicitis, including a distended appendix with wall thickening, periappendiceal fat stranding, and the presence of an appendicolith.

He underwent a laparoscopic appendectomy, and the inflamed and swollen appendix was successfully removed. The postoperative course was uneventful, and he was discharged home with instructions to avoid heavy lifting and strenuous activities for at least one week, keep the surgical incisions clean and dry, and monitor for any signs of infection. A follow-up appointment was scheduled for one week postoperatively.

Has this AI-assisted Hospital Course Summary been reviewed and confirmed for accuracy by MEDITECH General Hospital medical staff (Change to **YES** if reviewed & confirmed?: **No**)

Plan of Treatment

**Anderson, Trevor**  
Acute 54, M · 01/14/1970  
MRN# MR00683774  
ADM IN, ED Confidential ED Confidential  
Treatment Area -Station 76  
6ft 2in BSA: 2.29m<sup>2</sup>  
225lb 6oz BMI: 28.9kg/m<sup>2</sup>

Search Patient's Chart

Conditions

Allergies

iodine	Hives
naproxen (From Naprosyn)	Hives

Orders Snapshot

**Transparent** language and timestamp indicate AI assistance. Footer annotation prompts clinician review to **enhance accountability**.

# 3

## Ambient Listening for Clinical Encounters Clinical and administrative notes generation

Ambient note generation, dictation, and commands enhance clinical workflows by streamlining clinical documentation and administrative tasks. By listening to physician-patient conversations, generative AI suggests notes that summarize the patient encounter.

After the ambient listening solution records the conversation and automatically generates the appropriate clinical visit notes, the provider can review, edit, and approve the note within that same solution.

This is accomplished using voice, typing, or macros, and incorporates this data within the appropriate documentation fields in the Expanse EHR.

Providers can seamlessly go from navigating and reviewing the record to conducting and documenting a visit – all while keeping their primary focus on the patient.

MEDITECH worked closely with early adopters, St. Mary's Healthcare and Decatur County Memorial Hospital, to leverage the ability of this technology to transform both the patient and provider experience.

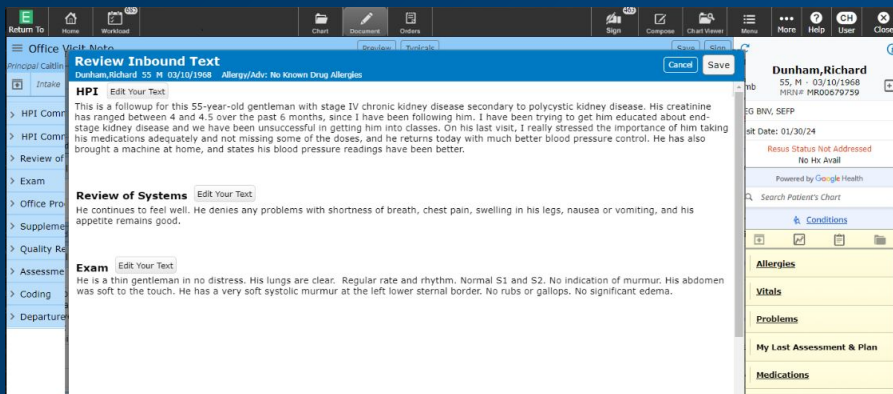
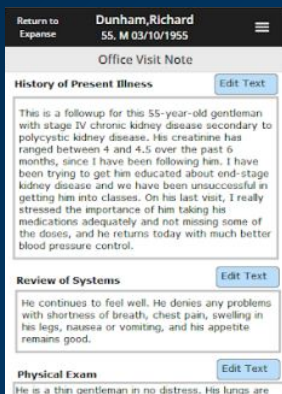
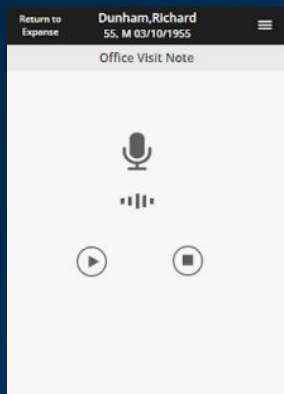
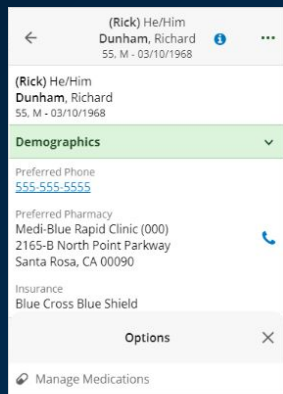
### One year in:

[How Suki and MEDITECH are transforming clinician workflows with voice AI capabilities](#)

### Benefits:

-  Better focus on patient
-  Decreased documentation burden
-  Time-savings
-  Timely sharing of encounter notes

# Ambient Listening Experience



Access 3rd party ambient solution via mobile or desktop application



Record the conversation between the patient and provider



View AI generated provider note in the app



Edit the note in the app using dictation, typing, or macros



Send the note back into MEDITECH

“ Implementing ambient listening frees providers to **focus on their patients** while AI technology securely documents the encounter. Time previously devoted to writing notes can be used to follow up with patients, while also fulfilling the equally important goal of enhancing our providers’ **work-life balance.** ”



**Julie Demaree**

Executive Director of Clinical  
Innovation and Transformation

*St. Mary's Healthcare*



# No-Show Appointment Prediction

## Pattern analysis and advanced risk predictions

We are leveraging machine learning to allow healthcare organizations to better account for and proactively respond to the needs of patients. The No-Show Appointment Prediction feature will offer schedulers and end-users a prediction of the patient's likelihood of not attending a scheduled appointment.

The machine learning model derives the prediction value based on past appointment information. Healthcare organizations will have access to a dashboard of model attributes and their weights (the features impacting the predictive score and degree of influence), and the ability to monitor model performance over time.

Seeing the likelihood of a no-show will allow healthcare organizations to make more informed decisions when booking appointments, and it will provide valuable insights about patients who may benefit from additional outreach to support their attendance at upcoming appointments. Furthermore, end users can use analytics capabilities to uncover patterns for informing workflow changes.

### Benefits:

-  Better meet patient needs
-  Proactively optimize resources
-  Support care continuity
-  Analysis of patterns



# Machine Learning For Predicting Missed Appointments

Appt Demographics AMB Orders

Facility: MEDITECH General Hospital

Account: MG0000118504

Appointment: Sleep Lab Follow Up

Location: Sleep Lab - MTGH

Reason For Visit: Sleep apnea F/U

Compliance by: Patient

Booked	167
Attended	3
Cancelled	34
No Show	124

Address: 100 Hunter Blvd NORMAL, IL 61761

Cell Phone: 555-1212

Employer: Self-Employed

Primary Care Prov: SMITH,GEOFFREY

Language: English

Insurance: Blue Cross

Policy Number: Self Pay

Auth/Ref:

Resource Group: Sleep Lab Rooms - Main Campus

Start: 0

Duration: 30

Use Resource: Sleep Lab Rm 3

Include/Exclude:

Search:

Time Slot:

New Date:

Appt Date: August 19, 2024 1:00p EDT

No Show Risk: 77.00%

Duration: 30

Reg Type: Recurring

Status: Booked

Part of Set: No

Priority:

Provider:

Comment:

Waitlist:

Edit Reason:

Conflicts Patient Comments Instructions Appt Questions Manage Auth/Referrals Files Pre-Screen Edit Provider Data Cancel Save

## Risk Score display options

Search:

Time Slot:

New Date:

Appt Date: August 19, 2024 1:00p EDT

No Show Risk: HIGH

Duration: 30

Reg Type: Recurring

Status: Booked

Part of Set: No

Priority:

Provider:

Comment:

Waitlist:

Edit Reason:

Conflicts Patient Comments Instructions Appt Questions Manage Auth/Referrals Files Pre-Screen Edit Provider Data Cancel Save





# In Conclusion...

As you explore how AI can elevate your healthcare organization, remember that success isn't just about the technology – it's about **partnering with a vendor who addresses the full journey of AI adoption.**

The true impact of AI in healthcare relies on a keen understanding of how this technology augments workflows, leverages meaningful partnerships, and **includes clinicians in the design and feedback process to ensure that solutions are intuitive and deliver value.**

**Take the next step** – discover AI solutions that align with your organization's needs and shape the future today.



# Your next chapter starts **now**.

Let's work on it **TOGETHER**.

→ **Listen to our podcast**  
*"Seizing the AI Advantage"*

→ **Read our blog**  
*"5 steps to take before embarking on your AI journey"*

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*featuring AI and other vital topics*

