

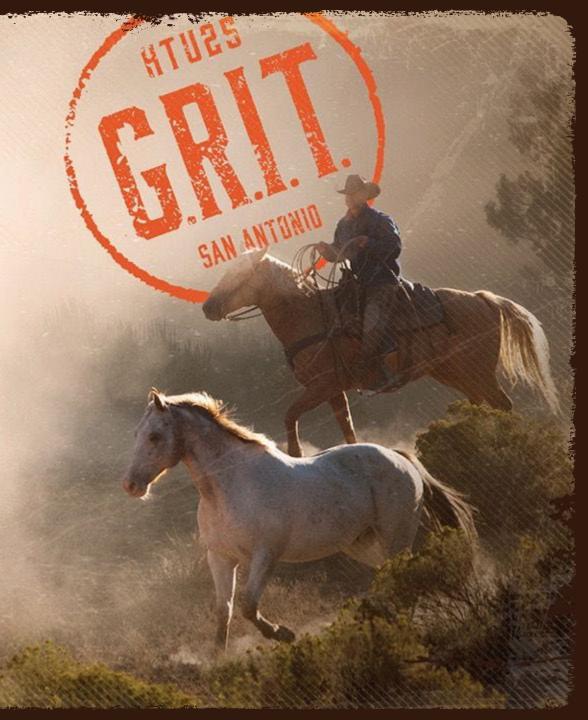
Empowering Care TeamsWith the Responsible Use of Artificial Intelligence

Michael Schlosser, M.D., MBA SVP & Chief Transformation Officer HCA Healthcare

THIS SESSION IS OPEN TO SUPPLIERS

Applying for CE credit or need a Certificate of Participation? Be sure to snap a pic of the code shown at the end of this session.

CE Deadline: 09/30/25



Disclosures



The presenter has no real or perceived conflicts of interest related to this presentation

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Learning Objectives

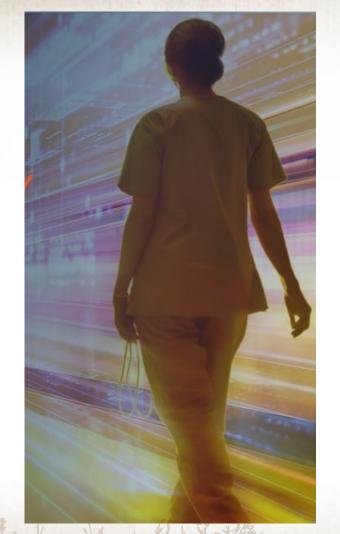


At the end of this session, participants should be able to:

- Recall specific uses of AI & leveraging data & analytics in providing clinical teams with actionable insights that inform & enhance patient care & potentially patient outcomes.
- Identify potential risks in selecting technology partners to enable the use of AI within a healthcare system.
- Recognize guidelines for establishing internal governance & policies for evaluating the responsible use of AI within their own healthcare organizations.







We now have an unprecedented ability to care for one another.

Artificial intelligence & digital innovation have the potential to reshape healthcare as we know it.

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What if you could bring the power of enterprise insight into a singular encounter?



42 million annual encounters

> Real-time enterprise data



Augmented care delivery everywhere





Shaping the Future



Our intent

Deliver a continuous & agile step change in patient & care team outcomes through the clinically-led integration of AI, technology, data & insights into care.

Foundational Technology

Developing essential technology & infrastructure to optimize data & pattern utilization.

Strategic Initiatives

Harnessing advanced technology & AI to drive transformative changes across all of healthcare.



Capability Building

organizational DNA by developing capabilities to innovate, scale & implement digital transformation across the enterprise.

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HCA HEALTHCARE'S RESPONSIBLE AI PROGRAM







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Responsible Al Design

HCA's program is designed to ensure AI is used with safety, effectiveness & accountability

Scope

Adopt consistent

- guidelines & standards to ensure safe, accountable use of AI tech
- **2**) Ensure protection of patient & employee data
- **Drive ethical** deployment of Al
- Provide oversight of models following deployment

Responsible Al Framework

Safe & Secure

Private

Transparent & Explainable

Fair & Impartial

Responsible

Accountable

Robust & Reliable





HCA Healthcare's RAI Framework



Safe & Secure	We will establish careful & intentional guidelines to protect patient data against risk & ensure data is ensure trusted & interpreted accurately.
Private	We are required by law to maintain the privacy of protected health information & advise patients at the time of admission/registration regarding how we will permissibly use their information for treatment, payment & healthcare operations purposes.
Transparent & Explainable	We will be transparent & visible when we use AI to augment our work & will partner with stakeholders across the system to have real & honest conversations about how we're using the tools.
Fair & Impartial	We will use AI to be fairer & more equitable as we take steps to ensure applications are inclusive & accessible.
Responsible	We will use the technology to do good, ensuring any technology is proven research, reduces risk & adds value to patients or the system at-large.
Accountable	We will empower users, patients & colleagues, to get the full benefit from any AI technology & we will each take implicit ownership of the results while holding our partners & vendors to the same high standards we impose upon ourselves.
Robust & Reliable	We will double- & triple-check the validity of any results, with ongoing checks to ensure the technology is delivering the level of accuracy we expect.

Source: HCA Healthcare. Not for reuse without permission.



Al Inventory Platforms



Al Inventory: One data model, One platform connecting Al strategy, technology, risk and compliance

Extending from Product Model, Asset and CI tables



Al System

Al use cases that are built for specific outcomes. Represents classic, generative or agentic Al.



Al Model

Programs trained on data to recognize patterns, make decisions or generate content without human intervention.



Datasets

Datasets used for training and evaluation of Al Models and Al systems.



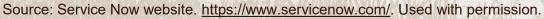
Prompts

Representation of instructions to an Al model to drive outcomes for Al systems



Inputs & Outputs*

Represents the type of inputs and outputs that are expected or configured for Al systems.

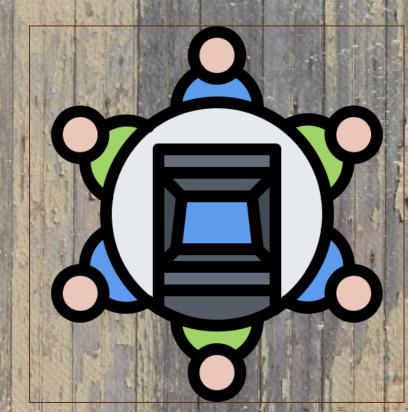




Steering Committee Scope Considerations

HCA's scope of the Council's activities is limited to the governance & the enablement of Al within the company.

- Evaluate Business Impact: Assess alignment with strategic goals & prioritize AI initiatives that enhance competitive advantage or operational efficiency.
- Assess Scalability & Integration: Determine the potential for scaling prototypes & the compatibility of new AI solutions with existing systems.
- Risk Management & Compliance: Examine potential risks & ensure compliance with ethical standards, data privacy & security regulations.



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HCA HEALTHCARE'S STRATEGIC APPROACH



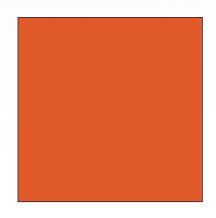
Digital & Al



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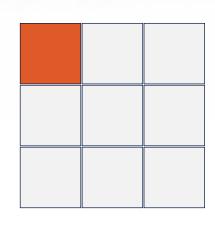
Defining Domains of Opportunities to Focus Efforts





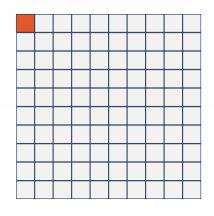
Entire enterprise – Too big

Too many domains, data sets & stakeholders to be able to get to meaningful impact quickly



Transforming a domain – Just right

Balance of end-to-end impact, leadership excitement & allows you to see demonstrable results in 6-12 months



Use case - Too small

Too niche to demonstrate material impact on an end-to-end domain

Why HCA uses a domain-based approach

Moves the needle materially & quickly enough without too much complexity

The impact is significant enough that there'll be strong business sponsorship

Data & technical synergies (e.g., subsequent solutions become easier as data is already ready to use)

Change management synergies (overlapping stakeholders)



HCA Healthcare Focus Domains

AS OF 5/12/2025

* new pod proposal



Domain / Category

Pods

Domain / Category

Pods

Care Team Optimization

Assistant Chief Nurse Executive

Timpani ER – Beta

Nurse Handoff - Alpha

*Time Management – Discovery

*Roster Management – Discovery

Documentation

Chief Quality Officer

Al Ambient Listening for HBPs & PHY – Alpha

RCM Documentation – POC

IRC

Clinical Summarization

President Parallon Denials Management – Discovery

Strategic Pricing & RSO – POC

Supply Chain

Management Inventory Optimization – Alpha

President & CEO

*Capital Equipment Lifecycle Management – Discovery

Healthtrust

OR Throughput *TBD August QBR – Discovery

OR Optimization Committee

Hospital Throughput

President, Case Management Early Screening Discharge Planning – Alpha
*Anticipated Length of Stay – Discovery

*Anticipated Length of Stay – Discovery

Clinical Decision Support

Chief Quality Officer

Maternal Fetal Risk Identification & mgmt. – POC

Unit Utilization – POC *Telemetry August QBR

*Radiology August QBR

Data Products

Chief Data Officer

Patient Insytes

Healthcare Data Engine (HDE)

Enterprise Ontology (Facility Master)

*Supply Chain

* Contract Revenue

* Employee 360

* ED/Hos Operations

* Patient Insytes – Finance Pod

Data Domains

Clinical Data

*Enterprise Ontologies

* Supply Chain

* HR

* Patient Financials

* Payer, Contracting & Alignment

Source: HCA Healthcare. Not for reuse without permission.

Al Enablement Pod
Chief Al Officer

* NoCode

* LowCode



Pod = Standardized Ways of Working

Product owners ensure work creates business value



ILLUSTRATIVE

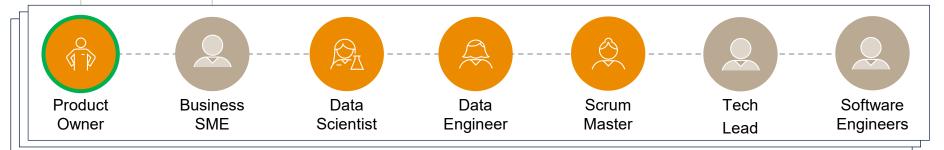
Pod is illustrative & non exhaustive

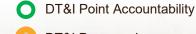


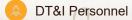
Domain Leaders' role:

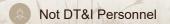
- Translate the goals of that business function Objectives & Key Results (OKRs) for their domain
- Set the strategy of use cases (problems to solve) that pods can tackle to move the OKRs & cascade OKRs to pods

Illustrative use case pod











FOUNDATIONS FOR TRANSFORMATION



Data & Platforms



Source: Freepik Images. Used with permission from Google.

Expanse: Accelerates Tech Capabilities to Empower Digital Agenda

Source: HCA Healthcare. Not for reuse without permission.



Partnership with EHR Vendor

Implementing a modern EHR platform that...

Standardizes "non-standard" processes, tools & data

Enhances consistency of care delivery

Improves care team experience across facilities

Impact:

Incremental speed & agility

Enhance control

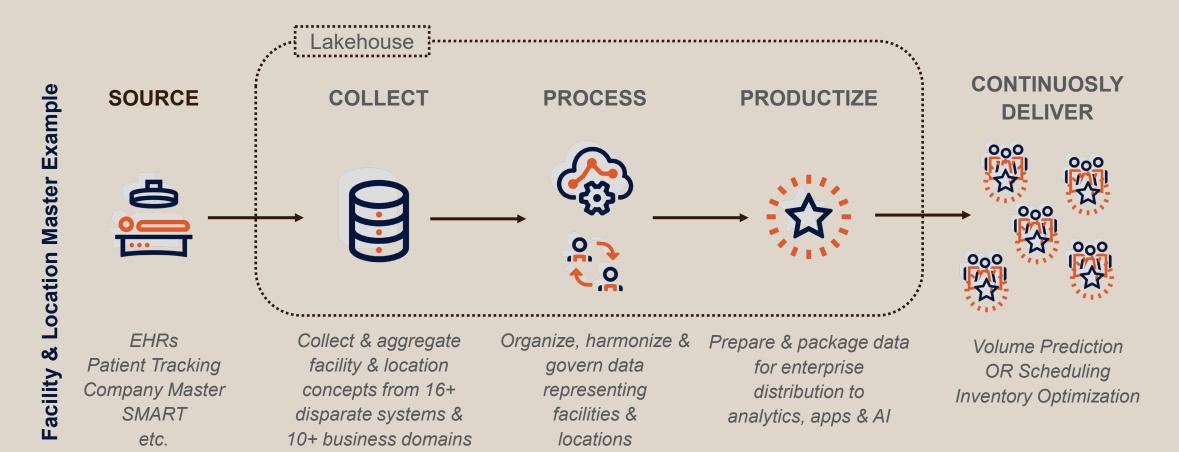
Maximize value from technology investments

Mitigate aging platform risk



Unlocking the Power of Scaled Data

A sophisticated, enterprise data asset to drive advanced business & clinical outcomes





CE Credit Deadline: 09/30/25

DIGITAL SOLUTIONS



Under Development



Source: Freepik Images. Used with permission from Google.

Revolutionizing Clinical Labor Management

"Right People, Right Place, Right Time"

"I spend about
20 hours per
week on the
monthly schedule"
- Nurse Manager



THE SOLUTION

TIMPANI

Automated staffing & scheduling that matches care with specific patient needs, adjusting in real-time based on volume & demand



THE PAIN

Care teams faced inefficient scheduling, mismatched teams, inconsistent staff availability & inaccurate patient volume predictions, resulting in suboptimal patient care.

THE RESULTS

"It was my clinical coordinator's fastest time – about 45 minutes – accomplishing the schedule."

- Nurse Manager

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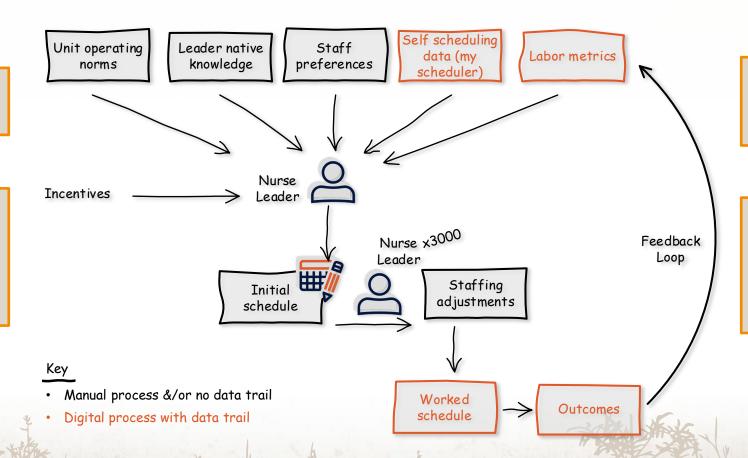
Pre-Timpani Labor Management

"De-centralized, non-standardized, unautomated & opaque..."



30% of in-scope Beta depts did not have approved grids

Departments have hired in roles not on the staffing grid such as PCTs in ICU or LPNs in a non-LPN Med/Surg department



PRN 0 Commitment Policy not consistently adopted or followed

Multiple departments are materially over-hired to demand & intentionally overscheduling in one department to cover needs of another department



Transformed State

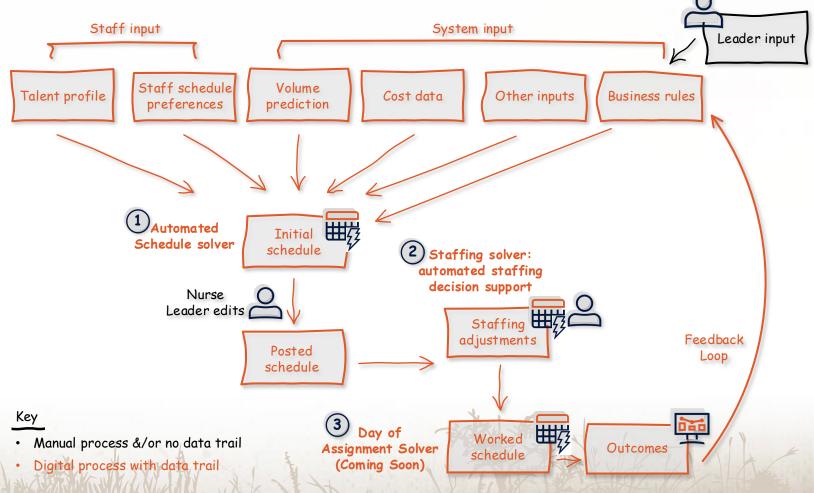
"Transformative, automated, standardized & transparent"

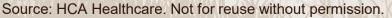


SOLUTION

Proactive, data-driven & patient-centered approach to scheduling & staffing care teams

Have the right people in the right places at the right times to deliver the best care







Patient Volume Forecast – ED Arrivals

Performance for Census Forecasts as of March 5, 2025



	Henderson- ville	UCF Lake Nona	Grand Strand	Carolina Forest FSER	South Strand FSER	North Strand FSER
What is the Mean Absolute Error (+ or -) per hour?	2.0 Arrivals per hour	1.1 Arrivals per hour	2.0 Arrivals per hour	1.4 Arrivals per hour	1.7 Arrivals per hour	1.3 Arrivals per hour
(on average across all 672 hours predicted in the past 28 days)						

Percent of instances where there was greater than +4 arrivals across consecutive hours

(on average across all 672 hours predicted in the past 28 days)

22 times (3.3%)

0 times (0.0%)

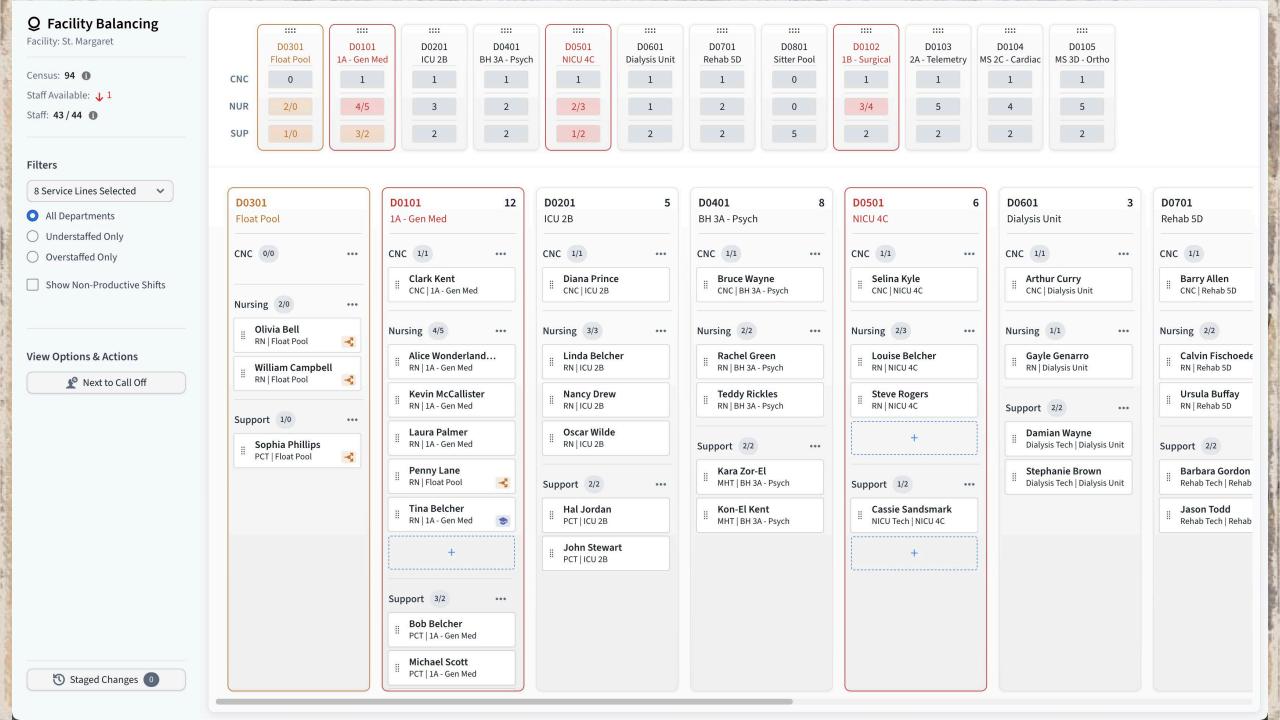
7 times (1.1%)

0 times (0.0%)

9 times (1.4%)

0 times (0.0%)





Revolutionizing Clinical Labor Management

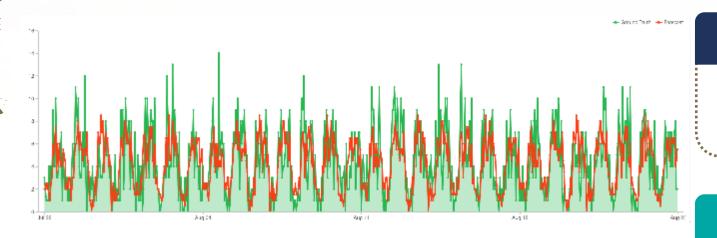
Timpani is improving staff satisfaction, patient care & labor cost efficiency



Timpani

RIGHT PEOPLE, RIGHT PLACE, RIGHT TIME

Automated staffing & scheduling that matches care with specific patient needs, adjusting in real-time based on volume & demand.



Time Savings

12 hours faster

completion of staffing schedule

Fair & Equitable

6%

reduction in **Turnover Rate**

Impact

Flex Path **Alignment**

2x

more reduction in **Contract Labor**

98%

have proficient & expert nurses

Source: https://magazine.hcahealthcare.com/digital-exclusives/innovative-nurse-scheduling-solutions-transforming-patient-care/



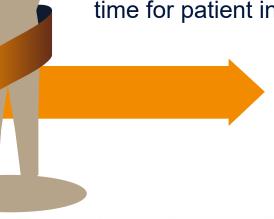
Ambient Documentation Strategy

Platform to Deliver Real-time Decision Support to Improve Revenue Cycle

- Assist providers in making informed decisions quickly, improving patient outcomes.
- Reduce claim denials & delays through improved documentation & real-time verification.
- Create a platform for documentation-related decision support (nudges).

Increasing Quality Documentation While Reducing the Provider Documentation Burden

- Reduce errors & omissions in documentation, leading to higher-quality patient records.
- Enable providers to focus on patient care rather than administrative tasks.
- Enhance workflow efficiency, allowing more time for patient interaction





Transparent Note Creation

Ambient Conversation

Clinician-Patient



Multiparty Medical Speech-to-Text (STT)

Clinician: For your hyperlipidemia, your LDL is 138, which is high compared to last year. So you are currently taking pravastatin, 10mg once

4441444

Pa

Patient: Yes

per day, correct?

Clinician: I want to get your values back to normal so we'll increase your dosage for pravastatin to 20mg once per day. We also want you to continue with a low-fat diet and regular exercise.

4411444

Patient: Sounds good. I've also been having some back pain.

Clinician: Let's start you on Ibuprofen, 800 mg, as needed.

Natural Language Processing (NLP), Large Language Models (LLMs), Machine Learning (ML)

> Clinician: For your hyperlipidemia, your LDL is 138, which is high compared to last year. So you are currently taking pravastatin, 10mg once per day, correct?

Patient: Yes

Clinician: I want to get your values back to normal so we'll increase your dosage for pravastatin to 20mg once per day. We also want you to continue with a low-fat diet and regular exercise.

Patient: Sounds good. I've also been having some back pain.

Clinician: Let's start you on Ibuprofen, 800 mg, as needed.

Clinical Data Page



Medical Note Electronic Health Record

HPI

The patient is a 65-year-old male presenting today for: diabetes and hyperlipidemia follow-up, back pain.

Hyperlipidemia

His recent lab results showed an LDL level of 138, which is high compared to last year. He has been taking pravastatin 10 milligrams once per day.

A/P

Hyperlipidemia

The patient's LDL level is high, so I plan to increase his dosage of pravastatin to 20 milligrams once per day.

HCA HIN



Identifying & Managing Risks

Increased appropriateness & timeliness of C-sections

"Who has time to read 120 pages of medical reports when time is of utmost urgency?"



THE SOLUTION

Modernizing the maternal-fetal monitoring process with advanced technology ensures consistent, accurate assessments, timely interventions & better delivery outcomes.



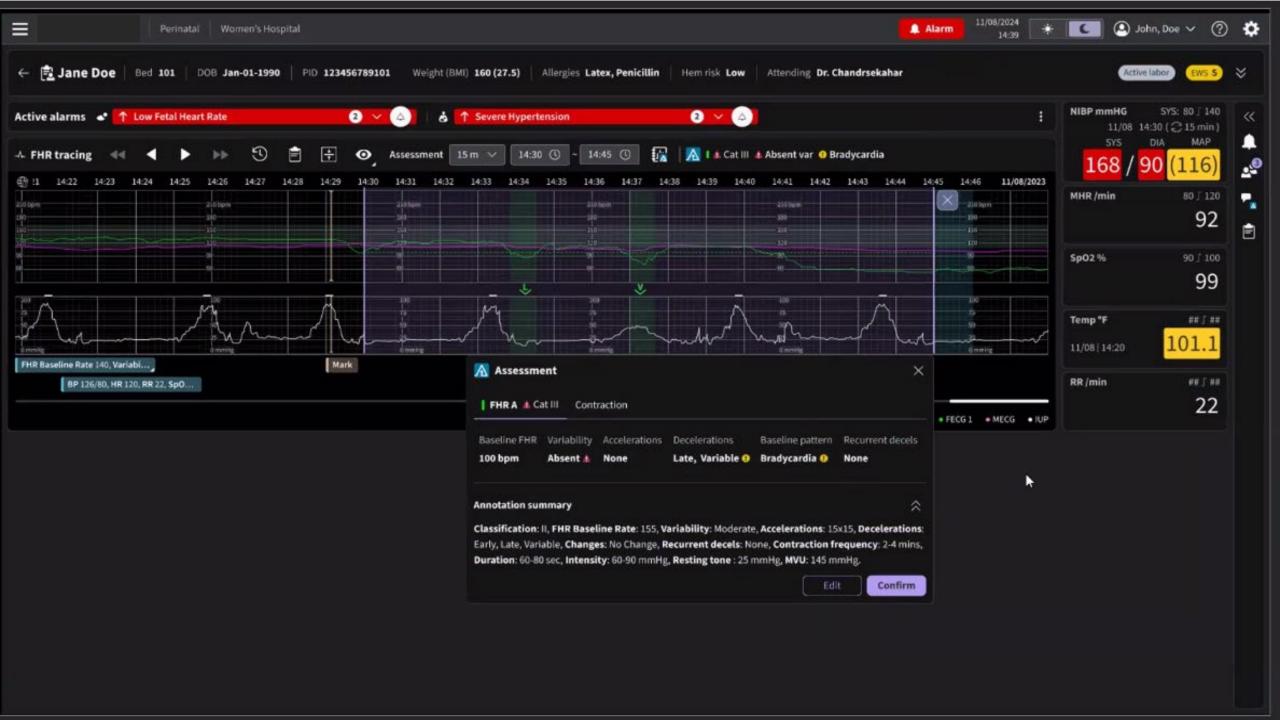
THE PAIN

The maternal-fetal monitoring process was manual & subjective, causing inconsistent assessments, delayed interventions & varied delivery outcomes.

THE RESULTS

Consistent & accurate assessments, timely collaboration & individualized care through advanced labor monitoring technology, reducing subjectivity & improving outcomes.

Source: HCA Healthcare. Not for reuse without permission.



Source: HCA Healthcare. Not for reuse without permission.

Fetal Monitoring Strip Review Design:

Ground Truth

Henrico Doctors

Session 1

Total Strip Review Count: 200

Length: 2 days

Strips/Day: 50-100

Clinical Reviewers

- MD: Courtney Legum-Wenk
- MD: JT Christmas
- MD: Nikki Fanning
- RN: Sara Echols

Admin Support

HCA & Vendor Partner

Med City Dallas

Session 2

Total Strip Review Count: 400

Length: 2 days

Strips/Day: 50-100

Clinical Reviewers

- MD: Caroline Marrs
- MD: Nicholas Lux
- RN: Ally Rodriguez

Admin Support

HCA & Vendor Partner

Session 3

Total Strip Review Count: 600

Length: 2 days

Strips/Day: 50-100

Clinical Reviewers

- MD: Angela Walker
- MD: Rose Simonian
- RN: Amber Reyna

Admin Support

HCA & Vendor Partner

Session 4

Total Strip Review Count: 800

Length: 2 days

Strips/Day: 50-100

Clinical Reviewers

- MD: Jorge Lopez
- MD: Kelli Culpepper
- RN: Chelsea Clark

Admin Support

HCA & Vendor Partner

Henrico Doctors Session 5

Total Strip Review Count: 1000

Length: 2 days

Strips/Day: 50-100

Clinical Reviewers

- MD: Nikki Fanning
- MD: Chris Manipula
- MD: Allyn Alexander
- RN: Ashley Strawsnyder
- RN: Carolyn Perrin

Admin Support

HCA & Vendor Partner



Additional Requirements

FDA FEEDBACK SUMMARY

- Retrospective clinical validation study non-infe
 - Reiterated the importance of a non-inferiority study. Wan comparison to a reference standard for further robustness of performance data.
 - Ensure providers included in developing the reference star representative of the breadth of providers that interpret FHR
- Further examination of certain high risk sub-groups.
 - Mothers at < 32 weeks, & those with features such as sinus patterns & NICHD Category III.
 - Break out sub-populations to show consistent performance all segments of the intended use population.
 - NICHD category & sinusoidal outputs should be represent primary end points in study data.
- Other clarifications & justifications.
 - Specific plan development: cybersecurity, pen testing, softwalidation & predetermined change control plan (PCCP) ques

The subgroup & quantity required within each is below:

- 1. Maternal Age > 40: 17
- 2. Maternal Age < 20: 43
- 3. Late Term (41 weeks <= EGA < 42 weeks): 53
- 4. Post Term (EGA >= 42 weeks): 34
- 5. EGA between 24 weeks to 28 weeks: 31
- 6. EGA between 28 weeks to 32 weeks: 8
- 7. EGA less than 24 weeks: 38
- 8. BMI underweight (BMI < 18.5): 37
- 9. Race Asian: 16
- 10. NICHD Category III: 50
- 11. Sinusoidal Pattern: 15
- 12. Total (assuming all non-overlapping): 342

33 | CE Credit Deadline: 09/30/25

Improving Nurse Handoffs

Provides greater efficiency & improved patient care



Automates shift reports by consolidating nursing documentation & patient notes from the EHR, offering a **complete clinical snapshot for handoffs**.

Opportunity:



24M handoffs per year



~40 minute handoff duration

Features:

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Consolidated patient summary

Timeline of care progression & key events

Prioritized task list for nursing shifts

Display of critical handoff data

Impact:

Reduced overtime utilization rates

Streamlined shift report processes

Improved overall patient safety

Enhanced accuracy & Comprehensiveness of info

Pilot Success Metrics % of nurses surveyed

Factuality

92% found summaries factual

Coverage

93% found coverage appropriate

Coherence

94% found no misstructure

Conciseness

96% found no info to remove

Helpfulness

4% found summary helpful

Supported

by Google

RN Handoff Transcript

RN: This is Mrs. Smith. She is a 29 year old female admitted yesterday for hypertensive urgency. Her blood pressure was 230/130 when she arrived to the ED & has never had issues with blood pressure until this year. She also has anemia & something else, I can't remember. In the ER they gave her more antihypertensives than I have ever seen.

Her MedRec is completed.

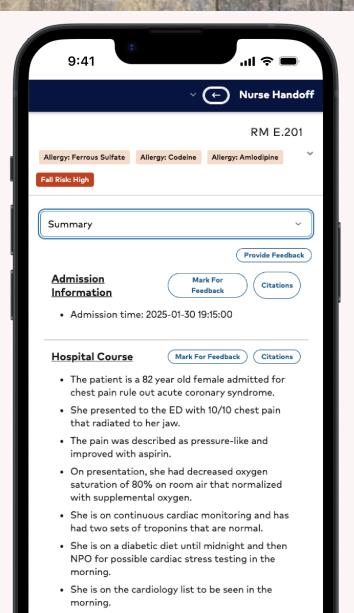
Right now she is receiving a unit of blood for a hemoglobin level of 6.5. That's going to a 20 gague left AC IV. When she is not getting blood she was receiving ½ NS @ 75mL/hr. She should probably have her hemoglobin repeated later today.

They are holding her lisinopril right now. Oh yeah, that is what I forgot - because she has acute kidney injury. She also has lupus & seizures.

She is A/Ox4 & independent. Her mom was here earlier but went home to take care of her children.

Nurse Shift Summa Admission Informa

- Admission time: 20
- Admission type: EN
- •Admission source: **Hospital Course:**
- •This is a 29 year old blood product trans
- •She presented to t
- •She has a history o
- •Her blood pressure
- •She received hydra
- She is being transfer
- •Her creatinine is el
- •She is on mycophe
- **Relevant Past Med** Systemic lupus erv
- History of pulmona
- Seizure disorder
- Chronic kidney disc
- History of kidney b Allergies:
- Sertraline (severe,
- Morphine (intermed)
- Past 12-24 Hours:
- Patient received 1 Patient's potassiur
- Patient's chloride v
- Patient's BUN was
- Patient's creatining
- Patient's GFR was
- Patient's calcium v Lines/Drains/Airwa
- •20 gauge peripher Vital signs and Mor
- Last set of vital sign
- •MEWS score of 1.
- On continuous car
- **Diagnostic Results:** CT hoad without



She is to receive nitroglycerin for chest pain and

morphine if the pain is not controlled with

nitroglycerin.

disease requiring

izure disorder.

Turning unstructured data into structured data using Al

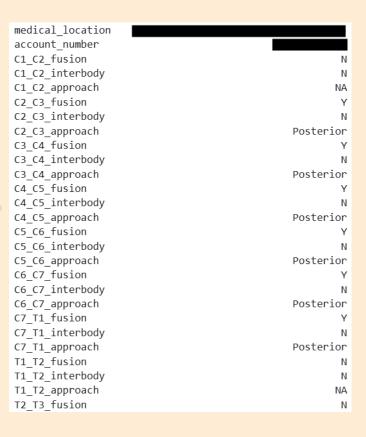
X-ray Image











Model output

We're changing healthcare for good.































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