



Improving Nursing's Technology Experience: Amplifying the Voice of the Clinical Nurse

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Only children's health system in CT



- 25 years young
- Going beyond the clinical to ensure the social, emotional, and mental well-being for all children
- 2,750 team members
- 187 beds
- 107,011 unique patients
- \$466M operating revenue
- 36 locations across region

By the end of this presentation the learner will be able to:

1. Create a governance framework to amplify the voice of the clinical nurse in organizational technology decision making.
2. Leverage clinical nurse feedback to develop a plan to improve nursing EHR experience.

2017

- Extensive customization of nursing documentation
- Multiple flowsheet rows collecting information for the same data point
 - Reporting, research, and clinical decision support was difficult
- Nursing documentation did not flow across the care continuum
- More than 90 nursing required admission documentation elements between the NICU and PEDI Patient Profile Flowsheet
- “Squeaky Wheel” prioritization

Timeline

2018

- Reducing Nursing EHR Documentation Project
- Nursing Shared Governance

2019

- Patient Engagement Software
- Nursing EHR Satisfaction Survey #1

2020

- Mobile Documentation
- VS integration- Med/Surg
- Nursing Impact Dashboard

2021

- Flowsheet Copy Forward
- Clinical Decision Support Tune up
- Nursing EHR Satisfaction Survey #2

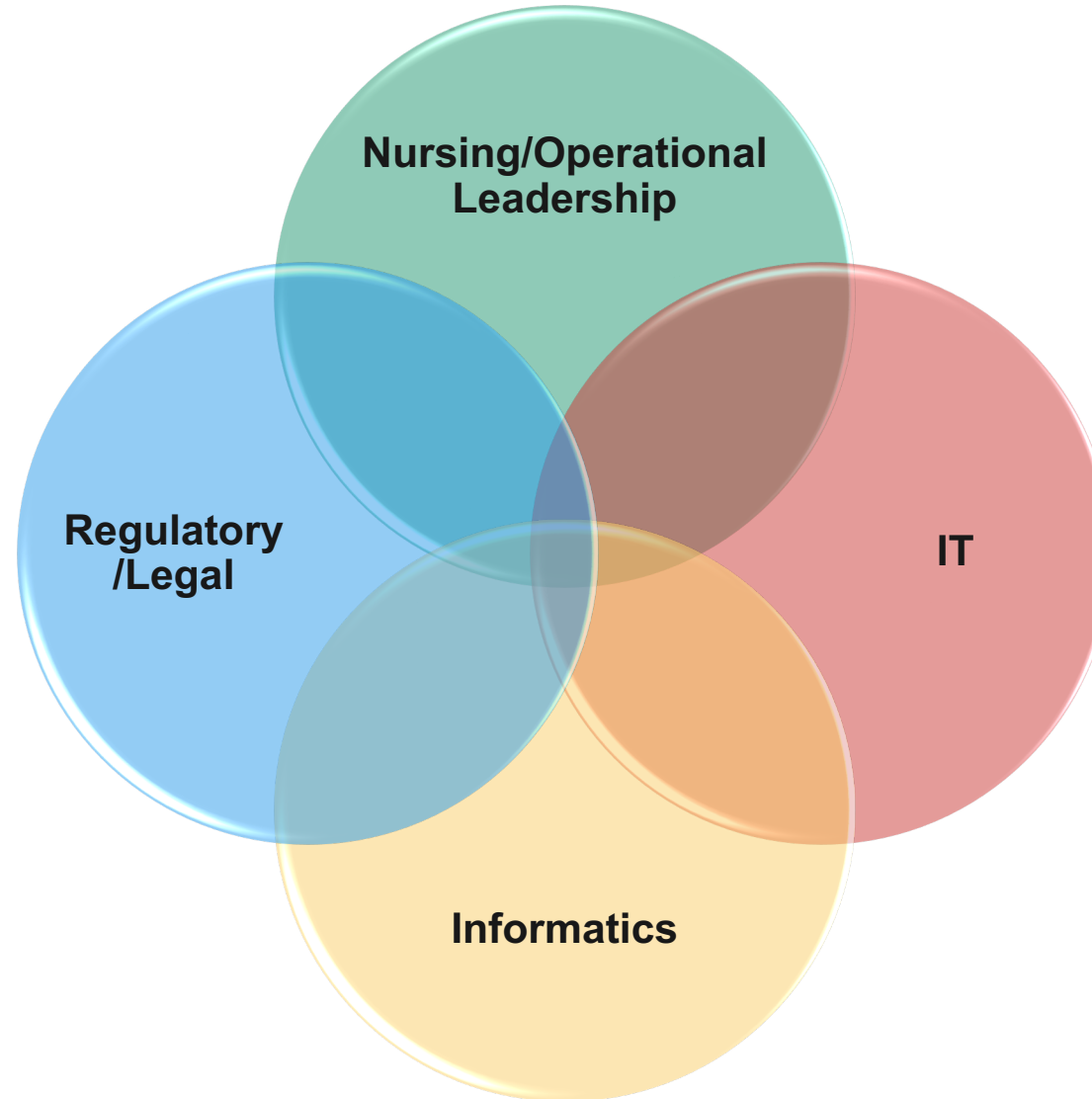
2018 Year Long Effort to Optimize Flowsheet Documentation

- Individually evaluate more than 30,000 records including flowsheets, care plans, and family education
 - Remove Duplicate Data Points
 - Share content to improve interoperability
- Review every required doc rule
- Remove customization and get back to evidence-based documentation

Bonnie Adrian, PhD RN-BC, Project Joy

<https://www.dbmi.columbia.edu/wp-content/uploads/2021/01/25x5Symposium-Adrian-Joy-final.pdf>

Partnership





- Clinical nurses own nursing documentation
- Decisions driven by data
 - Usage
 - Organizational Impact
 - Impact to future research and reporting capabilities
- Evidence-based “Show me the evidence”
 - Peer Reviewed Scholarly Journal Articles
 - Joint Commission or DPH Standards
 - Solutions for Patient Safety Bundle
- ***Timely Decision Making***

How We Did It



- Patience
- Snacks
- Tea
- Walks

2018- Project Outcomes



- Interoperability of nursing documentation
- 60% reduction in nursing admission required documentation

Admission Flowsheet- Patient Profile



Old Profile

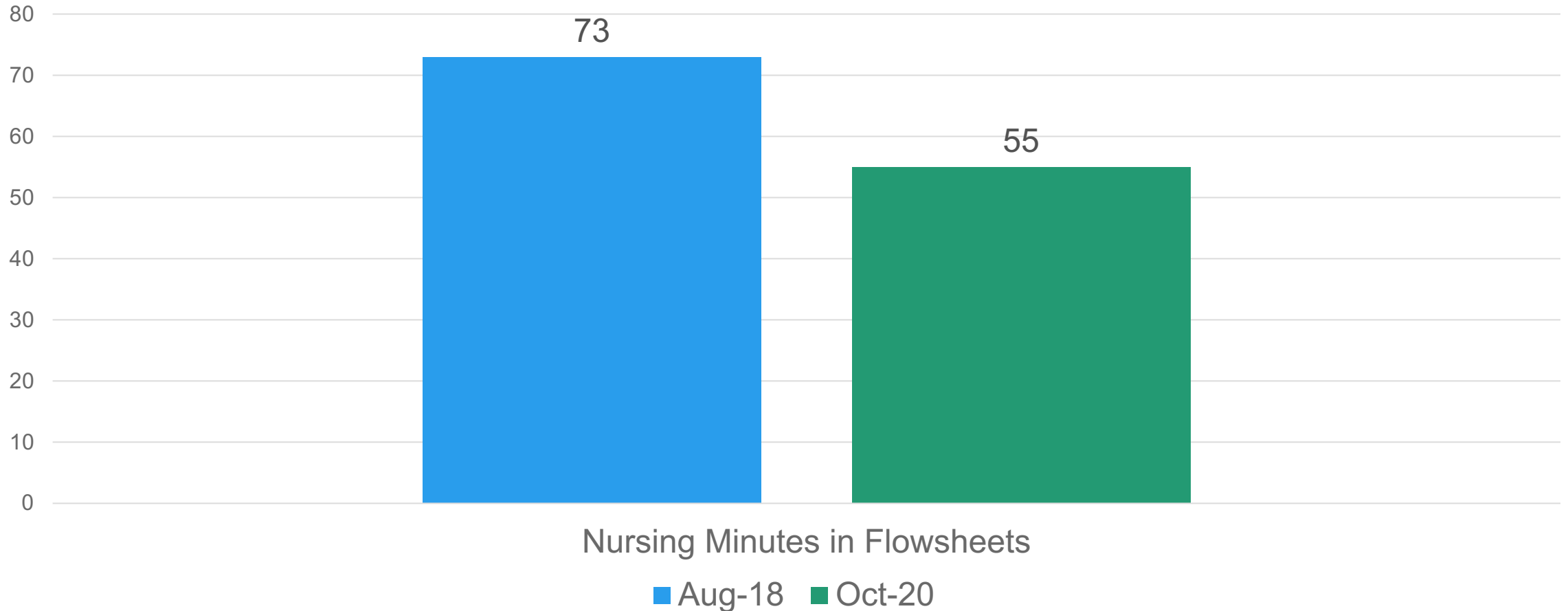
The 'Old Profile' interface features a vertical sidebar on the left with buttons for Summary, Chart Review, Care Everywhere, Results Review, Work List, MAR, Immunizations, Doc Flowsheets, Intake/Output, Manage Orders, Plan of Care, Education, Notes, Enter/Edit Res..., Shift Assessm..., Admission, Transfer, and Discharge. The main window displays a 'Doc Flowsheets' window with a checklist of items, each with a checkbox and a checkmark. The items include: General Information, Advance Directive (age 1...), Current Health, Health and Illness, Transfusion History, Mutuality/Individual Pref..., Growth and Development, Role Relationships, Living Environment, Hearing Screen, Abuse Screen, Mental Health Risk, Flight Risk Screening, Nutrition Review, Pain, Chronic Pain, Is this patient 12 years ol..., Substance Use, Neuro Review of Systems, Sleep/Relaxation Review ..., Head/Neck Review of S..., Eye/Ear/Nose Review of..., Mouth/Throat Review of ..., Cardiac Review of Syste..., Peripheral Neurovascula..., Respiratory Review of S..., Nutrition Review of Syst..., GI/GU Review of Syste..., Sexuality/Reproductive ..., Musculoskeletal Review..., Activity/Self Care Revie..., Skin Review of Systems, Endocrine Review of Sy..., Hematological Review of..., Immune Review of Syst..., Oncology Review of Sys..., Mental Health Review of..., Self Perception/Coping ..., and Values/Beliefs/Spiritual C... At the bottom, there are buttons for 'Check All' and 'Uncheck...'.

New Profile



The 'New Profile' interface features a vertical sidebar on the left with buttons for Summary, Flowsheets, Notes, Education, Care Plan, Navigators, and Work List. The main window displays a 'Summary' window with a list of categories, each with a checkmark. The categories include: Initial Information, Anesthesia/Intubation History, Blood Restrictions/Transfusion Hist..., Last Oral Intake/Last Bowel Movem..., Palliative Care Plan, Disability, Mutuality/Individual Preferences, General Health, Risk Screens, Behavioral Health Screens, Health Management, and Relationship/Environment. At the top, there are tabs for 'Vitals', 'I/O', and 'Pediatric Patient Pro...'.

Nurse have 18 additional minutes at the bedside!





Nursing Informatics Council added to Nursing Governance Structure

Membership

- Nursing Rep from each clinical area
- IS
- Informatics
- Quality
- Risk, Regulatory, and Other Disciplines as needed based on agenda

Council Purpose

- To increase quality, reduce inefficiencies, and optimize the clinical process where it intersects with information technology.

Guiding Principals

- Practicing clinicians define content to represent the vision of Connecticut Children's clinicians a whole while keeping a patient centric focus.
- All council work will utilize evidenced-based decision making to support evidenced-based practice.
- All council work will support the ideal workflow to enhance the clinical practice.

Category	Score	Description
Patient Safety	0 = No Impact	No patient safety impact
	4 = Low Impact	Reduces likelihood of near-miss or adverse event
	8 = Medium Impact	Event report filed, no adverse event (please attach supporting documentation)
	16 = High Impact	Event report filed, adverse event (please attach supporting documentation)
Financial	0 = No Impact	No financial impact
	1 = Low Impact	Impacts revenue or expenses
	2 = Medium Impact	Impacts revenue or expenses by 50 K
	3 = High Impact	Impacts revenue or expenses by 100 K
Organizational Scope	0 = Low Impact	Limited users or workgroup(s) within a department
	1 = Medium Impact	Single Department
	2 = High Impact	Multiple Departments
	3= Very High Impact	System or Enterprise Wide
Level of Effort	0= Considerable Effort	Long term; >6 mo
	1 = High effort	Medium term; 3mo-6mo
	2 = Moderate effort	Medium term; within 1 mo-3 mo
	3= Low effort	Short term; 1 -3 weeks
Workflow Productivity	0 = No Impact	No (or negative) workflow impact
	1 = Low Opportunity	Improves user efficiency or the experience
	2 = Medium Opportunity	Automates a manual process
	3 = High opportunity	Mitigates a significant adoption/retention risk
Regulatory/Compliance	0 = No Impact	No regulatory/compliance impact
	4 = Low Impact	Organization Nice to Have OR Enables capture, display, or clarification of required data, enables required privacy or security control, or enables required workflow process control or audit control (and non-EHR solutions have been exhausted).
	8= Medium Impact	Organization Policy Standard OR Build request is related to circumstances where we are known to be out of compliance with a regulatory requirement but NO CITATION HAS BEEN DOCUMENTED (the build will bring us into compliance before citation is issued). [please attach supporting documentation].
	16 = High Impact	Regulatory mandate with no exceptions OR Build request is related to a regulatory requirement where a formal citation HAS BEEN ISSUED OR a new requirement has been developed with less than 60 days before it becomes active. [please attach supporting documentation].
Strategic Plan	0 = No Impact	Not part of strategic planning
	1 = Impact	Strategic planning goal
Patient & Family Satisfaction	0 = No Impact	No impact on patient and family satisfaction
	3 = Impact	Impacts patient and family satisfaction

Modified with permission from a tool developed by Patricia Sengstack DNP, RN-BC, FAAN

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Optimizing Nursing Workflow

2018 Patient Engagement Software

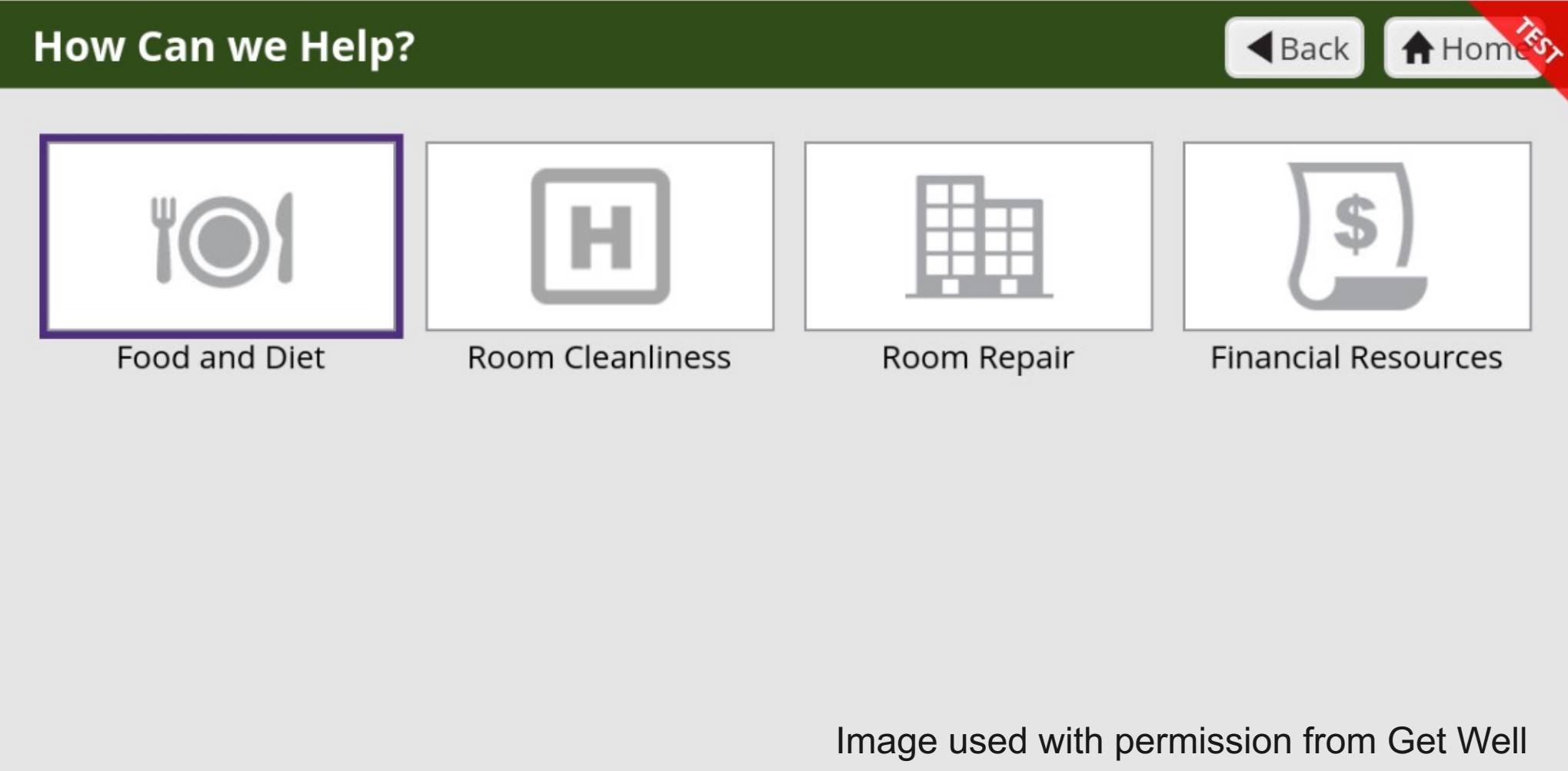
Interactive inpatient software available on the in room TV.

Goals

- Offload non-clinical tasks
- Enhance the patient and family experience



2019- Off Load Nursing Non-Clinical Tasks














The screenshot shows a user interface for patient engagement. At the top, a dark green header contains the text "How Can we Help?". To the right of the header are two buttons: "Back" with a left-pointing arrow and "Home" with a house icon. A red diagonal banner with the word "TEST" is positioned over the "Home" button. Below the header, there are four white square buttons arranged horizontally. Each button contains a grey icon and a text label below it. The first button has a fork, plate, and knife icon and is labeled "Food and Diet"; it is highlighted with a purple border. The second button has a square with the letter "H" and is labeled "Room Cleanliness". The third button has a building icon and is labeled "Room Repair". The fourth button has a dollar sign icon and is labeled "Financial Resources".

Patient Engagement Software



Portal of Fun




Portal to Fun ◀ Back 🏠 Home

 Disney's Children's Hospitals Initiative	 Disney Movie Moments	 SuperHero Day	 Story Time
 Art Calendar	 Virtual Programming Calendar	 Family Resource Center	 Activities
 Learn more about Child Life	 Mobile XBOX	 Hartford Residents Free Book Program	

Meal ordering

1. Choose your meal Home Hor

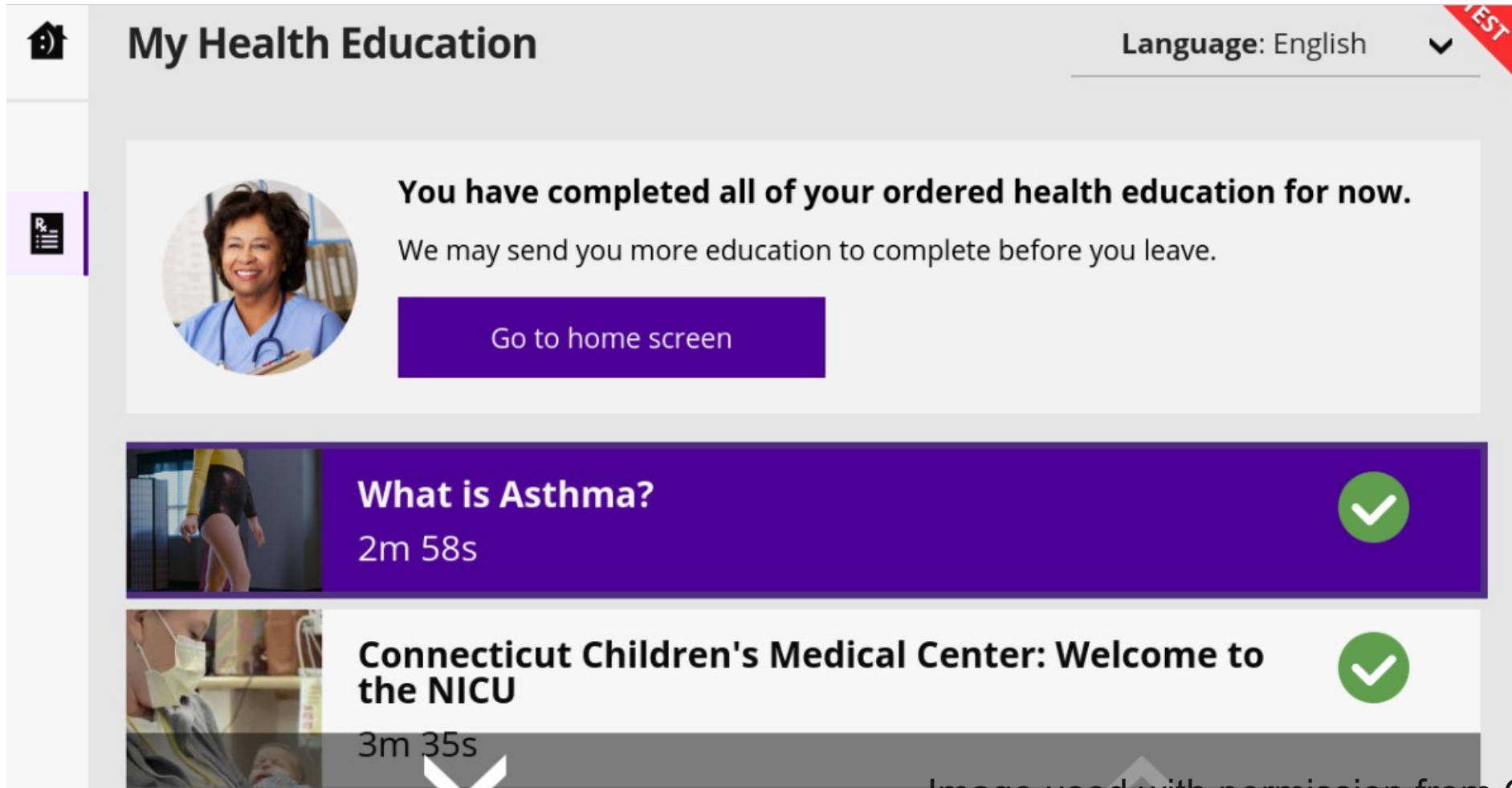
Today is Tue, September 22 | 10:54:26 am

Meal Type	Order By	Diet Options
Today's Lunch 	Order by 1:15PM	School Age Diet, Regular Diet
Today's Dinner 	Order by 5:45PM	School Age Diet, Regular Diet
Tomorrow's Breakfast 	Order by 9:15AM	School Age Diet, Regular Diet

● ○

Image used with permission from Get Well

Patient and Family Education Interface



The screenshot displays the 'My Health Education' interface. At the top, there is a home icon, the title 'My Health Education', and a language dropdown set to 'English'. A red 'TEST' banner is in the top right corner. Below the header, a message states: 'You have completed all of your ordered health education for now. We may send you more education to complete before you leave.' A purple button labeled 'Go to home screen' is positioned below the message. A circular profile picture of a woman in a blue medical uniform is on the left. Below the message, there is a list of educational videos. The first video is 'What is Asthma?' with a duration of 2m 58s and a green checkmark icon. The second video is 'Connecticut Children's Medical Center: Welcome to the NICU' with a duration of 3m 35s and a green checkmark icon. A white arrow points downwards at the bottom center of the interface.

Image used with permission from Get Well

Patient Engagement Software



Outcomes

Task	Annual Total
How Can We Help?	1,605
Portal of Fun	372
Meal Ordering	3,051
Patient and Family Education	2,447
Total Off Loaded Nursing Tasks	7,475

Nursing EHR Satisfaction Survey



1st Survey Dec 2019 to hear
the voice of the nurse.

Connecticut Children's is a top performer nationally for nursing EHR Experience!

- Connecticut Children's nurses feel the EHR is reliable and responsive, while promoting patient safety and patient-centered care.

EHR areas of opportunity:

- Connecticut Children's most significant opportunities for nursing include integration and analytics.

Key Drivers for Nursing EHR Success



1. Strong IS Shared Governance Model
2. Informatics Nurses
3. There is a correlation between Magnet Recognition and Nursing EHR satisfaction.



KLAS Research: <https://klasresearch.com/archcollaborative/casestudy/patient-focused-magnet-designated/137>

Nursing Documentation Challenges



	Score/ Percent Agree	Overall Collaborative Percentile	Epic Organizations Percentile	Children's Hospitals Percentile
Net EHR Experience	68.2	92 nd Percentile	85 th Percentile	89 th Percentile
Enables Efficiency	64%	81 st Percentile	75 th Percentile	89 th Percentile

Reimbursement	Regulatory	Quality	Usability	Interoperability	Self-Imposed: "We've done it to ourselves"
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ANIA. (2020).

There is hope on the Horizon!



Patients over Paperwork

- Reduce unnecessary clinical burden of the EHR
- Improve the patient experience
- ***Seek input for stakeholders***

21st Century Cures Act

- Reduce the effort and time required to record health information in EHRs for clinicians
- Reduce the effort and time required to meet regulatory reporting requirements for clinicians, hospitals, and healthcare organizations
- **Improve the functionality and intuitiveness (ease of use) of EHRs**

25 By 5

Qualitative Data Themes



Safety

- “Very safe especially with administering medications”

Support

- “I feel that the support is improving and the upgrades are going smoother”

Flowsheet Efficiency

- “If nothing has changed with my assessment I should be able to copy and paste my previous assessment”

Analytics and Reporting

- “The system probably provides analytics, quality measures, and reporting but I don’t know how to access it all”

Improve Clinical Technology Integration

- Expand vital sign integration to MS units and ED
- Implement Nursing Mobile Documentation
 - Wound photography

Flowsheet Efficiency

- Expand flowsheet copy forward functionality with 2021 upgrade

Analytics

- Implement Nurse Impact Dashboard
- Facilitate discussions between Data Warehousing, Quality, and Nursing to prioritize needed analytical tools ***Future Plans***

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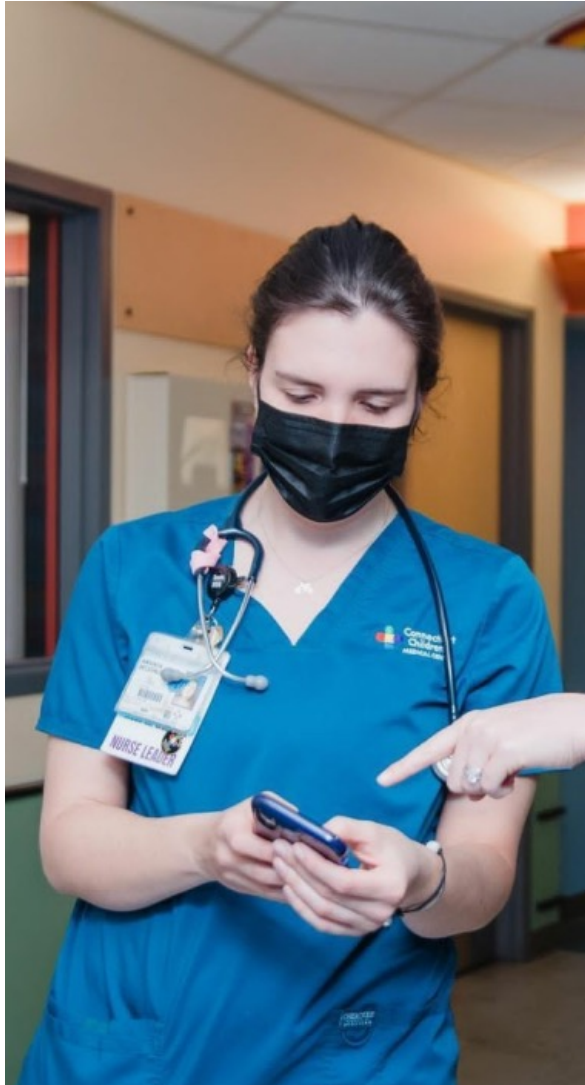
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Then COVID Happened



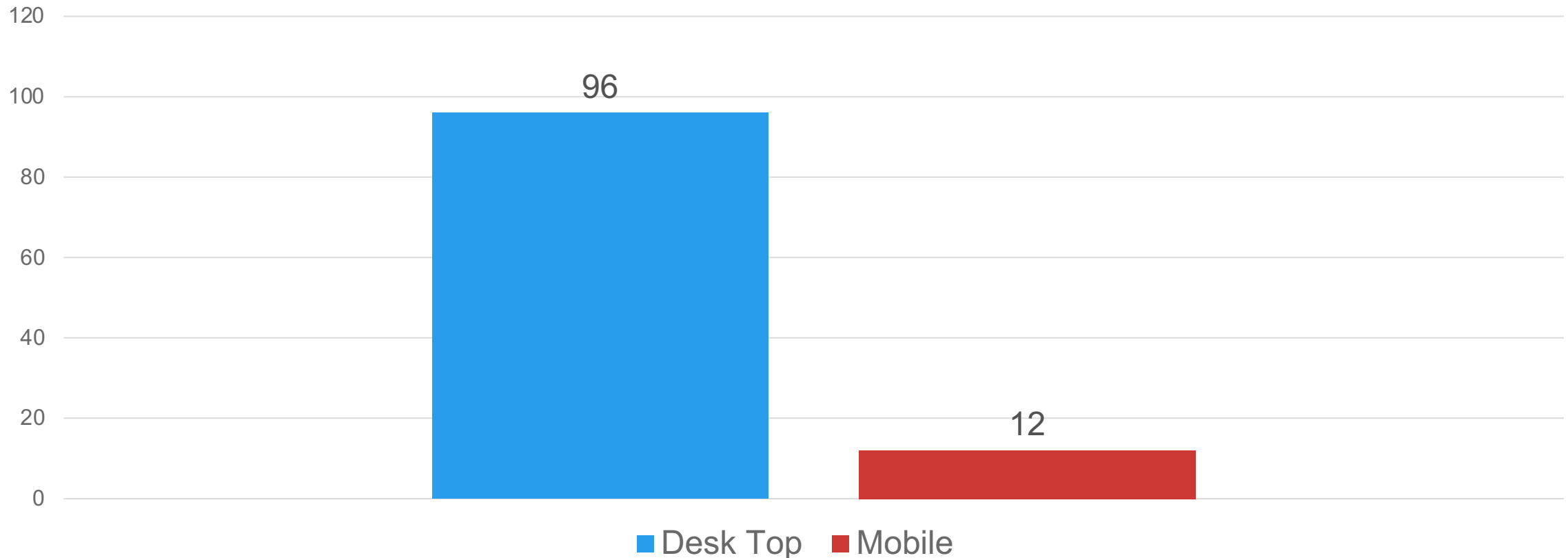


2020- COVID Related Project

- Perform BCMA
- Document on the Lines, Drains, and Airway Avatar
- Validate Integrated Device Data
- Document in Flowsheets
 - Vital Signs
 - I&O
 - Pain
 - Daily Care
 - **Safety Observation**
 - Restraints
- Photography
 - Wound Photos
 - Patient Identification Photos

Mobile documentation is entered 1 hour and 24 min sooner than Desktop

Minutes between assessment and documentation of the assessment:



What Nurses are Saying

2021 Nursing EHR Satisfaction Survey

- “Rover is amazing! Especially when WOWs break...**it gives me freedom.**”
- “Rover! In the ED we were constantly wasting time searching for a computer and scanner for BCMA. Rover is **highly appreciated.**”
- “I have been using that Rover app and I love it! I open it up and document everything, bam, bam ,bam. Then I open Epic and it is all right there. **It is amazing!**”
- “Oh my God! This is Awesome! I think **I’m gonna cry**”





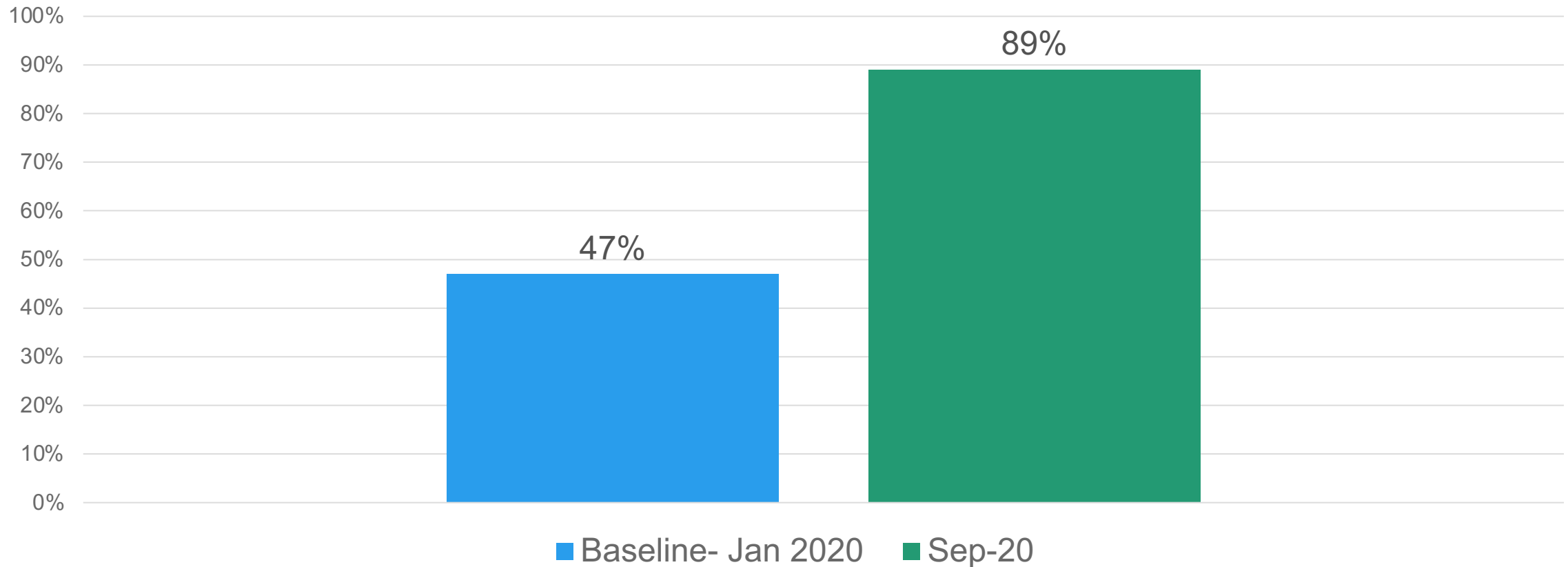
2020- COVID Related Project

- Improve Nursing Efficiency
- Conserve PPE
- Improve Data Integrity

Vital Sign Integration Outcomes

Increased device-entered flowsheet data to 89%

Device-Entered Flowsheet Data
(Of data that can be automated)



Nurse Impact Dashboard- Nurse Leader



My Nurses and Metrics

Compare to:

Staff	Admission Learning Assessment	Admission 4 Eyes Skin Assessment	Braden Skin Assessment	Fall/Humpty Dumpty Assessment	High Risk Skin Interventions	CLABSI Required Documentation	CAPD Required Documentation	VTE Assessment	Post-PRN Pain Reassessment	Appointments without Override	Timely Flowsheet Doc	Timely Med Admin	BCM
Goal	90%	90%	90%	90%	95%	90%	90%	90%	90%	90%	90%	90%	95%
Overall Best	100%	100%	100%	100%	0%	100%	100%	100%	100%	—	96%	99%	100%
Group Average	81%	88%	90%	99%	0%	100%	56%	76%	45%	—	62%	88%	98%
Overall Worst	0%	0%	25%	88%	0%	67%	0%	0%	0%	—	32%	61%	90%
[Blurred]	50%	—	71%	—	—	100%	—	—	—	—	34%	91%	90%
[Blurred]	50%	—	86%	100%	—	100%	63%	100%	20%	—	54%	86%	94%
[Blurred]	80%	50%	100%	100%	—	100%	57%	100%	50%	—	69%	84%	99%
[Blurred]	100%	100%	100%	100%	—	100%	100%	100%	80%	—	81%	95%	99%

Nurse Impact Dashboard- Nurse



Contributions

66 Medications Administered

There is not enough data to display the Labs Collected badge.

Safety

	MTD
BCMA Scanning Compliance	97%
Blood Product Scanning Compliance	100%
MAR Overridden Alerts	59.1

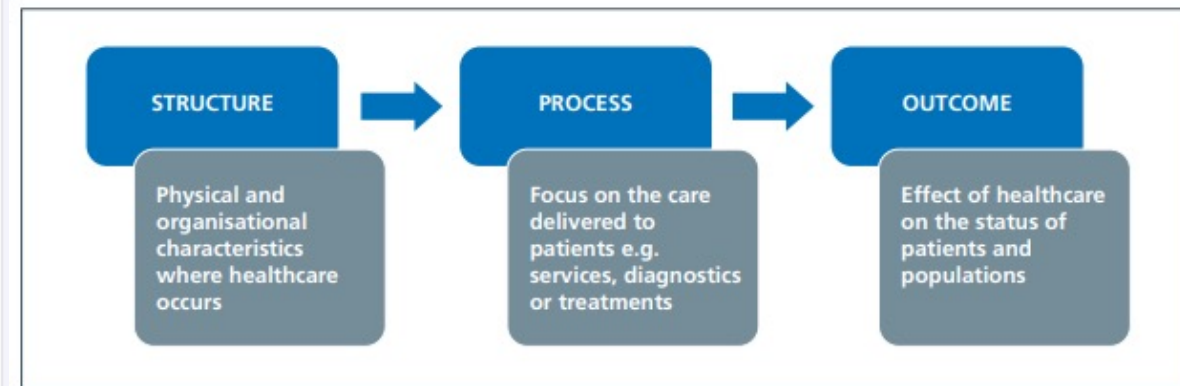
Documentation Compliance

	MTD
Admission Learning Assessment	67%
Admission 4 Eyes Skin Assessment	100%
Braden Skin Assessment	100%
Fall/Humpty Dumpty Assessment	100%
High Risk Skin Interventions	-
CLABSI Required Documentation	100%
CAPD Required Documentation	25%
VTE Assessment	43%
Post-PRN Pain Reassessment	50%

Proficiency

	MTD
Timely Flowsheet Doc	74%
Timely Med Admin	61%

Figure 1: The Donabedian model for quality of care



(ACT Academy)

Nurse Impact Dashboard- Drill Down



Radar Metric Details

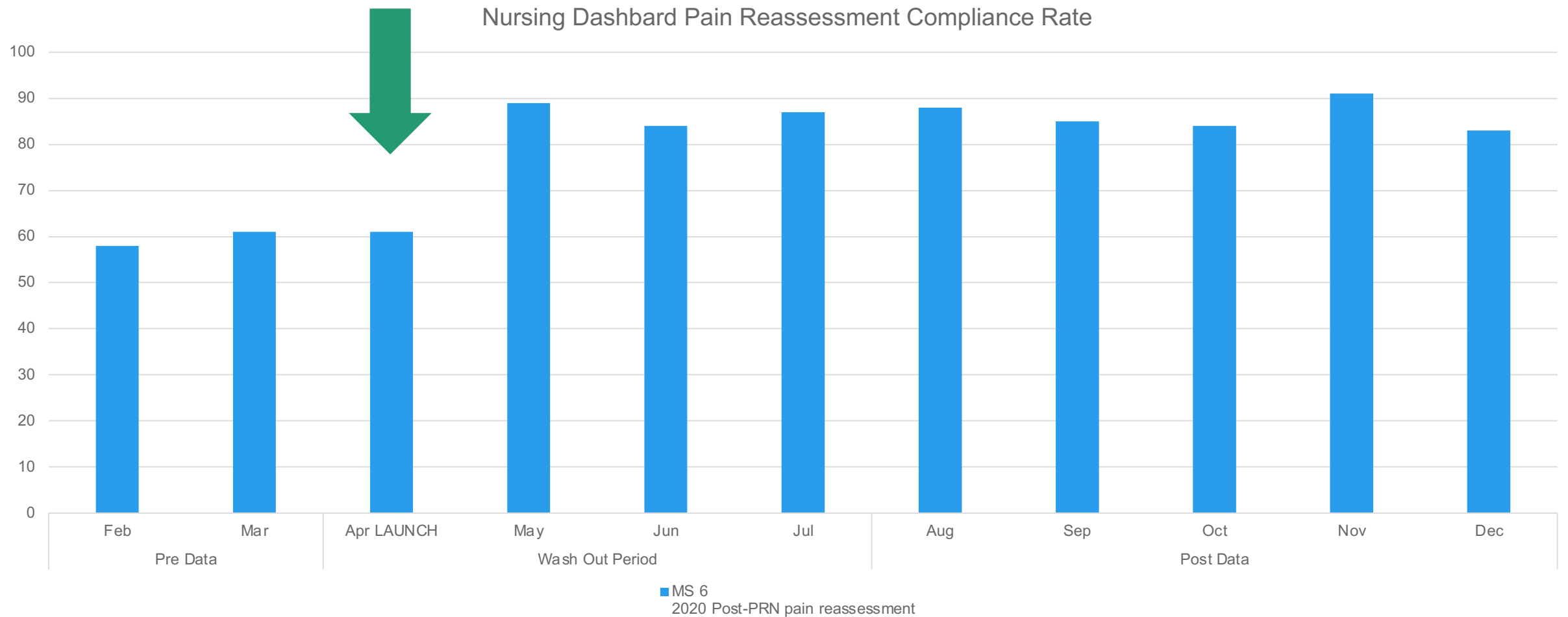
Post-PRN Pain Reassessment - All Reassessment Details

[← Return To Dashboard](#) | [Open Chart](#)

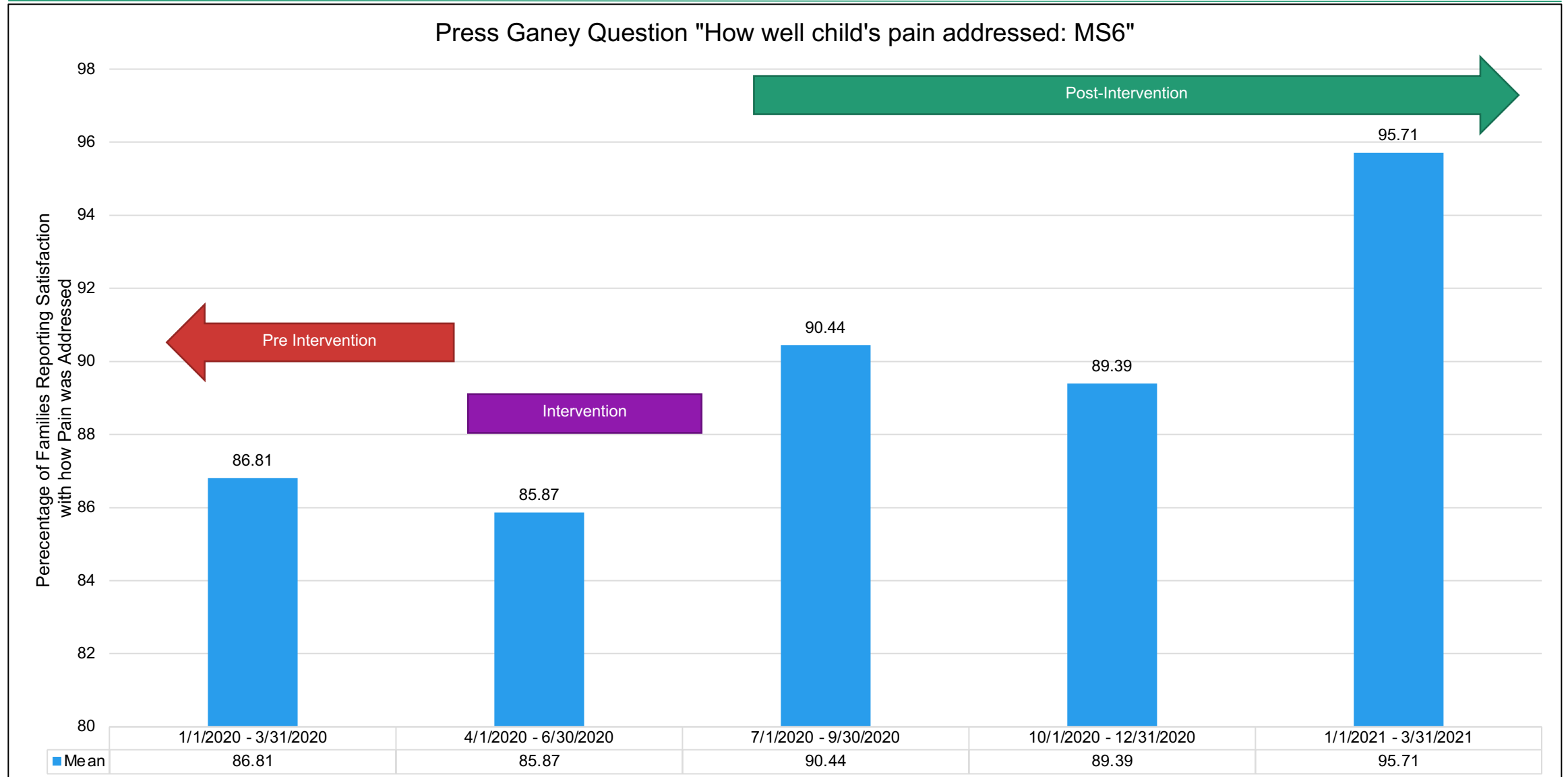
Patient Name	Department	Medication	Administration Time	Reassess Time	Has Timely Reasse	Mins to Reasse	Reassess
[REDACTED]	Pediatric Icu	MORPHINE 4 MG/ML INJECTION SOLUTION	6/30/2021 7:41 PM	6/30/2021 7:51 PM	✓	10	Yes
[REDACTED]	Pediatric Icu	FENTANYL IV BOLUS FROM BAG	6/9/2021 11:35 PM	6/10/2021 12:00 AM	✓	25	Yes
[REDACTED]	Pediatric Icu	FENTANYL IV BOLUS FROM BAG	6/9/2021 10:33 PM		✗		N/A
[REDACTED]	Pediatric Icu	FENTANYL IV BOLUS FROM BAG	6/9/2021 9:28 PM	6/9/2021 10:00 PM	✓	32	Yes

Pilot Results

2020



What Patients are Saying



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2021- COVID Related Project

Expand Copy forward to flowsheet rows with the following restrictions:

- Only allow for data generated by that particular RN
- Only allow for data less than 12 hours old
- Exclude Volume or Measure related information(Numeric Values)
- Exclude Scales
- Exclude provider notification details
- System to regularly monitor and assess

Safe Practice Recommendations for the Use of Copy-Forward with Nursing Flow Sheets in Hospital Settings <https://www.sciencedirect.com/science/article/abs/pii/S1553725016300307>




2021 Nursing EHR Satisfaction Survey


- “Copy forward. **WITHOUT A DOUBT. Game changer. THANK YOU**”
- “Copy to Another Column! That was the **best improvement ever.**”
- “Copy forward has made charting more efficient and therefore **I am able to spend more time on patient care.**”


Clinical Decision Support Tune up

Best Practice Advisories Optimized to Make Actionable

BestPractice Advisory - Donotuse, Princewednesday


Care Guidance (1) 

 Changes to medications for discharge have been made after the discharge instructions were last printed. A new copy of the discharge instructions must be printed for the patient to see the latest medication instructions.

 [Print AVS](#)

[Dismiss](#)


BestPractice Advisory - Green, Rachel

 Based on the ordered frequency, this medication is possibly being administered too close to another administration. Please review previous administrations to verify appropriateness.

Order Name	Frequency	Last Administration
albumin 5% solution for hypoVOLEMIA 150 g [18215060]	Daily	150 g at 5/6/2021 8:00 AM

Acknowledge Reason _____

[Clinically necessary](#) [Provider notified](#) [Acknowledge](#) [See comment](#)



[Accept](#) [Cancel](#)

Clinical Decision Support Tune up



Best Practice Advisories removed- 4

BPA	Action Taken	Clicks Reduced	Projected Hours of Nursing Time Saved Over 1 year
Hypertension 95th Percentile	Remove ED	4,146	8.16
PTA Med list review Verification	Remove RN	2,000	1.34
NO Diet formula or human milk order	Remove RN	1,090	0.72
ED Zero Suicide	Remove BPA	944	0.7
TOTALS		8,180	10.92 hours of nursing time

2nd Nursing EHR Satisfaction Survey Complete

Improve Integration

- Business case for bidirectional IV pumps and ventilator integration

Improve Efficiency

- Access PIN for Mobile Documentation (Smart Phone)
- Optimize Ambulatory Nursing Inbasket

Investigate Documentation Policies

- Review policies to identify areas to decrease documentation required by policies

Questions?

Contact Information

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svisker@connecticutchildrens.org

Or scan QR code:



References



- Bonnie Adrian, PhD RN-BC, Project Joy <https://www.dbmi.columbia.edu/wp-content/uploads/2021/01/25x5Symposium-Adrian-Joy-final.pdf>
- KLAS Research: <https://klasresearch.com/archcollaborative/casestudy/patient-focused-magnet-designated/137>
- Six Domains of Burden <https://ania.org/about-us/position-statements/six-domains-burden-conceptual-framework-address-burden-documentation>
- Patients over Paperwork: <https://www.cms.gov/About-CMS/Story-Page/patients-over-paperwork>
- 21st Century Cures Act: <https://www.healthit.gov/topic/usability-and-provider-burden/strategy-reducing-burden-relating-use-health-it-and-ehrs>
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- Safe Practice Recommendations for the Use of Copy-Forward with Nursing Flow Sheets in Hospital Settings <https://www.sciencedirect.com/science/article/abs/pii/S1553725016300307>
- Nursing Technology Optimization Prioritization Matrix- Modified with permission from a tool developed by Patricia Sengstack DNP, RN-BC, FAAN