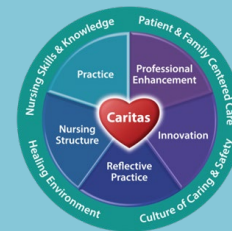


Electronic Health Record Remodeling: Gundersen Health System's Nursing Journey

Shannon Hulett, DNP, RN, CNL

2019 Summer Institute in Nursing Informatics
Healthcare Informatics: A Catalyst for Value-Driven Care Transitions



A photograph of a building facade featuring a balcony with a black wrought-iron railing. The railing has a decorative circular motif. The balcony is partially covered with vines and autumn leaves. Below the balcony, a stone ledge contains the text "NURSES HOME" in large, serif capital letters. The building is made of brick and stone. The foreground is filled with out-of-focus autumn leaves in shades of green and yellow.

NURSES HOME

6 HOSPITALS, 66+ CLINICS

21 COUNTIES

~1900 NURSES

325+ BED LEVEL 2

15,000+ ADMISSIONS

~950 MEDICAL STAFF

1 COMMUNITY CONNECT

1, 120, 492+
OUTPATIENT VISITS

~8,560 EMPLOYEES



Hospitals



Medical Clinics



Eye Clinics



Behavioral Health



Nursing Homes



Sports Medicine & Orthopedic Clinics



Renal Dialysis Centers



Pharmacies and Medical Supplies



ExpressCare



Urgent Care



Emergency Services

AGENDA

- Introduce nursing informatics at Gundersen Health
- Outline phased approach to a pain assessment project
- Describe the execution of an acute admission redesign
- Summarize a care plan upgrade and practice reset
- Review usability assessments and lean principles used
- Discuss potential for related strategies in other organizations



THE CALL

- Future of Nursing: Leading Change, Advancing Health
- User-centered design - opportunity to intervene
- The Federal Health IT Strategic Plan: 2015-2020
- AMIA EHR Task Force 2020

IMPACTING FACTORS

Factors impacting nursing documentation and EHR use

Individual	Interpersonal	Organizational
<ul style="list-style-type: none">• nurses' perceptions (impacted by education level, age, and time spent documenting)• continued informal use of paper• experience with technology	<ul style="list-style-type: none">• teamwork and team communication• privacy concerns• distraction• patient type• shift involved	<ul style="list-style-type: none">• location of computers• reliability of computers• software design• documentation requirements• reimbursement

(Carrington & Effken, 2011; Cornell, Riordan, & Herrin-Griffith, 2010b; Cornell, Gervis, Yates, & Vardaman, 2013; Hripcsak, Vawdrey, Fred, & Bostwick, 2011; Keenan, Yakel, Lopez, Tschannen, & Ford, 2013; Kohle-Ersher, Chatterjee, Osmanbeyoglu, Hochheiser, & Bartos, 2012; Kutney-Lee & Kelly, 2011; Li & Korniewicz, 2013; Petkovsek-Gregorin & Skela-Savic, 2015; Sidebottom et al., 2012; Sockolow et al., 2014; Staggers, Clark, Blaz, & Kapsandoy, 2011; Yeung et al., 2012)



LAUNCHING C4

C4 Council Membership

Primary Members



Taylor Rowe
CardioPulmonary



Erin Decker
Surgical/Digestive



Anne Nusse
St. Joseph



Tara Weidner
Inpt. Behav Health



Juliene Sloane
PNICU



Erica Cook
Critical Care



Mara May
Neuroscience



Barb McCoy
St. Joseph



Martha Helin
Obs. & Nursery



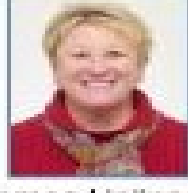
Lauren Neet
Procedural



Shannon Hulett
Informatics Nurse



Andrea Hauser
Director of Nursing



Teresa Hollnagel
Nurse Educator



Dana Check
CNL



Melissa Miller
Cont. Readiness



Laura Kloss
Clinical Manager



Lindsey Walker
Quality Nurse



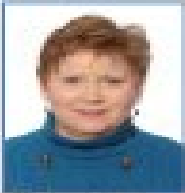
Kari Ranallo
Office Assistant



Dawn Heimer
Nurse Educator



Lori Preston
Adv. Training Consult.



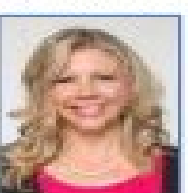
Mary Stibbe
Clinical Informaticist



Tammy Henderson
Clinical Informaticist



Shari Vanderbush
C. Sys. Manager



Heather Richards
Adv. Training Consult.

Ad Hoc Members



Angela Everson
Pediatrics



Kelsey Metz
Medical Onc



Becky Fruechte
Labor & Delivery



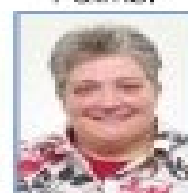
Mandy Juresh
Tri County



Wendi Stitzer
Boscobel



Deb Kelly
Palmer



Becky Inglis
Nurse Educator



Kristin Jerome
C. Data Analyst



Dan Roberts
Systems Architect

RESPONSIVENESS – PAIN

PAIN STANDARDS



Organizational
Policies &
Standard
Operating
Procedures

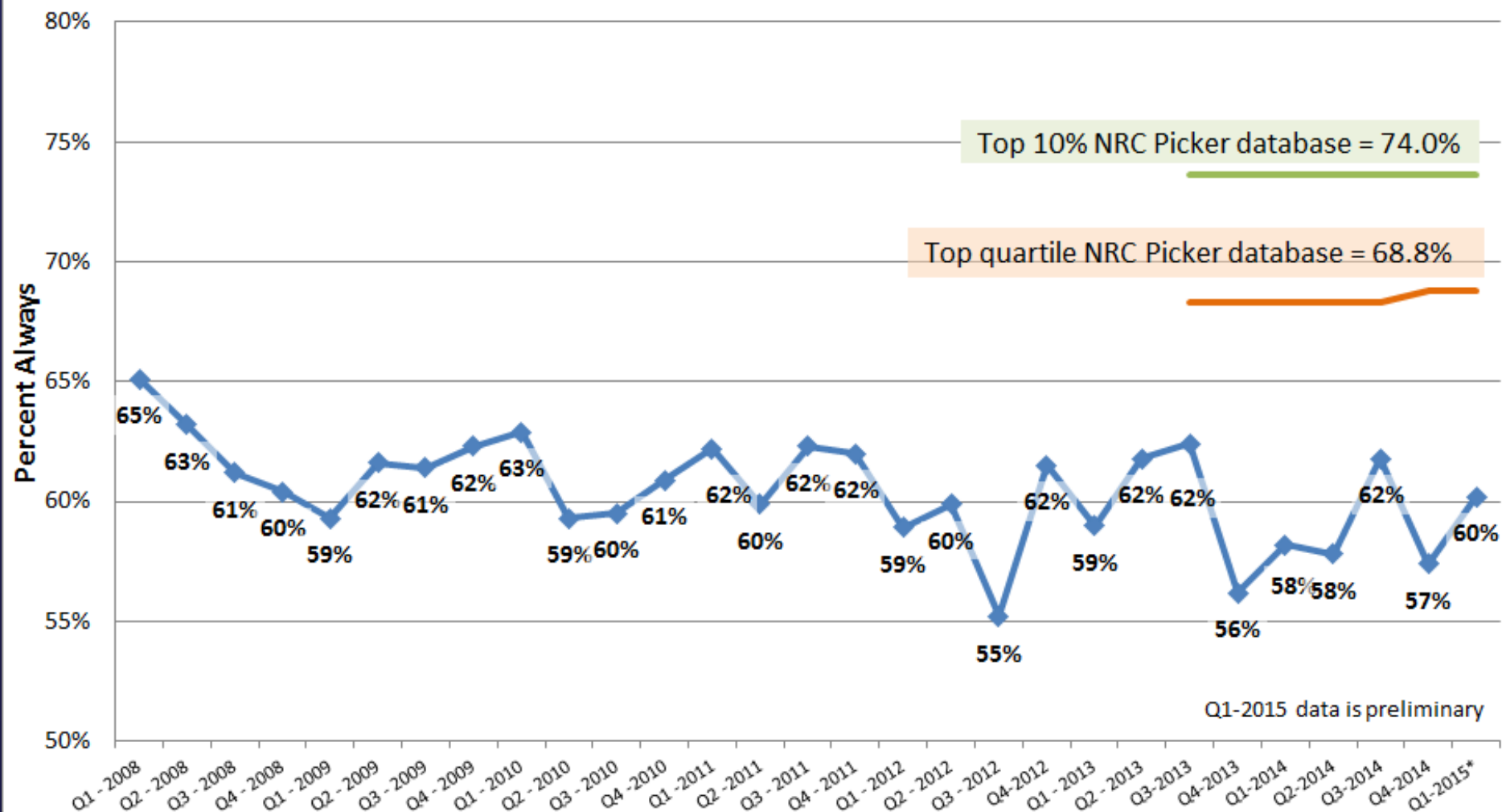


Data by discharge date
Updated: April 7, 2015

HCAHPS - Pain Controlled

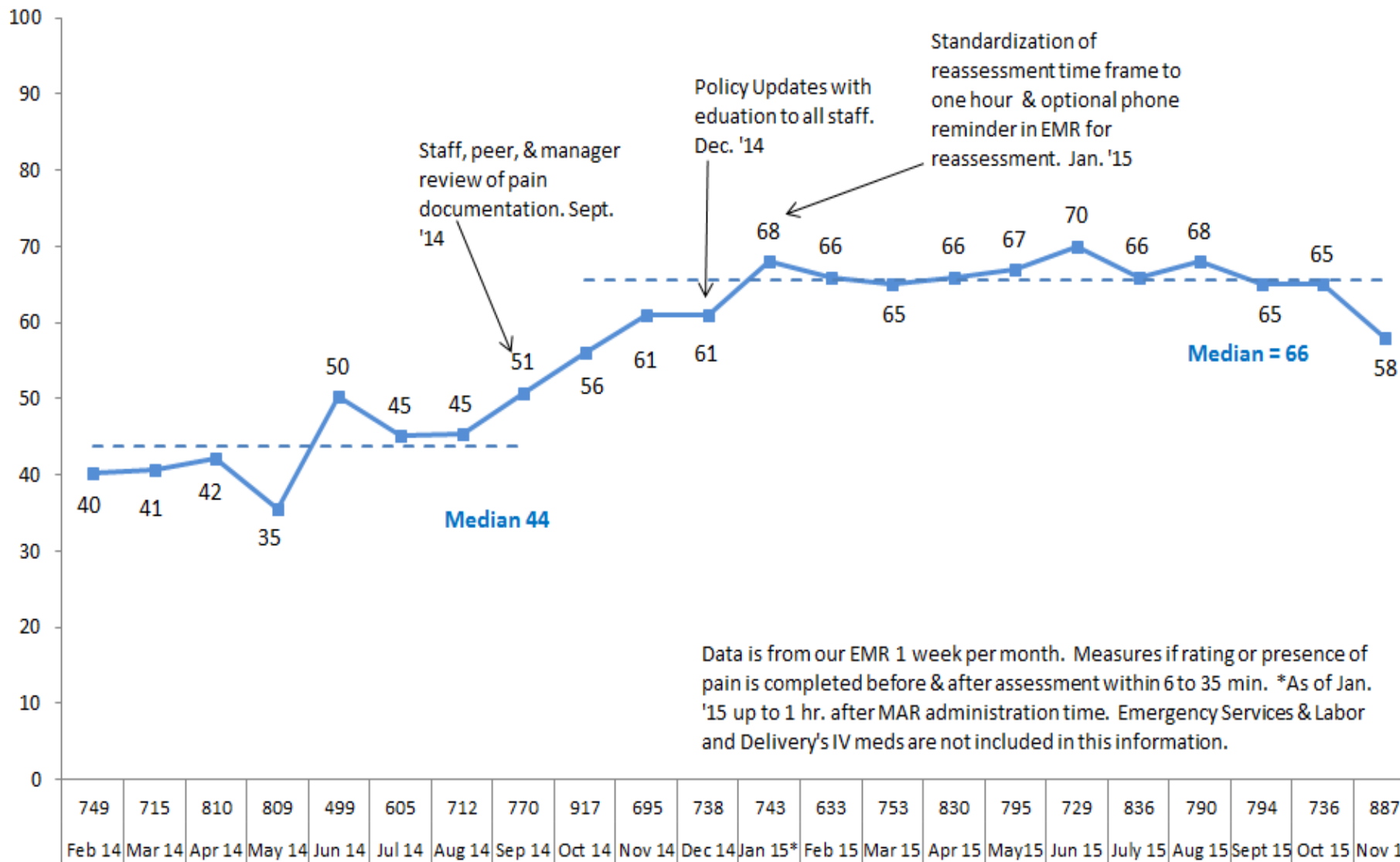
How often was your pain well controlled?

◆ GL - Percent Top Box — NRC Picker database - Top 10% — NRC Picker database - Top quartile



Assessment & Reassessment of IV PRN Pain Medications on Gundersen Hospital Inpatient Units

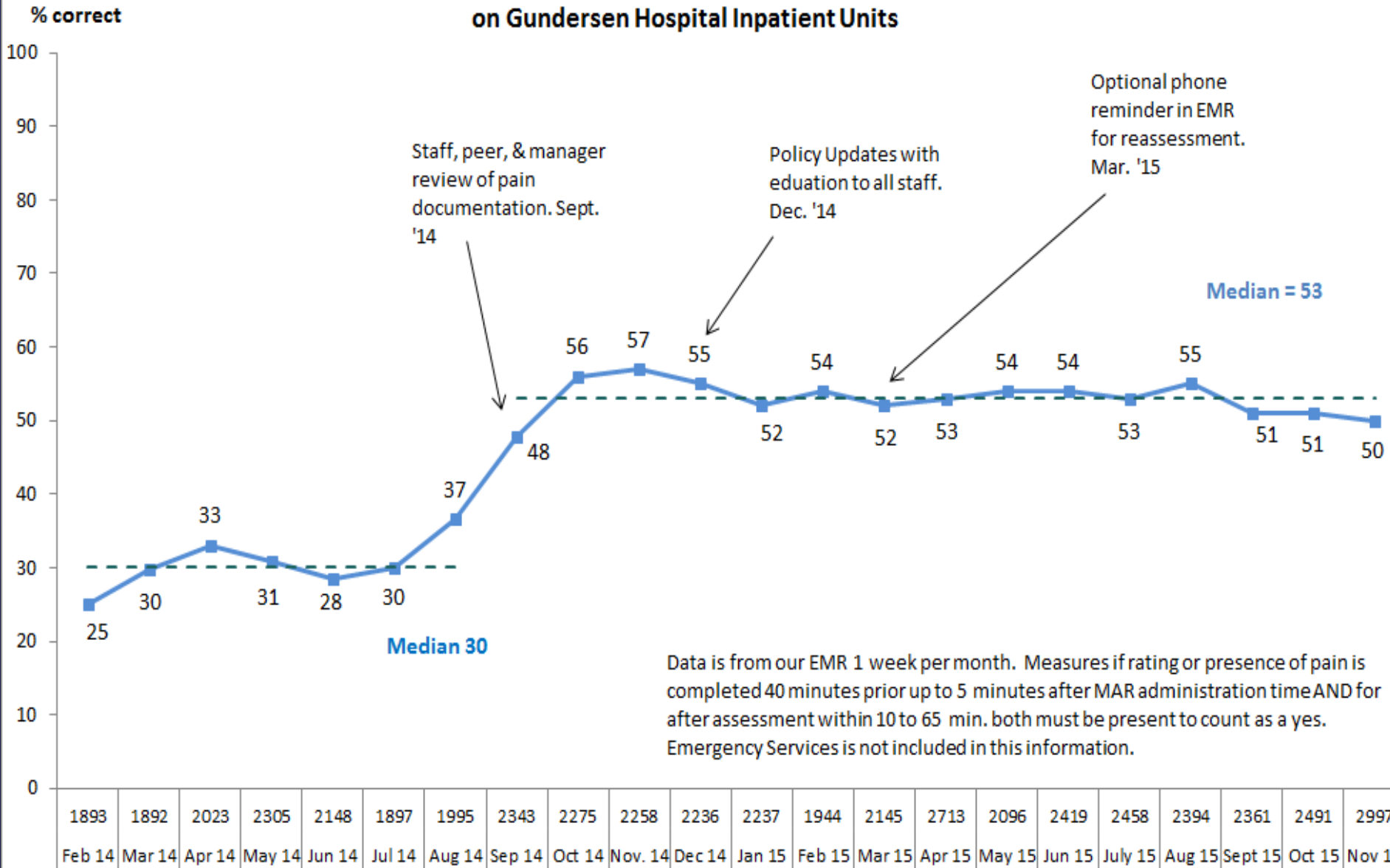
% correct



Data is from our EMR 1 week per month. Measures if rating or presence of pain is completed before & after assessment within 6 to 35 min. *As of Jan. '15 up to 1 hr. after MAR administration time. Emergency Services & Labor and Delivery's IV meds are not included in this information.

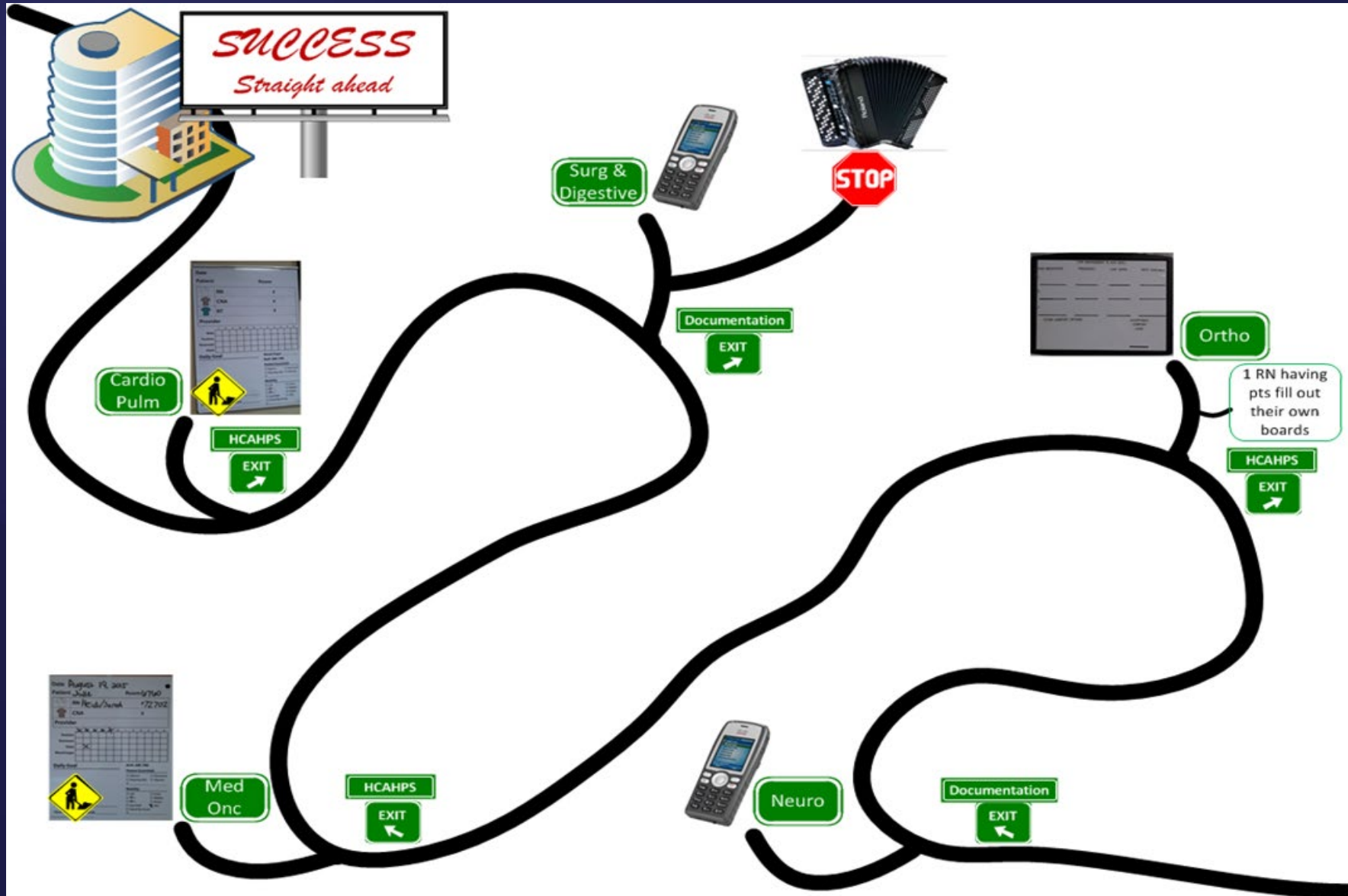
of meds administered during the sample period

Assessment & Reassessment of Oral or IM PRN Pain Medications on Gundersen Hospital Inpatient Units



of meds administered during the sample period

PAIN AT GUNDERSEN



...MAKE IT **USEFUL**

- **Utility** = it provides the features you need
- **Usability** = features are easy & pleasant to use

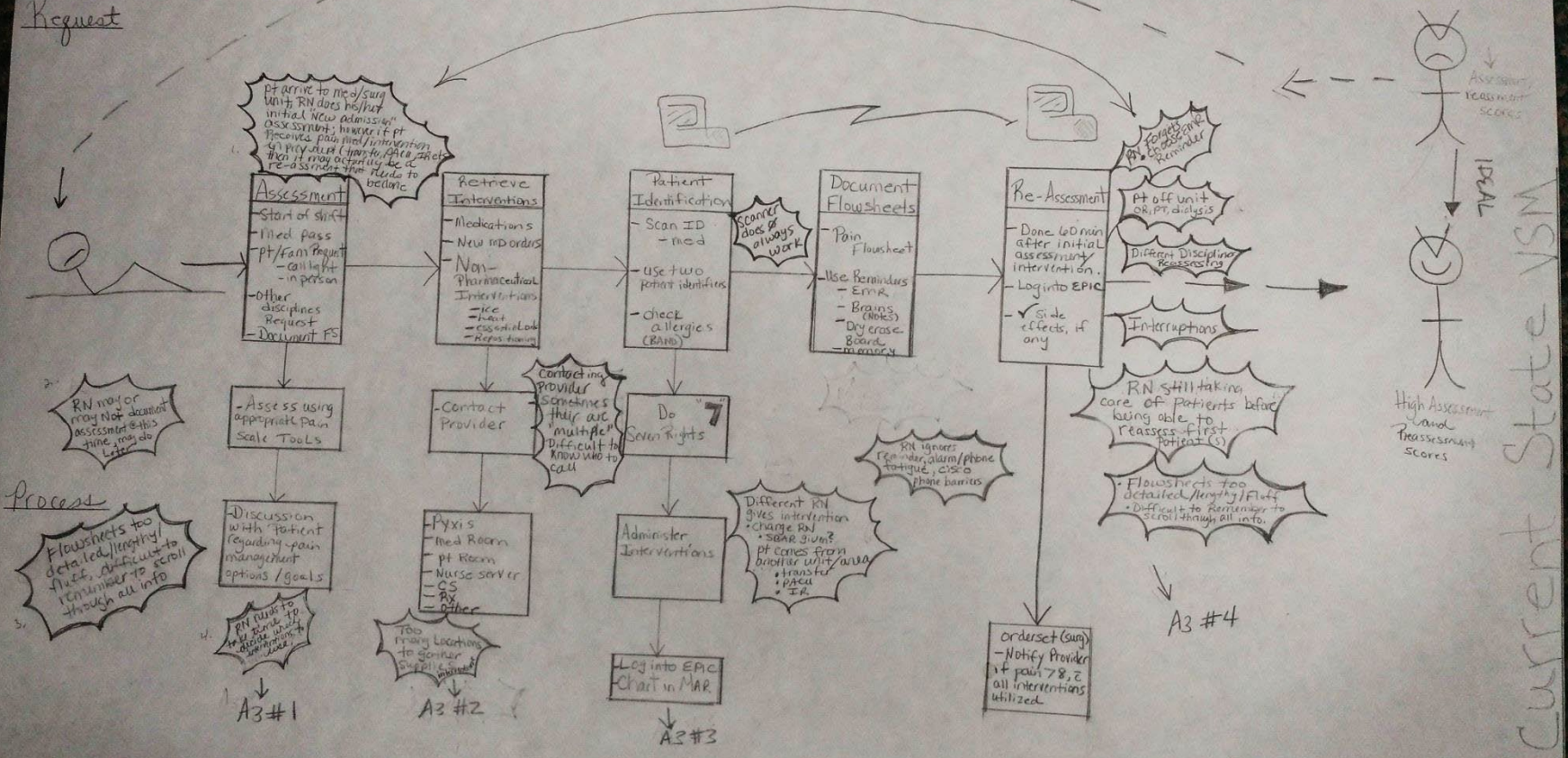
Useful = usability + utility

To: mB
 By: AB, DC
 Dat: 9, March 2016

Request: Pain Assessment/Reassessment

process in place
 not being followed

Request



Process

Current State VSM

Data Collection

Short Stay unit

IV Assessment/ Reassessment

Oral (PO) Assessment/ Reassessment

	Dec-2015	Jan-2016	Feb-2016 (1st-8th)
IV Assessment/ Reassessment	50%	47%	63%
Oral (PO) Assessment/ Reassessment	44%	46%	67%

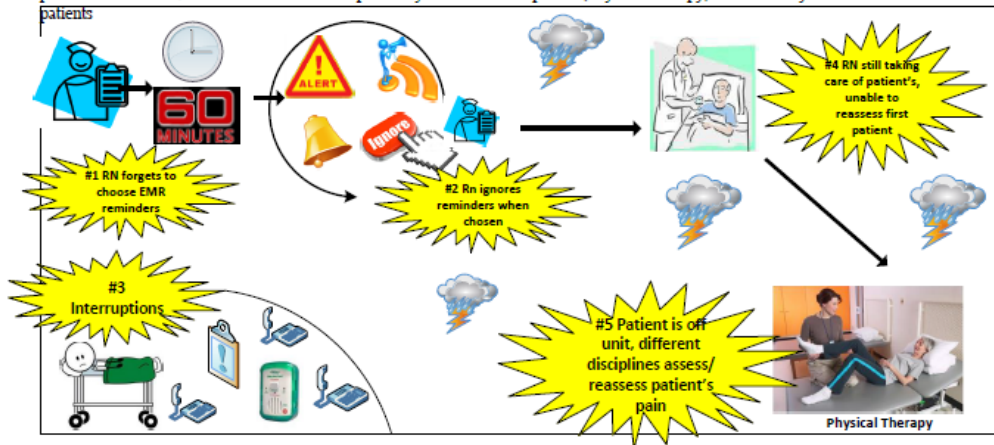
ISSUE

A3 #4 Pain reassessment does not get completed & or documented

BACKGROUND/MEASUREMENT

RN uses methods to assess/reassess pain based on patient's age, condition and ability to understand per Gundersen Health System standing operating procedure/criteria.

Current State RN is not completing/documenting his/her pain reassessment at all or within the 60 minute post intervention requirement. Nurse tends to forget to select reminders or ignores the alerts due to several alerts throughout the day, alarm fatigue/too many interruptions/patient is off the unit, therefore a different discipline may assess/reassess patient (Physical Therapy). Nurse is busy with another/other patients



PROBLEM ANALYSIS



Problem #1: RN forgets to choose EMR/other reminders
 Why? RN does not utilize the pain flow sheets correctly, do not select reminder built in EPIC/EMR
 Why? RN is unaware of what the minimal documentation required
 Why? Flow sheet is too dense/detailed/lengthy/congested



Problem #2: RN ignores reminder when chosen
 Why? Too many phone calls/alerts
 Why? Alarm fatigue



Problem #3: Interruptions
 Why? RN receives several daily phone calls, patient call lights alarming, pages & several members of the multidisciplinary team needing the nurse's assistance/questions/requests/emergencies
 Why? Inpatient units/departments/setting/environment is complex, busy, demanding with large workloads
 Why? Interruptions lead to nurses forgetting to reassess their patients pain



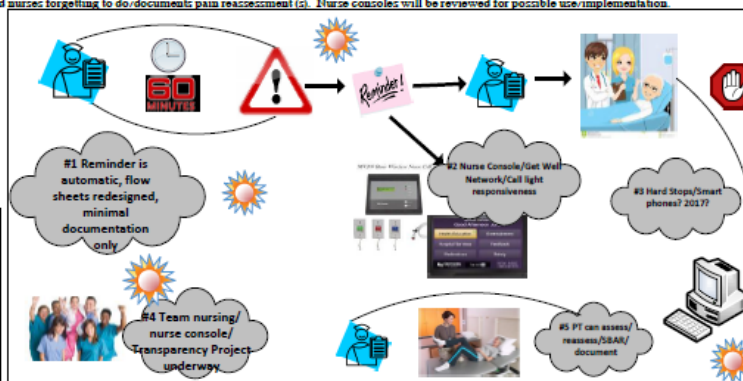
Problem #4: RN is still taking care of his/her patients before being able to reassess their first patient's pain
 Why? It may take several minutes for RN to assess all his/her patients
 Why? Initial first patients assessed do not get reassessed within the required 60 minutes post intervention (s)



Problem #5: Patient is off the unit
 Why? Patient may receive care outside of his/her hospital room
 Why? Patient may need PT/OT/IR/Dialysis; therefore other disciplines are with patient during assessment and/or reassessment times.

VALIDATED

Future State: RN will not forget to select the reminders within the pain flow sheets, as these will be automatic/as well as the flow sheets will be less congested, only the minimal requirements will be charted/needed. Add option "pt is off unit" within the flow sheets as well. Hard stops will be implemented within EPIC to avoid nurses forgetting to do/documents pain reassessment (s). Nurse consoles will be reviewed for possible use/implementation.



TO Shannon Hulett
 BY AB, DC
 DATE Feb'16-current

VALIDATED

COUNTERMEASURES

- To address root cause #1: Epic build team/Shannon Hulett, pain sub-group, "The Mothership"
- To address root cause #2: Call light/responsiveness team-automatic reminders in EPIC
- To address root cause #3: Shannon Hulett-pain subgroup, "The Mothership"
- To address root cause #4: ?Nurse Console possibility/responsiveness group/Shannon Hulett/meet with vendors/managers (Team nursing)
- To address root cause #5: Amy Becker to contact Jill Buck (PT) re: scope of practice...PT can assess and reassess patients

IMPLEMENTATION PLAN

What	Who	When	Outcome
Flow sheets	AB, BK, JA, CD, SH, LK	After Epic Upgrade: May'16	PT can assess/reassess in notes
Responsiveness	Responsiveness Group	see timeline/July-Aug '16	
Hard Stops	""	""	
Nurse Console/Get Well	""	""	
PT/Assess/Reassess	AB/JB	Mar '16/done	

COST OF IMPLEMENTATION

Cost estimates for implementing new plan.

COST BENEFIT

Compare the data in BACKGROUND/MEASUREMENT to gather improvement measures (time/money/patient satisfaction/patient safety etc...)

TEST

EPIC/technology will be tested on one or two units at a time before house wide implementation

FOLLOW UP

What	Who	When	IMPROVEMENT COMPLETE
<i>Identify by whom, what, and when assigned tasks/activities where completed.</i>			
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No

PROJECT PHASES

Phase 1: Flowsheet rows (Q4, 2016)



Phase 2: MAR pain documentation, picklist cleanup (Q4, 2016)



Phase 3: PAF row, & monitor impact of phone reminders (Q1, 2017)

Phase 4: Alignment of inpatient & outpatient pain rows, pain scale expansion, PEG scale (Q2, 2017)



Phase 5: Other pain documentation (Angina, PT/OT pain documentation) (Q3, 2017)



Phase 6: Rework pain phone reminder (if needed) (Q4, 2017)

Phase 1

Before

Pain/Comfort/Sleep	
Presence Of Pain	complaints of pain/discom...
Preferred Pain Scale	number (Numeric Rating ...
Pain Body Location - Side	
Location - Orientation	
Pain Body Location	
Pain Radiation to	
Pain Frequency	
Pain Quality	
Associated Signs/Symptoms	
Pain Rating (0-10): Rest	
Pain Rating (0-10): Activity	
Nonverbal Indicators Of Pain	
Comfort/Acceptable Pain Level	
Pain Onset	
Pain Duration	
Factors That Aggravate Pain	
Factors That Relieve Pain	
Pain Management Interventions	
30 minute pain reassessment alert	
60 minute pain reassessment alert	
Sleep/Rest/Relaxation	
Total Hours Slept	
Number of Times Awake	
Fever Reduction/Comfort Measures	
Additional Pain Site Documentation	

After

* = must complete per policy

Pain/Comfort/Sleep	
*Presence Of Pain	complaints of pain
Preferred Pain Scale	word (verbal ratin
Pain Orientation	
*Pain Body Location	
Pain Descriptors	
*Pain Rating	
Comfort/Acceptable Pain Level	
Pain Management Interventions	
Factors That Aggravate Pain	
Factors That Relieve Pain	
60 minute pain reassessment alert	
Additional Pain Assessment	

Selection Form

- Radiation
- Frequency
- Associated signs and symptoms
- Nonverbal indicators of pain
- Pain onset
- Pain duration

Simplification: Removed 8 rows and hid 6

Phase 1

Before

Review Patient's Pain Status

Link to Pain Accordion
[Pain Trend Accordion](#)

Flowsheet Link
[CLICK HERE TO REVIEW Pain Assessment](#)

Oxygenation

After

Patient Reports

← ↻ 🏠 | Index | SBAR Handoff | Admit Med Rec Status | Clinic documentation | Snapshot | Orders | Pt Details | Results | Lab Active Orders | Specimen Collection | Report: SBAR Handoff 🔍

Assessment

[Allergy Information](#)
No Known Drug Allergies

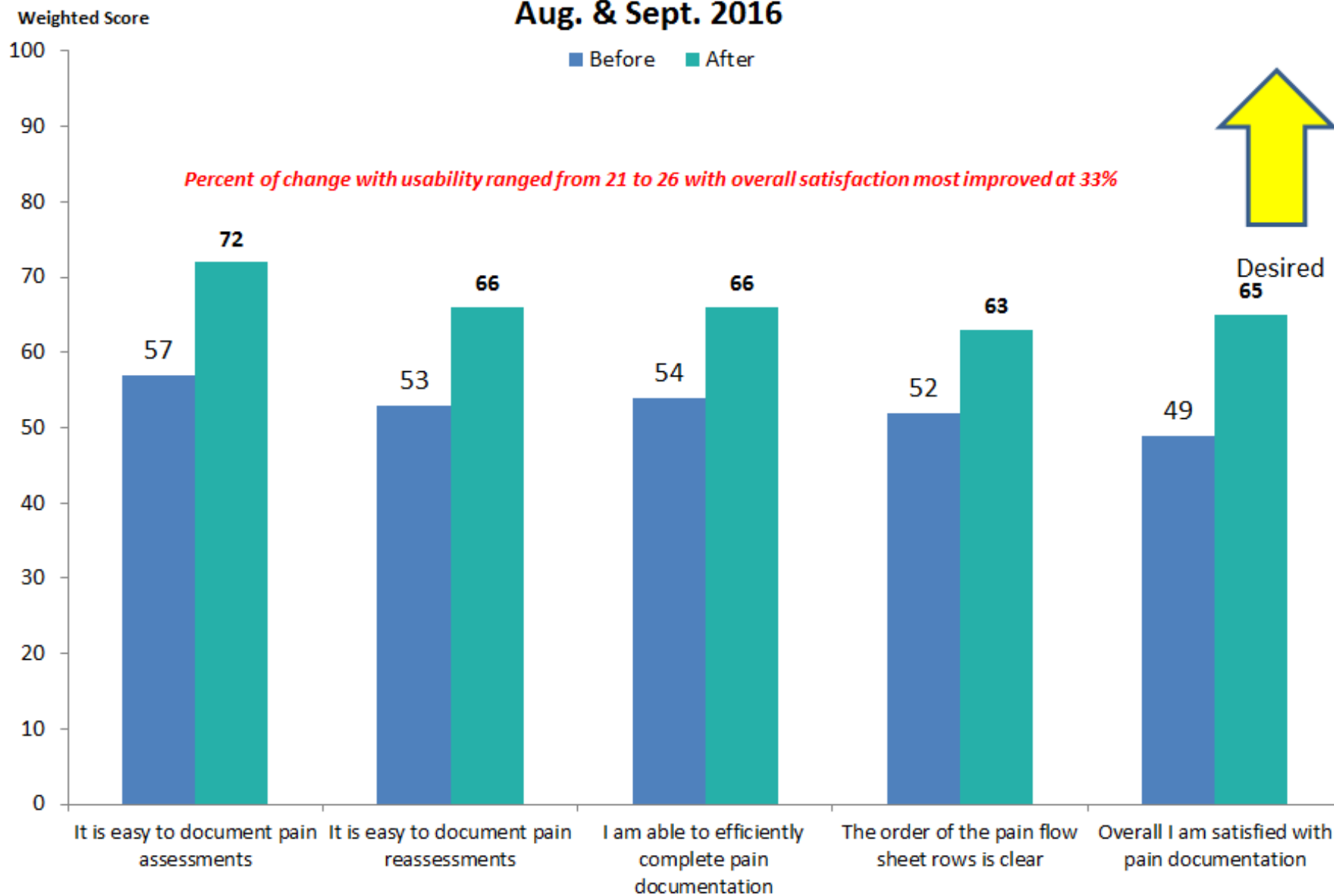
Pain Assessment Documentation

	8/23/2016 0400	8/23/2016 0500	8/23/2016 0600	8/23/2016 0740
*Presence Of Pain:	complains of pain/discomfort	complains of pain/discomfort	complains of pain/discomfort	off unit unable to assess in therapy
Pain Orientation:	right	right	-	-
*Pain Body Location:	leg	leg	-	-
*Pain Rating :	7 --> Severe	4 --> Moderate --> Hurts a little more	-	-
Comfort/Acceptable Pain Level:	-	2 --> Hurts a little	-	-
Pain Descriptors:	aching	aching	-	-
Pain Management Interventions:	oral	cold applied	-	-
Factors That Aggravate Pain:	activity	-	-	-
Factors That Relieve Pain:	elevation	-	-	-

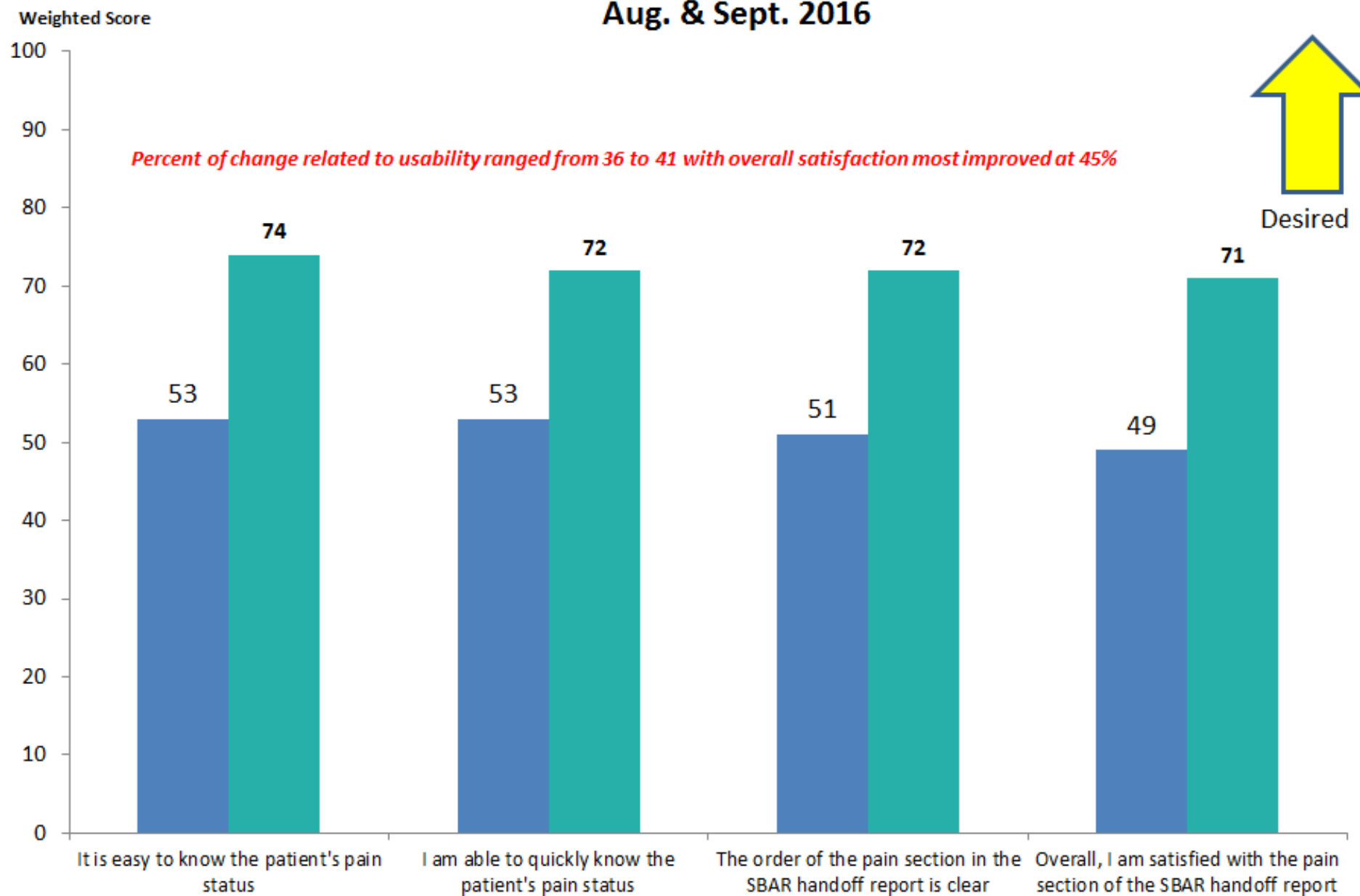
Link to Pain Accordion
[Pain Trend Accordion](#)

Nutrition Orders

Staff Response to Pain Documentation Changes Aug. & Sept. 2016



Staff Response to Pain Questions on the SBAR Handoff Report Changes Aug. & Sept. 2016



ESTIMATED TIME SAVINGS

- In the fall of 2017 we administered about 3200 as needed pain medications per week
- Nurses estimate the simplifications decreased documentation time by:
 - Initial assessment: 10 to 20 seconds
 - Reassessment: 5 to 15 seconds
- 693 to 1617 hours per year of nurse's time
- Resulting in cost savings of \$43,290 to \$72,765 per year

PHASE 2

***Pain Body Location**

Select Single Option: (F5)

- abdomen
- back
- head
- knee
- leg
- hip
- chest, general
- shoulder
- neck
- foot
- ankle
- throat
- arm
- temporal region
- parietal region
- occipital region
- scalp
- face
- forehead
- orbital region
- eye
- ear
- cheek
- nose
- mouth (dental)
- mouth (non-dental)
- palate
- gum
- lip

Selection Form

0 --> No pain --> No hurt

1 --> Mild

2 --> Hurts a little

3

4 --> Moderate --> Hurts a little more

5

6 --> Hurts even more

7 --> Severe

Accept Cancel

MAR

Refresh Report MAR Note Legend Rx Messages

Documented By: ALEXANDER, JESSIE A Schedule Date/Time: 03/15/17 1300

Medication

X HYDROMorphone (DILAUDID-Equivalent) injection 0.2 mg : Dose 0.2 mg : Intravenous : EVERY 2 HOURS PRN : Severe Pain

Ordered Admin Amount: 0.2 mg = 0.2 mL of 1 mg/mL
Last Admin: Yesterday 03/14/17 at 1520
Dispense Location: 4N
Order Start Time: 03/13/17 at 1930
PRN Reasons: Severe Pain
Recent Admin Within 72 Hours: 03/14/17 1520
Product: HYDROMorphone 1 mg/mL Syng
Expected Dispense Volume: 1 mL
Linked Line: Peripheral IV Line - Single Lumen (adult) 03/14/17 0421 left, median vein (underside of arm) 20 gauge (as of Today 03/15/17 at 1410)
References: Lexi-Comp Meds
Pharmaceutical Class: ANALGESICS, NARCOTICS

Recent Actions
03/14 03/14 03/14
0716 1141 1520
Given Given Given

Action: Given
Date: 3/15/2017 Time: 1410
Route: Intravenous
Dose: 0.2 mg
Expected dose: 0.2 mg
Order Concentration: 1 mg/mL

Comment: Enter Comment

Associated Flowsheet Rows:

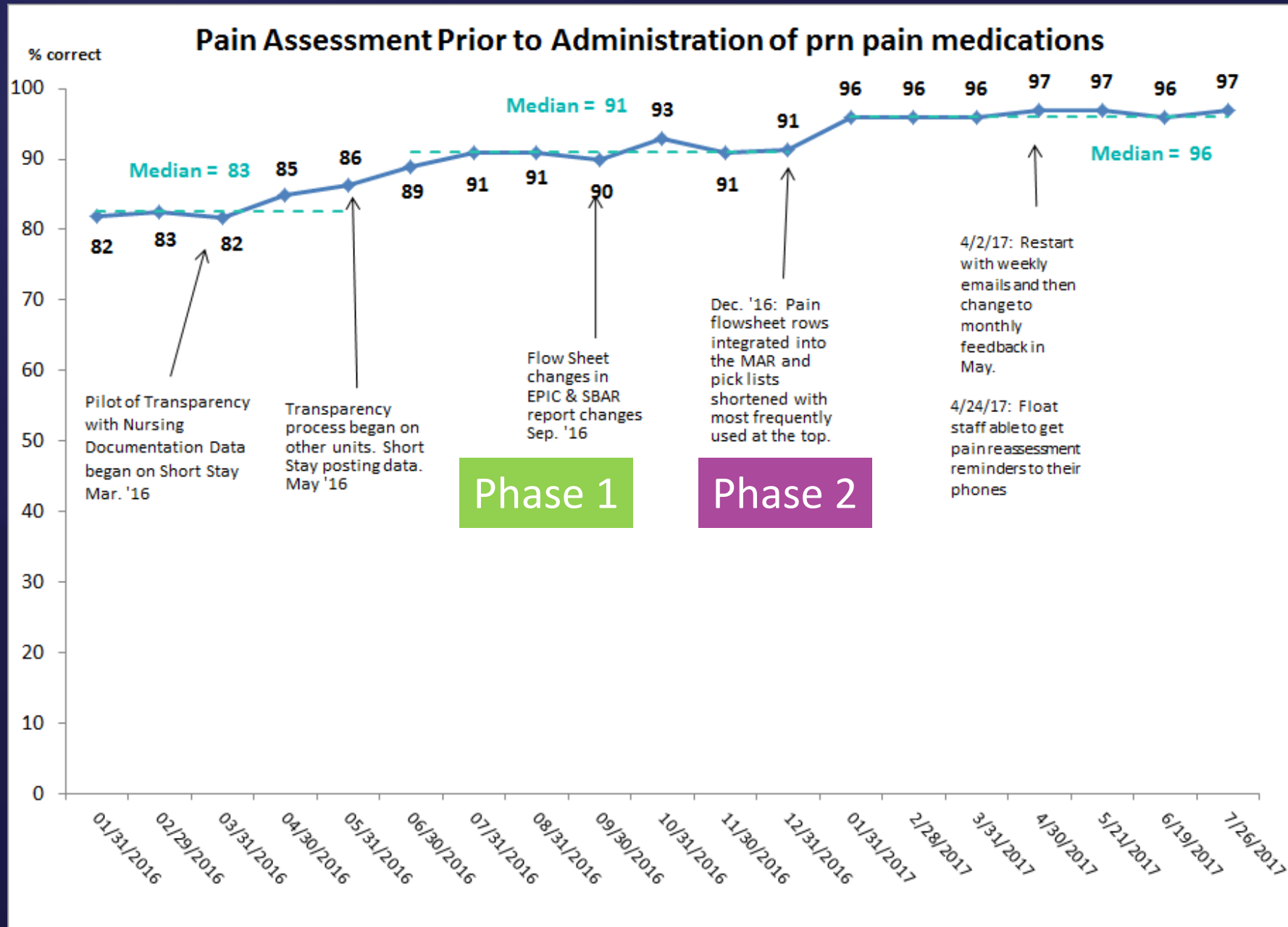
New Value: Date: 3/15/2017 Time: 1410
Check the box to link to previous value if no new assessment is needed. Only values from 03/15/17 1409 to 03/15/17 1410 are allowed.

Pain/Comfort/Sleep	denies pain/disc ... complains of pai ... appears asleep	No data filed in allowed time range
*Presence Of Pain		
Pain Orientation	right left bilateral generalized upper lower	No data filed in allowed time range
*Pain Body Location	abdomen back head knee leg hip	No data filed in allowed time range
*Pain Rating	0 --> No pain --> 1 --> Mild 2 --> Hurts a little 3	No data filed in allowed time range
Pain Management Interventions	oral parenteral transdermal patch rectal IM	No data filed in allowed time range
60 minute pain reassessment alert	Yes	No data filed in allowed time range
OTHER		
Facial Expressions (CPOT)	0=Relaxed, neutr ... 1=Tense --> Pres ...	No data filed in allowed time range
Body Movements (CPOT)	0=Absence of mov ... 1=Protection --> ...	No data filed in allowed time range
Compliance with ventilator (intubated patients) (CPOT)	0=Tolerating ven ... 1=Coughing but t ... 2=Fighting vent ...	No data filed in allowed time range
Vocalization (extubated patients) (CPOT)	0=Talking in nor ... 1=Sighing, moaning 2=Crying out, so ...	No data filed in allowed time range
Muscle Tension (CPOT)	0=Relaxed --> No ... 1=Tense, rigid - ... 2=Very tense or ...	No data filed in allowed time range
Total CPOT Score		No data filed in allowed time range

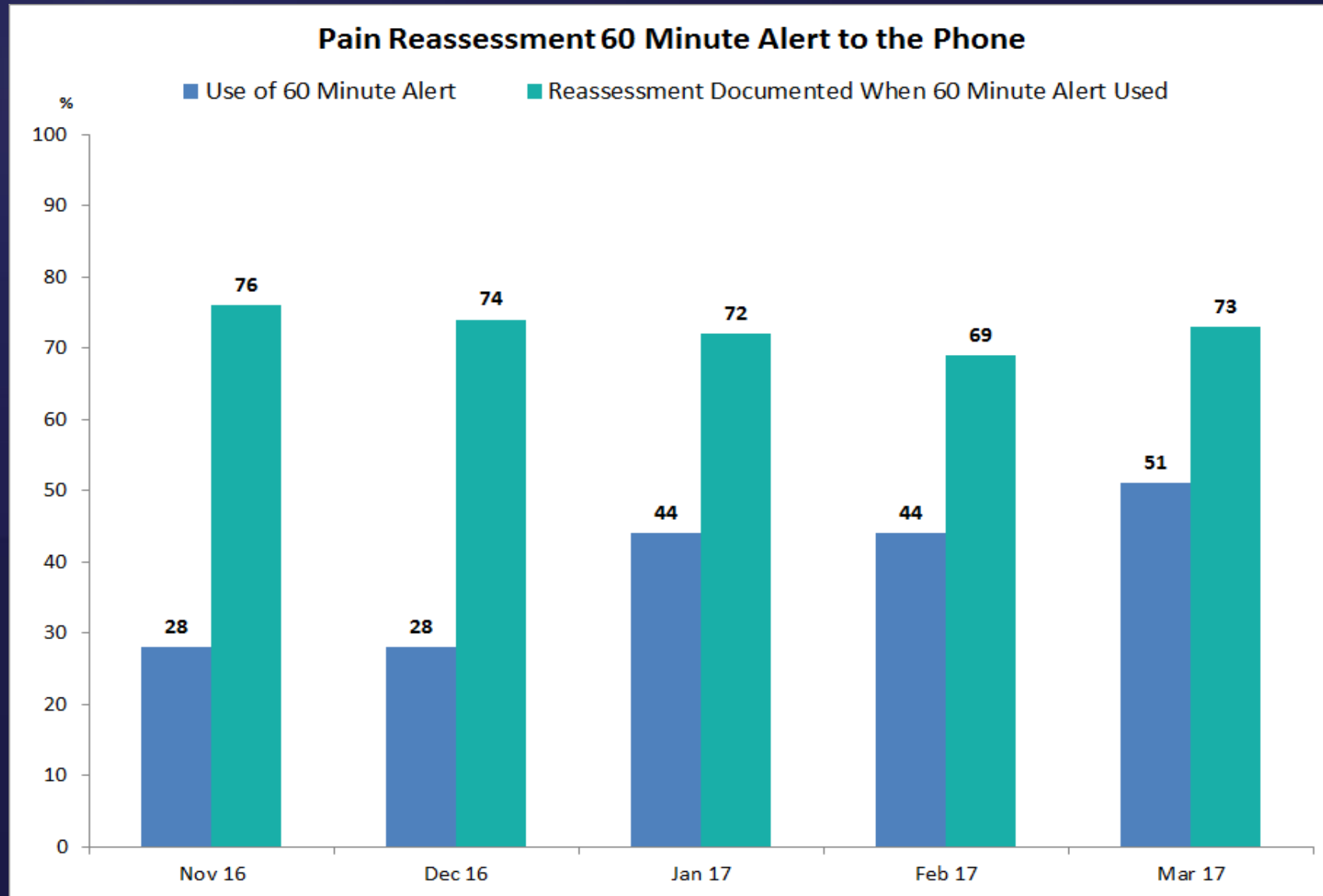
Restore User Taken By

You are documenting 1 administration. Accept Cancel

RESULTS AFTER PHASE 2



PHASE 6



ADMISSION SIMPLIFICATION

ADMISSION SIMPLIFICATION

Demonstrate how usability assessments, LEAN and interdisciplinary/patient collaboration drove the renovation of subjective admission assessments and documentation for nursing

Project Objectives:

Confirm necessary subjective assessments

Conduct usability assessments

Implement redesigned functionality

Evaluate effectiveness, efficiency, and satisfaction

“WHAT’S YOUR WHY?”

- “Just being more present can prevent issues on our unit. Short, frequent contacts are important and reduced time spent with one patient on an admission, allows for more contacts with other patients.”
- “I will have more time to build relationships with my patients and their families, more time to educate patients about why they are here, or answer questions about uncertainties they have about their diagnosis or medications.”

Pre-Change Admission Navigator

Admission Navigator

- ASSESSMENTS
- Allergies
- Med History
- Med Policy and Di...
- Immunizations
- Active LDAs
- Patient Care Sum...
- Fall Risk
- Braden Scale
- Tobacco Use
- Admission Profile**
- Patient Profile
- ACP Link
- Care Plans
- Patient Education
- BestPractice**

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Last Bowel Movement

Last Bowel Movement date known unknown

Last BM: 7/31 1150 - 10/8 1232
 44 date known taken 3 months ago

Usual Bowel Pattern daily every other day every third day weekly irregular regular
 44 daily taken 3 months ago

Diabetes

Does the patient have Diabetes? Yes No Unknown

Diabetes: 7/31 1150 - 10/8 1232
 44 Yes taken 3 months ago

Living Environment

Lives With alone child(ren), adult child(ren), dependent facility resident frie
 sibling(s) significant other spouse other (see comments)

Living Environment: 7/31 1150 - 10/8 1232
 44 spouse taken 3 months ago

Living Arrangements

apartment assisted living condominium correctional facility ext

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Form version

Flowsheet version

Vital Signs Intake/Output Adult Patier

new All 1m 5m 10m 15m

Admission (Current) fro...	
10/8/16	
1233	

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Sleep/Relaxation	<input checked="" type="checkbox"/>
Cardiac	<input checked="" type="checkbox"/>
Peripheral/Neurovascular	<input checked="" type="checkbox"/>
Respiratory	<input checked="" type="checkbox"/>
Nutrition/Metabolic	<input checked="" type="checkbox"/>
GI Review of Systems	<input checked="" type="checkbox"/>
Genitourinary	<input checked="" type="checkbox"/>
Musculoskeletal	<input checked="" type="checkbox"/>
Activity/Exercise/Self-Care	<input checked="" type="checkbox"/>
Functional Level Prior to Il...	<input checked="" type="checkbox"/>
Skin	<input checked="" type="checkbox"/>
Health and Illness History	<input checked="" type="checkbox"/>
Current Health and Illness	
Reason for Admission as Stated by	
Mutuality/Individual Preferences	
Do you have concerns about past or	
What Anxieties, Fears or Concerns Do	
What Questions Do You Have About	
What Information Would Help Us Give	
Neurological	
Neurological Conditions	
Neurological Signs/Symptoms	
Pain	
History of Chronic Pain	

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SIMPLIFICATION

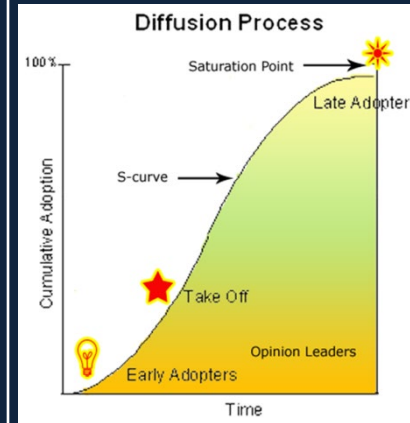
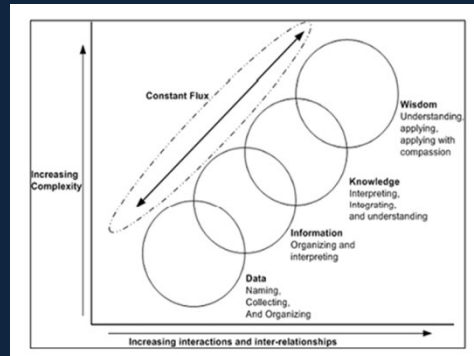
The term *simplification* was a key descriptor of the project's intent.

- Clinicians should be thinking about what they are doing, which is providing patient care.
- Leading with simplification seemed to facilitate emotional connections, positive energy, and commitment among many staff and departments.

Theoretic Underpinnings

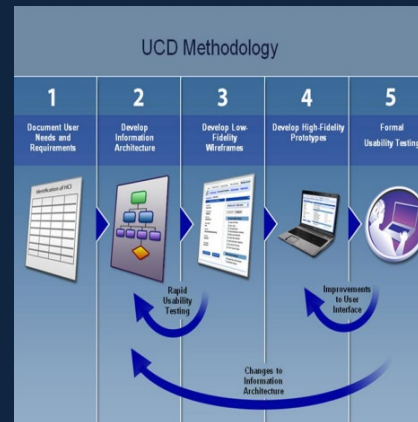
A Combination for Success

Data,
Information,
Knowledge,
Wisdom



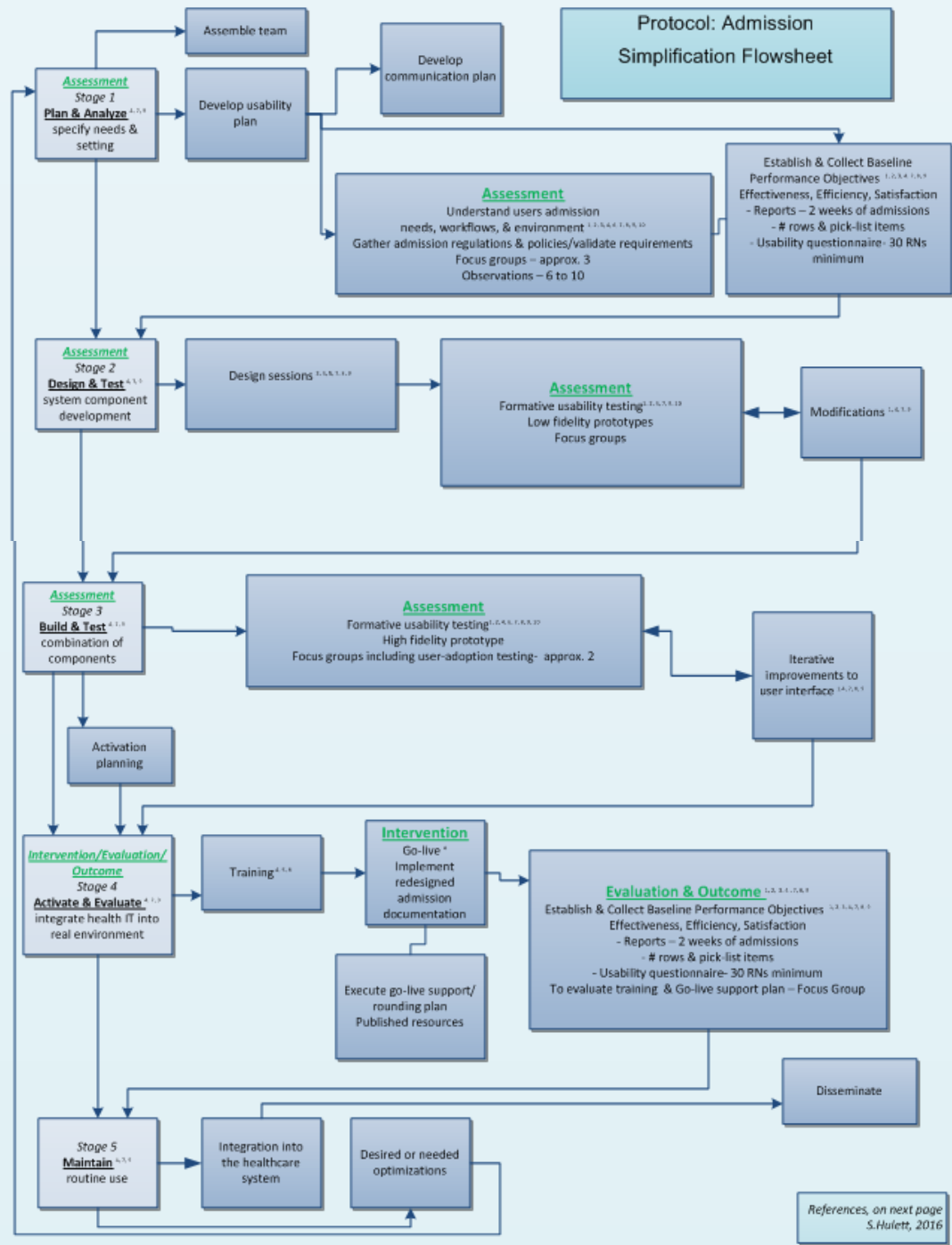
Diffusion of
Innovation

User-Centered
Design



System
Developmental
Life Cycle

PROTOCOL



METHODOLOGY

Evidence-based quality improvement

- Data, Information, Knowledge, Wisdom
- User-centered design
- System Developmental Life Cycle
- Diffusion of Innovation

Data sources

- Admission documentation data
- Observations
- Value stream mapping
- Focus groups (staff/pts)
- Health Information Technology Usability Evaluation Scale

20 items, Cronbach alpha = 0.85-0.92

SCOPE BY PHASE

Phase 1

9/2016-3/2017

- Adult focused inpatient units
- Inpatient Rehabilitation
- Critical Access Hospitals
- Community Connect
- Subjective versus objective
- Organizational alignment
 - Population Medicine – Social and Behavioral Determinants of Health & Longitudinal Plan of Care
 - Inpatient – Outpatient documentation

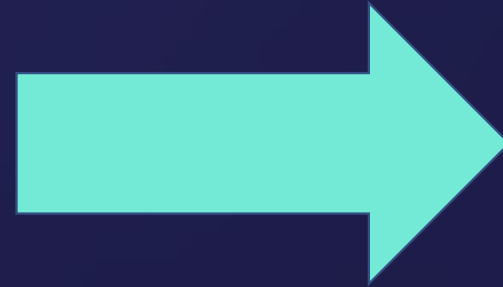
Phase 2

3/2017-10/2018

- Phase 1 optimizations
- Pediatric focused inpatient units
- Pediatric age in EPIC from <14 to <18
- Procedural departments
- Continued organizational alignment
 - Ongoing from Phase 1 and Care Plan Update/Upgrade

PERSPECTIVE

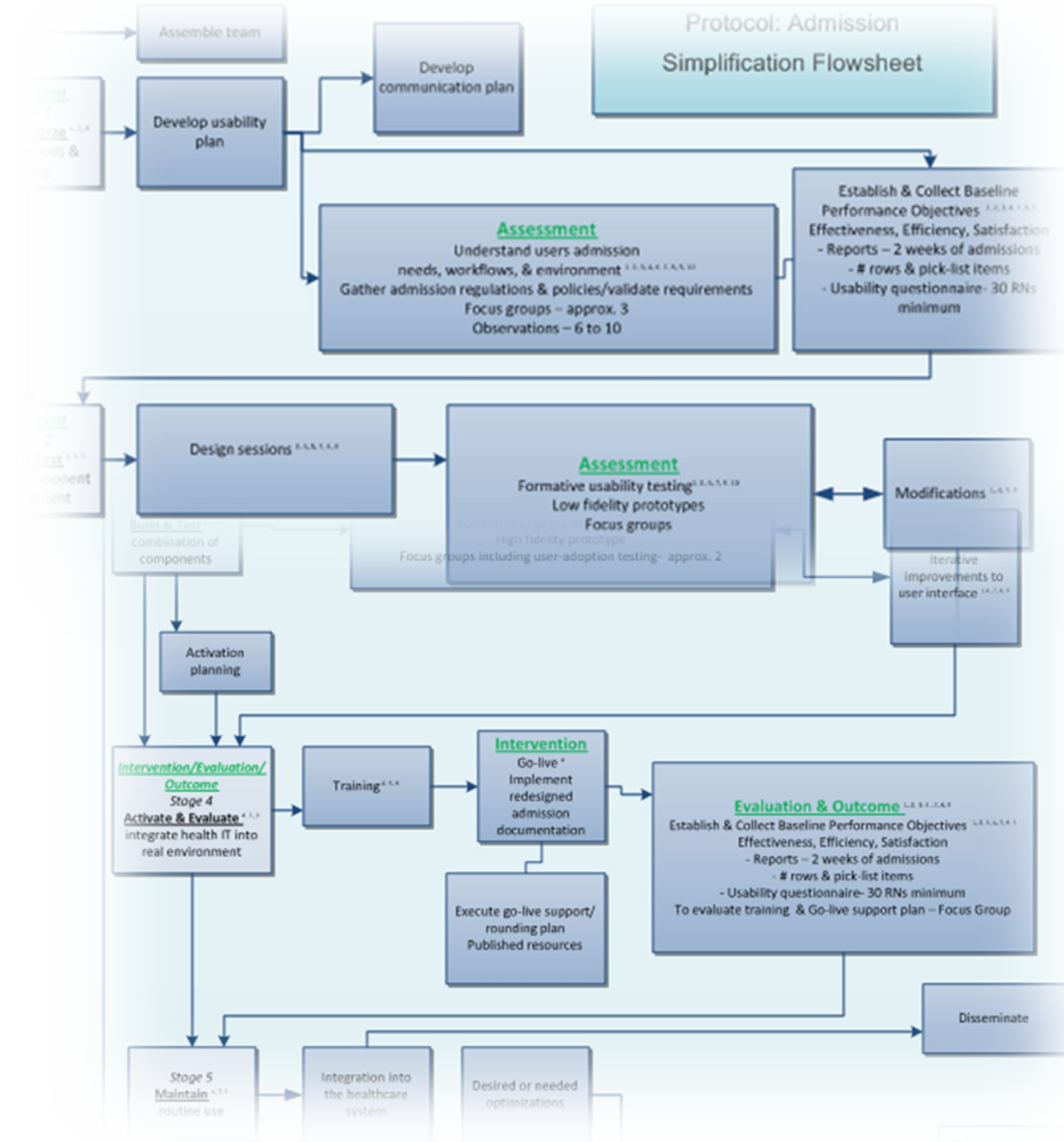
Documentation Burden



**Electronic Health
Record Burden**

USER (AND PATIENT) CENTERED DESIGN

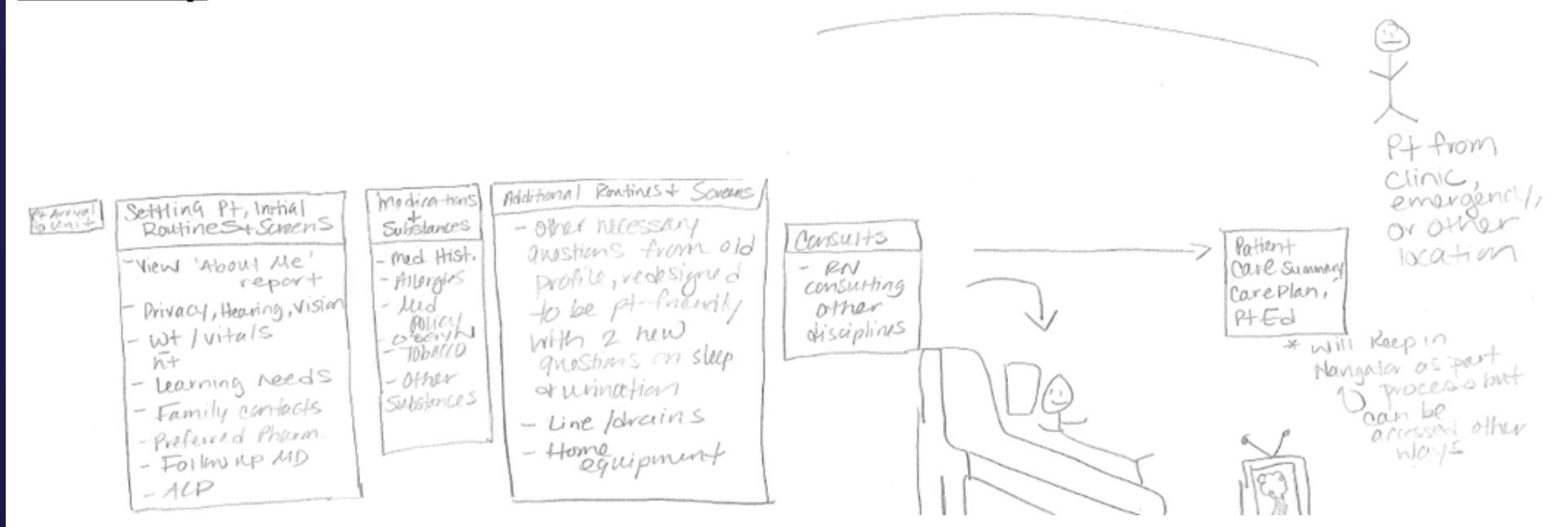
- Mapping organizational policies and regulatory expectations
- Observations, workflow mapping
- Focus group design sessions and usability questionnaires
- Completed documentation review
- Transformation of many sections
- Patient engagement, early and throughout



Value Stream Map:



Future State Map:

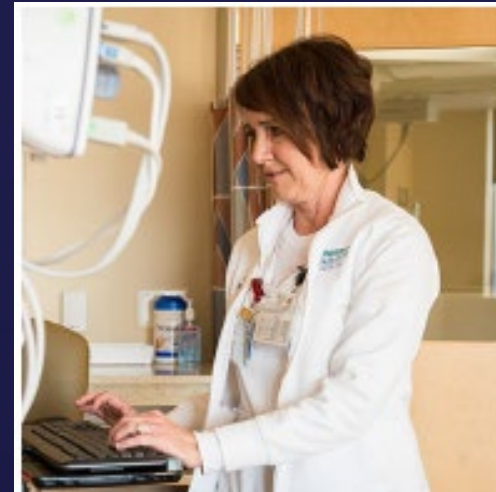


DOCUMENTATION ANALYSIS

Count of Stays per Row		Flwsht ID	Name	Age Grp					
		3042002000	3042006200	3042006202	3042751100	3043002300	Grand Total		
		GL IP CLINDOC T ADULT PATIENT PROFILE	GL IP CLINDOC T ADMISSION NAV ASTERISK ROWS	GL IP CLINDOC T MED SURG ADMISSION PROFILE	GL IP CLINDOC T PROCEDURAL PATIENT PROFILE	GL IP CLINDOC PROFILE OBSERVATION		row use, regardless of profile accessed, divided by 1589 (total of adult admissions) (not all rows required; yellow indicates minimum 'required' rows (displayed) that should have been 'completed' for all admissions; for the yellow rows the number should be 100% since it is displayed in their Admission Profiles; potential reasons for lack of 100%=_____	
Flowsheet Row Description	Flwsht Meas	Adult	Adult	Adult	Adult	Adult			
Alcohol Use	3041213600	48	474	694	172	1388	87.35%		
Anticipated Changes Related to Illness	99970057	22		1061		1083	68.16%		
Anticipated Discharge Disposition	99970060	37		1041		1078	67.84%		
Are you blind or do you have serious difficulty seeing, even when wearing glasses?	304180003	53	580	771	133	1537	96.73%		
Are you deaf or do you have serious difficulty in hearing?	304180002	52	582	770	137	1541	96.98%		
Are You or Have You Been Threatened or Abused Physically, Emotionally, or Sexually By A	99970319	36	580	671	104	1391	87.54%		
Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping? (15 years old or older)	304180007	51	588	753	117	1509	94.97%		
Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering or making decisions? (5 years old or older)	304180004	52	591	762	122	1527	96.10%		
Care Partner Phone Number	304211200		110	118		228	14.35%		
Community Agencies/Support Groups	99970056	21		1040		1061	66.77%		
Contact Initiated	304211300		139	145		284	17.87%		
Current Appetite	99970193	56		758		1	815	51.29%	
Do you have concerns about past or present health information being discussed in the presence of any family	3041880100	56	417	596	216	1285	80.87%		

PATIENT CENTERED DESIGN

- Patient focus groups
- Literacy level script consultation to ensure comprehension
- Dress rehearsal



STAFF SATISFACTION (YEN & BAKKEN, 2012)

Admission Profile Health Information Technology Usability Evaluation Scale (Health-ITUES)

<u>Question</u>	<u>Concept</u>	<u>Interaction</u>
1. I think the admission navigator has been positive for nursing.	System impact – career mission	User-system-task
2. I think the admission navigator has been positive for the organization.	System impact – organizational level	
3. The admission navigator is an important part of the admission process.	System impact – personal level	
4. Using admission profile makes it easier to gather necessary patient information.	Productiveness	
5. Using the admission profile enables me to gather necessary patient information more quickly.	Productiveness	
6. Using the admission profile makes it more likely that I will gather necessary patient information.	Productiveness	
7. The admission profile is useful for gathering necessary patient information.	General usefulness	
8. I think the admission profile present a more equitable process for gathering necessary patent information.	General usefulness	
9. I am satisfied with the admission profile for gathering necessary patient information.	General satisfaction	
10. I gather necessary patient information in a timely manner with the admission profile.	Performance speed	
11. Using the admission profile increases my productivity in gathering patient information.	Productiveness	
12. I am able to gather necessary patient information whenever I use the admission profile.	Information needs	
13. I am comfortable with my ability to use the admission profile.	Competency	User-system
14. Learning to operate the admission profile was easy for me.	Learnability	
15. It was easy for me to become skillful at using the admission profile.	Competency	
16. I find the admission profile easy to use.	Ease of use	
17. I can always remember how to use the admission profile.	Memorability	
18. The admission profile gives error messages that clearly tell me how to fix problems.	Error prevention	
19. Whenever I make a mistake using the admission profile, I recover easily and quickly.	Error prevention	
20. The information (such as on-screen messages) provided with the admission profile is clear.	Information needs	

IT ISN'T JUST ABOUT REMOVING ROWS!

- Eliminated redundancy & non-value added rows
respiratory, diabetes, skin, mobility/daily living, discharge destination, care team, spiritual care, chronic pain, homicide, tuberculosis
- While elimination of nonessential rows was a goal, the main goal was to implement a valuable set of admission screens in a usable design
Added sleep, voiding concerns, equipment needs
- Determined appropriate timing of scripted screens
- Medical level of care driven

WHAT WAS MISSING?

- New activities placed in patient-centered and nursing workflow aligned sequence
- Designed *About Me* reports & updated *SBAR Handoff*
- Required Documentation decision support updates
- Developed 'Unable' functionality
- Created or updated various interdisciplinary decision support tools

CLARITY

Pre	Post
Street drug/Medication/ Inhalant Use	Do you use prescription drugs not prescribed for you or street or recreational drugs (such as narcotics, marijuana, meth, or heroin)?
Provides primary care for	Are there people or animals that need care while you are in the hospital? If so, we may be able to help.
History of Chronic Pain	Has pain in any part of your body lasted for more than 6 months (chronic)?
Financial Concerns	Are you worried about money or support that you may need when you go home (such as being unable to afford food or transportation concerns)? If so, we may be able to help.

OUTCOMES

A valuable set of admission screens in a usable design

Living Arrangements/Functional Status

Describe your housing and living arrangements

- House Apartment Mobile Home Extended care facility
 Assisted Living Group Home Independent living facility
 Residential Care Facility Foster Care Condominium
 Correctional Facility Hotel/Motel Shelter Homeless
 No permanent address Other (see comments)

Living Arrangements: 3/3 0615 - 3/13 1514

Who do you live with?

- alone child(ren), adult child(ren), dependent facility resident

Lives With: 3/3 0615 - 3/13 1514

Do you have serious difficulty walking or climbing stairs?

- No Yes

Mobility: 3/3 0615 - 3/13 1514

Mobility Home Equipment

- None Cane Walker Wheelchair Shower Chair
 Grab Bar AFO/Brace/Splint/Cast Crutches Power Chair
 Lift Other (see comment)

Do you have difficulty dressing or bathing?

- No Yes

Hygiene Assistance: 3/3 0615 - 3/13 1514

Skin Home Equipment

- None Cushion (see comment for type/size)
 Extremity Wrap/Stocking Wound Supplies Other (see comment)

Elimination - In the hospital, some basic body functions can change due to illness or change of routine, so we want to learn more about your bathroom routines.

When was your last bowel movement?

- date known unknown

Last BM: 3/3 0615 - 3/13 1514

How often do your bowels move?

- daily every other day every third day weekly
 other (see comments)

Is there anything we should know about your bowel movements?

- no constipation diarrhea

Is there anything we should know about how you urinate?

- no urgency

Elimination Home Equipment

- None Raised Toilet Commode Diaper/Briefs

Catheter supplies (see comment for type)

Ostomy supplies (see comment for type/si... Other (see comment)

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OUTCOMES

Best practice alerts for interdisciplinary team collaboration

BestPractice Advisory - Fruit, MollyZero

ⓘ Consult to Social Services

Reason for consult

Describe your housing and living arrangements: Extended care facility

Do you need help finding care for people or pets while you are in the hospital? If so, we may be able to help.:

Spouse

Are you worried about money or support that you may need when you go home (such as being unable to afford food or transportation concerns)? If so, we may be able to help: Unable to afford medications

Order

Do Not Order

➔ Consult To Social Services

Acknowledge Reason _____

Do not consult, SS already involved

Do not consult for other reason

Defer to admitting unit

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✓ Accept

OUTCOMES

'Unable' functionality to capture inability to screen

Unable - Unable ↑ ↓

Time taken: 0848 2/26/2019 Show: Row Info Last Filed Details All Choices

Values By [+ Create Note](#)

▼ **Unable to Complete All Subjective Admission Screenings**

Admission Unable Rationale

<input type="checkbox"/> Altered mental status	<input type="checkbox"/> Imminently dying	<input type="checkbox"/> Intoxicated
<input type="checkbox"/> Intubated	<input type="checkbox"/> Medical diagnosis	<input type="checkbox"/> Nonverbal
<input type="checkbox"/> Psychiatric diagnosis	<input type="checkbox"/> Refused	<input type="checkbox"/> Sedated
<input type="checkbox"/> Unconscious	<input type="checkbox"/> Other (See comments)	


Unable designation indicates some subjective admission screens are unable to be answered by the patient and/or his/her representative.

⏪ Restore ✓ Close ✗ Cancel ↑ Previous ↓ Next

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OUTCOMES

About Me reports for continued data use

About Me 

Marital Status		
Married		
Privacy Show Details	Living Arrangements Show Details	Alcohol Use Show Details
Privacy Concerns No	Living Arrangements Apartment Who do you live with spouse	Number of alcohol drinks per day when drinking 1
Personalized Care Show Details	Nutrition Concerns Show Details	Pre-Admit Home Equipment Show Details
Personalized Care Been in hospital many times this year, frustrated and depressed about it.	Nutrition Concern Had difficulty chewing or swallowing	HEENT Equipment Glasses Cardiac Equipment Pacemaker Respiratory Equipment BiPap Musculoskeletal/Mobility Equipment Shower Chair Skin Equipment Wound Supplies
Vision Problems Show Details	C-SSRS Show Details	
Vision Problems Y	Wished you were dead or didn't wake up no Thoughts of killing yourself no Attempt or preparations to end life yes	
Preferred Language	Money & Social Concerns Show Details	
Japanese	Money & Social Concerns Unable to afford medications; Housing concerns	
Interpreter Needed?		
Yes		
Learning Needs		
Does the patient/guardian have any barriers to learning?: Reading, Language Will there be a co-learner?: Yes		

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Effectiveness

- Enhanced use of nursing data
- Completed documentation range % indicates decreased practice variation

	July 2016	April 2017	June 2018	August 2018
Range % of completed documentation	7% - 97%	70-85%	65-87%	77-91%
Median % of questions answered	86%	83%	86%	86%
Total Number of Adult Admissions (La Crosse)	1589	973	1678	1679

Efficiency

- Fewer screenings = less documentation

	February 2017	August 2018
Initial Question Count	45	30
Cascade Question Count	102	76

- Initial admission attempt*
 - Pre: 37 minutes (median); Post: 33 minutes (median)
- 14,400 adult admissions/year*
 - = about **2.6 hours per day**/365 days/year of nursing time for other necessary work
 - = estimated annual savings of about **\$45,000**

**Phase 1 data only, savings higher if pediatrics & CAH included*

Satisfaction

Admission Health Information Technology Usability Evaluation-Adult

Question	Construct	Pre-Phase 1	Post-Phase 1	Post-Phase 2
1. I think the Admission Navigator has been positive for nursing.	System Impact-Career mission	86%	77%	91%
9. I am satisfied with the Admission Navigator for gathering necessary patient information.	General satisfaction	57%	57%	82%
10. I gather necessary patient information in a timely manner with the Admission Navigator.	Performance speed	74%	63%	89%
Total survey's taken		35	35	44

Nurse Comments

"Like that it's [Privacy, Hearing, Vision section] at the beginning."

"[The About Me] helped to get a snapshot of the patient easier."

ADULT - SATISFACTION

Admission Profile Health Information Technology Usability Evaluation - Adult				
Satisfaction				
Question	Construct	Pre-Phase 1	Post-Phase 1	Post-Phase 2
3. The Admission Navigator is an important part of the admission process.	System impact - personal level	86%	89%	91%
7. The Admission Navigator is useful for gathering necessary patient information.	General Usefulness	71%	74%	86%
16. I find the Admission Navigator easy to use.	Ease of Use	69%	83%	84%
19. Whenever I make a mistake using the Admission Navigator, I recover easily and quickly.	Error Prevention	57%	62%	64%
Total survey's taken		35	35	44

ADULT - COMPLETED DOCUMENTATION

Post Phase 2 Changes (July 17, 2018)					
* Includes: Inpatient Admissions & Observation Pt status					
Month-Year	Total Adult Admissions - La Crosse *	# of Rows to be Completed	Low (%)	High (%)	Median % of time question was answered
Aug-18	1679	33	77%	91%	86%
Sep-18	1418	33	79%	96%	93%
Oct-18	1491	33	82%	94%	92%
Nov-18	1376	33	85%	94%	91%
Dec-18	1382	33	87%	94%	92%
Jan-19	1442	33	86%	95%	92%
Feb-19	1271	33	86%	95%	93%

ADULT - HIGHEST % COMPLETED

Top Documentation	
Admission Question	# Of Months it was highest % completed documentation (out of 7 months)
Did you bring any medicines with you?	6
Do you need help finding care for people or pets while you are in the hospital? If so, we may be able to help.	6
How can we support your spiritual or cultural needs?	6
Have you been eating poorly because of a reduced appetite?	5
When was your last bowel movement?	5

Highest % Ranged:
91% -96%
completed
documentation

ADULT - LOWEST % COMPLETED

Lowest Documentation	
Admission Question	# Of Months it was lowest % completed documentation (out of 7 months)
1. In the past month, have you wished you were dead or wished you could go to sleep and not wake up?	7
2. In the past month, have you actually had any thoughts of killing yourself?	7
6. Have you ever done anything, started to do anything, or prepared to do anything to end your life?	7
Have you had a cough for more than 2 weeks?	7
Are you or have you been threatened or abused physically, emotionally, or sexually by anyone? (share appropriate examples- partner, spouse, neighbor, family member, coach, teacher, etc.)	6
Is there anything we should know about your bowel movements?	6

Lowest %
Ranged: 77% -
 87% completed
 documentation

'UNABLE' - ADULT PATIENTS

Unit	# of times Unable was utilized during 7 months (once per patient)
Short Stay Unit	11
Critical Care	11
Surgical Unit	8
Inpatient Behavioral Health	6
Medical Specialty Unit	6
Neuroscience Unit	5
Medical and Oncology Unit	4
Cardio Pulmonary Unit	3
Hospital Floats	2
Emergency Services	2
Surgery	1
Orthopedic Unit	1
Total Patient's Unable was utilized	60

Pick List Value Selected	# of times each Pick List Value was selected (in 7 months)
Other (See comments)	36
Altered mental status;Other (See comments)	11
Other (See comments);Altered mental status	2
Altered mental status;Unconscious;Other (See comments)	2
Nonverbal;Other (See comments)	2
Intubated;Other (See comments);Medical diagnosis	2
Other (See comments);Medical diagnosis	1
Altered mental status;Sedated;Other (See comments)	1
Altered mental status;Refused;Psychiatric diagnosis;Other (See comments)	1
Refused;Other (See comments)	1
Nonverbal;Altered mental status;Other (See comments)	1
Total number of Pick List Value's in 7 months	60

PEDIATRIC - COMPLETED DOCUMENTATION

Post Phase 2 Changes (July 17, 2018)					
* Includes: Inpatient Admissions & Observation Pt status					
Month-Year	Total Pediatric Admissions - La Crosse *	# of Rows to be Completed	Low (%)	High (%)	Median % of time question was answered
Aug-18	139	23	65%	92%	85%
Sep-18	122	23	76%	93%	91%
Oct-18	117	23	71%	91%	85%
Nov-18	97	23	77%	93%	85%
Dec-18	98	23	80%	99%	93%
Jan-19	130	23	75%	95%	92%
Feb-19	132	23	77%	93%	89%

PEDIATRIC - HIGHEST % COMPLETED

Highest % Documentation	
Admission Question	# Of Months it was highest % completed documentation (out of 7 months)
Who do you live with?	5
Did you bring any medicines with you?	3
Are you blind or do you have serious difficulty seeing, even when wearing glasses?	2
Are you deaf or do you have serious difficulty in hearing?	2
What else would you like us to know that might help us to make you more comfortable?	2

Highest % Ranged:
91% -99%
completed
documentation

PEDIATRIC - LOWEST % COMPLETED

Lowest % Documentation	
Admission Question	# Of Months it was lowest % completed documentation (out of 7 months)
How do you get your medicines?	6
Are you worried about money or support that you may need when you go home (such as being unable to afford food or transportation concerns)? If so, we may be able to help	3
Tell me about your normal sleep and rest routine.	3

Lowest %
Ranged:
65% -80%
completed
documentation

PEDIATRIC - SATISFACTION

Peds/PICU - Admission Usability Evaluation - Sept 2018					
Question #	Question	% Agree/ Strongly Agree	% Neutral	% Strongly Disagree/ Disagree	Total # Responses
1	Compared to prior to July 17, it is now easier to document nursing admission screens in the Admission Navigator.	89	6	6	18
2	Compared to prior to July 17, I am now able to more efficiently complete documentation of nursing admission screens in the Admission Navigator.	89	11	0	18
3	Compared to prior to July 17, I am now more satisfied with the order of the nursing admission screens in the Admission Navigator.	89	6	6	18
4	Compared to prior to July 17, the nursing admission screens in the Admission Navigator are now more useful in collecting necessary patient information.	83	11	6	18
5	Compared to prior to July 17, overall I am now more satisfied with the nursing admission screens in the Admission Navigator.	89	11	0	18
	Median Overall %	89	11	6	18

A group of people, mostly women, are seated around a large conference table in a meeting room. They appear to be in a collaborative discussion, with some looking towards each other and others looking towards a screen in the background. The room is dimly lit, and the overall atmosphere is professional and focused.

Empower ownership, creativity, and professional nursing development

Listen to the 'why not's'

Leverage partnerships - interdisciplinary and information systems teams

Test workflow and design throughout all stages

Create detailed measurement plans

Choose usability questionnaire carefully

Be open to change and timeline adjustments

**ALWAYS
LEARNING**



CARE PLANNING UPDATE

CPU VIDEO

- https://youtu.be/xxxzCJAH_1s

ELSEVIER CARE PLANNING

- **v2014 to v2018 upgrade**
 - Care Plan Content and Functionality**
 - Patient Education**
 - Flowsheets***
 - Discipline Summary to enhance interdisciplinary communication (replaces nurse care plan note)**
 - New and updated LDAs***
 - LDA Avatar***
- **Specialty collections implementation**
 - Inpatient Rehab**
 - Inpatient Behavioral Health**

*impacts outpatient & procedural
areas

PROJECT GOALS

- **Aid in delivery of evidence-based care**
- **Support a care planning process that is efficient and meaningful**
- **Add value to the patient experience**
- **Maintain regulatory compliance**

Introduction/Background

The electronic health record (EHR) contains both foundational vendor content and functionality (out of the box) and organizational built content and functionality. For these principles at GHS changes to the foundational vendor content or functionality are considered *customizations*, while changes to the organizational built content or functionality are considered *optimizations*.

Elsevier Health System has largely been permissive with requests for changes to the EHR. With requests for changes being made frequently, guiding principles to aid in determining when *customizations* to nursing documentation are appropriate are needed for the following reasons:

1. Evidence-based Care Planning content is evidence-based and should ideally require minimal change. Ongoing evaluation of the customization with/by stakeholders is not considered consuming.

2. Customizations over time requires additional time & effort to maintain the ability to take vendor's enhancement

Sheet

Effort

Low complexity, minimal design/development time and impact on impacted depts.

Low to moderate complexity, design/development, training, and support; low to many impacted depts.; project manager may be needed/considered

Moderate to high complexity, design/development, training, and support; moderate to many impacted depts.; project manager needed

High complexity, design/development, training, and support; many impacted depts.; project manager needed

This is used in conjunction with the Benefit score to discuss if Effort is time and cost well spent for the anticipated Benefit & to guide sequencing/timing with other initiatives

	2	3	4	5	6
Efficiency: to include frequency and # users/pts impacted		Effectiveness: Completion of Task/Attain desired outcomes	Satisfaction: Patient and/or Staff	Cost Savings /Time Saved	Regulatory Requirements
	Very High	Moderate	Very High	High	Moderate

Principles: When/Why to customize

Customizations are often related to one or a combination of the following: nursing scope and standards, reimbursement (revenue/billing), compliance, usability, and patient centeredness. Issues within these domains lead to inefficiencies themselves can also lead to documentation burden. It is also known that lack of proof of executed assessments or interventions. Local and national groups are using the evidence-based approach to manage these domains. These principles will be used to guide documentation, not just Elsevier Care Planning related content/functionality.

Customizations will be **considered and scored for benefit and impact if:**

1. The customization supports nursing scope and standards, evidence-based care expectations, quality, regulatory, compliance, reimbursement (revenue/billing), organizational strategic plan or organizational standards (or documentation of any of these expectations) are not being met with current EHR because there is either:

- o a void in the EHR (opportunity to document in EPIC does not exist), or
- o the design of the EHR is a barrier to completion of expectations (the opportunity to document in the EHR exists (utility), but lacks usability - efficiency, effectiveness, satisfaction)
 - Example - change will support/align with ideal workflow to a high degree
 - Example - change will eliminate duplication or non-value add content to a high degree

2. The customization requires validation of process improvement measures/indications and the validation is at times called out in a standard and/or regulatory requirement

Level Steps in Customization Process

1. Request for customization desired, scoring for benefit & impact occurs

2. Consensus determines customization will be implemented

3. Step by step workflow/process must match ideal

4. Customization must be aligned with the step by step EHR

5. Customization Style Guide for EHR design

6. Approval of the customization should be established

7. Request is submitted via a Service Request

8. GHS staff will submit evidence and justification

9. Vendor prepares future content/functionality

10. Implementation of Nursing.

CUSTOMIZATION GUIDING PRINCIPLES

CUSTOMIZATIONS GUIDING PRINCIPLES IN ACTION

BRINGING IT ALL TOGETHER

Care Plan


Individualized Care Needs

Individualized Care Needs:	6/10/2019 1951	6/11/2019 0142
Warm blankets	My right side is out so please use my L arm for BP. I reposition myself.	

Patient Specific Goal

6/11/2019 0142
 Patient Specific Goal: Patient will have blood pressures under control prior to discharge.

Expected Date of Discharge

Expected Discharge Date: 6/12/2019 0805
 — 
 TBD

Discipline Summary

Overall Progress:	6/22/2019 1813	6/23/2019 0129	6/23/2019 1408	6/24/2019 0947	6/24/2019 1125
Discipline Summary (brief recap of patient status and/or plan towards any goals):	improving	improving	improving	improving	—
	Consistent with some tasks, blood pressure managed with oral medicines, participating in repositioning; went to healing garden and terrace today	BP managed well with oral medications. Able to help with repositioning. Slept well overnight.	Patient continues to participate in her cares as much as able; sitting up more fully; more active; VS well managed; assisting with feeding self	Continue to recommend lift for transfers, patient gestures for communication throughout session.	Offering a 4 ounce Ensure Enlive TID with meals and a Magic Cup ice cream in the evening.

Care Plan Problems/Goals

[Show Details | Report](#)

Ongoing, Progressing (17)

Individualized Care Plan (Adult Inpatient Plan of Care)

Education Titles

Active Last Documented in

<input type="radio"/> Fall Injury Risk Education (Adult)	0 of 6 complete
<input type="radio"/> Post-Sedation Recovery Education (Adult)	0 of 8 complete

CARE COORDINATION APPROVAL!

From: Kriewald, Julie K
Sent: Monday, June 03, 2019 4:00 PM
To: Check, Dana L <DLCheck@gundersenhealth.org>
Cc: Brueggeman, Joan E <JEBruegg@gundersenhealth.org>
Subject: Care planning

Hi Dana,

I wanted to touch base with you on the new inpatient nursing care plan. First of all I have a patient in CCU. I was off for a week and digging through her chart trying to figure out what led her to CCU, etc. Then I stumbled upon the care plan documentation and it told a perfect story! Wish I would have started there! We have a staff meeting on Wednesday and I wanted to share this with the rest of our staff. But I wanted to check and see if there is anything Care Coordination could/should be doing to enhance the care plan? We would be open to you coming to a future staff meeting to share any information that you feel would be beneficial. Thanks.

Julie Kriewald, RN, BSN
Care Coordination
Gundersen Health System

APRIL SHOWERS BRING MAY FLOWERS

**POLICY ALIGNMENT:
TO GUIDE "INPATIENT"
SETTINGS WITH NURSING
ASSESSMENT &
REASSESSMENT
ACTIVITIES PER TRACKED
REGULATORY/POLICY
REQUIREMENTS OR
OTHER GHS DECISIONS TO
PROMOTE NURSING
BEST PRACTICES/
EVIDENCE BASED
CARE.**

Nsg-6730 Nursing Assessment, Reassessment

GL-6135 Patient's Plan of Care

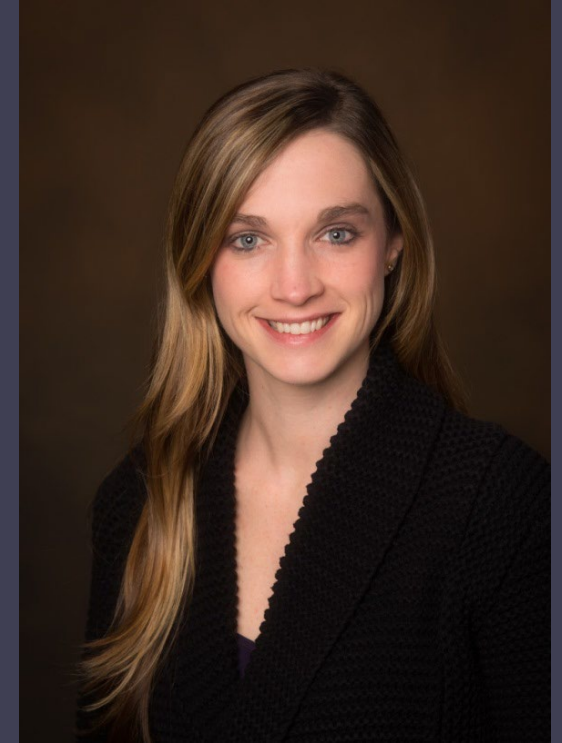
GL-6161 Patient Education Documentation

Assessment Topic	Height	Weight	Vital Signs	Privacy	Hearing/Vision	ACP	Admit Note	Allergies	Immunizations	Med mgmt	Med hx	OB/GYN status	Tobacco use	Substance Abuse	Arrangements
Assessment Information/details															
Levels of Care															
Location/Setting															
Inpatient Observation	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Admission Day Surgery Hospice/Hospice Respite	(Hospice-Medical & Oncology unit only)														
Outpatient Surgery (OP)	Y	Y	Y	Y	N	N	N	Y	N	N	Y	Y	Y	Y	Y
Outpatient Procedure Continued Recovery	(Cont. Recovery- any hospital unit)														
Outpatient Procedure (Non-OP)	Y	N	Y	Y	N	N	N	Y	N	N	Y	N	Y	N	N
	(Infusion Services Overflow into hospital- any hospital unit)														
	prn	prn	Y	Y	N	N		Y	N	N	Y	prn	Y	prn	N
	Emergency Services Department														
Rationale															
Regulations															

my Why:

Electronic health record projects are not simply for cutting rows, saving clicks, and shaving time. User-centered design facilitates the achievement of ‘data to wisdom’ and this work engages nurses as leaders, creates efficiencies and knowledge driven care, while delivering a simplified record.

Ultimately, nursing informatics projects have the potential to move nurses closer to practicing to their fullest scope and facilitate nursing’s involvement in the big data effort.



QUESTIONS?

Shannon Hulett, DNP, RN, CNL shulett@gundersenhealth.org

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