Essential Clinical Dataset – ECD

New England Nursing Informatics Consortium





VP and CNO for Foundation and Premier







ECD Collaborative – Why?

- Most organizations have over-designed their EHRs resulting in a lot of "noise" and non-value added data elements
- Era of EHR Optimization
- There is not an established standard for the essential clinical data that needs to be documented in an EHR
- Anticipated Outcomes of the Collaborative:
 - Organizations will use the ECD as the foundation for EHR optimization
 - ECD will establish a national (international) standard that is EHR agnostic

U.S. National Agenda item

"ONC is focused on working with CMS to minimize clinician documentation burden, increasing the usability of electronic health records, and promoting interoperability of health IT."

The <u>standardization of nursing documentation</u> in a way that is evidence-based, standardized across settings, and allows for the reuse of data elements will be critical for continuity of care across the interdisciplinary care team.

Currently, variation in the length, content, and value of data collected in nursing assessment is significant and often unnecessary



ANA and ONC Documentation
Burden/Standardization and Care Planning
Virtual Work Group

Rebecca Freeman, PhD, RN, PMP Former CNO Office of the National Coordinator for HIT

International Agenda item

The Joint Position Statement between the Canadian Nurses
 Association (CNA) and the Canadian Nursing Informatics
 Association (CNIA) published in March 2017 recognizes the need
 for "a standardized approach to nursing documentation in all
 clinical practice settings across Canada".

- Australian Nursing Informatics Position Paper August 6, 2017
 Element 7:
 - "Nurse informaticians insist on the adoption of nationally agreed nursing data standards.....for improved data integration, information sharing, performance monitoring, data analytics, patient safety and quality."





CANADIAN

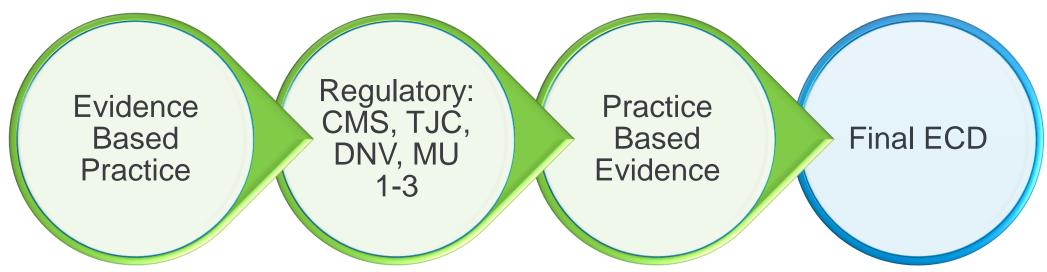
Australia

ECD Collaborative Members Formed June 2016



25,000+ Beds 190+ Facilities

Three pronged approach



Review of literature for content, not process or workflow

United
States,
Federal
Regulatory,
not state or
global

Environmental scans of 12 clients' production data for frequency of data element and utilization metrics

Adult ECD Timeline: Admission History & Intake

ECD Program Kickoff:

- Charter
- Membership

8 hr. Regulatory Educational Session Regulatory requirements review by Collaborative for all workflows

Data Extraction for Practice
Based Evidence:

 Admission History and Intake from 12 Collaborative PROD domains

June 2016

July 19, 2016

July 28, 2016 Aug. 2016

Sept

Nov. 2016

Dec '16 → Apr '17

March 2017

Initial Webex meeting with Collaborative:

- Methodology Overview
- Literature Review "starter" articles provided

Literature Review for evidence synthesis Report out
Regulatory
requirements
for all workflows

Collaborative
Admission
History &
intake
content
validation –
Initial review

Adult ECD Timeline: Admission History & Intake

Internal Cerner working group organized

Comparative Analysis

Across Collaborative Clients Admission
History ECD:
collaborative
review and sign
off

First 2 clients
LIVE in
PRODUCTION

March 2017

Mar → May 2017

May → Jun 2017

Jun → Jul 2017

July 6, 2017 Aug →Nov 2017

Nov 2017

e validation of Individual Admission Dataset

ECD V#1 Defined:

Early Adopters
begin ECD
analysis against
current process
to determine
Facility ECD

Baseline Variation – Adult Admission History Intake Assessment

Client	# of Electronic Forms	# of Sections	# of Questions
#1	4	36	318
#2	5	23	230
#3	3	26	280
#4	2	29	278
#5	2	25	208
#6	13	57	986
#7	4	51	371
#8	6	22	265
#9	1	21	194
#10	8	66	530
#11	2	29	299

Cross Map - Admission History questions

Category	Question	Client 1	Client 2	Client 3
General	Chief complaint	Reason for visit history	Patient's Chief Complaint	Reason for Visit
General	Arrival date/time	Arrival date/time		
General	Arrived from	Arrived from	Admitted From	
General	Mode of arrival	Transportation to unit	Mode of Arrival	
General	Admit from another facility			
General	Recent admission	Readmission review	Hospital inpatient last 30 days	
General	Admission info given by	Admission info from	Information Provided by	
General	Accompanied by relationship	Accompanied by		
General	Accompanied by name		Name of Person with Patient	
General	Preferred language patient	Preferred language	Pref. Language to Discuss Healthcare Info	Preferred Language for Health Care Info
General	Preferred mode of communication	Preferred method of communication		Preferred Communication Mode
General	Emergency contact name	Emergency contacts	Emergency Contact 1	Contact Person Name and Number
General	Emergency contact relationship		Emergency Contact 1 Relationship	
General	Emergency contact number		Emergency Contact 1 Phone	Contact Person Name and Number
General	Primary caregiver name	Name/Number of family notified		
General	Primary caregiver number	Name/Number of family notified		
General	Notify family/caregiver of admission	Notify family of admission to hospital	Requested Notification of Family/Rep	
General	Notify PCP of admission	Notify your MD of admission to hospital	Requested Notification of PCP	
General	PCP contact information	Name/Number of MD notified	Family Physician	
General	Interpreter needed	Interpreter/Translator name, if used	Communication Need - Language	Interpreter Required
General	Interpreter information	Interpreter/Translator name, if used		

Frequency and utilization algorithm

Client frequency

8 of 12 facilities included the question

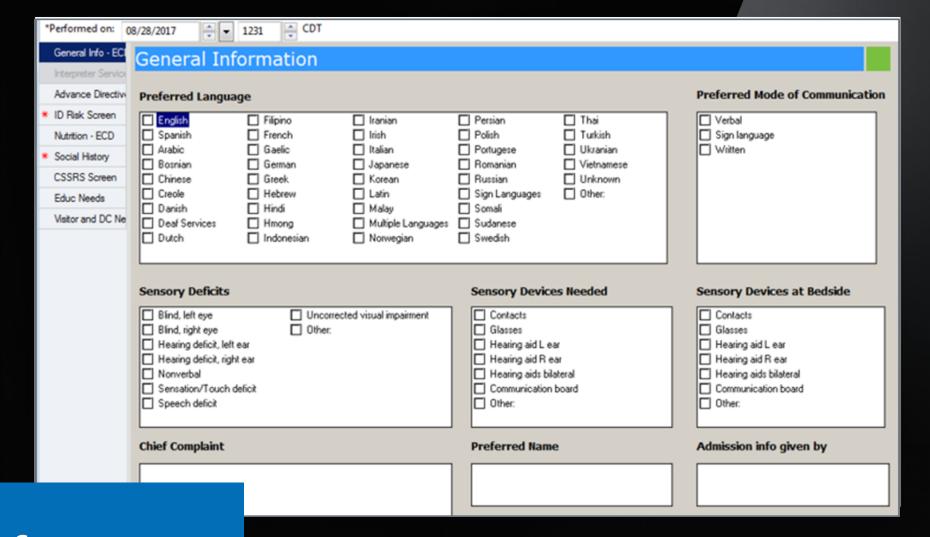
Utilization average

>60% avg. charting of that question

Client	Utilization		Client 1	Client 1	Client 2	Client 2	Client 3	Client 3
Frequency	Average	Question	Giletit 1	DTA Utilization		DTA Utilization	Olichio	DTA Utilization
12	88%	Chief complaint	Reason fo	88%	Patient's	82%	Reason fo	91%
4	66%	Arrival date/time	Arrival dat	86%				
10	85%	Arrived from	Arrived fro	84%	Admitted	80%		
10	74%	Mode of arrival	Transporta	81%	Mode of	72%		
5	22%	Admit from another facility						
6	81%	Recent admission	Readmissi	98%	Hospital	100%		
11	74%	Admission info given by	Admission	81%	Informat	26%		
7	75%	Accompanied by relationship	Accompan	74%				
3	20%	Accompanied by name			Name of	27%		
12	73%	Preferred language patient	Preferred	98%	Pref. Lan	100%	Preferred	99%
9	44%	Preferred mode of communication	Preferred	17%			Preferred	97%
11	47%	Emergency contact name	Emergenc	80%	Emergen	92%	Contact P	78%
8	36%	Emergency contact relationship			Emergen	88%		
10	42%	Emergency contact number			Emergen	88%	Contact P	78%
8	3%	Primary caregiver name	Name/Nu	3%				
6	3%	Primary caregiver number	Name/Nu	3%				
5	51%	Notify family/caregiver of admission	Notify fan	51%	Request	99%		
4	61%	Notify PCP of admission	Notify you	48%	Request	99%		
5	16%	PCP contact information	Name/Nu	3%	Family P	70%		
12	25%	Interpreter needed	Interprete	17%	Commur	1%	Interpret	99%
7	3%	Interpreter information	Interprete					

_		
*Performed on: 08	17/2017 🗘 🔻 0952 🖨 CDT	
General Info	General Information	
Interpreter Service		
* Advance Directive	Preferred Language	Preferred Mode of Communicat
Subjective	□ English □ Filipino □ Iranian □ Persian □ Thai	☐ Verbal
Pain History	Spanish French Irish Polish Turkish	Sign language
Problem History	☐ Arabic ☐ Gaelic ☐ Italian ☐ Portugese ☐ Ukranian ☐ Bosnian ☐ German ☐ Japanese ☐ Romanian ☐ Vietnamese	Written
Procedure History	☐ Chinese ☐ Greek ☐ Korean ☐ Russian ☐ Unknown	
Family History	☐ Creole ☐ Hebrew ☐ Latin ☐ Sign Languages ☐ Other:	
Allergy	☐ Danish ☐ Hindi ☐ Malay ☐ Somali ☐ Deaf Services ☐ Hmong ☐ Multiple Languages ☐ Sudanese	Documenting any language other
Immunizations	□ Dutch □ Indonesian □ Norwegian □ Swedish	than "English" automatically enters a
Transfusion Reac	***************************************	consult order to Social Work
Nutrition		
Functional	Sensory Deficits Sensory Compensatory Device	s Items At Bedside
Functional Assess	☐ Blind, left eye ☐ Uncorrected visual impairment ☐ Contacts	Contacts
Living and Resou	☐ Blind, right eye ☐ Other: ☐ Glasses ☐ Hearing deficit, left ear ☐ Hearing aid Lear	☐ Glasses ☐ Hearing aid L ear
Social History	☐ Hearing deficit, right ear ☐ Hearing aid R ear	☐ Hearing aid R ear
Psychosocial/Spii	□ Nonverbal □ Hearing aids bilateral	Hearing aids bilateral
CSSRS Screen	Sensation/Touch deficit Communication board Speech deficit Dither:	Communication board Other:
Educ Needs	Chief Complaint Preferred Name	Mode of Arrival on Unit
DC Needs		O Ambulatory
Sexuality/Reprodi		O Bed
		O Carried

Before



After

Removed 13 sections and 167 distinct questions

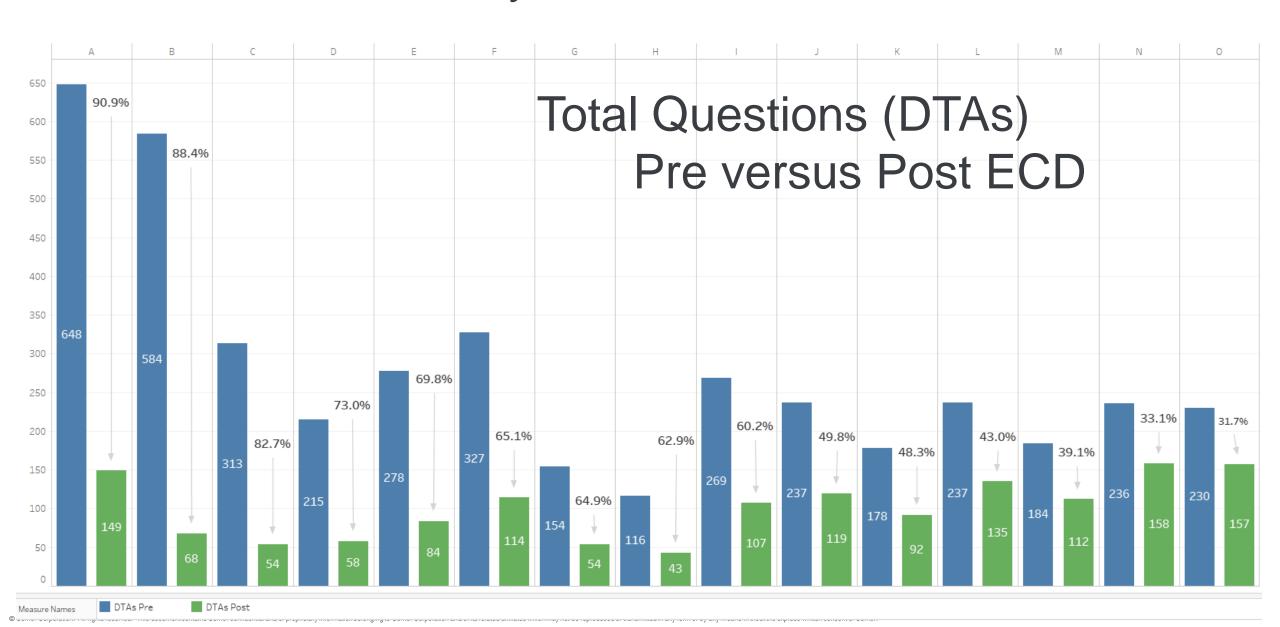
Key Findings and Considerations

- Senior Nursing Leaders (CNOs) have to be involved
- Nursing Shared Governance councils were best suited for the review of the ECD.
 - Led by Nursing Informatics
- Challenged the "because we have always done it"
 - Asked WHY five times
 - "Did the information NEED to be collected on admission?"
 - "If yes, did the RN have to collect?"
 - "If yes: part of ECD, If NO: what role/department should be collecting it?"
- Policy was driving practice with no relevant reason or evidence
- Local critical thinking and judgement applied when reviewing ECD
 - What is needed for the local patient population or regulations
- The process was just as valuable as the outcome

Implementation Outcomes



Adult Admission History ECD Results – 15 Clients



Results Across 10 Early Adopters

Baseline vs. 30 days post ECD

Total Questions:

Reduced an average of 100 Questions



Total Time: (h:mm:ss)

Reduced an average of 0:2:21 minutes



Total Clicks:

Reduced an average of 37 clicks



Peds ECD: Scope, Phases, Goals

Scope

- Acute, inpatient, general pediatric population
- Documentation within the United States
 - Federal regulatory requirements

Nursing Processes / Phases

- 1. Admission History & Intake
- 2. Physical Assessment:
 - Initial and Ongoing
- 3. Ongoing Care:
 - Interventions, Procedures, ADLs,
 I&O, Lines, Tubes, Drains

Goals

- Establish standard pediatric nursing content to be leveraged across the Cerner client base
- Embed in the Cerner Model System
- Utilize as the foundation for EHR configuration & optimization
- Contribute to creation of national standard for pediatric nursing content

Peds Admission History Definition & Guiding Principles

- Admission History definition
 - Nursing documentation of historical information for the admission of the general acute-care pediatric patient

Guiding Principles

- Regulatory
- Evidenced based
 - ANA Pediatric Scope and Standards
 - AAP
- Is the RN the right person to collect on Admission
- Is the documentation actionable



Pediatric ECD Collaborative Members



Peds ECD Timeline

Jan. 2018

Virtual Kick-off

Feb.- Mar. 2018

- Literature Review
- DTA extraction

April 2018

In-person Meeting

June 2018

ECD
 Client
 Advisors
 and
 Internal
 workout
 meetings

Sept. 2018

• In-person Meeting

Dec. 2018

- Collaborative sign-off
- Pilot/early adopter clients identified

Jan. 2019

 Peds ECD Admission Hx pilot kick-off

April 2019

 Physical Assessment kick-off

Baseline Peds Admission History Intake

Peds Collaborative Clients	Sections	DTAs
1	16	101
2	22	149
3	12	176
4	14	201
5	29	255
6	25	214
7	20	274
8	22	281
9	40	361
10	39	606
11	47	653
12	36	720

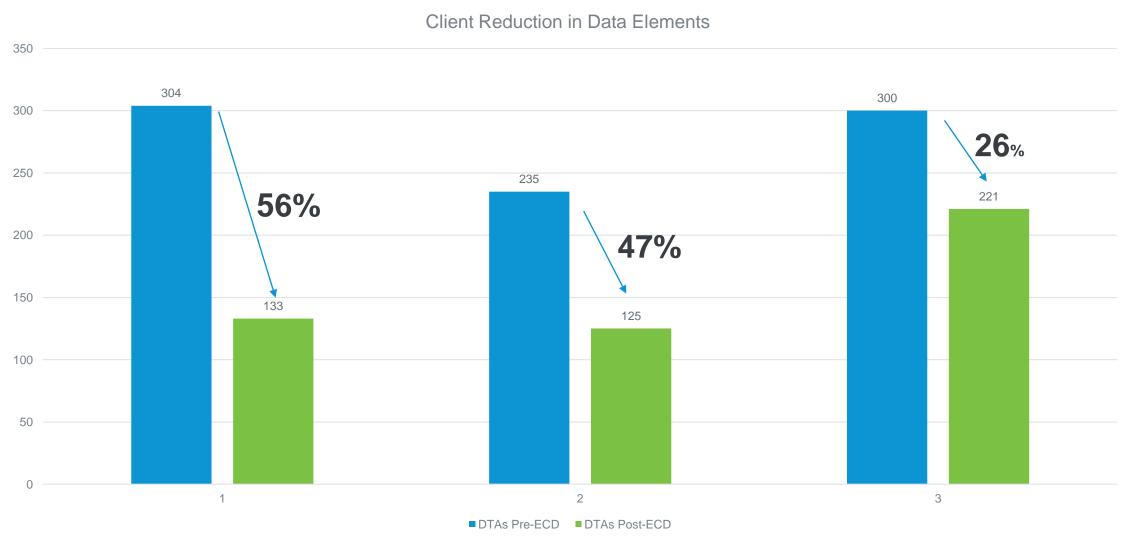
Avg. # Sections = 27

Avg. # DTAs = 333

Peds Admission History: Model vs. ECD

P Admission History Pediatric -	CARTER, MATTHEW										
√ □ ○ ¾ Ø ♠ ◆											
*Performed on: 04/26/2018	○ V 0927 CDT				By: S	Simms RN, Ch					
General Information		General Information									
Subjective		General Information		*Performed on:	2/14/2018	∨ 1317 📥 C	ST				
Pain Review	Preferred Name	Preferred Mode of Communication	Primary Language	General Information	General 1	Informat	ion				
Problem History		O Verbal	O Swedish O Spanish	Interpreter Service							
Birth History		0.6:	erican Sign Language O Other:	Learning Needs	Reason for Adr	mission					
Family History	35 Section	nnc.	nish	Health History	I		12 Sec	ation			
ID Risk Screen	133 366110)11 5	nch rman	 Social History Safety Screening 			12 360	SUON	15		
Immunizations	0 = 0		III	Psychosocial							
Allergy	1359 Ques	stions	enting any language other than	* ID Risk Screen	Patient's Pref	erred Spok	33 Qu	estic	ns		
Additional Health History	000 4400		h" automatically enters a consult order ial Work	Nutrition	Discussing He	althcare	50 Q G	ootic	7110	or	Patient's Preferred Communication Mode
Procedure History	Mode of Arrival on Unit	Accompanied By	Accompanied by Name(s)	Developmental &	O English	O Hebrew	O Portuguese	O English	O Greek	O Polish	O Verbal
Anesthesia/Sedation Transfusion Reaction and Conser	O Ambulatory	Mother Sibling	recompanied by name(s)	Suicide Risk	O Spanish	O Hindi	O Romanian	O Spanish	O Hebrew	O Portuguese	O Sign language
Nutrition	O Bed	☐ Father ☐ Stepfather		DC Needs	O Arabic O Bosnian	O Hmong O Indonesian	O Russian O Sign Languages	O Arabic O Bosnian	O Hindi O Hmona	O Romanian O Russian	Witten
Breast/Formula Feeding	C Carried Stretcher	Foster father Stepmother Soster mother Step sibling			C Chinese	O Iranian O Irish	O Somali	C Braille	O Indonesian	O Sign Languages	Interpreter Needed?
Nutrition II	O Wheelchair	☐ Friend ☐ Other:			O Danish	O Italian	O Sudanese O Swedish	C Chinese	O Iranian O Irish	O Somali O Sudanese	O Yes
Toileting	O otnei.	Grandmother			O Deaf Services O Dutch	O Japanese	O Thai O Turkish	O Danish	O Italian	O Swedish	O Yes O No
Functional					O Tagalog	O Korean O Latin	O Ukrainian	O Deaf Services O Dutch	O Japanese O Korean	O Thai O Turkish	
Safety	Reason for Admission	Information Given By	Reason Information Not Obtained		O French	O Malay O Norwegian	O Vietnamese O Unknown	C Tagalog	O Latin	O Ukrainian	Caregiver's Preferred
Activity	☐ End of life care	Unable to obtain			O German	O Persian	O Other:	O French	O Malay O Norwegian	O Vietnamese O Unknown	Communication Mode
0-5 Develop 6-17 Develop	☐ Invasive procedure, non-surgical ☐ Medical treatment	Self Mother			○ Greek	O Polish		C German	O Persian	O Other:	O Verbal O Sign language
Sexuality	☐ Observation	Father									O Written
Social History	Postoperative care	Foster father Foster mother			Caregiver's Pre Discussing Hea	eferred Spoken althcare	Language for	Caregiver's Pre Discussing Hea	ferred Spoken L Ithcare	anguage for	O Other:
Family/Social	Stabilization	Friend			O English	O Hebrew	O Portuguese	O English	○ Greek	O Polish	
Cultural/Spiritual	Surgery Other:	Grandfather Grandmother			O Spanish	O Hindi O Hmona	O Romanian	O Spanish O Arabic	O Hebrew O Hindi	O Portuguese	Primary Caregiver
Educ Needs		☐ Sibling ☐ Stepfather			O Bosnian	O Indonesian	O Sign Languages	O Bosnian	O Hinai	O Russian	O Self O Family member
DC Needs		☐ Stepmother			C Chinese	O Iranian O Irish	O Somali O Sudanese	O Braille O Chinese	O Indonesian O Iranian	O Sign Languages	O Non-family member
		Step sibling Other:			O Danish	O Italian	O Swedish	O Creole	O Irish	O Sudanese	O Other
					O Deaf Services O Dutch	O Japanese O Korean	O Thai O Turkish	O Danish O Deaf Services	O Italian O Japanese	O Swedish O Thai	Information Given By:
	Information Given by Name(s)	Legal Guardian	Legal Guardian		O Tagalog	C Latin	O Ukrainian	O Dutch	O Korean	O Turkish	
	anormation diven by name(5)	Relationship to Patient	Legai vual ulali		O French	O Malay O Norwegian	O Vietnamese O Unknown	O Tagalog O French	O Latin O Malay	O Ukrainian O Vietnamese	
					O German	O Persian	O Other:	O Gaelic	O Norwegian	O Unknown	
					O Greek	O Polish		C German	O Persian	O Other:	

Data Reduction – Peds Admission Intake

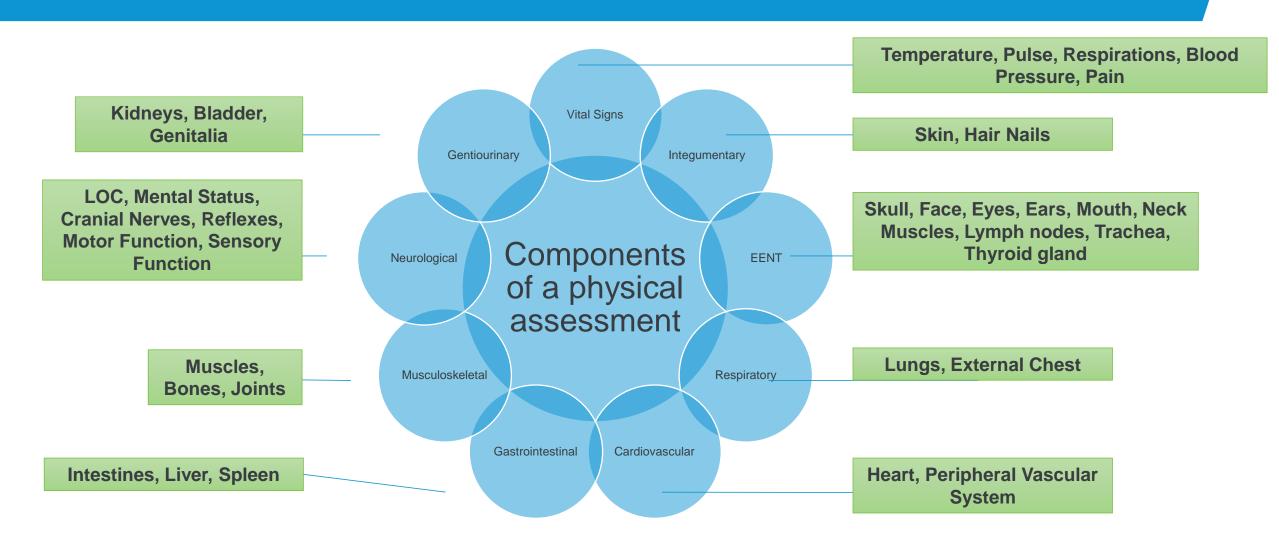


First 3 Clients live: March 2019

Adult Physical Assessment ECD



Review of Systems and Physical Assessment



Bare, B. G., Brunner, L. S., Smeltzer, S. C., & Suddarth, D. S. (2004). Brunner & suddarth's textbook of medical-surgical nursing (10th ed.). Philadelphia: Lippincott Williams & Wilkins. Estes, M. Z. (2002). Health assessment & physician assessment (2nd ed.). Albany, NY: Thomson Learning Inc.

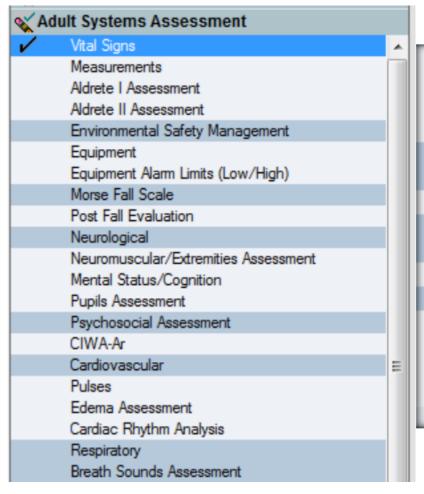
Nettina, S. (2014). Lippincott manual of nursing practice (10th ed.). Philadelphia, PA: Lippincott, William's & Wilkins. Retrieved from: https://www.r2library.com/resource/detail/1451173547/ch0005s0130. Weber, J., & Kelley, J. (2007). Health assessment in nursing (3rd ed.). Philadelphia, PA: Lippincott, William's & Wilkins.

Physical Assessment Design from Collaborative

Client	Number of Assessment Questions
#1	308
#2	476
#3	573
#4	405
#5	526
#6	187
#7	577
#8	789
#9	1092
#10	397

Systems Assessment Band

36 sections*



Oxygenation Results
Airway Management
Incentive Spirometry
Chest Tubes
Gastrointestinal
Genitourinary
Urinary Catheter
Integumentary
Braden Assessment
Incision/Wound/Skin
Musculoskeletal
Activities of Daily Living
Subjective
Activities of Daily Living Rehab
EENT

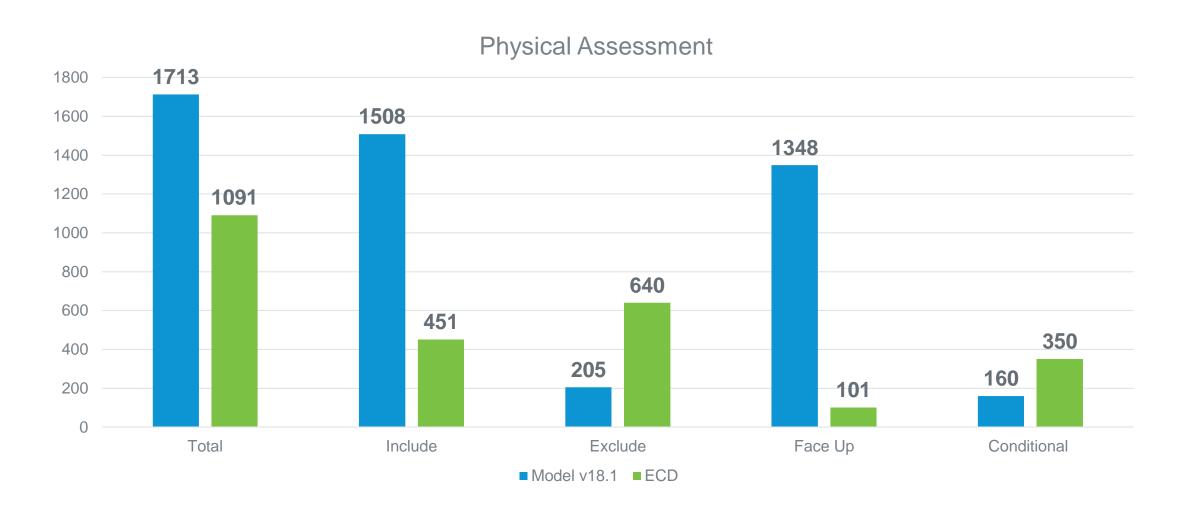
ECD – 14 sections

Vital Signs
Measurements
Pain Assessment
Neurological
Psychosocial
EENT
Cardiovascular
Respiratory
Gastrointestinal
Genitourinary
Musculoskeletal
Morse Fall Scale
Integumentary
Braden Assessment

ECD <u>excluded</u> sections (16) – Seizure Assessment, Stroke, Ongoing Columbia Suicide Severity Rating, CIWA-AD, Central Line, Airway Management, Non-Invasive Ventilation, Invasive Ventilation, Vent Bundle, Chest Tubes, GI Ostomy, GI Tubes, Urinary Catheter, Urostomy, Post Fall Evaluation, Surgical Drains/Tubes

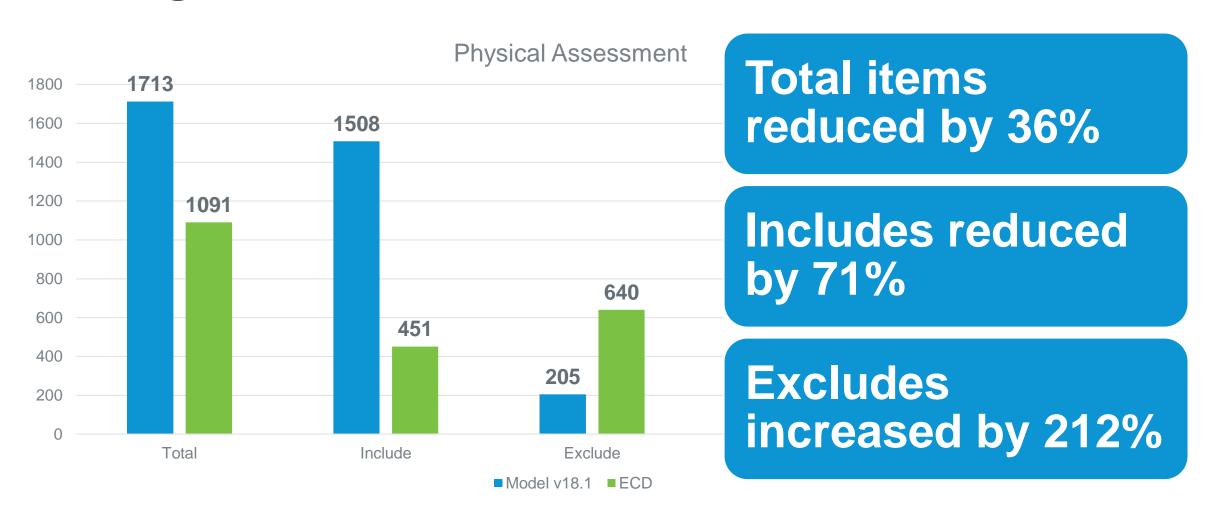
*Plus 24 excluded sections

By the numbers* V5



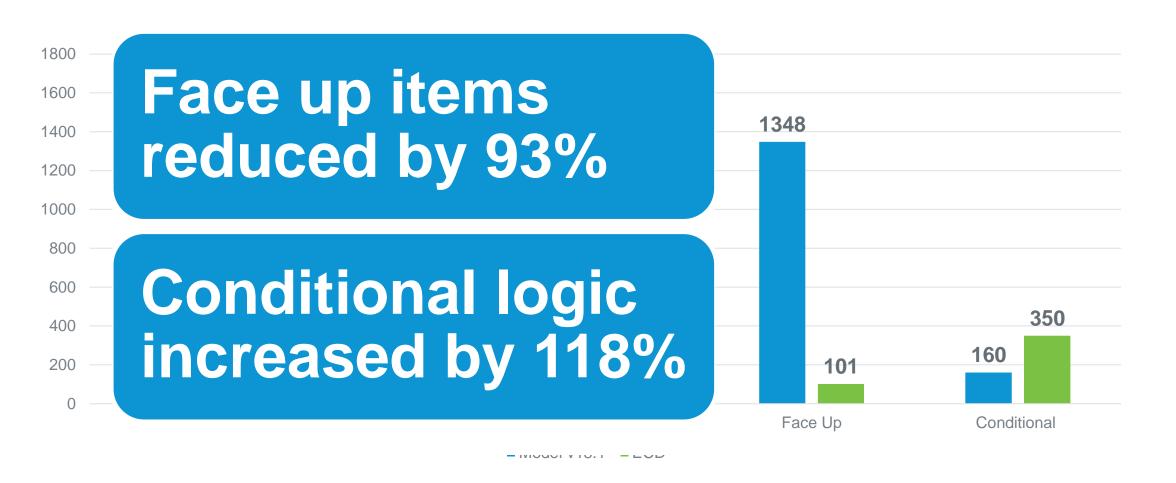
By the numbers...V5

Getting rid of non-used, non-value add items



By the numbers... V5

Eliminating the noise, adding some "intelligence"



Metrics

Qualitative

- Staff Surveys Developed
 - Admission: RN
 - Physical Assessment: RN and other care team providers
- Available for all clients to administer surveys pre & post

Quantitative

- # of Distinct Questions
- Average Active Time
- Average Clicks
- Single Sign %
- Average % of Total DTAs Charted per Sign
- Average # of DTAs Charted per Sign
- The Number of Conditional DTA's
- Number of Required DTAs
- Cost Savings (calculated from reduction is time)

ECD Initiatives - Recap

Adult Med-Surg Collaborative

- ✓ Adult Admission Intake
- √ Physical Assessment

Pediatric Collaborative

- ✓ Peds Admission Intake
- Peds Physical Assessment
- Peds 23 hour Observation/Per-Op Surgery Intake

Behavioral Health Collaborative

- BH Intake Assessment
- ✓ Adult 23 hour observation/Pre-Op Surgery Intake
- Adult Critical Care Collaborative
 - Kicking off April 2019
- Women's Health & OB Admission Intake
 - Kicking off Spring 2019
- Non-US Collaboratives
 - ✓ Canada one site live on Adult Admission December 2018
 - Australia initial planning and development charter in process
 - UK and Middle East: initial planning



QUESTIONS

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