BC Pediatric Early Warning System (PEWS) for Emergency and Urgent Care Settings

Regional Workshops 2018

CHILD HEALTH BC

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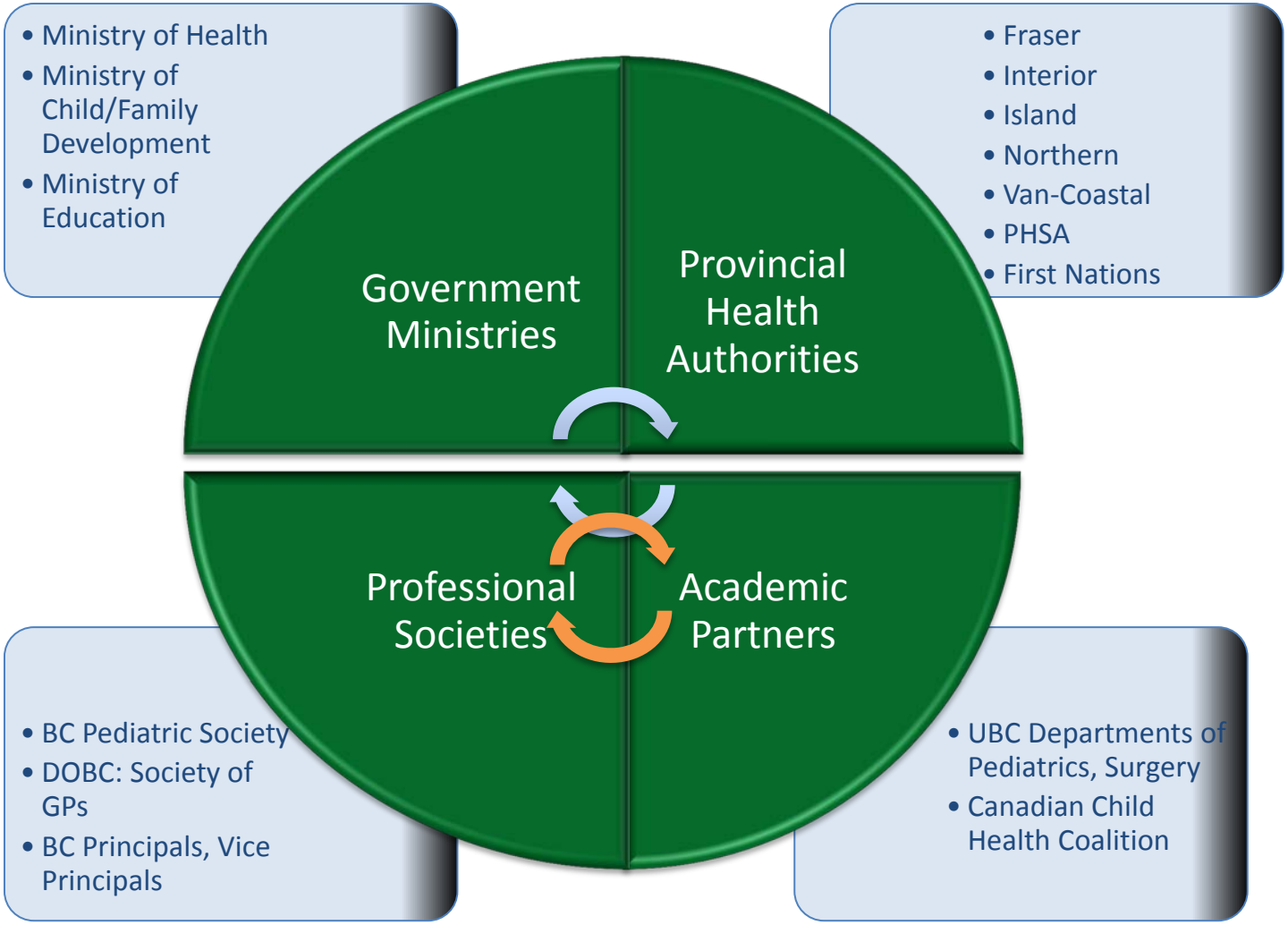
By the end of this session you will be able to...

- ✓ Understand PEWS and explain reasons for using PEWS in ED
- ✓ Describe each of the components of BC PEWS ED
- ✓ Practice using the components of BC PEWS ED through case scenarios
- ✓ Plan for implementation at your site
- ✓ Identify & review supports and resources available to assist in implementing BC PEWS ED

1 Child Health BC

Child Health BC Network



Examples of CHBC Initiatives

- Tiers of Service – systems planning
- Provincial Asthma Guidelines
- Concussion Awareness Training Tool (CATT)
- Lifetime Prevention Schedule
- Is ”Good Good Enough”- Child Health Indicators report
- Hip Surveillance for Children with Cerebral Palsy

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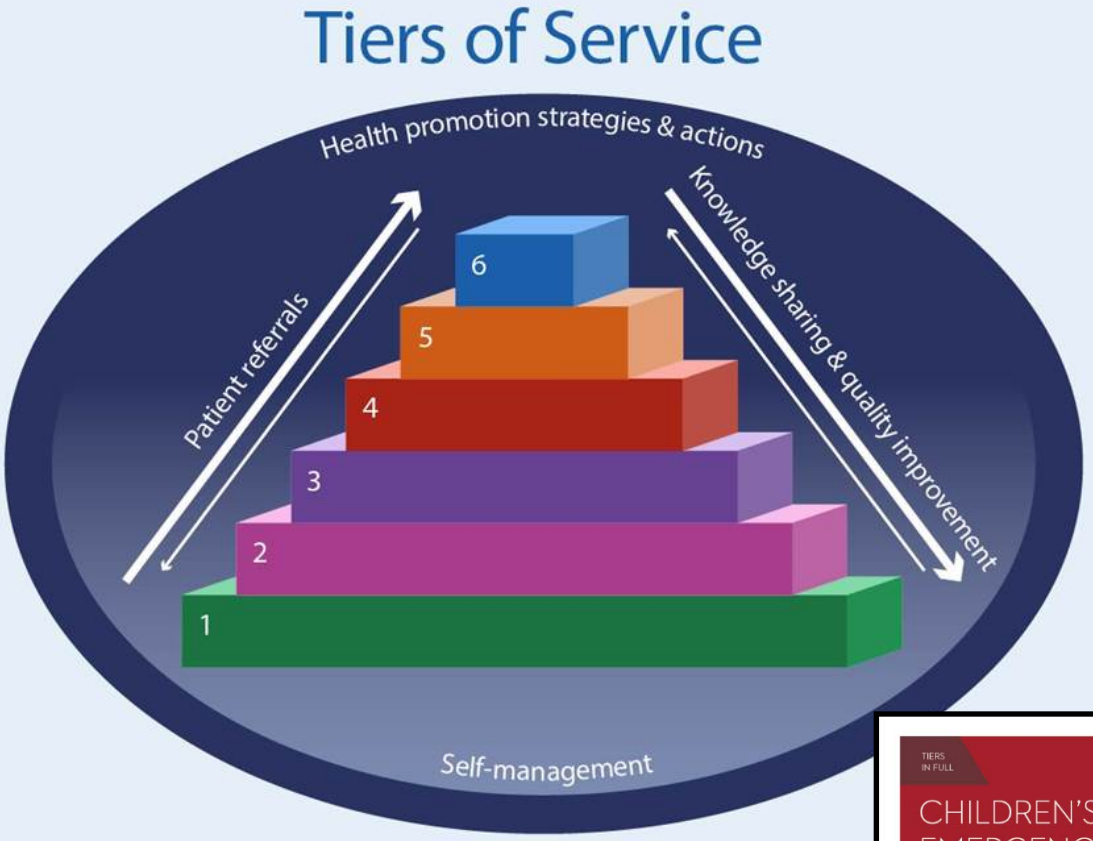
VISIT US:

www.childhealthbc.ca

Six Tiered System of Service



TIER 6: Children's provincial subspecialty service

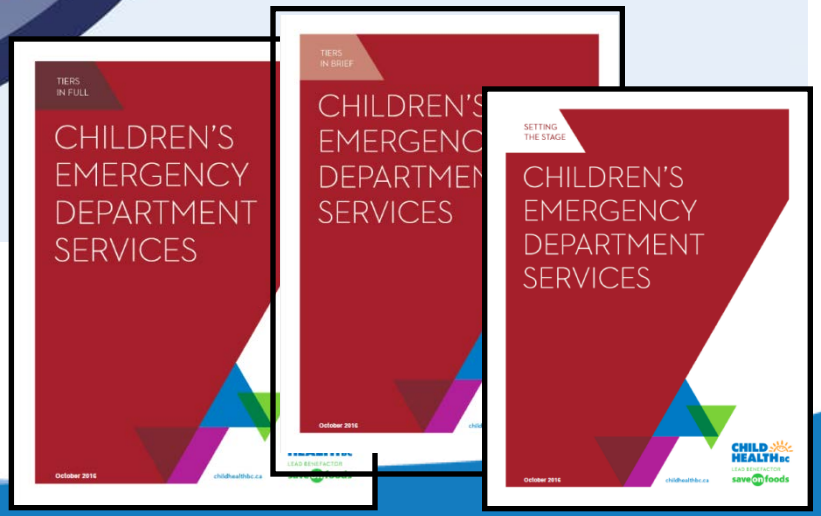
TIER 5: Children's regional enhanced & subspecialty service

TIER 4: Children's comprenhensive health service

TIER 3: Child-focused health service

TIER 2: General health service

TIER 1: Prevention, primary & emergent health service



2 Why PEWS for ED in BC?

Why PEWS?

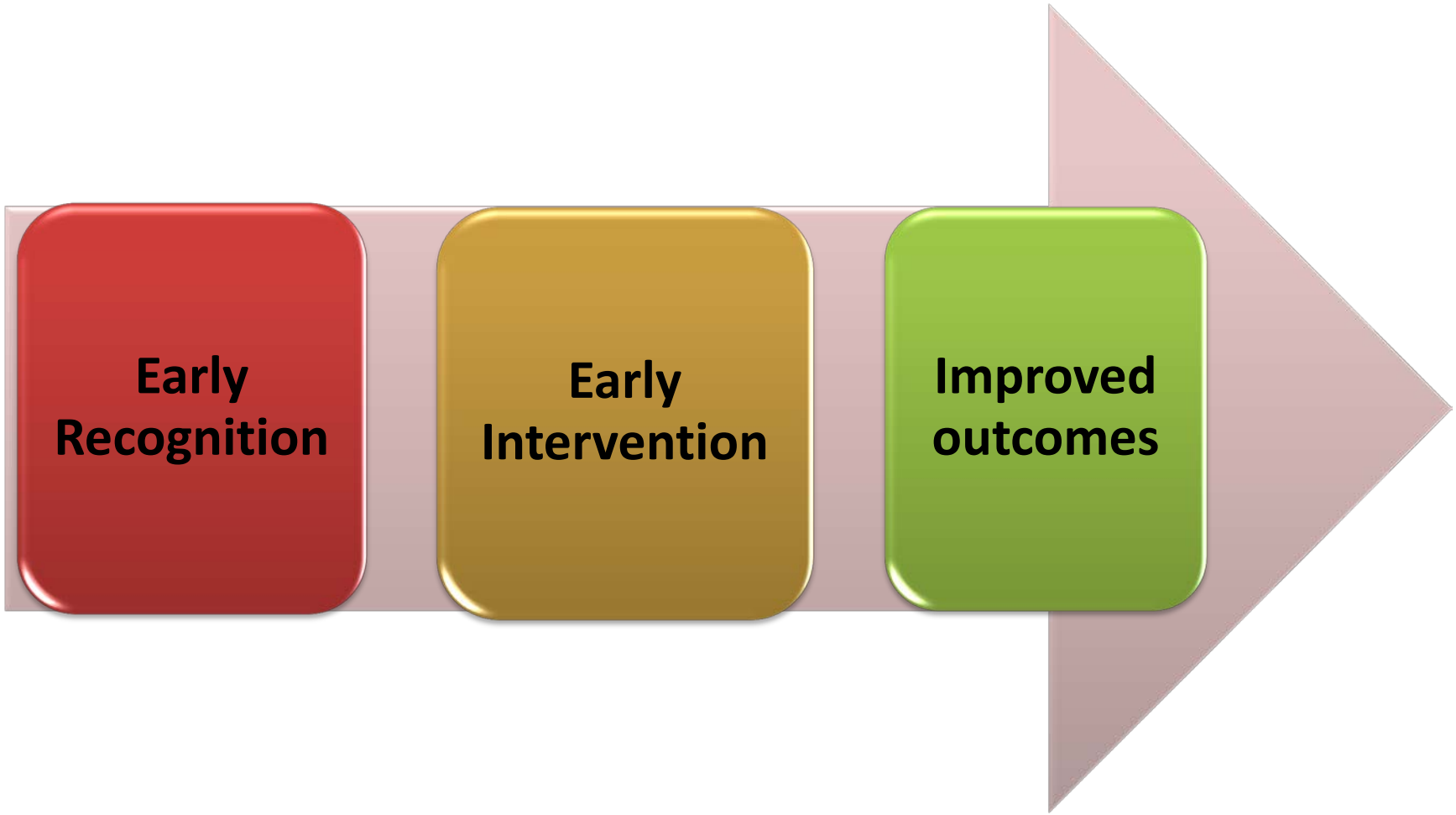
- Failure to identify & intervene early with clinical deterioration is a source of ***substantive unintended harm*** including death, disability, prolonged stay &/or readmission

- ~63 to 89% of children do not survive cardiac arrest & morbidity in survivors remains high. Yet children may demonstrate ***symptom deterioration up to 24 hours prior to cardiopulmonary arrest***

- To maximize early recognition of clinical deterioration, Pediatric Early Warning Systems (PEWS) have been implemented internationally with a substantial and growing body of ***evidence*** supporting their use

- PEWS ***identifies abnormal physiology quickly*** and when tracked across time offers early warning of deterioration. Combined with escalation guidelines, PEWS encourages timely mitigation

Why PEWS?



PEWS has been identified as a high priority by Health Authorities:

- Concerning critical incidents in both the inpatient & emergency department settings related to failure to identify risk/deterioration

- Setting a standard for care & communication based on evidence addresses:
  - **Complexity** in identification of deterioration risk in children (vital signs ranges, compensation)
  - **Diversity** of knowledge, skills & experience levels of providers across the province
  - **Issues of high cognitive load** in busy ED with intermittent high patient loads, diverse diagnoses, multiple handovers, intense time pressures

Extensive literature exists for the use of PEWS with inpatients; less but growing evidence for ED:

- PEWS scores demonstrated high **inter-rater & intra-rater reliability**
- PEWS can be integrated in routine patient evaluation & performed rapidly in the busy ED setting (**less than 90 seconds**)
- PEWS is a **good predictor** of ICU admission (medical illness)
- PEWS cannot replace the triage tool
- There are several reported positive associations with the use of PEWS in the ED including:
  - Assists generalist nurses (low volume pediatrics) to **accurately assess children** and plan interventions
  - Provides a **baseline** for monitoring deterioration
  - Ensures patients have a **full set of observations** taken, recorded and repeated as clinically necessary

Richmond Hospital ED Pilot Research

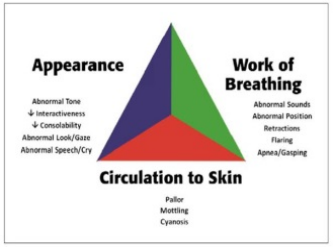
- To guide provincial planning, a one-year pilot was conducted at Richmond Hospital to research the use of PEWS in a general emergency department.
- ED has approximately 6800 paediatric visits annually (12% of total visits).
- Richmond ED relies on general health providers, who see predominately adults, but also care for children.

Overall results were very positive and included:

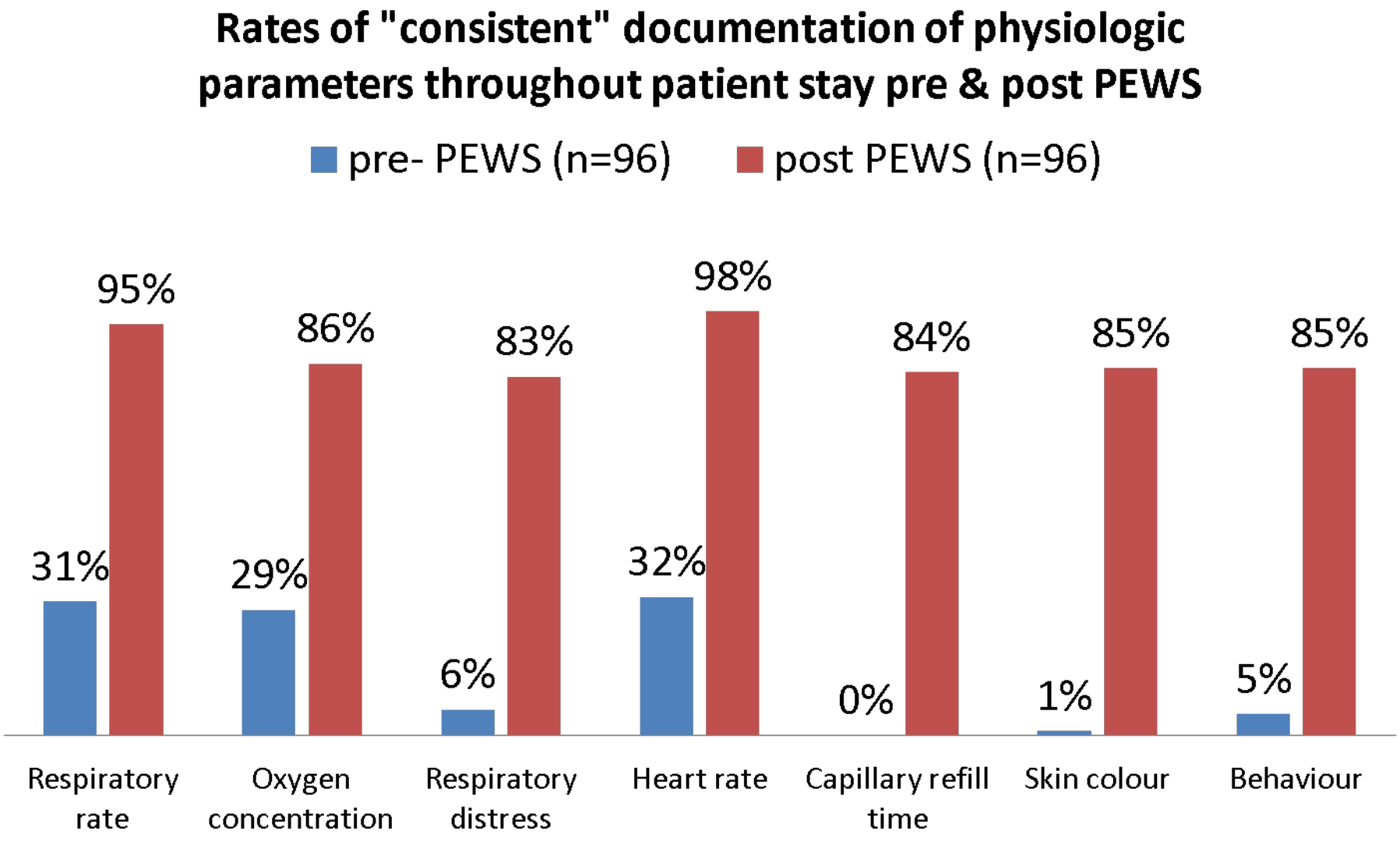
- Health providers report **high levels of change in knowledge & confidence** in caring for pediatric patients.
- Health providers **improved communication** between team members.

At Triage:

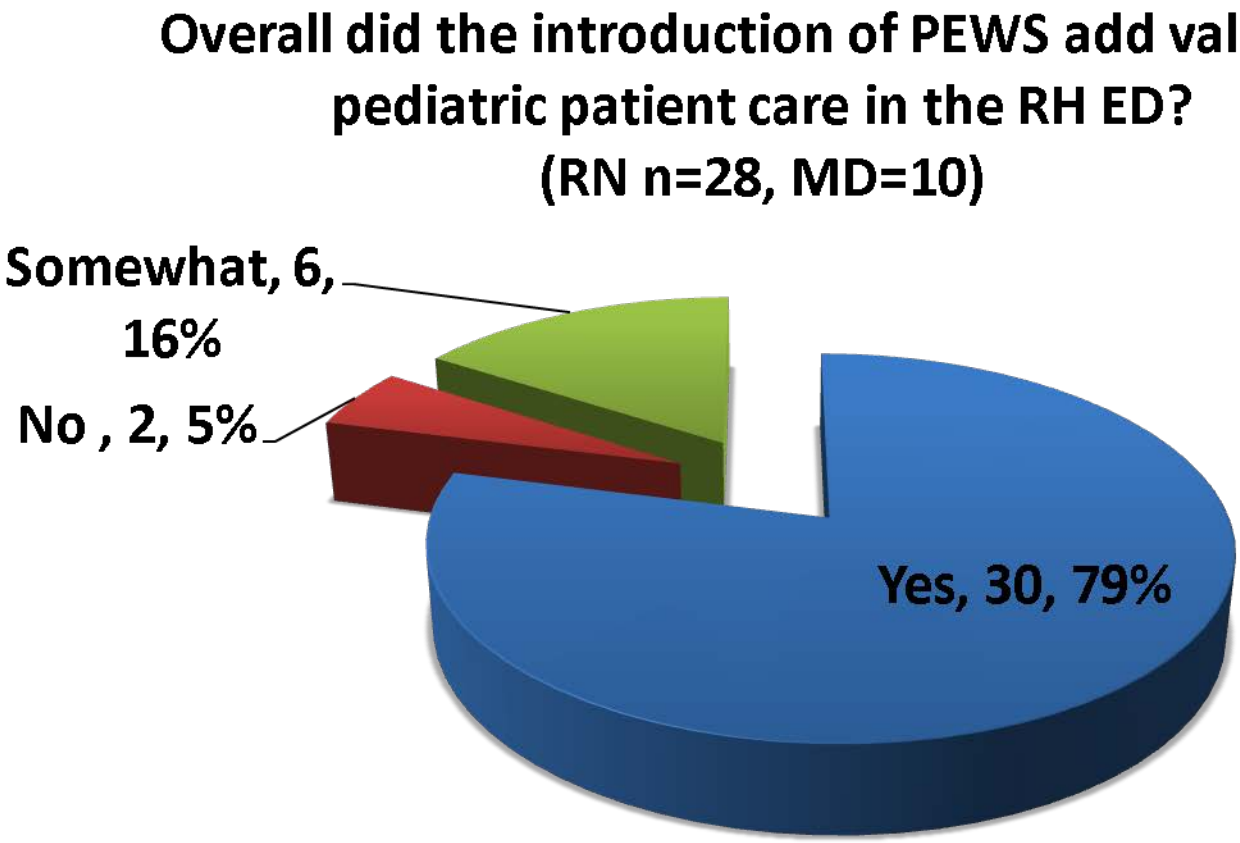
- With the use of PEWS at triage, documentation of physiological parameters increased by 75%.



- Canadian Triage and Acuity Scale (CTAS) assignment was more accurate because the pediatric assessment was more thorough.


Rates of "consistent" documentation of physiologic parameters throughout patient stay pre & post PEWS
pre- PEWS (n=96)
post PEWS (n=96)
31%
95%
29%
86%
6%
83%
32%
98%
0%
84%
1%
85%
5%
85%
Respiratory rate
Oxygen concentration
Respiratory distress
Heart rate
Capillary refill time
Skin colour
Behaviour

Perceived Value of PEWS



“System allows a better "snapshot" look of how acutely a child needs intervention and I feel it prompts me to intervene sooner than without a PEWS score”- RN

BC PEWS ED: A provincial approach

To develop and implement a standardized provincial approach for the identification of children and youth who present at the ED who may be at risk for deterioration.

System will be based on:

- Best available evidence
- Results of the Richmond Hospital Emergency Department pilot, and
- Provincial consensus

Consensus reached on the following:

1.Implement PEWS in ED in a standardized manner across the province

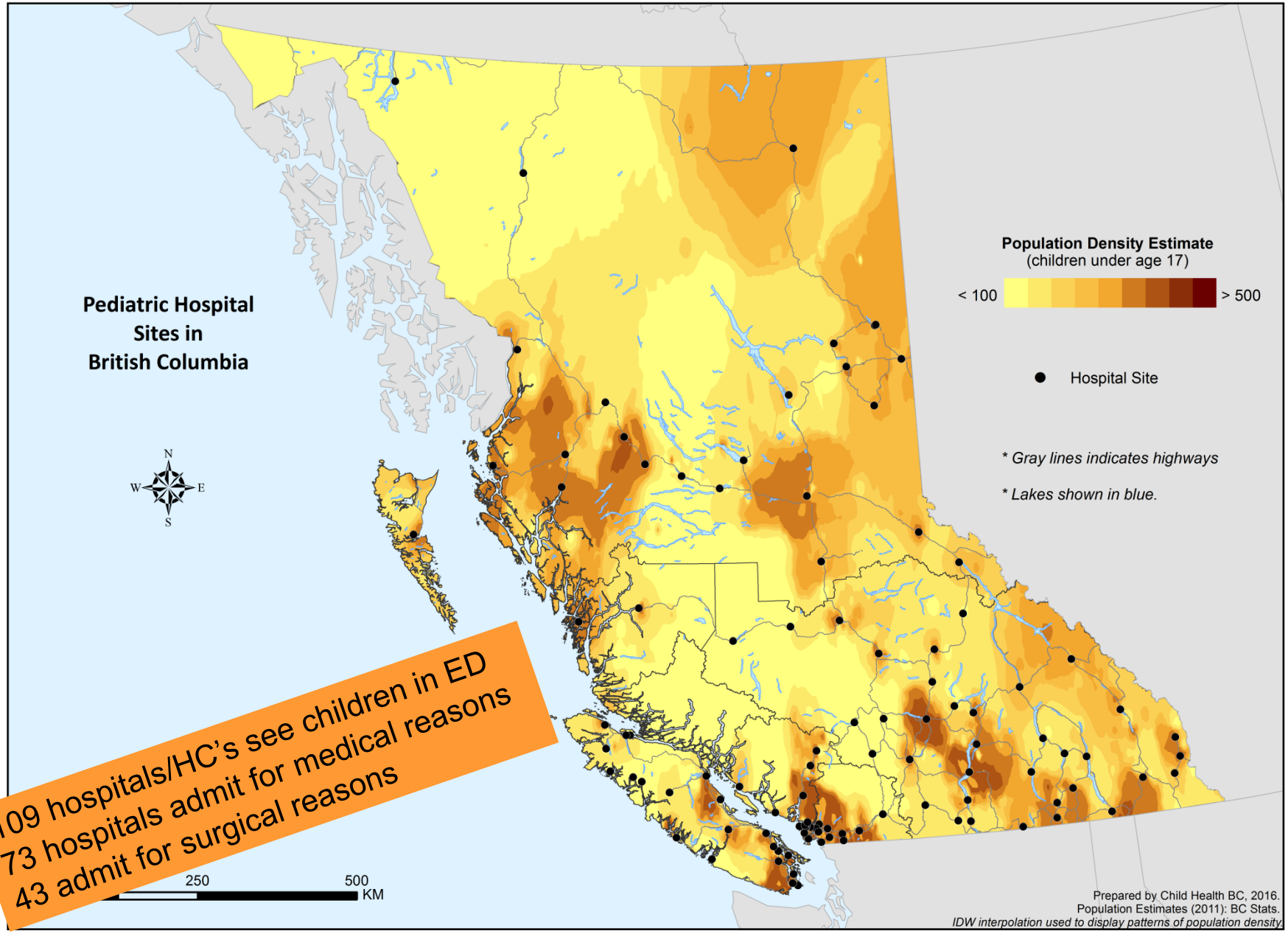
2.Implement at triage & with every full set of vitals

3.Use a standardized escalation aid

4.Use standardized documentation including:

- Pediatric Emergency Nursing Record (ENAR)
- PEWS Vital Sign Record

5.There are no exclusion criteria. PEWS will be completed on every pediatric patient presenting in ED *(except CTAS 1 or patients requiring immediate treatment)*


Pediatric Hospital Sites in British Columbia
Population Density Estimate
(children under age 17)
< 100
> 500
Hospital Site
* Gray lines indicates highways
* Lakes shown in blue.
N
W
E
S
109 hospitals/HC's see children in ED
73 hospitals admit for medical reasons
43 admit for surgical reasons
250
500
KM
Prepared by Child Health BC, 2016.
Population Estimates (2011): BC Stats.
IDW interpolation used to display patterns of population density.

3 Components of BC PEWS ED

Child Health BC has been working with Health Authorities to develop a PEWS system that will work across the province for the ED environment

Components of BC PEWS ED

PEWS Score

Standardized pediatric emergency nursing record

Tools to promote Situational Awareness

Escalation Aid

Communication Framework (SBAR)

Validated Scoring Tool: Brighton

Score can **range between 0 and 13. Higher PEWS scores associated with higher risk of clinical deterioration**

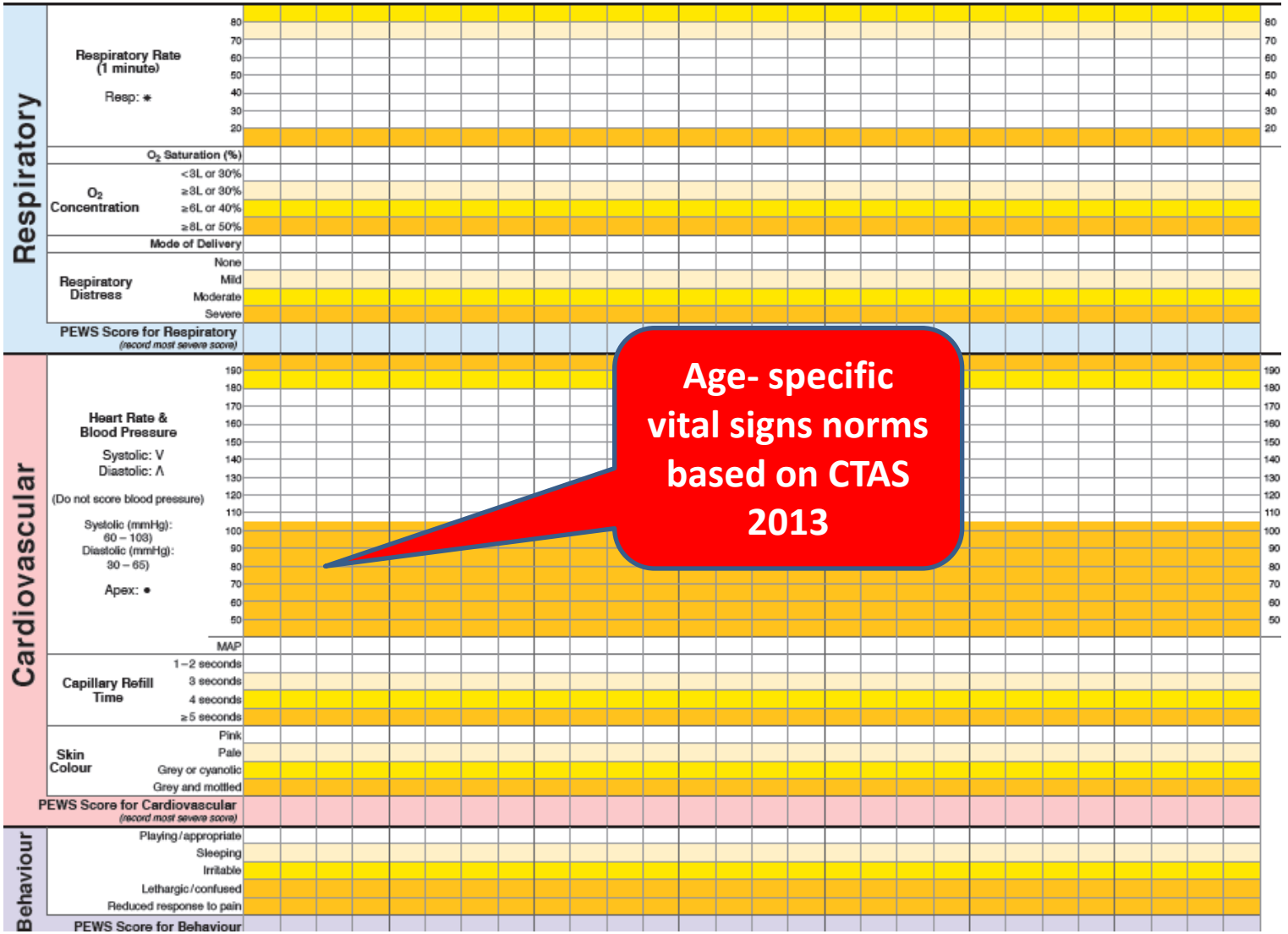
Brighton Pediatric Early Warning Score					
	0	**1**	**2**	**3**	**SCORE**
Behaviour	Playing Appropriate	Sleeping	Irritable	Lethargic **&/OR** Confused **&/OR** Reduced response to pain	
Respiratory	Within normal parameters No recession or tracheal tug	10 above normal parameters, *Using accessory muscles,* **&/OR** *30+% FiO2 or 4+ liters/min*	>20 above normal parameters recessing/retractions, tracheal tug **&/OR** 40+% FiO2 or 6+liters/min	5 below normal parameters with sternal recession/retractions, tracheal tug or grunting **&/OR** 50% FiO2 or 8+liters/min	
Cardiovascular	Pink/Normal **&/OR** capillary refill 1-2 seconds	Pale **&/OR** capillary refill 3 seconds	Grey **&/OR** capillary refill 4 seconds Tachycardia of 20 above normal rate.	Grey and mottled or capillary refill 5 seconds or above **OR** Tachycardia of 30 above normal rate or bradycardia	
				Q 20 minutes bronchodilators &/OR persistent vomiting following surgery (2 points each)	
TOTAL PEWS SCORE					

Monaghan A. Detecting and managing deterioration in children. *Paediatr Nurs.* 2005; 17:2-5

PEWS score

PEWS Scoring Legend

0
1
2
3



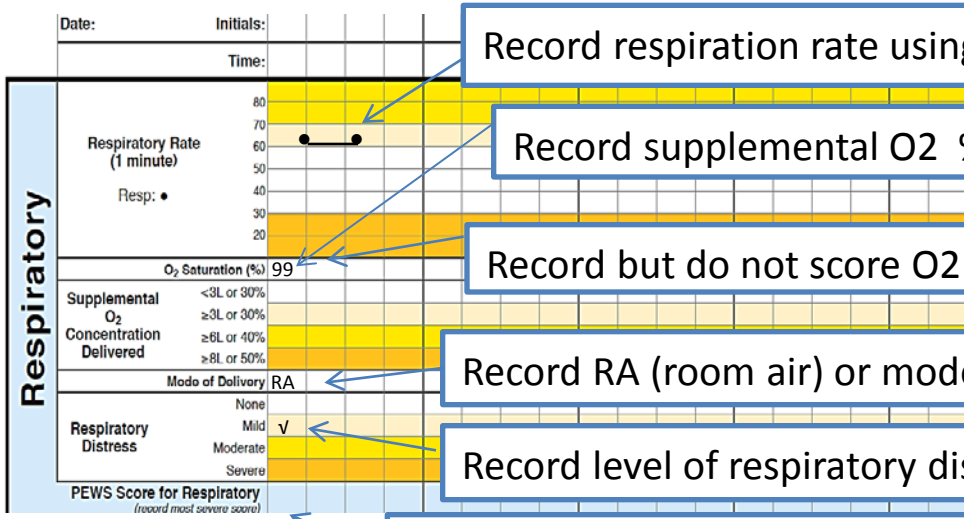
The PEWS Vital Sign record (inserts for ENAR or trauma record) are divided into 6 age ranges to accommodate for vital signs differences in pediatric patients:

0-3 months	4 - 11 months	1 - 3 years
4 - 6 years	7 - 11 years	12+ years

Scoring Respiratory Category

AIRWAY

BREATHING



Record respiration rate using a ● and connect with a line

Record supplemental O2 % or L/min concentration

Record but do not score O2 saturation %

Record RA (room air) or mode of oxygen delivery device; no score

Record level of respiratory distress by using a √

Calculate and record the Respiratory PEWS Score: Take the HIGHEST score (max 3)

PEWS Scoring Legend

0
1
2
3

Respiratory Category	Parameter	Scoring Range
	Respiratory Rate	0-1-2-3
	Oxygen Saturation	not scored
	Supplemental O2	0-1-2-3
	Respiratory Distress	0-1-2-3

Scoring Respiratory Category

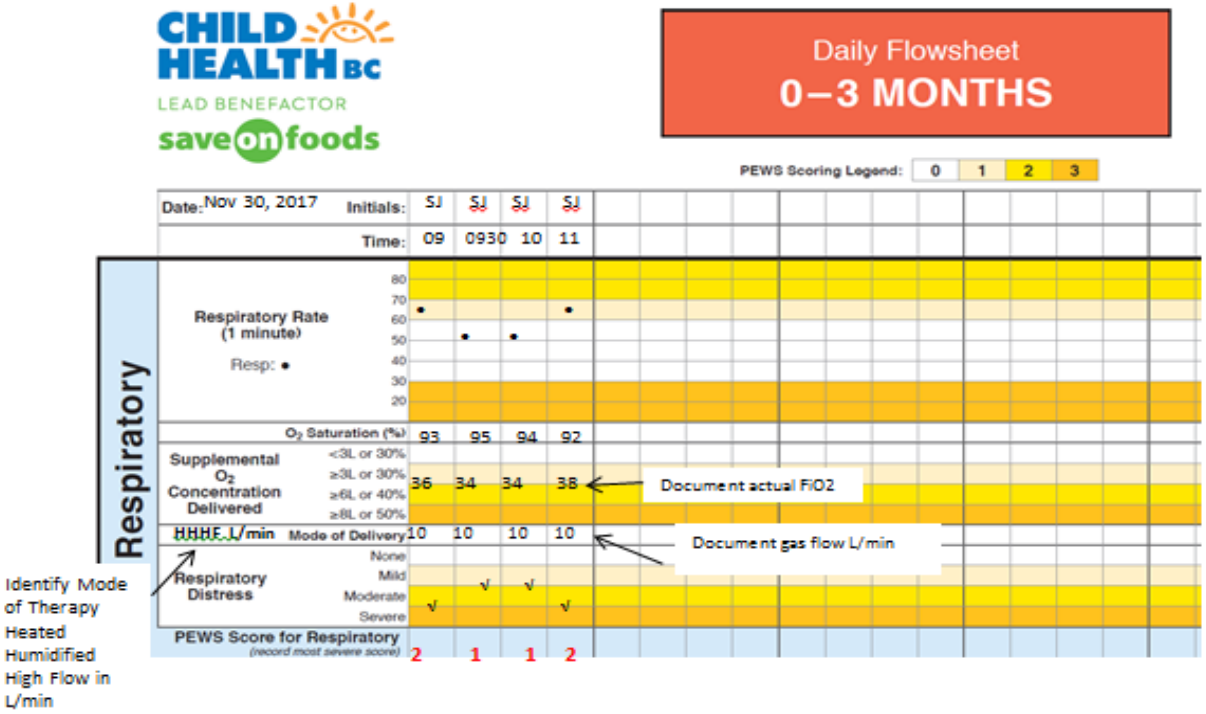
Refer to the CTAS definitions for full description, Key indicators include but are not limited to:

- **Mild:** No obvious WOB tachypnea, dyspnea

- **Moderate:** Increased WOB, restlessness/anxiety, tachypnea, retractions, increased expiratory phase

- **Severe:** Excessive WOB, cyanosis, decreased mental status, tachycardia, bradycardia, upper airway obstruction, absent or decreased breath sounds.

Scoring HHHF Therapy

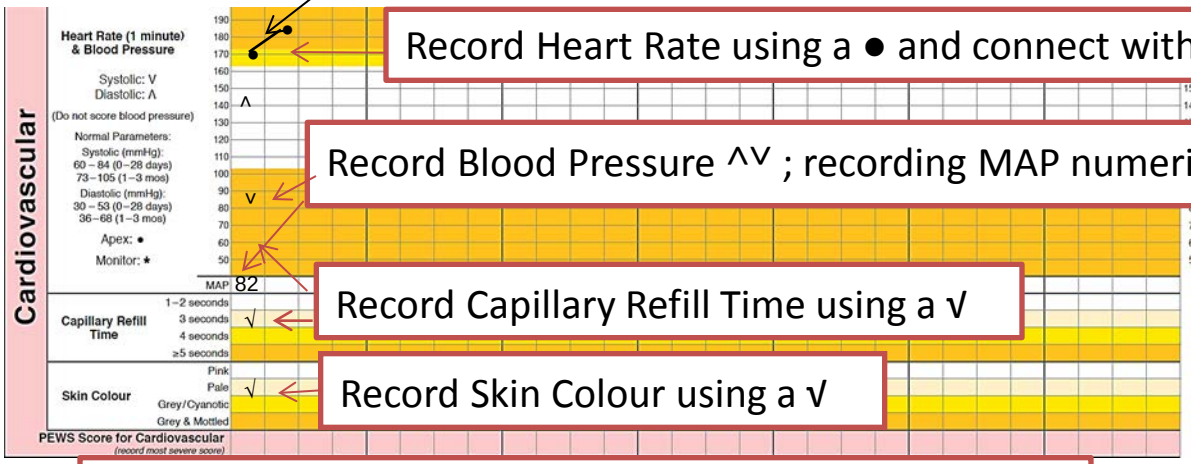


1. Identify patient is on HHHF Therapy as Mode of Therapy and document gas flow in L/minute.
2. Document actual numerical value of FIO2 being delivered under supplemental O2 concentration delivered.
3. As per routine PEWS scoring, score the Respiratory category.
4. As per routine PEWS protocol, add the Respiratory, Cardiovascular, Behavioral and other factor categories for the total PEWS score.
5. Document situational awareness factors and use clinical judgement with overall assessment.
6. Refer to the escalation aid, consider using SBAR, escalate as appropriate, document.

Scoring Cardiovascular Category

CIRCULATION

If a vital sign lands on a line, score up (e.g. score as 2)



Record Heart Rate using a ● and connect with a line

Record Blood Pressure ^V ; recording MAP numerically

Record Capillary Refill Time using a √

Record Skin Colour using a √

Record but do not score Blood Pressure and MAP

Calculate and record the Cardiovascular PEWS Score:
Take the HIGHEST score (max 3)

PEWS Scoring Legend

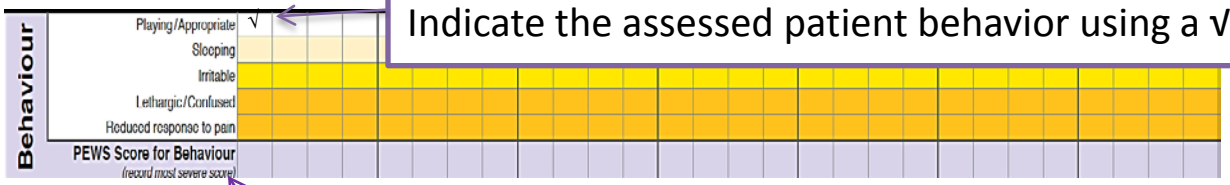
0
1
2
3

Cardiovascular Category	Parameter	Scoring Range
	Rate	** 0-2-3
	Blood Pressure/MAP	Not scored
	Capillary Refill Time	0-1-2-3
	Skin Colour	0-1-2-3

There is NO score of 1 for Heart Rate

Behaviour Category

DISABILITY



Indicate the assessed patient behavior using a √

Calculate and record the Behaviour PEWS Score: Take the HIGHEST score (max 3)

'Sleeping' refers to <u>any</u> period of sleeping.

PEWS Scoring Legend

0
1
2
3

Behaviour		**0-1-2-3**

Scoring Other factors and total PEWS

OTHER FACTORS

Persistent vomiting following surgery	**2**
Bronchodilator every 20 minutes	2

PEWS Scoring Legend

0
1
2
3

Calculate and record the TOTAL Pediatric Early Warning Score:

Add the Respiratory + Cardiovascular + Behavior + Other factors Category scores together= Total PEWS (0-13 maximum)

Situational Awareness Factors

Cincinnati Children's found these factors to be 100% sensitive predictors of serious deterioration. Addressing all five on a regular basis helped teams improve predicting & preventing deterioration

Caregiver Concern

Unusual Therapy

Watcher Patient

PEWS Score 2+

Communication Breakdown

Parent/Family/Caregiver:

- **This factor is not the same as presenting complaint or frustration over wait times**.
- It indicates increasing concern expressed regarding a child's condition, a worsening or changing state.
- Parents offer valuable insight into their child's normal state, pain and comfort.

Watcher Patient:

- A patient you identify as requiring more frequent observation
- Most commonly used factor.
- Can capture risk not captured solely by score e.g. surgical risk, abnormal labs or neurovital signs and mental health concerns.

Communication Breakdown:

- a lack of clarity, break or difficulty in communication e.g. in treatment decisions, reporting of results, patient planning, designation of responsibilities, language barriers.

Unusual Therapy:

•unusual Therapy: unfamiliarity with a medication or protocol in the department or by the health care provider (e.g. new and/or low frequency and high risk medication or process). Applying the unusual therapy bring increased awareness to patient care, support and planning.

PEWS score 2 or higher:

- should trigger increased awareness, notification, assessment and resource review.

Why use Situational Awareness?

- Identifies additional risks and influences the escalation of:
  - care
  - support
  - increased monitoring
  - observation
- Includes and goes beyond elevated PEWS score

How to promote Situational Awareness in ED?

- Posters throughout ED
- Document risk
- Regular reporting/ debriefing

Escalation Aid

CHBC Provincial PEWS Escalation Aid-Emergency Departments

PEDIATRIC EARLY WARNING SYSTEM SCORE		0 – 1	2	3 * For a score of "3" in any one category consider higher escalation	4 &/or score increases by 2 after interventions	5 – 13 or score of "3" in one category
	Notify		• RN reviews patient with the ED senior nurse (e.g. charge nurse, PCC) and identifies if escalation is required. If so notify MRP.	• As per PEWS Score 2	• RN notifies most responsible physician (MRP) or physician delegate. • Based on rate of deterioration, Emergency Physician (EP) to consider consulting a pediatrician	• MRP to assess patient immediately (& pediatrician if available) • If MRP unable to attend, RN calls EP for a STAT physician review. • Appropriate "senior" review
	Plan				• MRP or delegate communicate a plan of care to mitigate contributing factors of deterioration	• As per PEWS Score 4
	Assessment	• Nurse (RN) continues assessments and monitors. • RN documents VS and PEWS score as per unit/Health Authority guideline.	• As per PEWS Score 1	• Increase frequency of assessments & documentation as per plan from consultation with more experienced healthcare provider	• RN increases frequency of assessments and documentation of VS and PEWS score.	• As per PEWS Score 4
	Resources				• ED senior nurse will assess the RN to patient ratio and make changes as needed. • ED senior nurse assesses care location to ensure the appropriate level of skill mix, equipment, medication and resources available. • Senior nurse and MRP or physician delegate considers internal or external transfer to higher level of care.	• Senior nurse arranges increased nursing care (1:1) with increasing interventions as per plan. • Patient will be moved to an acute care space within the ED. • Senior nurse and MRP or physician delegate considers external transfer to higher level of care.
SITUATIONAL AWARENESS		If patient is assessed with one or more of the following situational awareness factors: ☐ Parent concern ☐ Watcher patient ☐ Unusual therapy ☐ Breakdown in communication → Follow PEWS Score 2 actions				

Brighton PEWS Score Escalation Aid (Draft 05/09/17)

What is SBAR?

SBAR (Situation-Background-Assessment-Recommendation) technique provides a framework for communication between members of the health care team about a patient's condition

S	**Situation**: *What is the situation you are calling about?* I am (name), a nurse on ward (X) I am calling about (patient X) I am calling because I am concerned that… (e.g. BP is low/high, pulse is XX, temperature is XX, PEWS score is X)
B	**Background**: *Pertinent Information & Relevant History* Patient (X) was admitted on (XX date) with…(e.g. respiratory infection) They have had (X procedure/investigation/operation) Patient (X)'s condition has changed in the last (XX mins) Their last set of vital signs were (XXX)
A	**Assessment**: *What do you think the problem is?* I think the problem is (XXX) and I have…(e.g. applied oxygen/given analgesia, stopped the infusion) OR I am not sure what the problem is but the patient (X) is deteriorating OR I don't know what's wrong but I am really worried
R	**Recommendation:** *What do you want to happen?* I need you to… Come to see the child in the next (XX mins) AND Is there anything I need to do in the meantime? (give a normal saline bolus/repeat vitals/start antibiotics)
Ask receiver to repeat key information to ensure understanding	

ENAR: Primary Assessment

Left side of page

Follow the ABCDE primary systems assessment approach

A

B

C

D

E

Date: _____

CHILD HEALTH BC

CTAS Level

Patient label

PEDIATRIC NURSING ASSESSMENT RECORD Location in Department:

Primary Assessment Time: _____ Initial: _____

Airway:
- ❑ Clear
- ❑ Maintainable
- ❑ Not maintainable

Airway Interventions: ❑ None
- ❑ Positioning ❑ Suctioning ❑ Foreign body removed
- ❑ Airway ❑ Oral ❑ Nasal
- ❑ Advanced Airway ETT/ Supraglottic _____
- ❑ C-Spine ❑ Discontinued at _____hours
- By _____

Comments:

Breathing:

Air Entry:
A Absent
N Normal
↓ Decreased L R
W Wheezes
C Crackles

Work of Breathing:
- ❑ Respirations even/unlaboured
- ❑ Nasal flaring ❑ Tracheal tug
- ❑ Head bobbing ❑ Tripod
- ❑ Indrawing: _____
- ❑ Abdominal breathing

Chest Movement:
- ❑ Symmetrical ❑ Nonsymmetrical

Sounds:
- ❑ Stridor
- ❑ Grunting
- ❑ Referred Upper Airway
- ❑ Audible Wheeze

Cough:
- ❑ None
- ❑ Weak
- ❑ Productive
- ❑ Non-productive

Breathing Interventions: ❑ None
- ❑ SpO_2 Monitoring
- ❑ Capnography
- ❑ Oxygen by:
- ❑ NP _____Lpm
- ❑ Face mask _____ Lpm
- ❑ Non-rebreather _____Lpm
- ❑ Heated Humidified High Flow Therapy _____FiO_2
- ❑ BVM at 100%
- ❑ RT called
- ❑ PRAM initiated
- ❑ Needle Thoracotomy
- ❑ Chest tube insertion
  ❑ L ❑ R Time: _____ Size: _____
- ❑ Other: _____

Comments:

Circulation:

Pulses:
Central: ❑ Normal ❑ Weak ❑ Bounding
Peripheral: ❑ Normal ❑ Weak ❑ Bounding

Capillary Refill Time:
❑ _____ Seconds (normal less than or equal to 2 Sec)

Skin Colour: ❑ Pink ❑ Pale ❑ Grey/Cyanotic ❑ Grey/Mottled ❑ Jaundice

Skin Temperature: ❑ Warm ❑ Cool ❑ Diaphoretic ❑ Dry ❑ Hot

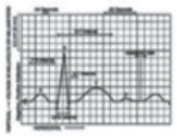
Fontanelles: ❑ Closed ❑ Soft/Flat ❑ Depressed ❑ Full ❑ Bulging

Circulation Interventions: ❑ None
- ❑ Cardiorespiratory Monitor
- ❑ IV Initiated (see IV flowsheet)
- ❑ IO initiated (see IV flowsheet)
- ❑ CPR initiated (See resuscitation record)

Comment_____

Comments:

Lead: _____ Impression: _____ Rate: _____ QT: _____ PR: _____ QRS: _____



Initial Monitor Strip

Disability:
- ❑ Blood Glucose: _____ Time:_____
- ❑ Alert Responds to: ❑ Voice ❑ Pain ❑ Unresponsive ❑ PERRL
- Pupil Size: Left _____mm ❑ Brisk ❑ Sluggish ❑ None
- Right ____ mm ❑ Brisk ❑ Sluggish ❑ None
- ❑ Photophobia ❑ Headache

Disability Interventions: ❑ None
- ❑ Siderails Up
- ❑ Seizure Pads on Siderails
- ❑ Falls Protocol
- ❑ Restraint Protocol

Comments:

Exposure:
- ❑ Clothing removed

Exposure Interventions: ❑ None
- ❑ Warm blanket provided

Comments:

Right side of page

Document any interventions taken or add ‘√ □ None’ box

Use the comment line for quick notes.

For further documentation use nurses notes section.

ENAR: Secondary Assessment

Secondary assessment:

- a focused history
- hands on physical examination
- ongoing reassessment of physiological status
- response to treatment

Date: _____

CHILD HEALTH BC

CTAS Level

Patient label

PEDIATRIC NURSING ASSESSMENT RECORD Location in Department:

Secondary Assessment Time: _____ Initial: _____

Cardiovascular:

Heart Sounds:
❑ S1, S2 clear
Heart Rhythm:
❑ Regular ❑ Irregular

Chest Pain:
❑ N/A
❑ Yes ❑ Location_____
❑ Onset _____hrs

Cardiovascular Interventions: ❑ None
❑ Cardiorespiratory Monitor
❑ ECG _____hrs

Comments:

Gastrointestinal:

Bowel Sounds:
❑ Present ❑ Absent

Abdomen:
❑ Soft
❑ Rigid
❑ Non-tender on palpation
❑ Tender_____ / ❑ Flat ❑ Distended
❑ Gastric Tube _____

Symptoms:
❑ Nausea
❑ Vomiting
❑ Hematemesis
❑ Diarrhea ❑ Constipation
❑ LBM _____

Gastrointestinal Interventions: ❑ None
❑ NG ❑ OG
Size: _____ ❑ L ❑ R

Comments:

Genitourinary:

Urine: ❑ N/A
❑ Pain: _____
❑ Burning
❑ Urgency
❑ Frequency
❑ Hematuria
❑ Last Void: _____
❑ Number of wet diapers in last 24 hours _____

Reproduction: ❑ N/A
❑ LMP _____
❑ Sexually Active
❑ Pregnant: _____weeks
❑ Previous Pregnancies
❑ Discharge ❑ Bleeding
Amount_____ Duration____
❑Penile discharge/pain
❑Scrotal pain

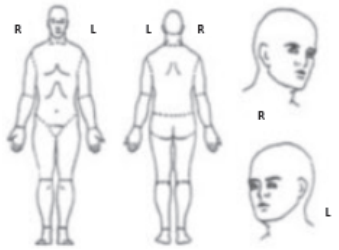
Genitourinary Interventions: ❑ None
Catheter type:
❑ Foley ❑ Other: _____
Size: _____ Time: _____

❑ Urine Dip ❑ Mid-stream ❑ Catheter
❑ Negative ❑ Positive _____

❑ Pregnancy Test
❑ Negative ❑ Positive

Comments:

Musculoskeletal:



Musculoskeletal Interventions: ❑ None
❑ See Diagram
❑ Dressings Applied to Wounds
❑ Splint _____ ❑ Trauma Record

#	Fracture	D	Deformity
#C	Compound Fracture	S	Swelling
A	Abrasion	H	Hematoma
L	Laceration	AM	Amputation
B	Burn	P	Pain
C	Contusion	PI	Penetrating Injury
T	Traction	///	Crush
E	Edema	+	Bruising
R	Rash		

Psychosocial:

Behaviour:
❑ Appropriate / Cooperative
❑ Uncooperative ❑ Threatening to Leave Against Medical Advice

At risk to self/others:
❑ Suicidal Ideation ❑ Homicidal Ideation ❑ Plan: _____

Violence and Aggression:
❑ Confusion / Disorientation ❑ Angry / Irritable ❑ Paranoid / Suspicious
❑ Agitated / Impulsive

Substance Use:
❑ Substance Intoxication / Withdrawal

Psychosocial Interventions: ❑ None
❑ Certified
❑ Clothing & Belongings Removed
❑ Restraint Protocol ❑ Social Worker
❑ MCFD
❑ Psychiatry consult
❑ Other_____
❑ Contract to safety
❑ Violence and Aggression ALERT
❑ Heartsmap Completed Time:_____

Continue to document interventions on the right hand side of the page or checking of the 'none' box as applicable

Document in more detail according to CRNBC, site and health authority standards

ENAR: Medications, Nursing Notes and Signatures

Note the administered medications in the medication box.

Time	Medication	Dose	Route	Initials

Be sure to initial for any medications administered.

Additional nursing notes can be made here.
If more space is needed use your health authority nursing documentation.

Time	Nursing Documentation Notes

Printed Name	Signature	Initials

There is also signature box to sign at the bottom of the document.

4 Case Study

Patient: Baby Boy Sidhu

Age: 14 days

Arrival time: 2300

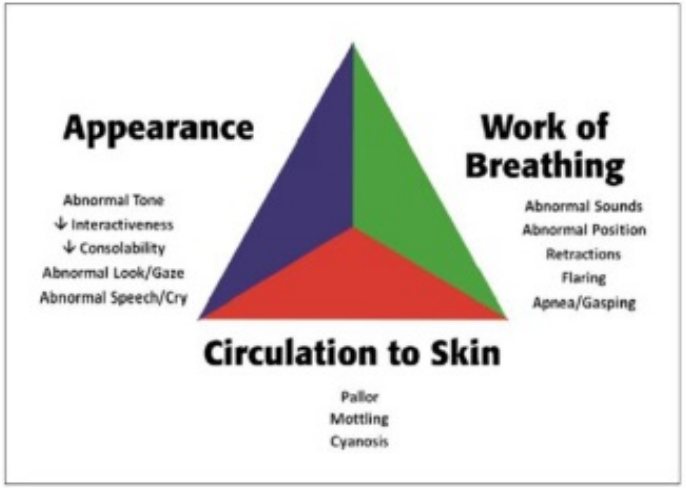
Arrived: Carried in by mother & father

Presenting Complaint: Cough & Nasal congestion

History leading to present complaint: increasing difficulty with feeding, with decreased feeding in the last 24hours (5 short breast feeds last 24 hours), sleeping long periods, diapers don't appear as wet or heavy as normal

- **Apply the Pediatric Assessment Triangle**:
  - **Appearance:** Sleeping in mom's arms
  - **Work of Breathing**: Child has an increased work of breathing, tachypneic and using accessory muscles to breathe
  - **Circulation**: Pink peripherally and centrally

looks well, or unwell?



J Emerg Nurs. 2013 Mar; 39(2): 182–189

Additional information

- Patient weight: 4.2 kg (4200 gm)
- Patient temperature: 36.5 Axilla

***Documentation of the patient's weight and temperature is an important step in pediatric assessment and may happen at triage or at admission*

- No symptoms suggestive of an infectious process
- On no medications & none given by parents
- No known drug allergies
- Relevant Past Medical History: SVD at 39 weeks, Primipara, discharged at 24 hours, breast feeding, gaining weight
- 5 minute breastfeed 1 hour prior to presentation

Respiratory Category	
Respiratory rate	65
Oxygen Saturation %	95
Supplemental oxygen delivered	
Mode of Delivery	RA
Respiratory Distress	Mod
PEWS Score for Respiratory	
Cardiovascular Category	
Heart Rate	170
Blood Pressure	70/55
MAP	62
Capillary Refill Time	2
Skin Colour	Pink
PEWS Score for Cardiovascular	
Behaviour Category	
Playing/Appropriate	
Sleeping	√
Irritable	
Lethargic/Confused	
Reduced response to pain	
PEWS Score for Behaviour	
Other Factors	
Persistent vomiting following surgery	
Bronchodilator every 20 minutes	
Total PEWS Score (R + C+ B + O)	(max 13)

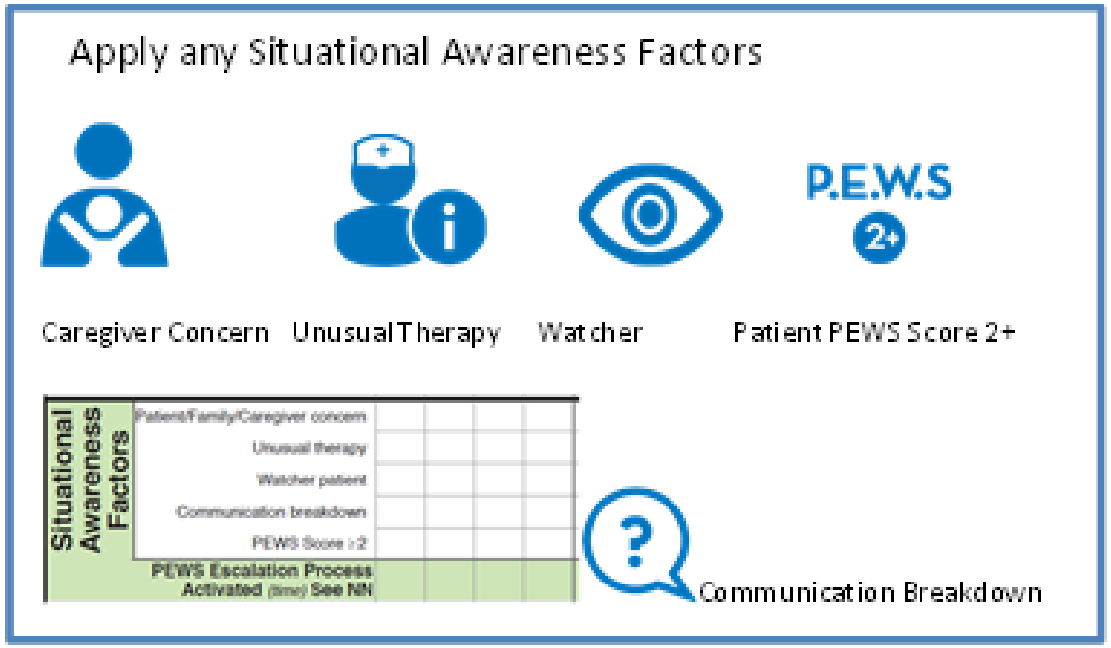
1. Select the correct aged PEWS VS record

2. PEWS Scoring

- document the PEWS observations
- calculate the PEWS score

Situational Awareness Factors:

•Using your clinical judgment from the scenario above and PEWS observations and VS, what Situational Awareness factors would you apply?



- **Applying clinical knowledge, what information does the VS show?**
- **Refer to the Escalation Aid used at your site for the recommended actions to consider…Where does Baby Sidhu's score fall in the escalation zone?**
- **What are the next steps?**
- **What tool can help frame your conversation with the physician?**

Enter the time of escalation if applicable and make any additional documentation in nurses notes.

Time: 23:15

Transfer of Patient into the ED

- The baby and his parents are now transferred to the emergency stretcher area.
- The admitting RN report is received and you now complete the PEWS observations, primary and secondary assessment and document in the paper or electronic health record.

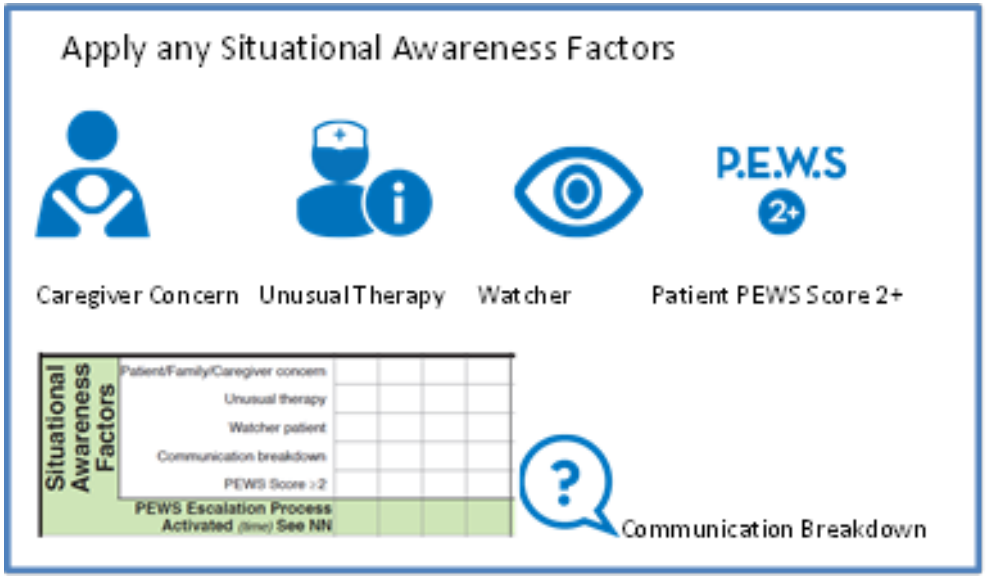
Respiratory Category	
Respiratory rate	68
Oxygen Saturation %	93
Supplemental oxygen delivered	1/2 L
Mode of Delivery	NP
Respiratory Distress	Mod √
PEWS Score for Respiratory	
Cardiovascular Category	
Heart Rate	178
Blood Pressure	72/58
MAP	60
Capillary Refill Time	3
Skin Colour	Pale √
PEWS Score for Cardiovascular	
Behaviour Category	
Playing/Appropriate	
Sleeping	
Irritable	√
Lethargic/Confused	
Reduced response to pain	
PEWS Score for Behaviour	
Other Factors	
Persistent vomiting following surgery	
Bronchodilator every 20 minutes	
Total PEWS Score (R + C+ B + O)	(max 13)

PEWS Scoring

- document the PEWS observations
- calculate the PEWS score

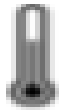
Situational Awareness Factors:

•Using your clinical judgment from the scenario above and PEWS observations and VS, what Situational Awareness Factors would you apply?



- **Applying clinical knowledge, what information does the VS trending show?**
- **Refer to the Escalation Aid used at your site for the recommended actions to consider…Where does Baby Sidhu's score fall in the escalation zone?**
- **Are any further actions required by RN at this point?**

Primary Assessment:

- **Patient Temperature:** 36.8 Celsius Axilla 
- **Airway**: maintainable, large amount of nasal secretions
  - nares suctioned for large amounts of secretions
- **Breathing:**
  - Equal air entry to right and left bases
  - Intercostal in-drawing and nasal flaring noted
  - Chest movements are symmetrical
  - Weak, non-productive cough noted
    - SPO2 monitoring applied
    - ½ L of Oxygen applied by nasal prongs

Additional Information:

- **Circulation:**
  - Pulses normal (central and peripheral)
  - Cap refill 3 seconds
  - Colour is pale
  - Skin temperature is warm
  - Fontanelles depressed
    - Cardiorespiratory monitor applied
- **Disability:**
  - Blood glucose: 3.7
  - Alert and irritable, responding to voice and pain
  - Pupils: equal at 3 mm and brisk
- **Exposure:** Clothing removed for assessment
  - Warm blanket provided

Time: 23:30

Location: Stretcher in ED

Seen by: Physician

Orders: Routine labs, VS q30 mins, full Cardio-Respiratory monitoring, maintain oxygen saturations above 94%, continue to gently suction nares PRN, start IV.

Nursing Actions: RN elevates HOB, uses nasal aspirator and repeats gentle suctioning of nares for small amount of clear secretions. IV started. Baby is settled into crib. Family reassured.

You've now completed your secondary assessment….

Respiratory Category	
Respiratory rate	58
Oxygen Saturation %	96
Supplemental oxygen delivered	1/2 L
Mode of Delivery	NP
Respiratory Distress	Mod √
PEWS Score for Respiratory	
Cardiovascular Category	
Heart Rate	160
Blood Pressure	
MAP	
Capillary Refill Time	3
Skin Colour	Pale √
PEWS Score for Cardiovascular	
Behaviour Category	
Playing/Appropriate	
Sleeping	√
Irritable	
Lethargic/Confused	
Reduced response to pain	
PEWS Score for Behaviour	
Other Factors	
Persistent vomiting following surgery	
Bronchodilator every 20 minutes	
Total PEWS Score (R + C+ B + O)	(max 13)

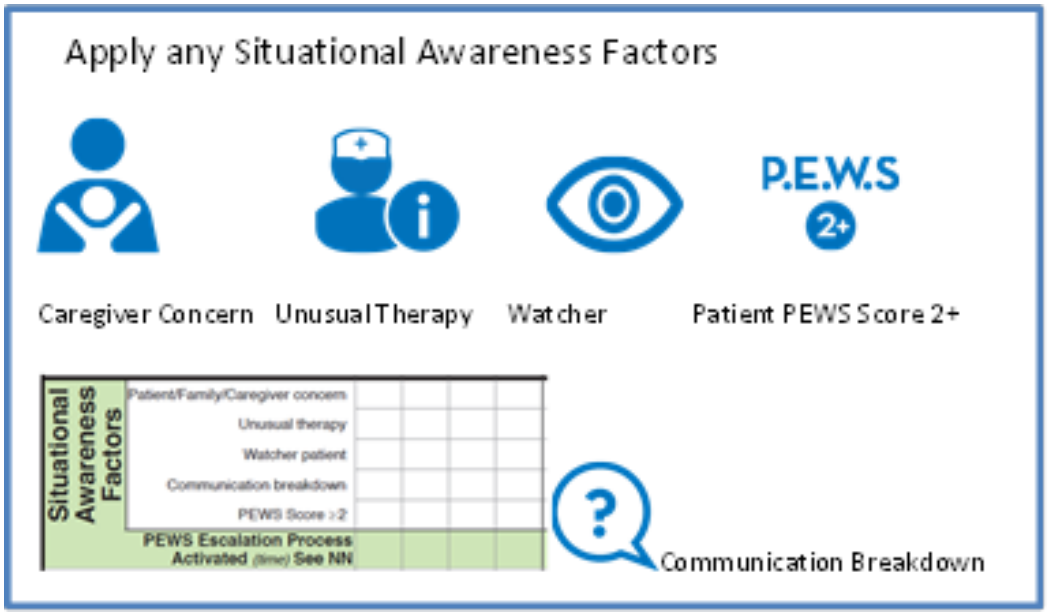
Time: 23:35

PEWS Scoring

- document the PEWS observations
- calculate the PEWS score

Situational Awareness Factors:

•Using your clinical judgment from the scenario above and PEWS observations and VS, what Situational Awareness factors would you apply?



Refer to the Escalation Aid used at your site for the recommended actions to consider…Where does Baby Sidhu's score fall in the escalation zone?

- Apply your clinical assessment skills and clinical judgement
- Refer to the corresponding score in the escalation aid for considerations and recommendations in managing the patients care.

Enter the time of escalation if applicable and make any additional documentation in nurses notes.

Learning points from Case I

- Neonates are at increased risk of deterioration due to age and can deteriorate rapidly
- Visual trending of HR and RR aids in recognizing deterioration along with colour and any response to treatment
- Capillary refill time is a good indicator of perfusion and cardiac output.
- Skin colour in the cardiac section is specifically assessing for perfusion: *Inspect the oral mucous membranes for cyanosis that may not be readily apparent on the skin. Examine underneath the tongue, inside the cheeks, and the nail beds for signs of peripheral cyanosis.*
- Consider the ED environment: extra stimulation and handling can cause an increase in some vital signs

Key points about PEWS…

- It is a complete system-not just a score
- Apply first at triage & then with all subsequent assessments (frequency will vary with patient condition, orders and site protocols)
- Use for all patients regardless of acuity/ CTAS (do not delay treatment to do a score if treatment is required)
- It is a support for clinical decision making

PEWS is <u>not</u> a substitute for clinical judgement.

If a PEWS score or escalation action does not make sense in context, document clinical reasoning & repeat…

5 Site Implementation Planning

Additional Trainer Resources

Education Support Tools

Available on the child health BC website: www.childhealthbc.ca

- Situational Awareness Poster
- 2 page Overview of PEWS
- Frequently Asked Questions
- SBAR tool
- PEWS Lanyard Card
- Pediatric Vital Sign Lanyard Card
- PEWS Nursing PowerPoint
- Provincial PEWS Education Lesson Plan
- PEWS Education Session Evaluation
- Physician Orientation Video
- Leadership PowerPoint
- Case Studies
- Quality Improvement Tools
- Edu-quicks

Using the questions provided discuss with your team how best to address these points at your site

Trainer's Next Steps…

- Track staff completion of online modules
- Book your in-person site training to ensure you capture all staff who will be using the system
- Continue to finalize the implementation plan for your agency
- Access and review PEWS resources
- Develop a plan for ongoing quality audits

6 Who to contact?