

Clinical and Systems Transformation (CST) and the Flow of Information

Healthy Mothers & Healthy Babies

February 21, 2020

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Topics of Discussion

1. Lessons Learned from Implementation
2. Benefits of Implementing Standard Forms with an EHR
3. Importance of Data at Point of Care
4. Utilizing Data to Implement Best Practice and Evaluate Outcomes

CST Foundational Principles

1 Patients
Come First



2 Clinical
Transformation
is our
Foundation



3 There will be
One Standard
of Care



4 Adoption will
be Universal
– Supported
by Effective
Design



5 Clinical
Change is
HO-led and
Owned, CST
Supported



6 Patient Privacy
will be
Reinforced



7 Sustainment is
as Important
as Change



Detailed descriptions of each CST Foundational Principle are available at: our.cstproject.ca/about-cst

How do the CST Foundational Principles help us provide excellent Perinatal care?

- There will be ONE Standard of care
 - Standards are the default, not the exception
 - Utilize Provincial and/or National Standards or Guidelines (SOGC or PSBC)
 - Focus is on the future
 - Partnerships with other Cerner sites across BC (and Canada)
 - PSBC and Forms solutions have to partner with Cerner and MediTech as the two largest EHRs in the Province

How do the CST Foundational Principles help us provide excellent Perinatal care?

- Adoption is Universal – Supported by effective design
 - Again highlights that Clinical Guidelines (SOGC) will be the norm
- Sustainment is as Important as Change
 - We must sustain to meet the demand of ongoing clinical improvement, adapting to new standards, etc.
 - Maternity Working Group will be an ongoing group – not just for implementation

Lessons Learned from Implementation

Lessons Learned from Implementation

Change is Hard

CST is a Change in Documentation

Inter-Professional Teamwork
Contributes to Success

Minimizes **Long**
Term Impact on
Workload Across
the Hospital

CST has buy in
from three Health
Organizations

Lessons Learned from Implementation

Change is Hard

- The perception is that it will always be hard
- Change can be anticipated and managed
- Incremental change is easier than imposed, large scale change

Lessons Learned from Implementation

CST is a Change in Documentation

- Practices aligned across sites
- Patient Care and Safety always come first
- Guidelines and Policy steer foundational content
- What is in system is only as good as the documentation completed

Lessons Learned from Implementation

Inter-Professional Teamwork Contributes to Success

- We work well together
- Flow of information across Disciplines
- Having multiple people being able to access the chart from a variety of locations

Lessons Learned from Implementation

Minimizes Long Term Impact on Workload Across the Hospital

- Flow of Information
- Medication Reconciliation
- Closed Loop Medication Management

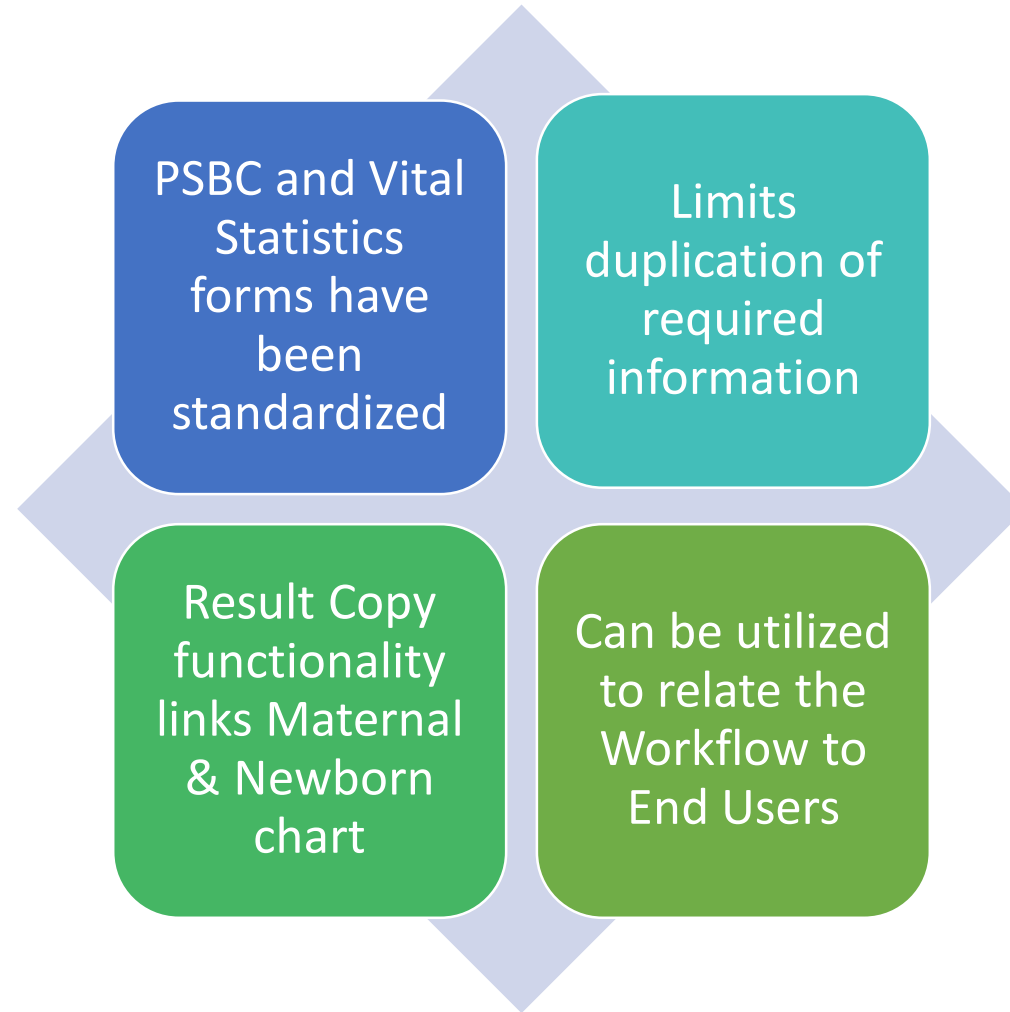
Lessons Learned from Implementation

CST has buy in from three Health Organizations

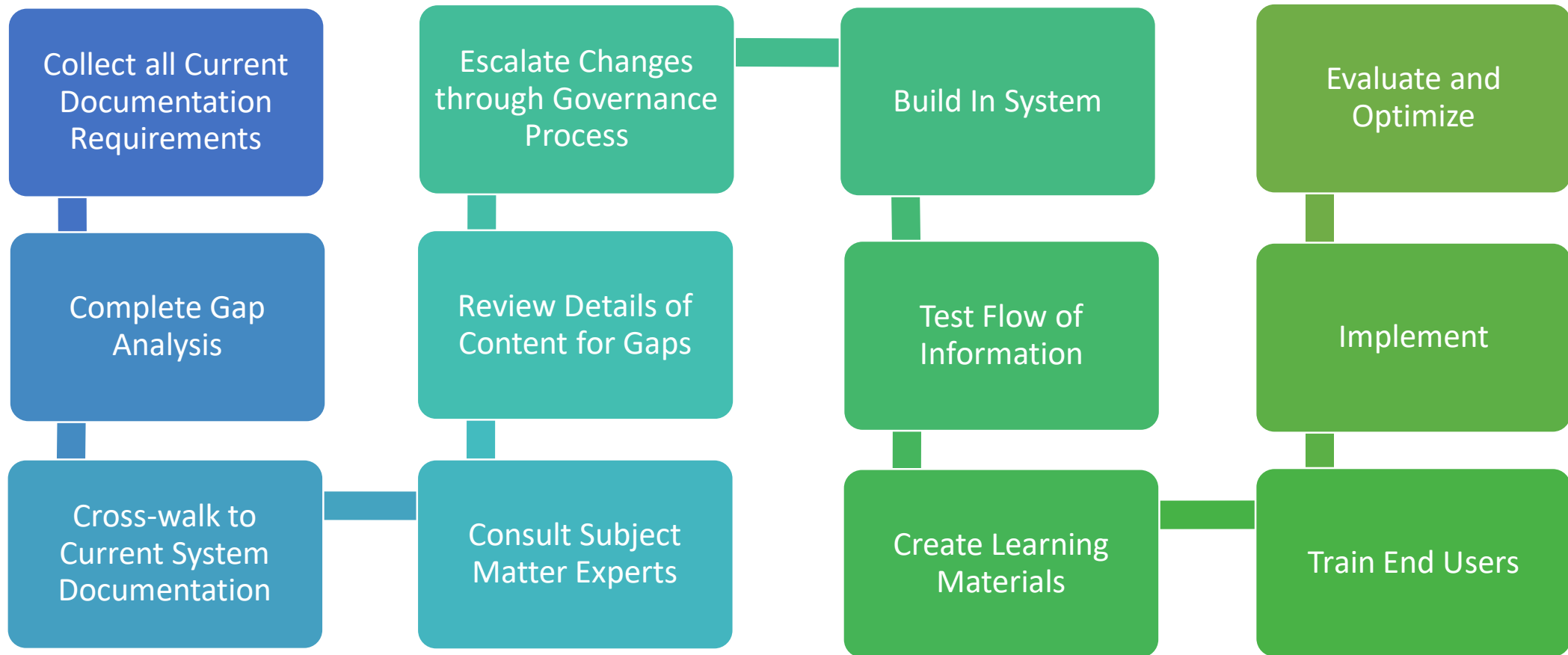
- Governance structure plays a crucial role
- Facilitated dialogue in terms of standardization
- Driven by Guidelines and Best Practice instead of site decisions

Utilizing Standardized Forms in an Electronic Health Record

Utilizing Standardized Forms in an EHR



Current State to Implementation



Flow of Information

Standardized documentation facilitated:

- What information would be collected
- Consistent phrases and language
- A known path of ongoing improvement

Transfer of Information from Cerner to PSBC



Result Review for Delivery Information

MATTEST, ANNIE-ROSE ✕
MATTEST, ANNIE-ROSE

DOB: 02-Oct-1987 MRN: 740012282 Code Status: Process:
Age: 32 years Enc: 7400000026092 Disease:
Gender: Female PHN: 9874764747 Dosing Wt: Isolation:

Allergies: No Known Allergies

Menu

- Women's Health Overview
- Interactive View and I&O
- Single Patient Task List
- MAR
- MAR Summary
- Orders + Add
- Results Review**
- Notes + Add
- Documentation + Add
- Allergies + Add
- Diagnoses and Problems
- CareConnect
- Form Browser
- Perioperative Doc
- Calculators
- Care Coordination
- Clinical Research
- Growth Chart
- Histories
- Immunizations
- Lines/Tubes/Drains Summary
- Medication List + Add
- Medication Request
- Newborn Liaison
- Newborn Record
- Patient Information

Results Review

Recent Results Advance Care Planning Lab - Recent Lab - Extended Lab - Provincial Pathology Microbiology Cultures Microbiology Other Transfusion Diagnostics Vitals - Recent Vitals - Ex

Flowsheet **Delivery Record** Level: Delivery Record Table Group List

Monday, 20-August-2018 10:36 PDT - Friday, 20-March-2020 10:36 PDT (Clinical Range)

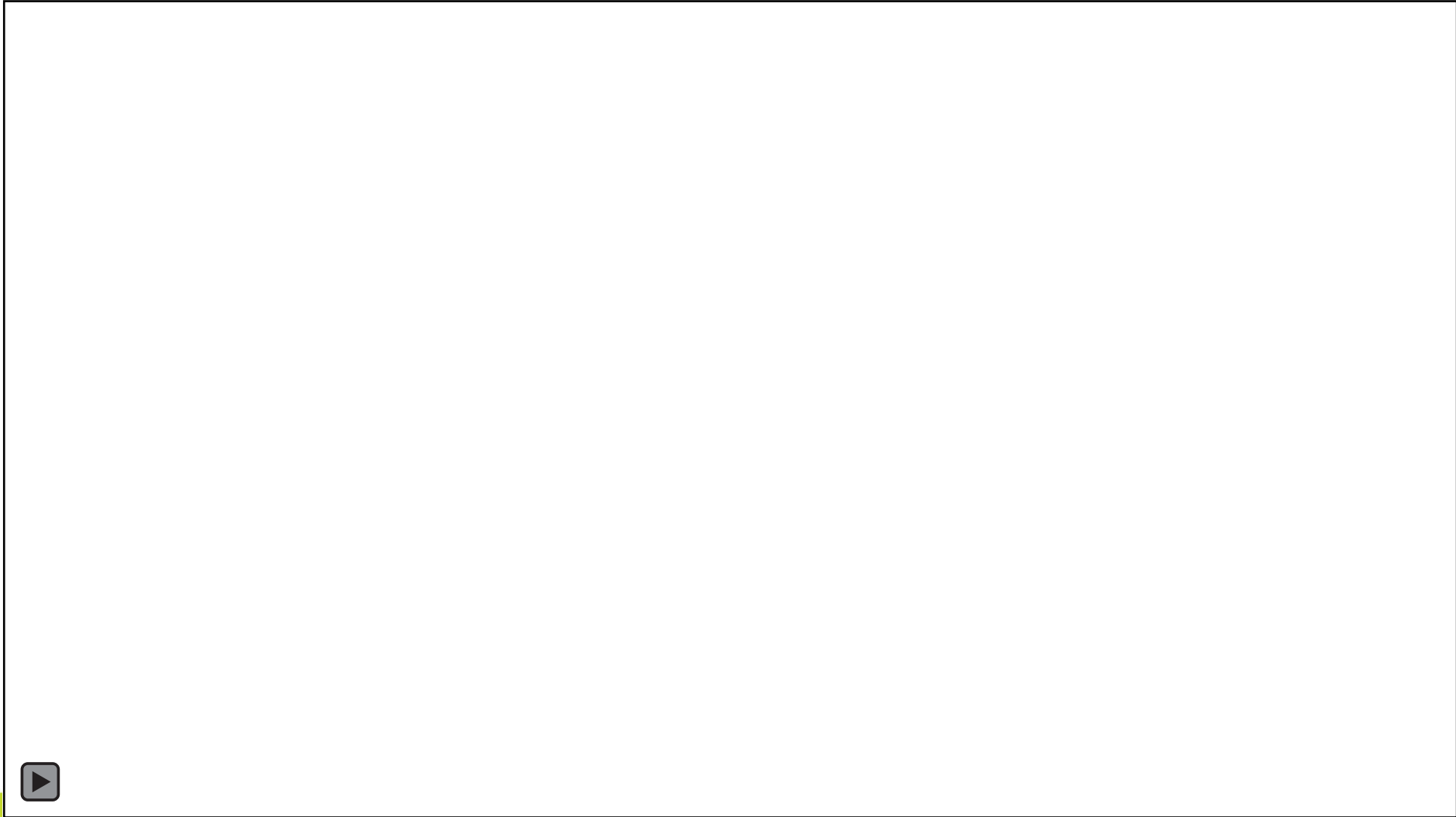
Navigator

- ☒ Maternal Delivery Record
- ☒ Gravida Para Information
- ☒ Delivery Information
- ☒ Delivery Summary Information
- ☒ Stages of Labour Calculation
- ☒ Stages of Labour Calculation
- ☒ Contraction Information
- ☒ Fetal Monitoring Details
- ☒ Rupture of Membranes Info
- ☒ Labour Information
- ☒ Delivery Preparation
- ☒ Delivery Summary
- ☒ Delivery Counts
- ☒ Newborn Details
- ☒ Delivery Personnel
- ☒ Initial Newborn Information
- ☒ Active Second Stage
- ☒ Vaginal Exam
- ☒ Prenatal Investigations and

Show more results

Delivery Record	20-Feb-2020 09:28 PST	20-Feb-2020 09:25 PST	20-Feb-2020 09:20 PST	20-Feb-2020 08:52 PST	20-Feb-2020 08:51 PST
Maternal Delivery Record					
Gravida Para Information					
Ectopic Pregnancies History					
Spontaneous Abortions Pregnancy Hx					
Induced Abortions Pregnancy History					
Multiple Births Pregnancy History					
Living Children Pregnancy History					
Gravida	4	5			
Para Full Term					
Para Premature					
Para Abortions					
Para					
Delivery Information					
*Delivery EBL					600
Delivery Summary Information (Baby A)					
*Labour Onset Methods					Spontaneous
*Delivery Type					Vaginal
*VBAC					No
*Date, Time of Birth					20-Feb-2020 08:50
*Maternal Delivery Complications					None
Delivery of Head Date, Time					20-Feb-2020 08:49
*Umbilical Cord Description					3 vessel cord
*Nuchal Cord Times					0
*Cord Clamped					30-60 seconds
Chorionicity					Monochorionic
*Placenta Delivery Date, Time					20-Feb-2020 08:58
*Placenta Delivery Method					Spontaneous
*Placenta Complete					Yes
Placenta to Pathology					No

Result Copy



Labour and Birth Summary

MATTEST, ANNIE-ROSE

DOB: **02-OCT-1987** Age: **32 Years** MRN: **740012282** PHN: **9874764747**

Admit Date/Time: Discharge Date/Time:

Pregnancy Summary

Gravida: **4** Para: **2** Para Full Term: **2** Para Pre Term: **0**
Para Abortion: **1** Para Living: **2** Gestation: **Singleton** LMP:
EDD: **06-MAR-2020** EGA: **37 weeks 6 days** EDD/EGA Method: **Last Menstrual Period**

Problems (Active Problems Only)

Pregnant (Other: 300815, Onset: 31/05/19)

Medications

Delivery Summary

Baby A

Membrane Status Information

ROM Date/Time: **20-FEB-2020 08:40** Premature Rupture of Membranes: **No**
ROM Type: **SROM-Spontaneous rupture of membranes** Prolonged Rupture of Membranes: **No**
Amniotic Fluid Color/Description: **Clear**

Labour Information

Labour Onset Date/Time: **20-FEB-2020 04:00** Labour Onset Methods: **Spontaneous**
Active Pushing Started: **20-FEB-2020 08:39** Reason for Induction:
Length of Labour 1st Stage Hrs Calc: **4.83 hour** Induction Methods:
Length of Labour 1st Stage: **4.83 hour** Augmentation Methods:
2nd Stage Onset Date/Time: **20-FEB-2020 08:50** Oxytocin at Delivery:
Length of Labour 2nd Stage Hrs Calc: **0 hour** Oxytocin Start Date:
Length of Labour 2nd Stage: **0 hour** Oxytocin Start Time:
3rd Stage Onset Date/Time: **20-FEB-2020 08:50** Oxytocin Stop Date:
Length of Labour 3rd Stage: **8 minute** Oxytocin Stop Time:
ROM to Delivery Hours Calc: **2.4 hour** Oxytocin Stop Dose:
ROM to Delivery Total Time: **145 minute**

Fetal Monitoring

FHR Monitoring Method: **Intermittent Auscultation**

Delivery Information

Delivery Type: **Vaginal** Cord Blood Banking:
Planned Mode of Delivery: **Planned vaginal** Cord Blood Sent to Lab: **Yes**
VBAC: **No** Forceps Type:
VBAC Not Eligible Reason: Forceps Number of Attempts:

Newborn Record



SGH Squamish General Hospital
38140 Behmer Drive
Squamish, BC V8B 0J3

MRN: 740012285 BCPHN: 9874764708
Patient: MATTEST, BABY GIRL
DOB: 20-FEB-2020 Gender: Female
Admit Date: 20-FEB-2020 08:50
Discharge Date:
Encounter #: 7400000026094
Encounter Type: Newborn

NEWBORN RECORD PART 1 AND 2 REPORT

Mother's Given Name: ANNIE-ROSE	Given name of Newborn: BABY GIRL
Mother's Surname: MATTEST	Surname of MATTEST
Partner's Name:	PHN: 9874764708
Address:	Newborn's Gender: Female
Maternal Blood Type:	
Maternal Rhesus (Rh) Factor:	
Risk Factors for Infant (Exposure to Substances):	
Hospital/Place of Birth: SGH Squamish General Hospital	
G: 4 T: 2 P: 0 A: 1 L: 2	
Apgar score:	
Apgar Total Score at 1 min: 8	
Apgar Total Score at 5 min: 9	
Apgar Total Score at 10 min:	
Transitions to One Hour of Age:	
Amniotic Fluid (Meconium): No	Temperature: 36.8 De
Resuscitation at Birth:	
See Expanded Resuscitation Form:	Surfactant:
Cord Blood: Arterial pH:	Arterial Base Deficit:
Vitamin K:	
<input checked="" type="checkbox"/> IM <input type="checkbox"/> PO Dosage: 1 Site: Vastus Lateralis - L	Time: 20-FEB-2020 11:00
Eye Prophylaxis:	
<input checked="" type="checkbox"/> Erythromycin	Time: 20-FEB-2020 11:00
Delivery:	
Birthdate: 20-FEB-2020 Birthtime: 08:50	Delivery Type: Vaginal
Meconium at Delivery: No	Newborn Output:



SGH Squamish General Hospital

MRN: 740012285
Patient: MATTEST, BABY GIRL
DOB: 20-FEB-2020 08:50
Encounter #: 7400000026094

NEWBORN RECORD PART 1 AND 2 REPORT

Mother's Given Name: ANNIE-ROSE	Given name of Newborn: BABY GIRL
Mother's Surname: MATTEST	Surname of MATTEST
Partner's Name:	PHN: 9874764708
Address:	Newborn's Gender: Female
Evaluation of Development:	
Birth Weight Percentile:	
Birthweight: 3.689 kg	
Length: 52 cm	
Head Circumference: 34 cm	
Newborn Nutrition:	
First Breastfeeding Initiated:	
Newborn First Feeding: Breastfeeding	
Infant Feeding at Discharge:	
Screening Tests:	
Newborn Hearing Screen	
Newborn Screening Date	
CCHD:	
24 hrs of Feedings Prior to Draw:	
Bilirubin:	
Prophylaxis:	
Hepatitis B Vaccine:	
HIV Prophylaxis indicated: Negative	
Group B Strep: Negative	



SGH Squamish General Hospital

MRN: 740012285
Patient: MATTEST, BABY GIRL
DOB: 20-FEB-2020 08:50
Encounter #: 7400000026094

NEWBORN RECORD PART 1 AND 2 REPORT

Mother's Given Name: ANNIE-ROSE	Given name of Newborn: BABY GIRL
Mother's Surname: MATTEST	Surname of MATTEST
Partner's Name:	PHN: 9874764708
Address:	Newborn's Gender: Female
Physical Examination at Birth:	
Gestational age by Exam: 38	
Gestational age by Antenatals: 37 +6	
Newborn Admission Exam: All systems normal	
Newborn Admission Significant Findings:	
Newborn General Appearance: Normal	Newborn Skin: Normal
Newborn Head: Normal	Newborn EENT: Normal
Newborn Respiratory: Normal	Newborn Cardiovascular System: Normal
Newborn Abdomen: Normal	Newborn Umbilical Cord: Normal
Newborn Genito-Rectal: Normal	Newborn Musculoskeletal: Normal
Newborn Neurological: Normal	ACoRN Sequences initiated: No
Newborn Other:	
Discharge Examination:	
Discharge Date:	Discharge Time:
Discharge Weight:	Discharge To:
Newborn Nutrition:	
Follow-up by:	
Neonatal Death: No	

Liaison Record – Maternal & Newborn



SGH Squamish General Hospital
38140 Behner Drive
Squamish, BC V8B 0J3



MRN: 740012282 BCPHN: 987476477
Patient: MATTEST, ANNIE-ROSE
DOB: 02-OCT-1987 Gender: Female
Admit Date: 20-FEB-2020 08:26
Discharge Date:
Encounter #: 7400000026092
Encounter Type: Outpatient in a Bed

POSTPARTUM LIAISON RECORD

Age: 32 Years Hospital/Place of Birth: SGH Squamish General Hospital Language: English

Permanent Address: ☐ Resident ☐ Non Resident
1234 Lilac Lane, Vancouver, British Columbia,
Phone: Cell Phone:
Mailing Address:

Temporary Address: Phone:
Begin Date: End Date:
Next of Kin: Relationship: Phone:

PROVIDERS

Attending Provider (MRP): PLUSBVCA, ROCCO, MD Admitting Provider:
Primary Care Provider: Hospital Consultant/Referral:

Delivery Date: 03-OCT-2011 Gestation Weeks: 38 Pregnancy Outcome: Vaginal
Sex: Neonate Outcome: Live Birth
Delivery Date: 03-MAR-2014 Gestation Weeks: 39 Pregnancy Outcome: Vaginal
Sex: Neonate Outcome: Live Birth

BIRTH SUMMARY

G: T: P: A: L:

Maternal Delivery Complications: None

Maternal Risk Factors: None

Infant A Birth Date: 20-FEB-2020 Birth Time: 08:50 Sex of Infant: Female Type of Birth: Vaginal

Risk Factors A: None Gestational Age:

Neonatal Complications A: None

Perinatal Loss A:



SGH Squamish General Hospital



MRN: 740012282
Patient: MATTEST, ANNIE-ROSE
DOB: 02-OCT-1987
Encounter #: 7400000026092

POSTPARTUM LIAISON RECORD

Age: 32 Years Hospital/Place of Birth: SGH Squamish General Hospital Language: English

C/S: ☐ Elective ☐ Emergent Reason:
Perineum: ☐ Intact ☐ Laceration ☐ Lac/Epis Repaired ☐ Episiotomy
Delivery EBL: 600 Allergies: No Known Allergies
Intrapartum Analgesia/Anesthetic:
Antibiotics:
Active Issues: Active Issues: Pregnant

RH AND COMMUNICABLE DISEASES TESTS AND TREATMENTS

Rubella status: Immune	MMR Given: No	Date:
Antepartum RhG Given: No	Date:	ARO:
HBsAg: Negative	Hepatitis C: Negative	Group B Strep: Negative
Varicella: Immune	STS: Negative	HSV:
Blood Group: B positive	Antibodies: Negative	HIV: Negative
RhIG Postpartum Given:	Date:	

MATERNAL HEALTH AND WELLBEING

☐ IPV
Tobacco use:
Alcohol use:
Substance use:

COMMENTS

- ☐ History of Postpartum Depression
☐ Depression in Pregnancy
☐ Medications

BREAST FEEDING HISTORY & CURRENT BREAST ASSESSMENT AT D/C

Length of Previous Breastfeeding: ☐ Seen by Lactation Consultant
Previous Issues:
Nipples Postpartum: Breasts Postpartum:
Treatment:
Breastfeeding Challenges:



SGH Squamish General Hospital
38140 Behner Drive
Squamish, BC V8B 0J3



MRN: 740012285 BCPHN: 9874764708
Patient: MATTEST, BABY GIRL
DOB: 20-FEB-2020 Gender: Female
Admit Date: 20-FEB-2020 08:50
Discharge Date:
Encounter #: 7400000026094
Encounter Type: Newborn

Newborn Liaison Record

Age at discharge: Hospital/Place of Birth: SGH Squamish General Hospital

Corrected Gestational Age at Discharge:

Mailing Address:

Primary Contact: MATTEST, ANNIE-ROSE

Address: Relationship: Mother
1234 Lilac Lane, Vancouver, British Columbia,

Phone: Cell Phone:

Temporary

Address: Phone:

Begin Date: End Date:

PROVIDERS

Attending Provider (MRP): PLUSBVCA, ROCCO, MD Admitting Provider: PLUSBVCA, ROCCO, MD

Primary Care Provider: Hospital Consultant/Referral:

BIRTH SUMMARY

Birth Date: 20-FEB-2020 Birth Time: 08:50 Type of Birth: Vaginal Gestational Age: 36/6
Birthweight: 3.689 kg Discharge weight: Appar Score 1min: 8 5 mins: 9 10min:
Head circumference: 34 cm Length: 52 cm Newborn Rh: ABO:
Voids: No Passed meconium: No

Risk Factors, Fetus: None
Neonatal Complications: None

NEWBORN MEDICATIONS

Vitamin K:

☒ IM ☐ PO Dosage: 1 mg Site: Vastus Lateralis - L Time: 20-FEB-2020 11:00 ☐ Informed Refusal

Eye Prophylaxis:

☒ Erythromycin Time: 20-FEB-2020 11:00 ☐ Informed Refusal

NEONATAL RESUSCITATION

Resuscitation at Birth: No See Expanded Resus Summary:
Spontaneous Respirations Onset: 20
Seconds to spontaneous respirations:

MATERNAL HISTORY/ NEWBORN HEALTH & WELL-BEING

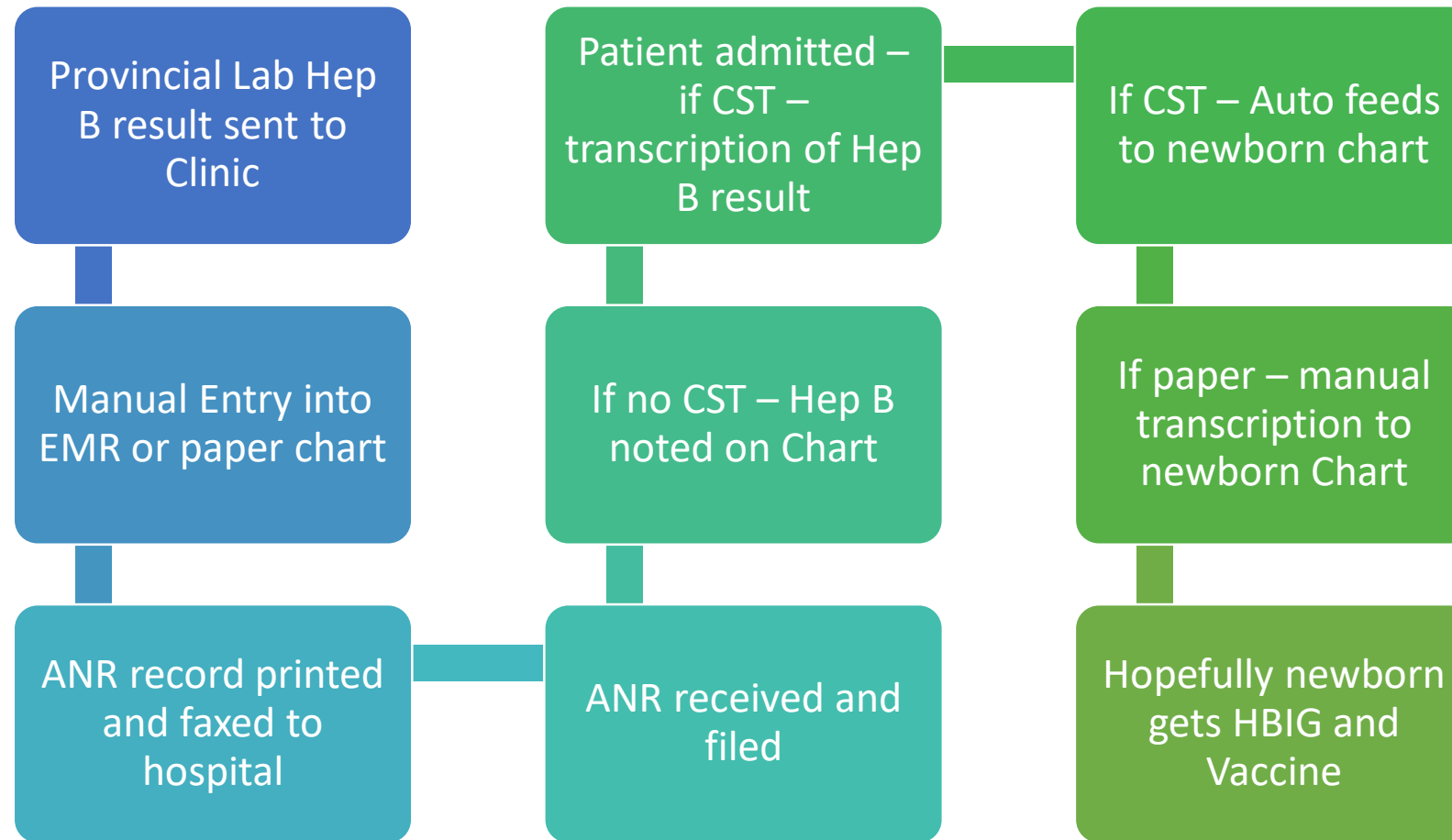
This record contains confidential information which must be protected. Any unauthorized use or disclosure is strictly prohibited. D_B0783

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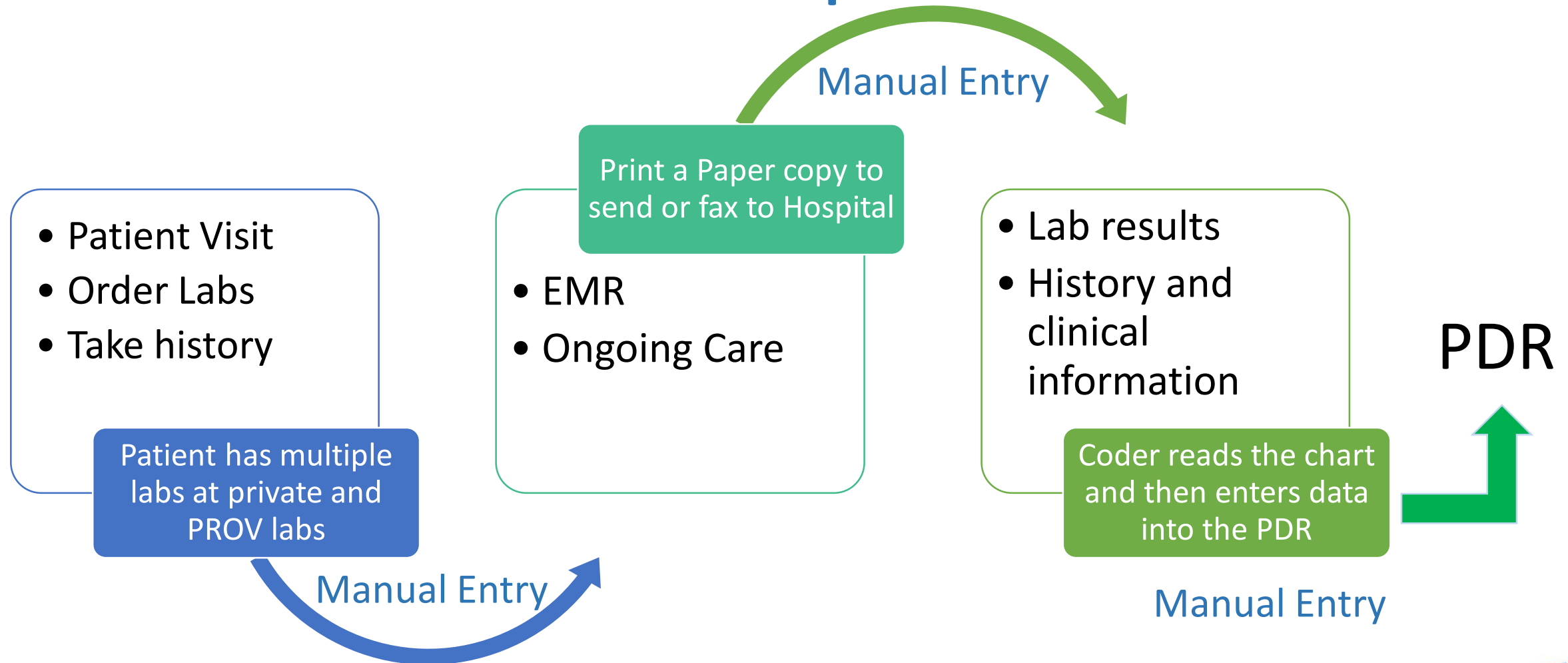
Printed Date/Time: 20-FEB-2020 10:57

Importance of Data at Point of Care

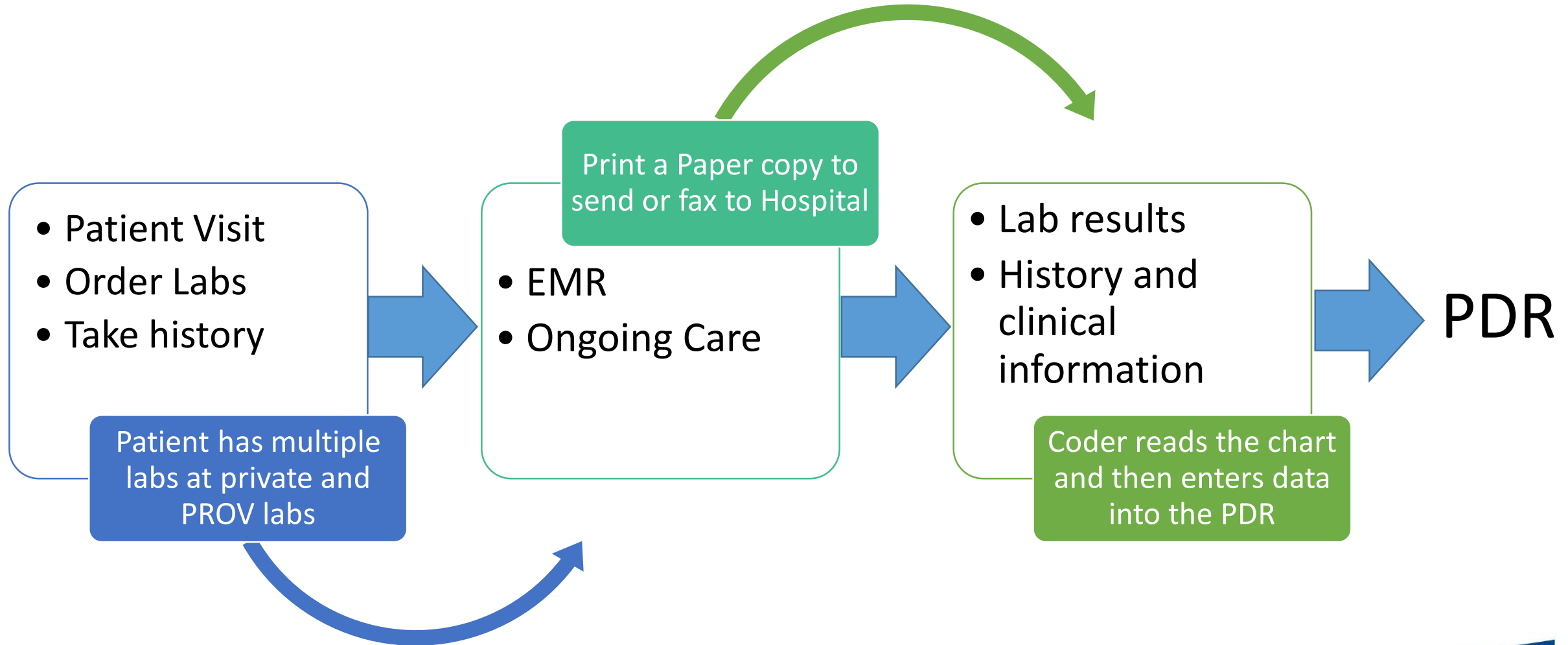
Journey of a Hepatitis B Result



Current State: Hepatitis B Result



Future State: Hepatitis B Result



Single Data Point Entry

Current State on Paper:

- Apgars and weight
 - On the labour and birth summary
 - On the newborn record
 - On the Vital Stats notice of live birth
 - On the newborn care path
 - Unit Kardex
 - Unit birth log

EHR:

- Entered once in EHR – autofeeds to:
 - Labour and Birth summary
 - Newborn record
 - Newborn care path
- Still has to be entered on Vital Stats as this is still paper.

Utilizing EHR and Data to implement best practice and Evaluate Outcomes

Implement Best Practice

- Standard Forms
 - Partogram
 - Newborn Care Pathway
 - Maternal PP Pathway
 - Triage and Assessment
- By creating standard forms and workflows we enhance patient care

Implement Best Practice

- ARO and falls screening on admission (Accreditation Standard)

British Columbia Perinatal Triage and Assessment Record

1. Background	Date (dd/mm/yyyy) _____	Time (hh:mm) _____	Surname _____ Given name _____	
	Arrived by ambulance: <input type="checkbox"/> No <input type="checkbox"/> Yes	Accompanied by _____	Address _____	
	Language preferred _____		Phone number _____	
	Reason for visit _____		Personal Health Number _____ Physician / midwife name _____	
2. Present	Gravida _____ Term _____ Preterm _____ Abortus _____ Living _____	LMP (dd/mm/yyyy) _____	EDD (dd/mm/yyyy) _____	by: <input type="checkbox"/> US <input type="checkbox"/> IVF GA (wks/days) _____
	Recent infectious disease / contact: <input type="checkbox"/> No <input type="checkbox"/> Yes (specify, e.g. MRSA, VRE, Varicella, HSV, HepB, TB) _____			
	ARO screen completed: <input type="checkbox"/> No <input type="checkbox"/> Yes (initials) _____		ARO swab taken: <input type="checkbox"/> N/A <input type="checkbox"/> No <input type="checkbox"/> Yes (dd/mm/yyyy) _____	
	Falls Risk Screen: <input type="checkbox"/> Reviewed and no concerns <input type="checkbox"/> At risk for falls → <input type="checkbox"/> Falls prevention care plan completed			
	"Purple Dot" point-of-care violence risk assessment: <input type="checkbox"/> Low risk <input type="checkbox"/> High risk			
3. Obstetric	Contractions: <input type="checkbox"/> No <input type="checkbox"/> Yes (specify details below) _____	Membranes: <input type="checkbox"/> Intact <input type="checkbox"/> Query <input type="checkbox"/> Ruptured (specify details below) _____	Bleeding/show: <input type="checkbox"/> No <input type="checkbox"/> Yes (specify details below) _____	Fetal movement: <input type="checkbox"/> Normal <input type="checkbox"/> ↑ (specify details below) <input type="checkbox"/> ↓ (specify details below)
	Start date (dd/mm/yyyy) _____ Start time (hh:mm) _____	Date _____	Start date (dd/mm/yyyy) _____	Date (dd/mm/yyyy) _____

Implement Best Practice

- Group B Strep Status, PPH Risk assessment Antenatal Record Review

3. History/Risk Factors

Triaged to: ☐ LDR ☐ Assessment room ☐ Waiting room ☐ Other _____

Allergies (incl. reactions) <input type="checkbox"/> None	ABO	Rh factor	Date RhIG given (dd/mm/yyyy)
Current medications: <input type="checkbox"/> None <input type="checkbox"/> Vitamins only <input type="checkbox"/> Medications recorded on Med. Rec. Form		Antenatal Record Part 1 & 2 <input type="checkbox"/> Reviewed (option to skip to section 4) <input type="checkbox"/> Not available (complete below)	
Complementary therapy: <input type="checkbox"/> No <input type="checkbox"/> Yes (specify) _____		Pregnancy concerns: <input type="checkbox"/> No <input type="checkbox"/> Yes (specify) _____	
Previous admission this pregnancy: <input type="checkbox"/> No <input type="checkbox"/> Yes (specify reason) _____		Past obstetric concerns: <input type="checkbox"/> No <input type="checkbox"/> Yes (specify) _____	
Antenatal corticosteroid administered: <input type="checkbox"/> N/A <input type="checkbox"/> No <input type="checkbox"/> Yes (dd/mm/yyyy) _____		Medical/surgical/anesthetic concerns: <input type="checkbox"/> No <input type="checkbox"/> Yes (specify) _____	
External cephalic version attempted: <input type="checkbox"/> N/A <input type="checkbox"/> No <input type="checkbox"/> Yes (dd/mm/yyyy) _____		Psychosocial concerns: <input type="checkbox"/> No <input type="checkbox"/> Lifestyle/social <input type="checkbox"/> Substance use <input type="checkbox"/> Mental health <input type="checkbox"/> Other _____	
Planned mode of delivery: <input type="checkbox"/> Vaginal <input type="checkbox"/> Primary C/S <input type="checkbox"/> Repeat C/S		Symphysis-fundal height (SFH) (cm) _____	
VBAC eligible this delivery: <input type="checkbox"/> N/A <input type="checkbox"/> Yes <input type="checkbox"/> No (specify reason) _____			
GBS results: <input type="checkbox"/> Unk <input type="checkbox"/> Neg <input type="checkbox"/> Pos GBS swab taken: <input type="checkbox"/> N/A <input type="checkbox"/> No <input type="checkbox"/> Yes (dd/mm/yyyy) _____			
Postpartum hemorrhage risk assessment: <input type="checkbox"/> Low risk <input type="checkbox"/> Increased risk			
Last date (dd/mm/yyyy)	Height (cm)	Presentation	

Implement Best Practice

Test	Results	Results/Follow-up/Comments
Rubella	<input type="checkbox"/> Imm <input type="checkbox"/> Non-imm	Value (IU/mL) _____ <input type="checkbox"/> Postpartum vaccine required
HIV	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	<input type="checkbox"/> T2 repeat if high risk
Syphilis	<input type="checkbox"/> N/R <input type="checkbox"/> R	
HBsAg	<input type="checkbox"/> N/R <input type="checkbox"/> R	HBV DNA (IU/mL) _____ <input type="checkbox"/> Partner/household contact <input type="checkbox"/> Anti-viral therapy required <input type="checkbox"/> Newborn vaccine required <input type="checkbox"/> Newborn HBIG required
Gonorrhea	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	<input type="checkbox"/> T3 repeat if Pos
Chlamydia	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	<input type="checkbox"/> T3 repeat if Pos
Urine C&S	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	Culture _____
GDM (@24–28 wks)		<input type="checkbox"/> GDM test declined <input type="checkbox"/> Diet controlled <input type="checkbox"/> Insulin required
GCT (50 g)	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	Value (mmol/L) @ 1 hr _____
GTT (75 g)	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	Value (mmol/L) @ 1 hr _____ @ 2 hr _____ @ 3 hr _____
GBS (@35–37 wks)	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	Date (dd/mm/yyyy) _____ <input type="checkbox"/> Copy to hospital
Other (e.g. Ferritin, TSH, HepC)		

Implement Best Practice

- Hepatitis B and Gestational Diabetes Screening

Test	Results	Results/Follow-up/Comments
Rubella	<input type="checkbox"/> Imm <input type="checkbox"/> Non-imm	Value (IU/mL) _____ <input type="checkbox"/> Postpartum vaccine required
HIV	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	<input type="checkbox"/> T3 repeat if high-risk
Syphilis	<input type="checkbox"/> N/R <input type="checkbox"/> R	
HBsAg	<input type="checkbox"/> N/R <input type="checkbox"/> R	HBV DNA (IU/mL) _____ <input type="checkbox"/> Anti-viral therapy required <input type="checkbox"/> Partner/household contact <input type="checkbox"/> Newborn vaccine required <input type="checkbox"/> Newborn HBIG required
Gonorrhea	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	<input type="checkbox"/> T3 repeat if Pos
Chlamydia	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	<input type="checkbox"/> T3 repeat if Pos
Urine C&S	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	Culture _____
GDM (@24–28 wks)		<input type="checkbox"/> GDM test declined <input type="checkbox"/> Diet controlled <input type="checkbox"/> Insulin required
GCT (50 g)	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	Value (mmol/L) @ 1 hr _____
GTT (75 g)	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	Value (mmol/L) @ 1 hr _____ @ 2 hr _____ @ 3 hr _____
GBS (@35–37 wks)	<input type="checkbox"/> Neg <input type="checkbox"/> Pos	Date (dd/mm/yyyy) _____ <input type="checkbox"/> Copy to hospital
Other (e.g. Ferritin, TSH, HepC)		

Implement Best Practice

- Substance Use

		<input type="checkbox"/> Relationships/support _____	
		<input type="checkbox"/> Other _____	
		9. Substance Use 3 Mos Before Preg During Preg	
DM	Alcohol	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
	# Drinks per week _____		
	4 or more drinks at one time	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
	Quit alcohol:	<input type="checkbox"/> No <input type="checkbox"/> Yes, date (dd/mm/yyyy) _____	
	Tobacco	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
	# Cigarettes per day _____		
	Exposed to 2nd-hand smoke	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
	Quit tobacco:	<input type="checkbox"/> No <input type="checkbox"/> Yes, date (dd/mm/yyyy) _____	
	Cannabis	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
	CBD product(s) only	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
	# Times used per (circle to specify)	_____ day week month	_____ day week month
	Primary route: (select one only)	<input type="checkbox"/> Smoke <input type="checkbox"/> Vaporize <input type="checkbox"/> Edible/oral <input type="checkbox"/> Other	<input type="checkbox"/> Smoke <input type="checkbox"/> Vaporize <input type="checkbox"/> Edible/oral <input type="checkbox"/> Other
	Quit cannabis:	<input type="checkbox"/> No <input type="checkbox"/> Yes, date (dd/mm/yyyy) _____	
	Other(s) During Preg	<input type="checkbox"/> No <input type="checkbox"/> Yes: (check all that apply)	
	<input type="checkbox"/> Cocaine <input type="checkbox"/> Opioids <input type="checkbox"/> Methamphetamines <input type="checkbox"/> IV drugs <input type="checkbox"/> Prescription drugs <input type="checkbox"/> Other(s) _____		
	11. Comments/Follow-up (final details from sections E-4G)		

Evaluate Outcomes

- Maternity care is a high risk area of medicine
- It is also still the most common reason for admission to hospital
- Collecting information in a standard manner improves data collection required for local, Provincial and National reporting
- By imbedding Best Practice into the forms and EHR workflows we can evaluate both PROCESS measures and OUTCOME measures

Evaluate Outcomes

- Provincial, National and International standards are reviewed to set targets and guidelines
- The forms (electronic and/or paper) are designed to incorporate guideline information and to support good data collection
- Data is then collected to evaluate outcomes aligned to the guidelines
- The better the data collection, the more we are able to measure and evaluate the care delivered.

Evaluate Outcomes - Challenges

- BFI outcomes
 - Capturing Skin to Skin to reflect the guidelines
- Provider Attribution
 - Acknowledging and tracking the team involved
 - Not just about who caught the baby
- VBAC rates
 - Determining which are “missed” opportunities and determining the actual rate of attempted VBAC/TOLAC

Transition to One Hour of Age

OLD

3. Transition to One Hour of Age			
Positioned:	<input type="checkbox"/> Skin-to-Skin	<input type="checkbox"/> Radiant Warmer	<input type="checkbox"/> Other: _____
Amniotic Fluid:	<input type="checkbox"/> Clear	<input type="checkbox"/> Meconium	<input type="checkbox"/> Bloody
Suction:	<input type="checkbox"/> Oropharyngeal	<input type="checkbox"/> Trachea	<input type="checkbox"/> Mec. Below Cords
Oxygen:	<input type="checkbox"/> None	<input type="checkbox"/> Free Flow	Start _____ min. Stop _____ min.
		<input type="checkbox"/> IPPV per mask	Start _____ min. Stop _____ min.
		<input type="checkbox"/> See Expanded Resuscitation Form	
Cord Gases:	<input type="checkbox"/> Done (see lab results)	<input type="checkbox"/> Not Done	
Temperature:	_____ °C	Pulse Oximetry:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Heart Rate:	_____	Time to HR ≥100	_____ min. _____ sec.
Respirations:	_____	Time to Spontaneous Breathing	_____ min. _____ sec.
SIGNATURE	SIGNATURE	SIGNATURE	
RM/RN	RM/RN	MD	

NEW

3. Transition to One Hour of Age			
Skin-to-skin (STS): <input type="checkbox"/> Immediate (within 5 min) <input type="checkbox"/> After 5 min <input type="checkbox"/> None			
Uninterrupted for >1 hr <input type="checkbox"/> Yes <input type="checkbox"/> No If no, reason _____			
Amniotic fluid:	<input type="checkbox"/> Clear	<input type="checkbox"/> Meconium	<input type="checkbox"/> Bloody
	Temperature _____ °C		
Cord clamped:	<input type="checkbox"/> <15 sec	<input type="checkbox"/> 15-<30 sec	<input type="checkbox"/> 30-<60 sec
	<input type="checkbox"/> 60-<120 sec	<input type="checkbox"/> 120+ sec	
Cord gases:	<input type="checkbox"/> Done	<input type="checkbox"/> Not done	
Resuscitation:	<input type="checkbox"/> Free flow O ₂	Start _____ min	Stop _____ min
	<input type="checkbox"/> IPPV	<input type="checkbox"/> Room air	<input type="checkbox"/> O ₂
		Start _____ min	Stop _____ min
	<input type="checkbox"/> See expanded resuscitation form		
NAME / SIGNATURE		NAME / SIGNATURE	
RN / RM		RN / RM	

Improving Provider Data Collection

- Antenatal
- Labour
- Delivery

6. Sign-Offs	Place of birth: <input type="checkbox"/> Hospital <input type="checkbox"/> Home <input type="checkbox"/> Other _____	Planned place of birth at onset of labour: <input type="checkbox"/> Hospital <input type="checkbox"/> Home
	Comments on labour and birth _____	
	Care provider during labour (name) _____ (signature) _____	<input type="checkbox"/> RM <input type="checkbox"/> FP <input type="checkbox"/> OB <input type="checkbox"/> Other _____
	Care provider during delivery (name) _____ (signature) _____	<input type="checkbox"/> RM <input type="checkbox"/> FP <input type="checkbox"/> OB <input type="checkbox"/> General surgeon <input type="checkbox"/> RN <input type="checkbox"/> Other _____
	Present at delivery (MD) _____ (RM) _____	(RN) _____ (Other) _____
Consult to: <input type="checkbox"/> FP <input type="checkbox"/> OB <input type="checkbox"/> MFM <input type="checkbox"/> Pediatrician <input type="checkbox"/> Neonatologist <input type="checkbox"/> Other _____		

Improving data collection to evaluate outcomes - VBAC

OLD forms

- Antenatal Record relied on written notes from Provider

15. Potential or Actual Concerns:

Lifestyle
Pregnancy
Labour
Breastfeeding
Postpartum
Newborn

- Labour & Birth Summary

4. Delivery

Fetal Position at Onset of Labour (specify): _____

Fetal Position at Delivery: ☐ OA ☐ OP ☐ Other _____

☐ SVD

VBAC Candidate ☐ No ☐ Yes: ☐ Trial of Labour ☐ Elective CS

☐ Assisted ☐ Vacuum ☐ Forceps ☐ Application

☐ Outlet ☐ Easy

☐ Low ☐ Mod. Difficult

☐ Mid ☐ Difficult

☐ Rotation

☐ Cesarean ☐ Primary ☐ Repeat: CS # _____

Primary Indication: _____

☐ Elective ☐ Urgent ☐ Emergent

Decision at _____ hrs. _____ cm.

dd/mm/yyyy Time Cervix Dilated

Improving data collection to evaluate outcomes - VBAC

Updated Antenatal Record

16. Perinatal Considerations & Referrals			
Pregnancy type:	<input type="checkbox"/> Singleton	<input type="checkbox"/> Twin	<input type="checkbox"/> Multiple (3+)
VBAC eligible @ 36 wks:	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
VBAC planned @ 36 wks:	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
Plan to breastfeed:	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Undecided

Updated Triage & Assessment Record

3. History / Risk Factors	Complementary therapy:	<input type="checkbox"/> No	<input type="checkbox"/> Yes (specify) _____
	Previous admission this pregnancy:	<input type="checkbox"/> No	<input type="checkbox"/> Yes (specify reason) _____
	Antenatal corticosteroid administered:	<input type="checkbox"/> N/A	<input type="checkbox"/> No <input type="checkbox"/> Yes (dd/mm/yyyy) _____
	External cephalic version attempted:	<input type="checkbox"/> N/A	<input type="checkbox"/> No <input type="checkbox"/> Yes (dd/mm/yyyy) _____
	Planned mode of delivery:	<input type="checkbox"/> Vaginal	<input type="checkbox"/> Primary C/S <input type="checkbox"/> Repeat C/S
	VBAC eligible this delivery:	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No (specify reason) _____
	GBS results:	<input type="checkbox"/> Unk	<input type="checkbox"/> Neg <input type="checkbox"/> Pos
	GBS swab taken:	<input type="checkbox"/> N/A	<input type="checkbox"/> No <input type="checkbox"/> Yes (dd/mm/yyyy) _____
	Postpartum hemorrhage risk assessment:	<input type="checkbox"/> Low risk	<input type="checkbox"/> Increased risk

Updated Labour & Birth Summary

British Columbia Labour and Birth Summary Record

I. Background	(Status prior to this delivery, as on Antenatal Record)				Newborn Hospital ID	
	Gravida _____	Term _____	Preterm _____	Abortus _____	Living _____	<input type="checkbox"/> Singleton <input type="checkbox"/> A
	EDD (dd/mm/yyyy) _____		GA at delivery (wks/days) _____		<input type="checkbox"/> Twin <input type="checkbox"/> B	
	Planned mode of delivery: <input type="checkbox"/> Vaginal <input type="checkbox"/> Primary C/S <input type="checkbox"/> Repeat C/S				<input type="checkbox"/> Triplet <input type="checkbox"/> C	
	VBAC eligible this delivery: <input type="checkbox"/> N/A <input type="checkbox"/> Yes <input type="checkbox"/> No (specify reason) _____					
	VBAC attempted this delivery: <input type="checkbox"/> N/A <input type="checkbox"/> Yes <input type="checkbox"/> No (specify reason) _____					

In Summary

- Shifting from paper based to integrated electronic records allows for streamlining of processes, automation of data entry and fields, standardization of data fields and implementation of best practice algorithms in the build of the EHR/EMR
- This improves patient safety by:
 - Minimizing manual transcription
 - Allowing reminder prompts
 - Closed loop medication ordering
 - Imbedded medication reconciliation

In Summary

- Shifting from paper based to electronic records allows for improved quality of data:
 - Minimizing the number of times the same data point is entered
 - Minimizing options – creating standard drop downs for specific outcomes
 - Increasing ease of entry and minimizing duplicate entries makes it easier for Providers and RNs leading to document, improving data collection

In Summary – Advantages of Standards and EHR

- Information and data is collected at point of care improving data quality
- Immediate transfer of information to community providers
 - Public health and Community Liaison RNs
 - Community Providers
 - Referring Providers
- Ability to imbed best practice into the work flows

Questions?

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