

Integrating the Healthcare Enterprise



IHE PCC
Technical Framework Supplement

**Labor and Delivery Record
(LDR)**

Public Comment

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This is a supplement to the IHE PCC Technical Framework V4.0.

It is submitted for Public Comment between **June 1, 2009 and July 1, 2009.**

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These “boxed” instructions are for the author to indicate to the volume editor how to integrate the relevant section(s) into the overall Technical Framework

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Introduction

60 *This supplement describes three content profiles that will be used as part of the Labor and Delivery Record Content profile. This supplement includes material that describes the motivation for the Labor and Delivery profile, and that in turn provides motivation for the three content profiles. The definition and requirements of the Labor and Delivery profile are left for the next documentation cycle.*

65 The Labor and Delivery Record (LDR) is a continuation of the Antepartum Record (APR).

The LDR provides comprehensive information regarding the course of labor and delivery to healthcare providers caring for both the mother and the newborn in the postpartum period. For example, in cases such as chorioamnionitis or birth trauma, if the postpartum nurses or the attending obstetrician may not have been present at the birth, the LDR would be crucial for
70 appropriate inpatient postpartum care. Also, the pediatrician might use the information present in the LDR to develop the infant’s plan of care in an outpatient setting. The outpatient care is out of the scope of this profile, as well as the newborn’s discharge summary from the birthing facility. In some settings, public health officials are interested in the labor, delivery and inpatient postpartum information as to better monitor the mother and child’s health, and develop quality
75 improvement processes if necessary. Certain data present in the LDR is monitored anonymously as to conduct studies about population health. The public health aspect is out of scope for this profile and it is addressed in the Quality, Research and Public Health (QRPH) domain.

Profile Abstract

The information found in the LDR is important for continuation of care for the mother and the
80 newborn, in both inpatient and outpatient settings, and should be available to all healthcare providers. The mother receives a comprehensive assessment which provides the follow-up health care with the details of the labor and delivery, as well as a “snap-shot” of the mother’s condition at discharge. The newborn’s status at and immediately following birth, while the newborn is still in the delivery room is also captured; thus if any complication arise and the newborn is
85 transferred to a specialized unit, this information is available.

The typical workflow resulting in the collection of this information in a laboring patient is as follows:

1. Maternal demographic information is recorded or verified when the mother arrives at the birthing facility if the situation permits (i.e. the labor/delivery is not immediate).
- 90 2. An Admission History and Physical Assessment is performed (or updated) if the situation permits (i.e. the labor/delivery is not immediate).
3. Labor information is recorded.
4. The mother delivers.
5. A Labor and Delivery Summary is produced.
- 95 6. Information is captured at the time of birth about the infant and becomes part of the mother’s record.

7. Maternal post-partum information is recorded.
8. The mother leaves the birthing facility and a Maternal Discharge Summary is produced.
9. The information about the mother and child can be shared seamlessly between the stakeholders.

100

The information collected varies according to the type of birthing facilities, their birthing practices and location, and also depends on the characteristics of mothers and newborns.

105

The stakeholders are: attending physicians, resident physicians, medical students and staff, obstetrician-gynecologists, family physicians, nurse midwives, physicians' assistants, nurse practitioners, pediatricians, social workers, covering physicians, other medical specialists, researchers, patient safety and quality officers, billing specialists, pharmacists, laboratory personnel, and public health officials.

110

The information is uniform in terms of structure and content and the resulting documents can be shared between all the stakeholders. Also, this information may also be incorporated into a patient's PHR. The LDR is kept at least until the age of majority, and the information could be collected by Social Services, as well as Public Health officials for epidemiological studies.

115

The LDR profile contains different summaries based on forms from various organizations from the United States and Europe. The forms used to build this profile are:

120

- Demographic information about the mother, the father and the child
- General information about the family
- Admission Assessment for Labor and Delivery
- Transport Summary during pregnancy (if any)
- Antepartum Summary
- Labor & Delivery Summary (combined with the Newborn Birth Summary while in the birth room)
- Maternal Discharge Summary

125

This year's scope will be limited to the Labor and Delivery information, the information about the infant in the birth room, and the Maternal Discharge Summary. The resulting content profiles present in the LDR are:

130

1. **The Labor and Delivery Admission History and Physical** which can point to the Antepartum Admission History and Physical from the Antepartum Record. If there is no Antepartum Record a new document **The Labor and Delivery Admission History and Physical** will be created.
2. **Labor and Delivery Summary** combined with the **Newborn's Birth Summary** while in the birth room.
3. **Maternal Discharge Summary** (mother postpartum course up until her discharge from the birthing facility and the newborn's status).

135

The LDR is not defined as an actual profile. Use the LDR information as background. To implement against this supplement, you will implement one or more of the content profiles.

140 **Open Issues and Questions**

- 145 1. There are non-interoperable health information systems in the same health care facility that are not communicating with the LDR. Any system might involved such as the nursery, or the NICU. Even if all the systems creating the information captured in the LDR are interoperable, the mother or the newborn might interact with yet another system, resulting in a different type of information, for example anesthesiology information or data captured in the in the operating room (OR). In such environments the data will be captured on paper. A method will have to be designed so that the information is not lost, either through manual entry or scanning the documents. This will be duplicating the documentation of data.
- 150 2. An examination will need to be done and see the overlap and the differences are between all the Admission History and Physical existing already in the IHE various content profile (see Appendix A). A consensus must be established as to what information will be part of the LDR record.
- 155 3. If a person is admitted de novo in a facility and she does not have an APS or an APR, then this information will have to be entered again, provided it is not an emergency case. This information will become part of the LDR. There will be some duplication between the information in APR and LDR. Until a complete data element analysis is done, and cross-referencing performed we cannot say to what extent this information will be duplicated.
- 160 4. The Process Flow diagram currently is represented in this supplement as part of the LDR, which is correct. However, it needs to be split and moved as necessary into each of the content profiles that are a part of the LDR (LDHP, LDS, MDS), so the relevant process flow is included in each of those profiles. Need to assign oids for new sections: Prenatal Events, Labor and Delivery, Newborn Delivery Information, Post-partum
165 Treatment, Event Outcomes. Needs to be updated in this supplement as well as the PCC Content Modules supplement.

Closed Issues

- 170 1. The **Newborn Discharge Summary** and the **Maternal Post-Partum Visit Summary** are not part of this year's work. This is deemed to be out of scope and considered as a future work item. Once the newborn has left the birth room, the data collected becomes out of scope. The cut off point is the hand off form the obstetrician to the next care provider (examples: neonatologist, general practitioner (GP), or specialists within the birthing facility). If the NICU team becomes involved in the Labor and Delivery room, this information becomes part of the newborn's record independent from where the
175 newborn will be transferred. If there are complications (NICU involved), the complications will be recorded (immediate resuscitation and stabilization in the birth

room only) and it will be part of the Labor and Delivery Summary, becoming part of the mother's record.

- 180
2. The DSUB profile being written this year will not be considered to replace NAV until it has been tested at the Connectathon.
 3. If there are any relevant laboratory, images, or fetal heart tracings, they should be captured in the LDR. However, this is not a profile dependency, but a recommendation.
 - 185 4. The newborn's identifier will be filed against the mother's file. Question: how can multiple births can be differentiated?

Volume 1

190 Glossary

Add the following terms to the Glossary:

Anesthesia

195 Loss of the ability to feel pain, caused by administration of a drug or other medical intervention.

Antepartum

Of or occurring in the period before childbirth

200 **Apgar scores**

A score that assesses the general physical condition of a newborn infant by assigning a value of 0, 1, or 2 to each of five criteria: heart rate, respiratory effort, muscle tone, skin color, and response to stimuli. The five scores are added together, with a perfect score being 10. Apgar scores are usually evaluated at one minute and five minutes after birth. The score is based on the following criterias: **Appearance:** Color–0 for blue, 2 for pink. **Pulse:** Heart rate–0 for none, 1 for <100/min, 2 for > 100/min. **Grimace:** Reflex–0 for none, 1 for grimace, 2 for cough/sneeze. **Activity:** Muscle tone–0 for limp, 2 for full flexion. **Respiratory:** effort 0 for absent, 2 for strong crying.

210 **Blood type**

Blood group. A classification of blood based on the presence or absence of inherited antigenic substances on the surface of red blood cells. Blood type O is one of the four major types: A, B, AB, or O. Antigens are proteins on the surface of blood cells that can cause a response from the immune system. The Rh factor is a type of protein on the surface of red blood cells. People who have the Rh factor are known as Rh positive, and those who do not are considered Rh negative. Rh-negative and the father is Rh-positive, the fetus can inherit the Rh factor from the father. This makes the fetus Rh-positive too. Problems can arise when the fetus's blood has the Rh factor and the mother's blood does not. In this case, if a small amount of the baby's blood mixes with the mother's blood, the mother's body can make antibodies to the Rh antigens in the baby's blood (she has been sensitized). If the mother's sensitized blood crosses the placenta, it can attack baby's blood, breaking down the baby's red blood cells. This can lead to hemolytic anemia, and it can become severe enough to cause serious illness, brain damage, or even death in the fetus or newborn.

225 **Contraception (birth control)**

A process that prevents pregnancy by interfering with the normal process of ovulation, fertilization, and implantation. There are different kinds of birth control that act at different points in the process.

230 **Contractions**

Obstetrics Volleys of tightening and shortening of myometrium–uterine muscle, which occur during labor, cause dilatation and thinning of the cervix and aid in the descent of the infant in the birth canal.

235 **Delivery**

Expulsion or extraction of the infant, placenta and membranes at birth.

Erythrocytes

240 A red blood cell that transports oxygen through the body.

Gestation

The period of development in the uterus from conception until birth; pregnancy.

Hematocrit

245 The volume percentage of erythrocytes in whole blood;

Hepatitis B

A serious liver infection caused by the hepatitis B virus (HBV). Pregnant women who are infected with hepatitis B can transmit the virus to their newborns during pregnancy or delivery.
250 If a pregnant woman tests positive for hepatitis B, her newborn child must be given two shots in the delivery room - the first dose of hepatitis B vaccine and one dose of hepatitis B immune globulin (HBIG). If these two medications are given correctly within the first 12 hours of life, a newborn has a 95% chance of being protected from acquiring a maternal-induced hepatitis B infection. The infant will need additional doses of hepatitis B vaccine at one and six months of
255 age to complete protection against the maternal infection.

Incision

A cut into a body tissue or organ, especially one made during surgery or the scar resulting from such a cut.

260

Inpatient

A patient who is admitted to a hospital or clinic for treatment that requires at least one overnight stay.

265 **Labor**

The function of the female by which the infant is expelled through the vagina to the outside world: the first stage begins with onset of regular uterine contractions and ends when the os is completely dilated and flush with the vagina; the second extends from the end of the first stage until the expulsion of the infant is completed; the third extends from expulsion of the infant until
270 the placenta and membranes are expelled; the fourth denotes the hour or two after delivery, when uterine tone is established.

Neonatal

Pertaining to a newborn child < 28 days of age or 44 weeks postconceptual age.

275

NICU

Neonatal intensive-care unit. unit of a hospital specializing in the care of ill or premature newborn infants.

280

Multiparous

Having given birth to more than one offspring.

Multiple Gestation or Multiple Birth

285 A multiple gestation or multiple birth occurs when more than one fetus is carried to term in a single pregnancy.

Myometrium

The muscular wall of the uterus.

290

Obstetrician

A physician whose practice of medicine focuses on the care of women during pregnancy, through childbirth, and immediately following delivery. Often informally known as OB-gyn (obstetrician-gynecologist).

295

Outpatient

A patient not hospitalized or housed in an extended care facility, who is being treated in an office, clinic, or other ambulatory care facility.

Pediatrician

300 A specialist in pediatrics. Pediatrics is the branch of medicine that deals with the development and care of infants and children and the treatment of their diseases.

Postpartum

305 Of or occurring in the period shortly after childbirth.

Sepsis

Sepsis refers to a bacterial infection in the bloodstream or body tissues. In the use case, the newborn sepsis is a severe systemic infection of the newborn caused primarily by group B streptococcus.

310

Streptococcus B

315 Group B streptococcus (group B strep) is a bacterium that causes life-threatening infections in newborn infants. Group B strep can also cause serious diseases in pregnant women, the elderly, and adults with other illnesses. The letter "B" refers to a classification of bacteria in the genus Streptococcus according to the makeup of the organism's cell wall.

VDRL

A flocculation test for syphilis, using cardiolipin-lecithin-cholesterol antigen as developed by the Venereal Disease Research Laboratory, a former federal facility.

320

1.7 History of Annual Changes

<Brief overview of “what’s new” in the given year of the Technical Framework.>

Add the following bullet to the end of the bullet list in Section 1.7

- Added three content profiles which provide the means to capture standardized information about the labor, delivery and postpartum care administered to the mother and the newborn. These profiles are Labor and Delivery Health and Physical, Labor and Delivery Summary, Maternal Discharge Summary

325

2.1 Dependencies among Content Profiles

Add the following to Table 2-5-1

330

Content Profile	Depends on	Dependency Type	Purpose
LDHP, LDS, MDS	Audit Trail and Node Authentication (ATNA)	Each Content Creator and Content Consumer actor shall be grouped with the ATNA Secured Node Actor	Required to manage audit trail of exported PHI, node authentication, and transport encryption.
LDHP, LDS, MDS	Consistent Time (CT)	Each Content Creator and Content Consumer actor shall be grouped with the Time Client Actor.	Required to manage and resolve conflicts in multiple updates.

Add the following section to Section 2.2

2.2. Labor and Delivery Record Content Profile

The information collected during the labor and delivery as well as during the immediate postpartum period is very important for the follow-up care that the mother and the newborn receive both in an inpatient setting (when the patient is transferred to a higher level of care such as a high risk maternal or neonatal intensive-care unit, NICU) and an outpatient setting for the continuation of care.

335

In an inpatient setting, the obstetrician and pediatrician need to have access to the pertinent information from the delivery in order to properly plan the follow-up care for the mother or newborn. For example, a mother might need a follow-up hematocrit testing or evaluation of the incision site in the office, and this information might be noted on the Labor and Delivery Record. Other important information can be: delivery type, labor type and anesthesia type, postpartum complications and specific maternal information such as medications, laboratory test results, allergies and plans for contraception. Specific neonatal information, might include name, gender, birth weight, APGAR scores, medications received including immunizations, etc. All this information can be obtained in the Labor and Delivery Record.

340

345

Add Section X

350 **X Labor and Delivery Record Content Profile**

This is background material providing motivation for the LDR profile. The LDR profile is not completely defined in this supplement and will be defined in another documentation cycle.

355 The information collected during the labor and delivery as well as during the immediate postpartum period is very important for the follow-up care that the mother and the newborn receive both in an inpatient setting (when the patient is transferred to a higher level of care such as a high risk maternal or neonatal intensive-care unit, NICU) and an outpatient setting for the continuation of care.

360 In an inpatient setting, the obstetrician and pediatrician need to have access to the pertinent information from the delivery in order to properly plan the follow-up care for the mother or newborn. For example, a mother might need a follow-up hematocrit testing or evaluation of the incision site in the office, and this information might be noted on the Labor and Delivery Record. Other important information can be: delivery type, labor type and anesthesia type, postpartum complications and specific maternal information such as medications, laboratory test results, allergies and plans for contraception. Specific neonatal information, might include name, 365 gender, birth weight, APGAR scores, medications received including immunizations, etc. All this information can be obtained in the Labor and Delivery Record.

X.1 Actors/ Transactions

X.2 Labor/Delivery and Postpartum Record Content Profile Options

X.3 Labor/Delivery and Postpartum Record Process Flow

370 **X.3.1 Remote Access**

X.3.1.1 Current Situation

This is background material providing motivation for the LDR profile. The LDR profile is not completely defined in this supplement and will be defined in another documentation cycle.

375 A multiparous, currently pregnant women has had prenatal care by her obstetrician who has an EHR not connected to any health information exchange network, and all documents related to the patient’s pregnancy are accessible only from that system.

380 While asymptomatic, the women had a Group B Streptococcus culture performed recently, with a positive result returned on Friday afternoon by the laboratory, but the patient has not yet been notified of the result, nor has any treatment been initiated. She is blood type O negative and her hepatitis B status and her VDRL (syphilis) just came back positive and she was notified by mail.

On Saturday, she has a rapid onset of labor at 35 weeks gestation, presenting at the local birthing facility with just enough time to enter the Labor and Delivery suite before spontaneously

385 delivering an infant with an APGAR score of 5 at 1 minute, and a score of 8 at 5 minutes. The mother is unaware of the positive Group B Streptococcus result, knows she is Rh negative, but not that she is Hepatitis B positive and VDRL positive (syphilis), though it is in the EHR record that is unavailable. Likewise, the covering obstetrician is unaware of her Group B Streptococcus result, hepatitis and VDRL results, and does not notify the pediatrician or nursery staff. Due to the early gestation and unavailability of services at the birthing center, the infant is transported to the nearest NICU across town five miles away.

390 The NICU care providers are also unaware of the positive Group B Streptococcus, Hepatitis B and VDRL results. The treatment is not begun until the infant begins showing signs of sepsis. The mother does tell them she is Rh negative, but they cannot verify it. There are chances that the newborn can develop hemolytic anemia. He is also not immunized against hepatitis B within the first 12 hours of life, therefore leading to a very like possibility of being infected. Further evaluation and treatment for syphilis for both mother and baby are also not started immediately.

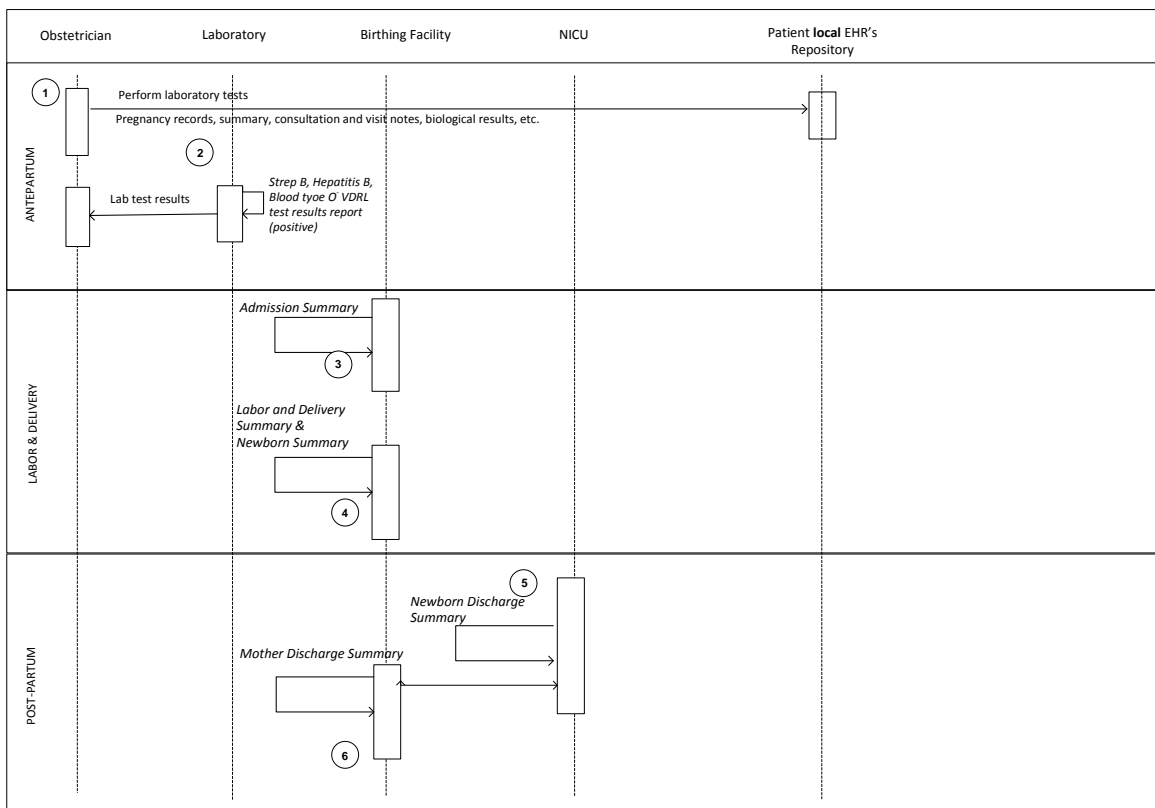


Figure X.2-1. Basic Process Flow in LDR Profile - Current Situation

400 **X.3.3.2 Desired Situation**

This is background material providing motivation for the LDR profile. The LDR profile is not completely defined in this supplement and will be defined in another documentation cycle.

405 A multiparous pregnant woman has had prenatal care by her obstetrician who has an EHR that participates with the local health network, and all documents related to the patient's pregnancy are accessible due to the implementation of various clinically interoperable profiles based on national specifications that are in turn based on IHE profiles. While asymptomatic, the women had a Group B Streptococcus test performed just recently, with a positive result returned on Friday afternoon by the laboratory (2), but the patient has not yet been notified of the result. She is also blood type O negative and her hepatitis B status and VDRL were reported as "positive."

410 On Saturday, she has a rapid onset of labor at 35 weeks gestation, rushing to the local birthing center with just enough time to enter the Labor and Delivery suite before spontaneously delivering an infant with an Apgar score of 5 at 1 minute, and a score of 8 at 5 minutes. The mother is unaware of the positive Group B Streptococcus result, or the just returned hepatitis B positive and VDRL positive results. Likewise, the covering obstetrician is unaware of the
415 positive Streptococcus B, Hepatitis B and VDRL results, and does not notify the pediatrician or nursery staff. Thus this information is not captured in the Admission Assessment Labor and Delivery Summary initially (3, 4).

420 Due to the early gestation and the and unavailability of Special Care Nursery services at the birthing center, the infant is transported to the nearest NICU five miles away. The NICU care providers at the receiving facility review the mother's Antepartum record, realize she is at high risk for Group B Strep sepsis and have obtained a sepsis evaluation which was positive hence appropriate antibiotic treatment preventing full blown sepsis. They also realize that the baby may have been exposed to both hepatitis B and syphilis, and initiate the potentially life-
425 saving prophylaxis, evaluation and treatment. Because the mother is Rh negative, they also determine the baby's blood type and order an early bilirubin level.

430 When the mother's obstetrician calls the NICU the next morning, she is extremely happy to hear that evaluation and treatment are already underway at the NICU. The obstetrician can then begin further infectious disease testing and treatment of the mother, who is her patient, and will have access to the baby's diagnostic work-up in the NICU hospital's EHR to further focus and clarify the mother's treatment. Since both the hepatitis B positive status and the VDRL positive status need to be reported to the local Health Department that can be accomplished in a timely manner and further public health follow-up can be initiated once confirmatory studies have been performed. The mother and the new born are discharged and a maternal discharge summary
435 along with the information is created (6).

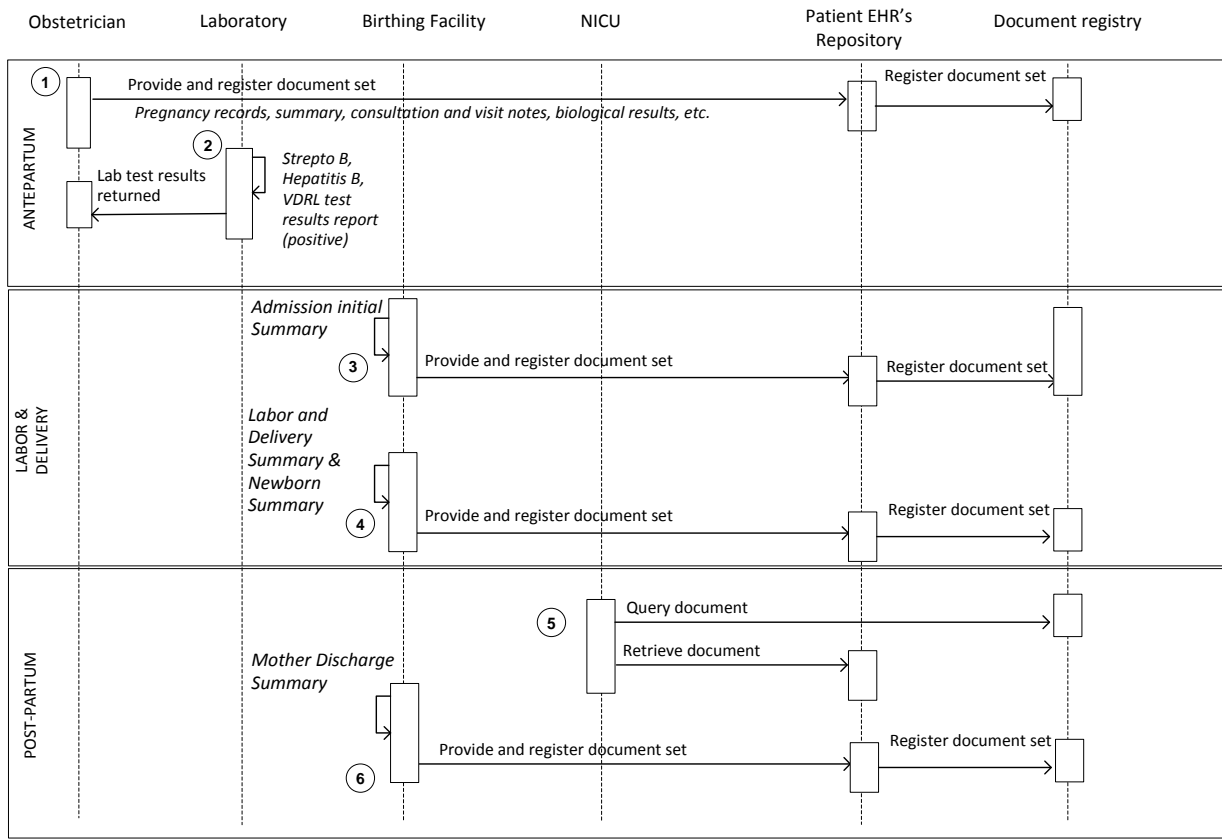


Figure X.2-1. Basic Process Flow in LDR Profile - Desired Situation

X.3 Grouping

440 X.4 LDR Security Considerations

Add Section A

445 **A Labor and Delivery Admission History and Physical (LDHP)
Content Profile**

A.1 Scope and Purpose

A.2 Use Cases

A.3 Actors/ Transactions

450 There are two actors in this profile, the Content Creator and the Content Consumer. Content is created by a Content Creator and is to be consumed by a Content Consumer. The sharing or transmission of content from one actor to the other is addressed by the appropriate use of IHE profiles described below, and is out of scope for this profile.

455 A Document Source or a Portable Media Creator may embody the Content Creator Actor. A Document Consumer, a Document Recipient or a Portable Media Importer may embody the Content Consumer Actor. The sharing or transmission of content or updates from one actor to the other is addressed by the use of appropriate IHE profiles described by section 3.7 Content Bindings with XDS, XDM and XDR found in the Patient Care Coordination Technical Framework



460 **Figure A.1-1 Labor and Delivery Admission History and Physical Actor Diagram**

A.4 Labor and Delivery Admission History and Physical Content Profile Options

465 Options that may be selected for this Content Profile are listed in the table A.2-1 along with the Actors to which they apply. Dependencies between options when applicable are specified in notes.

Actor	Option	Section
Content Consumer	View Option (See Note 1)	PCC TF-1: 2.13.1
	Document Import Option (See Note 1)	PCC TF-1: 2.13.2
	Section Import Option (See Note 1)	PCC TF-1: 2.13.3
	Discrete Data Import Option (See Note 1)	PCC TF-1: 2.13.4
Content Creator	No options defined	

Note 1: The Actor shall support at least one of these options.

A.5 Grouping

470 A.5.1 Content Bindings for XDS, XDM, and XDR

It is expected that the transfers of care will occur in an environment where the physician offices and hospitals have a coordinated infrastructure that serves the information sharing needs of this community of care. Several mechanisms are supported by IHE profiles:

- 475 • A registry/repository-based infrastructure is defined by the IHE Cross Enterprise Document Sharing (XDS) and other IHE Integration Profiles such as patient identification (PIX & PDQ) and notification of availability of documents (NAV).
- A media-based infrastructure is defined by the IHE Cross Enterprise Document Media Interchange (XDM) profile.
- 480 • A reliable messaging-based infrastructure is defined by the IHE Cross Enterprise Document Reliable Interchange (XDR) profile.
- All of these infrastructures support Security and privacy through the use of the Consistent Time (CT) and Audit Trail and Node Authentication (ATNA) profiles.

For more details on these profiles, see the IHE IT Infrastructure Technical Framework. Content profiles may impose additional requirements on the transactions used when grouped with actors
485 from other IHE Profiles.

A.5.2 Cross Enterprise Document Sharing, Media Interchange and Reliable Messages

Actors from the ITI XDS, XDM and XDR profiles embody the Content Creator and Content Consumer sharing function of this profile. A Content Creator or Content Consumer must be
490 grouped with appropriate actors from the XDS, XDM or XDR profiles, and the metadata sent in the document sharing or interchange messages has specific relationships to the content of the clinical document described in the content profile.

A.5.3 Notification of Document Availability (NAV)

A Document Source should provide the capability to issue a Send Notification Transaction per
495 the ITI Notification of Document Availability (NAV) Integration Profile in order to notify one or more Document Consumer(s) of the availability of one or more documents for retrieval. One of the Acknowledgement Request options may be used to request from a Document Consumer that an acknowledgement should be returned when it has received and processed the notification. A Document Consumer should provide the capability to receive a Receive Notification Transaction
500 per the NAV Integration Profile in order to be notified by Document Sources of the availability of one or more documents for retrieval. The Send Acknowledgement option may be used to issue a Send Acknowledgement to a Document Source that the notification was received and processed.

A.5.4 Document Digital Signature (DSG)

505 When a Content Creator Actor needs to digitally sign a document in a submission set, it may support the Digital Signature (DSG) Content Profile as a Document Source. When a Content Consumer Actor needs to verify a Digital Signature, it may retrieve the digital signature document and may perform the verification against the signed document content.

A.6 Requirements of LDHP Actors

510 This section describes the specific requirements for each Actor defined within this profile. Specific details can be found in Volume 1 and Volume 2 of the technical framework.

A.6.1 Content Creator

1. A Content Creator shall be able to create an LDHP Document according to the specifications for that content profile found in PCC TF-2.
- 515 2. A Content Creator shall be grouped with the Time Client Actor, and shall synchronize its clock with a Time Server.
3. A Content Creator shall be grouped with the Secure Node or Secure Application Actor of the ATNA profile.
- 520 4. All activity initiated by the application implementing the Content Creator shall generate the appropriate audit trail messages as specified by the ATNA Profile. The bare minimum requirements of a Content Creator are that it be able to log creation and export of clinical content.
5. A Content Creator shall use secure communications for any document exchanges, according to the specifications of the ATNA profile.

A.6.1 Content Consumer

1. A Content Consumer shall be able to consume an LDHP document.
2. A Content Consumer shall implement the View Option or Discrete Data import option, or both.
- 530 3. A Content Consumer that implements the Document Import or Section Import Option shall implement the View Option as well.
4. A Content Consumer that implements the View option shall be able to:
 - a. Demonstrate rendering of the document for display.
 - b. Print the document.
 - c. Display the document with its original style sheet.
 - 535 d. Support traversal of any links contained within the document.
5. A Content Consumer that implements the Document Import Option shall:
 - a. Store the document.

- b. Demonstrate the ability to access the document again from local storage.
- 540 6. A Content Consumer that implements the Section Import Option shall offer a means to import one or more document sections into the patient record as free text.
- 7. A Content Consumer that implements the Discrete Data Import Option shall offer a means to import structured data from one or more sections of the document.
- 8. A Content Consumer Actor shall be grouped with the Time Client Actor, and shall synchronize its clock with a Time Server.
- 545 9. All activity initiated by the application implementing the Content Consumer shall generate the appropriate audit trail messages as specified by the ATNA Profile. The bare minimum requirements of a Content Consumer are that it be able to log views or imports of clinical content.
- 10. A Content Consumer shall log events for any views of stored clinical content.
- 550 11. A Content Consumer shall use secure communications for any document exchanges, according to the specifications of the ATNA profile.

A.7 Content Modules

Content modules describe the content of a payload found in an IHE transaction. Content profiles are transaction neutral. They do not have dependencies upon the transaction that they appear in.

555 **A.8 Process Flow**

<i>Add Section B</i>

B Labor and Delivery Summary (LDS) Content Profile

B.1 Scope and Purpose

560 **B.2 Use Cases**

B.3 Actors/ Transactions

There are two actors in this profile, the Content Creator and the Content Consumer. Content is created by a Content Creator and is to be consumed by a Content Consumer. The sharing or transmission of content from one actor to the other is addressed by the appropriate use of IHE profiles described below, and is out of scope of this profile. A Document Source or a Portable Media Creator may embody the Content Creator Actor. A Document Consumer, a Document Recipient or a Portable Media Importer may embody the Content Consumer Actor. The sharing or transmission of content or updates from one actor to the other is addressed by the use of appropriate IHE profiles described by section 3.7 Content Bindings with XDS, XDM and XDR

565

570 found in the Patient Care Coordination Technical Framework



Figure B.1-1 Labor and Delivery Summary Actor Diagram

B.4 Labor and Delivery Summary Content Profile Options

575 Options that may be selected for this Content Profile are listed in Table B.2-1 along with the Actors to which they apply. Dependencies between options when applicable are specified in notes.

Actor	Option	Section
Content Consumer	View Option (See Note 1)	PCC TF-1: 2.13.1
	Document Import Option (See Note 1)	PCC TF-1: 2.13.2
	Section Import Option (See Note 1)	PCC TF-1: 2.13.3
	Discrete Data Import Option (See Note 1)	PCC TF-1: 2.13.4
Content Creator	No options defined	

Note 1: The Actor shall support at least one of these options.

580

B.5 Grouping

B.5.1 Content Bindings for XDS, XDM, and XDR

585 It is expected that the transfers of care will occur in an environment where the physician offices and hospitals have a coordinated infrastructure that serves the information sharing needs of this community of care. Several mechanisms are supported by IHE profiles:

- A registry/repository-based infrastructure is defined by the IHE Cross Enterprise Document Sharing (XDS) and other IHE Integration Profiles such as patient identification (PIX & PDQ) and notification of availability of documents (NAV).
 - A media-based infrastructure is defined by the IHE Cross Enterprise Document Media Interchange (XDM) profile.
 - A reliable messaging-based infrastructure is defined by the IHE Cross Enterprise Document Reliable Interchange (XDR) profile.
 - All of these infrastructures support Security and privacy through the use of the Consistent Time (CT) and Audit Trail and Node Authentication (ATNA) profiles.
- 590

595 For more details on these profiles, see the IHE IT Infrastructure Technical Framework. Content profiles may impose additional requirements on the transactions used when grouped with actors from other IHE Profiles.

B.5.2 Cross Enterprise Document Sharing, Media Interchange and Reliable Messages

600 Actors from the ITI XDS, XDM and XDR profiles embody the Content Creator and Content Consumer sharing function of this profile. A Content Creator or Content Consumer must be grouped with appropriate actors from the XDS, XDM or XDR profiles, and the metadata sent in the document sharing or interchange messages has specific relationships to the content of the clinical document described in the content profile.

B.5.3 Notification of Document Availability (NAV)

A Document Source should provide the capability to issue a Send Notification Transaction per the ITI Notification of Document Availability (NAV) Integration Profile in order to notify one or more Document Consumer(s) of the availability of one or more documents for retrieval. One of the Acknowledgement Request options may be used to request from a Document Consumer that an acknowledgement should be returned when it has received and processed the notification. A Document Consumer should provide the capability to receive a Receive Notification Transaction per the NAV Integration Profile in order to be notified by Document Sources of the availability of one or more documents for retrieval. The Send Acknowledgement option may be used to issue a Send Acknowledgement to a Document Source that the notification was received and processed. B.5.4 Document Digital Signature (DSG)

When a Content Creator Actor needs to digitally sign a document in a submission set, it may support the Digital Signature (DSG) Content Profile as a Document Source. When a Content Consumer Actor needs to verify a Digital Signature, it may retrieve the digital signature document and may perform the verification against the signed document content.

B.6 Requirements of LDS Actors

This section describes the specific requirements for each Actor defined within this profile. Specific details can be found in Volume 1 and Volume 2 of the technical framework.

B.6.1 Content Creator

- 625 1. A Content Creator shall be able to create an LDS Document according to the specifications for that content profile found in PCC TF-2.
2. A Content Creator shall be grouped with the Time Client Actor, and shall synchronize its clock with a Time Server.
3. A Content Creator shall be grouped with the Secure Node or Secure Application Actor of the ATNA profile.
- 630 4. All activity initiated by the application implementing the Content Creator shall generate the appropriate audit trail messages as specified by the ATNA Profile. The bare

minimum requirements of a Content Creator are that it be able to log creation and export of clinical content.

- 635 5. A Content Creator shall use secure communications for any document exchanges, according to the specifications of the ATNA profile.

1.1.1 B.6.1 Content Consumer

- 640 1. A Content Consumer shall be able to consume an LDS document.
2. A Content Consumer shall implement the View Option or Discrete Data import option, or both.
- 640 3. A Content Consumer that implements the Document Import or Section Import Option shall implement the View Option as well.
4. A Content Consumer that implements the View option shall be able to:
- a. Demonstrate rendering of the document for display.
 - b. Print the document.

645 c. Display the document with its original style sheet.

 - d. Support traversal of any links contained within the document.
5. A Content Consumer that implements the Document Import Option shall:
- a. Store the document.
 - b. Demonstrate the ability to access the document again from local storage.
- 650 6. A Content Consumer that implements the Section Import Option shall offer a means to import one or more document sections into the patient record as free text.
7. A Content Consumer that implements the Discrete Data Import Option shall offer a means to import structured data from one or more sections of the document.
- 655 8. A Content Consumer Actor shall be grouped with the Time Client Actor, and shall synchronize its clock with a Time Server.
9. All activity initiated by the application implementing the Content Consumer shall generate the appropriate audit trail messages as specified by the ATNA Profile. The bare minimum requirements of a Content Consumer are that it be able to log views or imports of clinical content.
- 660 10. A Content Consumer shall log events for any views of stored clinical content.
11. A Content Consumer shall use secure communications for any document exchanges, according to the specifications of the ATNA profile.

B.7 Content Modules

665 Content modules describe the content of a payload found in an IHE transaction. Content profiles are transaction neutral. They do not have dependencies upon the transaction that they appear in.

B.8 Process Flow

Add Section C

670 C Maternal Discharge Summary (MDS) Content Profile

C.1 Scope and Purpose

C.2 Use Cases

C.3 Actors/ Transactions

675 There are two actors in this profile, the Content Creator and the Content Consumer. Content is created by a Content Creator and is to be consumed by a Content Consumer. The sharing or transmission of content from one actor to the other is addressed by the appropriate use of IHE profiles described below, and is out of scope of this profile. A Document Source or a Portable Media Creator may embody the Content Creator Actor. A Document Consumer, a Document Recipient or a Portable Media Importer may embody the Content Consumer Actor. The sharing or transmission of content or updates from one actor to the other is addressed by the use of appropriate IHE profiles described by section 3.7 Content Bindings with XDS, XDM and XDR
680 found in the Patient Care Coordination Technical Framework.



685 **Figure C.3-1 Maternal Discharge Summary Actor Diagram**

C.4 Maternal Discharge Summary Content Profile Options

Options that may be selected for this Content Profile are listed in the table B.2-1 along with the Actors to which they apply. Dependencies between options when applicable are specified in notes.

Actor	Option	Section
Content Consumer	View Option (See Note 1)	PCC TF-1: 2.13.1
	Document Import Option (See Note 1)	PCC TF-1: 2.13.2
	Section Import Option (See Note 1)	PCC TF-1: 2.13.3
	Discrete Data Import Option (See Note 1)	PCC TF-1: 2.13.4
Content Creator	No options defined	

Note 1: The Actor shall support at least one of these options.

C.5 Grouping

C.5.1 Content Bindings for XDS, XDM, and XDR

It is expected that the transfers of care will occur in an environment where the physician offices and hospitals have a coordinated infrastructure that serves the information sharing needs of this community of care. Several mechanisms are supported by IHE profiles:

- A registry/repository-based infrastructure is defined by the IHE Cross Enterprise Document Sharing (XDS) and other IHE Integration Profiles such as patient identification (PIX & PDQ) and notification of availability of documents (NAV).
- A media-based infrastructure is defined by the IHE Cross Enterprise Document Media Interchange (XDM) profile.
- A reliable messaging-based infrastructure is defined by the IHE Cross Enterprise Document Reliable Interchange (XDR) profile.
- All of these infrastructures support Security and privacy through the use of the Consistent Time (CT) and Audit Trail and Node Authentication (ATNA) profiles.

For more details on these profiles, see the IHE IT Infrastructure Technical Framework. Content profiles may impose additional requirements on the transactions used when grouped with actors from other IHE Profiles.

C.5.2 Cross Enterprise Document Sharing, Media Interchange and Reliable Messages

Actors from the ITI XDS, XDM and XDR profiles embody the Content Creator and Content Consumer sharing function of this profile. A Content Creator or Content Consumer must be grouped with appropriate actors from the XDS, XDM or XDR profiles, and the metadata sent in

the document sharing or interchange messages has specific relationships to the content of the clinical document described in the content profile.

C.5.3 Notification of Document Availability (NAV)

720 A Document Source should provide the capability to issue a Send Notification Transaction per the ITI Notification of Document Availability (NAV) Integration Profile in order to notify one or more Document Consumer(s) of the availability of one or more documents for retrieval. One of the Acknowledgement Request options may be used to request from a Document Consumer that an acknowledgement should be returned when it has received and processed the notification.

725 A Document Consumer should provide the capability to receive a Receive Notification Transaction per the NAV Integration Profile in order to be notified by Document Sources of the availability of one or more documents for retrieval. The Send Acknowledgement option may be used to issue a Send Acknowledgement to a Document Source that the notification was received and processed.

C.5.4 Document Digital Signature (DSG)

730 When a Content Creator Actor needs to digitally sign a document in a submission set, it may support the Digital Signature (DSG) Content Profile as a Document Source. When a Content Consumer Actor needs to verify a Digital Signature, it may retrieve the digital signature document and may perform the verification against the signed document content.

C.6 Requirements of MDS Actors

735 This section describes the specific requirements for each Actor defined within this profile. Specific details can be found in Volume 1 and Volume 2 of the technical framework.

C.6.1 Content Creator

1. A Content Creator shall be able to create an MDS Document according to the specifications for that content profile found in PCC TF-2.
- 740 2. A Content Creator shall be grouped with the Time Client Actor, and shall synchronize its clock with a Time Server.
3. A Content Creator shall be grouped with the Secure Node or Secure Application Actor of the ATNA profile.
- 745 4. All activity initiated by the application implementing the Content Creator shall generate the appropriate audit trail messages as specified by the ATNA Profile. The bare minimum requirements of a Content Creator are that it be able to log creation and export of clinical content.
5. A Content Creator shall use secure communications for any document exchanges, according to the specifications of the ATNA profile.

750 **C.6.1 Content Consumer**

1. A Content Consumer shall be able to consume an MDS document.
2. A Content Consumer shall implement the View Option or Discrete Data import option, or both.
- 755 3. A Content Consumer that implements the Document Import or Section Import Option shall implement the View Option as well.
4. A Content Consumer that implements the View option shall be able to:
 - a. Demonstrate rendering of the document for display.
 - b. Print the document.
 - c. Display the document with its original style sheet.
 - 760 d. Support traversal of any links contained within the document.
5. A Content Consumer that implements the Document Import Option shall:
 - a. Store the document.
 - b. Demonstrate the ability to access the document again from local storage.
- 765 6. A Content Consumer that implements the Section Import Option shall offer a means to import one or more document sections into the patient record as free text.
7. A Content Consumer that implements the Discrete Data Import Option shall offer a means to import structured data from one or more sections of the document.
8. A Content Consumer Actor shall be grouped with the Time Client Actor, and shall synchronize its clock with a Time Server.
- 770 9. All activity initiated by the application implementing the Content Consumer shall generate the appropriate audit trail messages as specified by the ATNA Profile. The bare minimum requirements of a Content Consumer are that it be able to log views or imports of clinical content.
10. A Content Consumer shall log events for any views of stored clinical content.
- 775 11. A Content Consumer shall use secure communications for any document exchanges, according to the specifications of the ATNA profile.

C.7 Content Modules

Content modules describe the content of a payload found in an IHE transaction. Content profiles are transaction neutral. They do not have dependencies upon the transaction that they appear in.

780 **C.8 Process Flow**

Volume 2 – Transactions and Content

785

3. IHE Transactions

4. IHE Patient Care Coordination Bindings

5. Namespaces and Vocabularies

5.1 IHE Format Codes

790 *Add format codes to the table in Section 5.1*

Table 5.1 IHE Format Codes

Profile	Format Code	Media Type	Template ID
2010 Profiles			
Labor and Delivery Admission History and Physical	urn:ihe:pcc:ldhp:2009	text/xml	1.2.6.1.4.1.19376.1.5.3.1.1.21.1.1 (Labor and Delivery Admission History and Physical I)
Labor and Delivery Summary	urn:ihe:pcc:lds:2009	text/xml	1.3.6.1.4.1.19376.1.5.3.1.1.21.1.2 (Labor and Delivery Summary)
Maternal Discharge Summary	urn:ihe:pcc:mms:2009	text/xml	1.3.6.1.4.1.19376.1.5.3.1.1.21.1.3 (Maternal Discharge Summary)

5.2 IHEActCode Vocabulary

795

6. PCC Content Modules

6.1 Conventions

6.2 Folder Content Modules

Add LDR Folder Specification

800

805 **6.2.X LDR Folder Specifications**

The LDR folder is a container for all documents created as a result of an episode of labor and delivery care. In the case where an antepartum record (APR) is available, the document creator for the LDR should link the existing documents from the APR to the LDR folder. The APR documents are included in the table below for completeness' sake.

810 **Table 6.2.x: LDR Folder Specifications**

Document Name	Opt	Template ID
Labor and Delivery Admission History and Physical	R	1.2.6.1.4.1.19376.1.5.3.1.1.21.1.1
Labor and Delivery Summary	R	1.3.6.1.4.1.19376.1.5.3.1.1.21.1.2
Maternal Discharge Summary	R	1.3.6.1.4.1.19376.1.5.3.1.1.21.1.3
Antepartum History and Physical	C ¹	1.3.6.1.4.1.19376.1.5.3.1.1.16.1.1
Antepartum Summary	R2	1.3.6.1.4.1.19376.1.5.3.1.1.11.2
Antepartum Laboratory Report	R2	1.3.6.1.4.1.19376.1.5.3.1.1.16.1.2
Antepartum Education	R2	1.3.6.1.4.1.19376.1.5.3.1.1.16.1.3
Diagnostic Imaging Reports	O	
Other Lab Reports	O	
Consultations	O	

ILDHP should point to the Antepartum History and Physical Summary if this is available.

6.3.1 CDA Document Content Modules

815 *Add Section 6.3.1.A to the end of Section 6.3.1*

**6.3.1.A Labor and Delivery Admission History and Physical
1.2.6.1.4.1.19376.1.5.3.1.1.21.1.1**

820 The Labor and Delivery Admission History and Physical (LDHP) profile represents the patient's History and Physical performed during admission to the birthing facility. The LDHP is a medical summary and inherits all header constraints from Medical Summaries. The use case for this profile is described fully in the Labor and Delivery Record Profile in PCC TF-1.

The LDHP may use the Antepartum History and Physical (APHP) if that document is available. If the APHP is not available a new document will be created.

825 **6.3.1.A.1 Format Code**

The XDSDocumentEntry format code for this content is **urn:ihe:pcc:ldhp:2009**

6.3.1.x.2 LOINC Code

The LOINC code for this document is **34117-2 HISTORY AND PHYSICAL**

830 6.3.1.x.3 Standards

CDAR2 [HL7 CDA Release 2.0](#)

CDTHP [CDA for Common Document Types History and Physical Notes \(DSTU\)](#)

6.3.1.x.4 Specification

This section references content modules using Template ID as the key identifier. Definitions of the modules are found in either:

- IHE Patient Care Coordination Volume 2: Final Text
- 835 • IHE PCC Content Modules 2009-2010 Supplement (this document, for Public Comment)

Use the specification found in the supplement PCC Content Modules, Volume 2, 6.3.1.X for specification for this document content module. Use the template identifier allocated for Labor and Delivery Health and Physical and the module requirements defined for History and Physical.

840 *Public Comment Question: Is the H&P specification correct for Labor and Delivery, or does the Labor and Delivery H&P need further refinement?*

Do we need better specification of how to use the template identifiers for the document content?

<i>Add Section 6.3.1.B to the end of Section 6.3.1</i>
--

6.3.1.B Labor and Delivery Summary Specification

845 **1.3.6.1.4.1.19376.1.5.3.1.1.21.1.2**

The Labor and Delivery Summary (LDS) profile represents a summary of the most critical information concerning the labor and delivery care in a birthing facility. The LDS is a medical summary and inherits all header constraints from Medical Summaries. It also uses parts of the History and Physical profile where needed. The use case for this document is described fully in the Labor and Delivery Record Profile in PCC TF-1.

850

6.3.1.B.1 Format Code

The XDSDocumentEntry format code for this content is **urn:ihe:pcc:lds:2009**

6.3.1.B.2 LOINC Code

The LOINC code for this document is 15508-5

6.3.1.B.3 Standards

CCD	<u>ASTM/HL7 Continuity of Care Document</u>
CDAR2	<u>HL7 CDA Release 2.0</u>
ACOGAR	<u>American College of Obstetricians and Gynecologists (ACOG), Antepartum Record</u>
AUDIPOG	<u>Association des Utilisateurs de Dossiers Informatisés en Périnatalogie, Obstétrique et Gynécologie</u>
Dossier obstétrical	<u>Fédération suisse des sages-femmes 2008</u>
LOINC	<u>Logical Observation Identifiers, Names and Codes</u>
SNOMED	<u>Systemized Nomenclature for Medicine</u>

6.3.1.B.4 Specification

This section references content modules using Template ID as the key identifier. Definitions of the modules are found in either:

- 860
- IHE Patient Care Coordination Volume 2: Final Text
 - IHE PCC Content Modules 2009-2010 Supplement (For Public Comment)

Section/Data Element Name	Opt	Template ID
Hospital Admission Diagnosis Section This section SHALL indicate the reasons for admitting the mother to the birthing facility (e.g. premature labor, ruptured membrane).	R	1.3.6.1.4.1.19376.1.5.3.1.3.3
Transport Mode This section SHALL describe the mode of arrival of the mother to the birthing facility.	R	1.3.6.1.4.1.19376.1.5.3.1.1.10.3.2
Admission Medication History This section SHALL include the medication that was administered to the mother upon admission to the birthing facility.	R2	1.3.6.1.4.1.19376.1.5.3.1.3.20
Assessment and Plan This section SHOULD contain assessment of the mother's pregnancy status and expectations for care including proposals, goals, and order requests for her condition and the birthing process	R2	1.3.6.1.4.1.19376.1.5.3.1.1.13.2.5
Coded Results Relevant laboratory results SHALL be recorded and the Antepartum Record Laboratory Value Set (1.3.6.1.4.1.19376.1.5.3.1.1.16.5.7) SHOULD be used to represent the results.	R	1.3.6.1.4.1.19376.1.5.3.1.3.28
History of Present Illness Data present in this section SHALL come over from the Admission History and Physical and/or SHALL contain data that is collected upon admission to the birthing facility.	R	1.3.6.1.4.1.19376.1.5.3.1.3.4
History of Past Illness This section SHALL include clinically relevant information to the labor and delivery.	R	1.3.6.1.4.1.19376.1.5.3.1.3.8

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<p>History of Infection This section SHALL include the infections that the mother might have contracted prior to the pregnancy. The codes SHOULD be used as specified in the APR History and Physical History of Infection Value Set 1.3.6.1.4.1.19376.1.5.3.1.1.16.5.6. A negative diagnosis SHALL be recorded with the use of the negation indicator attribute. If the data is not present or not available within the system no entry is required.</p>	R	1.3.6.1.4.1.19376.1.5.3.1.1.16.2.1.1
<p>Advanced Directives This section SHOULD contain the patient's expectations and requests with respect to care she is expecting during the labor and delivery process.</p>	R2	1.3.6.1.4.1.19376.1.5.3.1.3.34
<p>Allergies This section is the same as for Medical Summary, however it SHALL include one observation of Latex Allergy which may be negated through the negationInd attribute. Latex Allergy is particularly relevant for Obstetrics because of the frequency of vaginal exams that might involve the use of latex gloves. The observation value code for Latex Allergy is '300916003'. The codeSystem is '2.16.840.1.113883.6.96'. The codeSystemName is 'SNOMED CT'</p>	R	1.3.6.1.4.1.19376.1.5.3.1.3.13
<p>Physical Examination This section SHALL include Vital Signs if present and SHOULD also include any other relevant obstetrical physical exam data including a cervical exam and calculation of a Bishop's score.</p>	R	1.3.6.1.4.1.19376.1.5.3.1.1.9.15
<p>Pregnancy History This section SHALL describe the history of the current pregnancy as well as certain elements pertaining to previous pregnancies, such as the number of pregnancies and their outcomes as well as any previous pregnancy/delivery complications.</p>	R	1.3.6.1.4.1.19376.1.5.3.1.1.5.3.4
<p>Social History Data present in this section SHALL come over from the Admission History and Physical and/or SHALL contain data that is collected upon admission to the birthing facility. This section SHOULD use the codes specified in the Antepartum Social History Value Set.</p>	R	1.3.6.1.4.1.19376.1.5.3.1.3.16
<p>Medications Administered This section SHALL include the medication that was administered to the mother during the course of the labor and delivery. Specifications will have to be made as to know if the medication was administered during the labor or the delivery process.</p>	R	1.3.6.1.4.1.19376.1.5.3.1.3.21
<p>Intravenous Fluids Administered The intravenous fluids administered section SHALL contain a narrative description of fluids administered to the mother during the labor and delivery process. It may include entries for IV fluid administration as described in the Entry Content Module.</p>	R	1.3.6.1.4.1.19376.1.5.3.1.1.13.2.6
<p>Prenatal Events This section SHALL include pertinent prenatal information having a direct impact on the process of labor and delivery. The assumption cannot be made that if there is no APR information there was no prenatal care. This section includes diagnostic results, procedures, surgeries and any other relevant components during the prenatal period.</p>	R	1.3.6.1.4.1.19376.1.5.3.X.X.X

<p>List of surgeries</p> <p>This section SHALL include information about the past surgeries that are relevant to the current pregnancy, such as previous C-sections.</p>	R	1.3.6.1.4.1.19376.1.5.3.1.3.11
<p>Labor and Delivery Section</p> <p>This section SHALL contain information pertinent to the labor and delivery process and outcome (e.g. type of labor, method of delivery, membrane detail, and placenta and fetal information).</p>	R	1.3.6.1.4.1.19376.1.5.3.X.X.X
<p>Newborn Delivery Information</p> <p>This section SHALL contain information pertinent to the newborn and outcome (e.g. weight, vital signs, APGAR score assessment, resuscitation events).</p>	R	1.3.6.1.4.1.19376.1.5.3.X.X.X

6.3.1.B.5 Conformance

865 CDA Release 2.0 documents that conform to the requirements of this content module shall indicate their conformance by the inclusion of the appropriate <templateId> elements in the header of the document. This is shown in the sample document below. A CDA Document may conform to more than one template. This content module inherits from the Medical Summary content module, and so must conform to the requirements of that template as well, thus all

870 <templateId> elements shown in the example below shall be included.

Add Section 6.3.1.C to the end of Section 6.3.1

875 **6.3.1.C Maternal Discharge Summary 1.3.6.1.4.1.19376.1.5.3.1.1.21.1.3**

The Maternal Discharge Summary (MDS) profile represents a snapshot of the mother postpartum stay until her discharge from the birthing facility. The MDS is a medical summary and inherits all header constraints from Medical Summaries. The use case for this document is described fully in the Labor and Delivery Record (LDR) profile in PCC TF-1.

880 **6.3.1.C.1 Format Code**

The XDSDocumentEntry format code for this content is **urn:ihe:pcc:mDs:2009**

6.3.1.C.2 LOINC Code

The LOINC code for this document is XX-MDS

6.3.1.C.3 Standards

CCD	<u>ASTM/HL7 Continuity of Care Document</u>
CDAR2	<u>HL7 CDA Release 2.0</u>
ACOGAR	<u>American College of Obstetricians and Gynecologists (ACOG), Antepartum Record</u>

AUDIPOG	<u>Association des Utilisateurs de Dossiers Informatisés en Périnatalogie, Obstétrique et Gynécologie</u>
Dossier obstétrical	<u>Fédération suisse des sages-femmes 2008</u>
LOINC	<u>Logical Observation Identifiers, Names and Codes</u>
SNOMED	<u>Systemized Nomenclature for Medicine</u>

885

6.3.1.C.4 Specification

This section references content modules using Template ID as the key identifier. Definitions of the modules are found in either:

- IHE Patient Care Coordination Volume 2: Final Text

890

- IHE PCC Content Modules 2009-2010 Supplement (For Public Comment)

Section/Data Element Name	Opt	Template ID
Hospital Course This section SHALL contain a narrative description of the sequence of events from admission to discharge in the birthing facility.		1.3.6.1.4.1.19376.1.5.3.1.3.5
Discharge Diagnosis Section The discharge diagnosis section SHALL contain a description of the outcomes associated with the pregnancy, delivery, and immediate post-partum period.	R	1.3.6.1.4.1.19376.1.5.3.1.3.7
Hospital Discharge Medications This section SHALL include the discharge medications prescribed for the mother.	R	1.3.6.1.4.1.19376.1.5.3.1.3.22
Coded Results Relevant laboratory results SHALL be recorded and the Antepartum Record Laboratory Value Set (1.3.6.1.4.1.19376.1.5.3.1.1.16.5.7) SHOULD be used to represent the results.	R	1.3.6.1.4.1.19376.1.5.3.1.3.28
Coded Hospital Studies Summary The birthing facility studies summary section SHALL include entries for diagnostic procedures and references to procedure reports when known as described in the Entry Content Modules.	R	1.3.6.1.4.1.19376.1.5.3.1.3.30
Pain Scale Assessment This section SHOULD contain a coded observation reflecting the mother's reported intensity of pain on a scale from 0 to 10.	R2	1.3.6.1.4.1.19376.1.5.3.1.1.12.2.2
Braden Score Assessment This section SHOULD report the braden score and its related assessments in machine and human readable form.	R2	1.3.6.1.4.1.19376.1.5.3.1.1.12.2.3
History of Past Illness This section SHOULD include clinically relevant information to the post-partum follow-up.	R	1.3.6.1.4.1.19376.1.5.3.1.3.8

IHE Technical Framework Supplement – Labor and Delivery Record (LDR)

<p>Post-partum Treatment</p> <p>This section SHALL include treatment delivered to the mother and subsequent to the delivery as well as the interventions.</p>	R2	1.3.6.1.4.1.19376.1.5.3.X.X.X
<p>IV Fluid Administration</p> <p>This section SHALL shall contain a narrative description of fluids administered to a patient during the course of an encounter. It may include entries for IV fluid administration as described in the Entry Content Module.</p>	R	1.3.6.1.4.1.19376.1.5.3.1.1.13.2.6
<p>Transfusion History</p> <p>The transfusion history section SHALL contain a description of the blood products the mother has received during the labor and delivery process, including any reactions to blood products. It shall include entries for substance administration as described in the Entry Content Modules.</p>	R	1.3.6.1.4.1.19376.1.5.3.1.1.9.12
<p>Patient education</p> <p>This section SHOULD contain the education that was provided to the mother at the discharge from the birthing facility concerning post-partum and newborn care.</p>	R2	1.3.6.1.4.1.19376.1.5.3.1.1.9.38
<p>Newborn status at the maternal discharge</p> <p>This section SHALL include the status and disposition of the newborn at the time of maternal discharge.</p>	R	1.3.6.1.4.1.19376.1.5.3.X.X.X

6.3.1.C.5 Conformance

895 CDA Release 2.0 documents that conform to the requirements of this content module shall indicate their conformance by the inclusion of the appropriate <templateId> elements in the header of the document. This is shown in the sample document below. A CDA Document may conform to more than one template. This content module inherits from the Medical Summary content module, and so must conform to the requirements of that template as well, thus all <templateId> elements shown in the example below shall be included.

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