RHEA Project

Use Case Specification: Call Interoperability interfaces of SHR

GID: 0009
UC: 01.009

Version: 0.2

Revision History

Date	Version	Description	Author(s)
10/08/11	0.1	Initial creation	Ryan
25/08/11	0.2	Edits after Mead's comments	Ryan

Description

This use case describes the interoperability interfaces supplied by the Shared Health Record and how those interfaces will respond when receiving messages in different scenarios.

Actors

The PoS System querying the Shared Health Record.

Pre-condition

- none

Post-condition

- none

Special Requirements

- Web services must be secured using a security protocol still to be determined.
- The HC Facility ID must be validated somewhere in the workflow of saving a patient encounter.
- The HC Professional ID must be validated somewhere in the workflow of saving a patient encounter.

Primary Scenario

Save patient encounter

1. The sending system generates a message containing the clinical encounter data that they wish to have stored in the SHR. This message is sent to the SHR.
2. The SHR receives the message and parses the message to obtain the clinical encounter data that is contained within the message.

3. The SHR searches for the patient that this clinical information belongs to by NID.
4. If a patient is found the clinical encounter data is stored as a new encounter for that patient. Else if the patient is not found, a new patient is created in the system and the encounter data is saved as an encounter for the newly created patient.
5. The SHR generates a message to acknowledge that the clinical information had been stored.
6. The SHR sends this response message back to the sending system.

Secondary Scenarios

Fetch previous patient encounters

1. The sending system generates a message that requests a certain patients previous encounters within a specified time frame. This message is sent to the SHR.
2. The SHR receives this message and parses it to obtain the time frame parameters and the identifying information about the patient.
3. The SHR searches for the patient and finds their stored encounters for the specified time period.
4. The SHR generates a message that contains the found encounters to return to the sending system.
5. The SHR returns this message to the sending system.

Save patient encounter or fetch patient encounter with a invalid message

1. The sending system generates a message destined for the SHR. This message is sent to the SHR.
2. The SHR receives the message and attempts to parse the message but it cannot due to some errors within the message.
3. The SHR generates a message with the error that occurred and an error code.
4. The SHR sends this error message back to the sending system.

Fetch previous patient encounters but no patient or encounters or are found

1. The sending system generates a message that requests a certain patients previous encounters for a specified time frame. This message is sent to the SHR.
2. The SHR receives this message and parses it to obtain the time frame parameters and the identifying information about the patient.
3. The SHR searches for the patient and finds their stored encounters for the specified time period however none are found.
4. The SHR generates an error message that contains an error that states that no encounters were found along with a corresponding error code.
5. The SHR returns this error message to the sending system.

Draft Screens

none

Data elements for message transmission

Note: These data elements were taken from the ‘Clinical Workflow with details’ document. See that document for the latest up-to-date version of the data elements in case they change.

Data elements for First ANC Visit Encounter

Element	Description	Length/Type	Status(R=Required, O=Optional)	Behavior	Map To Existing Field or New
Number of Pregana cies		Int			
Number of Births		Int			
Number of Preterm births		Int			
Number of abortions		Int			
Number of Live births		Int			
Number of Still births		Int			
Number of children alive		Int			
Number of C-Sections		Int			

Last born birth date		Date			
Last born	Alive/ Died	Coded			
Is her age below 18 or over 35?		Yes / No		This should be auto calculated	
Is this the first pregancy and she is over 30?		Yes / No		This should be auto calculated	
Height below 150 cm?		Yes / No			
Does she have a small pelvis?		Yes / No			
If she aborted successi vely		Yes / No			
If she gave birth prematur ely		Yes / No			
If previousl y, she gave birth to a still born		Yes / No			
If previousl y, she		Yes / No			

gave birth to a child who died the same day					
If previously, she bled very much (≥ 500ml) soon after giving birth		Yes / No			
If she delivered through surgery (cesarean section)		Yes / No			
If there was a uterine rupture		Yes / No			
If previously, she had postconvulsive loss of consciousness		Yes / No			
If she had lost consciousness while pregnant or when she gave birth		Yes / No			

If she has given birth more than 5 times		Yes / No			
Past Medical History					
If she had a history of uetrine tumour		Yes / No			
If she suffers from diabetes		Yes / No			
If she was checked for a heart disease		Yes / No			
If she suffers from a kidney disease		Yes / No			
If she suffers from high blood pressure		Yes / No			
If she suffers from tuberculosis		Yes / No			
If she suffers		Yes / No			

from asthma					
If she was checked for HIV/AIDS		Yes / No			
Date of T1		Date			
Date of T2		Date			
Date of T3		Date			
Date of T4		Date			
Date of T5		Date			
Date of LMP		Date			
Expected date of delivery		Date		This should be calculated	
Weight (Kg)		Double			
Weight gained every month (<1 Kg >2 Kg)	(<1 Kg >2 Kg)	Coded?		This should be calculated	
Blood Pressure (systolic)		Int			
Blood Pressure (diastolic)		Int			

Blood Pressure (> 14/9 or < 9/6)	(> 14/9 or < 9/6)	Coded?		This should be calculated	
Swelling of Feet or Face		Yes / No			
Check up of Breasts		Yes / No			
Albumin uria		Yes / No			
Anemia (it was : Hb<110g /l)		Yes / No			
Tempera ture		Double			
RPR (Syphillis)	P/N	Coded?			
Months of pregnacy accoring to the last day of pregnan cy		Int		This should be calculated	
The length of the uterus (cm)		Double			
Gestatio n age and fundal height (yes/no)		Yes / No??		This should be calculated	

How the child is inside the womb (36 weeks)		??			
Heart beats of the child (< 120cg > 160)		Yes / No			
Medicine that increases blood (Iron + Folic Acid)	Given Not Given	Coded			
Sulfadoxin Pyrimethamine (SP) from 4 months	Given Not Given				
Mebendazole (from 4 months)	Given Not Given				
Impregated Mosquito Nets	Given Not Given				
If she had viginal bleeding		Yes / No			

Data structure for Subsequent ANC Visits Encounter (subset of First Visit)

Element	Description	Length/Type	Status(R=Required, O=Optional)	Behavior	Map To Existing Field or New
Weight (Kg)		Double			
Weight gained every month (<1 Kg >2 Kg)	(<1 Kg >2 Kg)	Coded?		This should be calculated	
Blood Pressure (systolic)		Int			
Blood Pressure (diastolic)		Int			
Blood Pressure (> 14/9 or < 9/6)	(> 14/9 or < 9/6)	Coded?		This should be calculated	
Swelling of Feet or Face		Yes / No			
Check up of Breasts		Yes / No			
Albuminuria		Yes / No			
Anemia (it was : Hb<110g/l)		Yes / No			
Temperature		Double			
RPR (Syphillis)	P/N	Coded?			
Months of pregnacy accoring to the last day of pregnancy		Int		This should be calculated	
The length of the uterus (cm)		Double			
Gestation age and		Yes / No??		This should be calculated	

fundal height (yes/no)					
How the child is inside the womb (36 weeks)		??			
Heart beats of the child (< 120cg > 160)		Yes / No			
Medicine that increases blood (Iron + Folic Acid)	Given Not Given	Coded			
Sulfadoxin Pyrimethamine (SP) from 4 months	Given Not Given				
Mebendazole (from 4 months)	Given Not Given				
Impregated Mosquito Nets	Given Not Given				
If she had viginal bleeding		Yes / No			

Data structure for Nine month ANC Visit Encounter (same as subsequent with added elements)

Element	Description	Length/Type	Status(R=Required, O=Optional)	Behavior	Map To Existing Field or New
Weight (Kg)		Double			
Weight gained every month (<1 Kg >2 Kg)	(<1 Kg >2 Kg)	Coded??		This should be calculated	

Blood Pressure (systolic)		Int			
Blood Pressure (diastolic)		Int			
Blood Pressure (> 14/9 or < 9/6)	(> 14/9 or < 9/6)	Coded?		This should be calculated	
Swelling of Feet or Face		Yes / No			
Check up of Breasts		Yes / No			
Albuminuria		Yes / No			
Anemia (it was : Hb<110g/l)		Yes / No			
Temperature		Double			
RPR (Syphillis)	P/N	Coded??			
Months of pregnacy accoring to the last day of pregnancy		Int		This should be calculated	
The length of the uterus (cm)		Double			
Gestation age and fundal height (yes/no)		Yes / No??		This should be calculated	
How the child is inside the womb (36 weeks)		??			
Heart beats of the child (<		Yes / No			

120cg > 160)					
Medicine that increases blood (Iron + Folic Acid)	Given Not Given	Coded			
Sulfadoxin Pyrimethamine (SP) from 4 months	Given Not Given				
Mebendazole (from 4 months)	Given Not Given				
Impregated Mosquito Nets	Given Not Given				
If she had viginal bleeding		Yes / No			
If the child is coming out with the buttocks first		Yes / No			
If the child is coming out with the shoulder first (transverse)		Yes / No			
If the mother a closed cervix		Yes / No			
GENERALLY THE MEDICAL OFFICER RECOMMENDED THAT THE					

MOTHER MUST:					
See a Doctor:		Yes / No			
Date to see doctor		Date			
Reason		String			
Give birth in:	Health Centre or Hospital	Coded			

Data for error response message

Element	Description	Length/Type	Status(R=Required, O=Optional)	Behavior	Map To Existing Field or New
Error Code	The code of the error that occurred				
Error Message	The more detailed error description				

References

- RHEAMessageFlowsDRAFTv0.4-sjg edits-RC-replies.doc
- Clinical Workflow with details DRAFTv2.0.docx