BioSense - Recruitment of Data Sources

Attachment 3

BioSense Enablement Preparation Workbook MDS

BioSense - Recruitment of Data Sources
BioSense Enablement Preparation Workbook MDS

Form Approved
OMB No. 0920-XXXX
Exp, Date xx/xx/20xx

Data Source	
BioSense Messaging Guide Version	1.05
Data Provisioning Database	ADB200802.01.00
Introduction	
Please answer all questions with as much detail as possible in the non-shaded areas.	
Please answer the questions in the electronic spreadsheet.	
Except for the Facilities tab, the answers are at the data source level. Please provide any exceptions at the facility level	
Except for the Transaction Volumes tab, the answers are for all patient classes (inpatient, outpatient, emergency). Please provide any exceptions based on patient class	
Feel free to add rows as necessary. Please do not add columns.	
Please do not delete rows. Fill in N/A where applicable.	
If you have any questions, please contact your BioSense representative.	
Fields	**Descriptions**
Available?	Is the item currently available for the BioSense project.
Tab	**Description**
Facilities	Information about the facilites, sites and/or clinics
Pre Questionnaire	Preliminary questions about the data source
Applications	Applications used by the data source
Messages of Interest	BioSense messages of interest
Elements of Interest	BioSense elements of interest
Elements of Interest - Questionnaire	BioSense elements of interest questions.
Contacts	Data Source and BioSense contacts
Transaction Volumes	Data Source transaction volumes
Ports	Data Source ports
Checklists	Checklists for requested information from the Data Source

Facilities

Integrator Organization (responsible for assigning the BioSense identifiers		Address Line 1	Address Line 2	City	State	Zip	Switchboard Phone#	Integrator Organization OID	Party ID	Test Integrator OID	Prod Integrator OID
Parent Organization (sends the data to BioSense on behalf of the organiza		**Address Line 1**	**Address Line 2**	**City**	**State**	**Zip**	**Switchboard Phone#**	**Business Parent OID**	**Party ID**		
Hospital Organization (Business 'parent')	**Hospital Facility**	**Address Line 1**	**Address Line 2**	**City**	**State**	**Zip**	**Switchboard Phone#**	**Facility OID**	**CLIA Number (for reporting Labs)**	**Data Source Facility ID (as seen in messages)**	**Comments**

BioSense Data Provisioning Pre Questionnaire

Data Category	Element Category	Q#	Question	Answer
Facility				
	General			
		1	Are there any constraints that might limit, impede or prohibit the project in any way? If so, please list and explain. Example: Development of census interface by data source can not begin until a PO has been signed. Example: Resource Contraints	
		2	Is there a formal software Change Control process? If so, please provide the appropriate details, such as timeline requirements, points of contact, etc.	
		3	Is there an average cost per full-time employee (FTE) for project costing purposes? For example, if the cost per FTE is $50 an hour. And the project maintenance requires 1 hour of 1 FTE per week. Then we know to budget approximately $200 per month for maintenance	
		4	Are there scheduled service interruptions? Daily/weekly/monthly	
		5	Does the organization contract out development?	
		6	Are some or all of the applications or integration services outsourced?	
		7	Will HIS send data for patients outside the organization? (e.g. Nursing home visits) If yes, how will they be identified?	
		8	Do all of the interfaced ancillary systems process merges? For example, if the ADT system sends a patient merge, can the Lab system process the merge or is this done manually?	
		9	Do patients get a different account number for each visit (episode of care)? If not, how can we determine distinct episodes of care in the HL7 messages. Example: Recurring outpatients	
		10	Who is the administrator (access control) for the BioSense information?	

BioSense Data Provisioning Pre Questionnaire

Data Category	Element Category	Q#	Question	Answer
		11	Will your HIS send outside patients? If yes, how are outside patients determined? For example, Pre-employment physicials, lab only patient from an external lab.	
		99	Additional Facility General Notes?	
Facility				
	Multiple			
		1	Is there an enterprise MRN utilized in all messages?	
		2	Do any facilities share assigning authorities for the MRN?	
		3	Do any facilities share assigning authorities for the Account numbers?	
		4	Are the in-house support resources the same for all facilities?	
		5	Are the codes (master files) for ADT, Lab, Rad, RX, etc the same across all facilities?	
		6	Are MRNs unique across facilities?	
		7	Are Account Numbers unique across facilities?	
		8	Are nursing units unique across facilities?	
		99	Additional Multiple Facility Notes?	
Interface				
	All			
		1	Are there any integration environment standards of which the BioSense Implementation Team needs to be aware?	
		2	Are there any special process and functions in your interface environment that might impact this project? For example: Timing of batch processing, special external scripts, FTP, etc. If so, please list them and provide a brief explanation	
		3	Does the organization have special facilities that need to be excluded (psych hospital etc)?	
		4	Do any of the interfaced applications typically imbed the patient identifiable information in any field outside of the PID segment? For example, in order/result free-text fields, placer/filler order numbers, etc.	

Data Category	Element Category	Q#	Question	Answer
		5	Do any field codes have “special” meanings? For example, “TBD” may mean “To Be Determined” or “9999” may mean “For Departmental Purposes Only” or "CD: xxxx" means a code has not been set up	
		6	What are the standard procedures for updating master files? When is it done? By whom? Is it done on a timely basis? How is the need for a change identified?	
		7	Is the set ID numbering scheme sequential starting at 1, incrementing by 1 or does it have a numbering scheme? For example, if OBR-1 is 99, it has a special meaning.	
		8	How does the organization want to exclude special patients (psych patients, HIV patients, celebrities, etc) for the BioSense project? If so, how are these special patients identified in messages?	
		9	Does the interface engine wait to accepts an acknowledgment before sending the next message?	
		10	Are timezones used in message timestamp fields? If so, are they based upon the hospital, e.g., the location of what triggered the message? Interface engine?	
		11	Are there any messages that should be filtered out from the production data stream for any reason (test messages, known errors, etc).	
		12	Does the ACK have any special requirements outside the HL7 standard? For example, the engine verifies that the MSH-10 (message control number) is sequential from the previous message.	
		13	Are ORC-2 and ORC-3 the same values/length between the HIS and Lab/RAD systems. For example, the HIS system has "12345" and the Lab system has "12345-0625". The Lab system value will have to be truncated to match the HIS system value.	
		14	Are OBX sent in ADT messages? If so, please define? Typcially these segments are dropped unless there is some clinical relevance. For example, some sites may actually send discharge diagnosis or other site-defined information in an OBX-segment.	

Data Category	Element Category	Q#	Question	Answer
		15	Do your interfaces allow the use of & (subcomponent separator) in fields that means 'and'. Note: If so, the data engine will need to fix this in their engine as the BioSense Integrator engine and the CDC processing would strip out the parts after the separator.	
		99	Additional Interfaces All Notes?	
Interface - ED/Clinical				
	All			
		1	Are the ED/Clinical applications the same across all facilities?	
		2	Are the ED/Clinical application versions the same across all facilities?	
		3	Are the ED/Clinical application interface specifications the same across all facilities?	
		4	If there isn't an outbound HL7 interface, is there a report generated out of the ED system? PDF, Textual HL7 messages, text files?	
		99	Additional ED/Clinical Notes?	
Interface - Foundational				
	Demographic Data			
		1	Are the ADT applications the same across all facilities?	
		2	Are the ADT application versions the same across all facilities?	
		3	Are the ADT application interface specifications the same across all facilities?	
		99	Additional Foundational Demographics Information?	
Interface - Foundational				
	Hospital Census/Utilization			
		1	Will the Census come in as a file or tcp/ip?	
		99	Additional Foundational Hospital Census/Utilization information?	

Data Category	Element Category	Q#	Question	Answer
Interface - Lab/Micro				
	Orders			
		1	Are the Lab Orders applications the same across all facilities/labs?	
		2	Are the Lab Orders application versions the same across all facilities/labs?	
		3	Are the Lab Orders application interface specifications the same across all facilities/labs?	
		99	Additional Lab/Micro Orders Notes?	
Interface - Lab/Micro				
	Results			
		1	Are the Lab Results applications the same across all facilities/labs?	
		2	Are the Lab Results application versions the same across all facilities/labs?	
		3	Are the Lab Results application interface specifications the same across all facilities/labs?	
		4	For Micro results, do the subtests (secondary Order groups) under the main test (first Order group) reflect the main group? Example: Test of urine culture. Result test of specimen description, gram stain, colony count, and organism.	
		5	If current lab results interface is not discrete/computable (but human readable), can we explore the possibility of obtaining the discrete interface as part of this project?	
		6	Are notes sent in NTE segment(s) or via OBX segments(s). If the latter, is the OBX sub-ID (OBX-4) utilized?	
		99	Additional Lab/Micro Results Notes?	
Interface - Pharmacy				
	Orders			
		1	Are the Pharmacy Orders applications the same across all facilities/pharmacies?	

BioSense Data Provisioning Pre Questionnaire

Data Category	Element Category	Q#	Question	Answer
		2	Are the Pharmacy Orders application version the same across all facilities/pharmacies?	
		3	Are the Pharmacy messages encoded orders (verified by the pharmacist)?	
		99	Additional Pharm Orders Notes?	
Interface - Radiology				
	Orders			
		1	Are the Radiology Orders applications the same across all facilities?	
		2	Are the Radiology Orders application versions the same across all facilities?	
		3	Are the Radiology Orders application interface specifications the same across all facilities?	
		98	Additional Radiology Orders Notes?	
Interface - Radiology				
	Results			
		1	Are the Radiology Results applications the same across all facilities?	
		2	Are the Radiology Results application versions the same across all facilities?	
		3	Are the Radiology Results application interface specifications the same across all facilities?	
		4	Are notes sent in NTE segment(s) or via OBX segments(s). If the latter, is the OBX sub-ID (OBX-4) utilized?	
		99	Additional Radiology Results Notes?	
Network				
	All			
		1	What kind of Network Infrastructure is in place?	
		2	Does the network have Always ON Internet connection? (Y/N) (“Always ON” Internet connection is required for PHIN MS)	

BioSense Data Provisioning Pre Questionnaire

Data Category	Element Category	Q#	Question	Answer
		3	What is the internet bandwidth? Minimum 56kbps required, but 384kbps or more is strongly recommended depending on the data transfer volume	
		4	What types of security measures are in place to protect data? 0 Authentication 0 Access control (Only authorized personnel have access to sensitive data) 0 Audit trails (Logs captured to identify attempts to access or modify records)	
		5	Will VPN access to BioSense servers be available? For example, VPN access may be available only during development.	
		6	Are there documented database or network security guidelines? If so, please describe.	
		7	Are there timeout constraints currently existing that might impede secure communications with the CDC across the Internet? For example, the firewall times out after 30 minutes of inactivity.	
		8	Do you have a proxy server? If so, what are the procedures for creating a connection?	
		9	Do you have a standard naming convention? If so what is it? For production and test? The default naming convention for BioSense servers: BIOSENSExxxxP and BIOSENSExxxxT, where "xxxx" is a sequential number. "P" and "T" are Production and Text boxes.	
		99	Additional Network Notes?	
PHIN				
	All			
		1	Does the organization have any familiarity with following PHIN Components? 0 PHIN-MS 0 Other, please specify	
		2	Who will apply for the Digital Certificate? What happens if they quit or change jobs? How will the Digital Certificate information be secured?	

BioSense Data Provisioning Pre Questionnaire

Data Category	Element Category	Q#	Question	Answer
		99	Additional PHIN Notes?	
Technical				
	Hardware			
		1	Does your environment have any special and/or standard hardware requirements or preferences? These would include hardware vendor preferences, restrictions, configurations, etc. Examples would include: Rack mount vs. Tower, Blade vs. other rack mount, IB	
		2	If Rack Mount configuration, what are the rack manufacture, dimensions and available space?	
		3	Are there any UPS slots available and/or would these servers be added to your existing UPS power support?	
		4	Does your environment have sufficient space in the data center (either rack space or floor space) for installing the BioSense hardware? If not, please explain requirements.	
		5	Are there deployment environment constraints that may impact the project. For example, the hardware certification process takes 14 days after it arrives on site.	
		6	Does your data center and/or server share monitors and keyboards across servers? Will this be the same approach to support the BioSense servers?	
		7	Is there a cost associated with the physical space for the server in your data center?	
		8	Does your network/hardware group need to apply all the patches for the servers once they get on site or are we able to do so before hand?”	
		99	Additional Technical Hardware Notes?	
Technical				
	Software			
		1	The standard BioSense Data Source Solution is built on a platform using the Windows Server 2003, Standard Edition. Can your environment support this O/S? If not, please explain for discussion purposes	

BioSense Data Provisioning Pre Questionnaire

Data Category	Element Category	Q#	Question	Answer
		2	The database component of the BioSense Data Source Solution (BioSense Linker) is built using SQL Server 2000 Standard Edition. Can your environment support this database? If not, please explain for discussion purposes.	
		3	Do you employ any network and/or environment management and/or monitoring utilities? If so, please identify them (Ex. Tivoli, auto backups, etc).	
		4	Does your environment have any experience with the Orion Rhapsody integration product?	
		5	What standard software does the organization load on all of its servers (e.g. backup agents, virus protection, etc)?	
		98	Additional Technical Software Notes?	

Applications

Data Category	Element Category (copy/paste rows as needed)	Vendor	Application	Application Version	Data Format (Ex HL7)	Data Format Version	Via Interface? (Y/N)	Interface Engine	Real Time? (Y/N)	Test Env? (Y/N)	Live? (Y/N)	Major Planned Upgrade? (Y/N)	CLIA (Lab Only)	Close to Sunset Date?	Comments (note any facilities that deviate from this)
Foundational															
	Demographic Data (Obscurred)														
Foundational															
	Clinical Data - Visit related														
Foundational															
	Clinical Data - CC														
Foundational															
	Clinical Data - Diagnosis														
Foundational															
	Hospital Census/Utilization														
Foundational															
	General														
ED/Clinical															
	ED/Clinical Data (Emergency Room Data)														
Lab/Micro															
	Lab/Micro Orders														
Lab/Micro															
	Lab/Micro Results														
Pharmacy															
	Medication Orders														
Radiology															
	Radiology Orders														
Radiology															
	Radiology Results														
Interface															
	Engine														

Applications

Data Category	Element Category (copy/paste rows as needed)	Vendor	Application	Application Version	Data Format (Ex HL7)	Data Format Version	Via Interface? (Y/N)	Interface Engine	Real Time? (Y/N)	Test Env? (Y/N)	Live? (Y/N)	Major Planned Upgrade? (Y/N)	CLIA (Lab Only)	Close to Sunset Date?	Comments (note any facilities that deviate from this)
	Are any of the applications that will be interfaced to BioSense close to or past their vendor sunset dates? Are any of the applications unsupported by their original vendors? If so, how are the applications supported. This includes the interface engine.														

Transaction Volumes

Data Category	Element Category (copy/paste rows as needed for different applications)	Venddor and Application	Inpatient? (Y/N)	Outpatient? (Y/N)	ED? (Y/N)	Transaction Volume	Frequency (for volume)	Comments (note any facilities that deviate from this)
Foundational								
	Demographic Data (Obscurred)							
Foundational								
	Clinical Data - Visit related							
Foundational								
	Clinical Data - CC							
Foundational								
	Clinical Data - Diagnosis							
Foundational								
	Hospital Census/Utilization							
Foundational								
	General							
ED/Clinical								
	ED/Clinical Data (Emergency Room Data)							
Lab/Micro								
	Lab/Micro Orders							
Lab/Micro								
	Lab/Micro Results							

Messages of Interest

Data Type	Element Type	HL7 Type^Trigger	Description	Data Source Type^Trigger	Data Source Captures? (Y/N)	Application (Y/N)	Real Time? (Y/N)	Interface Engine? (Y/N)	Comments
Foundational									
	Demographic Data								
		ADT^A01	Admit/Visit Notification						
		ADT^A02	Transfer a Patient						
		ADT^A03	Discharge/End Visit						
		ADT^A04	Register a Patient						
		ADT^A06	Change an Outpatient to an Inpatient						
		ADT^A07	Change an Inpatient to an Outpatient						
		ADT^A08	Update Patient Information						
		ADT^A11	Cancel Admit / Visit Notification						
		ADT^A12	Cancel Transfer						
		ADT^A13	Cancel Discharge / End Visit						
		ADT^A17	Swap Patients						
		ADT^A18	Merge Patient Information						
		ADT^A28	Add Person or Patient Information						
		ADT^A30	Merge Person Information						
		ADT^A34	Merge Patient Information - Patient ID Only						
		ADT^A35	Merge Patient Information - Account Number Only						
		ADT^A36	Merge Patient Information - Patient ID & Account Number						
		ADT^A39	Merge Person - Patient ID						
		ADT^A40	Merge Patient - Patient Identifier List						
		ADT^A41	Merge Account - Patient Account Number						
		ADT^A43	Move Patient Information - Patient Identifier List						
		ADT^A44	Move Account Information - Patient Account Number						
		ADT^A45	Move Visit Information - Visit Number						
		ADT^A46	Change Patient ID						
		ADT^A47	Change Patient Identifier List						
		ADT^A49	Change Patient Account Number						
		BAR^P01	Update Diagnosis/Procedure						
		BAR^P12	Update Diagnosis/Procedure						
Foundational									
	Hospital Census/Utilization								
		ORU^R01	Unsolicited Observation Message (Census only)						

Messages of Interest

Data Type	Element Type	HL7 Type^Trigger	Description	Data Source Type^Trigger	Data Source Captures? (Y/N)	Application (Y/N)	Real Time? (Y/N)	Interface Engine? (Y/N)	Comments
ED/Clinical									
	ED/Clinical Data								
		ADT^A08	Update Patient Information						
		ORU^R01	ED/Clinical Observation						
Lab/Micro									
	Lab/Micro Orders								
		OML^O21	Laboratory Order Message						
		OML^O33	Laboratory Order – Multiple Order Per Specimen Message						
		OML^O35	Laboratory Order – Multiple Order Per Container of Specimen Message						
		ORM^O01	General Order Message For Lab						
Lab/Micro									
	Lab/Micro Results								
		ORU^R01	Unsolicited Observation Message - Lab						
		ORU^R30	Unsolicited Point-Of-Care observation message without existing order						
		ORU^R31	Unsolicited new Point-Of-Care observation message						
		OUL^R22	Unsolicited Specimen Oriented Observation Message						
		OUL^R23	Unsolicited Specimen Container Oriented Observation Message						
		OUL^R24	Unsolicited Specimen Container Oriented Observation Message						

Messages of Interest

Data Type	Element Type	HL7 Type^Trigger	Description	Data Source Type^Trigger	Data Source Captures? (Y/N)	Application (Y/N)	Real Time? (Y/N)	Interface Engine? (Y/N)	Comments
Pharmacy									
	Medication Orders								
		OMP^O09	Pharmacy/treatment Order Message						
		ORM^R01	General Order Message For Medication Orders						
		RDE^O01	Pharmacy/Treatment Encoded Order Message						
		RDE^O11	Pharmacy/Treatment Encoded Order Message						
		RDS^O01	Pharmacy/treatment Dispense Message						
		RDS^O13	Pharmacy/treatment Dispense Message						
Radiology									
	Radiology Orders								
		OMI^O23	Imaging Order Message						
		ORM^O01	General Order Message For Rad						
Radiology									
	Radiology Results								
		MDM^T02	Original Document Notification and Content						
		MDM^T04	Document Status Change Notification and Content						
		MDM^T06	Document Addendum Notification and Content						
		MDM^T08	Document Edit Notification and Content						
		MDM^T10	Document Replacement Notification and Content						
		ORU^R01	Unsolicited Observation Message - Rad						

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
Foundational									
	Demographic Data								
		BioSense Patient ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to a patient's medical record within the healthcare facility.	PID-3					
		BioSense Visit ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to the corresponding visit record or records within the facility.	PID-18					
		Date of Birth	Patient's year and month of birth (day is not included for privacy purposes)	PID-7					
		Reported Age	Patient's age as reported in an application at the source.	OBX-5					
		Calculated Age	Patient's age calculated against admit date/time Age = PV1-44 Admit date/time minus PID-7 Date of Birth. Only calculated if both fields are present in the ADT message. Cannot occur on Merge messages since they do not carry the OBX segment. Age greater than or equal to 1 year, units = Years. Age less than 1 year and greater than or equal to 1 month, units = Months. Age less than 1 month, units = Days.	OBX-5					
		Sex	Patient sex	PID-8					
		Zip code	Patient residence 5-digit zip code	PID-11.5					
		State	Patient residence – state	PID-11.4					
		County	Patient residence – county	PID-11.9					
		Country	Patient residence -– country	PID-11.6					
		Ethnic group	Patient ethnic group (Hispanic or not)	PID-22					
		Race	Patient Race (Multiple patient race codes may be specified)	PID-10					
		Occupation	Patient occupation, if collected. It may be available with the financial information collected for the insured patient.	OBX-5					
		Industry	Industry in which patient works, if collected.	OBX-5					
		Patient Death Indicator	Patient death indicator (Y/N)	PID-30					
		Deceased Date	Patient death date/time, if patient has died	PID-29					
		Last Update Date/Time	Last time demographic data was updated by the source	PID-33					

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
		Employment Illness-Related Indicator	This field may be used by the source to indicate that is an employment-related encounter. If this field is populated, pass it forward in the outgoing message.	PV2-15					
		Identity Unknown Indicator	If this field is populated, it should be passed forward in the outgoing message.	PID-31					
		Admit date/time	Admission or register date/time.	PV1-44					
		Discharge date/time	Discharge/sign-out date/time.	PV1-45					
		Chief Complaint	Patient-reported reason for visit when patient is an Emergency patient. It may have been entered as text or may make use of drop-down lists to enter canned text.	PV2-3					
		Admission Reason	Physician's reason for admission when patient is an Inpatient. It may have been entered as text or may make use of drop-down lists to enter canned text.	PV2-3					
		Reason for Visit	Reason for outpatient visit when patient is an Outpatient. It may have been entered as text or may make use of drop-down lists to enter canned text.	PV2-3					
		Discharge Diagnosis	Diagnosis or diagnoses entered by a medical records coder based on the physician's reported diagnosis. These diagnoses may exist in financial or medical records transactions at the source but they are passed in DG1 segments to CDC. If the date and time each diagnosis was assigned is available, that is also passed. If there are multiple Discharge diagnoses passed, there may be an indication from the source of how they were prioritized, most typically as "Primary" and "Secondary", which is the Diagnosis Priority element.	DG1-3					
		Discharge Diagnosis Date/Time	Time the Discharge diagnosis was identified	DG1-5					
		Discharge Diagnosis priority	Discharge Diagnosis priority	DG1-15					
		Discharge Diagnosis type	Discharge Diagnosis type	DG1-6					

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
		Working Diagnosis	Clinical impressions assigned as a result of the encounter. The working diagnosis is the top contender among a list of diagnostic hypotheses. Often, therapy may be prescribed based on the working diagnosis.; working diagnosis may be revised after additional information is obtained. The term "diagnosis" suggests a greater degree of precision and certainty than a clinical impression, which refers to a preliminary or working diagnosis. That being said, if information of this nature is available in the source system (and outside of the ED clinical data elements that use the LOINC codes), it is passed in the DG1 segment and marked as the “working” diagnosis type. These working diagnoses may not be available to pass with the foundational clinical elements, but if they are, the DG1 segment is where they are passed, with a Diagnosis Type of “Working”. If the date and time the diagnosis was assigned are available, that is also passed. If multiple working diagnoses are passed, there may be an indication from the source of how the clinician prioritized them, which is the Diagnosis Priority element.	DG1-3					
		Working Diagnosis Date/Time	Time the Working diagnosis was identified	DG1-5					
		Working Diagnosis priority	Working Diagnosis priority	DG1-15					
		Working Diagnosis type	Working Diagnosis type	DG1-6					
		Admitting Diagnosis	Admitting diagnosis provides more clarity than the Admit Reason field passed in PV2-3. If the site had admitting diagnoses available to pass with the foundational clinical elements, they are passed in DG1 segments, with a Diagnosis Type of "Admitting. If the date and time the diagnosis was assigned is available, that is also passed.	DG1-3					
		Admitting Diagnosis Date/Time	Time the Admitting diagnosis was identified	DG1-5					
		Admitting Diagnosis priority	Admitting Diagnosis priority	DG1-15					
		Admitting Diagnosis type	Admitting Diagnosis type	DG1-6					
		Diagnosis At Time Of Discharge	Diagnosis At Time Of Discharge	DG1-3					

BioSense Data Provisioning Elements of Interest

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
		Diagnosis At Time Of Discharge Date/Time	Time the Diagnosis At Time Of Discharge was identified	DG1-5					
		Diagnosis At Time Of Discharge priority	Diagnosis At Time Of Discharge priority	DG1-15					
		Diagnosis At Time Of Discharge type	Diagnosis At Time Of Discharge type	DG1-6					
		Discharge Disposition	Discharge Disposition –patient's anticipated location or status following the visit (admitted, sent home, etc.).	PV1-36					
		Medical Specialty/Hospital Service	Medical Service under which patient is being treated – may be available only for inpatients.	PV1-10					
		Patient Class	General type of patient, e.g., Inpatient, Outpatient, Emergency, Recurring, Obstetrics, Preadmit, Commercial Account. This field may have to be extrapolated from other fields available at the source, such as PV1-18 Patient Type.	PV1-2					
		Admission Type	Circumstances of admission: Accident, Emergency, Elective, L&D, Newborn, Routine, Urgent (may only be collected on Admitted patient).	PV1-4					
		Admission Source	Where the admission originated (ER, Physician, Clinic, HMO, Court, Transfer from SNF, etc.).	PV1-14					
		Point of Care	Local designation of patient location.	PV1-3					
		Date into Point of Care/location	Date the patient was put into this location.	EVN-2					
		Admission Level of Care Code	Admission Level of Care may be populated to indicate the level of resources required to care for the patient, e.g., Acute, Chronic, Critical.	PV2-40					

BioSense Data Provisioning Elements of Interest

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
Foundational									
	Hospital Census/Utilization								
		Main facility identifier and name	Name and identifier of the parent facility that is a source for one or more data feeds by location. Either the Main facility identifier or the Satellite facility identifier will be present in MSH-4, but not both.	BHS-4					
		Satellite facility identifier and name	One of any number of clinics or locations creating a data feed at a parent facility. Either the Main facility identifier or the Satellite facility identifier will be present in MSH-4, but not both.	MSH-4					
		Name of Report	One report will be used to carry the daily census by unit and the facility summary census data.	OBR-4					
		Date/time of report	Date/time of report	OBR-7					
		Admissions	Count of overall facility Admissions during the last 24 hours.	OBX-5					
		Discharges	Count of overall facility Discharges during the last 24 hours.	OBX-5					
		Deaths	Count of overall facility Deaths during the last 24 hours.	OBX-5					
		Occupancy	Overall facility occupancy rate if captured on the census report - calculated for the entire facility by dividing the occupied staffed beds by the total staffed beds. Staffed beds are defined as Adult and Pediatric inpatient beds that are licensed and physically available for which staff is on hand to attend to the patient who occupies the bed. Staffed beds include those occupied and those that are vacant	OBX-5					
		Unit	Unit Name	OBX-5					
		Number of patients	Current number of patients who are occupying a staffed bed for a particular unit.	OBX-5					
		Number of beds available	Number of staffed beds for a particular nursing unit that are not occupied and available for use. Staffed beds are defined as Adult and Pediatric inpatient beds that are licensed and physically available for which staff is on hand to attend to the patient who occupies the bed. Staffed beds include those occupied and those that are vacant.	OBX-5					

BioSense Data Provisioning Elements of Interest

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
ED/Clinical									
	ED/Clinical Data								
		BioSense Patient ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to a patient's medical record within the healthcare facility.	PID-3					
		BioSense Visit ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to the corresponding visit record or records within the facility.	PID-18					
		Date and time of illness onset	Date and time of illness onset -Intended for ED, can be for other patients as well, if this data is available.	OBX-5					
		ED Problem List	ED Problem List, Differential Diagnosis (the method of consideration of all potential causes of the patient's condition), Signs and Symptoms	OBX-5					
		ED Diagnosis impression	Discharge Diagnosis/Diagnoses made by the Physician	OBX-5					
		ED Chief Complaint-Patient Reported	Chief Complaint Observation pulled from the ED system	OBX-5					
		Patient Instructions	References post-care instructions given to the patient, such as "suture care" or "head injury" discharge instructions, if separate from the physician notes.	OBX-5					
		Physician Notes	Encounter notes written by the ED physician to document the visit.	OBX-5					
		Temperature-Date/time of Temperature	ED temperature measurement, including the reference to Celsius or Fahrenheit, and time it was performed.	OBX-5					
		Blood Pressure-BP Date/Time	Systolic/Diastolic blood pressure measurement and the time it was performed	OBX-5					
		Current therapeutic medications	Current therapeutic medications passed as a text string observation. OBR-4 18698-1^ED CLINICAL FINDING INFORMATION COMPLX ^2.16.840.1.113883.6.1 OBX-2 Value = TX OBX-3 Observation Identifier = 10160-0^ HISTORY OF MEDICATION USE^2.16.840.1.113883.6.1 OBX-5= Current Therapeutic Medications Text OBX-11 = "F"	OBX-5					

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
		Extended Triage Notes	Provider notes documented in the process of sorting the patient based on need for or likely benefit from immediate medical treatment. OBR-4 18698-1^ED CLINICAL FINDING INFORMATION COMPLX PT^2.16.840.1.113883.6.1 OBX-2 Value = TX OBX-3 Observation Identifier = 34120-6^INITIAL EVALUATION NOTE^2.16.840.1.113883.6.1 OBX-5= Extended Triage Notes OBX-11 = “F”	OBX-5					
		ED Acuity	Indicates how quickly care is required, as in “Time to evaluation or treatment not critical”, “Request Prompt Evaluation or Treatment ”, “Request Immediate Evaluation or Treatment”. OBR-4 18698-1^ED CLINICAL FINDING INFORMATION COMPLX PT^2.16.840.1.113883.6.1 OBX-2 Value = CE OBX-3 Observation Identifier = 11283-9^ ACUITY ASSESSMENT^ 2.16.840.1.113883.6.1 OBX-5= ^^^LocalAcuityCode^LocalDescription^LocalCoding System OBX-11 = “F”	OBX-5					
		Procedures performed	Any test or procedure codes entered as a result of the encounter	OBR-44 or OBR-31					
Lab/Micro									

BioSense Data Provisioning Elements of Interest

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
	Lab/Micro Orders								
		BioSense Patient ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to a patient's medical record within the healthcare facility.	PID-3					
		BioSense Visit ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to the corresponding visit record or records within the facility.	PID-18					
		Order Number	Tracking number created when the order is placed	OBR-2					
		Test Code/Name	Test code /test description	OBR-4					
		Relevant Clinical Information	Relevant Clinical Information	OBR-13					
		Reason for Test	Reasons for testing sent with order information. This field can repeat.	OBR-31					
		Specimen Type	Specimen type or source, if entered at the time of order entry.	OBR-15.1					
		Order Date/time	Date/time service was ordered in the system	OBR-6					
		Begin Date/time	Date/time service is requested to occur	ORC-15					
Lab/Micro									

BioSense Data Provisioning Elements of Interest

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
	Lab/Micro Results								
		BioSense Patient ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to a patient's medical record within the healthcare facility.	PID-3					
		BioSense Visit ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to the corresponding visit record or records within the facility.	PID-18					
		Reporting laboratory	Reporting laboratory identifier and name	MSH-3					
		Diagnostic Service Section ID	Identifies the department that performed the service.	OBR-24					
		Performing laboratory	Performing laboratory id and name (may be different for referral lab testing)	OBX-15					
		Result Status	Status of the report (preliminary, final, corrected). This field is required in a result message, and is typically used where the level of detail does not need to be at the individual observation level (OBX-11). This element was added to support the Radi	OBR-25					
		Report date/time	Report Date – applies to entire message as a report, not to individual results	OBR-22					
		Collection date	Sample collection date	OBR-7					
		Collection method	Specimen collection method, e.g. (swab, bronchoscopy, phlebotomy), if present in the result message	OBR-15.3					
		Specimen site	Specimen source site (body site where specimen collected)	OBR-15.4					
		Specimen type	Specimen (what is collected?)	OBR-15.1					
		Point of Care	Location of patient when specimen was drawn, if available	PV1-3					
		Accession date	Accession date (date received by lab)	OBR-14					
		Accession ID	Accession number assigned by laboratory	SPM-2.2					
		Filler Order Number	Tracking number assigned by laboratory	OBR-3					
		Sequence number	Reported sequence of result. (Micro) sequence of organism from isolate	OBX-1					
		Ordered Test Code/Name	Ordered test code/description; includes susceptibility panel at this level	OBR-4					
		Resulted Test Code/Name	Test code/description as known by the laboratory; identifies individual drugs tested at this level	OBX-3					
		Organism identified	Organism code/description when result is an organism	OBX-5					
		Method type	Methodology of test	OBX-17					

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
		Result other than organism	Result depends on type of test being done – may be numeric results or coded entry	OBX-5					
		Result unit	Units of result (this is needed for numeric results)	OBX-6					
		Test interpretation	Lab interpretation (non-micro) – “Abnormal”, “High.”	OBX-8					
		Susceptibility test interpretation	Lab interpretation (micro) – “Sensitive”, “Resistant”, “Indeterminate.”	OBX-8					
		Test status	Status of susceptibility testing (individual test status such as prelim, final, corrected)	OBX-11					
		Result notes	Notes and comments that the laboratory sends to clarify results	NTE-3					
		References Range	Normal range values for numeric testing.	OBX-7					
Pharmacy									

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
	Medication Orders								
		BioSense Patient ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to a patient's medical record within the healthcare facility.	PID-3					
		BioSense Visit ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to the corresponding visit record or records within the facility.	PID-18					
		Order Number	Tracking number created when the order is placed	ORC-2					
		Order Date/time	Date/time medications were ordered	ORC-9					
		Begin date/time	Date/time medications should start being administered	ORC-15					
		Drug code/name	Name and code representation of drug ordered	RXO-1					
		Drug Strength – Requested Give Strength	Ordered drug strength (may be part of drug name in some formularies) – this field is required when RXO-1 Requested Give Code does not specify the strength. The numeric part of the strength is RXO-18 and the units are RXO-19. (may also need RXO-25 and Requested Drug Strength Volume and RXO-26 Requested Drug Strength Volume Units when a drug strength is expressed as a concentration)	RXO-18					
		Drug Strength – Requested Give Units	Ordered drug strength (may be part of drug name in some formularies) – this field is required when RXO-1 Requested Give Code does not specify the strength. The numeric part of the strength is RXO-18 and the units are RXO-19.	RXO-19					
		Drug Strength - Requested Volume	Requested Drug Strength Volume	RXO-25					
		Drug Strength - Requested Volume Units	Requested Drug Strength Volume Units when a drug strength is expressed as a concentration.	RXO-26					
		Dosage - Requested Give Amount Minimum for variable dose order	The ordered amount of the drug (min for variable dose)	RXO-2					
		Dosage - Requested Give Amount Maximum for variable dose order	The ordered amount of the drug (max for variable dose)	RXO-3					

BioSense Data Provisioning Elements of Interest

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
		Dosage - Requested Give Units	The ordered amount of the drug - units	RXO-4					
		Form	Form in which the drug is to be dispensed, as in Tablet, Capsule, Spray, IV preparation	RXO-5					
		Frequency	How many times per day the drug should be administered/taken	ORC-7.2.1					
		Duration	How long the prescription lasts-may have a “number to dispense” or a “stop date” or a duration, depending on the system	RXO-11					
		Pharmacy Order Type	If this optional field is populated, it may be used to filter medication orders from other types of Pharmacy orders, such as IV preparations. A default value of "M" is assumed.	RXO-27					
		Total Daily Dose	This field contains the total daily dose for this particular pharmaceutical as expressed in terms of actual dispense units, e.g., Cipro 1000 mg/day. Other data elements have broken it up into dose per frequency.	RXO-23					
		Route	Ordered route of administration, e.g., P.O, intranasal, IV	RXR-1					
Radiology									

BioSense Data Provisioning Elements of Interest

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
	Radiology Orders								
		BioSense Patient ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to a patient's medical record within the healthcare facility.	PID-3					
		BioSense Visit ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to the corresponding visit record or records within the facility.	PID-18					
		Order Number	Tracking number created when the order is placed	OBR-2					
		Test Code/Name	Test code /test description	OBR-4					
		Relevant Clinical Information	Relevant Clinical Information	OBR-13					
		Reason for Test	Reasons for testing sent with order information. This field can repeat.	OBR-31					
		Order Date/time	Date/time service was ordered in the system	OBR-6					
		Begin Date/time	Date/time service is requested to occur	ORC-15					
Radiology									

BioSense Data Provisioning Elements of Interest

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
	Radiology Results								
		BioSense Patient ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to a patient's medical record within the healthcare facility.	PID-3					
		BioSense Visit ID	Unique identifier created by the BioSense integrator application to allow the healthcare facility to track non-identified BioSense data back to the corresponding visit record or records within the facility.	PID-18					
		Report date/time	Report/Reading Date	OBR-22					
		Result Status	Status of the report (preliminary, final, corrected). This field is required in a result message, and is typically used where the level of detail does not need to be at the individual observation level (OBX-11). This element was added to support the Radiology and the Laboratory reports.	OBR-25					
		Diagnostic Service Section ID	Identifies the type of department that is performing the service. If this element is populated, it could be used to group types of tests, e.g., "Radiology", "Nuclear Medicine", "CT"	OBR-24					
		Procedure date	Date the exam was performed	OBR-7					
		Radiology Number	Tracking number assigned by radiology	OBR-3					
		Test Performed	Performed test code/description	OBR-4					
		Site/testing description	Radiologist's description of test performed and body site (possibly with code suffix "ANT")	OBX-5					
		Impressions	Radiologist's diagnosis and impressions. OBX-2=TX OBX-3 19005-8^ X-RAY IMPRESSION^LN OBX-5=Impressions text (the entire report may use this LOINC if unable to break it down more discretely)	OBX-5					
		Recommendations	Radiologist's recommendations. OBX-2=TX OBX-3 18783-1^ RADIOLOGY STUDY RECOMMENDATION^LN OBX-5=Recommendations text (if able to break it down discretely)	OBX-5					
		Procedures	Procedure codes passed with the result, if available	OBR-44					
Foundational									

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
	Additional Elements Needed for Communications and Processing								
		Field Separator	The character to be used as the field separator for the rest of the message. The supported value is |, ASCII (124). (Required for Messaging)	MSH-1					
		Encoding Characters	The four characters that always appear in the same order in this field are: |^~\&| (Required for Messaging)	MSH-2					
		Sending Facility	This field uniquely identifies the facility that created the source message.	MSH-4					
		Receiving Application	This field contains the OID for BioSense for all messages.	MSH-5					
		Receiving Facility	This field contains the OID for CDC PHIN for all messages.	MSH-6					
		Date/Time Of Message	This field contains the date/time the message was created by the sending system. (Required for Messaging)	MSH-7					
		Message Type	This field contains the message type, trigger event, and the message structure ID for the message. (Required for Messaging)	MSH-9					
		Message Control ID	This field contains a source identifier plus timestamp plus counter that uniquely identifies the message instance from the sending application. (Required for Messaging)	MSH-10					
		Processing ID	This field is used to indicate the intent for processing the message (Required for Messaging)	MSH-11					
		Version ID	This field contains the HL7 version number. (Required for Messaging)	MSH-12					
		Message Conformance ID	Version of the PHIN Messaging Guide to which the message conforms.	MSH-21					
		Event Type Code	This field should carry the same code as MSH-9 component 2, event type. (Required for ADT messages)	EVN-1					
		Recorded Date/Time	Generally this is the time the transaction was created from the original ADT message. (Required for ADT messages)	EVN-2					
		Set ID - PID	|1| (only one patient/one PID segment per message is supported)	PID-1					
		Patient Name	This is a required field for the PID segment. The field will contain “” for de-identification purposes. (Required field)	PID-5					
		County Code	This field will be used to pass the original County code, if there is a discrepancy created by normalization of the county codes at the source.	PID-12					

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
		Set ID - PV1	Only one PV1 segment will occur per message. This field will contain the value “1.”	PV1-1					
		Servicing Facility	May be used to carry the OID for the physical facility of care .	PV1-39					
		Clinic Organization Name	This field may contain information used to identify the particular organization or clinic where the data was collected.	PV2-23					
		Set ID – DG1	This field contains a digit that identifies the instance of the segment. For the first occurrence of the segment the sequence number is |1|, for the second occurrence it is |2| , etc.	DG1-1					
		Set ID - PR1	This field contains the sequence number for this transaction.	PR1-1					
		Observation Sub-ID	This field is used to distinguish between multiple OBX segments with the same observation ID organized under one OBR. Thus, the Sub-ID allows related OBX segments to be linked.	OBX-4					
		Order Control Code	Code used by HL7 Order messages to determine the function of the order segment. This field may be considered the "trigger event" identifier for orders. It is a required field when the ORC is used.	ORC-1					
		Placer Order Number	The placer order number field may contain a unique identifier that was created by the ordering application. (populated in Order messages)	ORC-2					
		Filler Order Number	The filler order number field contains a unique identifier created by the fulfiller of the order. (populated in Result messages)	ORC-3					
		Date/Time of Transaction	Time when service was requested in the system. (populated in Order messages)	ORC-9					
		Set ID-OBR	Sequence number of OBR instances (populated in Result messages)	OBR-1					
		Observation End Date/Time	This field may contain a stop time for the observation.	OBR-8					
		Parent	Used to link reflex tests back to a parent order. This field links susceptibility panel orders back to the parent culture order.	OBR-29					
		Parent Result	Field used to link reflex tests back to result previously reported. It ties a susceptibility panel back to the organism for which it was run.	OBR-26					
		Set ID - NTE	Sequence number used to maintain order of comments (microbiology results)	NTE-1					
		Set ID – SPM	Segment sequence number (microbiology results)	SPM-1					

BioSense Data Provisioning Elements of Interest

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
		Specimen Type - SPM	The specimen type remains in the OBR-15 legacy location. If the SPM segment is used to convey the accession number, this required field will contain “”. OBR-15 is the only place that a specimen type is sent	SPM-4					
		Provider's Pharmacy/Treatment Instructions	The conditional note on RXO-1 indicates if there is a free text order (i.e., the drug is not coded), then RXO-6 may contain a description of the ordered drug. It is preferable to receive the drug code and description in RXO-1. (RXO-6 included only for free-text drug orders)	RXO-6					
		Prior Patient Identifier List	This field will contain the BioSense identifier only. This field is used only when there has been a merge transaction at the source which requires the BioSense Patient or Visit ID to change	MRG-1					
		Prior Patient Account Number	This field will contain a BioSense Visit ID and is used only when there has been a merge transaction at the source which requires the BioSense Visit ID to change	MRG-3					
MDS Elements that are not BioSense Elements									
ED/Clinical	ED/Clinical Data	Pulse Oximetry	Record pulse oximetry value during triage. Passed as observation tagged with LOINC code: ‘19960-4^PULSE OXIMETRY^LN’ including timestamp for when it was done						
ED/Clinical	ED/Clinical Data	Provider Identifier	Unique facility-specific provider identifier Proposed definition: “Unique provider (clinician) identifier. This data element is assumed to meet local biosurveillance needs.” Need clarification from AHIC regarding provider role(s): (e.g., attending, primary).						
Lab	Orders	Provider Identifier	Unique facility-specific provider identifier Proposed definition: “Unique provider (clinician) identifier. This data element is assumed to meet local biosurveillance needs.” Need clarification from AHIC regarding provider role(s): (e.g., attending, primary).						
Lab	Results	Ordering Provider Identifier	Provider of record for the test result that is being reported.						
Foundational	Hospital Census/Utilization	Facility Name	Name of facility “Organization Name” in HAVE document						
Foundational	Hospital Census/Utilization	Facility Location	City and State [May use FIPS county codes] “Organization Location” in HAVE document City and State are Coded data type.						
Foundational	Hospital Census/Utilization	Number of Facility Beds	All facility beds regardless of licensing status.						
Foundational	Hospital Census/Utilization	Number of Licensed Beds	All facility beds considered licensed in that jurisdiction.						

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
Foundational	Hospital Census/Utilization	Clinical Status	Facility's clinical resources are operating: Normal: Within normal limits Level-1: At Level-1 surge conditions. Level-2: At Level-2 surge conditions. Full: Exceeded; acceptable care cannot be provided to additional patients. Diversion or community surge response is required. Passed as observation with OASIS/HAVE XML tag: 'ClinicalStatus' Associated comment may also be passed.						
Foundational	Hospital Census/Utilization	Facility Status	Facility resources are operating under: Normal - No conditions exist that adversely affect the general operations of the facility. Compromised - General operations of the facility have been affected due to damage, operating on emergency backup systems, or facility contamination. Evacuating - Indicates that a hospital is in the process of a partial or full evacuation. Closed – Closure; facility no longer capable of providing services and only emergency services/restoration personnel may remain in the facility. Passed as observation with OASIS/HAVE XML tag: 'HospitalFacilityStatus' Associated comment may also be passed.						
Foundational	Hospital Census/Utilization	Facility Operations	Status of supplies necessary for facility operations. Adequate - Meets the current needs. Insufficient – Current needs are not being met. Passed as observation with OASIS/HAVE XML tag: 'FacilityOperations' Associated comment may also be passed.						
Foundational	Hospital Census/Utilization	Staffing	Available personnel to support facility operations. Adequate - Meets the current needs. Insufficient – Current needs are not being met Passed as observation with OASIS/HAVE XML tag:'Staffing' Associated comment may also be passed.						
Foundational	Hospital Census/Utilization	Decontamination Capacity	Capacity for chemical/biological/ radiological patient decontamination. Inactive - Not being used, but available if needed Open - In use and able to accept additional patients Full - In use at maximum capacity Exceeded - Needs exceed available capacity Passed as observation with OASIS/HAVE XML tag: 'DeconCapacity' Associated comment may also be passed.						

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
Foundational	Hospital Census/Utilization	EMS Traffic Status	Facility capable of: Normal - Accepting all EMS traffic Advisory - Experiencing specific resource limitations which may affect transport of some EMS traffic. Closed - Requesting re-route of EMS traffic to other facilities. Not Applicable - Not Applicable. This hospital does not have an emergency department. Passed as observation with OASIS/HAVE XML tag: 'EMSTrafficStatus' Associated comment may also be passed.						
Foundational	Hospital Census/Utilization	EMS Capacity	The number of each triage patient type the hospital can accept. triageRed (numeric) triageYellow (numeric) triageGreen (numeric) triageBlack (numeric) commentText (string) Passed as observation with OASIS/HAVE XML tags: 'CapacityTriageRed' 'CapacityTriageYellow' 'CapacityTriageGreen' 'CapacityTriageBlack' Associated comment may also be passed.						
Foundational	Hospital Census/Utilization	EMS Census	The number of each triage patient type the overall hospital currently has. triageRed (numeric) triageYellow (numeric) triageGreen (numeric) triageBlack (numeric) commentText (string) Passed as observation with OASIS/HAVE XML tags: 'CensusTriageRed' 'CensusTriageYellow' 'CensusTriageGreen' 'CensusTriageBlack' Associated comment may also be passed.						
Foundational	Hospital Census/Utilization	Adult ICU	Capacity Status for adult ICU beds. [These can support critically ill or injured patients, including ventilator support. This category includes all major subtypes of ICU beds, including neuro, cardiac, trauma, or medical, with the exception that this category does not include burn ICU beds.]						
Foundational	Hospital Census/Utilization	Medical Surgical	Capacity Status for adult medical-surgical beds. [These are also thought of as ward beds. These beds may or may not include cardiac telemetry capability.]						
Foundational	Hospital Census/Utilization	Burn	Capacity Status for burn beds. [These are thought of as Burn ICU beds, either approved by the American Burn Association or self-designated. These beds are NOT to be included in other ICU bed counts.]						

BioSense Data Provisioning Elements of Interest

Data Category	Element Category	Data Element	Description	BioSense HL7 Context	Data Source HL7 Context	DS Message Type(s)	Available?	Application	Comments
Foundational	Hospital Census/Utilization	Pediatric ICU	Capacity Status for pediatric ICU beds. [Similar to adult ICU beds, but for patients 17-years-old and younger.]						
Foundational	Hospital Census/Utilization	Pediatrics	Capacity Status for pediatrics beds. [These are ward medical/surgical beds for patients 17-years-old and younger.]						
Foundational	Hospital Census/Utilization	Negative Flow Isolation	Capacity status for negative airflow isolation beds. [These provide respiratory isolation. NOTE: This value may represent available beds included in the counts of other types.]						
Foundational	Hospital Census/Utilization	Available Ventilators	Functional ventilators not in current use.						

BioSense Data Provisioning EOI-Questionnaire

Data Category	Element Category	Data Element	HL7 Context	Q#	Question	Answer
Foundational						
	Demographic Data					
		BioSense Patient ID	PID-3	1	Where is the best place (in messages) to find the MRN for this patient's visit? PID-2, PID-3? If using PID-3, will there be multiple repetitions? If so, what is the type (component 5) and assigning authority (component 4) we should use? Any other assumptions?	
		BioSense Patient ID	PID-3	2	Are your MRN and Account numbers numeric or alpha-numeric?	
		BioSense Patient ID	PID-3	3	Do any facilities share assigning authorities for either MRN or Account numbers?	
		BioSense Patient ID	PID-3	4	If the assigning authority is not in PID-3.4, can we use MSH-4.	
		BioSense Patient ID	PID-3	5	Will your HIS send outside patients? If yes, what will the patient number that is sent look like? Please give an example.	
		BioSense Patient ID	PID-3	6	Are there special Patient IDs or ID ranges that required special processing? For example, all MRNs staring with 5 are test patients and will not go to BioSense.	
		BioSense Patient ID	PID-3	7	Is the MRN normalized? For example, do the leading zeros need to be removed or the number formated?	
		BioSense Patient ID	PID-3	8	Are MRNs ever used to represent non-patients (e.g. guarantors, bone marrow donors, lab animals)?	
		BioSense Visit ID	PID-18	1	Is the Account # normalized? For example, do the leading zeros need to be removed or the number formated?	
		BioSense Visit ID	PID-18	2	Does HIS ever inactivate or close an account number or episode? For example, the account is opened in error, will HIS inactivate the account? If yes, will this be sent across the interface? If yes, what trigger event will be sent?	
		BioSense Visit ID	PID-18	3	If the assigning authority is not in PID-18.4, can we use MSH-4.	

Data Category	Element Category	Data Element	HL7 Context	Q#	Question	Answer
		BioSense Visit ID	PID-18	4	Do patients get a different account number for each visit (episode of care)? The Linker is designed for account numbers on the visit level and not the patient level.	
		BioSense Visit ID	PID-18	5	Are there any fluctuations in visits or transactions we should know about, e.g., due to free screenings, discharging series patients.	
		Address	PID-11	1	Will there be multiple repetitions? Should we use the 1st repetition? If not, what is the type we should use?	
		Zip code	PID-11.5	1	Are there multiple repeitions of the patient's address? If so, can we use the 1st address in the list? If not, what is the logic to choose the address?	
		State	PID-11.4	1	Is country or state or province stored in the same field? If so, how are they distinguished?	
		County	PID-11.9	1	Is county code derived from the Zip code?	
		Patient Death Indicator	PID-30	1	Is the absense of any values in PID-30 is an indication of non-deaths or the field is not being used?	
		Patient Death Indicator	PID-30	2	Does this field correlate with the values for expired found in PV1-36 (Discharge Disposition)?	
		Deceased Date	PID-29	1	Is this field populated when PID-30 (patient death indicator) = Y and/or when the PV1-36 (Discharge Disposition) is a value for expired?	
		Discharge date/time	PV1-45	1	Does your system batch generate discharges?	
		Discharge date/time	PV1-45	2	Are discharges auto-generated?	
		Chief Complaint	PV2-3	1	If chief complaint is not sent in PV2-segment can we obtain this from elsewhere in the message, such as in a DG1-segment?	
		Chief Complaint	PV2-3	2	What is the name on the screen of the field where people enter Chief Complaint?	

Data Category	Element Category	Data Element	HL7 Context	Q#	Question	Answer
		Chief Complaint	PV2-3	3	How is it entered in the hospital - free text, drop down menu, ICD-9?	
		Chief Complaint	PV2-3	4	Is PV2-3 a code or a chief complaint (CC) text? If text, is the text in the PV2-3.2 component? Refer to Messaging Guide section 2.3.	
		Chief Complaint	PV2-3	5	What system in the hospital is being used to enter the CC ?	
		Chief Complaint	PV2-3	6	What is the workflow for assigning the Chief Complaint?	
		Chief Complaint	PV2-3	7	Who (Triage, Admissions, Physician, etc) assigns the Chief Complaint?	
		Chief Complaint	PV2-3	8	How is the Chief Complaint identified in the messages?	
		Chief Complaint	PV2-3	9	Which messages contain the Chief Complaint (e.g. A01, P01)?	
		Chief Complaint	PV2-3	10	In the ER registration process, does the patient give a verbal chief complaint to a triage/registration desk?	
		Admission Reason	PV2-3	1	If chief complaint is not sent in PV2- segment can we obtain this from elsewhere in the message, such as in a DG1- segment?	
		Admission Reason	PV2-3	2	What is the name on the screen of the field where people enter Chief Complaint?	
		Admission Reason	PV2-3	3	How is it entered in the hospital - free text, drop down menu, ICD-9?	
		Admission Reason	PV2-3	4	Is PV2-3 a code or a chief compliant text? If text, is the text in the PV2-3.2 component? Refer to Messaging Guide section 2.3.	
		Admission Reason	PV2-3	5	What system in the hospital is being used to enter the CC ?	
		Admission Reason	PV2-3	6	What is the workflow for assigning the Chief Complaint?	
		Admission Reason	PV2-3	7	Who (Triage, Admissions, Physician, etc) assigns the Chief Complaint?	
		Admission Reason	PV2-3	8	How is the Chief Complaint identified in the messages?	

Data Category	Element Category	Data Element	HL7 Context	Q#	Question	Answer
		Admission Reason	PV2-3	9	Which messages contain the Chief Complaint (e.g. A01, P01)?	
		Admission Reason	PV2-3	10	In the ER registration process, does the patient give a verbal chief complaint to a triage/registration desk?	
		Admission Reason	PV2-3	11	What is the workflow for assigning the Admission Reason?	
		Admission Reason	PV2-3	12	Who (Triage, Admissions, Physician, etc) assigns the Admission Reason?	
		Admission Reason	PV2-3	13	How is the Admission Reason identified in the messages?	
		Admission Reason	PV2-3	14	Which messages contain the Admission Reason (e.g. A01, P01)?	
		Discharge Diagnosis	DG1-3	1	What is the workflow for assigning the Discharge Diagnosis?	
		Discharge Diagnosis	DG1-3	2	Who (Triage, Admissions, Physician, etc) assigns the Discharge Diagnosis?	
		Discharge Diagnosis	DG1-3	3	How is the Discharge Diagnosis identified in the messages?	
		Discharge Diagnosis	DG1-3	4	Which messages contain the Discharge Diagnosis (e.g. A01, P01)?	
		Discharge Diagnosis	DG1-3	5	Is the Discharge Diagnosis done at time of discharge or post discharge? If so, what system holds the Discharge Diagnosis?	
		Discharge Diagnosis	DG1-3	6	What release of ICD-9?	
		Discharge Diagnosis	DG1-3	7	Do you have a separate coding/abstracting system from the HIS? Does it have a Medical Records outbound interface?	
		Discharge Diagnosis	DG1-3	8	How is the ICD-9 or CPT-4 code determined in DG1-3?	
		Discharge Diagnosis	DG1-3	9	Will there be textual description and, if so, would it represent the standard ICD9 description?	
		Discharge Diagnosis priority	DG1-15	1	Do you use diagnosis priority of 0 and, if so, is it limited to the discharge diagnosis?	
		Working Diagnosis	DG1-3	1	What is the workflow for assigning the Working Diagnosis?	

Data Category	Element Category	Data Element	HL7 Context	Q#	Question	Answer
		Working Diagnosis	DG1-3	2	Who (Triage, Admissions, Physician, etc) assigns the Working Diagnosis?	
		Working Diagnosis	DG1-3	3	How is the Working Diagnosis identified in the messages?	
		Working Diagnosis	DG1-3	4	Which messages contain the Working Diagnosis (e.g. A01, P01)?	
		Working Diagnosis	DG1-3	5	Is the Working Diagnosis done during the episode of care? If so, what system holds the Working Diagnosis?	
		Working Diagnosis	DG1-3	6	What release of ICD-9?	
		Working Diagnosis	DG1-3	7	Do you have a separate coding/abstracting system from the HIS? Does it have a Medical Records outbound interface?	
		Working Diagnosis	DG1-3	8	How is the ICD-9 or CPT-4 code determined in DG1-3?	
		Working Diagnosis	DG1-3	9	Will there be textual description and, if so, would it represent the standard ICD9 description?	
		Working Diagnosis priority	DG1-15	1	Do you use diagnosis priority of 0 and, if so, is it limited to the working diagnosis?	
		Admitting Diagnosis	DG1-3	1	What is the workflow for assigning the Admitting Diagnosis?	
		Admitting Diagnosis	DG1-3	2	Who (Triage, Admissions, Physician, etc) assigns the Admitting Diagnosis?	
		Admitting Diagnosis	DG1-3	3	How is the Admitting Diagnosis identified in the messages?	
		Admitting Diagnosis	DG1-3	4	Which messages contain the Admitting Diagnosis (e.g. A01, P01)?	
		Admitting Diagnosis	DG1-3	5	Is the Admitting Diagnosis done at time of Admission? If so, what system holds the Admitting Diagnosis?	
		Admitting Diagnosis	DG1-3	6	What release of ICD-9?	
		Admitting Diagnosis	DG1-3	7	Do you have a separate coding/abstracting system from the HIS? Does it have a Medical Records outbound interface?	
		Admitting Diagnosis	DG1-3	8	How is the ICD-9 or CPT-4 code determined in DG1-3?	

Data Category	Element Category	Data Element	HL7 Context	Q#	Question	Answer
		Admitting Diagnosis	DG1-3	9	Will there be textual description and, if so, would it represent the standard ICD9 description?	
		Admitting Diagnosis priority	DG1-15	1	Do you use diagnosis priority of 0 and, if so, is it limited to the admitting diagnosis?	
		Diagnosis At Time Of Discharge	DG1-3	1	Will there be textual description and, if so, would it represent the standard ICD9 description?	
		Patient Class	PV1-2	1	Will observation and urgent care patient's have an "E" patient class? If so, how can we determine an "ED Only" patient?	
		Patient Class	PV1-2	2	Is the patient class field alone enough to determine if the patient is an Inpatient, Outpatient or ED? If not, what other fields can be used? For example, the patient type and patient class can be used together to determine the patient type.	

Data Category	Element Category	Data Element	HL7 Context	Q#	Question	Answer
Foundational						
	Hospital Census/Utilization					
		Date/time of report	OBR-7	1	Please explain the meaning for the report date/time. It is understood it may vary but it covers either the previous 24 hour period or the previous calendar day.	
		Date/time of report	OBR-7	2	The report date should be the date of the census report/extract, not the current date of the time the message is being created (that goes in MSH-7). If the report if for 09/01/06 and the report/extract is 09/01/06 at 11:59, then OBR-7 would be 200609011159. If the extract is done after midnight such as at 12:20am, the report date should be 200609020020.	
		Occupancy	OBX-5	1	Please explain the calculation for occupancy rate.	

Data Category	Element Category	Data Element	HL7 Context	Q#	Question	Answer
		Number of patients	OBX-5	1	Define Number of patients (occupied beds)	
		Number of beds available	OBX-5	1	Define Number of beds available	
ED/Clinical						
	ED/Clinical Data					
		ED Chief Complaint-Patient Reported	OBX-5	1	What is the workflow for assigning the Chief Complaint?	
		ED Chief Complaint-Patient Reported	OBX-5	2	Who (Triage, Admissions, Physician, etc) assigns the Chief Complaint?	
		ED Chief Complaint-Patient Reported	OBX-5	3	How is the Chief Complaint identified in the messages?	
		ED Chief Complaint-Patient Reported	OBX-5	4	Which messages contain the Chief Complaint (e.g. A01, P01)?	
		ED Chief Complaint-Patient Reported	OBX-5	5	In the ER registration process, does the patient give a verbal chief complaint to a triage/registration desk?	
		ED Chief Complaint-Patient Reported	OBX-5	6	If chief complaint is not sent in PV2-segment can we get it in a DG1-segment?	
		ED Chief Complaint-Patient Reported	OBX-5	7	What is the name on the screen of the field where people enter Chief Complaint?	
		ED Chief Complaint-Patient Reported	OBX-5	8	How is it entered in the hospital - free text, drop down menu, ICD-9?	
		ED Chief Complaint-Patient Reported	OBX-5	9	Is PV2-3 a code or a chief complaint (CC) text? If text, is the text in the PV2-3.2 component? Refer to Messaging Guide section 2.3.	
		ED Chief Complaint-Patient Reported	OBX-5	10	What system in the hospital is being used to enter the CC ?	
		Procedures performed	OBR-44 or OBR-31	1	How is the ICD-9 or CPT-4 code determined in PR1-3?	

Data Category	Element Category	Data Element	HL7 Context	Q#	Question	Answer
		Procedures performed	PR1-3	1	How is the ICD-9 or CPT-4 code determined in PR1-3?	
		Procedure date/time	PR1-5	1	Is Prodcedure Date/Time populated? If not, can Admit Date be copied to this field?	
Lab/Micro						
	Lab/Micro Orders					
		Reason for Test	OBR-31	1	Are you employing a coding standard for Reason for Study (OBR-31)? If so, please provide.	
Lab/Micro						
	Lab/Micro Results					
		Diagnostic Service Section ID	OBR-24	1	Is the department easily identified in the OBR-24 for filtering? If not, what other field(s) can be used for filtering? Refer to section 2.7 of the Messaging Guide.	
		Resulted Test Code/Name	OBX-3	1	Are there are "special" OBX-3 requirements. For example, the combination of OBX-3 and OBX-4 must be unique under a single OBR. In some microbiology results, OBX-3 values are replicated amongst several OBXs within an OBR with the same OBX-4.	

Data Category	Element Category	Data Element	HL7 Context	Q#	Question	Answer
		Result other than organism	OBX-5	1	Will OBX-5 contain any patient identifiable information?	
		Result other than organism	OBX-5	2	Does OBX-5 repeat? If so, what is the meaning of the repitions. For example, each repitition is a separate line.	
		Result other than organism	OBX-5	3	Are the lab results in the current interface a discrete/coded value? If not, can the result's discrete value be determined from other fields and/or translation table? If not, is it possible to explore obtaining the discrete data?	
Pharmacy						
	Medication Orders					
		Drug code/name	RXO-1	1	Do you employ the use of a standard pharmacy coding system? If so, what is the coding system? If so, where in the HL7 message is it sent.	
Radiology						
	Radiology Orders					
		Reason for Test	OBR-31	1	Are you employing a coding standard for Reason for Study (OBR-31)? If so, please provide.	
Radiology						

Data Category	Element Category	Data Element	HL7 Context	Q#	Question	Answer
	Radiology Results					
		Diagnostic Service Section ID	OBR-24	1	Is the department easily identified in the OBR-24 for filtering? If not, what other field(s) can be used for filtering? Refer to section 2.7 of the Messaging Guide.	
		Procedures	OBR-44	1	Are you employing a coding standard for Procedures (OBR-44)? If so, please provide.	
Foundational						
	Additional Elements Needed for Communications and Processing					
		Sending Facility	MSH-4	1	Do any facilities send messages using something other than their facility mnemonic in the sending facility (MSH-4)?	
		Date/Time Of Message	MSH-7	1	Are seconds included in time fields?	
		Patient Name	PID-5	1	Special Names: Are there special patients that we should be aware of? For example (VIP Person, Top Secret, Identity Unknown, Test Record, A Dog, etc). If so, how should these patients be handled?	
		Prior Patient Identifier List	MRG-1	1	Is the non-survivor MRN in MRG-1? If not, where is it located?	

Contacts

Organization	Title	Role/Responsibility	Name	Phone	Cell Phone	E-mail	Comments
<Data Source>	Data Source Project Manager	Project Manager	<Name>				
BioSense DPIT	Developer	BioSense Developer	BioSense Developer				
BioSense DPIT	HL7 Analyst	BioSense HL7 Analyst	BioSense HL7 Analyst				
BioSense DPIT	Site Manager	BioSense Site Manager	BioSense Site Manager				
BioSense DPIT	Technical Lead	BioSense Technical Lead	BioSense Technical Lead				
Constella	Recruitment Representative	Constella Representative	Constella Representative				
<Data Source>	Data Source Project Manager	Project Manager	Data Source Project Manager				

Ports

IP Address	Port	Direction	Environment	Purpose/Comments

DS Deliverable Checklist

Checklist Name	CodeSet	HL7 Context	Avail? (Y/N)	Rec'd? (Y/N)	Comments
Diagrams					
	Network Diagram				
	Integration Diagram				
	Chief Complaint & Diagnosis Flow				
	ADT Workflow				
	Lab Orders Workflow				
	Lab Results Workflow				
	Medication Orders Workflow				
Vocabulary Workbook					
	Sex	PID-8			
	State	PID-11.4			
	County	PID-11.9			
	Country	PID-11.6			
	Ethnicity	PID-22			
	Race Category	PID-10			
	Yes / No Patient Death Indicator?	PID-30			
	Yes / No Employment Related Illness	PV2-15			
	Yes / No Identity Unknown	PID-31			
	Diagnosis Type	DG1-6			
	Diagnosis Priority	DG1-15			
	Discharge Disposition	PV1-36			
	Medical Specialty	PV1-10			
	Patient Class	PV1-2			
	Admission Type	PV1-4			
	Admission Source	PV1-14			
	Admission Level of Care	PV2-40			
	Temperature Identifier	OBX-3			
	Temperature Unit	OBX-6			
	Blood Pressure Identifier	OBX-3			
	Blood Pressure Unit	OBX-6			
	Pharmacy Order Type	RXO-27			
	Order Control Code	ORC-1			
	Diagnostic Service Section	OBR-24			
	Test Interpretation	OBX-8			
	Test Status	OBX-11			
	Result Status	OBR-25			

DS Deliverable Checklist

Checklist Name	CodeSet	HL7 Context	Avail? (Y/N)	Rec'd? (Y/N)	Comments
Catalog					
	Master Lab Orderable Catalog	OBR-4			
	Lab Result & Comment codes	OBX-5			
	Micro Organism Codes	OBX-5			
	Antibiotic Codes	OBX-3			
	Radiology Order Catalog	OBR-4			
	Pharmacy Catalog	RXO-1			
Filtering					
	Sending Application	MSH-3			
	Locations	PV1-3			
Interface Specifications					
	ADT-Admit Patient	ADT^A01			
	ADT-Transfer Patient	ADT^A02			
	ADT-Discharge Patient	ADT^A03			
	ADT-Register Patient	ADT^A04			
	ADT-Change Outpatient to Inpatient	ADT^A06			
	ADT-Change Inpatient to Outpatient	ADT^A07			
	ADT-Update patient Information	ADT^A08			
	ADT-Cancel Admit Patient	ADT^A11			
	ADT-Cancel Transfer Patient	ADT^A12			
	ADT-Cancel Discharge Patient	ADT^A13			
	ADT-Swap Patients	ADT^A17			
	ADT-Merge Patients	ADT^A40			
	ADT-Merge Accounts	ADT^A41			
	ADT-Move Account	ADT^A44			
	Census	ORU^R01			
	ED Urgent Care	ADT^A04			
	Medical Records Abstracting Diagnosis	?			
	Lab Orders	ORM^O01			
	Lab Results	ORU^R01			
	Rad Orders	ORM^O01			
	Rad Results	ORU^R01			
	Med Orders	OMP^O09			

DS Deliverable Checklist

Checklist Name	CodeSet	HL7 Context	Avail? (Y/N)	Rec'd? (Y/N)	Comments
Sample Messages					
	ADT				
	Census Reports				
	ED/Clinical				
	Micro order				
	Micro result with organism and sensitivity				
	Serology / Immunology result				
	Micro Lab send out result				
	RAD order				
	RAD result				
	Pharmacy order				
	Medical Records Abstracting Diagnosis				
Other					
	Data Use Agreement (DUA)				
	Business Associate Agreement (BAA)				
	IT Project Schedule				