

1 Introduction

This document provides guidance for developing HL7 semantic profiles for the Healthcare, Community Services and Provider Director Service Functional Profile, Release 1 (HSDr1) published on February 26, 2010. The goal of the document is encourage consistency of information representation between SOA and Messaging approaches. To quote HSDr1 section 1.1.3

Where both messaging and SOA based solutions are provided in a similar functional space, they must be based on the same conceptual information model. What may differ is the way that the information is “chunked” and the overall granularity of the message content. This alignment is achieved through the use of “semantic profiles” which are based on (i.e. use content extracted from) existing RIM based domain models.

This document examines both the dynamic (functional) and static (information) aspects of the HSDr1. Section 2 maps the HSDr1 functions to published HL7 normative standards. Sections 3 through 5 provide progressively more detailed guidance for mapping HSDr1 information requirements to the HL7 Reference Information Model (RIM) as elaborated in the Patient Administration, Patient Care, Personnel Management and Scheduling domains.

2 HSDr1 Detailed Functional Model for each Interface

Section 5 of HSDr1 presents functional descriptions of interfaces for the HSD service. Three separate interfaces are defined:

- **Administrative Functions:** functions used by systems administrators to maintain the Information Technology Infrastructure.
- **Maintenance Functions:** operations for managing Provider, Location and Service information.
- **Query Functions:** look-up operations for discovering providers and services and related information.

The following three tables list HSDr1 functions, the inputs to each function and HL7 messaging standards for exchanging similar information content.

Table 2.1 Administrative Functions Mapped to HL7 Message Standards

HSDr1 Administrative Function	Information Inputs	Related HL7 Standard Specification
5.1.1 Add Provider	Data would include: legal name, status with respect to licensing, license numbers if applicable, contact information (if independent:	ANSI/HL7 V3 PM, R1-2005 Interaction: Add Provider Request (PRPM_IN301010UV01) Model: Provider Event Create PRPM_RM301010UV01

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HSDr1 Administrative Function	Information Inputs	Related HL7 Standard Specification
	such as a cell phone) and so on.	
5.1.1 Add Organization	Data would include: legal name, status with respect to licensing, license numbers if applicable, contact information (if independent: such as a cell phone) and so on.	ANSI/HL7 V3 PM, R1-2005 Interaction: Add Organization Request (PRPM_IN401030UV01) Model: Add Organization (PRPM_RM401000UV01)
5.1.2 Update Provider demographics	Provider / Provider Organization Id. Optional changes to individual data items.	ANSI/HL7 V3 PM, R1-2005 Interaction: Update Provider Request (PRPM_IN303010UV01) Model: Update Provider (PRPM_RM303000UV01)
5.1.2 Update Organization demographics	Provider / Provider Organization Id. Optional changes to individual data items.	ANSI/HL7 V3 PM, R1-2005 Interaction: Update Organization Request (PRPM_IN403010UV01) Model: Update Organization (PRPM_RM403000UV01)
5.1.3 Relate a Provider to an Organization	Provider and Provider Organization Ids, Effective date. Optional changes to individual data items.	ANSI/HL7 V3 PM, R1-2005 Interaction: Update Provider Request (PRPM_IN303010UV01) Model: Update Provider (PRPM_RM303000UV01)
5.1.4 Disassociate a Provider from an Organization	Provider Id, Provider Organization Id, Effective Date. Optional changes to individual data items.	ANSI/HL7 V3 PM, R1-2005 Interaction: Update Provider Request (PRPM_IN303010UV01) Model: Update Provider (PRPM_RM303000UV01)
5.1.5 Add a Location	Location information such as: descriptive name, latitude, longitude, altitude, effective date. Optional changes to individual data items.	HL7 V3 PA, R2 Interaction: Location Registry Add Request (PRPA_IN202311UV02) Model: Service Delivery Location Activate (PRPA_RM202301UV02)
5.1.6 Update a Location	Location demographic information such as: descriptive name, latitude, longitude, altitude, effective date.	HL7 V3 PA, R2 Location Registry Revise Request (PRPA_IN202314UV02) Service Delivery Location Revise (PRPA_RM202302UV02)
5.1.7 Relate an Organization to a Location	Location Id, Provider Organization Id, Effective Date. Optional changes to individual data items.	ANSI/HL7 V3 PM, R1-2005 Interaction: Update Organization Request (PRPM_IN403010UV01) Model: Update Organization (PRPM_RM403000UV01)

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HSDr1 Administrative Function	Information Inputs	Related HL7 Standard Specification
5.1.8 Disassociate an Organization from a Location	Location Id, Provider Organization Id, Effective Date. Optional changes to individual data items.	ANSI/HL7 V3 PM, R1-2005 Interaction: Update Organization Request (PRPM_IN403010UV01) Model: Update Organization (PRPM_RM403000UV01)
5.1.9 Relate a Provider to a Location	Provider Id, Location Id, Effective Date. Optional changes to individual data items.	ANSI/HL7 V3 PM, R1-2005 Interaction: Update Provider Request (PRPM_IN303010UV01) Model: Update Provider (PRPM_RM303000UV01)
5.1.10 Disassociate a Provider from a Location	Provider Id, Location Id, Effective Date. Optional changes to individual data items.	ANSI/HL7 V3 PM, R1-2005 Interaction: Update Provider Request (PRPM_IN303010UV01) Model: Update Provider (PRPM_RM303000UV01)
5.1.11 Add a Resource	Resource description, Resource Type, and other pertinent information such as: make, model, last maintenance, last calibration, service hours, time to next service, warranty date, warranty length, capabilities. Optional changes to individual data items.	HL7 v3 does not currently include a Device Registry however several proposals are under consideration.
5.1.12 Update a Resource	Resource Id and data to be changed. Optional changes to individual data items.	HL7 v3 does not currently include a Device Registry however several proposals are under consideration.
5.1.13 Relate a Resource to a Location	Resource Id, Location Id and effective date.	HL7 v3 does not currently include a Device Registry however several proposals are under consideration.
5.1.14 Disassociate a Resource from a Location	Resource Id, Location Id and effective date.	HL7 v3 does not currently include a Device Registry however several proposals are under consideration.
5.1.15 Mark Organization Inactive / Delete an Organization	Provider Organization Id, Effective Date. Optional changes to individual data items.	ANSI/HL7 V3 PM, R1-2005 Interaction: Update Organization Request (PRPM_IN403010UV01) Model: Update Organization (PRPM_RM403000UV01)
5.1.16 Mark Provider Inactive / Delete a Provider	Provider Id, Effective Date. Optional changes to individual data items.	ANSI/HL7 V3 PM, R1-2005 Interaction: Update Provider Request (PRPM_IN303010UV01) Model: Update Provider (PRPM_RM303000UV01)

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Table 2.2 Maintenance Functions Mapped to HL7 Message Standards

HSDr1 Maintenance Function	Information Inputs	Related HL7 Standard Specification
5.2.1 Add a Resource Allocation	Resource Id, Location Id, Type of booking (Appointment, Blocked Time, Preventive Maintenance), Event Id of the event against which the allocation is to be made, Location Id of where the resource booking is to occur	HL7 V3 SC, R2, 2007Sep Ballot Interaction: New Appointment Notification (PRSC_IN010101UV01) Model: Appointment Intent New Notification PRSC_MT010101UV
5.2.2 Remove a Resource Allocation	Resource Id of the resource to be modified, Event Id of the event no longer requiring the resource	HL7 V3 SC, R2, 2007Sep Ballot Interaction: Revise Appointment Notification (PRSC_IN010201UV01) Model: Appointment Intent Revise Full PRSC_MT010201UV
5.2.3 Add a Resource Calendar	Resource Id, Location Id, Resource availability times specified in the appropriate time blocks) Each resource can have different time-block length; for example, a physician might have 15 minute blocks, whereas a dialysis machine might have 1 hour blocks.	HL7 V3 SC, R2, 2007Sep Ballot Interaction: New Appointment Slot Request (PRSC_IN030101UV) Model: Slot Intent Create Request PRSC_MT050101UV
5.2.4 Update a Resource Calendar	Resource Id, Specified calendar entries in appropriate time-blocks for the resource, Location Id.	HL7 V3 SC, R2, 2007Sep Ballot Interaction: Slot Status Revise Request (PRSC_IN020301UV) Model: Slot Intent Revise PRSC_MT040101UV
5.2.5 Add an Organization Calendar	Organization Id, specified calendar times for the specified organization, Location Id.	HL7 V3 SC, R2, 2007Sep Ballot Interaction: New Appointment Slot Request (PRSC_IN030101UV) Model: Slot Intent Create Request PRSC_MT050101UV
5.2.6 Update an Organization Calendar	Organization Id, Calendar dates and times, Location Id.	HL7 V3 SC, R2, 2007Sep Ballot Interaction: Slot Status Revise Request (PRSC_IN020301UV) Model: Slot Intent Revise PRSC_MT040101UV
5.2.7 Add a Provider Calendar	Provider Id, Calendar entries expressed in appropriate time-blocks for the provider, Location Id.	HL7 V3 SC, R2, 2007Sep Ballot Interaction: New Appointment Slot Request (PRSC_IN030101UV) Model: Slot Intent Create Request PRSC_MT050101UV
5.2.8 Update a Provider Calendar	Provider Id, Calendar entries, Location Id.	HL7 V3 SC, R2, 2007Sep Ballot Interaction: Slot Status Revise Request (PRSC_IN020301UV) Model: Slot Intent Revise

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HSDr1 Maintenance Function	Information Inputs	Related HL7 Standard Specification
		PRSC_MT040101UV
5.2.9 Add a Provider Allocation	Provider Id, Location Id, Event date and time.	HL7 V3 SC, R2, 2007Sep Ballot Interaction: New Appointment Notification (PRSC_IN010101UV01) Model: Appointment Intent New Notification PRSC_MT010101UV
5.2.10 Update a Provider Allocation	Event Id for the event to be modified. The action to be performed (cancel, move.)	HL7 V3 SC, R2, 2007Sep Ballot Interaction: Revise Appointment Notification (PRSC_IN010201UV01) Model: Appointment Intent Revise Full PRSC_MT010201UV

Table 2.3 Query Functions Mapped to HL7 Message Standards

HSDr1 Query Function	Information	Related HL7 Standard Specification
5.4.1 Service & Provider Directory Lookup	Inputs: Service (as in Healthcare Service), Organization Name, Practitioner Name, Location, and Hours Of operation. The minimum input must be Service, Organization Name, Provider, Resource or Location.	See below
	Outputs: Services, Organization Name, Address, Provider(s) Name, Resource Identification, Hours of Operation, Appointment Required, Phone Number, e-Mail Address, and Client/Patient Management System Address for all successfully matched criteria.	See below
a. Find a Provider		ANSI/HL7 V3 PM, R1-2005 HL7 Interaction: Provider Details Query (PRPM_IN306010UV01)
b. Find an Organization		ANSI/HL7 V3 PM, R1-2005 HL7 Version 3 Standard: Personnel Management, Release 1, 10/28/2005 (Organization topic)
c. Find all Locations for a Provider		ANSI/HL7 V3 PM, R1-2005 HL7 Interaction: Provider Details Query (PRPM_IN306010UV01)
d. Find all Locations for an Organization		ANSI/HL7 V3 PM, R1-2005 HL7 Interaction: Organization Detail Query (PRPM_IN406010UV01)
e. Find all Providers for a Location		ANSI/HL7 V3 PM, R1-2005 HL7 Interaction: Provider Details Query (PRPM_IN306010UV01)
f. Find all Organizations for a Location		ANSI/HL7 V3 PM, R1-2005 HL7 Interaction: Organization Detail

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HSDr1 Query Function	Information	Related HL7 Standard Specification
		Query (PRPM_IN406010UV01)
g. Find an available Resource within an area		ANSI/HL7 2.6-2007, Chapter 10 – Scheduling
h. Find all Locations that have a specified Resource		HL7 v3 does not currently include a Device Registry however several proposals are under consideration.
i. Find all Resource at a Location		HL7 v3 does not currently include a Device Registry however several proposals are under consideration.
j. Find all Resources associated with a Provider / Organization		HL7 v3 does not currently include a Device Registry however several proposals are under consideration.
k. Return a Calendar for a specified Resource / Provider at a specified Organization / Location		ANSI/HL7 2.6-2007, Chapter 10 – Scheduling

3 HSDr1 Conceptual Information Model

Section 9 of HSDr1 presents a conceptual information model and a set of principles including:

- SFMs shall provide a conformance profile supporting HL7 content where relevant
- SFMs will reuse to the maximum extent possible the content models as defined in other standards (for example, HL7 RMIMs).

The following eight tables provide guidance for creating semantic profiles that reuse HL7 Reference Information Model (RIM) constructs. Each HSDr1 entity is mapped to RIM constructs (where possible) and then linked to a more detailed analysis based on the HSD Data Dictionary (Appendix C of HSDr1).

Table 3.1 Organization

Entity Name	Maps to HL7 Construct	HSD Data Dictionary Map
Agency	AssignedEntity role played by PrincipalOrganization	Table 5.1
Agency Identifier	AssignedEntity relatedTo RoleOther.id	Table 5.6
Agency Name	AssignedEntity.name	Table 5.2
Agency Address	AssignedEntity.addr	Table 5.3
Agency Contact Point	AssignedEntity.telecom	Table 5.4
Agency Type	Organization.code	No map
Agency Specialty	AssignedEntity performs ActDefinitionOrEvent	Table 5.5
Agency Availability	ResourceGroup (via IdentifiedEntity) is directTarget of ResourceSlot	Table 5.7

Table 3.2 Provider

Entity Name	Maps to HL7 Construct	HSD Data Dictionary Map
Service Provider	HealthCareProvider role played by PrincipalPerson	Table 5.12
Service Provider Identifier	HealthCareProvider relatedTo RoleOther.id	Table 5.16
Service Provider Name	HealthCareProvider .name	Table 5.13
Service Provider Address	HealthCareProvider.addr	Table 5.14
Service Provider Contact Point	HealthCareProvider.telecom	Table 5.15
Service Provider	LanguageCommunication	Table 5.21

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Language		
Service Provider Specialty	HealthCareProvider is subjectOf Privilege act	Table 5.19
Service Provider Qualification	QualifiedEntity is relatedTo HealthCareProvider	Table 5.18
Service Provider License / Registration	HealthCareProvider role played by PrincipalPerson	Table 5.22
Service Provider Credential	HealthCareProvider role played by PrincipalPerson	Table 5.17
Service Provider Referral Method	Provider association to PatientCareProvisonRequest.code	Table 5.25

Table 3.3 Location

Entity Name	Maps to HL7 Construct	HSD Data Dictionary Map
Service Site	ServiceDeliveryLocation role played by Place	Table 5.28
Service Site Identifier	ServiceDeliveryLocation relatedTo RoleOther.id	Table 5.34
Service Site Address	ServiceDeliveryLocation.addr	Table 5.31
Service Site Contact Point	ServiceDeliveryLocation.telecom	Table 5.30
Service Site Geographical Coordinates	ServiceDeliveryLocation is subjectOf A_SpatialCoordinate observation	Table 5.29
Service Site Setting	ServiceDeliveryLocation.code < ServiceDeliveryLocationRoleType	Table 5.36
Service Site Target Group	?	Table 5.35
Service Site Instance Characteristic	?	Table 5.33
Service Site Referral Method	ServiceDeliveryLocation association to PatientCareProvisonRequest.code	Table 5.32
Service Site Availability	Place (via IdentifiedEntity) is directTarget of ResourceSlot	Table 5.38

Table 3.4 Resource

Entity Name	Maps to HL7 Construct	HSD Data Dictionary Map
Resource	AssignedEntity role played by PrincipalDevice	Table 5.42
Resource Identifier	AssignedEntity.id	Table 5.45
Resource Type	Device.code	No map

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Resource Restricted Availability	ManufacturedMaterial (via IdentifiedEntity) is directTarget of ResourceSlot	Table 5.43
Resource Instance Capability Characteristic	?	Table 5.44

Table 3.5 Organization – Location Association

Entity Name	Maps to HL7 Construct	HSD Data Dictionary Map
Agency Service Site	Organization scopes ServiceDeliveryLocation role played by Place	Table 5.8
Agency Site Address	ServiceDeliveryLocation.addr	Table 5.10
Agency Site Contact Point	ServiceDeliveryLocation.telecom	Table 5.11
Agency Service Site Catchment Area	ServiceDeliveryLocation is subjectOf A_SpatialCoordinate observation	Table 5.37

Table 3.6 Organization – Provider Association

Entity Name	Maps to HL7 Construct	HSD Data Dictionary Map
Agency Service Provider	Organization scopes Affiliate role played by Person	Table 5.9

Table 3.7 Resource – Location Association

Entity Name	Maps to HL7 Construct	HSD Data Dictionary Map
Service Site Resource		Table 5.39
Service Site Resource Availability	ResourceGroup consisting of Device and Place (via IdentifiedEntity) is directTarget of ResourceSlot	Table 5.41
Site Resource Booking	Appointment	Table 5.46

Table 3.8 Organization – Location – Provider Association

Entity Name	Maps to HL7 Construct	HSD Data Dictionary Map
Service Provider Service Site		Table 5.23
Service Provider Site Specialty		Table 5.20
Service Provider Site		Table 5.24

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Role		
Service Site Provider Referral Method	?	Table 5.26
Service Site Provider Contact Point	?	Table 5.27
Service Provider Site Availability	ResourceGroup consisting of Organization, Person and Place (via IdentifiedEntity) is directTarget of ResourceSlot	Table 5.40
Provider Service Site Booking	Appointment	Table 5.47

4 Domain Analysis Model

Section 10 of HSDr1 presents a domain analysis model that identifies the key information classes and the relationships among them. To quote HSDr1 section 6.1

there is a set of atomic services upon which the overall HSD relies. These services are identified in the Domain Analysis Model, and are: Provider Registry, Agency Registry, Location Registry, Client Registry, and Resource Registry. These independent registries hold the defining information about their respective scope but are generally unaware of each other. The HSD ties these independent registries together to provide services in the functional areas of e-referral, scheduling, booking and wait-list management.

Table 4.1 HSDr1 Domains Mapped to HL7 Standards

HSDr1 Conceptual Domain	Related HL7 V3 Standard Specification
Agency/Organization Registry	ANSI/HL7 V3 PM, R1-2005 HL7 Version 3 Standard: Personnel Management, Release 1, 10/28/2005 (Organization topic)
Provider Registry	ANSI/HL7 V3 PM, R1-2005 HL7 Version 3 Standard: Personnel Management, Release 1, 10/28/2005 (Provider topic)
Location Registry	HL7 V3 PA, R2 HL7 Version 3 Standard: Patient Administration, Release 2 (Service Delivery Location topic)
Resource Registry	None

5 HSDr1 Data Dictionary

The HSDr1 Appendix C provides an informative data dictionary to help clarify the information requirements for semantic profiles. This section of the white paper provides detailed guidance for mapping the HSDr1 information requirements to RIM constructs. It should be noted that no one existing information model covers the breadth of the HSDr1 information; this following mapping draws from four HL7 v3 domains – Patient Administration (for Service Delivery Location), Personnel Management (for Provider and Organization), Scheduling (for availability and booking) and Patient Care (for referral management). Constructs highlighted in yellow are not in currently balloted HL7 message models but can be added.

Table 5.1 Agency (HSDr1 Section 17.1.1)

HDS Description		
<p>An agency is any organization, or collection of organizations, that participate in the delivery of health care services. An agency is not an individual service provider, though an agency may be the legal representation of an individual service provider.</p> <p>Agencies may be grouped together in an unlimited corporate hierarchy.</p>		
HL7 Mapping Notes		
<p>HL7 Reference: Personnel Management Domain, Organization Topic</p> <p>HSDr1 Agency entity maps to Personnel Management PrincipalOrganization playing an AssignedEntity role.</p> <p><u>From Personnel Management DMIM walk-through:</u> <i>AssignedEntity (role): The role class, assigned organization, captures the critical information of the organization playing the role of interest. This includes an identifier for the role, mailing address, phone number, and the time within which the role is played (may be open ended). The scooping organization, which may be omitted if not needed, provides the organizational context for the entity that actually plays the role. For example, the role scoper will normally be the party that assigns the identifier for the role.</i></p> <p><u>From Scheduling DMIM walk-through:</u> <i>Slots are identifiable periods of time that can be scheduled.</i></p>		
HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	Assigned by the system	AssignedEntity.id
Start Date	Effective date of the agency within the system	AssignedEntity.effectiveTime (low)
End Date	Expiry date of the agency entry within the system	AssignedEntity.effectiveTime (high)
Incorporation Date	Date the agency was made legally alive.	AssignedEntity. PrincipalOrganization. existenceTime (low)
Privacy Code	Code identifying the privacy confidentiality option selected by the agency.	AssignedEntity.confidentialityCode
Status	The status of the agency. Unapproved, Active, Suspended, Deleted	AssignedEntity.statusCode
Availability Time Block code	The size of the time block used to define availability schedules for this agency: expressed in hours.	ResourceSlot.effectiveTime

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Table 5.2 Agency Name (HSDr1 Section 17.1.2)

HDS Description		
An agency may be known by different names distinguished by name type and name purpose. For example, the legal name might be Hollcroft Health Trust, but the trade name might be The Hollcroft Centre.		
HL7 Mapping Notes		
<p>HL7 Reference: Personnel Management Domain, Organization Topic HSDr1 Agency Name entity maps to HL7 name attribute of the AssignedEntity class. In the universal model AssignedEntity.name is data type COLL<EN> which can be constrained to LIST<EN>. The first name in the list is the preferred name. The EN (EntityName) data type specializes LIST<ENXP> (EntityNamePart).</p>		
HSD Attribute	HSD Description	Related HL7 Attribute
Name Type	Professional Married Birth Name by Repute	AssignedEntity.name ENXP (qualifier)
Name Purpose	Mailing Cheques Correspondence	
Legal Indicator	Set to 1 for the legal name, 0 for a non-legal name	AssignedEntity.name EN (use)
Preferred Name	Set to 1 for the preferred name, 0 otherwise.	AssignedEntity.name LIST<EN> sequence
Name Text	The name referenced.	AssignedEntity.name LIST<ENXP (type, qualifier, value)>
Start date	When the name became effective	AssignedEntity.name EN (validTimeLow)
End Date	When the name became no longer used.	AssignedEntity.name EN (validTimeHigh)

Table 5.3 Agency Address (HSDr1 Section 17.1.3)

HDS Description		
An instance of an agency might have addresses that are independent of service delivery sites: such as a corporate head office, mailing address, marketing address, and so on. Each address is identified by a type and purpose.		
HL7 Mapping Notes		
<p>HL7 Reference: Personnel Management Domain, Organization Topic HSDr1 Agency Address entity maps to HL7 addr attribute of the AssignedEntity class. In the universal model AssignedEntity.addr is data type COLL<AD>. The AD (PostalAddress) data type specializes LIST<ADXP> (AddressPart).</p>		
HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	From Agency entity	AssignedEntity.id
Address Line 1	Civic address part	AssignedEntity.addr ADXP(type, value)
Address Line 2	Civic address part	AssignedEntity.addr ADXP(type, value)
Jurisdiction	(City, Town, Village, Area) points within a hierarchy that travels from Country down to the lowest level of jurisdiction within the specified country.	AssignedEntity.addr ADXP(type, value)
Postal Identification code	Postal code, zip code, etc.	AssignedEntity.addr ADXP(type, value)

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Address Type	Residential, Business, Temporary	AssignedEntity.addrAD(use)
Address Purpose	Mailing, Delivery, Shipping	
Start Date	The first day on which this address is effective	AssignedEntity.addrAD(validTimeLow)
End Date	The last day on which this address is effective	AssignedEntity.addrAD(validTimeHigh)

Table 5.4 Agency Contact Point (HSDr1 Section 17.1.4)

HDS Description		
An agency may have contact points that are independent of any particular service delivery site: such as a corporate website, or other corporate numbers (telephone, fax.) Each contact point is identified by a type and purpose.		
HL7 Mapping Notes		
HL7 Reference: Personnel Management Domain, Organization Topic HSDr1 Agency Contact Point entity maps to HL7 telecom attribute of AssignedEntity .		
HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	From Agency above	AssignedEntity.id
Contact Point Type	Phone, Fax, Pager, email	AssignedEntity.telecom TEL (value expressed as URI)
Contact Point Equipment	Cell, Fixed Line, TTY, NA	AssignedEntity.telecom TEL (capabilities)
Contact Point Purpose	Residential, Business, Personal	AssignedEntity.telecom TEL (use)
Contact Point Text	The contact reference	AssignedEntity.telecom TEL (value expressed as URI)
Contact Point Format String	A string indicating how the reference is to be understood. Email for example would indicate [a-z, 1-0, '._-']*@[a-z, 1-0, '._-']*	Conforms to IETF RFC 2396
Start Date	The first day on which this contact point becomes effective.	AssignedEntity.telecom TEL (validTimeLow)
End Date	The last day on which this contact point is effective.	AssignedEntity.telecom TEL (validTimeHigh)

Table 5.5 Agency Specialty (HSDr1 Section 17.1.5)

HDS Description		
An agency may provide services under zero, one or more specialties. An agency that is a holding company may have no specialties, while those agencies held by the holding company may have various.		
HL7 Mapping Notes		
HL7 Reference: Personnel Management Domain, Organization Topic		
HSDr1 Agency Specialty entity does not cleanly map to a specific HL7 construct. Personnel Management defines the ActDefinitionOrEvent class to describe types of acts that can be performed by an AssignedEntity but HL7 semantics assume that acts are performed by <u>persons</u> in an organization and not by an organization itself. Alternately, an Organization can play a role of QualifiedEntity or LicensedEntity each of which includes a code attribute to characterize the type of qualification or license it possesses.		

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HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	From the Agency entity above	AssignedEntity.id
Specialty Code	From a predefined reference table	ActDefinitionOrEvent.classCode
Start Date	The first date the specialty is effective for this agency	ActDefinitionOrEvent.effectiveTime (low)
End Date	The last day on which this specialty is active for this agency.	ActDefinitionOrEvent.effectiveTime (high)

Table 5.6 Agency Identifier (HSDr1 Section 17.1.6)

HDS Description		
An agency may be known by any number of external identifiers. Each identifier is specified by a type, an issuing authority, and a controlling authority.		
HL7 Mapping Notes		
<p>HL7 Reference: Personnel Management Domain, Organization Topic</p> <p>HSDr1 Agency Identifier entity maps to Personnel Management RoleOther class associated to the AssignedEntity class through a relatedTo role link. Each RoleOther contains an identifier specified by an issuing authority (scopingOrganization). RoleOther is included in the Personnel Management model to support additional identifiers that are not synonymous with the primary roles.</p>		
HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	From the Agency entity above	AssignedEntity.id
Identifier Type	Medical Record Number, Driver's License, Provincial Health Number, National Health Number, etc.	RoleOther.classCode
Identifier Issuing Authority	Provincial Department of Health, St. Michael's Hospital (for example)	RoleOther.scopingOrganization
Identifier Controlling Authority	Public Works and Government Services, Health Region (for example)	scopingOrganization.territorialAuthority
Identifier Text		RoleOther.id
Start Date	The effective start date of this identifier	RoleOther.effectiveTime (validTimeLow)
End Date	The effective end date of this identifier	RoleOther.effectiveTime (validTimeHigh)
Privacy Indicator	If set to 1, this identifier will not show up on view screens – but may be used in searches to find an agency.	RoleOther.confidentialityCode

Table 5.7 Agency Availability (HSDr1 Section 17.1.7)

HDS Description
Each agency may specify its own calendar as to when its doors are open for business. The various calendar/availability entities work together when determining referrals or booking appointments. The calendar must provide for daily variances in opening / closing times, holiday schedules, and special events.
HL7 Mapping Notes
<p>HL7 Reference: Scheduling Domain, Slot Topic</p> <p>HSDr1 Agency Availability does not clearly map to a specific HL7 construct. HL7 defines the ResourceSlot (see below) but the HL7 Scheduling model assumes that only people, locations and things (resources) will be scheduled. However, an agency could be defined as a Resource Group.</p> <p>From the Scheduling Introduction: <i>Slots are identifiable periods of time that can be scheduled</i></p>

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- **Open slots** are periods of time on a schedule during which a service may occur and/or a resource is available for use.
- **Booked slots** are periods of time on a schedule that have already been reserved.
- **Reserved slots** are periods of time on a schedule that have been tentatively or generally reserved (for example, a block of time set aside for new patients)
- **Blocked slots** on a schedule are periods of time during which a service or resource is unavailable for reasons other than booked appointments (for example, a piece of equipment may be unavailable for maintenance reasons).

HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	From Agency entity above	AssignedEntity.id
Date	Year/Month/Day of entry	ControlActProcess.effectiveTime
Time Available	Expressed in time blocks from Agency	ResourceSlot.effectiveTime
Start Date	Effective Start date of this entry	ResourceSlot.effectiveTime
End Date	Effective end date of this entry	ResourceSlot.effectiveTime

Table 5.8 Agency Service Site (HSDr1 Section 17.1.8)

HDS Description		
An agency may provide services at zero, one or more sites, and a site may provide services through one or more agencies.		
HL7 Mapping Notes		
HL7 Reference: HL7 V3 PA, R2, Service Delivery Location Topic HSDr1 Agency Service Site maps to HL7 ServiceDeliveryLocation role played by Place and scoped by ServiceProviderOrganization .		
HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	From Agency entity above	AssignedEntity.id
Service Site Id	From Service Site entity below	ServiceDeliveryLocation.id
Start Date	Effective start date fro this entry	ServiceDeliveryLocation.effectiveTime (low)
End Date	Effective end date for this entry	ServiceDeliveryLocation.effectiveTime (high)

Table 5.9 Agency Service Provider (HSDr1 Section 17.1.9)

HDS Description		
An agency may include zero, one or more service providers that work for the agency in capacities outside of service delivery. This entity describes those individuals that work for an agency, but may not be identified with particular service sites. (For example, the CEO may be a service provider that devotes their time to corporate interests only.)		
HL7 Mapping Notes		
<p>HL7 Reference: Personnel Management Domain, Organization Topic HSDr1 Agency Service Provider could map to either the HL7 Employee role or the Affiliate role associated to AssignedEntity class through the PrincipalOrganization's association to Affiliate.</p> <p>Affiliate: Player of the Affiliate role has a business/professional relationship with scoper. Player and scoper may be persons or organization. The Affiliate relationship does not imply membership in a group, nor does it exist for resource scheduling purposes. The basis of an affiliate relationship may be a de facto agreement or simply incidental involvement of the two parties.</p>		
HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	From Agency entity above	AssignedEntity.id
Service Provider Id	From Service Provider below	Affiliate.id

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Start Date	The effective start date of this entry	Affiliate.effectiveTime (low)
End Date	The effective end date of this entry	Affiliate.effectiveTime (high)

Table 5.10 Agency Service Site Address (HSDr1 Section 17.1.10)

HDS Description		
An agency at a particular site may specify address information that is in addition to, or over-rides, the agency address identified above. Each address is specified by a type and a purpose. (When seeking an address of a particular type, begin by searching at the lowest level (site) and if not found, progress up the agency tree until such an address is found.)		
HL7 Mapping Notes		
HL7 Reference: Patient Administration domain, Service Delivery Location topic HSDr1 Agency Service Site Address entity maps HL7 addr attribute of ServiceDeliveryLocation class. In the universal model ServiceDeliveryLocation.addr is data type COLL<AD>. The AD (PostalAddress) data type specializes LIST<ADXP> (AddressPart).		
HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	From Agency entity above	AssignedEntity.id
Service Site Id	From Service Site entity below	ServiceDeliveryLocation.id
Address Line 1	Civic address part	ServiceDeliveryLocation.addr ADXP (type, value)
Address Line 2	Civic address part	ServiceDeliveryLocation.addr ADXP (type, value)
Jurisdiction	(City, Town, Village, Area) points within a hierarchy that travels from Country down to the lowest level of jurisdiction within the specified country.	ServiceDeliveryLocation.addr ADXP (type, value)
Postal Identification code	Postal code, zip code, etc.	ServiceDeliveryLocation.addr ADXP (type, value)
Address Type	Residential, Business, Temporary	ServiceDeliveryLocation.addr AD (use)
Address Purpose	Mailing, Delivery, Shipping	
Start Date	The first day on which this address is effective	ServiceDeliveryLocation.addr AD(validTimeLow)
End Date	The last day on which this address is effective	ServiceDeliveryLocation.addr AD(validTimeHigh)

Table 5.11 Agency Site Contact Point (HSDr1 Section 17.1.11)

HDS Description		
An agency at a particular site will have different contact information (perhaps) than the information held at the agency level independent of site. This entity provides for any number of contact points that relate specifically to the agency at that site. Each contact point is identified through a type and a purpose.		
HL7 Mapping Notes		
HL7 Reference: Patient Administration domain, Service Delivery Location topic HSDr1 Agency Site Contact Point maps to HL7 telecom attribute of ServiceDeliveryLocation that is scoped by the agency.		
HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	From Agency above	AssignedEntity.id
Service Site Id	From Service Site entity below	ServiceDeliveryLocation.id

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Contact Point Type	Phone, Fax, Pager, email	ServiceDeliveryLocation.telecom TEL (value expressed as URI)
Contact Point Equipment	Cell, Fixed Line, TTY, NA	ServiceDeliveryLocation.telecom TEL (capabilities)
Contact Point Purpose	Residential, Business, Personal	ServiceDeliveryLocation.telecom TEL (use)
Contact Point Text	The contact reference	ServiceDeliveryLocation.telecom TEL (value expressed as URI)
Contact Point Format String	A string indicating how the reference is to be understood. Email for example would indicate [a-z, 1-0, '._-']*@[a-z, 1-0, '._-']*	Conforms to Internet standard RFC 2396
Start Date	The first day on which this contact point becomes effective.	ServiceDeliveryLocation.telecom TEL (validTimeLow)
End Date	The last day on which this contact point is effective.	ServiceDeliveryLocation.telecom TEL (validTimeHigh)

Table 5.12 Service Provider (HSDr1 Section 17.1.12)

HDS Description		
A service provider is any person that delivers clinical value in the provision of health services. Anyone who becomes a matter of record on the Electronic Health Record, or is part of a scheduling requirement (operator of an expensive piece of testing equipment perhaps) has to be identified as a service provider within this entity.		
HL7 Mapping Notes		
HL7 Reference: Personnel Management Domain, Provider Topic HSDr1 Service Provider entity maps to HL7 HealthCareProvider role played by PrincipalPerson . From the Personnel Management walk-through: Healthcare Provider: <i>An entity role specific to Healthcare providers such as a Physician, Nurse or other type of caregivers.</i>		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	System assigned canonical id	HealthCareProvider.id
Privacy Indicator	Set to 1 if this Service Provider does not want their information made available in publically viewable screens	HealthCareProvider.confidentialityCode
Gender	Male, Female	PrincipalPerson.administrativeGenderCode
Cultural Ethnicity Code	Used to match on referrals – cultural sensitivity.	PrincipalPerson.ethnicityCode
Start Date	The effective start date for this entry.	HealthCareProvider.effectiveTime (low)
End Date	The effective end date for this entry	HealthCareProvider.effectiveTime (high)
Status	The status of this provider: Unapproved, Active, Suspended, Deleted	HealthCareProvider.statusCode

Table 5.13 Service Provider Name (HSDr1 Section 17.1.13)

HDS Description		
A service provider may be known by one or more names distinguished by type and purpose. For example: married name, professional name, birth name, and so on. Also, any one of those names may be identified as the preferred name or the legal name.		
HL7 Mapping Notes		
HL7 Reference: Personnel Management Domain, Provider Topic HSDr1 Provider Name entity maps to HL7 name attribute of the HealthCareProvider class.		

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In the universal model **HealthCareProvider.name** is data type COLL<EN> which can be constrained to LIST<EN>. The first name in the list is the preferred name.
The EN (EntityName) data type specializes LIST<ENXP> (**EntityNamePart**).

HSD Attribute	HSD Description	Related HL7 Attribute
Name Type	Professional Married Birth Name by Repute	HealthCareProvider.name ENXP (qualifier)
Name Purpose	Mailing Cheques Correspondence	NA
Legal Indicator	Set to 1 for the legal name, 0 for a non-legal name	HealthCareProvider.name EN (use)
Preferred Name	Set to 1 for the preferred name, 0 otherwise.	HealthCareProvider.name LIST<EN> sequence
Name Text	The name referenced.	HealthCareProvider.name LIST<ENXP (type, qualifier, value)>
Start date	When the name became effective	HealthCareProvider.name EN (validTimeLow)
End Date	When the name became no longer used.	HealthCareProvider.name EN (validTimeHigh)

Table 5.14 Service Provider Address (HSDr1 Section 17.1.14)

HDS Description		
A service provider may have zero, one or more addresses that relate to them personally outside of the context of any agency relationship. Each address is identified by type and purpose. For example: residence, mailing, and so on. These are generally used by administrators (college or regulating body perhaps) and are normally protected from general view.		
HL7 Mapping Notes		
HL7 Reference: Personnel Management Domain, Provider Topic HSDr1 Service Provider Address entity maps to HL7 addr attribute of the HealthCareProvider class. In the universal model HealthCareProvider.addr is data type COLL<AD>. The AD (PostalAddress) data type specializes LIST<ADXP> (AddressPart).		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	From Service Provider entity	HealthCareProvider.id
Address Line 1	Civic address part	HealthCareProvider.addr ADXP (type, value)
Address Line 2	Civic address part	HealthCareProvider.addr ADXP (type, value)
Jurisdiction	(City, Town, Village, Area) points within a hierarchy that travels from Country down to the lowest level of jurisdiction within the specified country.	HealthCareProvider.addr ADXP (type, value)
Postal Identification code	Postal code, zip code, etc.	HealthCareProvider.addr ADXP (type, value)
Address Type	Residential, Business, Temporary	HealthCareProvider.addr AD (use)
Address Purpose	Mailing, Delivery, Shipping	NA
Start Date	The first day on which this address is effective	HealthCareProvider.addr AD (validTimeLow)
End Date	The last day on which this address is effective	HealthCareProvider.addr AD (validTimeHigh)

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Table 5.15 Service Provider Contact Point (HSDr1 Section 17.1.15)

HDS Description		
A service provider may have zero, one or more contact points that relate to them personally outside the context of any agency relationship. Each contact point is identified by a type and a purpose. An example of a contact point that is personal might be: a home fax number, a cell phone number, or an email address. These are generally used by administrators (college or regulating body perhaps) and are normally protected from general view.		
HL7 Mapping Notes		
HL7 Reference: Personnel Management Domain, Provider Topic HSDr1 Service Provider Contact Point entity maps to HL7 telecom attribute of HealthCareProvider . In the universal model HealthCareProvider.telecom is data type COLL<TEL>.		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	From Service Provider above	HealthCareProvider.id
Contact Point Type	Phone, Fax, Pager, email	HealthCareProvider.telecom TEL (value expressed as URI)
Contact Point Equipment	Cell, Fixed Line, TTY, NA	HealthCareProvider.telecom TEL (capabilities)
Contact Point Purpose	Residential, Business, Personal	HealthCareProvider.telecom TEL (use)
Contact Point Text	The contact reference	HealthCareProvider.telecom TEL (value expressed as URI)
Contact Point Format String	A string indicating how the reference is to be understood. Email for example would indicate [a-z, 1-0, '._-']*@[a-z, 1-0, '._-']*	Conforms to Internet standard RFC 2396
Start Date	The first day on which this contact point becomes effective.	HealthCareProvider.telecom TEL (validTimeLow)
End Date	The last day on which this contact point is effective.	HealthCareProvider.telecom TEL (validTimeHigh)

Table 5.16 Service Provider Identifier (HSDr1 Section 17.1.16)

HDS Description		
A service provider may be known by various identifiers issued by numerous authorities. Each identifier is specified with a type as well as the issuing authority and a controlling authority. These identifiers could represent things as mundane as a passport number to clinical identifiers such as a provider's health billing number.		
HL7 Mapping Notes		
HL7 Reference: Personnel Management Domain, Provider Topic HSDr1 Service Provider Identifier entity maps to HL7 RoleOther class associated to the HealthCareProvider class through a relatedTo role link. Each RoleOther contains an identifier specified by an issuing authority (scopingOrganization). Note: RoleOther needs to be added to RMIM.		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	From the Service Provider entity above	HealthCareProvider.id
Identifier Type	Medical Record Number, Driver's License, Provincial Health Number, National Health Number, etc.	RoleOther.classCode

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Identifier Issuing Authority	Provincial Department of Health, St. Michael's Hospital (for example)	RoleOther.scopingOrganization
Identifier Controlling Authority	Public Works and Government Services, Health Region (for example)	scopingOrganization.territorialAuthority
Identifier Text		RoleOther.id
Start Date	The effective start date of this identifier	RoleOther.effectiveTime (validTimeLow)
End Date	The effective end date of this identifier	RoleOther.effectiveTime (validTimeHigh)
Privacy Indicator	If set to 1, this identifier will not show up on view screens – but may be used in searches to find a service provider.	RoleOther.confidentialityCode

Table 5.17 Service Provider Credential (HSDr1 Section 17.1.17)

HDS Description		
A service provider may have zero, one or more credentials indicating their academic and professional certifications.		
HL7 Mapping Notes		
<p>HL7 Reference: Personnel Management Domain, Provider Topic HSDr1 Service Provider Credential entity maps to HL7 QualifiedEntity class which is associated with HealthCareProvider via the relatedTo role link. Verification of the license is conveyed in a Verification observation. From the Personnel Management walk-through: Qualified Entity: <i>This role describes specific qualifications that may be held by an Entity (Person, Animal or Device) as a result of training or experience, but having no legal force. Example: a medical degree or diploma.</i></p>		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	From Service Provider entity above	HealthCareProvider.id
Credential Code	A code from a predefined credential list.	QualifiedEntity.code
Start Date	The effective start date of this entry	QualifiedEntity.effectiveTime (validTimeLow)
End Date	The effective end date of this entry	QualifiedEntity.effectiveTime (validTimeHigh)
Status	Unverified, Verified, Not Valid	QualifiedEntity.subjectOf.Verification.value

Table 5.18 Service Provider Qualifications (HSDr1 Section 17.1.18)

HDS Description		
A service provider may have zero, one or more qualifications based on their experience and training.		
HL7 Mapping Notes		
<p>HL7 Reference: Personnel Management Domain, Provider Topic HSDr1 Service Provider Qualification entity maps to HL7 QualifiedEntity class which is associated with HealthCareProvider via the relatedTo role link. Verification of the qualification is conveyed in a Verification observation.</p>		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	From Service Provider entity above	HealthCareProvider.id

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Qualification Code	A code from a predefined qualification list.	QualifiedEntity.code
Start Date	The effective start date of this entry	QualifiedEntity.effectiveTime (validTimeLow)
End Date	The effective end date of this entry	QualifiedEntity.effectiveTime (validTimeHigh)
Status	Unverified, Verified, Not Valid	QualifiedEntity.subjectOf.Verification.value

Table 5.19 Service Provider Practice/Service (HSDr1 Section 17.1.19)

HDS Description		
A service provider offers a Service based upon their credentials and qualifications.		
HL7 Mapping Notes		
<p>HL7 Reference: Personnel Management Domain, Provider Topic</p> <p>The HSDr1 Service Provider Practice/Service entity may map to the HL7 Privilege class associated to the HealthCareProvider through a responsibleFor participation.</p> <p>From HL7 Personnel Management DMIM: <i>Privilege: An Entity may be conferred certain Privileges that are defined against the performing Role (one of several possible focal roles in the model). Privileges, in the RIM model, are Acts in permission (PERM) or permission request (PERMQ) mood. Since any ACT could, at least in theory, be the subject of a Privilege, the Privilege clone has the simple classcode of "Act". Specification of the particular kind of Act spans the ActCode domain.</i></p>		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	From Service Provider entity above	HealthCareProvider.id
Practice/Service Code	A code from a predefined specialty list.	Privilege.classCode + Privilege.code
Start Date	The effective start date of this entry	Privilege.effectiveTime (low)
End Date	The effective end date of this entry	Privilege.effectiveTime (high)
Status	Unverified, Verified, Not Valid	QualifiedEntity, LicensedEntity subjectOf Verification

Table 5.20 Service Provider Site Specialty (HSDr1 Section 17.1.20)

HDS Description		
A service provider, in addition to the base Practice/Service offered, may be able to work under only specified specialties within a given site. If a hospital, for example, the physician provider may only be licensed to act in one specialty, whereas in another site, they may be able to work in different specialties.		
HL7 Mapping Notes		
<p>HL7 Reference: Personnel Management Domain, Provider Topic</p> <p>HSDr1 Service Provider Site Specialty entity maps to ActDefinitionOrEvent which links HealthCareProvider to ServiceDeliveryLocation. It describes the acts (services, procedures) that can be performed by a HealthCareProvider at a given ServiceDeliveryLocation.</p>		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	From Service Provider entity above	HealthCareProvider.id
Service Site	From Service Site entity below	ServiceDeliveryLocation.id

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Specialty Code	A code from a predefined specialty list.	ActDefinitionOrEvent.classCode + ActDefinitionOrEvent.code
Start Date	The effective start date of this entry	ActDefinitionOrEvent.effectiveTime (low)
End Date	The effective end date of this entry	ActDefinitionOrEvent.effectiveTime (high)

Table 5.21 Service Provider Language (HSDr1 Section 17.1.21)

HDS Description		
A service provider is able to deliver services in one or more languages. This entity records the capabilities of the provider within the identified languages, and is useful for the referral processes.		
HL7 Mapping Notes		
HL7 Reference: Personnel Management Domain, Provider Topic HSDr1 Service Provider Language entity maps to HL7 LanguageCommunication class which is associated with the PrincipalPerson who plays the role of HealthCareProvider		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	From Service Provider entity above	HealthCareProvider.id
Language Code	A code from a predefined language list.	LanguageCommunication.languageCode
Start Date	The effective start date of this entry	NA
End Date	The effective end date of this entry	NA

Table 5.22 Service Provider License / Registration (HSDr1 Section 17.1.22)

HDS Description		
A service provider may be regulated by one or more external bodies, and only able to practice at the discretion of those bodies. This entity holds the particular status of the service provider within the various bodies under which they are controlled.		
HL7 Mapping Notes		
HL7 Reference: Personnel Management Domain HSDr1 Service Provider License/Registration entity maps to HL7 HealthCareProvider . The HL7 HealthCareProvider role is defined a “an Entity (player) that is authorized to provide health care services by some authorizing agency (scoper).” It is a specialization of licensed entity. This authorizing agency is in turn associated with a TerritorialAuthority .		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	From Service Provider entity above	HealthCareProvider.id
Governing Body	From a reference table of governing bodies	issuingOrganization
Status	Status of this provider within this governing body (Member in good standing, Pending Status, Suspended, Under Investigation, Removed)	HealthCareProvider.statusCode
Start Date	The effective start date of this entry	HealthCareProvider.effectiveTime (low)
End Date	The effective end date of this entry	HealthCareProvider.effectiveTime (high)

Table 5.23 Service Provider Service Site (HSDr1 Section 17.1.23)

HDS Description		
A service provider may work from zero, one or more service sites.		

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HL7 Mapping Notes		
HL7 Reference: Personnel Management Domain, Provider Topic		
HSDr1 Service Provider Service Site entity maps to ActDefinitionOrEvent which links HealthCareProvider to ServiceDeliveryLocation. It describes the acts (services, procedures) that can be performed by a HealthCareProvider at a given ServiceDeliveryLocation.		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	From the Service Provider entity	HealthCareProvider.id
Service Site Id	From the Service Site Entity	ServiceDeliveryLocation.id
Start Date	The effective start date of this entry	ActDefinitionOrEvent.effectiveTime (low)
End Date	The effective end date of this entry	ActDefinitionOrEvent.effectiveTime (high)
Status	The status of the provider within this site. Approved, Pending, Unapproved, Deleted	ActDefinitionOrEvent.statusCode

Table 5.24 Service Provider Site Role (HSDr1 Section 17.1.24)

HDS Description		
A service provider may be restricted to zero, one or more roles within a site.		
HL7 Mapping Notes		
HL7 Reference: Personnel Management Domain, Provider Topic		
HSDr1 Service Provider Site Role entity may map to ActDefinitionOrEvent which links HealthCareProvider to ServiceDeliveryLocation. It describes the effective time and status of a HealthCareProvider working at a given ServiceDeliveryLocation. The difference between this entity and Service Provider Site Specialty is not clear.		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	From the Service Provider entity	HealthCareProvider.id
Service Site Id	From the Service Site Entity	ServiceDeliveryLocation.id
Start Date	The effective start date of this entry	ActDefinitionOrEvent.effectiveTime (low)
End Date	The effective end date of this entry	ActDefinitionOrEvent.effectiveTime (high)
Role	The role the service provider plays within the site. Defined in a reference list of valid roles.	ActDefinitionOrEvent.classCode + ActDefinitionOrEvent.code

Table 5.25 Service Provider Referral Method (HSDr1 Section 17.1.25)

HDS Description		
A service provider may specify zero, one or more referral methods under which they may be referred by colleagues.		
HL7 Mapping Notes		
HL7 Reference: Care Provision domain, Clinical Document topic		
The HSDr1 Service Provider Referral Method entity may map to PatientCareProvisionRequest code attribute constrained to the ActCareProvisionRequestType concept domain but the HL7 model describes the referral type for a specific referral rather than defining the collection of acceptable referral types for a service provider.		
From HL7 Vocabulary Domains: <i>ActCareProvisionRequestType - Concepts identifying different types of referral requests. These concepts</i>		

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identify the general type of care or category of services requested. They are not used to represent the indication or diagnosis which triggered the need for the referral.

HSD Attribute	HSD Description	Related HL7 Attribute
Service Provider Id	From the Service Provider entity	HealthCareProvider.id
Referral Method Code	A code that identifies a referral method that is acceptable to this provider	PatientCareProvisonRequest.code < ActCareProvisionRequestType
Start Date	The effective start date for this association	NA
End Date	The effective end date of this association	NA

Table 5.26 Service Site Provider Referral Method (HSDr1 Section 17.1.26)

HDS Description		
A service provider can specify the referral methods which are applicable to them for a given service location.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	From the Agency entity	
Service Site Id	From the Service Site Entity	
Service Provider Id	From the Service Provider entity	
Referral Method Code	A code that identifies a referral method that is acceptable to this provider within this agency at this site.	
Start Date	The effective start date for this association	
End Date	The effective end date of this association	

Table 5.27 Service Site Provider Contact Point (HSDr1 Section 17.1.27)

HDS Description		
A service provider may have specific contact point information that is relevant to a particular service site. Each contact point is described by a type and a purpose.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	From the Agency entity	AssignedEntity.id
Service Site Id	From the Service Site entity	ServiceDeliveryLocation.id
Service Provider Id	From Service Provider	HealthCareProvider.id
Contact Point Type	Phone, Fax, Pager, email	ServiceDeliveryLocation.telecom TEL (value expressed as URI)
Contact Point Equipment	Cell, Fixed Line, TTY, NA	ServiceDeliveryLocation.telecom TEL (capabilities)
Contact Point Purpose	Residential, Business, Personal	ServiceDeliveryLocation.telecom TEL (use)
Contact Point Text	The contact reference	ServiceDeliveryLocation.telecom TEL (value expressed as URI)
Contact Point Format String	A string indicating how the reference is to be understood. Email for example would indicate [a-z, 1-0, '._-']*@[a-z, 1-0, '._-']*	Conforms to Internet standard RFC 2396
Start Date	The first day on which this contact point becomes	ServiceDeliveryLocation.telecom

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	effective.	TEL (validTimeLow)
End Date	The last day on which this contact point is effective.	ServiceDeliveryLocation.telecom TEL (validTimeHigh)

Table 5.28 Service Site (HSDr1 Section 17.1.28)

HDS Description		
A service site is some place where service is provided. This may be a bricks-and-mortar location, a mobile laboratory, a temporary location, or any other relevant site.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Site Id	A system assigned Id for each unique service site	Place.id
Description	A textual description of the service site	Place.desc
Service Availability Time Block	The size of the time block used to define availability schedules for this site: expressed in hours.	ResourceSlot.effectiveTime
Start Date	The effective start date of this service site	ServiceDeliveryLocation.effectiveTime (low)
End Date	The effective end date of this service site	ServiceDeliveryLocation.effectiveTime (high)

Table 5.29 Service Site Geographical Coordinates (HSDr1 Section 17.1.29)

HDS Description		
A service site may be described in many different ways in order to place the site into a geographical context. For example: one method is to assign to each site a longitude, latitude and altitude. Another method is to assign each site within some larger context such as a bounded area which could be defined by postal codes, electoral districts, or some other means of dividing areas. Each method of description is represented by a different instance within this entity, allowing a service site to have zero, one or more geographical definitions.		
HL7 Mapping Notes		
A PositionCoordinate CMET (CTCT MT960000UV)		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Site Id	From the Service Site entity	ServiceDeliveryLocation.id
Geo Reference Id	A unique id assigned within this entity	Position.id
Geo Reference Method Code	A code that defines the geo method being used	Position.code
Geo Text 1	A text field defining the first value in the coordinates required (ie: longitude)	PositionCoordinate.value
Geo Text 2	A text field defining the second of the coordinates required (ie; latitude)	PositionCoordinate.value
Geo Text 3	A text field defining the third of the coordinates required (ie: altitude)	PositionCoordinate.value
Start Date	The effective start date of this entry	Position.effectiveTime (low)
End Date	The effective end date of this entry	Position.effectiveTime (high)

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Table 5.30 Service Site Contact Point (HSDr1 Section 17.1.30)

HDS Description		
A service site may have zero, one or more contact points associated with it. Each contact point is described through a type and purpose.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Site Id	From the Service Site entity	ServiceDeliveryLocation.id
Contact Point Type	Phone, Fax, Pager, email	ServiceDeliveryLocation.telecom TEL (value expressed as URI)
Contact Point Equipment	Cell, Fixed Line, TTY, NA	ServiceDeliveryLocation.telecom TEL (capabilities)
Contact Point Purpose	Residential, Business, Personal	ServiceDeliveryLocation.telecom TEL (use)
Contact Point Text	The contact reference	ServiceDeliveryLocation.telecom TEL (value expressed as URI)
Contact Point Format String	A string indicating how the reference is to be understood. Email for example would indicate [a-z, 1-0, ' . -']*@[a-z, 1-0, ' . -']*	Conforms to Internet standard RFC 2396
Start Date	The first day on which this contact point becomes effective.	ServiceDeliveryLocation.telecom TEL (validTimeLow)
End Date	The last day on which this contact point is effective.	ServiceDeliveryLocation.telecom TEL (validTimeHigh)

Table 5.31 Service Site Address (HSDr1 Section 17.1.31)

HDS Description		
For a fixed service site, there may be zero, one or more addresses specified. Each address is described through a type and purpose.		
HL7 Mapping Notes		
HL7 Reference: Patient Administration domain, Service Delivery Location topic HSDr1 Service Site Address entity maps to HL7 addr attribute of the ServiceDeliveryLocation class. In the universal model ServiceDeliveryLocation.addr is data type COLL<AD>. The AD (PostalAddress) data type specializes LIST<ADXP> (AddressPart).		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Site Id	From Service Site entity	ServiceDeliveryLocation.id
Address Line 1	Civic address part	ServiceDeliveryLocation.addr ADXP(type, value)
Address Line 2	Civic address part	ServiceDeliveryLocation.addr ADXP(type, value)
Jurisdiction	(City, Town, Village, Area) points within a hierarchy that travels from Country down to the lowest level of jurisdiction within the specified country.	ServiceDeliveryLocation.addr ADXP(type, value)
Postal Identification code	Postal code, zip code, etc.	ServiceDeliveryLocation.addr ADXP(type, value)
Address Type	Residential, Business, Temporary	ServiceDeliveryLocation.addr AD(use)
Address Purpose	Mailing, Delivery, Shipping	
Start Date	The first day on which this address is effective	ServiceDeliveryLocation.addr AD(validTimeLow)

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End Date	The last day on which this address is effective	ServiceDeliveryLocation.addrAD(validTimeHigh)
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Table 5.32 Service Site Referral Method (HSDr1 Section 17.1.32)

HDS Description		
A service site may identify the referral methods that are appropriate to its circumstances.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Site Id	From the Service Site entity	
Referral Method Code	A code that identifies a referral method that is acceptable to this site	
Start Date	The effective start date for this association	
End Date	The effective end date of this association	

Table 5.33 Service Site Instance Characteristic (HSDr1 Section 17.1.33)

HDS Description		
Characteristics are those things of interest to the business that further define a service site. This is table driven, so there is not a set list of characteristics defined. In general, the characteristics that one defines would assist in locating a service site with appropriate capability for the given referral one is trying to make. (One example of a characteristic might be whether the site is accessible to wheel chairs.)		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Site Id	From the Service Site entity	
Characteristic Id	From the Characteristic reference table	
Characteristic Value	The content value of the specified characteristic	
Start Date	The effective start date of this entry	
End Date	The effective end date of this entry	

Table 5.34 Service Site Identifier (HSDr1 Section 17.1.34)

HDS Description		
A service site may be known by many different coding systems across the portfolio of systems that interact. This entity provides for cross-referencing those identifiers to a single common identifier (canonical id.) Each identifier is described by a type, issuing authority and controlling authority.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Site Id	From the Service Site entity	
Identifier Type	System Identifier, Global Reference, Jurisdiction Reference	
Identifier Issuing Authority	Provincial Department of Health, St. Michael's Hospital (for example)	
Identifier Controlling	The body responsible for governance of the id. In this case, it could	

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Authority	be an external system	
Identifier Text		
Start Date	The effective start date of this identifier	
End Date	The effective end date of this identifier	
Privacy Indicator	If set to 1, this identifier will not show up on view screens – but may be used in searches to find a service site.	

Table 5.35 Service Site Target Group (HSDr1 Section 17.1.35)

HDS Description		
Some service sites are directed to specific target groups: the site might be on a reserve and available to First Nations peoples. A site might be in existence to serve the HIV community, and so on. This entity allows a site to be classified if required.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Site Id	From the Service Site entity	
Target Group Id	From the Target Group reference table	
Start Date	The effective start date of this entry	
End Date	The effective end date of this entry	

Table 5.36 Service Site Setting (HSDr1 Section 17.1.36)

HDS Description		
This entity describes the service site with respect to facilities arrangement. Is this a walk-in clinic, a corporate office environment, a surgical suite, and so on?		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Site Id	From the Service Site entity	
Setting Id	From the Setting reference table	
Start Date	The effective start date of this entry	
End Date	The effective end date of this entry	

Table 5.37 Agency Service Site Catchment Area (HSDr1 Section 17.1.37)

HDS Description		
This entity provides for grouping service sites into geographical areas appropriate for specific agencies, each with their own catchment area. This is to assist in the selection of sites for referral management.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Agency Id	From the Agency entity	
Service Site Id	From the Service Site entity	
Catchment Area Id	From the Catchment Area reference table	
Start Date	The effective start date of this entry	
End Date	The effective end date of this entry	

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Table 5.38 Service Site Availability (HSDr1 Section 17.1.38)

HDS Description		
This entity identifies the hours of operation for this service site. The calendar may be different than that of associated providers or agencies and is used in booking and in managing calendars under resources and providers.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Site Id	From Service Site entity	
Date	Year/Month/Day of entry	
Time Available	Expressed in time blocks from Service Site	
Start Date	Effective Start date of this entry	
End Date	Effective end date of this entry	

Table 5.39 Service Site Resource (HSDr1 Section 17.1.39)

HDS Description		
A service site may have zero, one or more additional resources other than service providers, which can be evaluated for referrals, and if necessary, booked.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Service Site Id	From the Service Site entity	
Resource Id	From the Resource entity	
Start Date	The effective start date of this association	
End Date	The effective end date of this association	
Resource Booking Time Block	The size of the time block used in booking this resource at this site. Expressed in minutes.	

Table 5.40 Provider Service Site Availability (HSDr1 Section 17.1.40)

HDS Description		
A provider within a given service site, has a calendar as to when they are available. Waitlist management would book against this calendar. The service site availability must mesh with the service site calendar and any restrictions on related resource availability. A provider can specify availability in configurable time segments which can vary from those used within related resources. For example, at one site a provider may book 15 minute blocks, whereas at another site they may book 30 minute blocks.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Provider Service Site Availability Id	A system generated unique value for this time block at this site, for this provider.	
Service Site Id	From Service Site entity	
Service Provider Id	From Service Provider entity	

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Date	Year/Month/Day of entry	
Time Block Start	The start time of a specified block	
Time Block End	The end time of a specified block	

Table 5.41 Service Site Resource Availability (HSDr1 Section 17.1.41)

HDS Description		
A resource within a given service site may have an availability schedule that is based on the cycle times required of the resource. For example, an MRI may have a different loading capacity than a dialysis machine. Each must be able to specify its availability in appropriate blocks of time which may vary from each other, and from those of any service providers. It is against this schedule that any appointments are booked within waitlist management.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Resource Availability Id	A unique id reserved for this block of time for this Site and Resource	
Service Site Id	From Service Site entity	
Resource Id	From Resource entity	
Date	Year/Month/Day of entry	
Time Block Start	The start time of a specified block	
Time Block End	The end time of a specified block	

Table 5.42 Resource (HSDr1 Section 17.1.42)

HDS Description		
A resource is any specialized piece of equipment (testing or otherwise) that may be scheduled either directly or through a service provider appointment.		
HL7 Mapping Notes		
PrincipalDevice		
HSD Attribute	HSD Description	Related HL7 Attribute
Resource Id	A unique system assigned Id for each resource	
Description	A description of the resource	
Resource Type	A code that classifies the resource	
Start Date	The effective start date for this entry	
End Date	The effective end date for this resource	

Table 5.43 Resource Restricted Availability (HSDr1 Section 17.1.43)

HDS Description		
A resource may have periods of time when it is not available due to preventive maintenance, shut down, break and repair, and so on. This entity may contain no entries, in which case the resource is fully available, or may contain black-out periods when the resource is no longer available.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute

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Resource Id	From Resource entity	
Date	Year/Month/Day of entry	
Time Block Start	The start time of a specified block	
Time Block End	The end time of a specified block	
Reason Code	A code that specifies the reason as to why the resource is not available within this time block	

Table 5.44 Resource Instance Capability Characteristic (HSDr1 Section 17.1.44)

HDS Description		
A resource may be qualified é described by certain characteristics that allow it to be better identified in automated searching / matching during the eReferral processes. This entity provides for predefined characteristics to be linked to a given resource.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Resource Id	From the Resource entity	
Characteristic Id	From the Characteristic reference table	
Characteristic Value	The content value of the specified characteristic	
Start Date	The effective start date of this entry	
End Date	The effective end date of this entry	

Table 5.45 Resource Identifier (HSDr1 Section 17.1.45)

HDS Description		
A resource may be known by any number of external identifiers. This entity records any identifiers that would assist in finding a resource whether through a manual or automated interface.		
HL7 Mapping Notes		
HSD Attribute	HSD Description	Related HL7 Attribute
Resource Id	From the Resource entity	
Identifier Type	System Identifier, Global Reference, Jurisdiction Reference	
Identifier Issuing Authority	Provincial Department of Health, St. Michael’s Hospital (for example)	
Identifier Controlling Authority	The body responsible for governance of the id. In this case, it could be an external system	
Identifier Text		
Start Date	The effective start date of this identifier	
End Date	The effective end date of this identifier	
Privacy Indicator	If set to 1, this identifier will not show up on view screens – but may be used in searches to find a resource.	

Table 5.46 Site Resource Booking (HSDr1 Section 17.1.46)

HDS Description
A resource at a given site may be booked either independently (link to Client) or through a provider

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booking (link to Provider Service Site Booking.) A resource must be booked in increments of time as defined within the related Service Site Resource Availability entity. This entity is referenced exclusively by waitlist management.

HL7 Mapping Notes

HSD Attribute	HSD Description	Related HL7 Attribute
Resource Availability Id	From Service Site Resource Availability entity	
Client Id	From the Client Registry	
Provider Service Site Booking Id	From the Provider Service Site Booking entity	

Table 5.47 Provider Service Site Booking (HSDr1 Section 17.1.47)

HDS Description

A provider is booked in increments of time as determined within the Provider Service Site Availability entity. This entity is referenced exclusively by waitlist management.

HL7 Mapping Notes

HSD Attribute	HSD Description	Related HL7 Attribute
Provider Service Site Availability Id	From the Provider Service Site Availability entity	
Client Id	From the Client Registry	
Referral Reference Id	A reference id from an external referral system that identifies who has referred this client into this availability slot.	