HSPC’s Impact to the Health Industry

2018-2024 Roadmap

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# Executive Summary

# Introduction

*Note to Reader: This document is an early draft. The content is in the early stages of development and is provided for review, comment, and refinement.*

## Purpose of this document (.25 page)

* document consensus view across HSPC community
* Establish a shared vision to help align, incentivize, and coordinate activities across a broad and diverse community en route to achieving HSPC goals
* Clearly identify tangible products and milestones for the community

## Why produce a Roadmap? (.3 page)

* Burgeoning need of HIT industry for a cohesive vision of the future
* Not boiling the ocean
* Provide an “at a glance” view of the principal activities underway and envisioned as part of HSPC.
* Applies good Enterprise Architecture practice to separate concerns and show interrelationships and the multi-dimensionality of our very complex problem space

## What this document is (and isn’t) (.3 page)

* Reflects the mainstream of activities supported by and fostered by HSPC
* Articulation of the priorities and principal work being done in HSPC
* Does not prohibit HSPC or HSPC members from working on other activities
* Does not limit new or incubating work that might come into HSPC
* Not every project needs to be on the roadmap;
* Not an exhaustive list of products, nor does it replace project management tools (GANTT and WBS)
* Not inherently intended to replace HSPC Strategic Initiatives, rather it is an assembly of projects and initiatives into a cohesive and architecturally sound “separation of concerns”

## How to use this Document (.5 page)

* Forward reference to section 5
* Industry View
  + Define what we’re up to – communication vehicle
  + Documents priorities, deliverables, expectation setting
* HSPC View
  + Call out intra-HSPC use – community level
  + Call out HSPC project use
  + Call out HSPC Initiative use
  + Call out member use
  + Call out HSPC Governance
* Member View
  + Align internal and industry efforts
  + Determine co-investment/collaborative activities
  + Interop/strategic planning

## Introducing the T-Map Construct (1 page)

* T-Map is a tool to provide a visual representation of the roadmap
* T-Map is a visualization to allow for an “at a glance” view of complex interdependent disciplines en route to a shared future vision state.
* Based upon intellectual property concepts contributed to The Open Group, used with permission
* Contains five core elements:

1. Vignette of the current state, characterizing the challenges and problems existent
2. Short vision of the “future” state, based upon a successful execution and transformation of the roadmap
3. Swimlanes, separated based upon enterprise architecture principles, representing dimensions of the problem space, and characterized by a principal objective
4. Phases delineating what major milestones and core achievements will be realized, and indication of co-dependencies among the swimlanes
5. Swimlane specific milestones, evidence based and measurable, indicating specific achievements



<explanation in narrative about how the pieces come together goes here>

# HSPC-driven Health Industry Transition Map (T-Map)

## Future State Vision

*Describe the agreed-upon future state, elaborating on the bullets that were agreed to in the roadmap. Clarify the role of HSPC in realizing this vision, and how the scope/breadth of the future state were curtailed based upon those areas that HSPC felt we could add value to.*

***Note that this is in part an articulation of the value proposition of HSPC to the industry writ large***

* Full system transparency providing information where/when needed
* Realization of the “Learning Health System”
* Evidence of improved value and outcomes – value-based care
* Standardized workflow
* Benefits realized from rapid innovation and adoption
* Gold-standard interoperability through evidence-based confo3rmance testing

*Will rationalize the future state and articulate the role of the HSPC community and key HSPC projects as achieving that future vision within industry. Section will speak briefly to some of those topics deliberately not included in the future state, particularly those with which HSPC agrees but has not material contribution to. Ultimately this is not a “boil the ocean” vision, rather it is bringing out those areas of the health sector to which HSPC can make an impact.*

## Inclusion Criteria – What belongs on the Roadmap and why

* *Articulate the inclusion criteria developed at SLC Workshop*
* Rationalize why they were selection and how they have been applied
* Activities/milestones need to affect the “future state” vision
* Achievable/practical
* Openness, vendor neutral
* Impact more than one effort or stakeholder group
* “In our wheelhouse”

## Transition Roadmap (T-Map)

*Section will include 2-3 paragraphs describing the core content of the T-Map and a short visibility into key design decisions. Will tease the process by which it was developed, forward referencing the Appendix which will elaborate that in detail*

*This section will rationalize why the swimlanes and segments were selected as they appear, and allude to other key design decisions around the framework.*



**Insert graphic name – HSPC Preliminary Roadmap**

*Following the graphic will be forward-references to the subsequent sections where detail can be found about the dimensionality view (swimlanes), the phasing (timeline), and the intersect with current HSPC activities (project/initiative drilldown).*

*The section will close with a summary paragraph articulating in words what the visual says in pictures. This paragraph is intended to be the Executive Summary of the overall roadmap, as concisely as possible describing our plan and our vision.*

# Segment-oriented View

* *Introduction of the segments [uber-swimlanes]*
* *recap of the rationalization for their selection and existence*
* *Explain the nature of “separation of concerns”; relate to EA Principles and Open Group design practices*
* *Briefly forward-reference the Project/Initiative relationship, indicating that swimlanes are NOT intended to represent either, and that any given project or initiative will manifest in many if not all of the swimlanes*
* *Provide the definition, context, scope of each*

## Content Segment

* *[NOTE that this pattern repeats for all Segments; and similar for Swimlanes]*
* *Indicate what problems it is trying to solve*
* *Contextualize the segment, particularly as relating to other segments and its role in achieving our industry vision*
* *Articulate “why we care” – explain the “so what”*

### Data Swimlane

* *Introduce the overarching principal objective (the “tag line”). Rationalize it*
* *Provide a tour of the Swimlane, building to the penultimate milestone and the target state*
* *Explain the swimlane phase by phase. Call out particularly relevant milestones and relate them to their role in advancing toward the target state. Where a phasing represents a major deliverable of availability of capability, describe that and rationalize it.*
* *Relate activities within the swimlane to either existing HSPC initiatives, existing projects, or needed investments.*

### Knowledge Swimlane

(see above)

## Context Segment

### Business Swimlane

### Security Swimlane

## Platform Segment

### Infrastructure Swimlane

### Software Swimlane

* Objective: Software supporting open, standards-based interoperability of data/information/knowledge and applications. Today, data/information/knowledge is locked in mostly proprietary formats with little ability to share across HIT products and health provider organizations. Sharing that does take place is typically at a high level using document-oriented standards. Knowledge assets, such as decision support logic and care practice guidelines, are almost entirely locked into vendor-specific and technology specific products. Software, including tools, services and applications, that are open and standards-based may allow the health provider community to share the various information assets produced by health providers, HIT vendors, and knowledge creators more efficiently and completely.
* Milestones:
  + Knowledge Repository Specification: A Knowledge Repository (KR) is necessary in the Platform in order to contain and share knowledge artifacts. The KR Specification outlines the functions that a KR needs to support, including artifact storage capabilities, metadata requirements, artifact access services, and governance policies. Document. Phase 1. No dependencies.
  + Marketplace API Specification: The Marketplace is where developers of information assets can make their products available to others in the health community, and where customers can browse, find and access/download these assets. The API Specification describes how developers and customers can access the Marketplace. Note that there may actually be more than one physical/virtual Marketplace, but a single API specification would help developers and customers to access any Marketplace in a common way. Document. Phase 1. No dependencies.
  + CDS Hooks Support: CDS Hooks is a newer specification, now under HL7 oversight, for allowing CDS services to be called from an HIT application (e.g., EHR) using a standard API and triggering events. Support for CDS Hooks within the Platform is a first step towards a more general capability to support decision support logic in an open, standards-based environment. Software Deliverable. Phase 1. Dependencies on Development Environment Initiative and its resources, CDS Hooks leadership and resource support.
  + Terminology Services API: In order to be truly interoperable, data will need to be transformed from a source terminology (standard or proprietary) to a secondary terminology. Applications, including decision support services, will also need to access terminology in order to resolve terms, domains, and term relationships. Translations may also be needed for terminology within knowledge assets. The Terminology Services API will provide open, standards-based methods for handling these terminology functions at run-time. Software Deliverable. Phases 1 and 2. Dependency on Content Segment leadership, terminology server, and terminology content for testing.
  + Knowledge Authoring Environment: In order to support efficient generation and editing of sharable knowledge assets, including decision support logic, automated guidelines, and survey tools, a Knowledge Authoring Environment that incorporates terminology services and approved data models is needed. This Environment would access the KR for storage of knowledge assets. Software Deliverable. Phase 2. Dependency on Content Segment leadership for requirements.
  + KR View, Review and Curation Tools: Users of the KR will need to view assets within the KR in vendor and technology agnostic environment. The assets will also need to go through a review process during their development lifecycle, and tools to support this process are needed so that reviewers may make comments on assets and these comments can be efficiently addressed by developers. Curation tools will allow the full lifecycle of the knowledge assets to be handled, from original development to review, and subsequently to testing, promotion, regular review and retirement. Software Deliverable. Phase 2. Dependency on Content Segment leadership for requirements and sample knowledge content for testing.
  + KR API: The KR API will support the various functions of the KR for creating, editing, searching, accessing, and managing the knowledge assets within the KR. It is informed by the KR Specification. Software Deliverable. Phase 2. Dependent on Content Segment leadership for requirements.
  + Model Authoring Environment: This is a special case of the Knowledge Authoring Environment since models are a knowledge asset. The Model Authoring Environment will allow model authors to develop detailed clinical models according to best practices and aligned with a specific modeling language. Software Deliverable. Phase 2. Dependent on Content Segment leadership for requirements.
  + Publication/Subscription/Notification Capability: A Publication/Subscription capability allows systems to publish events on their systems in an open, standards-based method, and allows users to subscribe to events of interest to them. The notification capability provides notification of events through multiple communication channels (e.g., email, text, cell phone alerts) and allows users to specify their channel of choice. Software Deliverable. Phase 3, but may be available much earlier (Phase 1 or 2). No dependencies.
  + ADL/AML to FHIR Services: These services would provide the capability to transform models, and model instances, from ADL/AML (the preferred languages for HSPC detailed clinical modeling) to FHIR Resources. FHIR Resources are the current physical messaging model chosen by HSPC for transmitting and sharing data. Software Deliverable. Phase 3. Dependency on Tooling Initiative and input from Content Segment.
  + Artifact/Model Transform Tools: These tools are the general case tools for transforming models from one standard to another. (See AD/AML to FHIR Services for a specific use case.) Software Deliverable. Phase 3. Dependency on Tooling Initiative.
  + Data Analytics Environment: Needs definition.
* Phases:
* Related HSPC Activities:
  + Terminology and Modeling Initiative: Milestones within the Software Swimlane are influenced by projects within the Terminology and Modeling Initiative (TMI). Specifically:
    - Terminology developed and/or endorsed by the TMI will be supported in software deliverables, primarily through software services. The TMI will also lead the project to select and support a Terminology Server and Terminology Services, but the Software Swimlane will handle actual implementation and ownership of the products.
    - Similarly, data models, and more specifically physical model implementations, will be support in software deliverables. They will likely influence aspects of data services and knowledge services developed and supported in Milestones within the Software Swimlane.
  + Development Environment Initiative: Projects within the Development Environment Initiative provide tools, services, functionality and environments that coincide with milestones within the Swimlane. There will be considerable interaction with the DEI to ensure that deliverables within the Swimlane are made available through the DEI, and that products within the DEI are supportive of and not contradictory to milestones within the Swimlane.
  + SOA Initiative:
  + Marketplace Initiative: Milestones within the Swimlane directly support the Marketplace Initiative, such as Marketplace API Specification.
  + Tooling Initiative: Milestones within the Swimlane directly support, or are supported by, the Tooling Initiative.

# Phase-oriented View

* *Quick recap about the role of the phasing. Transition paragraph and intro.*
* *Overview of the phasing concept, ties to timeline, relationship to major phase deliverables*
* *Set expectation for inconsistent depth, consistency, granularity, particularly in “out years”*

## Phase I: Concept and Deliverables

* *(Note that this pattern will repeat)*
* *Discuss the time window and the value proposition HSPC intends to deliver upon completion of this phase*
* *Talk to projects and milestones that span swimlanes, piecing together the seemingly disparate parts to “tell the story” of what Phase I brings to industry*
* *Rationalize what has been undertaken in the phase, how it builds upon what has come before (for Phase I, that is the current status quo, for subsequent phases, it will build on last Phase)*
* *Introduce key co-dependencies among projects or activities*
* *Draw particularly attention to aspirational efforts that need resourcing*
* *“Tell them what they are going to get”*

## Phase II: Concept and Deliverables

## Phase III: Concept and Deliverables

## Phase IV: Concept and Deliverables

# Using the Roadmap

* *Call out that the roadmap serves multiple roles and stakeholders*
* *Tease the section “tell them what you’ll tell them”*
* *Draw particular distinction between HSPC’s direct use of the roadmap, and HSPC Members’ use of the roadmap.*

## Use within HSPC

* *Intro / context*

### Community Priorities

* Discuss community objectives
  + Establish and maintain Alignment on vision
  + Explain low volatility of the document, but living document
  + Difference between consensus on a vision and 100% agreement on execution
* What it means to be on the roadmap.
* Ability for projects to incubate within HSPC and NOT be on the roadmap
* Transition from incubation to strategic priority

### HSPC Initiatives

* Explain how initiatives relate to the roadmap
  + Creating new milestones
  + Correlation across milestones
  + Consumption of deliverables from other streams
  + Not isomorphic with any specific element on the Roadmap
  + How initiatives differ from projects

### HSPC Projects

* Explain how initiatives relate to the roadmap
  + Creating new milestones; not every project milestone fits onto the Roadmap
  + Correlation across milestones
  + Consumption of deliverables from other streams
  + Not isomorphic with any specific element on the Roadmap
  + How projects differ from initiatives

## Member Organization Use

* How the Roadmap can be used for interoperability planning
* Extending the Roadmap to be used intra-organizationally
* Use of roadmap to determine collaboration/co-investment plans
* Roadmap as legitimator to advance specific organizational objectives

## Other Uses

* Articulate the direction and value proposition of the HSPC community
* Membership growth
* Influence on roadmap as a membership benefit/incentive
* Amplify impact of HSPC work with peer/partner groups

# Roadmap Refresh Process

* Low volatility
* Consider content refresh annually, with public production biennially
* Voting process so as to assure that content reflects community consensus

# Appendices

How this Roadmap was created

Acknowledgements