



digital bridge



Sustainability and eCR Transition Plan

November 2017

Table of Contents

Figures and Tables	4
Executive Summary	5
Background	6
Overview and Current State of Digital Bridge	6
Challenges Facing Digital Bridge	6
Vision of the Future of Digital Bridge	6
Focus of the Business Plan	6
Board of Directors vs. Governance Body	7
Mission, Objectives, and Benefits	7
Objectives and Mission	7
Benefits to Stakeholders	7
Digital Bridge Organizational Structure	9
Digital Bridge Responsibilities	9
Digital Bridge Responsibility Assignments	12
Digital Bridge Governance	13
Digital Bridge Board of Directors	13
Digital Bridge General Membership	14
Digital Bridge Staff	14
External Digital Bridge Participants	14
Digital Bridge Business Model	14
Overview	14
Operating Model	15
Membership Model	17
Member Services	17
Additional Services	18
Digital Bridge Sustainment and Scaling	18
Use Case Development	18
Use Case Selection	20
Proposed Development Process	20
Use Case Development Frequency	20
Site Scaling	20
Use Case Technical Strategy, Transition Management, and Maintenance	20
Budget and Financial	22
Operating Costs	22
Other Digital Bridge Services	26
Other Funding Sources	27

Potential NGO Funders	27
Potential Non-CDC Government Funders.....	27
Potential CDC Government Funders	28
Additional Digital Bridge Sustainability Considerations.....	28
Legal.....	28
Communications	28
Lessons Learned.....	29
Overview	32
eCR Scaling.....	32
eCR Transition.....	32
eCR Cost Drivers.....	32
eCR Sustainability Options	34
Potential NGO Funders	34
Potential Non-CDC Government Funders.....	34
Potential CDC Government Funders.....	34
eCR Technical Strategy and Maintenance	35
eCR Case Technical Strategy	35
eCR Case Maintenance	35
General Concerns and Considerations.....	37
Future Considerations	37
Appendix A – Digital Bridge Roadmap	39
Appendix B – ROI Model	40
Appendix C – Sample Use case Criteria Rubric	41
Appendix D – Sample Use Case Application	43
Appendix E – Sample Use Case Selection Process	47
Externally Driven (Outside Digital Bridge Membership).....	47
Internally Driven (Digital Bridge Membership).....	47
Appendix F – Operating Model Selection Process	48

Figures and Tables

Figure 1: Digital Bridge Proposed Organizational Structure	9
Figure 2: Digital Bridge Operating Model	15
Figure 3: Digital Bridge Use Case Operating Model.....	16
Figure 4: Suggested Use Case Criteria Worksheet.....	19
Figure 5: Use Case Rubric.....	19
Figure 6: Funding Model Hierarchy	23
Figure 7: Screenshot of Digital Bridge Activities and Overall Costs of New Use cases . Error! Bookmark not defined.	
Figure 8: Screenshot of Yearly FTE Costs for Digital Bridge Over 13-Year Period	24
Figure 9: Projected Total Operating Costs of Digital Bridge Over 25 Years.....	24
Figure 10: Suggested Revenue Streams Balance for Digital Bridge	25
Figure 11: Other Cost Category Details.....	25
Figure 12: Communication Organization across Digital Bridge	29
Figure 13: eCR Economic Return over Time	33
Figure 14: eCR Investment and Return – Five Year Summary	33
Table 1: Stakeholder Benefits for Digital Bridge	7
Table 2: Proposed Activities Digital Bridge is Responsible For	11
Table 3: Proposed Activities Digital Bridge is Not Responsible For	12
Table 4: Digital Bridge Activities RACI Chart	13
Table 5: External to Digital Bridge Activities RACI Chart.....	13
Table 6: Suggested List of Digital Bridge Services.....	26

Executive Summary

The Digital Bridge sustainability and eCR transition plan provides an overview of recommendations for Governance Body consideration as the collaborative advances to the next phase. Preliminary suggestions for the following components are included:

- Future operation model and organizational structure
- Transition plan to hand off electronic case reporting to a national operation
- Process for selecting future use cases
- Potential revenue streams to ensure future sustainability
- Plans for nationwide scalability of eCR

These suggestions will support the continued growth of electronic case reporting over the next 18 months. These suggestions should also be used in conjunction with input from the seven initial implementation sites once they move into production and evaluate lessons learned. Sites' feedback will allow the authors of this report to validate its contents and determine if changes are needed. The workgroup suggests that this sustainability plan is discussed in detail with the Governance Body so members can provide feedback before recommendations are finalized.

Background

Overview and Current State of Digital Bridge

Digital Bridge is a public-private partnership of health care, health IT and public health organizations, with the goal to advance information exchange between health care and public health. As its first project, Digital Bridge focused on establishing a multi-jurisdictional approach to electronic case reporting (eCR). Through virtual and in-person meetings, Digital Bridge members collaborated and agreed on a common infrastructure, business and technical requirements, and a standard (eICR v1.1) that would support effective information exchange.

Digital Bridge has accomplished what it has so far by leveraging contributions from all stakeholders. The Governance Body formed and chartered workgroups with representation from each sector (i.e., public health, health care and health IT) to focus on specific issues essential to the success of the project. Topic areas for these workgroups centered on (1) developing technical requirements and a technical architecture for eCR; (2) managing coordination of eCR initial implementation sites; (3) establishing legal and regulatory procedures; (4) recommending a long-term strategy to sustain Digital Bridge and eCR; and (5) overseeing evaluation activities to inform future use cases. These collaborations have been instrumental in the advancements seen in this project and in building the foundation of a successful partnership.

Challenges Facing Digital Bridge

While Digital Bridge has built a foundation for future success, several issues have been encountered. Overall, these challenges fall into two categories: technical and operational uncertainties. Below is a list of problem areas Digital Bridge members are working to overcome:

- Unclear change “control process” for managing changes throughout project lifecycle
- Inconsistent communication between the Governance Body and workgroups
- Resource support for decision support intermediary (DSI) partners
- Available technical documents during implementation sites’ onboarding and connection
- Lack of sufficient lessons learned to inform future operations decisions
- Unclear vision on the structure of Digital Bridge in the future (e.g., whether the initiative will continue to be led by a Governance Body or by a board of directors; whether a paid membership will be implemented; the responsibilities of partners and participants; the role of the project management office (PMO), etc.)
- Lack of detail on the process for selecting new use cases

These challenges should be addressed before developing final recommendations and before an approved operating model is submitted.

Vision of the Future of Digital Bridge

When public health, health care, and health IT vendors come together to solve these challenges, Digital Bridge has the opportunity to flourish and achieve its vision of ensuring our nation’s health. Outbreaks will be countered with improved interventions, local residents will have better access to and knowledge of public services, and providers will have a better understanding of the health landscape in their area—all improving population health as a whole.

Focus of the Business Plan

To ensure that Digital Bridge is able to fulfill its mission, this sustainability plan focuses on key areas: the Digital Bridge organizational structure, process for decision-making, sustainability and scalability plans, and a recommended financial model to support this collaborative. The basis for this plan comes from extensive workgroup discussions and the subject matter expertise of Digital Bridge participants.

Board of Directors vs. Governance Body

While reading this document it is important to note, a Digital Bridge Board of Directors references a suggested future state of the consortium, while the Digital Bridge Governance Body references the current organizational structure. Both terms appear throughout the document, but are not meant to be interchangeable.

Mission, Objectives, and Benefits

Objectives and Mission

Digital Bridge's vision is to ensure the nation's health by implementing and improving bidirectional information exchange between public health and health care. To achieve this vision, the Digital Bridge Governance Body will identify use cases beyond eCR that address the following criteria:

- Robust data exchange
- Population-health focus
- Value added to all stakeholders (health care providers, patients, public health, health IT vendors, etc.)
- Existing infrastructure and technology leveraged
- Legal, policy, and regulatory framework provided

Specific objectives for each use case will be developed as part of the process outlined below.

Benefits to Stakeholders

Combining the resources of private organizations with the reach of the public sector encourages a large platform for disseminating information and ideas. The dynamic interaction among public health, health care, and the health IT vendor communities through the Governance Body and the workgroups improves familiarity and understanding of all stakeholder perspectives. Digital Bridge aims to provide benefits ranging from improved care for patients, reduced costs for providers, and improved population health programs for public health.

Stakeholder Group	Use Case-Specific Benefits
Overall	<ul style="list-style-type: none"> • Reduce costs and improve quality of care • Provide better health outcomes • Provide return on investment
Providers	<ul style="list-style-type: none"> • Inform providers to better guide assessment and treatment of conditions • Improve and facilitate quality reporting (or other measures required by local, state, federal requirements) • Respond to and anticipate provider requests for information
Patients	<ul style="list-style-type: none"> • Provide better quality and coordination of care
Public Health	<ul style="list-style-type: none"> • Provide better population health-oriented programs and outcomes • Provide better societal outcomes
Health IT Vendors	<ul style="list-style-type: none"> • Provide access to knowledge that enhances the value and usability of products and devices

Table 1: Stakeholder Benefits for Digital Bridge

Part I: Digital Bridge Sustainment

Digital Bridge Organizational Structure

Digital Bridge requires a robust organizational structure to support the long-term sustainability of the initiative—one that provides a streamlined and efficient way to manage operations and adopt future use cases. The below proposed organizational structure organizes Digital Bridge’s future operations and processes into three different work streams with their own activities: project management, incubation, and operations coordination. Each activity under specific work streams would be supported by the appropriate number of full-time employees (FTE). It is important to note the FTEs are set at the base level for the first use case and will change as additional use cases are added. As displayed in Figure 1 below, each work stream reports to a proposed Board of Directors, which is still supported by Ex-Officio Members. Additional information and detail about the board of directors can be found in the Digital Bridge governance section.

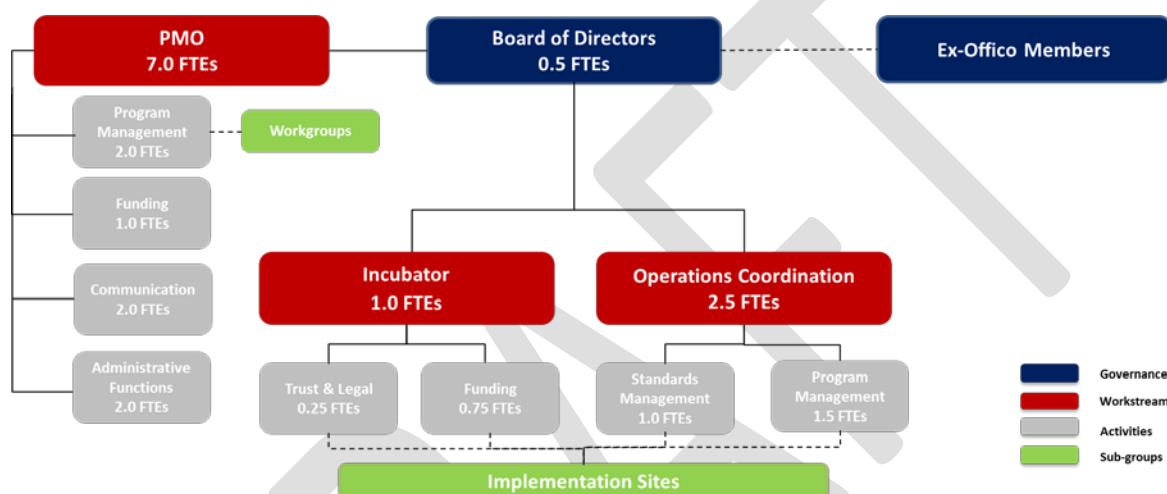


Figure 1: Digital Bridge Proposed Organizational Structure

Digital Bridge Responsibilities

The Strategy Workgroup identified several activities that are necessary for the continued success of the collaborative. The workgroup separated the activities into those that Digital Bridge should be responsible for and those they should not be responsible for. Generally, Digital Bridge would be responsible for thought leadership, making sure use cases are scalable, incubation of new use case ideas, external communication, and coordination of trial implementations and initial scaling plans. Digital Bridge would not be responsible for national operations, maintenance of the infrastructure, scientific support of public health, and cybersecurity of transmitted data. The workgroup presented these activities to the Governance Body as outlined in the tables below.

Proposed Digital Bridge Activity Lists

What is Digital Bridge Responsible For?
Board of Directors <ul style="list-style-type: none"> Attend Board of Directors meetings Provide final approval of all Digital Bridge activities Reach out to government (federal, state, local) and private organizations for financial and tactical support Coordinate and oversee workgroups, tiger teams, taskforces, etc. to ensure deliverables are complete and milestones are met

What is Digital Bridge Responsible For?

- Oversee and approve development of long-term bylaws and organizational structure
- Support strategic systems enhancement (i.e., to support a new use case)
- Oversee and approve development of use cases
- Oversee and approve technical and functional requirements (for approved use cases)
- Oversee development and maintenance of personnel/organization member directory and technical system directory
- Advise partner organizations in search for funding to support the needed components to fulfill the Digital Bridge vision (e.g., APHL Informatics Messaging Service (AIMS) and the Reportable Conditions Knowledge Management System (RCKMS))

Incubation and Hand-off

- Serve as an incubator facilitating the development of initial implementations to test the functional, technical, business and legal approaches of each use case
- Establish a process to identify, evaluate and define the entity or entities that will operate a solution at a national level, including the ability to support participants signing agreements and frameworks
- Create a process to hand off the implementation and operation of a use case approach to the entity or entities that will operate the solution at a national level
- Perform ongoing monitoring and evaluation of the national operations of the solutions for each use case

Trust and Legal

- Develop legal agreements to support a common platform
- Develop trust frameworks to support a common platform
- Support participants in understanding agreements and frameworks

Communications

- Communicate Digital Bridge activities, successes and progress
- Coordinate presentations at industry conferences as approved by the Governance Body or an advisory group
- Generate feedback from the community on Digital Bridge activities
- Generate interest in participating as initial implementations
- Develop and execute targeted marketing strategies to ensure uptake of solutions at a national level
- Develop and execute strategies for advocacy for Digital Bridge, tailored to specific user groups
- Maintain and distribute digital and physical content related to Digital Bridge through digitalbridge.us, social media, and other channels approved by Board of Directors or an advisory group
- Define communications methods and necessary technical operations during emergent scenarios (e.g., new infectious disease outbreak, pushing new trigger codes to all Digital Bridge participants, etc.)
- Track and monitor external mentions about Digital Bridge

Project Management

- Manage and coordinate workgroups, tiger teams, taskforces, etc.
- Assist in development of workgroup
- Support onboarding of tasks for all groups
- Determine, publish, and coordinate lifecycle plans for all Digital Bridge use cases (e.g., transitions to new standards, new technical infrastructures, sun setting of use cases if necessary)

Funding

- Develop, pursue, secure and manage a long-term Digital Bridge funding strategy, including activities to produce ongoing revenue
- Coordinate activities that are funded through other organizations and/or agencies

Standards Management

- Ensure standards are properly used, including management of any governance-approved certification criteria
- Ensure a common understanding of the standards and their purpose

What is Digital Bridge Responsible For?

- Ensure understanding of platform requirements
- Identify, develop and maintain standards (e.g., identifying standards that are needed, communicating with the standards bodies, identifying liaisons, etc.)

Operations Coordination

- Support and manage coordination among sites during Digital Bridge onboarding process, technical troubleshooting, and systems updates
- Connect participants with appropriate POCs for technical infrastructure
- Coordinate with Digital Bridge participants to ensure they are able to satisfy the requirements for each use case

Recruitment

- Identify new participants
- Develop recruitment strategies and campaigns for participants needed for new use cases

Administrative Functions

- Back office functions, including, but not limited to, administrative tasks, contract management, budgeting and accounting, records maintenance, and compliance

Table 2: Proposed Activities Digital Bridge is Responsible For

What is Digital Bridge NOT Responsible For?

Regulatory and Policy

- Developing regulations to support information exchange/sharing
- Working with policymakers to inform and support Digital Bridge

Data Security

- Ensuring the security of data (in transit and at rest)

Data Provision, Receipt, and Quality

- Determining access rules for all types of data
- Ensuring that data is received correctly at all parties
- Assuring quality of data before sending
- Ensuring received data is the same as sent data

Training Technology and Adoption

- Training participants on how to use Digital Bridge-provided data to fulfill their surveillance duties (from a public health perspective) or clinical efficacy goals (from a provider perspective)

Onboarding and Technical Assistance

- Developing and maintaining a provider helpdesk to support health care providers when they attempt to configure systems for interconnection

Integration

- Performing the integration work within the provider technical environments, including development/enhancement work necessary for the specific installation of provider's EHR vendor software

Systems Maintenance, Enhancements and Development

- Performing standard maintenance on existing provider systems and EHR vendor software
- Enhancing existing provider systems and EHR vendor software for further refined use cases
- Developing new provider systems and EHR vendor software to support new use cases and changing requirements

Systems Hosting

- Hosting the decision support intermediary (i.e., AIMS and RCKMS)
- Hosting any other necessary centralized systems necessary for Digital Bridge use cases
- Providing high availability/disaster recovery services for centralized Digital Bridge systems

Surveillance Science

What is Digital Bridge <u>NOT</u> Responsible For?
<ul style="list-style-type: none"> Monitoring of disease outbreaks Confirming timeliness of data Connecting data from disparate sources Following up on shared data
Funding (Digital Bridge Partner Organizations)
<ul style="list-style-type: none"> Ensuring that partner organizations are able to support AIMS and RCKMS to fulfill the vision of Digital Bridge
Legal
<ul style="list-style-type: none"> Developing data use agreements

Table 3: Proposed Activities Digital Bridge is Not Responsible For

Digital Bridge Responsibility Assignments

A Responsible, Accountable Consulted and Informed (RACI) chart is a matrix used to identify roles and responsibilities for specific activities within an organization or business process. Responsible parties are those who are performing the activity; accountable parties are those who are responsible for ensuring activities are punctual and completed correctly; consulted parties are those who provide knowledge and opinions about the activity; and informed parties are those who are usually kept up-to-date on the progress and status of activities.

The below RACIs (Table 4 and Table 5) identify the key owners for each activity Digital Bridge is and is not responsible for. As outlined in Table 4, every activity has an owner responsible and/or accountable for its execution. When final Digital Bridge operations decisions are made, the RACI can be used as a tool to determine if there are any activities with gaps in stakeholder responsibility that need to be filled. As Digital Bridge grows, the Governance Body may need to expand the Digital Bridge RACI chart to include any new responsibilities.

Digital Bridge RACI Matrix**1

What is Digital Bridge Responsible for?

Activity	Board of Directors	Membership	PMO	Infrastructure Owner	Vendors	Public Health	Providers	Funders
<i>Governance</i>	R, A	R, A	A	C	C	C	C	C
<i>Communication</i>	R, A	A	R	I	I	I	I	I
<i>Project Management</i>	A	A	R, A	C	C	C	C	C
<i>Standards Management</i>	R, A	R, A	R, A	R, A	R, A	R, A	R, A	R, A
<i>Trust & Legal*</i>	R, A	R, A	R	R, A	C	C	C	I
<i>Incubator & Handoff</i>	R, A	A	R, A	R, A	R, A	R, A	R, A	I
<i>Operations Coordination</i>	R, A	A	R, A	R, A	R, A	R, A	R, A	I
<i>Funding</i>	R, A	R, A	R, A	I	I	I	I	R
<i>Recruitment</i>	R, A	R, A	R	C	C	C	C	C
<i>Administrative Functions</i>	A	I	R, A	I	I	I	I	I

* – Trust and Legal will be highly dependent on the finalized model recommended by the Legal Workgroup. This activity will be updated when the model is finalized. For example, if there are individual agreements and no centralized infrastructure, R, A from Infrastructure owner moves to Vendors, Public Health and Providers

** – Much of the matrix will need to be customized for individual use cases. For example, other stakeholders may need to be involved in some way

Table 4: Digital Bridge Activities RACI Chart

*Digital Bridge RACI Matrix**2*
What is Digital Bridge NOT Responsible for?

Activity	Board of Directors	Membership	PMO	Infrastructure Owner	Vendors	Public Health	Providers	Funders
Regulatory & Policy	I	I	I	I	I	I	I	I
Data Security	I	I	I	R, A	R, A	R, A	R, A	I
Data Provision, Receipt, & Quality	I	I	C	R, A	R, A	A	A	I
Training Technology & Adoption	I	I	C	R, A	R, A	A	A	I
Onboarding & Technical Assistance	I	I	C	R, A	R, A	A	A	I
Integration	I	I	C	R, A	R, A	A	A	I
Systems Maintenance, Enhancements, & Development	I	I	I	R, A	R, A	R, A	R, A	I
Systems Hosting	I	I	I	R, A	R, A	R, A	R, A	I
Surveillance Science	I	I	I	I	I	R, A	R, A	I
Funding (Digital Bridge Partner Organizations)	C	C	C	C	C	C	C	R, A
Legal	I	I	C	R, A	R, A	R, A	R, A	I

Table 5: External to Digital Bridge Activities RACI Chart

Digital Bridge Governance

To support Digital Bridge’s organizational structure, the workgroup suggests that Digital Bridge participants are organized into three groups: Digital Bridge Board of Directors, Digital Bridge general membership, and Digital Bridge staff.

Digital Bridge Board of Directors

The Digital Bridge Board of Directors would serve as the official governing body that oversees project operations while working to support the mission and function of the collaborative. The board should include a chair, a vice chair, a secretary, a treasurer and several board members who represent the three stakeholder groups (i.e., health care, public health and health IT). They should convene quarterly to discuss operational needs and ensure the group is meeting strategic goals.

Below is a list of suggested activities for the Board of Directors. These activities should be supported by official bylaws.

- Facilitate and attend quarterly meeting
- Update members on relevant topics related to Digital Bridge
- Oversee the development of and approve new use cases
- Connect with government (federal, state, local) and private organizations for financial and tactical support
- Recruit for general membership
- Establish and oversee workgroups, tiger teams and taskforces to support the development of deliverables and milestones
- Approve long term by-laws and the organizational structure for Digital Bridge
- Approve functional and technical requirements (for approved use cases)
- Approve new addition to Digital Bridge membership

** – Much of the matrix will need to be updated for individual use cases, for example other stakeholders may need to be involved in some way

Board of Directors Selection

The current Digital Bridge Governance Body should handle the selection of board members to ensure equitable representation across all stakeholder groups. Additionally, the workgroup suggests that the current Governance Body function as the board of directors in the interim. It is recommended durations of service among the membership could be staggered to ensure organizational continuity and knowledge transfer. Final recommendations on roles and titles still need to be determined. The selection, makeup, and transition rules should be described in official bylaws.

Digital Bridge General Membership

The Strategy Workgroup suggests Digital Bridge members be the active participants who help support the mission and the Board of Directors with developing and choosing next use cases. Members should meet monthly to ensure progress on Digital Bridge's strategic goals and use case development. Below is a list of suggested activities for Digital Bridge members. These activities should be supported by official bylaws.

- Attend monthly members' meetings
- Support strategic direction of Digital Bridge
- Participate in voting on new Digital Bridge use cases
- Oversee development (via workgroups) of functional and technical requirements for approved use cases
- Oversee development and maintenance of personnel/organization member and technical system directory
- Advise partner organizations in search for funding to support the needed components to fulfill the Digital Bridge vision

Digital Bridge Staff

The Strategy Workgroup suggests that Digital Bridge be supported by a set of full-time equivalent (FTEs) as outlined in the organizational structure in Figure 1. FTEs will be organized into work streams which support different aspects of the project: project management, incubation, operations coordination, and smaller administrative functions. Additional detail about staffing can be found in the budget and finance section of this plan.

External Digital Bridge Participants

There may be opportunities for external entities and community members to play a role in the selection and development of use cases and the launch of Digital Bridge initial implementation sites. Engaging with external participants and community members also provides another opportunity for Digital Bridge to continue to expand its membership while finding ways to bring new value to the partnership. These opportunities may include work with other government agencies or organizations in the private sector looking to partner around public health solutions.

Digital Bridge Business Model

Overview

The Strategy Workgroup recommends Digital Bridge have two primary functions: incubating new use cases and acting as operations coordinator. As an incubator, Digital Bridge should leverage its broad industry connections to convene key stakeholders to develop and launch innovative information exchange use cases. As operations coordinator, Digital Bridge should provide minor administrative support during post launch and hand-off of use cases. After initial implementations, administrative activities will be transitioned to a national operator. The workgroup suggests that Digital Bridge not play a direct role in managing use cases after launch, but some guidance may be necessary to provide support and coordination to organizations that own the use cases. This would ensure that Digital Bridge use cases continue to leverage the convening power of collaboration.

Operating Model

The Digital Bridge operating model would support the initiative's incubation and operations coordinator roles. The model is organized to show how people, processes and technology would guide the function of Digital Bridge and which groups are responsible for specific activities.

The matrix below highlights four key areas: strategic objectives, process, technology and project management. Each area will include activities that will be assigned to specific Digital Bridge workgroups or tiger teams as outlined in the figure below. There may be changes to this operating model as the project management office receives feedback and input from the seven initial implementation sites.

	Board of Directors	Membership	Staff
Strategic Objectives	Launch national use cases		
	Guide Digital Bridge mission		
		Develop strategic recommendations	
Process	Incubate & Develop New Use Cases		
	Analyze internal operations	Transition Support	
		Operations & Coordination Support	
		Develop & test use cases	
			Analyze internal operations
Technology	Infrastructure		
	Data Sharing Platform		
	Requirements		
Project Mgmt	Manage project and communications	Carry out strategic communications	Manage project and communications

Figure 2: Digital Bridge Operating Model

Single Use Case Operating Model

Digital Bridge will need to maintain a separate operating model to support both eCR and future use cases. The Strategy Workgroup suggests Digital Bridge use the model in Figure 3 to support three distinct periods: incubation, hand-off and operations for a new use case (see Appendix F). During the incubation period, Digital Bridge would

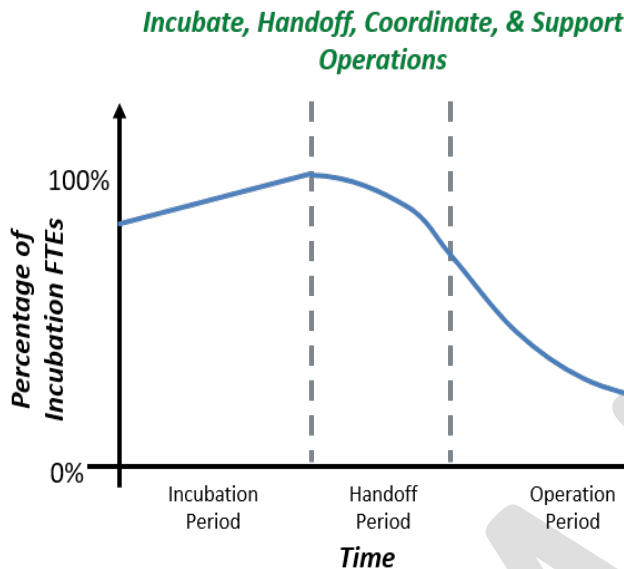


Figure 3: Digital Bridge Use Case Operating Model

develop use case requirements, standards infrastructure. Additional activities are listed below:

- Develop use case-specific legal agreements
- Select initial implementation sites
- Create hand-off plan
- Identify future operating entity

During the hand-off period, Digital Bridge would collaborate with the operating entity to execute the hand-off plan and later transition to a support role. Finally, during the operation period, Digital Bridge will only provide coordination support and apply best practices for onboarding new users.

There will be a set number of FTEs assigned during the incubation period for each use case. As the use case continues to progress through its period, FTEs will decrease. The number of FTEs will be the lowest during the operations support phase as

Digital Bridge begins to minimize its role. Depending on the use case and resources needed, there may be a high number of FTEs throughout each period. Additional details about each of these phases can be found below.

Incubator

- Facilitate the development of initial implementations to test the functional, technical, business and legal approaches of each use case
- Establish a process to identify, evaluate and define entities that will operate a solution at a national level (e.g., establish technical frameworks, support participants signing legal agreements, etc.)
- Ensure a common understanding of the standards and their purpose for the use case
- Ensure a common understanding of the Decision Support Intermediary requirements
- Develop common legal agreements to support the Decision Support Intermediary
- Develop trust frameworks to support a common Decision Support Intermediary
- Support participants in understanding agreements and frameworks
- Select a future operating entity and develop a hand-off plan to support the transition and scaling of use case

Hand-off

- Execute hand-off plan and refine the process to transition the use case to the entity that will operate the solution nationally
- Monitor and evaluate national operations of the solutions for each use case

Operations Coordination and Support

- Support and manage coordination among sites during Digital Bridge onboarding process, technical troubleshooting and systems updates
- Connect participants with appropriate points of contact (POCs) for technical infrastructure

- Coordinate with Digital Bridge participants to ensure they are able to satisfy the requirements for each use case
- Determine, publish and coordinate lifecycle plans for all Digital Bridge use cases (e.g., transitions to new standards and technical infrastructures, sun setting of use cases, etc.)
- Ensure that standards are used properly, including management of any governance-approved certification criteria
- Ensure a common understanding of the standards and their purpose
- Develop common understanding of the platform requirements
- Take an active role in standards identification, development, and maintenance (e.g., identifying standards that are needed, communicating with the standards bodies, identifying liaisons, etc.)

Membership Model

To support the long-term sustainability of the Digital Bridge partnership, the Strategy Workgroup recommends implementing a membership model will be essential to recruit new members with fresh perspectives and to generate lasting revenue. The model can be designed into a tiered approach, allowing organizations to pay dues based on size and financial resources.

Developing a membership model will depend on the final operating model approved by the Governance Body.

There are a number of factors the Governance Body should consider before developing the model:

- Who should determine which members and/or member organizations are added to the Board of Directors and Digital Bridge membership?
- How should the Governance Body transition to a new Board of Directors structure?
- Should the Board of Directors membership be selected by the current Governance Body, or should the current Governance Body become the new board of directors?
- When should membership be recommended for Digital Bridge and by whom?

Note: These considerations are initial suggestions and are not meant to be exhaustive.

Member Services

All members of Digital Bridge who pay a membership fee will have access to a number services and resources throughout their tenure. In addition to participating in workgroups and supporting the selection of upcoming use cases, other member services include trial implementation site participation, products to support trial implementation site testing, and toolkits and resources.

Trial Implementation Site Participant Services

- Eligibility to be an initial implementation site
- Real, full-time technical support services
- Facilitated coordination with decision support intermediary (DSI)
- Input into potential standards for use cases
- Key role in shaping use case requirements

Post-Trial Implementation Services and Products

- Complete access to repository of best practices related to startup of use cases
- Access to reusable testing materials and tools
- Access to members-only user boards
- On demand technical support
- Role in updating use cases
- Use case-related toolkits

Suggested General Services and Products

- Active role in promoting future use cases
- Digital Bridge “rolodex” only shared with members
- Technical expertise/additional surveillance science and best practices repositories; consulting advice on demand
- General Digital Bridge toolkits

Digital Bridge also has the option to offer some of these services to organizations that are not part of the membership to support additional revenue streams.

Additional Services

The workgroup suggests establishing additional services to support the long-term sustainability of this effort. These services could include, but are not limited to:

- Onboarding toolkits
- Communication coordination services (e.g., bulletin boards, contact lists, etc.)
- Analytics toolkits/plugin-ins
- Surveillance science support
- Best practices related to various public health topics
- Hosted toolkits, services and software related to Digital Bridge use cases
- Technology products (i.e. apps, etc.) co-owned through an external partnership

Digital Bridge Sustainment and Scaling**Use Case Development**

To foster an organized and succinct use case selection process, the Strategy Workgroup suggests the high-level framework outlined below.

Suggested Criteria for Future Digital Bridge Use Cases

Future use cases must:

- Support robust data exchange
- Add value to stakeholders
- Focus on population health
- Support legal and regulatory policies
- Leverage existing infrastructure and technology

Suggested Use Case Detailed Worksheet

The detailed worksheet is an Excel spreadsheet designed to determine a viable set of potential use cases. Topics must be relevant to the vision of Digital Bridge and its value to all stakeholders, and it must align with future use case criteria.

Digital Bridge Use Case Criteria Worksheet													
Topic	Use Case Definition	Short Name	Value to Providers	Value to Vendors	Value to Public Health	Value to Patients	Is applicable to multiple jurisdictions? If yes, which ones?	Robust Data Exchange?	Population Health Focused?	Leverages Infrastructure and Technology?	Satisfies Legal, Regulatory, or Policy goals?	Opportunities for cross collaboration?	Feasibility of Use Case
Communicable Diseases	Electronic Case Reporting	eCR	Fulfills meaningful use, limits physician/staff time dealing with case reporting	Fulfills MU requirements, satisfies client-provider requests	More complete communicable disease records, improves record keeping	Quicker notification of public of outbreaks	Yes, all	Yes, constant data from Providers to PH	Yes, improves communicable disease monitoring	Yes, AIMS & RCMs	Yes, MU and Nationally Notifiable Diseases	N/A	Possible, many pilots had been done
Diabetes	Example #1												
Diabetes	Example #2												
Opioids	Example #1												
Opioids	Example #2												
Emerging Communicable Diseases	Example #1												
Emerging Communicable Diseases	Example #2												

Figure 4: Suggested Use Case Criteria Worksheet

Use Case Rubric

The use case rubric is designed to help select suggested use cases. The rubric uses use case criteria and asks if each suggested use case is below, meets or exceeds expectations for that criterion.

Sample Use Case Criteria Rubric

Criterion	Below Expectations (Score: 1)	Meets Expectations (Score: 2)	Exceeds Expectations (Score: 3)	Score
Significance of Problem	Use case does not address a significant current or emerging public health challenge, and only applies to one stakeholder.	Use case partially addresses a challenging or emerging public health challenge, and only applies to two to three stakeholders.	Use case does address significant current or emerging public health challenge, and applies to all stakeholders.	
Feasibility	Use case does not provide a feasible solution to address the challenges and/or significance of the problem, and only applies to one stakeholder. Use case is not feasible for the Digital Bridge collaborative to incubate and launch nationally, and only applies to one stakeholder.	Use case provides a solution that is partially feasible in addressing the challenges and/or significance of the problem, and only applies to two to three stakeholders. Use case is partially feasible for the Digital Bridge collaborative to incubate and launch nationally, and only applies to two to three stakeholders.	Use case does provide a feasible solution to address the significance of the problem, and only applies to all stakeholders. Use case is definitely feasible for the Digital Bridge collaborative to incubate and launch nationally, and applies to all stakeholders.	
Value to Stakeholders*	Use case provides value to only one stakeholder group.	Use case provides values to two to three stakeholder groups.	Use case provides value to all stakeholder groups.	
Applicability	Use case is not applicable across multiple jurisdictions and disease conditions, and only applies to one stakeholder.	Use case is partially applicable across multiple jurisdictions and disease conditions, and only applies to two to three stakeholders.	Use case is definitely applicable across multiple jurisdictions and disease conditions, and applies to all stakeholders.	
Cross Collaboration	Use case does not provide an opportunity to work with multiple organizations outside of Digital Bridge to support the incubation and launch nationally.	Use case provides an opportunity to work with one to two organizations outside of Digital Bridge to support the incubation and launch nationally.	Use case provides an opportunity to work with multiple organizations outside of Digital Bridge to support the incubation and launch nationally.	

Notes

* Stakeholders are defined as providers, vendors, public health, and patients.

Figure 5: Use Case Rubric

Use Case Application

Sponsors must complete a use case application to present to the board of directors for consideration (see Appendix D). All use cases must have a sponsor to advance in the process. Those without a sponsor will be ineligible.

Use Case Selection

The Strategy Workgroup suggests three bodies should be involved in the use case selection process: the Board of Directors, Digital Bridge members and the external community.

Digital Bridge Board of Directors

The board of directors has the ability to suggest future use cases for the development of Digital Bridge. Board of Directors must vote on suggested use cases that are deemed appropriate and feasible for the collaborative.

Digital Bridge Membership

Digital Bridge members have the opportunity to suggest use cases for final Board of Directors approval.

External Community

Although not official members of Digital Bridge, external customers (i.e. stakeholders who want to be involved in Digital Bridge but are not a part of the membership) have an opportunity to provide ideas about potential use cases for Governance Body members to consider. The Board of Directors will evaluate suggested use cases to determine if appropriate resources and capabilities needed for development are available. If the use case is approved, the external entity becomes a champion of the use case and provides development support (e.g., FTE resources, identifying potential partners, coordinating initial implementation sites, providing financial support, etc.).

Proposed Development Process

Although no final process for use case selection has been approved, the workgroup suggests both external and internal Digital Bridge stakeholders generate ideas for future use cases and submit them to the Board of Directors for evaluation and approval. Appendix E contains sample processes the Strategy Workgroup developed for Board of Directors consideration.

Use Case Development Frequency

The frequency of use case development will depend on the operating capacity of Digital Bridge. Using the proposed operating model, Digital Bridge has potential to add an additional use case every calendar year. Subsequent use cases could be added yearly or sooner.

Site Scaling

Digital Bridge is currently coordinating eCR implementation at seven sites. As the number of implementation sites grow with future use cases, seamless collaboration between Digital Bridge and the decision support intermediary will be essential to ensuring efficient onboarding. Additional details on site scaling can be found in the eCR Transition Plan section.

Use Case Technical Strategy, Transition Management, and Maintenance

The technical strategy for each use case may differ depending on specific needs. As a powerful convener, Digital Bridge should maintain a strong governance structure and consistent interactions between all stakeholder groups to ensure success of all use cases.

Use Case Technical Strategy

It may be necessary for Digital Bridge to develop and/or update new technology and infrastructure to support use case launch. When possible, new use cases should leverage existing Digital Bridge infrastructure and technology to aid adoption and implementation. The Board of Directors and use case sponsor(s) should follow the steps below to identify the needs of specific use cases.

1. Develop business requirements for the use case
2. Develop technical requirements that satisfy those business requirements
3. Identify existing standards and any gaps present in those standards that may hinder the business and technical requirements
4. Determine if the current infrastructure will satisfy the requirements and is capable of leveraging existing standards. If not, identify gaps and potential alternatives
5. If step 4 involved gaps and alternatives, select the appropriate path forward

Future scalability needs should also be considered. In addition, individual products need to be maintained, updated, and scaled. For eCR, this includes ensuring that AIMS is able to manage and correctly route data once all sites are connected, and that RCKMS and the reportable conditions trigger codes (RCTC) are up to date and easily scalable. While CSTE is responsible for updating the RCTC, input from implementation sites has been invaluable. Workgroups should manage the use case technical strategy, determine requirements for scalability and perform a gap analysis for the launch of each new use case.

Use Case Maintenance and Transition Management

The Board of Directors should form a workgroup, similar to the Implementation Taskforce, to guide the technical work of new use cases. The new taskforce would also manage the use case transition process, working closely with the decision support intermediary, health IT vendors, health care providers, local public health jurisdictions, and the national operating entity to develop and implement a transition plan.

Throughout this process, an Implementation Taskforce (different from the current taskforce) would continue to onboard initial implementation sites. Taskforce makeup would be modeled after the structure of current workgroups with an appropriate mix of representatives from each stakeholder group to ensure adequate technical expertise. The following activities should be supported:

- Updating technical infrastructure, architecture and requirements in preparation for transition to the national operating entity
- Overseeing the maintenance of trigger codes and support trigger code updates (if applicable), or other similar products for non-eCR use cases
- Support the transition of use case technical products to national entity for management and maintenance

The transition plan should include a timeline that highlights when Digital Bridge will hand off each aspect of a use case (e.g., trigger code management, interaction with individual sites, marking the end of direct Digital Bridge support, etc.) and the schedule for updating products (e.g., the RCTC) and adding the remainder of the nationally notifiable diseases list. The Implementation Taskforce should also identify key stakeholders who will manage each key aspect at a national scale.

The new taskforce should meet monthly and use a change control process and an operations and risks tracker to manage all use cases. An established change control process provides an organized and efficient way to make necessary changes to a use case, track change owners, and keep open communication between Digital Bridge, implementation sites, the decision support intermediary, vendors, and public health jurisdictions.

Since use cases will not remain static outside of updating the trigger codes or equivalent, the technical Implementation Taskforce should establish regular touchpoints to address any changes to individual use cases after hand-off to a national operating entity. These changes could include updating existing standards (i.e., eICR v3) and adopting new standards (i.e., FHIR). If the taskforce determines that major updates are needed, then the group should use the standard process for requirements.

Budget and Financial

Operating Costs

Operating costs can be separated into two categories: direct Digital Bridge costs and partner costs. This section details the costs and benefits for each category. In general, the costs for Digital Bridge are broken down on a per-use-case basis and are quantified by each activity outlines in the [proposed Digital Bridge activity lists](#).

The Strategy Workgroup used the funding model below to identify several questions for further consideration. The partner operating costs are roughly quantified on a per-organization and a per-use-case basis. On average, the workgroup predicted Digital Bridge will cost approximately \$2 million per year to incubate a use case, totaling approximately \$12 million over 13 years based on assumptions below. These estimated costs should be refined based on feedback from the initial implementation sites and further discussions with partner organizations.

Digital Bridge Operating Costs

The operating costs can be categorized into five areas, and some activities are housed under project management as shown in Figure 6 below.

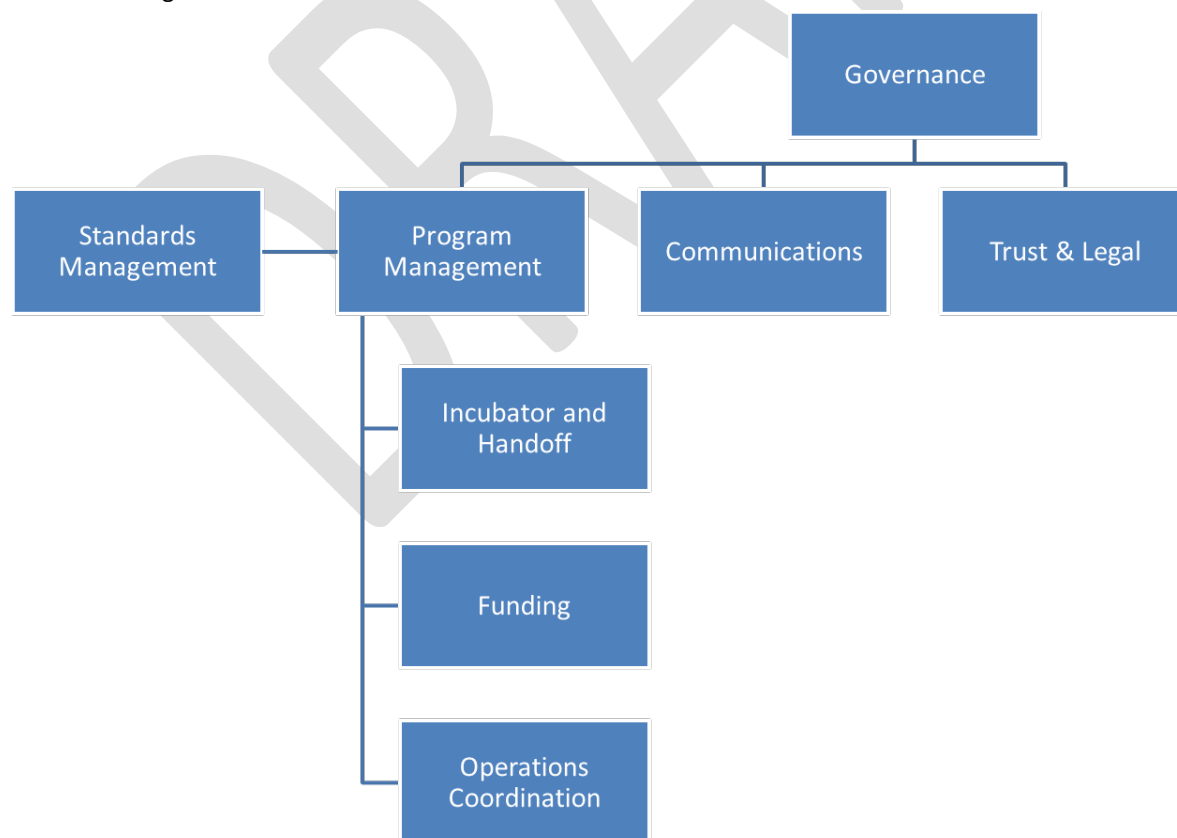


Figure 6: Funding Model Hierarchy

The graphs below detail the overall projected costs for Digital Bridge with the assumption that one use case is added per year. The graphs below also highlight important details:

- Support for use cases decreases after the hand-off (as shown in Figure 3 and Figure 8) to the national operator
- The average blended rate for each FTE is \$100 an hour
- Each FTE will work 2,080 hours annually

Based on the suggested operating model, there would be four periods of Digital Bridge support: incubation, hand-off, extended direct support, and limited direct support. These graphs show the number of FTEs needed and their associated costs based on two-year incubation and hand-off periods, four years of extended direct support, and five years of limited direct support. The numbers are summed according to the structure described by Figure 6.

	Incubation Period 2 years					Blended Rate	100 \$/hr	
	Handoff Period 2 years							
	Extended DB Direct Support 4 years							
	End of Direct DB Support 5 Years							
	Total Activities					Program Management		
Activity	Governance	Program Management	Trust and Legal	Communication & Recruitment	Standards Management	Incubator and Handoff	Operations Coordination	Funding and Back Office
Activity Type	Front and Mid Loaded	Front and Mid Loaded	Front and Mid Loaded	Front and Mid Loaded	Front and Mid Loaded	Front and Mid Loaded	Front and Mid Loaded	Front Loaded
Incubation FTE	1		1	2	1	3	3.5	1
End FTE	0		0	0	0	0	0.25	0
Year								
1	1	7.5	1	2	1	3	3.5	1
2	1	7.5	1	2	1	3	3.5	1
3	1	5.5	1	2	1	1.5	3.5	0.5
4	1	3.5	1	2	1	0	3.5	0
5	0.75	2.6875	0.75	1.5	0.75	0	2.6875	0
6	0.5	1.875	0.5	1	0.5	0	1.875	0
7	0.25	1.0625	0.25	0.5	0.25	0	1.0625	0
8	0	0.25	0	0	0	0	0.25	0
9	0	0.25	0	0	0	0	0.25	0
10	0	0.25	0	0	0	0	0.25	0
11	0	0.25	0	0	0	0	0.25	0
12	0	0.25	0	0	0	0	0.25	0
13	0	0.25	0	0	0	0	0.25	0
14	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0

Figure 7: Screenshot of Digital Bridge Activities and Overall Costs of New Use cases

Year	Total FTEs	Total Cost
1	12.5	\$2,600,000.00
2	12.5	\$2,600,000.00
3	10.5	\$2,184,000.00
4	8.5	\$1,768,000.00
5	6.4375	\$1,339,000.00
6	4.375	\$ 910,000.00
7	2.3125	\$ 481,000.00
8	0.25	\$ 52,000.00
9	0.25	\$ 52,000.00
10	0.25	\$ 52,000.00
11	0.25	\$ 52,000.00
12	0.25	\$ 52,000.00
13	0.25	\$ 52,000.00

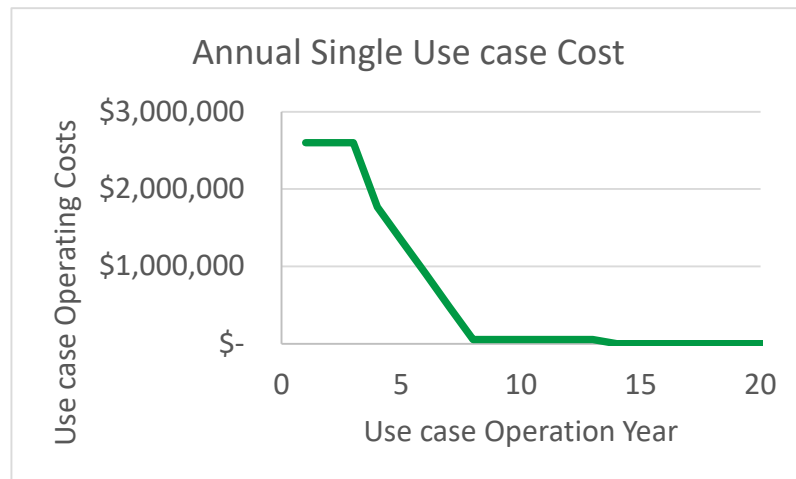


Figure 8: Screenshot of Yearly FTE Costs for Digital Bridge Over 13 Year Period

The following Digital Bridge operating costs were calculated based on the assumption that one use case will be incubated per year. This equates to various levels of steady support for 13 use cases in year 12 with a total direct Digital Bridge operating cost of approximately \$12 million.

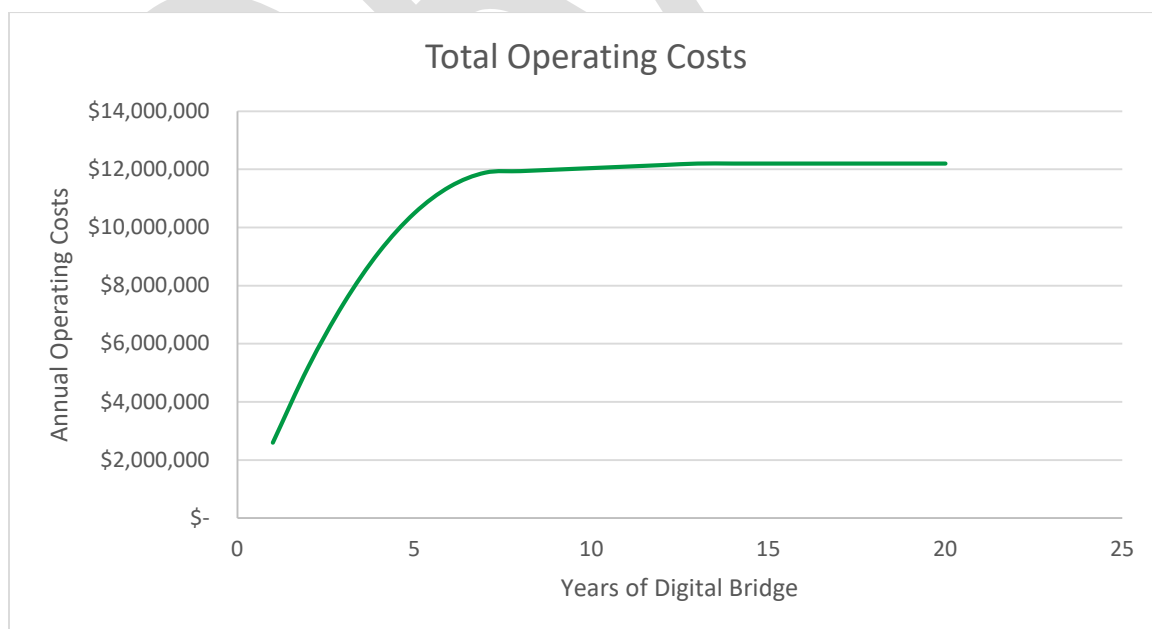


Figure 9: Projected Total Operating Costs of Digital Bridge Over 25 Years

Digital Bridge should determine revenue sources to support operating needs. There are five potential revenue streams: grants, memberships, contracts, fee-for-service, and other fees. Digital Bridge is currently 100 percent supported by grants. A recommended balance of revenue streams is outlined in Figure 10. Memberships should equal up 50 percent of the total revenue to ensure members maintain ownership, and strategic direction throughout the lifetime of the project.

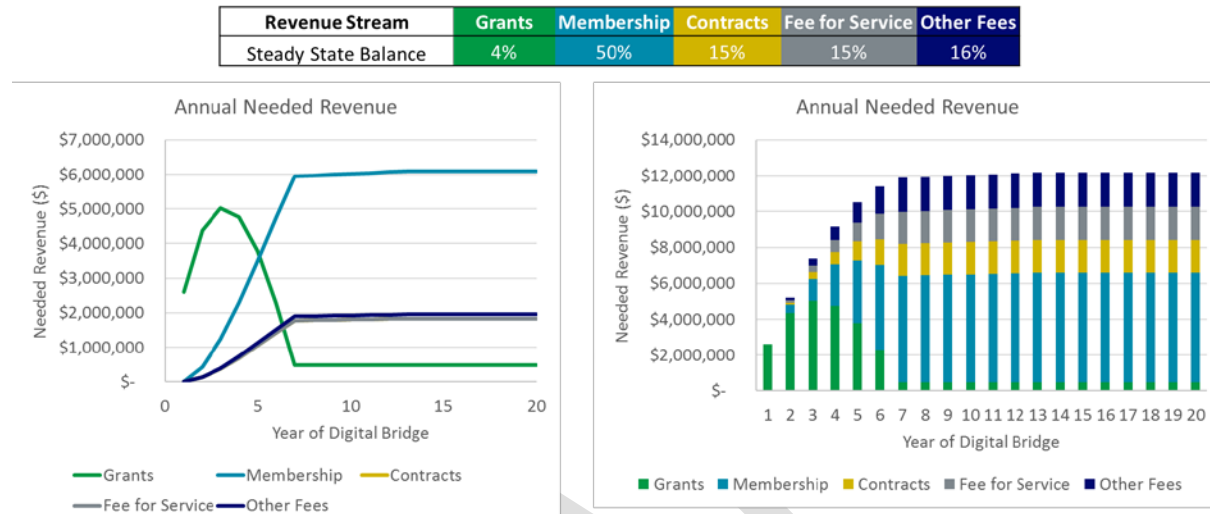


Figure 10: Suggested Revenue Streams Balance for Digital Bridge

In addition to the FTE costs, other cost categories should be considered in managing and operating Digital Bridge.

Other Cost Category Details					
Other Cost Category	Frequency	Unit Cost	Cost Multiplier	Total Cost per Year	Notes
Teleconferencing (2-3 lines, web-enabled)	Annual	\$10,000	1	\$10,000	Estimate
Collaboration site (i.e. Basecamp)	Annual	\$10,000	1	\$10,000	Estimate
Systems Development Lifecycle Tools	Annual	\$10,000	1	\$10,000	Estimate
Marketing materials	Annual	\$10,000	1	\$10,000	Estimate
Conference Attendance	6x per year	\$8,400	6	\$50,400	Using HIMSS as rough base: 3 attendees, \$800/person registration, \$300 flight, 4 nights of hotel at \$400/night
Website Hosting	Annual	\$5,000	1	\$5,000	Estimate
Digital Bridge Conferences	2x per year	\$30,000	2	\$60,000	Estimate based on Greenhouse budgets
Standards Organization Membership	Annual	\$2,200	1	\$2,200	Using HL7 as a benchmark
Payments to law firm	Annual	\$50,000	1	\$50,000	Estimate
Communications Infrastructure, initial investment	One Time	\$100,000	1	\$100,000	Estimate
Communications Infrastructure, maintenance	Annual	\$25,000	1	\$25,000	Estimate

Figure 11: Other Cost Category Details

Digital Bridge services and products offered to members can also be used as additional revenue sources. These additional services provide an opportunity for Digital Bridge to continue to showcase its value while contributing to public health.

Partner Operating Costs and Savings

The Strategy Workgroup also estimated the cost and return for participating partner organizations. The initial cost per use case for a provider is estimated at approximately \$265,000, which could result in \$270,000 in community benefits and practitioner cost savings each year. Vendors could save an average of \$150,000 in development costs for each provider, and public health agencies could save \$25,000 in costs and \$320,000 in reduced economic burden of disease. These estimates could be refined as the project management office gathers input from the eCR initial implementation sites.

Other Digital Bridge Services

Additional services should be offered to Digital Bridge members and external participants who are interested in the project but are not paid members. This list of services is an example of how Digital Bridge should be investing in opportunities to support future revenue streams.

Member Services	Non-Member Services (Paid Services)
Trial Implementation Site Participation Services <ul style="list-style-type: none"> Eligibility to be a trial implementation site Real, full time technical support services Facilitated coordination with DSI Input into potential standards for use cases Key role in the shaping requirements of use cases 	Trial Implementation Site Participant Services <ul style="list-style-type: none"> None, not eligible to participate in trial implementations
Post-Trial Implementation Services & Products <ul style="list-style-type: none"> Complete access to repository of best practices related to startup of use cases Access to reusable testing materials and tools Access to members only user boards to ask questions of other members On demand technical support Role in the updating of use cases Use case related toolkits 	Post-Trial Implementation Services & Products <ul style="list-style-type: none"> Access to repository of best practices related to startup of use cases On demand technical support (tiered by service level)
Suggested General Services & Products <ul style="list-style-type: none"> Active voice in promoting future use cases Digital Bridge “Rolodex” only shared amongst members <i>Other technical expertise/additional surveillance science & best practices repositories consulting, advice on demand*</i> General Digital Bridge toolkits 	General Services <ul style="list-style-type: none"> <i>Other technical expertise/additional surveillance science & best practices repositories*</i> Use case specific toolkits General Digital Bridge toolkits

Table 6: Suggested List of Digital Bridge Services

Similar to the suggested membership services, the future services suggested below will depend on an approved operating model and lessons learned from the seven initial implementation sites.

Additional Suggested and Potential Future Services

- Digital Bridge onboarding toolkits
- Community coordination services (bulletin boards, contact lists)
- Analytics toolkits/plugin-ins

- Surveillance science support
- Best practices not related to specific use cases
- Consulting services related to various public health topics
- Hosted toolkits, services and software related to Digital Bridge use cases
- Products that can be co-owned with a partner

Other Funding Sources

The decision support intermediary must be able to support their own infrastructure as use cases grow beyond the initial implementation phases (e.g., funding options and resources needed for AIMS and RCKMS to run long term). Below is a list of organizations the DSI could consider obtaining funding from to support and sustain the technology platform.

Potential NGO Funders

- American Public Health Association
- Public Health Foundation
- CDC Foundation
- Kresge Foundation
- The Commonwealth Fund
- Robert Wood Johnson Foundation
- de Beaumont Foundation
- GE Foundation
- Hearst Foundation
- WK Kellogg Foundation
- Bloomberg Philanthropies
- Gates Foundation
- Lopez Family Foundation
- American Diabetes Association
- Milken Institute
- Medical Device Innovation Consortium
- American Medical Association
- Foundation for the National Institutes of Health
- Reagan Udall Foundation
- Public Health Institutes
- American Medical Informatics Association
- Gordon and Betty Moore Foundation

Potential Non-CDC Government Funders

- Office of the National Coordinator
- Assistance Secretary for Preparedness and Response
- FDA/OC
- Center for Devices and Radiological Health
- Substance Abuse and Mental Health Services Administration
- Agenda for Healthcare Research and Quality
- Office of the Assistant Secretary for Health (OASH)
- Centers for Medicare and Medicaid
- Assistant Secretary for Planning and Evaluation
- National Institutes of Diabetes and Digestive and Kidney Disease
- National Institutes of Minority Health and Health Disparities
- National Institute of Allergies and Infectious Diseases

- National Institutes of Health Office of Director
- Assistant Secretary for Preparedness and Response

Potential CDC Government Funders

- Center for Surveillance, Epidemiology, and Laboratory Services
- National Center for Immunization and Respiratory Disease
- National Center for Emerging and Zoonotic Infectious Diseases
- Office of Noncommunicable Diseases, Injury and Environmental Health
- Office of Public Health Preparedness and Response
- Office for State, Tribal, Local and Territorial Support

Additional Digital Bridge Sustainability Considerations

Legal

Legal implications and considerations will continue to be a critical piece of Digital Bridge as new use cases are added. It is imperative to maintain a legal and regulatory workgroup throughout the life of this collaborative to ensure these issues are evaluated and addressed.

Legal Resources

The current legal and regulatory workgroup engaged with Davis Wright Tremaine LLP (DWT) to develop draft agreements and coordinate with the implementation sites' legal teams. This collaboration has been instrumental in ensuring sites understand how to develop appropriate agreements and share data with the decision support intermediary. Although financial resources and the number of FTEs may change, this type of legal support should also be considered for future use case implementations.

Implementation Site Coordination

There should be consistent communication and coordination between the legal and regulatory workgroup and future implementation sites to foster a mutual understanding of challenges and potential resolutions. Law firms should work directly with implementation sites to ensure clear alignment and transparency on legal decisions.

Legal Agreement Considerations

Because current legal agreements are specifically designed for eCR, Digital Bridge members should develop agreements that can apply to multiple use cases and consider if the existing DSI will be useful for those use cases.

Legal and Regulatory Considerations

Although much of the technical and architectural components of eCR were developed prior to the partnership with DWT, there should be increased coordination between the technical workgroup and the legal and regulatory workgroup in the initial phases of use case design. Considering legal and regulatory issues early will save time in developing agreements for future sites.

Communications

Communications will continue to play a vital role in the sustainability of Digital Bridge as Digital Bridge continues to recruit membership and promote the collaborative across the nation. As Digital Bridge moves into its next phase, establishes its operating model, and develops the appropriate business processes to support its organizational

structure, communication strategies and tactics must be implemented to keep internal and external stakeholders abreast of all major decisions and timeline for all Digital Bridge activities.

Currently there are two major communication goals for the Digital Bridge vision and implementation efforts.

1. Persuade potential funders and participants that the Digital Bridge is a viable public-private partnership for effective information sharing between health care and public health.

To develop new funders, advocates and initial implementation participants, Digital Bridge must:

- a. Communicate what Digital Bridge is and its long-term vision.
- b. Address the problems that the Digital Bridge collaborative is solving.
- c. Communicate the success of the Digital Bridge collaboration and eCR.
- d. Emphasize that eCR is the first use case and more will come.

2. Increase understanding and uptake of the Digital Bridge approach to electronic case reporting.

Electronic case reporting is the first tangible project for Digital Bridge, and the first area to demonstrate success. The infrastructure developed through Digital Bridge lays the foundation for a multi-jurisdictional solution that could be applied to other use cases.

To achieve this goal, the Digital Bridge partnership must:

- a. Keep audiences informed of the implementation sites' progress and timeline.
- b. Address concerns around legal issues and sustainability.
- c. Reinforce the value of this approach to specific audiences, such as health care providers.

While the focus of communications is for an external audience, the foundation starts with the strength of Digital Bridge's internal communications. The graphic below illustrates the three broad groups' communications targets.

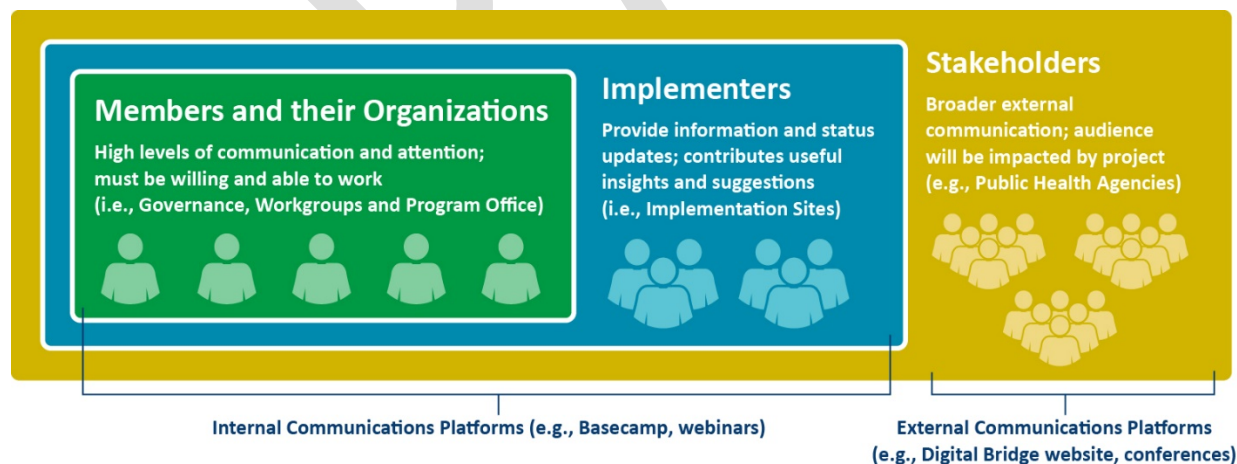


Figure 12: Communication Organization across Digital Bridge

Lessons Learned

As Digital Bridge begins to add more eCR implementation sites and use cases, there are a number of lessons learned that should be taken into consideration to support sustainable communication activities. Some of these considerations include the following:

- External audiences are large and fragmented, requiring more frequent communication.

- Resources for communications—budget and staff—are limited.
- Communicating the success of Digital Bridge is dependent on the tangible results of implementation sites to build a persuasive story and obtain additional financial support and membership.
- There has been a lot of increased interest in Digital Bridge, but most is from public health. It is important to focus on the health care audience as the implementation sites begin to demonstrate success.
- There are challenges with educating audiences about electronic case reporting and its separation from Digital Bridge (i.e., establishing Digital Bridge as a collaborative and eCR as its first use case).

These lessons learned will be critical for success beyond electronic case reporting.

DRAFT

Part II: eCR Transition and Scaling: Plan for the Future

DRAFT

Overview

Effective nationwide scalability and sustainment of eCR is important for the future success of Digital Bridge. This section outlines key considerations and activities to transition eCR to a national operator.

eCR Scaling

Scaling eCR beyond seven initial implementation sites will require a dedicated effort from the Digital Bridge PMO and the decision support intermediary. Effectively executing the communications plan will garner interest from additional implementation sites, potential funders and future partners.

Another key component of eCR scaling is the coordination among the PMO, the DSI, and the national operator to support large-scale onboarding of additional sites. To prevent lags in adoption and scaling, the DSI must be able to quickly onboard new sites. The PMO should work with the DSI to create an onboarding toolkit that contains the following information:

- **Process Outline:** Document repeatable onboarding steps for every site that connects with the DSI. A consistent repeatable process will make it easier to add multiple sites and support scalability simultaneously. A consistent process also reduces the risk of onboarding challenges and bottlenecks.
- **Timelines:** Provide general timelines for onboarding, training, implementation, and legal considerations. Clearly defined timelines provide an opportunity for the incoming site to understand the amount of time and resources it will take to connect to the DSI. Timelines also provide an opportunity for incoming sites to plan and prioritize their own schedules with the work of Digital Bridge.
- **Test Data and Test Scenarios:** Share sample test data and scenarios to support easy access to data when implementation sites are moving into production. Access to readily available test data will expedite and streamline the onboarding process.

These suggestions could evolve as initial implementation sites move into production.

eCR Transition

Transitioning eCR to a national operator will require a number of activities: identifying the national operator, working to ensure all resources are secured, and addressing technology and infrastructure concerns.

The eCR transition plan should include steps to identify a national operator to take over eCR after initial implementations. The national operator must have the ability to work with multiple sites, support the PMO in coordinating all transition activities, and support long-term operations of the use case. The PMO and the national operator must coordinate to ensure the appropriate FTEs and monetary resources are available to support operations. Technology and infrastructure support will also need to be taken into consideration.

When planning for the eCR transition plan, the following should be included:

- A clear process for identifying a national operator for eCR and additional use cases
- A clear process for onboarding and technology and infrastructure needs as they support the DSI and implementation sites
- A clear budget and outline of necessary costs and FTEs needed to support Digital Bridge after initial implementation

eCR Cost Drivers

Investments need to be made in Digital Bridge technologies to achieve scalability and success. The Strategy Workgroup confirmed key costs and returns for eCR, concluding that there are different benefits for each stakeholder group to participate. Local public health agencies would receive improved reportable conditions data

that can lead to improved economic benefits, and providers would experience cost savings due to reduced staff time on case reporting.

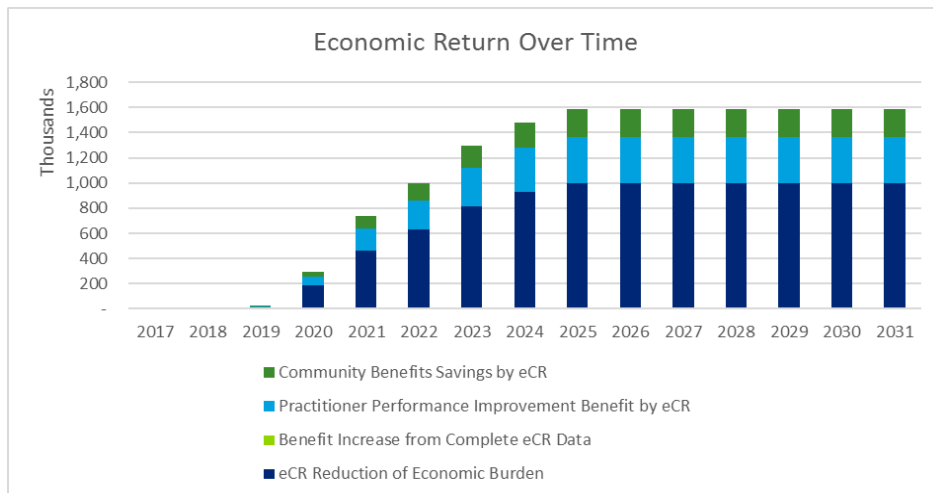


Figure 13: eCR Economic Return over Time

Within five years, roughly \$800 million per year could be saved in total economic return. This assumes that all reportable conditions are included in the RCTC and that approximately 35 Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) Cooperative Agreement grantees have begun to leverage eCR in their daily work.

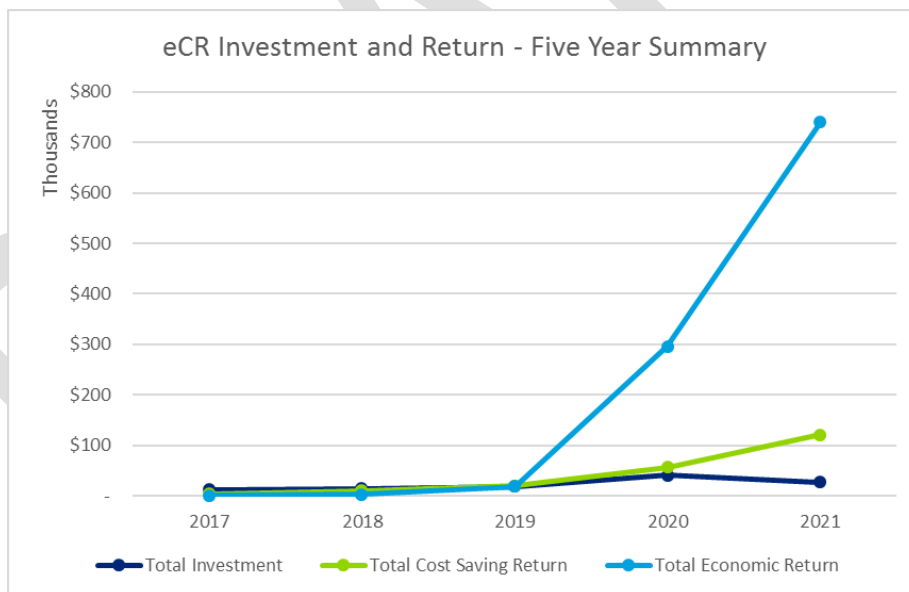


Figure 14: eCR Investment and Return – Five Year Summary

In a high-cost case (four times the base assumptions made and discussed with key stakeholders), all stakeholder groups would see returns by 2026, primarily in time. For providers, this is reducing the public health reporting burden for staff. For public health, this is the reduction of time spent inputting information. The combined benefits of nationwide eCR adoption results is potentially \$1.5 billion by 2025 in total annual economic benefit.

eCR Sustainability Options

The DSI is currently supported by the AIMS and RCKMS platforms, and to sustain eCR, these entities must be able to support their infrastructure in the future. Funding options and resources needed to support the technology in the long term need to be considered. Below is a list of organizations the DSI could consider obtaining funding from to support and sustain the technology platform.

Potential NGO Funders

- American Public Health Association
- Public Health Foundation
- CDC Foundation
- Kresge Foundation
- The Commonwealth Fund
- Robert Wood Johnson Foundation
- de Beaumont Foundation
- GE Foundation
- Hearst Foundation
- WK Kellogg Foundation
- Bloomberg Philanthropies
- Gates Foundation
- Lopez Family Foundation
- American Diabetes Association
- Milken Institute
- Medical Device Innovation Consortium
- American Medical Association
- Foundation for the National Institutes of Health
- Reagan Udall Foundation
- Public Health Institutes
- American Medical Informatics Association
- Gordon and Betty Moore Foundation

Potential Non-CDC Government Funders

- Office of the National Coordinator
- Assistance Secretary for Preparedness and Response
- U.S. Food and Drug Administration (FDA)/OC
- Center for Devices and Radiological Health
- Substance Abuse and Mental Health Services Administration
- Agenda for Healthcare Research and Quality
- Office of the Assistant Secretary for Health (OASH)
- Centers for Medicare and Medicaid
- Assistant Secretary for Planning and Evaluation
- National Institutes of Diabetes and Digestive and Kidney Disease
- National Institutes of Minority Health and Health Disparities
- National Institute of Allergies and Infectious Diseases
- National Institutes of Health Office of Director
- Assistant Secretary for Preparedness and Response

Potential CDC Government Funders

- Center for Surveillance, Epidemiology, and Laboratory Services

- National Center for Immunization and Respiratory Disease
- National Center for Emerging and Zoonotic Infectious Diseases
- Office of Noncommunicable Diseases, Injury and Environmental Health
- Office of Public Health Preparedness and Response
- Office for State, Tribal, Local and Territorial Support

eCR Technical Strategy and Maintenance

Digital Bridge will maintain some involvement in various technical aspects of eCR following hand-off to a national operator. The Strategy Workgroup suggests the following tasks for eCR technical strategy and maintenance.

eCR Case Technical Strategy

Digital Bridge members will need to implement a process for maintaining and scaling key products. This process would include ensuring AIMS is able to correctly route data and keeping RCKMS and the RCTC table updated and easily modifiable. While CSTE is responsible for updating the RCTC table, input from implementation sites has been valuable to the evolution of trigger codes. Recommendations for how to manage these updates are detailed in the following sections.

eCR Case Maintenance

The Strategy Workgroup proposes a new workgroup similar to the Implementation Taskforce to oversee use case maintenance. The group would support onboarding of implementation sites and upkeep of use case architecture, requirements and technical infrastructure. The following activities are recommended:

- Update technical infrastructure, architecture, and requirements in preparation for transition to the national operating entity
- Oversee the maintenance of trigger codes and support trigger code updates (if applicable), or other similar artifacts for non-eCR use cases
- Develop timelines and key milestones and identify owners for critical products
- Develop a draft plan for updating products

The Implementation Taskforce should meet monthly and use a change control process and an operations tracker to manage all use cases.

Part III: Next Steps

DRAFT

General Concerns and Considerations

Governance Body feedback is necessary to address lingering concerns relevant to sustainability and to finalize suggestions presented in this plan. The Strategy Workgroup will continue research on the below topics to identify gaps before making final decisions:

- Digital Bridge Operating Model
 - Are there additional models Digital Bridge needs to consider for future operations?
 - Should Digital Bridge become a non-profit and/or 501(c)3?
 - Is the suggested operating model appropriate for Digital Bridge?
- Digital Bridge Responsibilities, including RACI
 - Are there additional responsibilities Digital Bridge should take on as the incubator?
 - Where are the current gaps in responsibilities? Is there another entity or stakeholder group that needs to take over these responsibilities?
- Use Case Development Process
 - How should new use cases be developed as part of the incubator?

Future Considerations

As Digital Bridge continues to advance eCR and introduce new use cases, the Governance Body, project management office and appropriate workgroups need to perform a number of activities:

Short Term (Completed in the next 6 months)

- Present Digital Bridge sustainability plan to Governance Body and incorporate feedback in final plan
- Approve the sustainability plan, including the operating model and organizational structure
- Approve Digital Bridge bylaws in conjunction with the operating model
- Approve criteria and selection process for additional Digital Bridge use cases
- Evaluate potential national operators for eCR

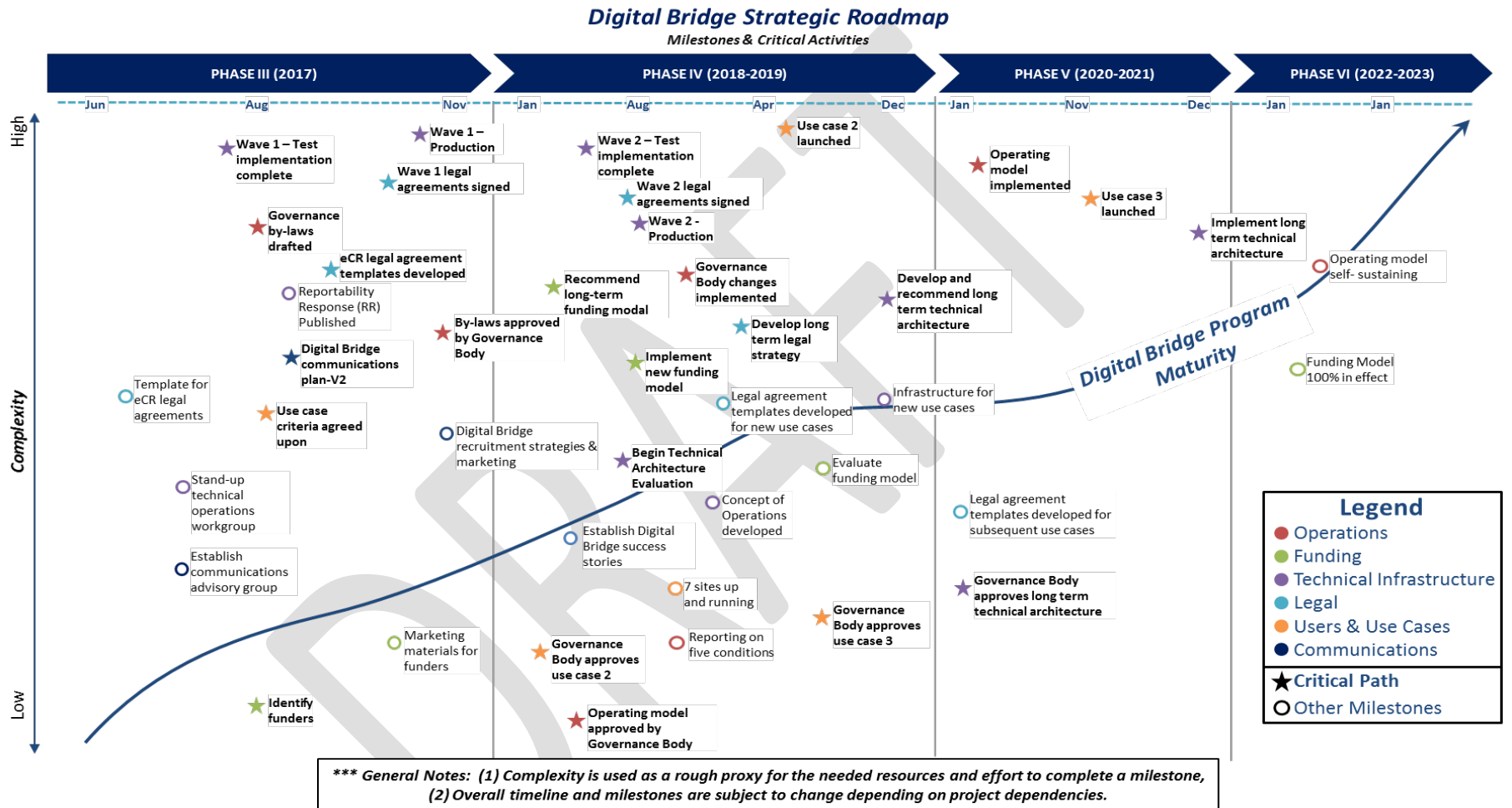
Long Term (12- 18 months)

- Select national operator for eCR
- Develop scaling plan with current decision support intermediaries support
- Begin developing transition plan to hand off eCR to national operator
- Determine when Digital Bridge will start development and selection of the second use case; begin developing requirements and technical architecture
- Begin implementing approved Digital Bridge operating model and organizational structure

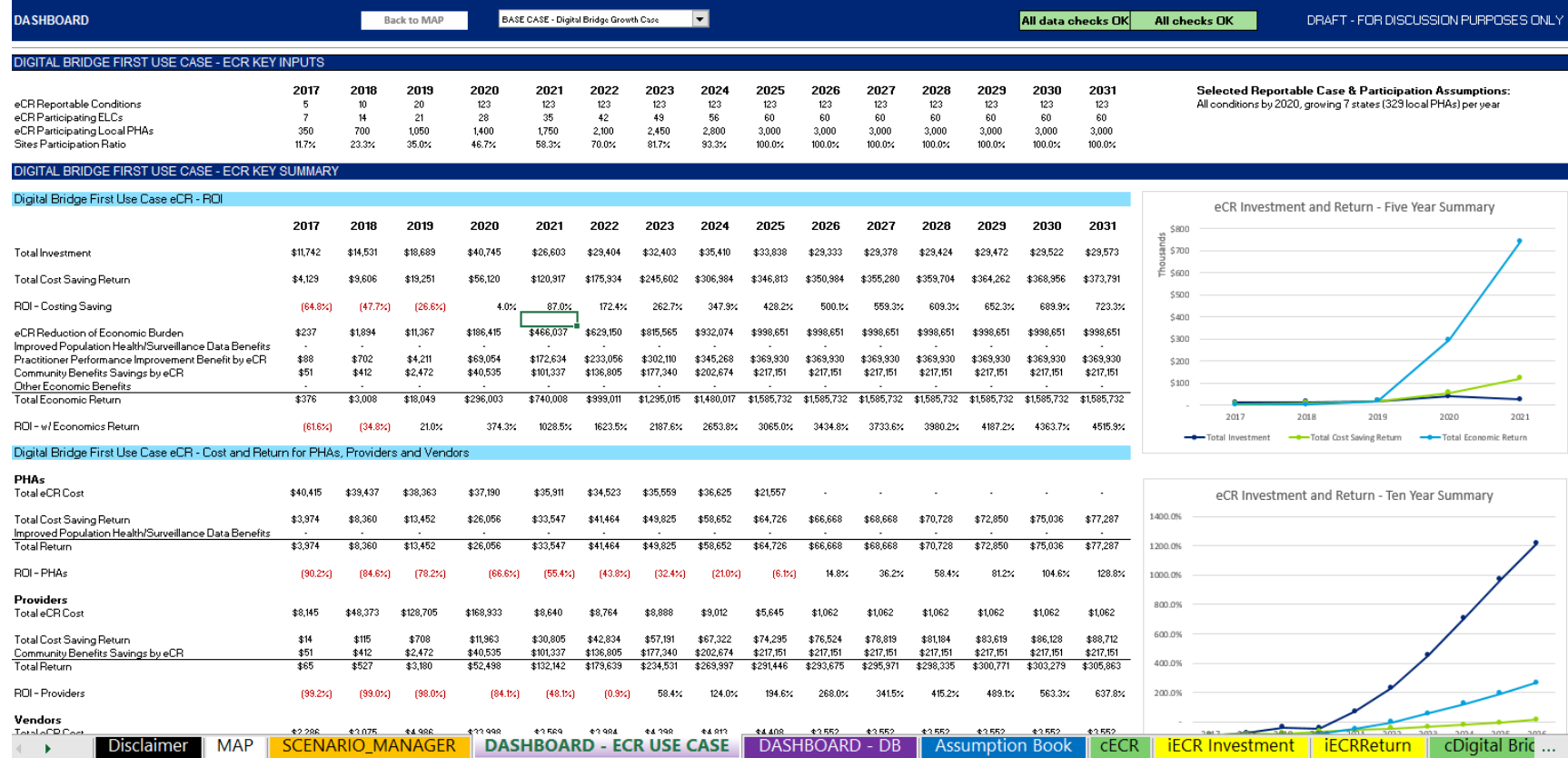
APPENDIX

DRAFT

Appendix A – Digital Bridge Roadmap



Appendix B – ROI Model



Appendix C – Sample Use case Criteria Rubric

Sample Use case Criteria Rubric

Criterion	Below Expectations (Score: 1)	Meets Expectations (Score: 2)	Exceeds Expectations (Score: 3)	Score
Significance of Problem	Use case <u>does not</u> address a significant current or emerging public health challenge, and only applies to <u>one</u> stakeholder.	Use case <u>partially</u> addresses a challenging or emerging public health challenge, and only applies to <u>two to three</u> stakeholders.	Use case <u>does</u> address significant current or emerging public health challenge, and applies to <u>all</u> stakeholders.	
Feasibility	<p>Use case <u>does not</u> provide a feasible solution to address the challenges and/or significance of the problem, and only applies to <u>one</u> stakeholder.</p> <p>Use case <u>is not</u> feasible for the Digital Bridge collaborative to incubate and launch nationally, and only applies to <u>one</u> stakeholder.</p>	<p>Use case provides a solution that is <u>partially</u> feasible in addressing the challenges and/or significance of the problem, and only applies to <u>two to three</u> stakeholders.</p> <p>Use case is <u>partially</u> feasible for the Digital Bridge collaborative to incubate and launch nationally, and only applies to <u>two to three</u> stakeholders.</p>	<p>Use case <u>does</u> provide a feasible solution to address the significance of the problem, and only applies to <u>all</u> stakeholders.</p> <p>Use case <u>is definitely</u> feasible for the Digital Bridge collaborative to incubate and launch nationally, and applies to <u>all</u> stakeholders.</p>	
Value to Stakeholders*	Use case provides value to only <u>one</u> stakeholder group.	Use case provides values to <u>two to three</u> stakeholder groups.	Use case provides value to <u>all</u> stakeholder groups.	
Applicability	Use case <u>is not</u> applicable across multiple jurisdictions and disease conditions, and only applies to <u>one</u> stakeholder.	Use case is <u>partially</u> applicable across multiple jurisdictions and disease conditions, and only applies to <u>two to three</u> stakeholders.	Use case <u>is definitely</u> applicable across multiple jurisdictions and disease conditions, and applies to <u>all</u> stakeholders.	
Cross Collaboration	Use case <u>does not</u> provide an opportunity to work with multiple organizations outside of Digital	Use case <u>provides</u> an opportunity to work with <u>one to two</u> organizations outside of Digital Bridge to support the incubation and launch nationally.	Use case <u>provides</u> an opportunity to work with <u>multiple</u> organizations outside of Digital Bridge to support the incubation and launch nationally.	

	Bridge to support the incubation and launch nationally.			
--	---	--	--	--

Notes

* Stakeholders are defined as providers, vendors, public health, and patients.

DRAFT

Appendix D – Sample Use Case Application

DIGITAL BRIDGE USE CASE APPLICATION FORM

The purpose of this form is to help Digital Bridge assess potential use case ideas for development and implementation. The form asks a party or parties that champion an idea to describe the benefit of their use case to Digital Bridge, public health, the national demand for the service among public health agencies, and the effort to develop and implement the service. Upon completion, the Digital Bridge Board of Directors will review and determine whether the use case aligns with Digital Bridge's strategic goals. If the use case is deemed appropriate, the Board of Directors will take a vote on whether to move forward with the use case and begin the incubation period.

SPONSORSHIP INFORMATION

Name of the Use Case:	
Name of Champion:	
Champions Organization:	
Additional Supporters:	
Is the Champion a member of Digital Bridge?	YES NO

USE CASE INFORMATION

Describe the public health activity the use case supports, and who the direct beneficiaries or end-users of the service will be. Please be sure to:

- Clearly articulate the value to all Digital Bridge stakeholders (i.e. Public Health, Providers, Vendors)
- Highlight efficiency, productivity, capacity or capability gains from this use case

Describe the use case below, being sure to clearly define the human actors, technological services, inputs, outputs, and all necessary transitions to support your use case. In addition to providing a narrative description of the use case, please also provide a graphic depiction of the use case.

Describe how this use case might support the sustainability of Digital Bridge:

USE CASE DEVELOPMENT & IMPLEMENTATION

Describe the perceived barriers to developing and implementing this use case.

Are there any legal or policy barriers to developing and implementing this use case? If so please explain in detail.

Describe a mitigation plan and other efforts that can help overcome all the barriers described above.

Can you estimate costs for development? If yes, please provide an estimate itemized by FTE resources, IT costs, and other materials. If no, please describe how an estimate could be developed.

Can you estimate the cost of implementation? If yes, then please provide an estimate itemized by FTE resources, IT cost, and other materials. If no, please describe how an estimate could be developed.

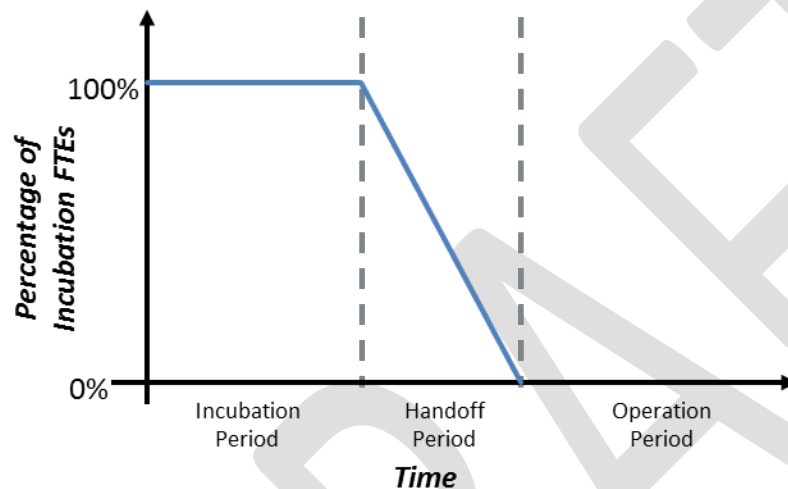
In a few words, describe how you would measure and evaluate use case success.

[illegible]

Appendix F – Operating Model Selection Process

The Strategy Workgroup seriously considered 3 separate use case operating models before deciding to recommend the “Incubate, Handoff, Limited Support” model discussed above. A graphical representation of the relative FTE effort support is listed below. The FTE support level is separated out by three periods: Incubation, Handoff, and Operation. During the Incubation period, the requirements, architecture, needed legal agreements of the use case would be defined and initial implementation sites would be selected and managed. During the Handoff period, ongoing operations of the use case would be defined and the handoff to a national operator would be performed. The use case would be scaled and operated at a national level during the Operation period. Each option is followed by a brief description of the activities that would take place during each period.

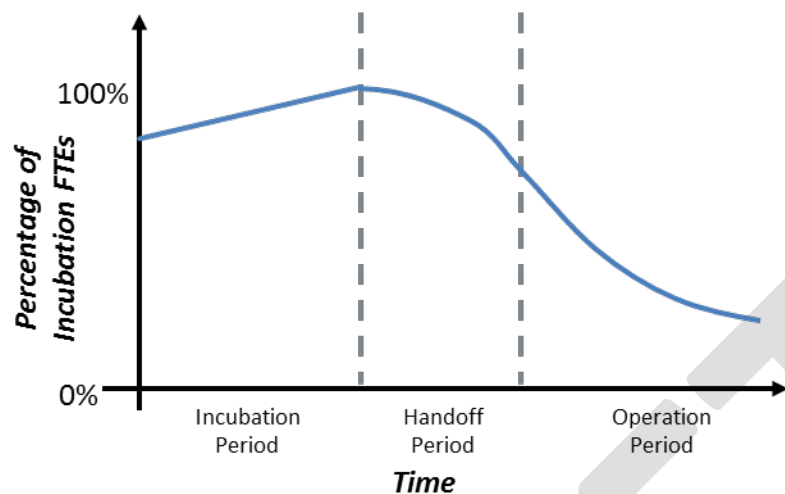
1 Incubate & Handoff



Incubation Period	Develop use case requirements, define infrastructure, and standards. Develop legal agreements needed for the use case. Select and manage initial implementation sites. Identify future operating entity and develop hand-off plan.
Handoff Period	Execute handoff plan with future operating entity.
Operation Period	-

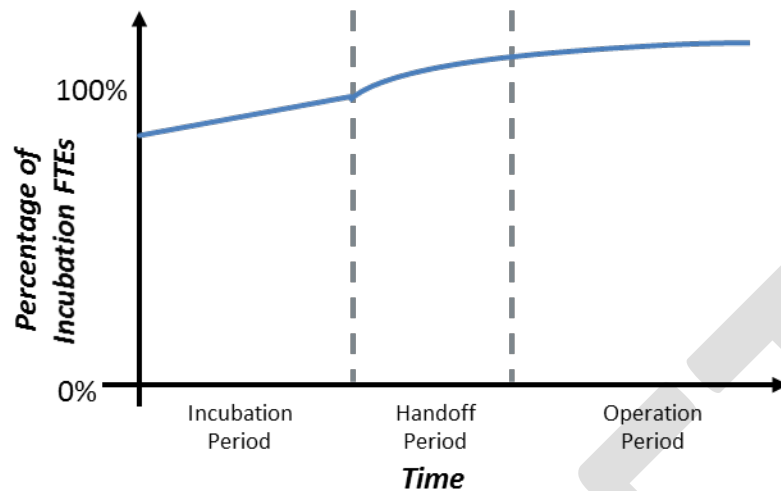
2

Incubate, Handoff, Coordinate, & Support Operations



Incubation Period	Develop use case requirements, define infrastructure, and standards. Develop the legal agreements needed for the use case. Select and manage initial implementation sites. Identify future operating entity and develop hand-off plan. Develop plan to scale use case.
Handoff Period	Execute handoff plan to operating entity, and transition to support role. Begin to execute scaling plan.
Operation Period	Perform support role for operating entity. Use best practices to onboard new users while executing the scaling plan. Leverage the convening power of Digital Bridge to adjudicate new standards, changing needs of the use case, and any other needed collaboration.

3 *Incubate, Handoff, & Own Future Operations*



Incubation Period	Develop use case requirements, define infrastructure, and standards. Develop legal agreements needed for the use case. Select and manage initial implementation sites. Develop plan to scale use case.
Handoff Period	Begin to execute scaling plan.
Operation Period	Continue scaling, operating, and leveraging the Digital Bridge convening power to operate the use case at a national scale. If necessary, identify external operations to support use case (i.e. standards development, etc.)

The workgroup felt that Option 2, Incubate, Handoff, Coordinate, & Support Operations, was the best option to recommend to the Governance Body for further discussion. The workgroup came to this decision based on the following criteria. 1) Owning ongoing operations is a large and complicated process and other organizations are already in position to potentially own the operations. This eliminated option 3. 2) While Digital Bridge should function as an incubator, there will be many lessons learned, best practices, and issues overcome during the incubation period that would be greatly beneficial to a national operator. Thus, Digital Bridge must maintain contact with the national operator during national operations and scaling. In addition, one of the key benefits of Digital Bridge is the convening power of the collaborative, so Digital Bridge would be a convenient and appropriate forum to discuss any future changes to a use case. Thus, Option 2 was selected as the best recommendation to the Governance Body for further discussion.