# Health Information Exchange Plan for the State of Tennessee

April 5, 2019

BalladHealth™

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# Introduction

- The final version of the Health Information Exchange (HIE) plan was requested by the State of Tennessee in the September 18, 2017 Terms of Certification. The Plan is due in final form by January 31, 2019.

- The content of this plan is consistent with requirements as outlined in Terms of Certification governing the Certificate of Public Advantage and represents those actions to be taken by Ballad Health deemed by the State of Tennessee to constitute public benefit.

# Spending Requirements

| | | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Total: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Expanded Access to HealthCare Services** | **Behavioral Health Services** | $ 1,000,000 | $ 4,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 85,000,000 |
| | **Children's Services** | $ 1,000,000 | $ 2,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 27,000,000 |
| | **Rural Health Services** | $ 1,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 3,000,000 | $ 28,000,000 |
| **Health Research and Graduate Medical Education** | | $ 3,000,000 | $ 5,000,000 | $ 7,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 85,000,000 |
| **Population Health Improvement** | | $ 1,000,000 | $ 2,000,000 | $ 5,000,000 | $ 7,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 10,000,000 | $ 75,000,000 |
| **Region-wide Health Information Exchange** | | $ 1,000,000 | $ 1,000,000 | $ 750,000 | $ 750,000 | $ 750,000 | $ 750,000 | $ 750,000 | $ 750,000 | $ 750,000 | $ 750,000 | $ 8,000,000 |
| | | | | | | | | | | | | |
| **Total:** | | $ 8,000,000 | $ 17,000,000 | $ 28,750,000 | $ 33,750,000 | $ 36,750,000 | $ 36,750,000 | $ 36,750,000 | $ 36,750,000 | $ 36,750,000 | $ 36,750,000 | $ 308,000,000 |



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# Important Dates

Plans Due in First Twelve Months (January 31, 2019)

- Health Information Exchange (HIE) Plan
- Health Research/Graduate Medical Education (HR/GME Plan)

** Consistent with The Commonwealth of Virginia Department of Health request, Ballad Health previously submitted a draft version of the HIE plan on November 30, 2018 and provided a copy to the State of Tennessee. This document presents the final version of that plan.*

# Process for Plan Development

**Initiate**
- Engaged Resources
- Named Executive Steering Team

**Plan**
- Assessed Current HIE and Interoperability State and Future Vision
- Documented Future State & Develop Gap Analysis
- Developed Operational Model Framework
- Developed HIE and Interoperability Roadmap

**Review**
- Presented Draft Plan to Executive Steering Team
- Provide Tennessee Department of Health (TDH) with Draft Plan Submitted to Virginia Department of Health (VDH)
- Review Draft Plan with VDH and TDH

**Finalize**
- Incorporate VDH/TDH and Stakeholder Feedback
- Finalize Investment Schedules
- Submit Final Plans to VDH/TDH
- Make final revisions with State Input during 30 day state review and 30 day Ballad Health response period
- Obtain Ballad Health Board Approval

# Process and Participation for Plan Development

In developing this plan, Ballad Health has referenced previously developed plans and analyses and solicited extensive stakeholder input including:

- Conducted approximately 50 individual interviews
- Held approximately 30 meetings with external groups, including:
  - State of Franklin Healthcare Associates
  - East Tennessee State University
  - Holston Medical Group
  - Tennessee Department of Health
  - Tennessee Department of Finance & Administration
  - Virginia Department of Health
  - etHIN
  - OnePartner
  - MedVirginia
  - Connect Virginia
  - The Sequoia Project
  - CollectiveMedical
  - Cleveland Clinic
  - Epic
  - CRISP
  - Velatura
  - The Center for Medical Interoperability
  - CareJourney
- Ballad will engage the TennCare Office of eHealth during state review of this plan

# Table of Contents for HIE Plan

- Plan Overview
  - TN Certificate of Public Advantage Requirements
  - Key Supported Metrics
  - HIE Strategies
  - Strategies Related to HIE Plan Requirements
  - Investment Plan
- Strategic Approach
- Implementation Roadmap
- Appendices

# HIE Plan

*1. Plan Overview*

# *Plan Overview*
# TN COPA HIE Requirement Overview

In order to prevent independent physicians and other healthcare providers in the geographic service area from being disadvantaged by a lack of access to patient electronic health information necessary for the management of their patients, and to further facilitate better patient care and coordination of care for the population, Ballad shall spend a minimum of $8,000,000 over the ten-year period in developing and providing readily and easily accessible access to patient electronic health information ("HIE").

***"HIE" refers to the exchange of health information, not a legal entity established to exchange health information***

Source: Tennessee Certification of Public Advantage, Section 3.05 (c)

# *Plan Overview*
# HIE Strategies

Ballad Health will deploy foundational and tactical strategies to provide and promote interoperability in its Geographic Service Area (GSA). Many of these strategies are predicated on the successful extension of Epic system to Legacy Mountain State Health Alliance.

**Strategy #1:** Establish Ballad Health HIE Steering Committee

**Strategy #2:** Conduct Geographic Service Area Interoperability Research

**Strategy #3:** Identify Optimal Portfolio of Interoperability and Assemble Deployment Strategies

**Strategy #4:** Develop an HIE Recruitment and Support Plan

**Strategy #5:** Participate in ConnectVirginia's HIE and Other TN/VA Regulatory Programs

# *Plan Overview*
# Strategies Related to TN COPA HIE Plan Requirements

| TN COPA Requirement | 1. HIE Steering Committee | 2. Inter-Operability Research | 3. Optimal Portfolio and Deployment | 4. HIE Recruitment & Support Plan | 5. Participate in Connect-Virginia & Other TN/VA Programs |
|---|---|---|---|---|---|
| 1) Coordinate with the Independent Physicians and other health care providers in the Geographic Service Area and other relevant third parties to determine the optimal technology solution for expanding the scope and effectiveness of providing access to patient electronic health information to the Independent Physicians and other health care providers | | Y | Y | Y | |
| 2) Take all actions within its control to prohibit the resale or other commercial use of the HIE data | Y | | Y | Y | |

# *Plan Overview*
# HIE Estimated Investment Summary

| Health Information Exchange Plan | Year 1 | | Year 2 | | Year 3 | | Year 1-3 Total | |
|---|---|---|---|---|---|---|---|---|
| | Low | High | Low | High | Low | High | Low | High |
| Strategy #1: Establish Ballad Health HIE Steering Committee | $157,000 | | $157,000 | | $157,000 | | $471,000 | |
| Strategy #2: Conduct Geographic Service Area Interoperability Research | $81,000 | | $0 | | $0 | | $81,000 | |
| Strategy #3: Identify Optimal Portfolio of Interoperability and Assemble Deployment Strategies | $241,000 | | $187,000 | | $187,000 | | $615,000 | |
| Strategy #5: Participate in Connect Virginia's HIE and Other TN/VA Regulatory Programs | $213,000 | | $249,000 | | $249,000 | | $711,000 | |
| **Sub-Total** | **$692,000** | | **$593,000** | | **$593,000** | | **$1,878,000** | |
| Strategy #4: Develop an HIE Recruitment and Support Plan | $308,000 | $308,000 | $407,000 | $2,797,000 | $157,000 | $1,684,000 | $872,000 | $4,789,000 |
| **Total** | **$1,000,000** | **$1,000,000** | **$1,000,000** | **$3,390,000** | **$750,000** | **$2,277,000** | **$2,750,000** | **$6,667,000** |
| *COPA-Mandated Minimum Expenditures* | *$1,000,000* | | *$1,000,000* | | *$750,000* | | *$2,750,000* | |
| ***Potential Funding Needed in Excess of Minimum Spending Requirements*** | ***$0*** | ***$0*** | ***$0*** | ***$2,390,000*** | ***$0*** | ***$1,527,000*** | ***$0*** | ***$3,917,000*** |

# HIE Plan

*2. Strategic Approach*

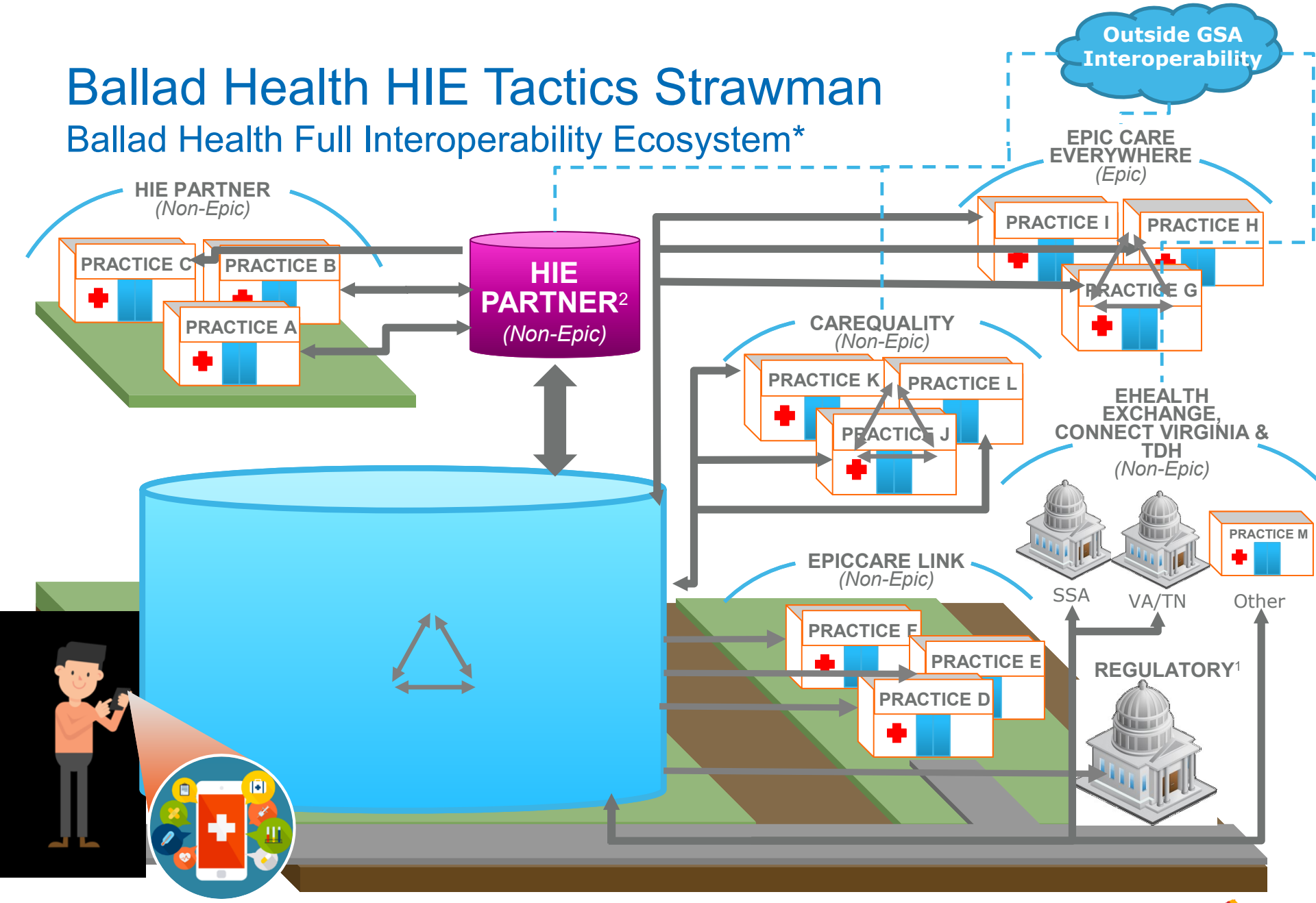
# *Strategic Approach*
# HIE Plan Guiding Principles (Key Design Requirements)

Ballad Health developed a set of Guiding Principles, reflecting management's philosophy, which helped to guide decision making for the plan. HIE decisions will be based on what best supports point of care delivery, care coordination and population health improvement:

1. Ballad Health's HIE Plan will capitalize on the existing investment in Epic tools exchanging relevant patient data as needed by providers
2. Ballad Health's endorsed HIE offerings should match or surpass the regional standards set by OnePartner or other available options
3. Ballad Health will partner and participate in regional HIEs rather than establish a new HIE
4. Ballad Health will engage in visible, pioneering HIE efforts, adopting and regularly updating standards-based interoperability (i.e., HL7, FHIR) as they evolve
5. Ballad's HIE strategy should prioritize a technical architecture, business associate agreements, and participation in regional/national HIEs that allows for robust population health analytics, protects PHI from resale or other unauthorized commercial use of HIE data, and provides approved researchers with appropriate access
6. Organizations sending and/or receiving health information to any regionally operated HIE should participate in shared governance
7. Ballad Health will ensure reasonable accessibility to the clinical platform for credentialed health care providers in GSA allowable under law and within budgets allocated for health information exchange.

# Ballad Health HIE Tactics Strawman

## Ballad Health Full Interoperability Ecosystem*




** Information retrieval is dictated by existing patient relationship*

*[1] Includes EDCC, PDMP, Immunization, etc.*

*[2] HIE Partner may serve as a TEFCA defined health information network (HIN) and/or Qualified Health Information Network (QHIN)*

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# Strategy #1: Establish Ballad Health HIE Steering Committee

Why?

- Independent Providers will benefit from a well governed steering committee that is responsive to their/ the Geographic Service Area's HIE needs
- A well-developed HIE governance structure will ensure the successful deployment and ongoing management of the Ballad's HIE strategies and initiatives

How?

- Establish a Ballad Health HIE Steering Committee to guide the development, deployment and ongoing maintenance of Ballad Health's health information exchange efforts, including maintaining compliance with the COPA. Participants will include senior leadership representing:
  - Operations
  - Finance
  - Information Technology
  - Legal
  - Ballad Medical Group
  - Population Health
  - Quality
  - External Providers
  - Privacy & Security
  - Marketing
  - Patient Advocates
  - TVRHSC
  - Public Health
- Appoint an HIE Program Director - Designate an HIE Program Director responsible for the day to day management of Ballad Health's program
- Establish an HIE Steering Committee charter, governance model and operating guidelines

# Strategy #2: Conduct Geographic Service Area Interoperability Research

Why?

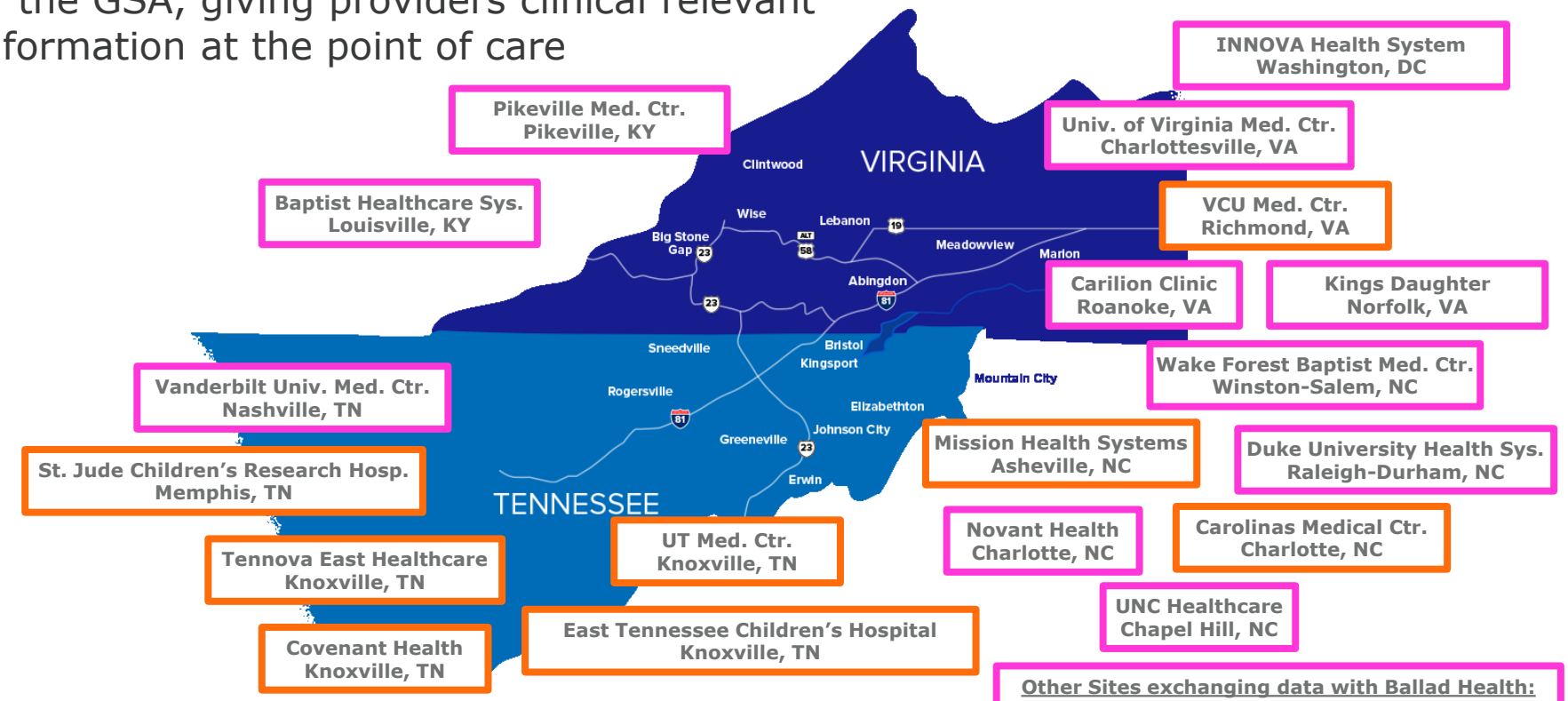
- Most HIE connectivity is voluntary and requires some level of investment by participating providers and healthcare organizations (no greater than allowed per federal anti-kickback statutes)
- Market research will allow Ballad Health to better understand the actual interest, readiness and willingness to pay of Geographic Service Area Independent Providers to engage in HIE within the region
- Independent Providers will be educated on the various offerings, including estimated costs to the provider and will be able to choose a solution that provides interoperability while fitting within the provider's budget, wants and needs

How?

- Ballad Health has already conducted an initial assessment of available interoperable options within the market place. Leveraging the initial assessment, Ballad Health will conduct research to gauge interest in menu offerings. This will allow Ballad Health to educate and survey Independent Providers within the region to understand their interest in the interoperability options. See following slides for the initial assessment. Additional information is provided in Appendix A: Environmental Scan and Appendix B: HIE Current State Analysis

# Interoperability Option Assessment

Ballad Health already leverages Epic to exchange health information automatically with both Epic and non-Epic sites, inside and outside of the GSA, giving providers clinical relevant information at the point of care




Ballad Health exchanges data with major Epic referral sites via Epic-to-Epic Care Everywhere or non-Epic sites via Carequality.

Sites who use Cerner. MEDITECH, or Allscripts EMRs, may be members of the CommonWell Health Alliance Exchange which joined the Carequality network in 2018. Ballad Health will soon be able to exchange data with participating CommonWell members.

# Interoperability Option Assessment

**Mutually Desired Depth of Interoperability**

*High* → *Low*

| Strategy | Epic Community Connect | Care Everywhere Epic-to-Epic | Carequality | eHealth Exchange & Connect-Virginia | HIE Partner | Portal, Messaging & Integration | Other Patient-driven HIE Tools | Regulatory |
|---|---|---|---|---|---|---|---|---|
| Depth of Interoperability | High | High | Medium | Medium | Medium | Low | NA | NA |
| Non-Ballad Health Provider Interoperability | Yes | Yes | Yes | No | Yes | No | No | No |
| Bi-Directional? | Yes | Yes | Yes | Yes | Yes (w/ Practice EHR Config.) | No (Limited) | No (Limited) | Varies |
| Effort to Implement | High | Low | Low | Medium | Medium | Low | Low | Varies |
| Governed By? | Shared | Ballad Health | Ballad Health | N/A | Shared | Ballad Health | Ballad Health | N/A |
| Cost to Ballad Health | 💰💰💰💰 | - | 💰 | - | 💰💰💰 | - | - | 💰 |
| Cost to Independent Provider | 🪙🪙🪙 | - | 🪙 | Varies | TBD | - | N/A | N/A |



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# Interoperability Option Assessment

Interoperability Options

1. Epic Community Connect
   - Ballad Health would develop a program to extend its Epic instance to Independent Providers. Beyond the EHR functional benefit, Ballad Health and Independent Providers share a single patient record. Providers pay a one-time implementation fee and an ongoing maintenance fee
   - Enables seamless interoperability among Ballad Health and Independent Providers
2. Care Everywhere Epic-to-Epic
   - Ballad Health to exchange information with other Epic customers via Epic native interoperability
   - Epic users can use Happy Together, a functionality that presents all aggregated patient records in a single and user-friendly view
   - Enables interoperability among Ballad Health and other Epic facilities and providers both within and outside the Geographic Service Area

# Interoperability Option Assessment

Interoperability Options (*Continued*)

3. Carequality
   - Ballad Health to exchange information with other non-Epic organizations via Carequality
   - Happy Together will present all aggregated patient records in a single and user-friendly view, within Epic. Independent Providers' views and functionality will vary by non-Epic system. Independent Providers will be responsible to pay any set up or ongoing fees charged by their vendor
   - Enables interoperability among Ballad Health and/or other Carequality participants and Independent Providers
4. eHealth Exchange & Connect-Virginia
   - Ballad Health to exchange information with large non-Epic customers, federal entities (VA, DOD,SSA), and non-Epic organizations using eHealth Exchange and Connect-Virginia when these exclusive networks are being used
   - Enables interoperability with other large non-Epic entities where patients may have been referred, outside of the region

# Interoperability Option Assessment

Interoperability Options (*Continued*)

5. HIE Partner
   - Ballad Health to partner with or purchase an external HIE organization (could be national, state, regional) that supports community HIE with a centralized database and connects bi-directionally with Ballad Health. Ballad Health will provide oversight and financial support. Participating Independent Providers pay reasonable implementation and ongoing support fees
   - Enables interoperability between Ballad Health and Independent Providers. Also enables interoperability among Independent Providers
6. Portal, Messaging & Integration Services
   - Ballad Health to provide Independent Providers with free access to an Epic based portal with referral, secure messaging, and read-only access to Ballad Health's Epic system, one-way messaging services or interfaces. Ballad Health will provide resources and oversight to facilitate the setup, testing, and implementation on behalf of Independent Providers
   - Enables Independent Providers the ability to view and communicate with Ballad Health without incurring additional fees

# Interoperability Option Assessment

Interoperability Options (*Continued*)

7. Other Patient-Driven HIE Tools
   - Ballad Health to provide Independent Providers and patients education around patient-driven HIE tools (such as Epic's Share Everywhere or leading retail vendor solutions such as Apple Health) by continually monitoring industry development, engaging the community, and promoting the use of these tools throughout the region
   - Enables patients to actively secure a copy of their electronic medical record and share with providers as needed
8. Comply with Regulatory Requirements
   - Ballad Health will participate in all required federal, state, or regional regulatory programs and encourages participation by other area providers (such as VA EDCC, VA PDMP, VA and TN Immunization Programs). Enables Independent Providers the ability to view and communicate with Ballad Health without incurring additional fees
   - Enables interoperability among Ballad Health, other health organizations and Independent Providers which improves patient care and reduces redundant services

# Strategy #3: Identify Optimal Portfolio of Interoperability and Assemble Deployment Strategies

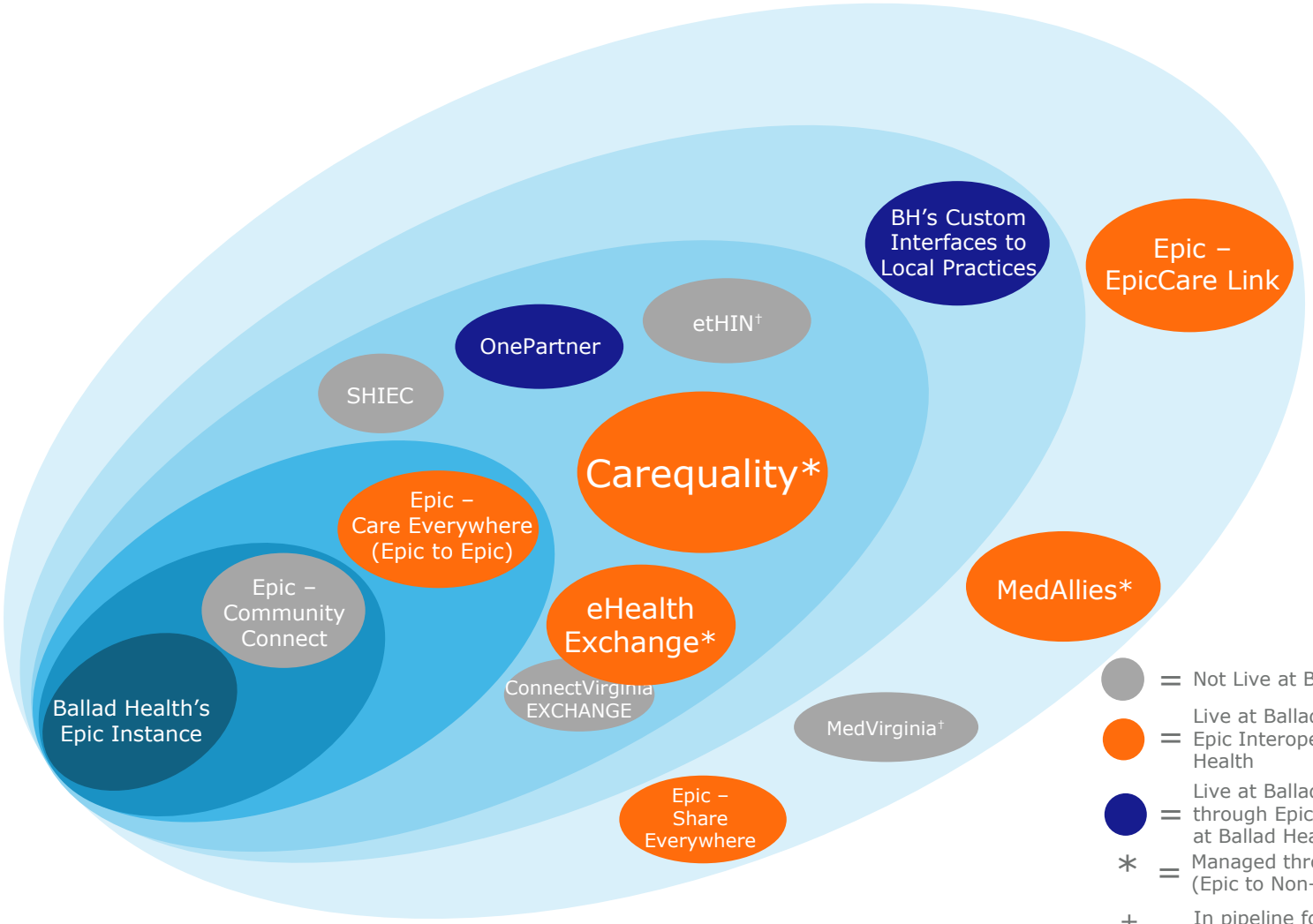
Why?

- While all the aforementioned interoperability options are available in the market, there is not a rationale plan to connect optimally with these capabilities.
- The goal is to obtain maximum concentration of patient encounters from the available funding. This will require prioritizing interoperability options in such a way that generates the maximum benefit and coverage with the least cost. The approach will be to layer the most impactful solution first, then the second most impactful solution and so forth. Resource constraints exist within Ballad Health as well as at the provider level (for example, some providers are still documenting on paper). This coupled with market choice limits the ability to obtain 100 percent of coverage and 100 percent of capabilities. The next slides are examples to illustrate the change to interoperability coverage over time based on this layering approach.

How?

- Develop an HIE plan with deployment strategies. Based on the initial assessment of the current interoperability environment in the GSA and the market survey gauging interest of area providers, Ballad Health will formulate a future state and develop an HIE plan that address gaps between where it wants to be and where it is today.

# HIE Current State Analysis – HIE Capability in the Ballad Health Service Area




= Not Live at Ballad Health

= Live at Ballad Health & Controlled through Epic Interoperability Infrastructure at Ballad Health

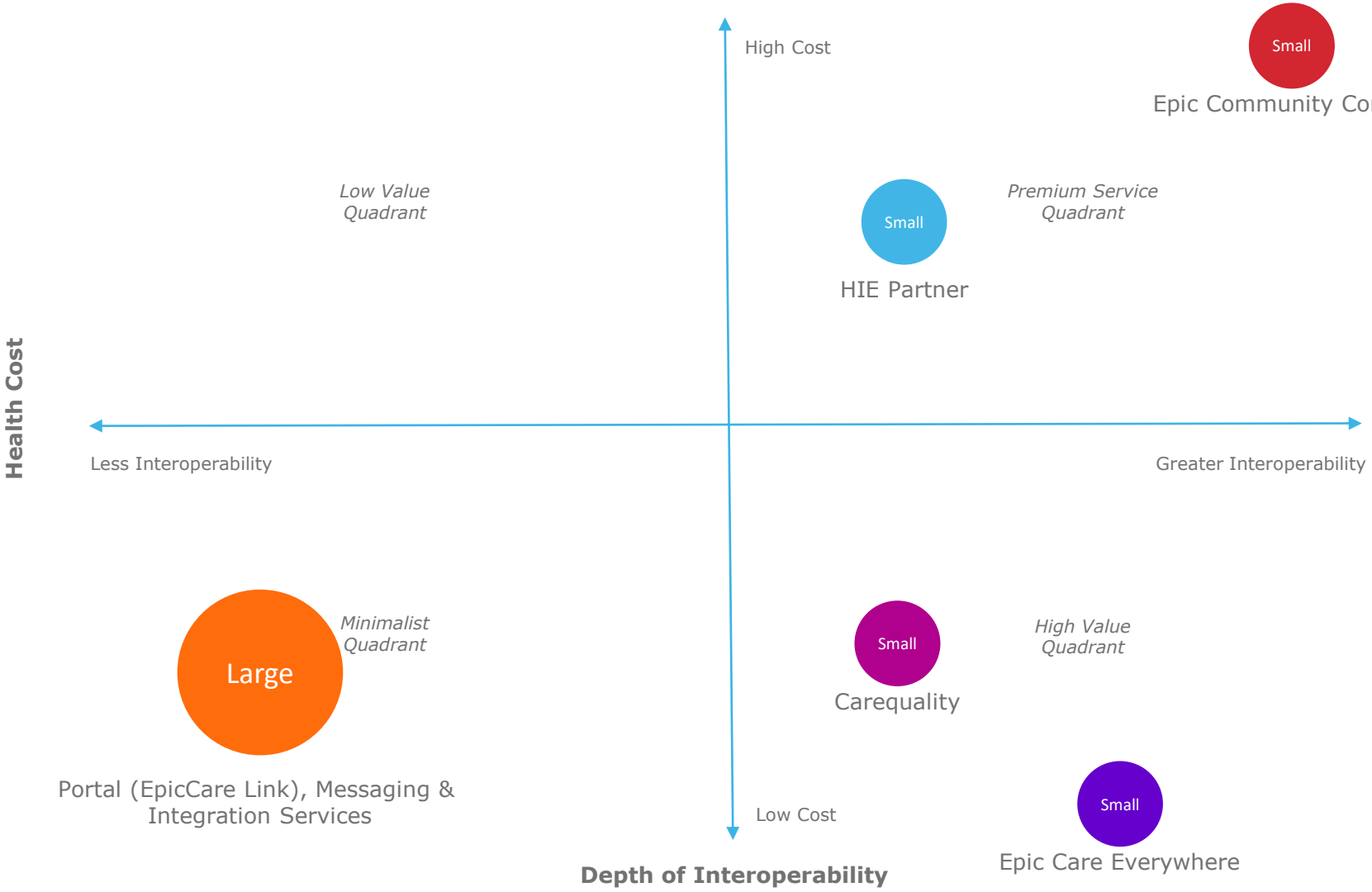
= Live at Ballad Health & Not Controlled through Epic Interoperability Infrastructure at Ballad Health

* = Managed through Epic Care Everywhere (Epic to Non-Epic) at Ballad Health

† = In pipeline for Ballad Health connectivity

# *Layering Approach - Illustrative*

## Strategy Interoperability Projected Value & Adoption Comparison: Short-Term






*Size of bubbles reflects the relative projected # of GSA providers exchanging information via Strategy*

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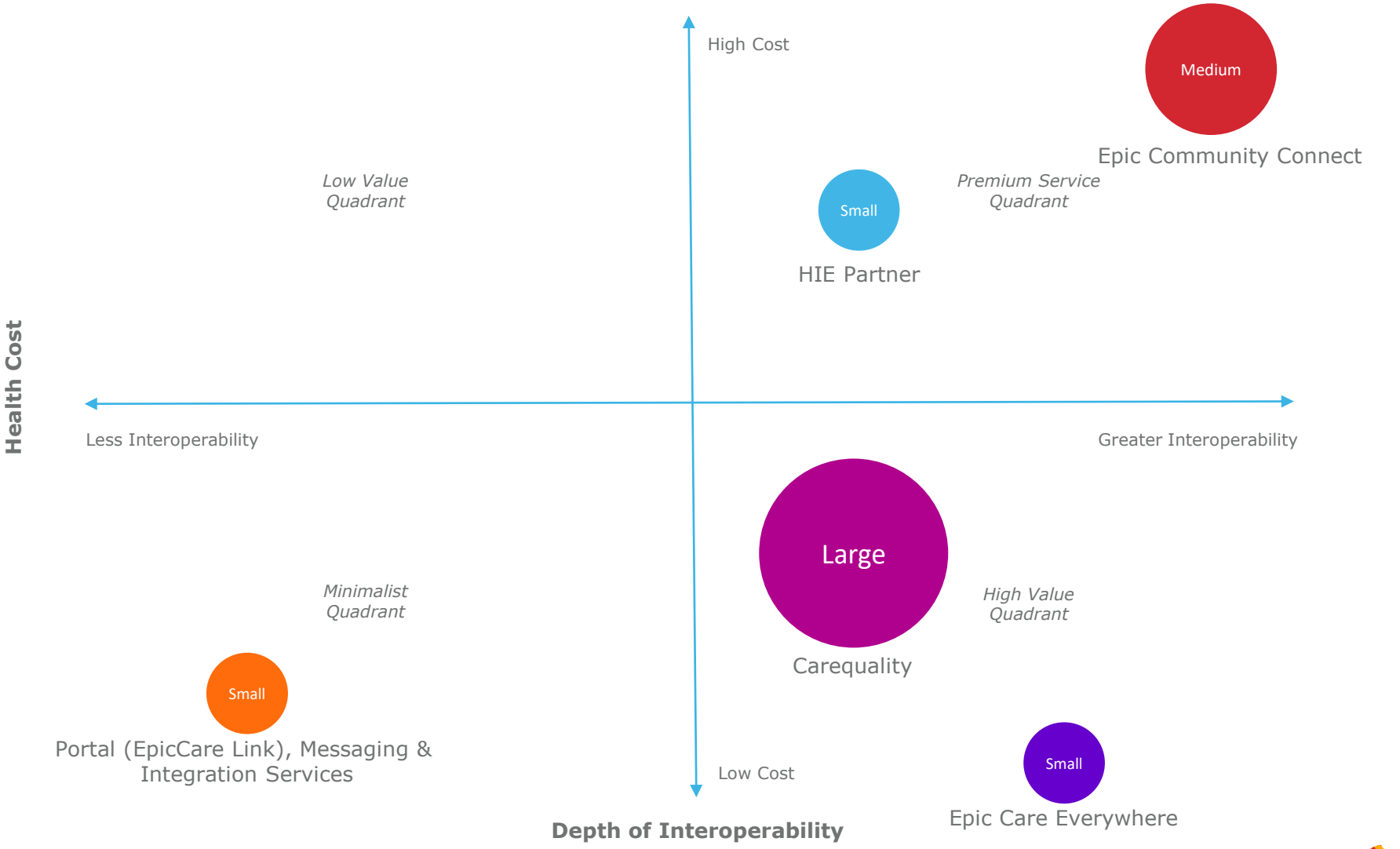
# *Layering Approach - Illustrative*

## Strategy Interoperability Projected Value & Adoption Comparison: Long-Term






*Size of bubbles reflects the relative projected # of GSA providers exchanging information via Strategy*

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# Strategy #4: Develop an HIE Recruitment and Support Plan

Why?

- A recruitment and support plan will identify and engage practices interested in Ballad Health's HIE program and educate them. It will identify the support necessary to ensure successful deployment.
- Independent Providers will be made aware of Ballad Health's program and have an opportunity to ask/address their questions

How?

- Based on outcomes of Strategies #2 and #3, Ballad Health will design and deploy an HIE Recruitment Plan. The plan will include communications both within Ballad Health and with the Independent Providers. It will include marketing activities and materials to approach the Independent Providers within the region regarding the menu offerings
- Ballad Health will identify a marketing staff member who will be responsible to recruit participation from the Independent Providers in the region in the various interoperability options. Staff will coordinate activities with the HIE Partner.

# Strategy #5: Participate in ConnectVirginia's HIE and Other TN/VA Regulatory Programs

Why?

- Enables interoperability among Ballad Health, other health organizations and Independent Providers which improves patient care and reduces redundant services
- Enables Independent Providers the ability to view and communicate with Ballad Health without incurring additional fees

How?

- Ballad Health will continue to participate in the VA Emergency Department Care Coordination (EDCC) Program and roll out to the Tennessee facilities
- Ballad Health will continue to participate in the TN Immunizations Programs and Syndromic Surveillance (TN & VA) program
- Ballad Health will participate in the Tennessee Hospital Association TennCare initiative and will engage the TennCare Office of eHealth to support the applicable eHealth Transformation Framework strategic goals.

# HIE Plan

*3. Implementation Roadmap*

# *Implementation Roadmap*
# Milestones and Metrics for Measuring Strategies: FY 2020

## Implementation Milestones and Metrics: Q1 and Q2

| Strategies | Q1 Milestones | Q1 Metrics | Q2 Milestones | Q2 Metrics |
|---|---|---|---|---|
| 1. Establish Ballad Health HIE Steering Committee | • Establish a Ballad Health Interoperability Steering with Committee with internal and external representation | • *Formed HIE Steering Committee* | • Develop Interoperability Committee Charter, Governance Model, Roles and Responsibilities | • *Approved Charter* |
| 2. Conduct Geographic Service Area Interoperability Research | • Initiate Market Research to Gauge Interest in Menu Offerings | | • Complete Market Research to Gauge Interest in Menu Offerings | |
| 3. Identify Optimal Portfolio of Interoperability and Assemble Deployment Strategies | • N/A - Activity initiated once Strategy #2 completed | | • N/A - Activity initiated once Strategy #2 completed | |

# *Implementation Roadmap*
# Milestones and Metrics for Measuring Strategies: FY 2020

## Implementation Milestones and Metrics: Q3 and Q4

| Strategies | Q3 Milestones | Q3 Metrics | Q4 Milestones | Q4 Metrics |
|---|---|---|---|---|
| 1. Establish Ballad Health HIE Steering Committee | • Recruit an Interoperability Program Director | • *Posted Program Director Position* | • Hire an Interoperability Program Director<br>• Identify Y2 quarterly targets and timelines | • *Filled Program Director Position*<br>• *Y2 milestones and metrics accepted* |
| 2. Conduct Geographic Service Area Interoperability Research | • Compile and Interpret Market Research Results | | • Identify Y2 quarterly targets and timelines | • *Y2 milestones and metrics accepted* |
| 3. Identify Optimal Portfolio of Interoperability and Assemble Deployment Strategies | • N/A - Activity initiated once Strategy #2 completed | | • Utilize Market Research Result to initiate draft HIE roll-out plan<br>• Identify Y2 quarterly targets and timelines | • *Y2 milestones and metrics accepted* |

# *Implementation Roadmap*
# Milestones and Metrics for Measuring Strategies: FY 2020

## Implementation Milestones and Metrics: Q1 and Q2

| Strategies | Q1 Milestones | Q1 Metrics | Q2 Milestones | Q2 Metrics |
|---|---|---|---|---|
| 4. Develop an HIE Recruitment and Support Plan | • N/A - Activity initiated once Strategies #2 and #3 are completed | | • N/A - Activity initiated once Strategies #2 and #3 are completed | |
| 5. Participate in ConnectVirginia's HIE and Associated Programs | • Participate in ConnectVirginia EDCC program<br>• Participate in ConnectVirginia PDMP program<br>• Participate in Virginia Immunization program<br>• Participate in other Tennessee and Virginia regulatory programs | • *Ballad Health VA EDs participating*<br>• *Ballad Health VA applicable entities participating*<br>• *Ballad Health VA facilities participating*<br>• *Ballad Health facilities participating as required* | • Participate in ConnectVirginia EDCC program<br>• Participate in ConnectVirginia PDMP program<br>• Participate in Virginia Immunization program<br>• Participate in other Tennessee and Virginia regulatory programs | • *Ballad Health VA EDs participating*<br>• *Ballad Health VA applicable entities participating*<br>• *Ballad Health VA facilities participating*<br>• *Ballad Health facilities participating as required* |

# *Implementation Roadmap*
# Milestones and Metrics for Measuring Strategies: FY 2020

## Implementation Milestones and Metrics: Q3 and Q4

| Strategies | Q3 Milestones | Q3 Metrics | Q4 Milestones | Q4 Metrics |
|---|---|---|---|---|
| 4. Develop an HIE Recruitment and Support Plan | • N/A - Activity initiated once Strategy #2 and #3 are completed | | • N/A - Activity initiated once Strategies #2 and #3 completed<br>• Identify Y2 quarterly targets and timelines | • *Y2 milestones and metrics accepted* |
| 5. Participate in ConnectVirginia's HIE and Associated Programs | • Participate in ConnectVirginia EDCC program<br>• Participate in ConnectVirginia PDMP program<br>• Participate in Virginia Immunization program<br>• Participate in other Virginia regulatory programs | • *Ballad Health VA EDs participating*<br>• *Ballad Health VA applicable entities participating*<br>• *Ballad Health VA facilities participating*<br>• *Ballad Health VA facilities participating as regulated* | • Participate in ConnectVirginia EDCC program<br>• Participate in ConnectVirginia PDMP program<br>• Participate in Virginia Immunization program<br>• Participate in other Virginia regulatory programs<br>• Identify Y2 quarterly targets and timelines | • *Ballad Health VA and TN EDs participating*<br>• *Ballad Health VA applicable entities participating*<br>• *Ballad Health VA facilities participating*<br>• *Ballad Health VA facilities participating as regulated*<br>• *Y2 milestones and metrics accepted* |

# *Implementation Roadmap*

# Milestones and Metrics for Measuring Strategies: FY 2021

| Strategies | 2021 |
|---|---|
| 1. Establish Ballad Health HIE Steering Committee | • Issue a Request for Proposals (RFP) to regional HIE vendors |
| 2. Conduct Geographic Service Area Interoperability Research | • Update as new providers enter the market<br>• Refresh to meeting changing provider needs |
| 3. Identify Optimal Portfolio of Interoperability and Assemble Deployment Strategies | • Finalize Health Information Exchange (HIE) Plan<br>• Develop Community Connect program business plan<br>• Develop deployment plan to pilot Community Connect at a practice<br>• Deploy EpicCare Link, MedAllies and Interfaces to independent providers<br>• Initiate assistance to independent providers to implement the Carequality network |
| 4. Develop an HIE Recruitment and Support Plan | • Develop an HIE recruitment plan<br>• Develop an HIE communication and marketing plan<br>• Hire marketing staff |
| 5. Participate in ConnectVirginia's HIE and Associated Programs | • Continue to participate in ConnectVirginia EDCC program<br>• Continue to participate in ConnectVirginia PDMP program<br>• Continue to participate in Virginia Immunization program<br>• Continue to participate in other Tennessee and Virginia regulatory programs |

# *Implementation Roadmap*

# Milestones and Metrics for Measuring Strategies: FY 2022

| Strategies | 2022 |
|---|---|
| 1. Establish Ballad Health HIE Steering Committee | • Choose an HIE Partner |
| 2. Conduct Geographic Service Area Interoperability Research | • Update as new providers enter the market<br>• Refresh to meeting changing provider needs<br>• Continue to identify, test and connect to large organizations where patients overlap outside of the GSA |
| 3. Identify Optimal Portfolio of Interoperability and Assemble Deployment Strategies | • Continue to deploy EpicCare Link, MedAllies and Interfaces to Independent Providers<br>• Continue assistance to independent providers to implement the Carequality network<br>• Continue to promote and utilize Epic Care Everywhere<br>• Deploy Community Connect to Independent Providers<br>• Deploy Epic's Share Everywhere to patients<br>• Deploy health apps (i.e., Apple Health, Google Health)<br>• Deploy HIE Partner |
| 4. Develop an HIE Recruitment and Support Plan | • Continue marketing menu offerings to Independent Providers |
| 5. Participate in ConnectVirginia's HIE and Associated Programs | • Continue to participate in ConnectVirginia EDCC program<br>• Continue to participate in ConnectVirginia PDMP program<br>• Continue to participate in Virginia Immunization program<br>• Continue to participate in other Tennessee and Virginia regulatory programs |

# Potential Line of Sight Metrics

The following metrics may serve as useful to improve "line of sight" and will be solidified during the development of Strategies #2, #3 and #4 in preparation for deployment:

- Number of providers in the GSA participating in health information exchange with Ballad Health by geography, specialty, and exchange type (e.g. Community Connect, external HIEs)
- Number of queries/records exchanged between Ballad Health and outside providers by geography, specialty, record type (e.g. lab, history, image) and exchange type per time period
- Unduplicated provider users exchanging/querying information per time period
- Number and percent of GSA population with at least one record exchanged between Ballad Health and an outside provider
- Number and percent of GSA population "known" to Ballad Health
- Number of updates "pushed" by Ballad Health to public health registries per time period
- Number of Admission/Discharge/Transfer alerts pushed by Ballad Health per time period

References:

https://www.healthit.gov/sites/default/files/measurementfinrpt.pdf

www.qualityforum.org/Projects/i-m/.../Draft_Environmental_Scan_for_Comment.aspx

# Appendix A

*Environmental Scan*

# *Appendix A*
# Environmental Scan – Overview

- Advancements in technology make it easier to share information real time, at the point of care
  - Health information exchange has historically centered around document based exchange
  - Application programming interfaces (APIs) using the Fast Healthcare Interoperability Resources (FHIR) standard allows developers to create applications that can be plugged into an EHR's operating system and feed information directly into the provider workflow
- Recently introduced laws require interoperability
  - The 21st Century Cures Act establishes penalties of up to $1M per violation for organizations that engage in information blocking
  - The Trusted Exchange Framework and Common Agreement (TEFCA) establishes a technical and governance infrastructure for the connection of health information exchange organizations
  - Laws seek to leverage shared data to promote new, innovative services

# *Appendix A*
# Environmental Scan – Overview *(Cont.)*

- Some models of sustainable HIEs have emerged
  - Chesapeake Regional Information System for our Patients (“CRISP”) relies upon grants and state mandated health system participation fees to achieve economic stability
    - Has achieved almost 100% participation of Maryland hospitals and ~80% participation of ambulatory practices
- Obstacles of competing interests, costs, and perceived value still exist
  - Fee for service reimbursements models continue to incentivize competing health providers to limit vs. promote information sharing
  - Many health providers have to join multiple health information exchange networks, each with its own requirements, setup and maintenance fees
  - Many health information exchange services are costly and fail to offer a solution that integrates into a provider’s workflow

# *Appendix A*
# Environmental Scan – HIE Uncertainty and Risk

- **Financial sustainability** - Creating a viable, sustainable financial model post federal, state and local grants. Many HIEs have rapidly failed once public funding was no longer provided
- **Integrating into a providers workflow** - Integrating the HIE technology solution into the workflow of the attending physician or care manager is a critical success factor but difficult to achieve
- **Achieving a critical mass of information** - Having sufficient information to provide value is a critical success factor for HIEs. Achieving this point requires time and costs
- **Privacy and security** - Ensuring health data privacy and security is maintained once information is collected and stored, particularly given increasing cyber attacks/ threats
- **Adoption** - Achieving adoption of an HIE with the smaller independent practices is a challenge due to low ROI or trust issues
- **Standards** - Many competing organizations created with the goal of becoming 'the' standard for interoperability
- **Regulatory** - Uncertainty around ONC's current TEFCA interoperability initiative and the impact on HIE's and providers, as well as future meaningful use requirements on providers

# *Appendix A*
# Environmental Scan – Regulatory

- Trusted Exchange Framework and Common Agreement (TEFCA)
  - Originates from the 21st Century Cures Act (Section 4003(b) &(c))
  - Goals of TEFCA:
    - Build on existing work already done by the industry
    - Provide a single 'on ramp' to interoperability (join any HIN)
    - Be scalable to support the entire nation
    - Build a competitive market allowing all to compete on data services
    - Achieve long-term sustainability
  - Participants will be able to join any Health Information Network (HIN) and have access to all data nationally
  - HINs will connect to Qualified Health Information Networks (QHIN) – QHIN will connect to each other to ensure national coverage
  - ONC will select Recognized Coordinating Entity (RCE) to operationalize and oversee TEFCA
  - Final rule due late 2018

# *Appendix A*
# Environmental Scan – Emerging Technology

- An application programming interface (API) is a set of standards that enable communication between multiple sources. APIs act as a software broker enabling two applications to talk to one another.
- API usage can be broken down into two categories:
  - APIs for traditional provider integration
  - Open API for patient data sharing
- Fast Healthcare Interoperability Resources (FHIR) is a standard for exchanging healthcare information electronically. APIs using FHIR allow applications to access health data at the source of truth in a standardized way.
- SMART Health IT (formally called SMART on FHIR) is an app platform for healthcare. It is an open, standards based technology platform that enables innovators to create apps that seamlessly and securely run across the healthcare system.
- There are HIE organizations (such as Chesapeake Regional Information System for our Patients – “CRISP”) starting to leverage FHIR APIs and that have realized early success by “removing the fraction in HIE”.

# *Appendix A*
# Environmental Scan – Center for Medical Interoperability

- 501(c)(3) cooperative, think tank research and development lab
- Founded by health systems to simplify and advance data and sharing among medical technologies and systems
- Are taking a centralized, vendor-neutral approach to:
  - Performing technical work that enables person-centered care
  - Testing and certifying devices and systems
  - Promoting adoption of scalable solutions
  - Turning data into meaningful information at the point of care
- Have highly ambitious, industry revolutionary goals

# *Appendix A*
# Environmental Scan – Attributes of Successful HIEs

**Chesapeake Regional Information System for our Patients ("CRISP")**

- Maryland's designated statewide HIE, primarily serving MD, WV, and the Washington D.C. regions. Connected to acute care facilities, LTCs, rad/lab facilities and ambulatory practices. A member of Carequality.
- A centralized and federated hybrid HIE whose services include:
  - Traditional HIE: HIE portal, Encounter Notification Services (ADT notification)
  - Analytics: CAliPHR (quality measure reporting), Data Visualization (Tableau)
  - API enabled point-of-care data access (in-house developed): "In-Context Alerts"
- Benefit from federal and state grants
- Participation fees are only charged to acute facilities
- Almost 100% coverage for Maryland's hospitals (mandated ADT data submission as a minimum)
- Connected to ~80% ambulatory practices in some fashion (the newer API-enabled services adoption still fairly low)
- Have experience working with various EHR vendors, particularly Epic and Cerner

# Appendix B

*HIE Current State Analysis*

# *Appendix B*
# HIE Current State Analysis – Overview

- The national state of healthcare interoperability is improving but remains immature
  - Advancement in technology make it easier to share information real time, at the point of care
  - Recently introduced laws require interoperability
  - Some models of sustainable HIEs have emerged
  - Obstacles of competing interests, costs, and perceived value still exist
- Healthcare organization interoperability within Ballad Health's market is no exception
  - Complex and confusing array of regionally aligned organizations/ services and frameworks
  - Most services/ frameworks are geared towards larger health delivery networks/ organizations
  - Options remain cost and technically prohibitive for small, independent practices, limiting value and their participation

# *Appendix B*
# HIE Current State Analysis – HIE Capability in the Ballad Health Service Area

| HIE Approach | Epic – Community Connect | Epic – Care Everywhere (Epic-to-Epic)* | Epic – EpicCare Link | Epic – Share Everywhere |
|---|---|---|---|---|
| **Overview** | Epic system extension with a **shared community record**. Deepest degree of interoperability, but external providers need **to install Ballad Health's Epic instance** and pay ongoing maintenance fees | **Epic's interoperability application** that can be used to exchange patient data **with other healthcare organizations using Epic**. | Provides **read-only access** to approved providers via portal. **Can support referral, secure messages. Free** to external providers of interest. | Allows **patients to grant view-only access** to any providers who have internet access. The provider granted access can send a progress note back. |
| **Exchange Approach** | • Centralized<br>• Same Platform | • Federated<br>• Bi-directional | • Centralized<br>• Outgoing Only | • Centralized<br>• Outgoing Only |
| **Degree of Workflow Integration** | 5 - Same Platform | 4 - Push/Auto Query | 1 - Portal/Mail Box | 2 - Pull |
| **Degree of Data Exchange** | 5 - Very High | 4 - High | 5 - Very High | 2 - Moderate |

** Data exchange via Carequality, eHealth Exchange and MedAllies that enables Epic to non-Epic exchange is managed through Care Everywhere platform at Ballad Health. However, these HIE approaches are listed separately in later slides.*



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# *Appendix B*
# HIE Current State Analysis – HIE Capability in the Ballad Health Service Area *(Cont.)*

| HIE Approach | Carequality* | eHealth Exchange* | ConnectVirginia ("EXCHANGE") | MedVirginia |
|---|---|---|---|---|
| **Overview** | A **network-to-network trust framework** with participants such as EHR vendor networks, payer networks, lab networks, etc. An organization needs to "opt-in" for Carequality before data exchange. **Epic network is in Carequality**. | A network with federal (incl. VA, DOD, SSA) and non-federal (e.g. health system) participants. Mainly meant **for larger orgs**. Commonly used to **connect with federal entities**. One-to-one set up and testing is required between two participants that wish to exchange data. | ConnectVirginia's **service** to provide the trust and legal framework for organizations to **join the eHealth Exchange network**. | Primarily enabled **thru eHealth Exchange**. Special interests in life insurance. **Independent Providers** only have **portal access** and **don't contribute data. No member in Ballad Health GSA**. In network for Carequality. |
| **Exchange Approach** | • Federated<br>• Bi-directional | • Federated<br>• Bi-directional | • Federated<br>• Bi-directional | • Federated<br>• Bi-directional (Health Systems) / View Only (Providers) |
| **Degree of Workflow Integration** | 4 - Push/Auto Query | 4 - Push/Auto Query | 4 - Push/Auto Query | 2 - Pull |
| **Degree of Data Exchange** | 2 - Moderate | 2 - Moderate | 2 - Moderate | 2 - Moderate |

** Not an Epic product, but managed through Care Everywhere platform at Ballad Health.*



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# *Appendix B*
# HIE Current State Analysis – HIE Capability in the Ballad Health Service Area *(Cont.)*

| HIE Approach | etHIN | OnePartner | SHIEC Patient Centered Data Home | MedAllies* |
|---|---|---|---|---|
| **Overview** | East TN HIE. **Can provide auto-query,** longitudinal medical record and ADT alerting service. Likely **low coverage** (~5%) **within Ballad Health GSA** currently. In network for SHIEC PCDH and eHealth Exchange. | **Tri-cities local HIE.** Ballad Health has an outgoing interface to this HIE. **Can provide point-of-care alert**. In network for SHIEC PCDH and joining eHealth Exchange. | A method of data exchange **among HIEs.** Alert-initiated. Longitudinal patient record in "home" HIE. **Break the walls among states**. Members in TN include etHIN & OnePartner, none for VA. | A secure mailbox service. Use **Direct messaging**. Currently used at Ballad Health to send patient's CCD to patient's PCP after discharge. |
| **Exchange Approach** | • Centralized<br>• Bi-directional | • Centralized<br>• Bi-directional | • Federated<br>• Bi-directional | • Federated<br>• Bi-directional |
| **Degree of Workflow Integration** | 4 - Push/Auto Query | 3 - Auto Alert, then Pull | 3 - Auto Alert, then Pull | 1 - Portal/Mail Box |
| **Degree of Data Exchange** | 3 - Fairly High | 3 - Fairly High | 3 - Fairly High | 2 - Moderate |

** Not an Epic product, but managed through Care Everywhere platform at Ballad Health.*



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# *Appendix B*
# HIE Current State Analysis – HIE Capability in the Ballad Health Service Area *(Cont.)*

| Regulatory Initiative | General Information | Information Exchanged |
|---|---|---|
| Commonwealth's Prescription Drug Monitoring Program | • Collects prescription data into a central database which can then be used by limited authorized users to assist in deterring the illegitimate use of prescription drugs. | • Prescription |
| State Dept of Health Reporting - Electronic Laboratory Reporting (VA) | • Provides VA automated transmission of reportable laboratory findings to state and local public health departments. | • Lab results |
| State Dept of Health Reporting - Immunization (TN & VA) | • Provides TN and VA state registries with documented vaccinations. | • Immunization |
| State Department of Health Reporting - Syndromic Surveillance (TN & VA) | • Provides TN and VA a review of patient demographic data (names, diagnoses, medications, etc.) from Emergency Department and Inpatient encounters. | • Patient Demographics |
| Tennessee Hospital Association | • Health Information Exchange for TennCare. THA coordinates its members feeds then deliver to TennCare. Enabled through custom interface. Required for membership in THA. | • ADT |
| ConnectVirginia's Emergency Department Care Coordination Program | • Virginia Emergency Department Care Coordination Program. Enabled through custom interface with Collective Medical. | • Outgoing ADT<br>• Incoming documentation |

# Health Information Exchange Plan for the State of Tennessee

April 5, 2019

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It's your story. We're listening.