THE
University of Vermont
MEDICAL CENTER

Via Regular Mail & E-mail

May 2, 2017

Donna Jerry, Senior Health Policy Analyst
State of Vermont
Green Mountain Care Board
89 Main Street
Montpelier, Vermont 05620

Re: Docket No. GMCB-001-17con, Proposed Replacement of Electronic Health Record

Dear Donna,

This letter responds to the questions from your letter dated April 5, 2017. The questions are bolded followed by our responses in un-bolded font.

RESPONSES

1. Clarify whether the Ponder & Co. document provided is the full report of its analysis. If not, provide the complete document.

RESPONSE: The Ponder & Co. letter is the full report of its conclusion regarding UVMHN's ability to maintain the current credit ratings of "A2" (Moody's), "A-" (S&P), "A-" (Fitch) and finance the Project with internal capital and operating funds.

2. While HL-7 is the international standard, identify the version of HL-7 that will be used to convert this data from one system to another. If there are multiple versions within EPIC, please detail each module and which HL-7 version will be used.

RESPONSE: HL7 interfaces are currently used extensively at UVMMC for both inbound and outbound interfaces with Epic, as well as for data courier interfaces which allow for the migration of data between Epic environments. Across all Epic modules, these HL7 interfaces use Version 2 and there are no plans to depart from this setup for the Epic project, including any interfaces used for the conversion of discrete data elements. Consideration of moving to HL7 Version 3 would only occur at Epic's recommendation, if it becomes a best practice for use of Epic's software.

3. Clarify and explain any network-wide policy for data conversions and archiving, and the policy or policies that each site has in place for archiving or HIM until the new proposed HIM is fully operational.

RESPONSE: To clarify, the Project will not result in a new UVMHN Health Information Management Department. Instead, each hospital in UVMHN will continue to maintain its own HIM operations and policies, and will have access to the unified health information system that the Project will afford.

Each hospital will also manage its own requests for copies of medical records and its own processes for data archiving and conversion, such as the following:

- The future-state system will not serve as a historic Legal Medical Record. Each hospital will maintain its own policy for what constitutes the "Legal Medical Record," consistent with hospital policy and applicable state law.
- The future-state system will not replace current data warehouses for historic information
    - Existing data warehouses will store historic information accumulated prior to the Epic implementation
- Data conversion technology is not advanced enough to provide comprehensive logic to automatically clean and reconcile conflicting data through migration
    - The accuracy of and level of duplicity within data that is being converted to Epic is reliant upon proper cleanup and reconciliation being performed on each set of data prior to conversion
- Some data elements will be moved as part of conversion prior to go-live, while others will be converted as part of cutover
    - The timing of data conversion will be made for each element based on its individual requirements. For example, future appointments will be converted manually to Epic ahead of cutover
- Not all historic information from the legacy systems will be moved into Epic
    - Decisions will be made by leadership regarding which data to convert and how much of each type to migrate. These decisions will be made based on clinical, operational and patient needs
- Continued, read-only access to all legacy systems will be required for a period of time
    - While the need for continued access to each legacy system will need to be considered separately, each system will have, at a minimum, read-only access immediately after Epic is brought live

4. Fully explain whether the following is in place for the new system: a) regression testing to validate new interfaces to ensure data is coming across accurately; b) User Acceptance Testing prior to go live to validate configuration and usability for clinicians/physicians.

RESPONSE: UVMHN's Epic testing plan will encompass the testing types listed below. Regression and User Acceptance Testing (UAT) will be included in the testing effort. The goal is to ensure that all Epic modules work as expected and business requirements are met based on system design, by identifying any defects and addressing issues prior to each UVMHN go-live.

Types of Testing

- ***Unit Testing***
  A pass-fail validation to verify that each component of an application functions as expected. This includes initial testing of interfaces, reports and data extracts.
- ***Application Testing***
  Verifies that UVMHN's workflows match the Epic system and work together as expected. Detailed scripts will test data flows for each application, per specifications.
- ***Integration Testing***
  Involves running several test scripts that follow the end-to-end workflow of a patient. Multiple rounds of testing are performed to assess that workflows are tested across all applications and interfaces.
- ***Claims Submission Testing***
  Claims testing scenarios are used to test whether the posting of claims and remittance data is successful across applications that touch claims or involve billing.
- ***Meaningful Use Testing***
  Meaningful Use objectives and measures are incorporated into specific test scripts and are validated during Integration Testing.
- ***Focused Testing***
  Validates the flow of data in areas that require additional or in-depth testing, such as laboratory, radiology and pharmacy. Detailed testing scripts and scenarios will be used to test each area to ensure data flow is correct.
- ***Mapped Record Testing***
  Large master files and any clinically-significant build items will be tested to ensure they are in sync between Epic and downstream systems.
- ***Valid Value Testing***
  Ensures that category lists (e.g., race, ethnicity, language) are in sync between Epic and downstream systems.
- ***Regression Testing***
  Applied fixes are tested to determine whether the update worked and provides assurance that new errors do not emerge as a result of the fix that was made. In addition, new and/or modified build that is incorporated as part of the project may have an impact on existing clinical build from UVMMC. This existing build will be tested to ensure that current workflows are still functioning as expected and have not been adversely affected by the implementation.
- ***Device and Routing Testing***
  Workstations and peripheral devices will be reviewed to ensure they function correctly as well as physical routing is correct. It also includes testing printers to confirm that their setup is properly configured.
- ***Performance Testing***
  Epic's expertise and toolkits will be leveraged to measure system response times as well as the ability of the system to handle the expected volume of usage under certain conditions.
- ***User Acceptance Testing***
  End users are brought together to identify any defects in the build, based on specific operational workflows. Feedback received is incorporated before integrated testing.

- ***Usability Labs***
  End users will log into the system to verify initial user role and access. Any updates or changes to their accounts will be made during this testing.
- ***Shadow Charting***
  End users will have the ability to chart in their legacy EMR and then in a shadow Epic environment to increase awareness and excitement for the go-live.
- ***Dress Rehearsal***
  A final review of workflows will be conducted, using specific scenarios and scripts to ensure go-live readiness.

Interface Testing

A major portion of the testing plan involves validating that the flow of data and information is accurate across the entire Epic system. Interfaces will be tested initially through unit testing in order to verify that interface components are functioning as designed using a pass/fail validation. These tests determine whether the newly created or modified interfaces are working properly according to specifications. To further validate interfaces, integration tests are later performed using test scripts that follow end-to-end patient workflows. Integration testing involves iterative testing to validate the flow of information between Epic and downstream systems, which ultimately confirms that the appropriate data is coming across all applications and interfaces.

Regression Testing

Issues identified during testing will be logged on an issues tracker per the testing plan and assigned a priority and severity to determine the order in which issues must be addressed. Regression testing will be performed after a fix or update has been put into place to confirm that no new issues have emerged as a result of the update that was made. Additionally, as previously noted, any existing build (e.g., UVMMC's clinical build) will be tested throughout the implementation to ensure that new build, or modified build, does not have a negative impact on build and workflows that are currently in place and functioning properly.

User Acceptance Testing (UAT)

As part of UAT, clinicians, physicians and other end users will test the system build against their current operational workflows to identify any defect areas that need to be addressed. The scripts used during UAT will be less rigid than in other areas of testing, as the goal is to have end users navigate the system using their typical workflows and determine what does not meet their needs based on their respective role requirements. This feedback is typically captured and incorporated back into the system prior to integration testing.

5. Clarify the following: If a non-A/R sunsets six months after going live, explain why the chart shows sunset in Year 4. If A/R related systems will sunset 12 months after going live, explain why the inpatient financial system from GE sunsets in Year 4.

RESPONSE: The implementation timeline on page 13 of the CON application shows the first round of go-lives for the project, labeled as Wave 1, occurring in the middle of Year 3. The sunset periods for non-A/R and A/R systems were derived based on this timeline. Non-A/R

systems are those related to clinical and ancillary areas plus any revenue cycle management (RCM) system that is not directly related to accounts receivable. A/R related systems are RCM applications that have a direct impact on accounts receivable and thus need to be kept operational for a longer period of time in order to support working down legacy accounts.

Non-A/R systems will sunset six months after go-live, which corresponds to the beginning of Year 4 for Wave 1. A/R related systems will sunset 12 months after go-live, which corresponds to the middle of Year 4 for Wave 1. The 'Wave 1 Sun Setting' bar on the implementation timeline is meant to depict the entirety of these two sunset periods and thus is shown as stretching from the beginning to the middle of Year 4.

6. Provide the following documents for review:

RESPONSE: We have provided information on each of these plans below. However, it is not usual or customary to have developed these documents at this point in the project planning process. In addition, there are costs associated with the development of these materials that are part of the Epic Project budget that was submitted with the CON application. Should the CON be approved, UVMHN will work to document these as part of Project planning activities.

a. **Cumberland Evaluation/Analysis of the environment(s) – Includes "as is" and "to be" environment, architecture, sun-setting of systems, training, requirements and standardization, etc.**
    - This effort is considered part of the implementation planning process and has not been developed prior to CON approval. Should CON approval be received, UVMHN will evaluate its current and future system environments in order to fully map out requirements for standardization, configuration and training.
b. **EPIC's proposal for environment – Includes "to be" schedule, resources, architecture, training, etc.**
    - A signed licensing agreement with Epic for the RCM and Ancillary modules is required before Epic will provide full environment specifications. Should CON approval be received, UVMHN will sign an agreement with Epic which will allow this and other detailed planning work to begin.
c. **Master Project Management Plan – Includes all sub-plans and approaches to managing this roll out**
    - A Master Project Plan has not yet been compiled as the CON has not been approved. Pending CON approval, Epic will work with UVMHN to establish a Master Project Plan. Sample project plans are available to use as a starting point and Epic will help UVMHN tailor these to meet its needs.
    - **i. through vii.**
        - The sub-plans and approaches included with a master project plan are typically not evaluated until the formal implementation planning process begins, which is pending CON approval.

          Each of the sub-plans requested will be part of the project with the exception of the Requirements Traceability Matrix. Since the project does not require custom software development, it will not be necessary to develop this information (see the response to Question 9, below, for more details on customization).

d. - f. (System Design Plan, Interface Control Document and Integration Plan)

- Designing the new system for optimal efficiency requires an in-depth review of UVMHN's current-state workflows, systems and interfaces to determine future-state workflows, options for standardization, consolidation/integration of applications, hardware/interface needs and network designs. These items will not be assessed at the level of detail requested prior to receiving CON approval, as this is a substantial scope of work that would not be undertaken without regulatory approval.

7. Page 11 of the application states that the project can bring independent physician practices, hospitals, FQHCs and other providers into the unified EHR through license agreements. Explain how costs will be assessed for new provider/practices and indicate whether any of these entities have indicated an interest.

RESPONSE: The potential to extend UVMHN's unified EHR to providers and hospitals outside of the Network provides an opportunity for significant benefit to the non-affiliated providers as well as patients across our region. By creating a unified EHR to cover a patient's treatment across a vast spectrum of providers throughout the area, more comprehensive clinical information will be available to treating providers, resulting in more timely and coordinated care. In recognition of these benefits, Epic has created the Epic Connect Program[1] to allow for independent providers to connect to Epic through a "hub" (i.e., UVMMC), with a lower price point than they would be able to achieve if licensing Epic on their own.

The costs for connecting community providers and hospitals will be assessed with the assumption that standardized workflows and build models will be used so as to minimize the cost to both the independent providers and UVMHN. Specific costs for independent providers have not yet been determined and would require careful review of interested practices' size and patient volumes. However, UVMHN's pricing methodology would be to only pass-on our actual costs associated with bringing the new practices onto the Epic system (i.e., initial one-time licensing costs, interface costs, hardware costs and implementation costs), as well as ongoing maintenance and support costs for their continued use of the system. We believe that this pricing methodology will be attractive for independent practices that are interested in licensing an industry-leading EMR and of having the benefit of a direct connection with UVMHN. This approach has worked well for similarly-situated academic medical centers that have extended their Epic systems to non-affiliated providers.

We have had discussions with local primary care practices, specialty physician practices, and federally qualified health centers. While these independent groups have expressed an interest in licensing Epic from UVMHN, these discussions are still preliminary as our focus now is on completing the CON review process.

[1] *See*, CON application, Response to CON Criterion 3, pp. 24 – 27, for a complete description of the Epic Connect Program.

8. Provide the date and copy of the minute/votes from meetings where the Board of Trustees and any Committees discussed and voted to approve representation in the original and the revised application.

RESPONSE: We have attached, as Exhibit 1, the following Board of Trustees' minutes and resolutions:

1. UVM Medical Center Board of Trustees: Resolutions and Meeting Minutes dated March 17, 2016 and September 15, 2016.
2. UVM Health Network Joint Planning and Finance Committee: Resolutions and Meeting Minutes dated December 8, 2015.
3. UVM Health Network Board of Trustees: Resolutions and Meeting Minutes dated December 16, 2015, October 5, 2016, and April 5, 2017.[2]

9. Provide a list of solutions that will need customization and their associated costs, and indicate whether those costs are included in the total project cost.

RESPONSE: Epic's software will not be customized as a result of the Project, meaning that we will not be modifying the source code of the product. This approach helps to mitigate the risk of software implementation problems as well as problems accepting software updates over time. However, throughout the implementation process, the software will be *configured* based on UVMHN's workflows and the needs of clinical and other operational users. These configurations are not considered customization because they are made entirely within the features and functionality of the Epic system.

There will be third-party systems connected to Epic, but in similar fashion, necessary configurations will only be made within the standard features of these third-party systems and no software customization will be required.

Since there is no custom development in scope for the project, there are no associated costs defined in the TCO.

10. Explain whether all the Cumberland and EPIC consulting costs are included in the total cost of the project.

RESPONSE: Yes, the Total Cost of Ownership (TCO) analysis used to estimate the project costs includes all of the consulting costs related to Cumberland and Epic's consulting fees and expenses. These costs are shown in the cost table on page 16 of the CON application under two headings: Epic Implementation and Travel Costs (capital costs only) and External Staffing (under both capital and operating expense).

The External Staffing category includes fees and expenses related to Cumberland's work on the project. It is based on the actual number of external consultants that are required by the project across all teams and the duration for which they will be needed. The costs include their estimated billable time and reimbursable travel expenses.

[2] Minutes for this meeting have not yet been completed.

11. Given the scope and complexity of the project, explain the basis for allocating a 10% contingency for this project.

RESPONSE: The project includes a 10% contingency to address potential unforeseen needs that may arise which would require additional costs that could not have been accounted for in the original budget. Every reasonable measure has been taken to ensure the project cost estimate contains all relevant cost categories and that it is as accurate as possible given the latest information and data. However, there is always a possibility that an unforeseeable requirement or unexpected rise in costs in an area could necessitate the use of additional funds.

In order to mitigate the risk associated with these circumstances, it is customary to allocate a contingency amount to allow the increased costs to be addressed without putting the entire project at risk. For EHR implementation projects of the size and scope of UVMHN's Epic project, Cumberland Consulting has opined that it is reasonable and customary to apply a contingency amount of 10% to ensure that these costs will be adequately covered. It should be noted that the contingency is not intended to be used for significant increases in the project scope or size, such as the implementation of a new module which requires additional resourcing and technology. If needed, the contingency funds will only be used for unforeseen costs associated with the project's implementation.

12. Provide mitigation of risk associated with recruiting and retaining staff resources referred to in the footnote on page 17 of the revised application. Provide the timeframe for the elimination of and rehiring for positions. Identify the resource labor categories and skills that will be required going forward. Explain the impact on providers' ability to provide patient-level care.

The project will provide an opportunity for many current UVMHN staff to move from their current roles to the UVMHN Epic team. These individuals will be adequately transitioned onto the Epic project and will receive significant training on their respective modules. This will include Epic training and certification prior to beginning system configuration. As part of their role, each team member will participate in at least one implementation wave and many will transition to the long-term support team to work on maintenance and optimization projects. This combination of new opportunities, training and certification will serve as a significant incentive in the retaining of existing staff.

The footnote on page 17 is only in reference to IS staff and does not impact the job roles of those in clinical or other operational areas. As a result, the movement of IS staff from legacy system roles to the Epic project will not impact UVMHN's ability to provide patient-level care.

13. Confirm that no Vermont funds are being used to subsidize project capital costs in participating New York facilities.

RESPONSE: The funding of the capital and operating costs of the project is as described on p. 2 of the CON application:

> The capital costs associated with the Project and subject to CON review under 18 V.S.A. § 9434(b)(1) are $112.4 million, including $3.1 million in capitalized interest.
>
> * * *
>
> The capital expenditures of $112.4 million will be made by the UVM Medical Center, which will own the Project's capital assets. The associated net operating expenses identified in the Project's six-year TCO are $42.4 million. Those operating expenses, apart from depreciation, are to be allocated proportionately to participating Network hospitals annually based on patient volumes. As the owner of the Project's capital assets, the UVM Medical Center will account for all of the Project's depreciation expenses.

The source of funds is not State-specific. UVM Medical Center's capital expenditures will be made from operating capital, which is derived from net patient revenues for services to patients, who reside both in Vermont and New York, as well as other states.

14. Provide an overview of the due diligence performed to determine that the status of fiber optics/band width/infrastructure, etc. in place in Vermont are sufficient to support this project.

RESPONSE: As part of the due diligence process in creating the project budget, the existing infrastructure at each UVMHN-participating site was reviewed to determine the level of effort required in order to support a network operating environment as well as an enterprise Epic platform. Current connections from UVMMC to each Vermont facility were evaluated for network redundancy in order to understand the improvements that will be necessary. In addition, current performance levels were taken into account, along with several other areas of technology, and a worst-case scenario was considered in order to create the budget needed to support an Epic environment at each site and across the Network.

We hope that this letter answers any remaining questions that you have. If further information is needed, please do not hesitate to contact me.

Very truly yours,

Spencer R. Knapp, Esq.
General Counsel & Sr. Vice President

Enclosures

Approved: 1/26/2016

THE
University of Vermont
HEALTH NETWORK

UVM Health Network Joint Planning and Finance Committee
December 8, 2015
Meeting Minutes

Trustees Present: John Brumsted, Paul Danielson, Tim Davis, Michael Dellipriscoli, Don Gilbert, Scottie Ginn, Tom Golonka, Martin LeWinter, Deena McCullough, Gretchen Morse, Nick Muller (phone), John Powell, Tom Robbins, Drew Sabella, Paul Sands, Allie Stickney, Larry Sudbay, Russell Tracy, Ruth Uphold, Greg Voorheis

Staff Present: Theresa Alberghini DiPalma, Angela Bastian, Adam Buckley, Claude Deschamps, Cheyenne Holland, Todd Keating, Steve Klein, Spencer Knapp, Nancy Lothian, Stephens Mundy, Joyce Rafferty, Diana Scalise, Howard Schapiro, Marc Stanislas, Amy Vaughan, Jane Vizvarie, Eileen Whalen

Guests Present: Eric Schwartz, PricewaterhouseCoopers

Recorder: Helen Cabot McCarthy

I. Call To Order:

Committee chairs Gretchen Morse and Allie Stickney called the meeting to order at 10:15 am.

II. Epic Connect Presentation:

Dr. Adam Buckley updated the joint committee on the Epic Connect project. The final numbers showing the total project cost of $151 million were updated during the last month, and include pre-implementation costs. These costs are fully embedded within the capital budget.

The timeline presented includes pre-implementation, which will take place over the last two quarters of FY2017. Actual implementation work for UVMMC will begin on day one of FY 2018. The aggressive timetable will help contain costs and minimize scope creep. The replacement schedule for the affiliates is still to be determined. Every effort will be made to standardize the work, but Dr. Buckley noted that there will be regulatory differences between Vermont and New York.

The UVMMC implementation will coordinate clinical and financial software, and will replace many legacy programs that are very expensive, both in licensing fees and staffing needs.

Dr. Buckley will use an external consulting firm that specializes in implementing Epic software to act as project managers. He hopes to have that firm identified and hired by mid-March 2016. His team is still working on the final methodology for determining the cost breakdown by affiliation, and plans to bring specifics back to each board in early spring. There are significant offsets to the cost since each organization would need to upgrade its systems at a significant cost if it does not proceed with the Epic implementation.

Network senior management is beginning to have conversations with the GMCB regarding the CON application. The CON application will be for the total cost of the project, since the capital originates from UVMMC. As the conversation broadens, management will make an assessment of the likelihood of approval, which will dictate the timing of the actual CON filing.

Upon motion duly made (Scottie Ginn) and seconded (Russ Tracy), the UVMHN Joint Planning and Finance Committee approved the attached resolution to recommend to the UVMHN Board of Trustees the replacement of the current affiliate systems to bring all network affiliates to a single Epic system, with the understanding that each affiliate will be provided with a cost allocation methodology in early 2016.

UNIVERSITY OF VERMONT HEALTH NETWORK
BOARD OF TRUSTEES
JOINT MEETING
OF THE
PLANNING AND FINANCE COMMITTEES

December 8, 2015

RESOLUTION RECOMMENDING THE CONVERSION TO EPIC BY ALL UVM HEALTH NETWORK HOSPITALS, FOR THE CREATION OF A CONSOLIDATED MEDICAL RECORD SYSTEM

BACKGROUND

A. Management of The University of Vermont Health Network (the "Network") has conducted extensive planning work and assessments of the information technology systems at each of the Network hospitals and has recommended as follows:

1. That each Network hospital (The University of Vermont Medical Center, Central Vermont Medical Center, Champlain Valley Physicians Hospital and Elizabethtown Community Hospital) replace its existing electronic medical records systems and revenue cycle management systems and convert its systems to a single Epic platform that would be hosted by The University of Vermont Medical Center (the "Project");
2. Expenditures for the Project not to exceed $151.2M (approximately $108.4M in capital and $42.8M in operating) over the course of Project implementation;
3. Submission of all required Certificate of Need applications for the Project, as well as any other regulatory approval that management's legal counsel determines is needed;
4. Implementation of the Project over a five-year implementation period; and
5. Upon implementation, the establishment of a single medical record among the Network for all patients who receive care at a Network hospital.

B. The Joint Planning and Finance Committee (the "Committee") has reviewed management's presentation in detail and believes it is in the best interest of the Network to replace the existing information technology systems among the Network hospitals with a consolidated Epic system, hosted by The University of Vermont Medical Center, for a total cost not to exceed $151.2M, which shall occur upon the receipt of Certificate of Need ("CON") approval for the Project, and subject to final approval by the Network Board of Trustees and the Boards of each of the Network hospitals.

NOW THEREFORE, BE IT **RESOLVED**, as follows:

1. The Committee hereby RECOMMENDS to the Boards of Trustees of the Network and each Network hospital that the following actions and transactions be AUTHORIZED and APPROVED:

   a. The filing of a Vermont CON application and, if required, a New York State CON application for the Project.

b. The replacement of each Network hospital's legacy electronic medical records systems and revenue cycle systems with a single Epic platform that will be hosted by The University of Vermont Medical Center, in accordance with the Epic Connect Business Plan, attached hereto as Exhibit 1.
c. Expenditures for the Project not to exceed a total cost of $151.2M (operating and capital) over a five-year implementation period, with such costs to be borne among the individual Network hospitals in accordance with their volumes and ability to fund the Project, as initially described in the Cost Allocation Breakdown by Organization attached hereto as Exhibit 2, with such allocation being subject to change due to further refinement.
d. The creation of a single, consolidated electronic medical records system among the Network hospitals.

2. The Committee further RECOMMENDS to the Boards of the Network and each Network hospital that the President and any Senior Vice President of the Network and each Network hospital be AUTHORIZED and EMPOWERED to take all actions and to execute all documents and instruments as are deemed necessary and appropriate to carry out the foregoing transactions, the execution of any such document or instrument by any one of the foregoing persons to be deemed conclusive evidence of their authority to act for the Network and the Network hospital.

This Resolution shall be included in the minute book of The University of Vermont Health Network.

A True Copy:

_____
Secretary

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UVMHealth.org

Epic Connect Business Plan

Adam P. Buckley, MD
CIO

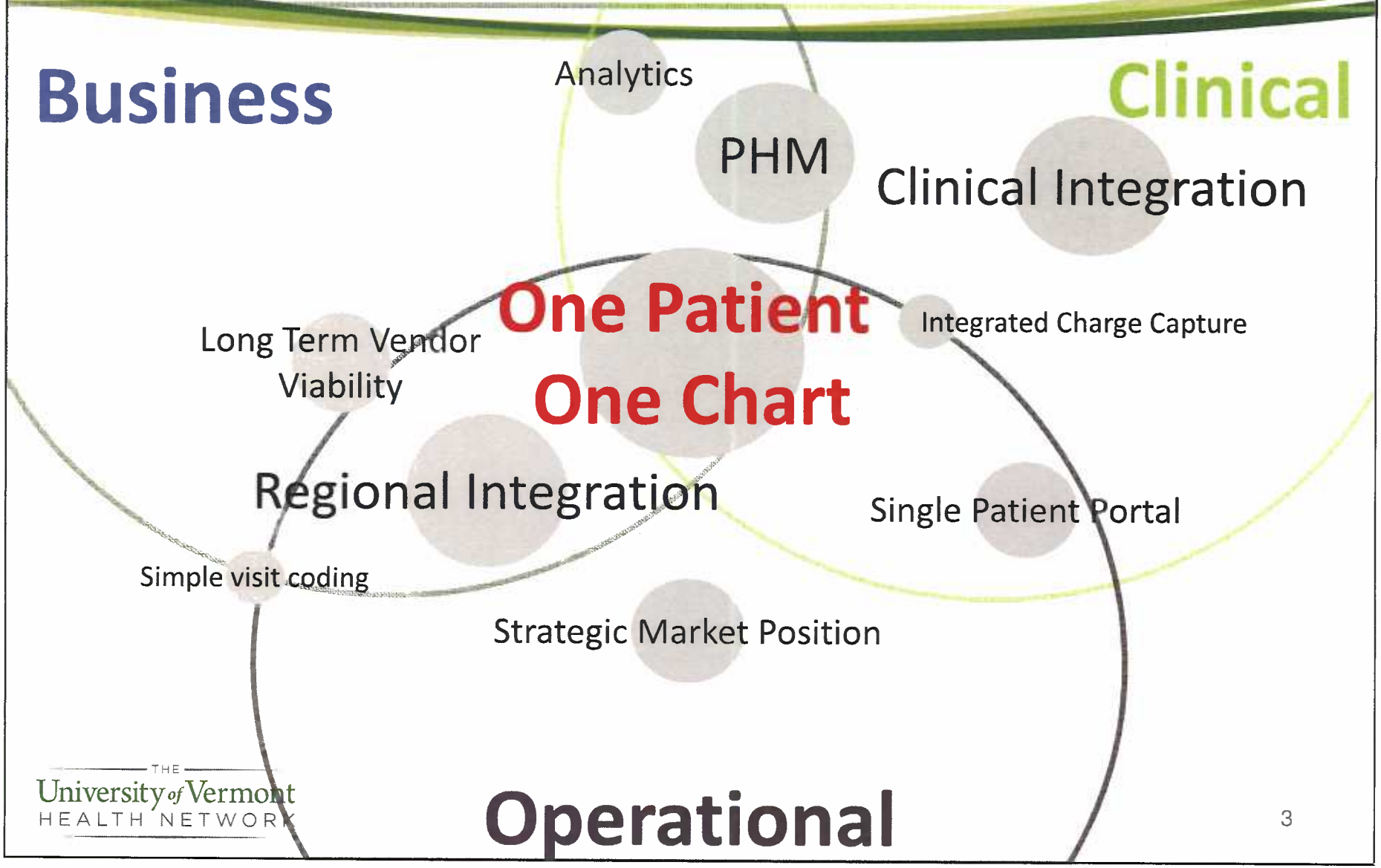
November 2015

THE University of Vermont HEALTH NETWORK

Overview

- Since the last presentation the Epic Steering and the Planning team have finalized the business plan and performed final revisions to the cost model
- This presentation will provide updates on the following topics:
  - Alignment with network strategy
  - Updated and finalized implementation timeline
  - "Final" TCO numbers
  - Cost breakdowns & offsets
  - Critical project success factors
  - Additional considerations

One Patient, One Record



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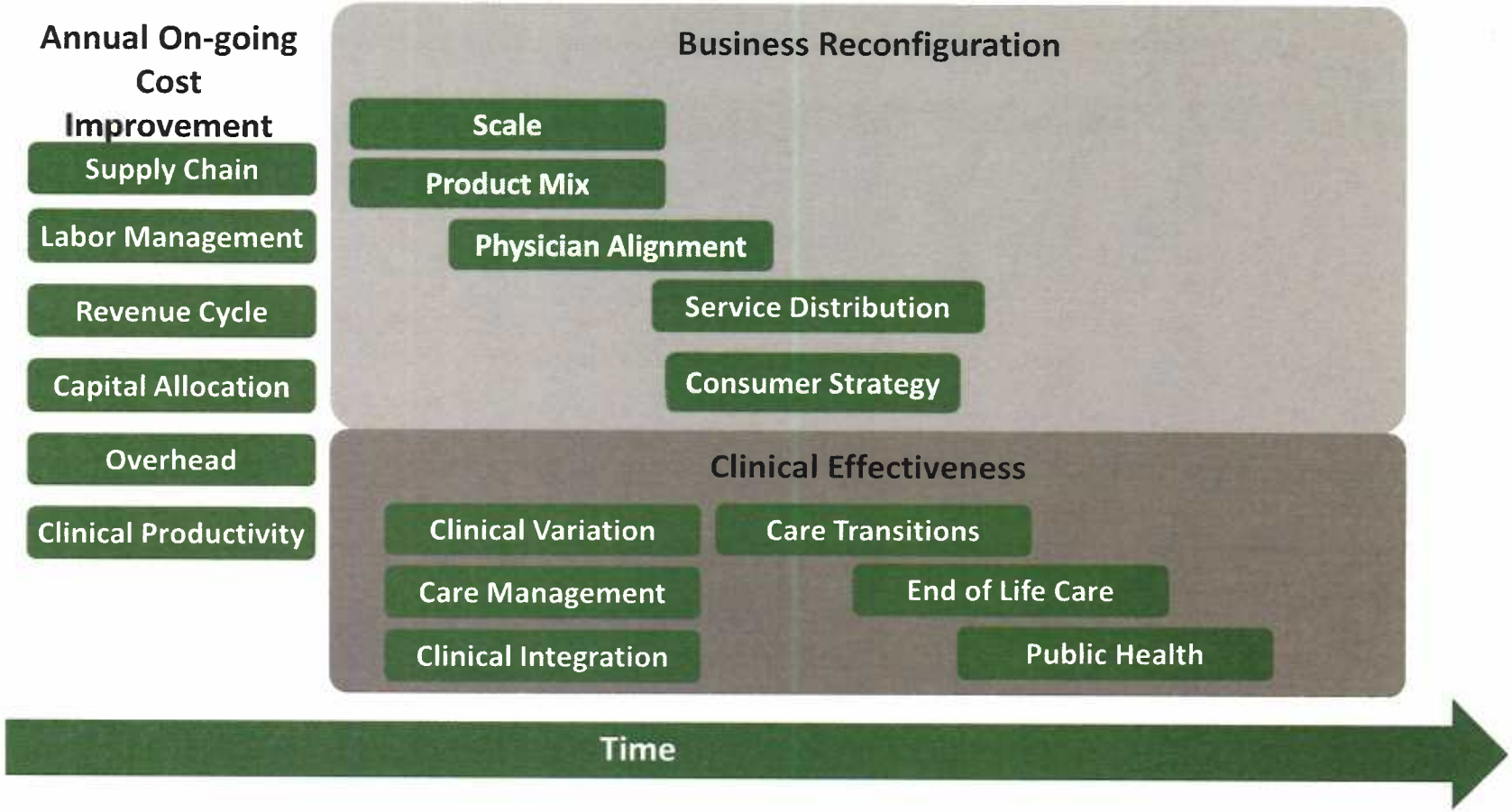
Health Network Strategy



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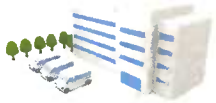
IDN –Single EMR Based

State Regulatory Authorities

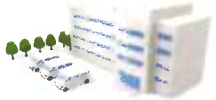


Hospitals and Inpatient Services

Pharmacy and Prescription Services

Centralized Integrated Delivery EMR

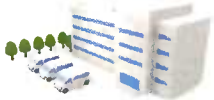
Medical Groups and Outpatient Services



Hospitals and Inpatient Services

Laboratory and Diagnostic Services

Hospitals and Inpatient Services



Hospitals and Inpatient Services

Medical Groups and Outpatient Services

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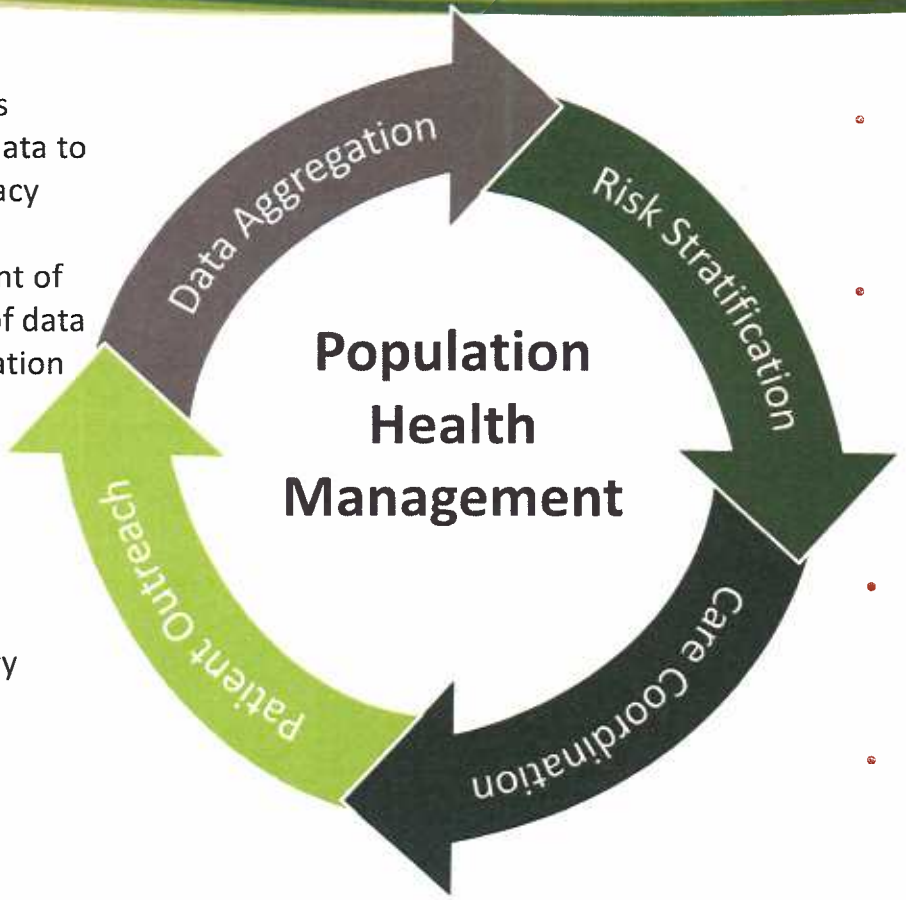
Population Health Management –Life Cycle

Impact

- Identify cost drivers/trends
- Capture clinical outcome data to monitor intervention efficacy

Tactical Plan

- Extending regional footprint of Epic instance - larger set of data encompassing total population served



Impact

- Stratifying patients to prioritize interventions and adjust risk

Tactical Plan

- Single patient database for unified regional risk stratification

Impact

- Engage patients to increase role as active participants in the delivery of care

Tactical Plan

- Single patient portal across region – patient education is consistent and uniform across all care delivery

Impact

- Efficient use of resources and better patient outcomes

Tactical Plan

- Regional coordination of care through shared/leveraged resources

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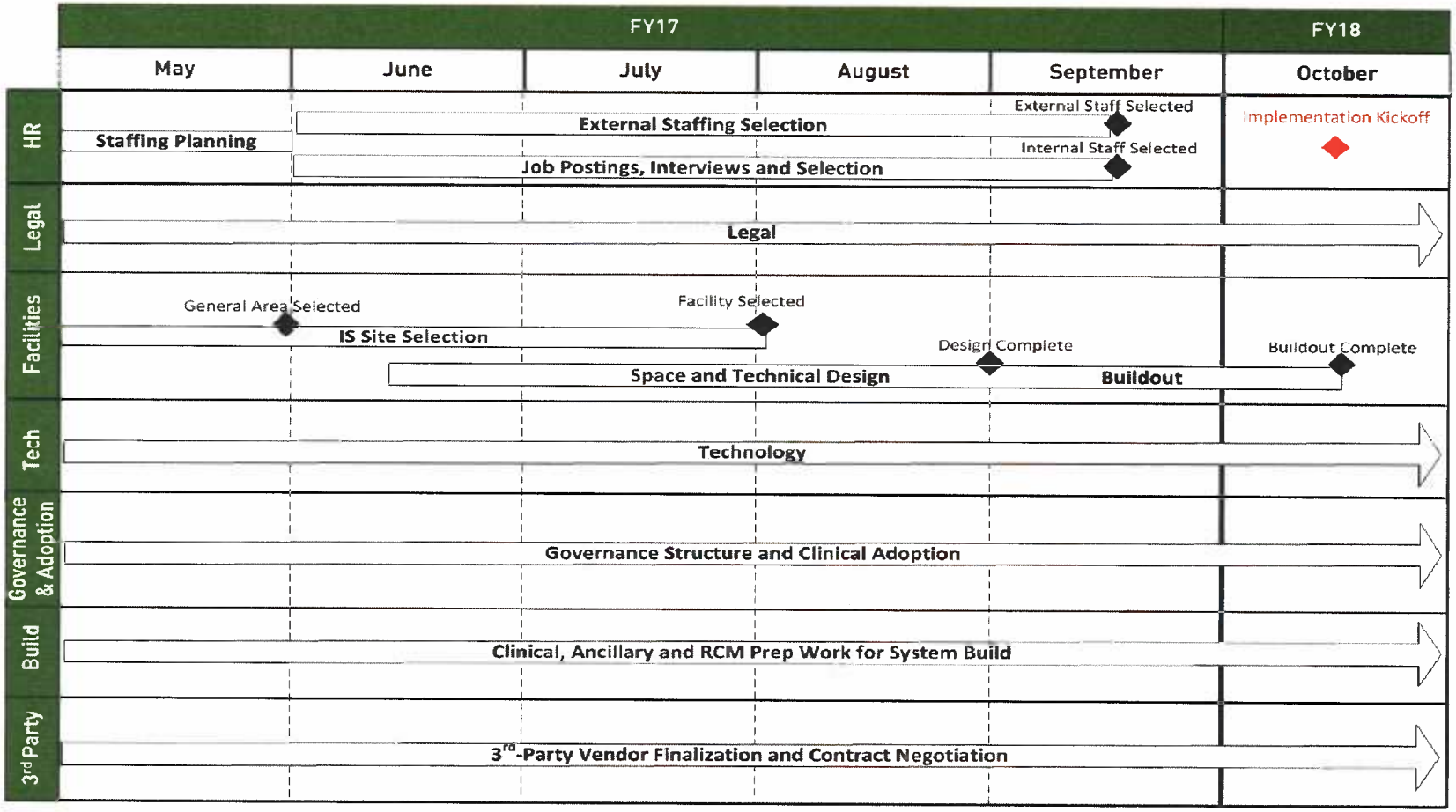
Epic Connect –Implementation Timeline and TCO Summary

Epic Connect Implementation Timeline

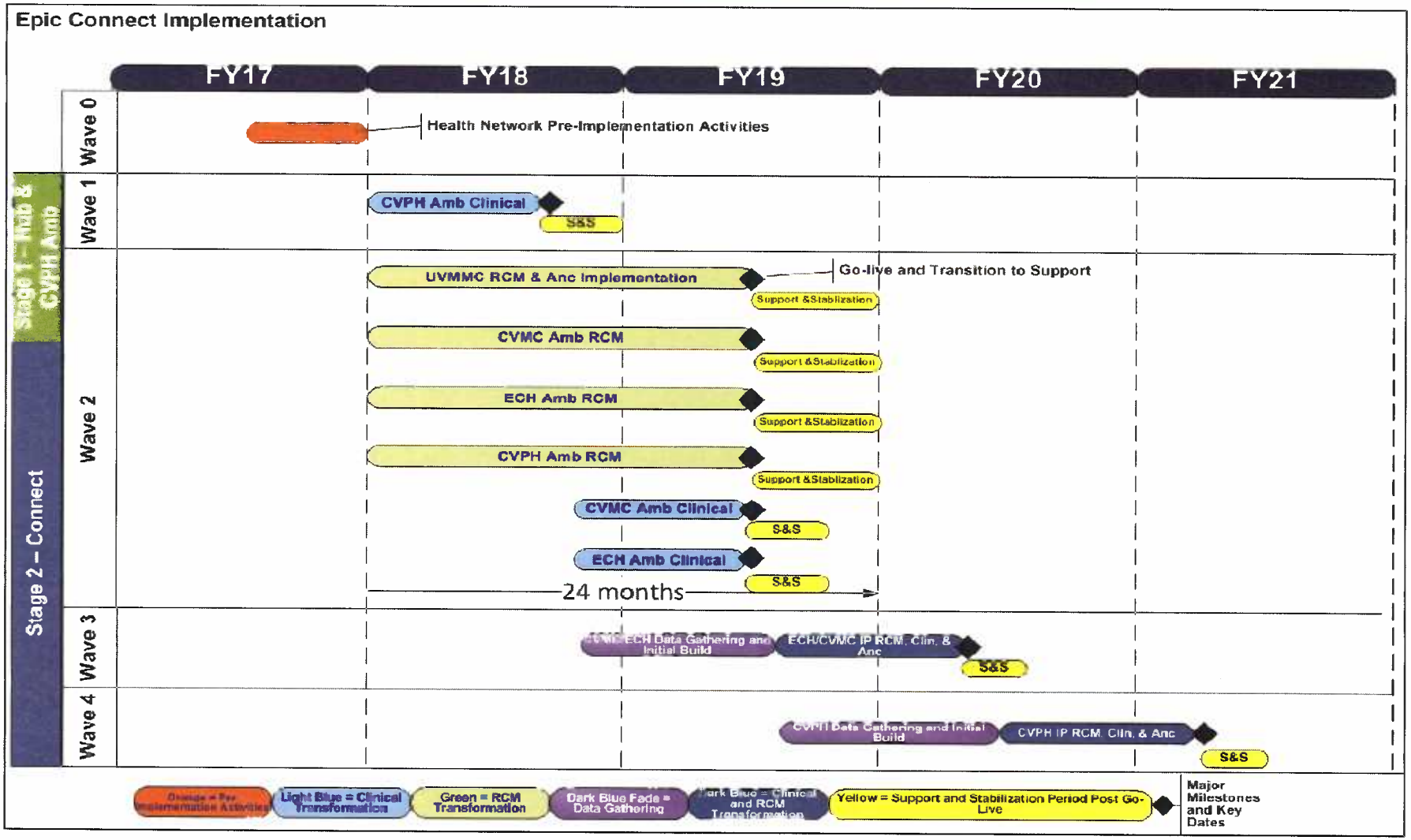
- Timeline updates:
  - Included the pre – implementation activities required for the network (data collection, 3rd-party contracting, resource hiring, etc.)
  - Affiliate timelines have been modified to more accurately show that data gathering and initial build will begin at the same time as deployment
  - CVPH leadership decided that a 9 month implementation was preferred over a 6 month implementation based on their specific requirements and environment

Pre Implementation Activity Timeline



THE University of Vermont HEALTH NETWORK

Epic Connect Implementation Timeline



Epic Connect TCO Summary

- Over the last month we've updated the TCO as well as the resulting cost allocation model, including:
  - Modified facility costs
    - Added end-user training at each site
    - Removed centralized office expense
  - Reduced technology costs based on work done in FY 2015
  - Epic pricing increased based on increasing volume data
    - Costs include licensing, maintenance and implementation
  - Added pre – implementation resource costs
  - Refined scope
  - Modified permanent staffing
  - Extended CVPH implementation
  - Added training costs for clinical and ancillary staff at all affiliates
  - Added Epic staff travel costs

Epic Connect –5 Year TCO

Cost Estimate	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Epic Software Costs	$ -	$ 3,990,626	$ 4,297,367	$ 6,061,808	$ -	$ -	$ 14,349,800
Epic Implementation and Travel Costs	$ -	$ 7,969,894	$ 3,859,673	$ 2,351,950	$ 1,060,102	$ -	$ 15,241,619
Required 3rd Party Software	$ -	$ 2,592,546	$ -	$ -	$ -	$ -	$ 2,592,546
RCM Bolt On Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -
UVMHN Internal Staffing	$ -	$ 4,830,049	$ 3,608,386	$ 2,767,777	$ 590,655	$ -	$ 11,796,868
External Staffing	$ -	$ 11,708,700	$ 11,456,900	$ 10,229,375	$ 2,990,125	$ -	$ 36,385,100
Epic Related Technology Costs (Hardware,	$ -	$ 4,196,259	$ 3,925,000	$ 2,942,500	$ 83,333	$ -	$ 11,147,093
Network Related Technology Costs	$ -	$ 3,516,900	$ 836,756	$ 805,390	$ -	$ -	$ 5,159,047
Facilities, Marketing, Travel, and COPs	$ -	$ 335,000	$ 35,480	$ -	$ -	$ -	$ 370,480
Pre-Implementation - External Staffing	$ 1,458,180						$ 1,458,180
Total Capital Costs	**$ 1,458,180**	**$ 39,139,975**	**$ 28,019,562**	**$ 25,158,799**	**$ 4,724,216**	**$ -**	**$ 98,500,732**
Contingency 10%	$ 145,818	$ 3,913,998	$ 2,801,956	$ 2,515,880	$ 472,422	$ -	$ 9,850,073
Grand Total Capital Costs	**$ 1,603,998**	**$ 43,053,973**	**$ 30,821,518**	**$ 27,674,679**	**$ 5,196,637**	**$ -**	**$ 108,350,805**
Epic Software Costs	$ -	$ 9,951	$ 700,548	$ 1,630,533	$ 2,662,005	$ 3,015,509	$ 8,018,546
Required 3rd Party Software	$ -	$ 54,839	$ 432,663	$ 718,451	$ 741,673	$ 765,709	$ 2,713,334
RCM Bolt On Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -
UVMHN Internal Staffing	$ -	$ 1,207,708	$ 3,344,749	$ 5,800,043	$ 8,507,258	$ 7,719,765	$ 26,579,523
External Staffing	$ -	$ 440,650	$ 1,038,675	$ 818,350	$ 535,075	$ -	$ 2,832,750
Epic Related Technology Costs (Hardware,	$ -	$ 1,386,000	$ 1,454,000	$ 1,472,900	$ 1,492,745	$ 1,513,582	$ 7,319,227
Network Related Technology Costs	$ -	$ 5,652,060	$ 5,449,186	$ 4,976,629	$ 5,513,847	$ 5,770,810	$ 27,362,533
Facilities, Marketing, Travel, and COPs	$ -	$ 325,738	$ 652,904	$ 1,163,800	$ 11,250	$ -	$ 2,153,691
UVMHN Staffing Offsets	$ -	$ (2,943,311)	$ (3,146,513)	$ (5,653,331)	$ (8,349,263)	$ (9,986,680)	$ (30,079,099)
UVMHN Legacy System Offsets	$ -	$ -	$ (92,787)	$ (1,956,071)	$ (3,825,902)	$ (5,890,410)	$ (11,765,170)
Total OpEx	**$ -**	**$ 6,133,634**	**$ 9,833,424**	**$ 8,971,303**	**$ 7,288,687**	**$ 2,908,285**	**$ 35,135,333**
Contingency 10%	$ -	$ 907,694.55	$ 1,307,272.41	$ 1,658,070.52	$ 1,946,385.32	$ 1,878,537.50	$ 7,697,960.30
Grand Total OpEx	**$ -**	**$ 7,041,329**	**$ 11,140,697**	**$ 10,629,374**	**$ 9,235,073**	**$ 4,786,822**	**$ 42,833,294**
Total Project Cost	**$ 1,603,998**	**$ 50,095,301**	**$ 41,962,215**	**$ 38,304,053**	**$ 14,431,710**	**$ 4,786,822**	**$ 151,184,099**

Cost Breakdown & Offsets

Epic Connect –Cost Breakdown by Organization

Location	Cost	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
UVMMC	Capital	$ 1,067,141	$ 30,541,369	$ 21,068,431	$ 14,668,783	$ 2,681,512	$ -	$ 70,027,236
	Operating	$ -	$ 4,677,319	$ 7,502,283	$ 7,126,772	$ 5,487,970	$ 2,315,061	$ 27,109,405
	Total	$ 1,067,141	$ 35,218,688	$ 28,570,714	$ 21,795,555	$ 8,169,482	$ 2,315,061	$ 97,136,641
CVPH	Capital	$ 320,615	$ 7,304,451	$ 4,367,235	$ 10,267,754	$ 1,971,752	$ -	$ 24,231,807
	Operating	$ -	$ 1,416,212	$ 2,151,554	$ 1,893,933	$ 2,222,962	$ 1,576,147	$ 9,260,808
	Total	$ 320,615	$ 8,720,663	$ 6,518,789	$ 12,161,687	$ 4,194,715	$ 1,576,147	$ 33,492,615
CVMC	Capital	$ 183,667	$ 4,215,092	$ 4,286,997	$ 2,360,818	$ 461,518	$ -	$ 11,508,092
	Operating	$ -	$ 805,019	$ 1,247,152	$ 1,303,085	$ 1,197,297	$ 660,051	$ 5,212,604
	Total	$ 183,667	$ 5,020,111	$ 5,534,149	$ 3,663,903	$ 1,658,815	$ 660,051	$ 16,720,696
ECH	Capital	$ 32,575	$ 993,061	$ 1,098,855	$ 377,324	$ 81,855	$ -	$ 2,583,671
	Operating	$ -	$ 142,779	$ 239,707	$ 305,584	$ 326,843	$ 235,563	$ 1,250,476
	Total	$ 32,575	$ 1,135,840	$ 1,338,562	$ 682,908	$ 408,698	$ 235,563	$ 3,834,147
TOTAL	**Capital**	$ 1,603,998	$ 43,053,973	$ 30,821,518	$ 27,674,679	$ 5,196,637	$ -	$ 108,350,805
	Operating	$ -	$ 7,041,329	$ 11,140,697	$ 10,629,374	$ 9,235,073	$ 4,786,822	$ 42,833,294
	Total	$ 1,603,998	$ 50,095,301	$ 41,962,215	$ 38,304,053	$ 14,431,710	$ 4,786,822	$ 151,184,099

THE University of Vermont HEALTH NETWORK

Epic Connect – Years 6 through 10

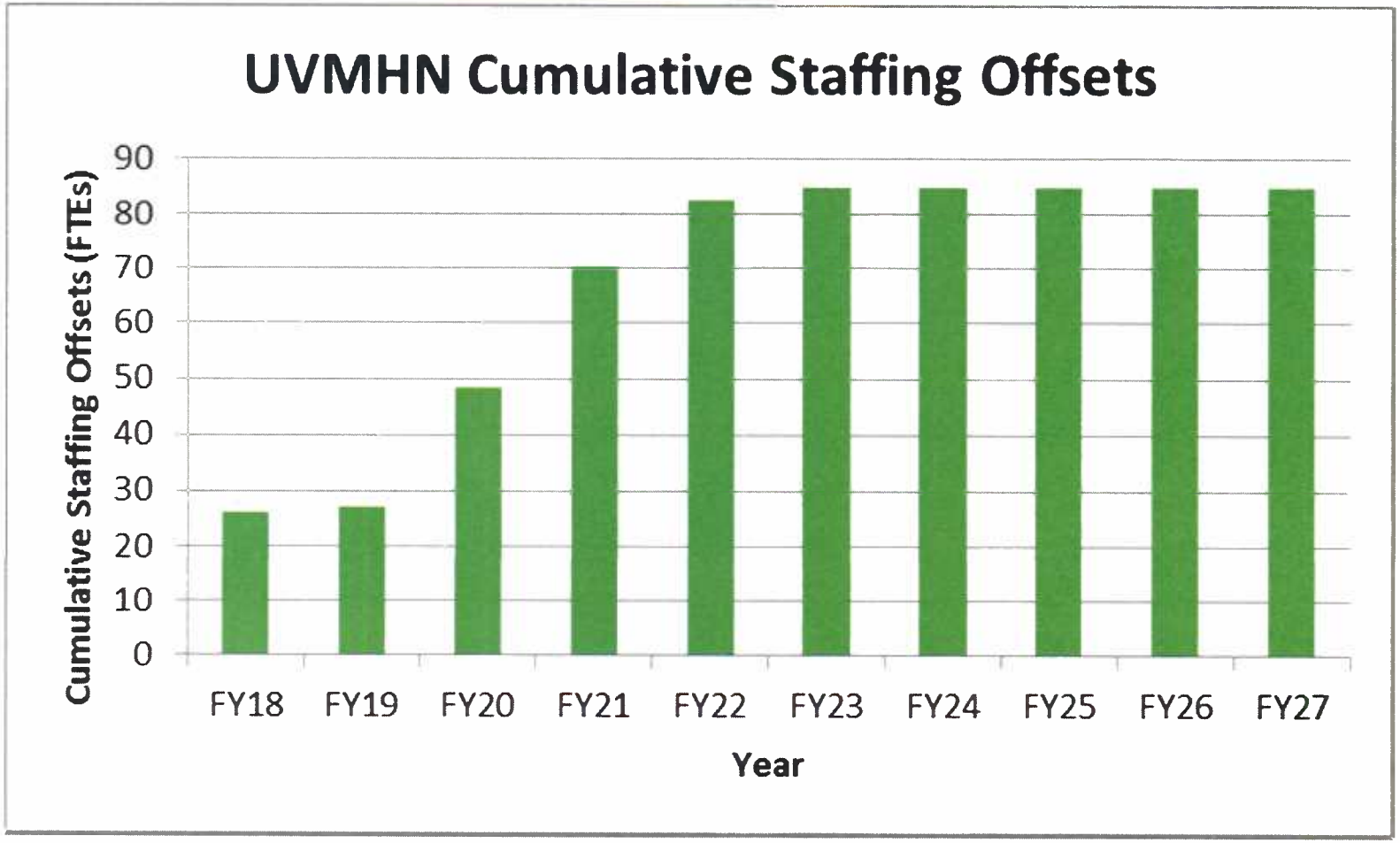
Cost Estimate	FY23	FY24	FY25	FY26	FY27
Epic Software Costs	$ -	$ -	$ -	$ -	$ -
Epic Implementation Costs	$ -	$ -	$ -	$ -	$ -
Required 3rd Party Software	$ -	$ -	$ -	$ -	$ -
RCM Bolt On Costs	$ -	$ -	$ -	$ -	$ -
UVMHN Internal Staffing	$ -	$ -	$ -	$ -	$ -
External Staffing	$ -	$ -	$ -	$ -	$ -
Epic Related Technology Costs (Hardware, Network, Integration, Conversion)	$ -	$ -	$ -	$ -	$ -
Network Related Technology Costs (Hardware, Network, Integration, Conversion)	$ -	$ -	$ -	$ -	$ -
Facilities, Marketing, Travel, and COPs	$ -	$ -	$ -	$ -	$ -
Pre-Implementation - External Staffing					
	$ -	$ -	$ -	$ -	$ -
Total Capital Costs	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Contingency 10%	$ -	$ -	$ -	$ -	$ -
Grand Total Capital Costs	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Epic Software Costs	$ 3,121,052	$ 3,230,289	$ 3,343,349	$ 3,460,366	$ 3,581,479
Required 3rd Party Software	$ 790,585	$ 816,332	$ 842,981	$ 870,562	$ 899,108
RCM Bolt On Costs	$ -	$ -	$ -	$ -	$ -
UVMHN Internal Staffing	$ 7,874,160	$ 8,031,644	$ 8,192,276	$ 8,356,122	$ 8,523,244
External Staffing	$ -	$ -	$ -	$ -	$ -
Epic Related Technology Costs (Hardware, Network, Integration, Conversion)	$ 1,535,461	$ 1,558,434	$ 1,582,556	$ 1,607,884	$ 1,634,478
Network Related Technology Costs (Hardware, Network, Integration, Conversion)	$ -	$ -	$ -	$ -	$ -
Facilities, Marketing, Travel, and COPs	$ -	$ -	$ -	$ -	$ -
UVMHN Staffing Offsets	$ (10,498,880)	$ (10,708,858)	$ (10,923,035)	$ (11,141,496)	$ (11,364,326)
UVMHN Legacy System Offsets	$ (6,476,089)	$ (6,974,445)	$ (7,213,246)	$ (7,460,669)	$ (7,717,044)
Total OpEx	**$ (3,653,711)**	**$ (4,046,604)**	**$ (4,175,120)**	**$ (4,307,231)**	**$ (4,443,060)**
Contingency 10%	$ -	$ -	$ -	$ -	$ -
Grand Total OpEx	**$ (3,653,711)**	**$ (4,046,604)**	**$ (4,175,120)**	**$ (4,307,231)**	**$ (4,443,060)**
Total Project Cost	**$ (3,653,711)**	**$ (4,046,604)**	**$ (4,175,120)**	**$ (4,307,231)**	**$ (4,443,060)**

Epic Connect –Comparison of Epic vs. Legacy Systems and Staffing

Operating Costs - Software	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27
Epic Software Costs	$ 9,951	$ 700,548	$ 1,630,533	$ 2,662,005	$ 3,015,509	$ 3,121,052	$ 3,230,289	$ 3,343,349	$ 3,460,366	$ 3,581,479
Required 3rd Party Software	$ 54,839	$ 432,663	$ 718,451	$ 741,673	$ 765,709	$ 790,585	$ 816,332	$ 842,981	$ 870,562	$ 899,108
Contingency 10%	$ 6,479	$ 113,321	$ 234,898	$ 340,368	$ 378,122	$ -	$ -	$ -	$ -	$ -
Cumulative Epic-Related Software OpEx	**$ 71,269**	**$ 1,317,800**	**$ 3,901,682**	**$ 7,645,728**	**$ 11,805,068**	**$ 15,716,705**	**$ 19,763,326**	**$ 23,949,656**	**$ 28,280,583**	**$ 32,761,171**
UVMHN Legacy System Offsets	$ -	$ (92,787)	$ (1,956,071)	$ (3,825,902)	$ (5,890,410)	$ (6,476,089)	$ (6,974,445)	$ (7,213,246)	$ (7,460,669)	$ (7,717,044)
Cumulative Legacy System OpEx	**$ -**	**$ (92,787)**	**$ (2,048,858)**	**$ (5,874,760)**	**$ (11,765,170)**	**$ (18,241,259)**	**$ (25,215,705)**	**$ (32,428,951)**	**$ (39,889,620)**	**$ (47,606,663)**
Cumulative Variance	$ 71,269	$ 1,225,013	$ 1,852,824	$ 1,770,968	$ 39,897	$ (2,524,554)	$ (5,452,379)	$ (8,479,295)	$ (11,609,036)	$ (14,845,493)

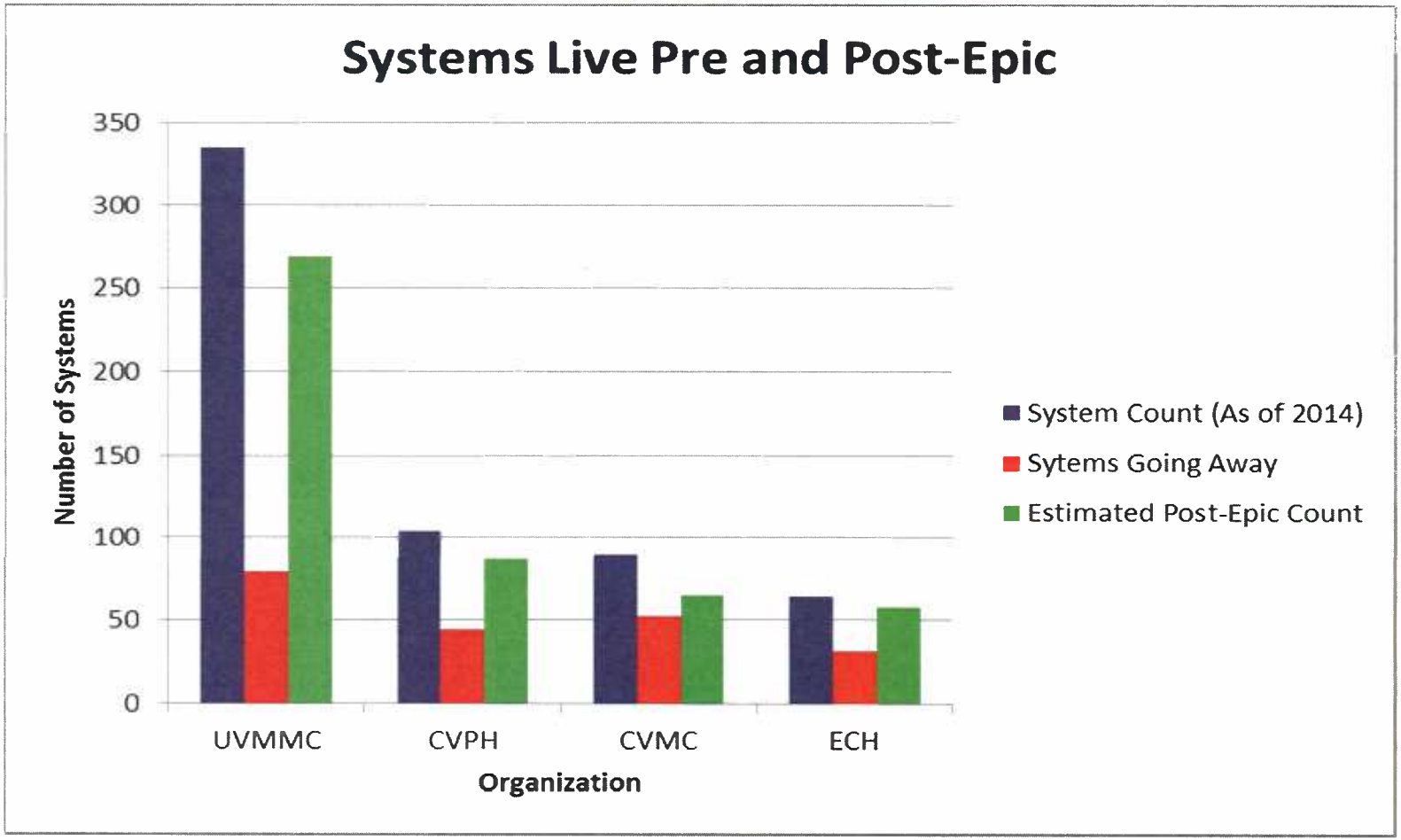
Operating Costs - Staffing	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27
UVMHN Internal Staffing	$ 1,207,708	$ 3,344,749	$ 5,800,043	$ 8,507,258	$ 7,719,765	$ 7,874,160	$ 8,031,644	$ 8,192,276	$ 8,356,122	$ 8,523,244
Contingency 10%	$ 120,771	$ 334,475	$ 580,004	$ 850,726	$ 771,977	$ -	$ -	$ -	$ -	$ -
Cumulative Epic Internal Staffing OpEx	**$ 1,328,479**	**$ 5,007,703**	**$ 11,387,750**	**$ 20,745,733**	**$ 29,237,475**	**$ 37,111,635**	**$ 45,143,279**	**$ 53,335,555**	**$ 61,691,677**	**$ 70,214,922**
UVMHN Staffing Offsets	$ (2,943,311)	$ (3,146,513)	$ (5,653,331)	$ (8,349,263)	$ (9,986,680)	$ (10,498,880)	$ (10,708,858)	$ (10,923,035)	$ (11,141,496)	$ (11,364,326)
Cumulative Legacy Staffing OpEx	**$ (2,943,311)**	**$ (6,089,824)**	**$ (11,743,155)**	**$ (20,092,419)**	**$ (30,079,099)**	**$ (40,577,980)**	**$ (51,286,838)**	**$ (62,209,873)**	**$ (73,351,369)**	**$ (84,715,695)**
Cumulative Variance	$ (1,614,832)	$ (1,082,121)	$ (355,405)	$ 653,315	$ (841,624)	$ (3,466,344)	$ (6,143,559)	$ (8,874,318)	$ (11,659,692)	$ (14,500,773)

Epic Connect –Staffing Offsets



THE University of Vermont HEALTH NETWORK

Epic Connect –Number of Live Systems



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Epic Connect Project Critical Success Factors & Additional Considerations

Critical Success Factors

- The following slides outline the three most critical success factors during an implementation
  - Engagement
    - Key project stakeholders as well as executive, clinical, revenue cycle, IT, operational and affiliate leadership are well-informed about the project and implement plans to address operational changes
    - The implementation team can address this by:
      - Developing detailed executive status reports for senior leaders
      - Establishing a governance process that allows for frequent and open communication of project status
      - Developing a communication plan prior to implementation that addresses the approach, methods and frequency of communication to key stakeholders and end users throughout the project

Critical Success Factors

- Additionally, the implementation team will focus on:
  - Physician Adoption
    - Engaging physicians early on and allow them to have input on the design of the system
    - Training physicians so they feel comfortable with the new system
    - System access should not be granted to anyone who has not completed training
  - Rigorous Scope Control
    - Rigorous scope management will be key to keeping the project on-time and within budget
    - Requests received for additional modules, functionality, workflow design, and/or non-standard build interfere with the project's approved scope and will be documented and escalated
    - Requests to change scope will be reviewed on a case-by-case basis and then brought to the Steering Committee for approval as necessary
    - Change requests may increase project budget, risk and/or costs. These impacts should be considered thoughtfully before any change request is approved

Additional Considerations

- If we elect not to roll out Epic:
  - UVM Medical Center – replacement of GE
    - Patient Safety: 12 months of tracking showed 14 Safe Reports traced to the failure of GE to hand a patient off to Epic
    - Planned and budgeted for: 67 million
  - CVMC – upgrade of Meditech and replacement of ED and other systems
    - @11 million
  - Required VT HIT investment: 78 million
    - *We would still be on different systems*

Epic Connect –Cost Breakdown by Organization

Location	Cost	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
UVMMC	Capital	$ 1,067,141	$ 30,541,369	$ 21,068,431	$ 14,668,783	$ 2,681,512	$ -	$ 70,027,236
	Operating	$ -	$ 4,677,319	$ 7,502,283	$ 7,126,772	$ 5,487,970	$ 2,315,061	$ 27,109,405
	Total	$ 1,067,141	$ 35,218,688	$ 28,570,714	$ 21,795,555	$ 8,169,482	$ 2,315,061	$ 97,136,641
CVPH	Capital	$ 320,615	$ 7,304,451	$ 4,367,235	$ 10,267,754	$ 1,971,752	$ -	$ 24,231,807
	Operating	$ -	$ 1,416,212	$ 2,151,554	$ 1,893,933	$ 2,222,962	$ 1,576,147	$ 9,260,808
	Total	$ 320,615	$ 8,720,663	$ 6,518,789	$ 12,161,687	$ 4,194,715	$ 1,576,147	$ 33,492,615
CVMC	Capital	$ 183,667	$ 4,215,092	$ 4,286,997	$ 2,360,818	$ 461,518	$ -	$ 11,508,092
	Operating	$ -	$ 805,019	$ 1,247,152	$ 1,303,085	$ 1,197,297	$ 660,051	$ 5,212,604
	Total	$ 183,667	$ 5,020,111	$ 5,534,149	$ 3,663,903	$ 1,658,815	$ 660,051	$ 16,720,696
ECH	Capital	$ 32,575	$ 993,061	$ 1,098,855	$ 377,324	$ 81,855	$ -	$ 2,583,671
	Operating	$ -	$ 142,779	$ 239,707	$ 305,584	$ 326,843	$ 235,563	$ 1,250,476
	Total	$ 32,575	$ 1,135,840	$ 1,338,562	$ 682,908	$ 408,698	$ 235,563	$ 3,834,147
TOTAL	**Capital**	$ 1,603,998	$ 43,053,973	$ 30,821,518	$ 27,674,679	$ 5,196,637	$ -	$ 108,350,805
	Operating	$ -	$ 7,041,329	$ 11,140,697	$ 10,629,374	$ 9,235,073	$ 4,786,822	$ 42,833,294
	Total	$ 1,603,998	$ 50,095,301	$ 41,962,215	$ 38,304,053	$ 14,431,710	$ 4,786,822	$ 151,184,099

THE University of Vermont HEALTH NETWORK

Excerpt from December 2015 UVM Health Network Board of Trustees Minutes:

I. EPIC Connect Presentation:

Dr. Douglas Gentile, UVMMC Chief Medical Information Officer, presented an updated PowerPoint on the Epic Connect project. This presentation included updates on the timeline, cost breakdowns and offsets, critical project success factors, and other considerations. In the first quarter of 2016, UVMHN management will provide each affiliate board and seek approval on the cost impact and methodology for each hospital. If the filing of the CON application and approval by the GMCB proceeds on schedule, management hopes to begin the pre-implementation stage in early FY 2017.

The cost of the project is $151 million over five years. The capital cost is $98 million plus a 10% contingency, for a total capital cost of $108 million. If the Epic Connect project is not approved, the network will have to spend close to $75 million to update all individual systems within the network without having EMRs synched across the network. The Epic Connect project will also provide an improvement in the network security profile and strengthen network internal audit expertise in cyber security. An RFP is being prepared to hire a consultant to manage the program implementation and train in-house staff. The cost of the ongoing operations will be significantly offset by sunsetting many of the legacy applications currently in use and streamlining system maintenance.

This is an organizational project that must have the support of the physicians throughout the system to be successful. Dr. Gentile does not anticipate physician resistance to the project since most physicians currently use some type of electronic medical record.

The adoption of the Epic Connect project was approved by both the UVMHN Planning Committee and the UVMHN Finance Committee. The board is being asked to approve a resolution authorizing the filing of necessary CONs to replace the electronic medical records system at each hospital to Epic. The board is not approving the individual hospitals' expenditures.

Upon motion duly made (Scottie Ginn) and seconded (Don Gilbert), the UVM Health Network Board of Trustees approved the conversion to Epic Connect by all UVM Health Network hospitals for the creation of a consolidated medical record system and authorized the filing of a Vermont and, if necessary New York Certificate of Need application for the project.

UNIVERSITY OF VERMONT HEALTH NETWORK
BOARD OF TRUSTEES

December 16, 2015

RESOLUTION APPROVING THE CONVERSION TO EPIC BY ALL UVM HEALTH NETWORK HOSPITALS, FOR THE CREATION OF A CONSOLIDATED MEDICAL RECORD SYSTEM

BACKGROUND

A. Management of The University of Vermont Health Network (the "Network") has conducted extensive planning work and assessments of the information technology systems at each of the Network hospitals and has recommended as follows:

1. That each Network hospital (The University of Vermont Medical Center, Central Vermont Medical Center, Champlain Valley Physicians Hospital and Elizabethtown Community Hospital) replace its existing electronic medical records systems and revenue cycle management systems and convert its systems to a single Epic platform that would be hosted by The University of Vermont Medical Center (the "Project");
2. Expenditures for the Project not to exceed $151.2M (approximately $108.4M in capital and $42.8M in operating) over the course of Project implementation;
3. Submission of all required Certificate of Need applications for the Project, as well as any other regulatory approval that management's legal counsel determines is needed;
4. Implementation of the Project over a five-year implementation period; and
5. Upon implementation, the establishment of a single medical record among the Network for all patients who receive care at a Network hospital.

B. The Joint Planning and Finance Committee of the Network Board of Trustees (the "Committee") has previously reviewed and approved the Project, subject to final review and approval by the Network Board of Trustees and the Boards of each of the Network hospitals.

C. The Network Board of Trustees has reviewed management's presentation in detail and believes it is in the best interest of the Network to replace the existing information technology systems among the Network hospitals with a consolidated Epic system, hosted by The University of Vermont Medical Center, for a total cost not to exceed $151.2M, which implementation shall occur upon the receipt of Certificate of Need ("CON") approval for the Project, and subject to final approval by the Boards of each of the Network hospitals.

NOW THEREFORE, BE IT **RESOLVED**, as follows:

1. The Network Board of Trustees hereby AUTHORIZES and APPROVES the following actions and transactions, subject to final approval by the Boards of each of the Network hospitals:

   a. The filing of a Vermont CON application and, if required, a New York State CON application for the Project.
   b. The replacement of each Network hospital's legacy electronic medical records systems and revenue cycle systems with a single Epic platform that will be hosted by The

University of Vermont Medical Center, in accordance with the Epic Connect Business Plan, attached hereto as Exhibit 1.

c. Expenditures for the Project not to exceed a total cost of $151.2M (operating and capital) over a five-year implementation period, with such costs to be borne among the individual Network hospitals in accordance with their volumes and ability to fund the Project, as initially described in the Cost Allocation Breakdown by Organization attached hereto as Exhibit 2, with such allocation being subject to change due to further refinement.

d. The creation of a single, consolidated electronic medical records system among the Network hospitals.

2. The Network Board of Trustees further AUTHORIZES and APPROVES the President and any Senior Vice President of the Network, and the President and any Senior Vice President of each Network hospital, to take all actions and to execute all documents and instruments as are deemed necessary and appropriate to carry out the foregoing transactions, the execution of any such document or instrument by any one of the foregoing persons to be deemed conclusive evidence of their authority to act for the Network and the Network hospital.

This Resolution shall be included in the minute book of The University of Vermont Health Network.

A True Copy:

Secretary

BUSINESS PLAN
Planning Department

THE University of Vermont HEALTH NETWORK

Epic Connect

Prepared by
Kevin Lavery, Planning
Noah Lazarus, Planning
Cumberland Consulting Group

Executive Sponsor
Adam P. Buckley, MD
Chief Information Officer, UVMHN

November 18, 2015

Section 1: Executive Summary

Our Patients and Families, Our People, Our Community. Working together, we improve people's lives. This is the vision of The University of Vermont Health Network (UVMHN). An organization dedicated to improving the lives of our patients, the health of our local population and expanding world class health care to all the communities that we serve; done through increasing health care value via high-quality, low-cost care. In order to succeed in our vision the UVMHN has identified one foundational element that must be in place: a single Electronic Medical Record (EMR) and Revenue Cycle (RCM) Platform that traverses the entire system. This is a business plan that outlines that initiative.

Highlights

- The proposal: **One Patient, One Chart**
- Initiative: All Network Inpatient and Ambulatory EMRs and RCMs will be converted to Epic
- Implementation and Optimization Timeline: **5 years**
- The cost of the Epic conversion over a 5 year implementation period: **$151.2M**
  - **$42.8M in Operating (excluding depreciation), all incremental**
  - **$108.3M in Capital**
- By the end of FY22, the Network will see an incremental reduction of 22 positions (Epics add, Legacy reductions)
- Maximum number of external personnel staffed during the implementation period: **32**

Plan Summary At-a-Glance						
	FY17	FY18	FY19	FY20	FY21	FY22
Capital Costs	$ 1,603,998	$ 45,330,394	$ 30,115,501	$ 27,253,880	$ 5,005,891	$ -
Incremental Operating Costs	$ -	$ 7,902,565	$ 11,618,565	$ 10,545,257	$ 10,112,589	$ 5,664,338
Total Incremental FTE's by year	0	28	5	-28	-17	-10

Benefits

- To better manage the health of our population and to coordinate care for both healthy and sick patients
- To ensure access to complete patient records regardless of patient origin or care location and allow clinical information to flow across "care gaps" (e.g. transition from inpatient to skilled nursing facility, or Primary Care Provider)
- To enable the best possible care at the right time by the right clinician regardless of location.
- To help reduce duplicative services and procedures, promote the standardization of protocols, and simplify the coordination of care across the Network; all leading to better outcomes at a lower cost
- To create less time reconciling financial information
- To facilitate greater access to care via mobile functions not currently available at the Health Network Level
- To give providers the ability to gain access to their patient wherever they are, even at home
- To better store and report clinical data to manage whole populations of patients as well as distill that data down to the individual patient in a way that cannot be done now
- To provide for a future single billing function, leading to numerous operational efficiencies and patient benefits
- To provide online health management tools to all of our patients regardless of care location

Current State vs Epic Initiative

- The University of Vermont Medical Center (UVMMC) needs to replace its current RCM application (GE) as it is only a matter of time before GE further withdraws from the health IT market having just ceased operations from their inpatient EMR (Centricity Enterprise)

    - An approximate cost for Epic's RCM Enterprise application is $67M
- Central Vermont Medical Center (CVMC) is in need of replacing its current EMR system (Meditech). Meditech is not meeting their current needs and they will need to make a significant investment to upgrade the system
    - An approximate cost of $11M for the upgrades which includes the replacement of ED, OR Suite, and other systems
- Total of $78M in unavoidable costs if the UVMHN does not move forward with the Epic initiative
    - For roughly $15M more per year over 5 years, the Network can have a single patient record and data for all of their patients

Additional Drivers

- A move to population health management places a greater emphasis on care coordination. This initiative will ensure that the UVMHN is prepared to meet those needs
- Safety concerns with clinical systems being fed data from business system in order to render care

This business plan will serve to further explain in detail the rationale and justification for this major initiative. It will detail the costs and risks associated with our Network proceeding with this project and provide a comprehensive analysis of the major decision points that were examined as part of this planning. The UVMHN partnered with Cumberland Consulting Group as we embarked on an 18 month process to analyze our current state as it related to EMR and revenue cycle applications, and worked through a highly technical and comprehensive process of projecting resources and costs to convert all sites to a single EMR and RCM system. Cumberland brings with them a range and depth of experience planning and implementing EMR and RCM applications at large health systems.

Our evaluation of other integrated healthcare systems has shown that migration to a single platform EMR is the leading market trend. As a result, even health systems that have made a substantial investment in their own~~an~~ Health Information Exchange (HIE) are moving to a single platform EMR. Market analysis has shown that the market leaders for this consolidation are Epic and Cerner. As a substantial investment has already been made in Epic, it stands to reason that we expand it across the health Network.

This is not an implementation plan nor does this plan address Epic Community Connect, which will extend UVMMC's current Epic platform to community providers and hospitals; which is a separate initiative underway. Furthermore, this plan does not specifically outline a process of centralizing operations as a result of a single EMR and RCM platform. The UVMHN will continue to identify and achieve operational efficiencies that will be gained through this initiative.

Section 2: Strategic Fit

The UVMHN was formed in 2011 in response to the changing nature of the health care landscape in Vermont and northern New York, including cost growth that has outpaced general inflation, access issues for both primary and specialty care, and the potential for inconsistent quality of care depending on where care was delivered. Its primary strategy has been to develop an integrated system of care for northern New York and northern Vermont that will foster operational efficiencies, support the provision of a coordinated continuum of services to the communities the Network serves, and position itself to be held clinically and fiscally accountable for the health of a defined population. The implementation of Epic is one of UVMHN's primary objectives on their strategic plan.

Since its inception in 2011, the Network has pursued two complementary strategies in support of its vision: building an integrated delivery Network, and developing the capacity to manage the health of a population.

- **Building an Integrated Delivery Network.** The Network's market is rural, serving approximately one million people in northern New York and Vermont. The Network has established corporate affiliations with health care providers in both states in order to gain administrative efficiencies and engage in coordinated regional planning through a highly-integrated system of care that will improve access, enhance quality, and lower the costs of health care provided in the region.

Section 3: Needs Assessment and Rationale

Current State

A key driver for the Epic Connect project is that it will enable a significant upgrade in the EMR and/or revenue cycle systems currently in use at each organization, many of which are outdated. Currently, the UVMHN has 4 disparate Inpatient systems; 5 disparate Ambulatory systems; and 5 disparate RCM systems. Furthermore, the Medical Center and CVMC have a multitude of other clinical ancillary systems for lab, Operating Rooms, ED and Radiology among others. The table below summarizes the systems in use at each organization. Moving to an all-Epic platform across the Network will not only allow for better shared information from facility to facility, but also within each organization itself as there are currently different vendors in use across Inpatient and Ambulatory care areas. The current disconnect across IP and Ambulatory allows for more risk of information being lost in handoffs from system to system, a risk which does not exist with a single, integrated platform.

Organization	Inpatient System	Ambulatory System
UVMMC	Epic (clinicals) and GE (RCM)	Epic (clinicals) and GE (RCM)
CVMC	Meditech (combined)	eCW (combined)
CVPH	Soarian (combined)	GE (clinicals); Soarian (RCM); Medent (combined) and paper
ECH	CPSI (combined)	GE

Need

As an organization that is focused on patient care across the Network regardless of care setting, it is imperative that the UVMHN moves towards a single EMR and RCM system with the functionality of a shared patient record across the Network. This will create a system in which patient information is accessible and shareable across the Network so that the best coordinated care is achieved. Implementation of a single EMR and RCM system for the Network directly supports the mission of the UVMHN to pursue high reliability, improve the patient experience, and increase clinical integration and efficiency within the Network. A single EMR and RCM system will allow the Network to develop a functional structure for disease management and clinical integration that is essential with the paradigm shift of healthcare payment models to value-based care. Revenue cycle management solutions that are fully integrated across ambulatory and acute care settings will allow the Network to capitalize on efficiencies and provide a better experience for our patients.

Rationale

A single EMR and RCM system can be supported by one team versus multiple teams supporting several different systems. Furthermore, the infrastructure needs of the numerous EMR and RCM systems will be collapsed into a single infrastructure investment.

The UVMHN Epic implementation of single clinical and financial system across the Network will allow for more integrated patient care – offering improved patient experience and care coordination. The main improvements will be in patient safety, patient care, disease management and clinical integration.

Patients will have a range of opportunities for self-service through the patient portal including the ability to self-schedule and check results, where appropriate. The solution from Epic will provide an integrated clinical and revenue cycle system across the Network providing a single patient chart (with appropriate security restrictions). Through these areas and others, the UVMHN Epic conversion will create an improved patient experience.

Population Health

As we move into an era of population health management and begin to see the effects of healthcare reform, a greater emphasis will be placed on patient care coordination and improved patient experiences. Moving to one patient, one chart within the Network is a critical component of population health management and more efficient regional care. Our evaluation of other integrated healthcare systems has shown that migration to a single platform EMR is the leading market trend. Using existing EMR's and connecting them via a Health Information Exchange (HIE) in order to extract outcomes has failed to yield consistent and substantive improvement in care at the patient or population level. As a result, even health systems that have made a substantial investment in an HIE are moving to a single-platform EMR.

Section 4: Operational and Human Resource Assessment

Changes to Overall Staffing, Locations and Staffing Models

The Epic Connect project is a large-scale implementation carefully laid out over the course of 39 months which will require sufficient resourcing in order to ensure its success. Some of this new staffing will be present for the implementation phase only, while others will be permanent internal hires who will stay on and continue to support the system in a maintenance role. These resources will be a mix of existing UVMHN employees who transition to the Epic Connect project, new internal hires, and external consultants.

The Epic modules being implemented as part of this project can effectively be separated into two buckets: those which are already live at UVMMC (primarily Inpatient and Ambulatory) and those which are not (RCM and Ancillary). Modules that are not currently live at UVMMC will be implemented first at UVMMC, and then rolled out to the affiliates (except in the case of Ambulatory RCM, which will go live at the same time for all sites). These net new modules will require a full-scale implementation effort at UVMMC that will involve building internal teams and knowledge from scratch as that skillset does not exist today. For this reason, the incremental permanent staffing associated with the new modules will be greater than that of existing applications as the foundation for long-term support needs to be built. This will be accomplished by hiring the majority of the internal staff needed for long-term support in the beginning to allow them to participate in the initial RCM and Ancillary implementation at UVMMC. These individuals will have the benefit of experiencing the full cycle of an implementation and will be in a great position to support UVMMC in the long-term, along with the affiliates once they are live.

The subsequent Connect implementations of RCM and Ancillary applications at the affiliates will be led primarily by external resources. The reasoning behind this model is that the core support team for these modules will have been constructed during the UVMMC implementation and they will be focused on maintenance and optimization projects, allowing the external resources (who also participated in the initial go-live) to continue deploying standard build to the affiliates without the need to hire additional internal staff who would not be necessary in the long-term model.

For the modules already live at UVMMC, there are teams in place currently with extensive knowledge of these areas. Because of this, staffing will be much more supplementary in nature. For example, there is already an Epic Ambulatory team currently working at UVMMC, so hiring and standing up a full-scale team will not be necessary. Rather, internal and external staffing should only be added to support the implementation needs of the affiliates along with any of their long-term support needs that the existing team would not be able to handle given their current bandwidth. Taking into account the existing capabilities that UVMMC has on their Epic team helps keep the long-term staffing model at an efficient level for all UVMHN organizations.

The staffing model utilized during the RCM and Ancillary implementation at UVMMC will closely resemble a "two-in-the-box" approach, in which an internal and external resource occupy a similar role in order to facilitate learning and knowledge transfer from the external team member to the internal staff. For example, during the 18 month UVMMC implementation there will be two team leads for the Cadence application, one of whom will be internal and the other external. The external team member will have prior experience with implementing the Cadence module and will be able to help guide the internal resource as well as impart previous lessons learned for a successful install, as well as prepare them to be the permanent Cadence team lead in the maintenance and optimization period. The external team lead will, in parallel, learn the culture and workflows of UVMMC and in order to use that knowledge moving forward in the affiliate deployments to produce a consistent result.

The incremental staffing needs of the project, both internal and external, broken out into additions and departures by year over five years, can be seen in below.

	Role	FY18	FY19	FY20	FY21	FY22
Incremental Epic Internal Additions	Project Director	0	0	0	0	0
	Project Management	4	0	0	0	0
	Team Lead	16	0	0	0	0
	Analyst	25	19	9	1	0
	Training	9	0	1	0	0
Incremental Epic Internal Departures	Project Director	0	0	0	0	0
	Project Management	0	0	-1	-1	0
	Team Lead	0	-1	0	-1	0
	Analyst	0	-5	-2	-7	0
	Training	0	-3	-1	0	0
	Incremental Epic Additions	**54**	**19**	**10**	**1**	**0**
	Incremental Epic Departures	**0**	**-9**	**-3**	**-9**	**0**
	Cumulative Epic Resources	**54**	**64**	**71**	**63**	**63**

		FY18	FY19	FY20	FY21	FY22
Incremental External Additions	Project Director	1	0	0	0	0
	Project Management	5	0	0	0	0
	Team Lead	16	2	1	0	0
	Analyst	9	4	1	0	0
	Training	2	13	1	7	0
Incremental External Departures	Project Director	0	0	0	-1	0
	Project Management	0	0	0	-5	0
	Team Lead	0	-1	-2	-16	0
	Analyst	0	-8	-1	-5	0
	Training	-1	-12	-2	-8	0
	Incremental Epic Additions	**33**	**19**	**3**	**7**	**0**
	Incremental Epic Departures	**-1**	**-21**	**-5**	**-35**	**0**
	Cumulative Epic Resources	**32**	**30**	**28**	**0**	**0**

	Role Area	FY18	FY19	FY20	FY21	FY22
Incremental Legacy Staffing Offsets	Management	0	0	1	0	0
	RCM	12	1	14	2	3
	Clinical	0	3	3	4	3
	Ancillary	9	0	11	1	2
	Training	5	0	5	0	1
	Tech	0	1	1	2	1
	Total Legacy Offsets by Year	**26**	**5**	**35**	**9**	**10**
	Cumulative Legacy Offsets	**26**	**31**	**66**	**75**	**85**

As outlined above, the number of internal positions created by this project is substantial and filling them will require coordination among the different UVMHN organizations. Each internal position will need to be filled either by an existing UVMHN employee who transfers from their current position or by a net new employee hired through human resources. In the case of an existing UVMHN employee, it is anticipated that many of these individuals will come from the teams that support the current IT systems that Epic will be replacing. The advantage of this approach is that these staff members will have the option to join the Epic team and attain certification prior to the sunset date of the application they currently support. In these cases, their role supporting the soon-to-be legacy system will need to be backfilled until the application is sunset.

In terms of the cost estimate for the Epic Connect project, all internal Epic positions were treated as incremental costs at full salary and benefit rates. As mentioned above, the reality is that some of these positions will be filled by

existing UVMHN employees who are already on the payroll. But since any staff member moving over to the Epic team will need to have their former position backfilled until it is ready to be sunset, the overall cost impact will be such that the only new cost to the organization will be that of the Epic position. In addition, there are staffing cost offsets that can be applied once a legacy system or set of legacy systems is sunset and the corresponding analyst role is no longer required for continued business operations. It was assumed that clinical, ancillary and non-A/R related RCM systems can be sunset six months post go-live and A/R related RCM systems can be sunset twelve months post go-live. The offset applied is such that legacy system staffing was reduced 50% during the Epic implementation and legacy system wind down period, due to new projects not being taken on and the staff focusing only on required system maintenance. The full offset was then applied at the appropriate sunset time period based off the method described above.

Long-Term Support Model

All internal resources will be a part of at least one implementation project prior to moving to an operations role for long-term support. The post-live resourcing chart in Appendix B shows how the numbers of internal resources moving to operations will increase over time. It can be seen that there are spikes of individuals being added to this pool of resources at months 9, 19, 31 and 40. These months correspond to the various go-lives across the Network, and show how internal staff will work on an implementation effort up until go-live and then move to a long-term role that falls under operations. From month 40 on, the number of operational staff associated with the Epic Connect project remains constant at 63.

For long-term maintenance of the system, UVMHN will review a number of staffing models prior to the Epic Connect implementation around IT support services for the network. This will include but is not limited to a centralized IT staffing model, as well as maintaining IT support services at their current locations, etc. Decisions around which staffing model will be made with senior leadership across the network.

Implementation Roles

The Epic Connect project will require the coordination of many different resources across a wide variety of roles and skillsets. The roles included in the cost estimate for this project are based on experiences and best practices as seen by Epic and third-party consulting firms across many different types of implementation efforts. The specific roles included over the course of the 39 month implementation phase are Project Director, Project Managers, Team Lead, Analyst and Administrative Support/Coordination. See below for a brief description of each of these roles:

- Project Director – a full-time project leader overseeing all aspects of the project, including, but not limited to: project budget, timeline, scope, issues, risks, mitigation strategies and ensuring the project's adherence to UVMHN's program goals
- Project Manager – full-time individuals (one each for RCM, Ancillary, Clinical and Testing) responsible for their work plans and team's performance; they will produce a written status report to be presented every two weeks to Program Leadership providing progress on major activities and milestones, issues and upcoming work
- Team Lead – a full-time module-specific leader responsible for managing the day-to-day activities of analysts, ensuring stakeholder input is incorporated into the build and workflows of their application and working closely with their respective Project Manager to identify and mitigate issues
- Analyst – full-time resources, specific to each module, responsible for analyzing, building and testing the system for their area
- Administrative Support/Coordination – a full-time resource assisting with the scheduling of large project-related events and meetings, tracking and coordinating module certifications along with other administrative tasks

Training Resources and Super Users

The staffing plan numbers outlined also include the resources necessary to design lesson plans and train end users in a classroom environment. Each module will have a corresponding Instructional Designer (ID) who will work closely alongside the application build team. The ID will be certified in their Epic application and will work closely with operational stakeholders to have an intimate understanding of workflows and will use this knowledge to design lesson plans for their module that clearly convey appropriate and efficient use of the system to end users.

Since there will be only a single ID allocated to each application team, this person will not be able to conduct all training sessions themselves. To assist with this, the project will employ the use of Credentialed Trainers (CT's). These individuals will join the project close to go-live and will be responsible for mastering the lesson plans created by the ID's and undergoing a credentialing process prior to teaching the end users the material during classroom training sessions. The number of CT's allocated to each application is dependent upon the number of end users and training sessions that are anticipated as being needed for that application.

The final category of staff that will participate directly in the Epic Connect project is a special group of end users known as Super Users. Super Users undergo an additional level of training beyond that of a typical end users, which will allow them to assist with answering questions during regular end user training sessions and also provide crucial elbow support during go-live. Super Users are existing UVMHN employees who are already familiar with the culture and workflows of the organization but will not become permanent resources on the Epic team; rather they assist with training and support for approximately two weeks at go-live. The costs associated with Super Users' time have been built into the cost model and the table below shows the number of resources required for each go-live. As shown in the table, Super Users are required only for Clinical and Ancillary go-live activities.

Month	Associated Go-live(s)	Total Super Users
9	CVPH Ambulatory Clinical	63
19	UVMMC Ancillary	164
	CVMC Ambulatory Clinical	
	ECH Ambulatory Clinical	
31	CVMC IP/Ancillary	104
	ECH IP/Ancillary	
40	CVPH IP/Ancillary	263

Human Resources

The Network expansion of Epic EMR and revenue cycle solutions will pose significant challenges in terms of resource management and Network staff integration. We will face several new change initiatives that will require multi-disciplinary teams, led by the Network HR Council, charged with creating new policies, developing Network change management practices, navigating legal, union, and labor relations policy and law, and charting new territory in staff relocations.

To meet these challenges, Human Resources will require complete integration into the implementation planning process and be informed early in the timeline in order to effectively support the organization's mission. A heavy emphasis will need to be placed on Information Technology union contracts, relocation requirements and a Network-wide change management policy which will need to be developed prior to any resource changes taking place.

Facilities Plan

The planning team worked with facility leaders from all entities to analyze the space needs and review the required resources and costs necessary to accommodate these needs. The space needs were broken down into two parts:

Training Space

Training space is needed for clinical staff prior to Epic "go-live". This space will be used to train staff on the use of the Epic software specific to their work duties. Having dedicated training space located at each facility will be necessary. An ambulatory training schedule and an inpatient training schedule will not overlap; therefore rooms will not need to be dedicated for each. Training space estimates where completed for each site and are as follows:

	Training Room Projected Need (# of Rooms*)		
Location	Ambulatory Need	Inpatient Need	Max Total Need
UVMMC	1	3.2	4
CVPH	2.4	3.2	4
CVMC	3.4	1.7	4
ECH	0.5	0.5	1

* Assumes minimum of 10 seats per room

Training space will need to be built, expanded or leased at CVMC and CVPH to accommodate the projected need. Facilities personnel from both sites provided cost estimates for these projects which has been included in the Financial Analysis and total incremental capital and operating costs for this project. The costs are as follows:

	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	TOTAL
CVMC Operating	$ -	$ 122,400	$ 122,400	$ -	$ -	$ 244,800
CVPH Operating	$ 45,000	$ 45,000	$ 45,000	$ -	$ -	$ 135,000
CVMC Capital	$ -	$ 35,480	$ -	$ -	$ -	$ 35,480
CVPH Capital	$ 80,000	$ -	$ -	$ -	$ -	$ 80,000
10% Contingency	$ 12,500	$ 20,288	$ 16,740	$ -	$ -	$ 49,528
TOTAL	$ 137,500	$ 223,168	$ 184,140	$ -	$ -	***$ 544,808***

IT Implementation Space

The second part of the facility needs was identified as space needed for an expanded Epic implementation team required to execute the Epic conversion. As part of the TCO a complete resources assessment was completed. This assessment identified the need to onboard both internal and external staffing. To accommodate the current Epic staff and these additional FTE's, it was estimated that we will need 30,000 SQFT of office space. The space for this has been identified and will be made available at the UVMMC I.S. and administrative office building (I.e. Business Center). The cost of which is an overhead operating cost which will be incurred with or without this initiative.

Section 6: Information Technology Review

Overview of IT requirements and Plans

With the implementation of the Epic system, UVMHN must review IT requirements and plans in order to be prepared Network wide. The topics discussed in the paragraphs below walk through what is needed for UVMHN to be technically ready for an Epic Connect implementation.

Resources

IT resources will play a key role in the implementation – coordinating interfaces, data conversions and infrastructure (servers and end-user devices). IT resources will work alongside operational and clinical staff on the core project teams in addition to their leadership role in coordinating technical aspects of the implementation. IT leaders will participate in clinical and operational advisory groups, the Steering Committee and the core team. They will support project timelines and milestones and will coordinate the delivery of key components of the project such as interfaces, data conversions and infrastructure.

Interfaces

Once the project is underway, a detailed interface scope document, depicting the breadth of interfaces, inclusive of ADT, orders, results, billing and coding, and charge capture will be created by the project team. The scope will include the creation of the necessary interfaces to existing legacy systems that are a critical part of the business workflow and cannot be incorporated within the new Epic system. It will also include net new interfaces to additional ancillary systems for clinical purposes and for data repository purposes.

Infrastructure

UVMHN Information Technology will oversee the deployment of servers, PCs, printers, peripheral devices and Networking to support Epic requirements. This includes a view of the physical components (Network, servers, etc.) that make up the Epic System. Once the project is in progress, a detailed list of all technical components necessary for the Epic Connect implementation will be created by the information technology team.

Network Connectivity

Network Connectivity is an important step forward towards UVMHN's vision to connect affiliates across the Network, in Vermont and New York. A significant investment in Network connectivity has already been made for other IT projects initiated across the Network in the past year. The Epic Connect conversion will require Network connectivity across the affiliates, and will use infrastructure previously set in place in addition to net new Network connectivity, pertinent to the Epic Connect implementation.

Data Conversion

Additionally, UVMHN Information Technology will oversee data conversion. Data conversion consists of moving patient data from legacy systems to Epic and is a complex aspect of a system migration. A decision-making body comprised of clinical, revenue cycle, leadership, and IT members have come together to put a plan in place for this process. The goal of data conversion is to convert data to Epic in a way that is meaningful and is useful future state. When determining what data to include in UVMHN's data conversion, UVMHN will prioritize exactly what data to convert based on what end-users will need access to the first day the Epic system is live and thereafter. Different methods have been vetted to determine the amount of storage necessary to host the converted data in the production and test systems. The data conversion decision making body will look at the following items when determining which approach to take when making a decision:

- What data is necessary for Epic end users at cutover to Epic and after
- Impact on the personnel and hardware needed for conversion
- Scope timing

3rd Party Vendors

While Epic software will replace the approximately half of UVMHN's existing systems, some of the systems used today will still be necessary post the cutover to Epic. UVMHN's vision is to standardize these 3rd party vendors across the Network as much as possible. This is a priority of the organization to realize savings and meet system requirements. In order to ensure the appropriate 3rd party vendors are selected, Epic will provide a list of approved 3rd-party vendors for functions not provided by Epic (e.g., clearinghouse, appointment reminders, patient education, etc.). This will also help the organization determine what additional systems will be needed that Epic functionality does not provide. The planning and implementation team will facilitate a review of existing vendors and selection of the preferred product for each category. Operations will work with IS to determine whether it makes sense to standardize any 3rd parties prior to the Epic go-live.

Legacy Systems

With the Epic Connect implementation comes the sunsetting of legacy systems currently being used across the Network. The Business Planning team reviewed all systems currently being used at UVMMC and affiliate hospitals, and cross-walked them to their counterpart provided by Epic. This mapping is included in APPENDIX G. Through this process, it was determined that approximately half of the systems currently used will be sunsetted over the course of the implementation, and half will remain active. These systems will be sunsetted at different times, depending on a few variables. They are below:

- Phase of the implementation
    - System will be sunsetted based on timeline for cutover to Epic
- If legacy data will be converted to Epic or move to data warehouse
    - Where data will move could influence when the legacy system is sunsetted

Section 7: Communication Strategy

As we get ready to implement the plan, Marketing and Communications will be actively engaged throughout the process. A comprehensive communications plan will be created for engaging internal, external and Green Mountain Care Board stakeholders. This plan will include carefully crafted key messages and audience-specific tactics that emphasize a Network-wide electronic medical record is a necessary and prudent investment that will greatly enhance our ability to take care of the populations we serve.

There are several areas where it will be beneficial to engage patients. In the clinical environment, while patients do not use the electronic medical record, they are present while providers and other members of their care team are reading notes or inputting data into the EMR. For some patients, as well as care providers, the use of an EMR can be a barrier to optimal face-to-face interaction. Special consideration can be paid to include patients in training sessions to make sure that not only do the systems work from a technical standpoint, but from a patient service standpoint as well.

Several Network hospitals have patient experience or patient-and-family-centered-care committees. Those committees can help provide guidance and resources to ensure that the voice of patients is appropriately represented on work team and project committees.

It will be important to engage patients heavily in the design of new or enhanced patient portal features and functionality that are enabled by the Network EMR. This engagement can include interface usability testing as well as qualitative & quantitative user research that guides the design and development of the patient portal. Communications and tools to help patients transition from a legacy system to an Epic MyChart-based system will be important to create a positive user experience as well as provide continuity in hitting Meaningful Use metrics.

MyChart

The UVM Medical Center already uses Epic's MyChart to present patients with clinically related information in MyHealth Online. However, scheduling, insurance and billing information is currently handled within GE, not Epic. Today insurance and billing information is presented to patients in MyHealth Online via GE's Patient Online patient portal product.

With the roll out of Epic Connect, the medical center will move this information to Epic and will solely use Epic's MyChart for its patient portal. This has several advantages:

- MyHealth Online will be easier to use for patients because all information will be presented in one cohesive place instead of in separate systems.
- Services such as Radiology that leverage GE clinical systems will move to Epic which will make more information available to patients in the portal.
- Processes will be streamlined behind the scenes, reducing the need to constantly exchange data between Epic and GE. This will save staff time and reduce IT complexity.
- Integration of the business and clinical systems will allow patients such features as real time self-scheduling, self-check in for appointments and real time copay for visits.

At the other Network hospitals, MyChart would become the primary patient health portal for all patients, replacing any systems currently in use.

Where it is technically feasible and applicable, the EMR should conform to the UVM Health Network's Brand Standards. Brand Standards include the Network's color system, fonts, and typographic style, usage of abbreviations, imagery & photography guidelines and print specifications.

Incremental Marketing Costs: It is estimated that the execution of the communication and engagement tactics will cost $80K. The costs estimated for facilitating and optimizing the transition for patients across our Network coverage area for MyHealth online are $175K.

Total Incremental Marketing Costs: $255K

Section 8: Legal/Regulatory Review

CON Required **Y** **N**

Legal will work with the appropriate parties to ensure compliance with Federal, New York, and Vermont privacy laws. Patient consent forms will need to be updated across the Network. While the Health Insurance Portability and Accountability Act (HIPAA) allows the use and disclosure of Protected Health Information (PHI) without consent for treatment purposes, NY State law is more restrictive. In NY, a patient must consent to a disclosure of PHI for treatment purposes. Policies and Procedures and the Notices of Privacy Practices at each Network hospital will need to be updated to reflect the sharing of PHI across the Network for treatment (and possible, payment and operations). The Network will need to evaluate whether or not its affiliates should become an Organized Health Care Arrangement or an Affiliated Covered Entity for the purposes of facilitating the sharing of PHI. This may have an impact on the procedures for each hospital's accounting of disclosures and OCR reporting requirements.

It is imperative that standards for role-based access, monitoring of access and corrective action be consistent throughout the Network. Any document retention requirements for legacy/paper data (if any hospitals have paper) should be reviewed by legal. Additionally, UVMHN will need to consider whether to centralize Health Information Management (HIM) function across the Network to ensure consistency.

Section 9: Financial Feasibility

A comprehensive financial analysis was performed, involving staff from all entities, over a 12 month period. Current operating expenses and staffing was analyzed and combined with projected future expenses to create a total cost of ownership and incremental pro forma to convert all entities to Epic. A major component of the financial analysis consisted of projected staffing needs during implementation. The details of these staff resource requirements are available in the operations section of this business plan. An important aspect of the staffing analysis is that it includes both new positions added to help implement and ultimately maintain Epic as well as legacy system positions that will go away once the system no longer needs support. Additionally, details regarding facility needs, including costs, are broken down in the Facilities section of this plan. Both of which are included in this financial analysis.

The total cost of this initiative, all being incremental, is projected to be $151.2M over 5 years. Of that amount the 5 year capital cost with contingency is $108.3M. The current 5 year Network financial framework models a capital cost of $111 million for the Epic project. Since our 5 year framework was approved by the Board and meets our objective of maintaining financial metrics of A- rated entities, assuming the network operating margin performance of 3.5%, the capital expenditure for this project is already accounted for in our current 5 year capital plan and is affordable. As the Network grows, we will evaluate the feasibility and affordability of deploying Epic Connect to new partners as they join the Network and we would seek regulatory approval as needed.

Ultimately, we, as a Health Network, need to achieve a 3.5% operating margin to support the total capital spend in the current 5 year capital plan. To that end, the incremental operating costs associated with this initiative will need to be evaluated and incorporated into the overall operating budget while ensuring we maintain the 3.5% margin target. If the network margin falls below 3.5%, we will need to revisit the total capital spend amount for all capital projects in the 5 year capital plan and either reduce total spend, reprioritize projects, or delay projects start dates to make certain our operating performance can support the capital spend and still maintain A rating performance standards. It is important to note that by the conclusion of implementation and at the end of the 10 year TCO, the organization would experience an incremental reduction in operating expense annually driven by the fact that we will require 22 less FTE's for ongoing support of the Epic system than we did supporting the legacy systems and the operating costs of the legacy systems will be eliminated.

A cash flow analysis was performed to determine the net present value (NPV) over a 10 year implementation and optimization period. As there is no revenue generated from this investment, the NPV shows a loss of $116M over the 10 years, with a positive cash flow after year 5 due to the reduction in operating expenses driven by eliminated legacy system costs and an incremental reduction in positions.

Assisted by PwC, a review of expenses was performed to determine capital versus operating which resulted in a breakdown of $108.3M in capital and $42.8M in operating, both over a 5 year implementation period. These figures do not include any annual depreciation of this project, which is included in the Pro Forma below.

Capital and Acquisition Schedeule

Capital	Project Total
Software	$ 16,942,346
Hardware	$ 16,306,139
Internal Resources	$ 11,796,868
External Resources	$ 53,084,899
Contingency	$ 9,850,073
Other	$ 370,480
Total	**$ 108,350,805**

Acquisition Schedule

	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Software	$ -	$ 6,583,172	$ 4,297,367	$ 6,061,808	$ -	$ -	**$ 16,942,346**
Hardware	$ -	$ 7,713,160	$ 4,761,756	$ 3,747,890	$ 83,333	$ -	**$ 16,306,139**
Internal Resources	$ -	$ 4,830,049	$ 3,608,386	$ 2,767,777	$ 590,655	$ -	**$ 11,796,868**
External Resources	$ 1,458,180	$ 19,678,594	$ 15,316,573	$ 12,581,325	$ 4,050,227	$ -	**$ 53,084,899**
Contingency	$ 145,818	$ 3,913,998	$ 2,801,956	$ 2,515,880	$ 472,422	$ -	**$ 9,850,073**
Other	$ -	$ 335,000	$ 35,480	$ -	$ -	$ -	**$ 370,480**
Total	**$ 1,603,998**	**$ 43,053,973**	**$ 30,821,518**	**$ 27,674,679**	**$ 5,196,637**	$ -	**$ 108,350,805**

Incremental ProForma of Operations - Years 0-5

	FY17	FY18	FY19	FY20	FY21	FY22
Direct Expenses						
Internal Salaries and Benefits	$ -	$ 1,207,708	$ 3,344,749	$ 5,800,043	$ 8,507,258	$ 7,719,765
External Implementation Staffing	$ -	$ 440,650	$ 1,038,675	$ 818,350	$ 535,075	$ -
Software	$ -	$ 64,790	$ 1,133,210	$ 2,348,984	$ 3,403,679	$ 3,781,218
Hardware	$ -	$ 1,386,000	$ 1,454,000	$ 1,472,900	$ 1,492,745	$ 1,513,582
Network Related Technology Costs	$ -	$ 5,652,060	$ 5,449,186	$ 4,976,629	$ 5,513,847	$ 5,770,810
Staffing Offsets	$ -	$ (2,943,311)	$ (3,146,513)	$ (5,653,331)	$ (8,349,263)	$ (9,986,680)
Legacy System Offsets	$ -	$ -	$ (92,787)	$ (1,956,071)	$ (3,825,902)	$ (5,890,410)
Depreciation and Write-Offs	$ -	$ 320,800	$ 8,931,594	$ 15,115,221	$ 20,630,834	$ 21,670,161
Other	$ -	$ 325,738	$ 652,904	$ 1,163,800	$ 11,250	$ -
Contingency	$ -	$ 907,695	$ 1,307,272	$ 1,658,071	$ 1,946,385	$ 1,878,537
Total Direct Expenses	**$ -**	**$ 7,362,128**	**$ 20,072,291**	**$ 25,744,594**	**$ 29,865,906**	**$ 26,456,983**
Contribution	**$ -**	**$ (7,362,128)**	**$ (20,072,291)**	**$ (25,744,594)**	**$ (29,865,906)**	**$ (26,456,983)**

Years 0-5 Total Excluding Depreciation	**$ 42,833,294**
Years 0-5 Total	$ 109,501,903

Incremental ProForma of Operations - Years 6-10

Direct Expenses	FY23	FY24	FY25	FY26	FY27
Internal Salaries and Benefits	$ 7,874,160	$ 8,031,644	$ 8,192,276	$ 8,356,122	$ 8,523,244
External Implementation Staffing	$ -	$ -	$ -	$ -	$ -
Software	$ 3,911,637	$ 4,046,621	$ 4,186,330	$ 4,330,928	$ 4,480,587
Hardware	$ 1,535,461	$ 1,558,434	$ 1,582,556	$ 1,607,884	$ 1,634,478
Network Related Technology Costs	$ -	$ -	$ -	$ -	$ -
Staffing Offsets	$ (10,498,880)	$ (10,708,858)	$ (10,923,035)	$ (11,141,496)	$ (11,364,326)
Legacy System Offsets	$ (6,476,089)	$ (6,974,445)	$ (7,213,246)	$ (7,460,669)	$ (7,717,044)
Depreciation and Write-Offs	$ 21,349,361	$ 12,738,567	$ 6,574,263	$ 1,039,327	$ -
Other	$ -	$ -	$ -	$ -	$ -
Contingency	$ -	$ -	$ -	$ -	$ -
Total Direct Expenses	**$ 17,695,651**	**$ 8,691,963**	**$ 2,399,144**	**$ (3,267,904)**	**$ (4,443,060)**
Contribution	**$ (17,695,651)**	**$ (8,691,963)**	**$ (2,399,144)**	**$ 3,267,904**	**$ 4,443,060**

Years 6-10 Total Excluding Depreciation	**$ (20,625,725)**
Years 6-10 Total	$ 21,075,794

Cost Allocation

The Network Finance Council reviewed numerous recommendations regarding how to allocate the costs of this implementation by entity and ultimately decided to use volume to allocate cost.

The below cost allocation figures are based on annual Inpatient Admissions, Inpatient Days, ED Visits and Ambulatory Clinic Visits for illustrative purposes. It is important to note that the cost allocation breakdown as described below **is not a chargeback structure** or a model for developing a cost transfer from Network entities to cover the cost of the conversion.

Location	Cost	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
UVMMC	Capital	$ 1,067,141	$ 31,655,250	$ 20,382,068	$ 14,668,783	$ 2,681,512	$ -	$ 70,454,753
	Operating	$ -	$ 5,250,300	$ 7,820,210	$ 7,070,809	$ 6,071,782	$ 2,898,873	$ 29,111,974
	Total	$ 1,067,141	$ 36,905,550	$ 28,202,277	$ 21,739,592	$ 8,753,294	$ 2,898,873	$ 99,566,727
CVPH	Capital	$ 320,615	$ 7,963,113	$ 4,367,235	$ 9,886,261	$ 1,781,006	$ -	$ 24,318,230
	Operating	$ -	$ 1,588,360	$ 2,247,072	$ 1,877,119	$ 2,398,364	$ 1,751,549	$ 9,862,465
	Total	$ 320,615	$ 9,551,473	$ 6,614,307	$ 11,763,380	$ 4,179,370	$ 1,751,549	$ 34,180,695
CVMC	Capital	$ 183,667	$ 4,643,065	$ 4,267,343	$ 2,321,512	$ 461,518	$ -	$ 11,877,105
	Operating	$ -	$ 903,635	$ 1,301,871	$ 1,293,453	$ 1,297,778	$ 760,531	$ 5,557,269
	Total	$ 183,667	$ 5,546,700	$ 5,569,214	$ 3,614,965	$ 1,759,296	$ 760,531	$ 17,434,374
ECH	Capital	$ 32,575	$ 1,068,966	$ 1,098,855	$ 377,324	$ 81,855	$ -	$ 2,659,576
	Operating	$ -	$ 160,269	$ 249,412	$ 303,876	$ 344,664	$ 253,385	$ 1,311,606
	Total	$ 32,575	$ 1,229,236	$ 1,348,267	$ 681,200	$ 426,519	$ 253,385	$ 3,971,182
TOTAL	**Capital**	$ 1,603,998	$ 45,330,394	$ 30,115,501	$ 27,253,880	$ 5,005,891	$ -	$ 109,309,664
	Operating	$ -	$ 7,902,565	$ 11,618,565	$ 10,545,257	$ 10,112,589	$ 5,664,338	$ 45,843,314
	Total	**$ 1,603,998**	**$ 53,232,959**	**$ 41,734,067**	**$ 37,799,137**	**$ 15,118,479**	**$ 5,664,338**	**$ 155,152,978**

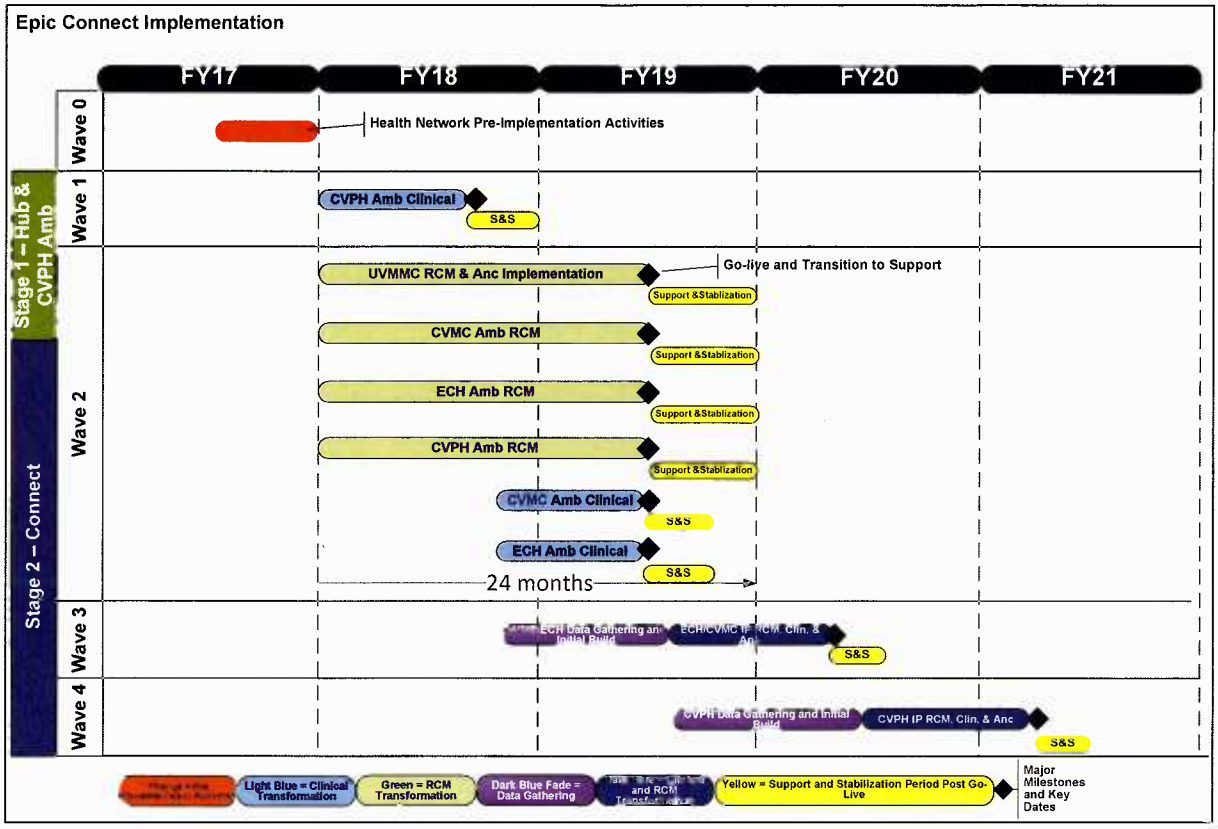
Section 10: Quality and Success Measures

The Network's overarching goal is to complete the Epic Connect implementation on-time and on-budget. A detailed project plan will be developed and monitored closely by project leaders in order to ensure the implementation stays on-time. The approved project budget will also be tracked diligently and steps will be taken to make sure that any risks to these areas are mitigated in a timely manner.

The UVMHN already collectively measures Meaningful Use and we do not anticipate significant changes in our outcomes for this project.

Section 11: Implementation Timeline and Key Milestones

Implementation Timeline

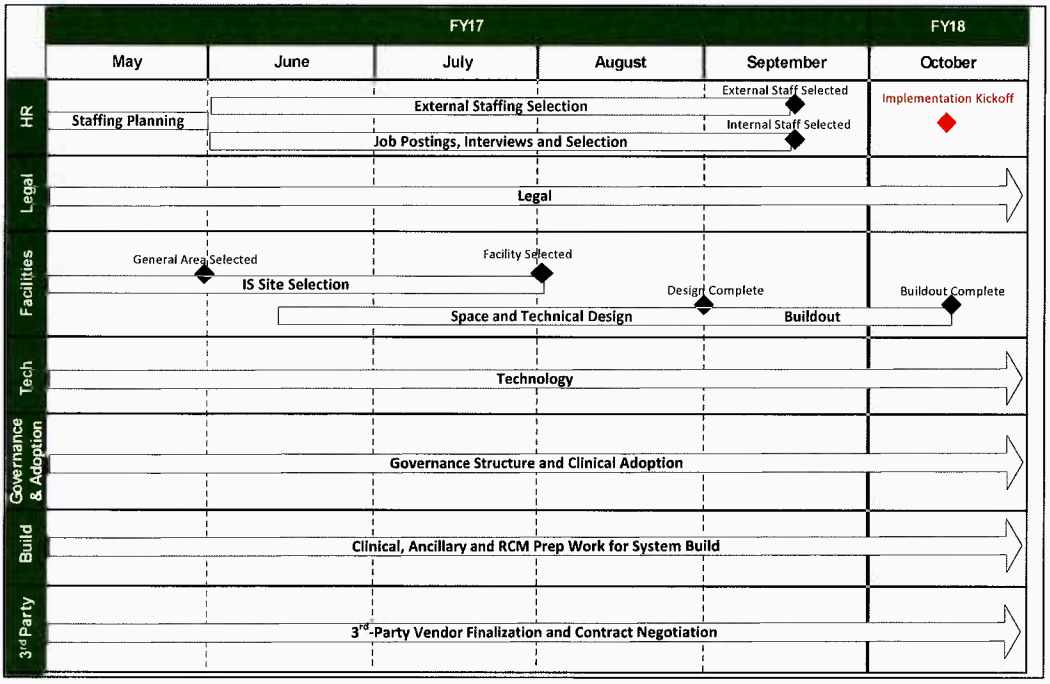


As described earlier, the Network conversion outlined in the business plan will involve the implementation of Epic's RCM and ancillary modules at UVMMC, along with leveraging Epic's Connect model to deploy Inpatient and Ambulatory clinical, RCM and ancillary modules at each of the affiliate sites. These implementations are targeted to occur through four different waves over a 39 month period. The high-level Gantt chart depiction of these waves can be seen above.

The overall timeline for implementation, as well as the length of each wave, was heavily vetted with Epic and a 3rd party consulting firm. The timing of each deployment was based off what other Epic clients have experienced, along with the commitment of UVMHN to highly standardize the build across the Network using experienced resources throughout the project. The table below shows a breakdown of each wave and the durations associated with each. It should be noted that, while the durations of the affiliate implementations reflect the dedicated time to each site, there will be data gathering and initial build tasks for each that will occur prior to their official start date. These activities are reflected in the above Gantt timeline.

Wave	Location(s)	Modules	Duration
0	All	N/A – Pre-Implementation Activities	5 months
1	CVPH	Ambulatory Clinical	8 months
2	UVMMC	RCM and Ancillary	18 months
2	CVPH, CVMC, and ECH	Ambulatory RCM	18 months
2	CVMC and ECH	Ambulatory Clinical	8 months
3	CVMC and ECH	RCM, IP Clinical, and Ancillary	9 months
4	CVPH	RCM, IP Clinical, and Ancillary	9 months

Prior to kicking off the project in Wave 1, there will be a set of activities performed during Wave 0 that will help prepare the Network for implementation and will be crucial to the project's success. The work streams and areas involved with these pre-implementation activities include human resources, legal, facilities, technology, governance structure development, clinical adoption, clinical/RCM/ancillary preparation for system build, and 3rd party contracting. For example, coordination with HR will be required in order to finalize the internal staffing approach, post job descriptions and evaluate and hire internal candidates. A full Gantt chart of these activities is depicted below.



The deployment sequencing outlined above is beneficial to both UVMHN and its patients. A priority of CVPH has been to convert their Ambulatory clinicals to Epic from an aging system in order to benefit providers and patients alike. Staging this implementation in Wave 1 allows for this conversion to occur while introducing little risk to the rest of the rollouts across the Network. In addition, the alignment of CVMC and ECH's Ambulatory clinical go-lives with that of their Ambulatory RCM Epic conversion will alleviate the need to develop costly and cumbersome temporary interfaces and workflows at those locations, which would be required if the clinical and RCM go-lives were to be separated.

All of the deployments shown above will follow the Epic Connect approach except for the UVMMC RCM/Ancillary implementation. In the Epic Connect approach, the hub organization, in this case UVMMC, is already live on the module(s) being implemented and the affiliate is using the same system design and build to stand up the modules at their own site through an expedited implementation effort. This approach has the advantage of keeping costs down for the affiliates while allowing their patients to benefit from the tried-and-true system methodologies of UVMMC.

The 18 month implementation occurring at UVMMC for RCM and ancillary modules will not follow the Epic Connect approach as this will be a conversion from existing systems involving Epic applications that have not been previously implemented within the UVMHN Network. This deployment will be treated similarly to how other Epic module installations have occurred at UVMMC in that a full design process will take place, decisions will be made regarding workflows and functionality, and net new system build will occur. Epic will also be heavily involved in the entire implementation process versus the UVMHN-led approach that will occur with the Connect sites. For all of these reasons, the UVMMC RCM and ancillary implementation will take significantly longer to complete than the other deployments and the timeline has been created to reflect this need.

As part of each organization's implementation effort, there will be multiple phases which need to be managed closely in order to set each site up for a successful go-live: Planning and Design, System Build, Testing, and End User Training. The detailed breakdown of the overall implementation Gantt into these phases can be seen in Appendix C. It should be noted that the duration of many of these phases shortens over time as each site is brought live. The reasoning for this is that, as UVMHN gains more experience with implementing the Epic modules across the Network, the time dedicated to activities such as design and build can be reduced since previous work is heavily leveraged and the implementation team is more efficient. In contrast, phases such as training cannot be significantly reduced in duration over time since the work effort involved is largely a function of the number of end users within the corresponding organization.

Key Milestones

In coordination with Epic, UVMHN will develop a master project plan which tracks overall project milestones, site-specific milestones and operational activities required to support a successful go-live at each facility. The UVMHN project team will monitor the plan closely and will advise of issues preventing successful completion of activities and milestones. They will use these tools as a mechanism to report status to the Steering Committee and will work with site-specific operational contacts and readiness resources to provide them specific activities that are required to prepare for go-live.

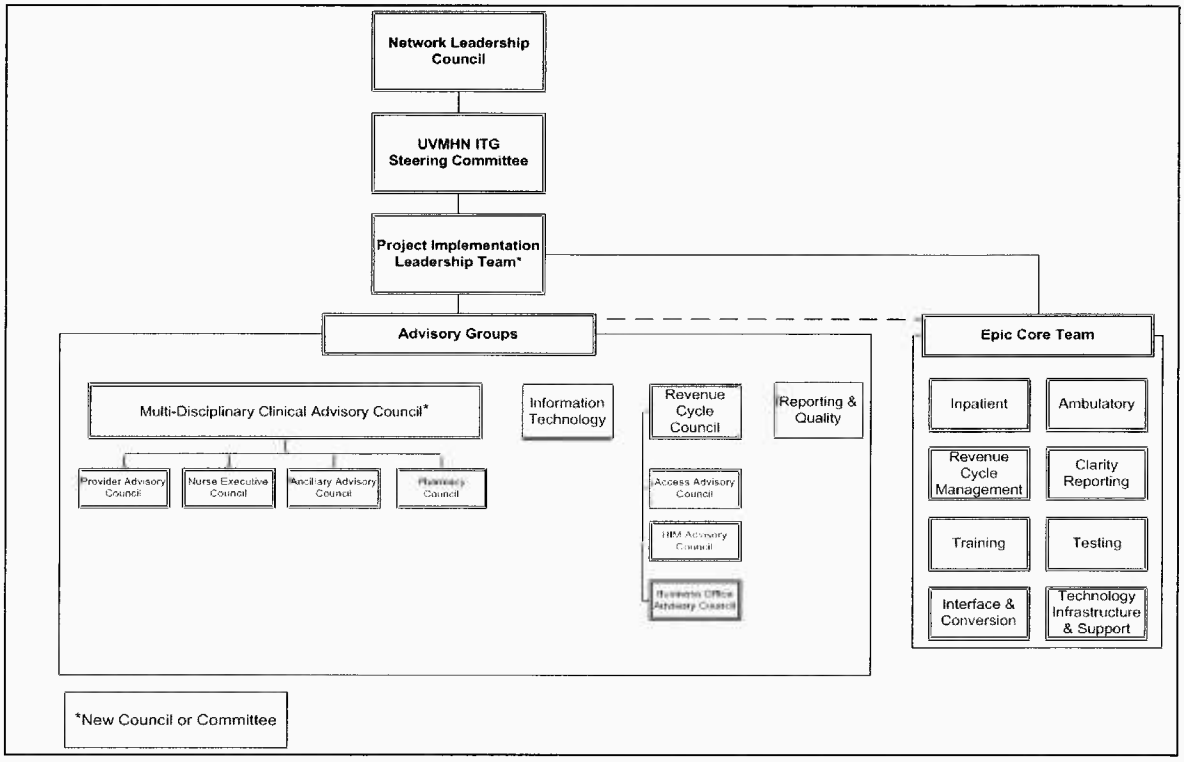
The specific milestones for the project, along with the associated dates, will be developed once a CON has been approved and the project kickoff date is defined. Typical major milestones associated with a project of this nature include items such as Scope Defined, Go-live Dates Confirmed, Workflow Validation Complete, and End User Training Scheduled.

Project Governance

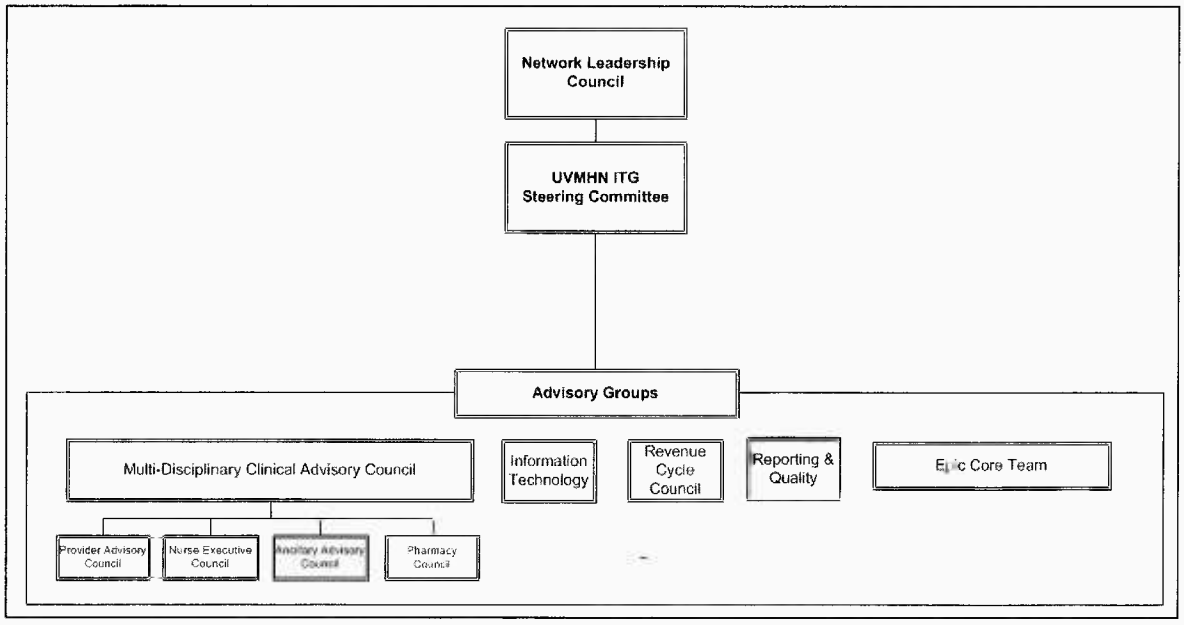
The Epic Connect project will be overseen by the UVMHN IT Governance Steering Committee consisting of members of senior executive and clinical leadership within UVMHN. This committee, which will report progress to Network Leadership Council, will have ultimate authority and responsibility for the project, and will address all major decisions related to the business plan (i.e. scope, approach and risks). In addition to its responsibilities to the Steering Committee, the project team will have advisory and reporting relationships with a number of entities as defined in the organization chart below. The project team will report to these groups on a routine basis to ensure consistent two-way communication as the program progresses. This governance process will commence immediately after Epic Connect has been kicked off and will be in effect throughout the entire project.

A graphical illustration of the governance organization described above is shown in the chart below. A scaled-down version of the same structure will be used after the implementation is complete in order to ensure successful submission, review and tracking of optimization projects. This organizational structure can be seen below as well.

Epic Implementation Governance Structure



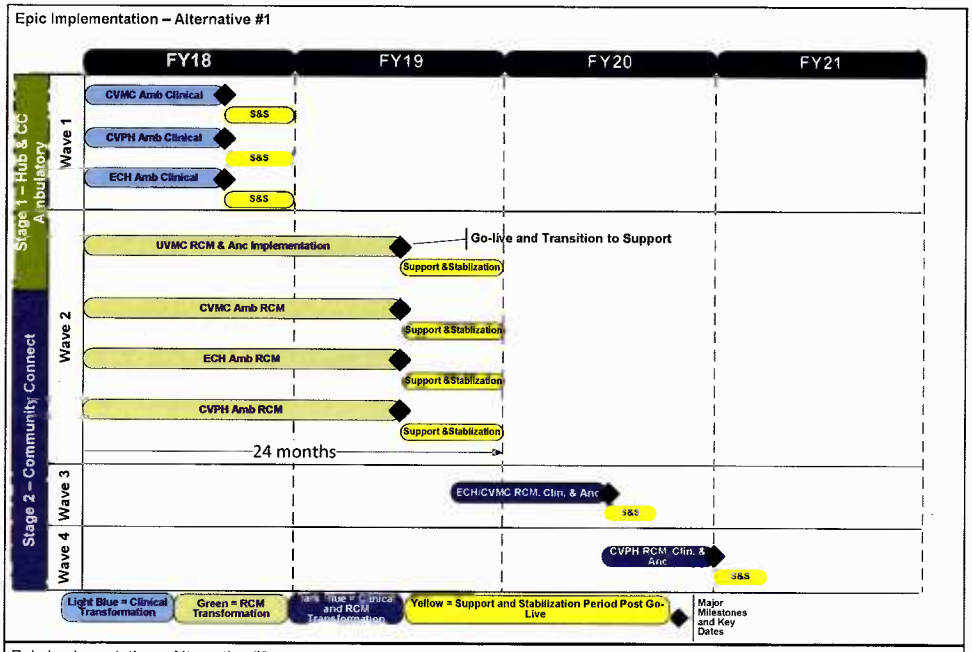
Epic Optimization Governance Structure

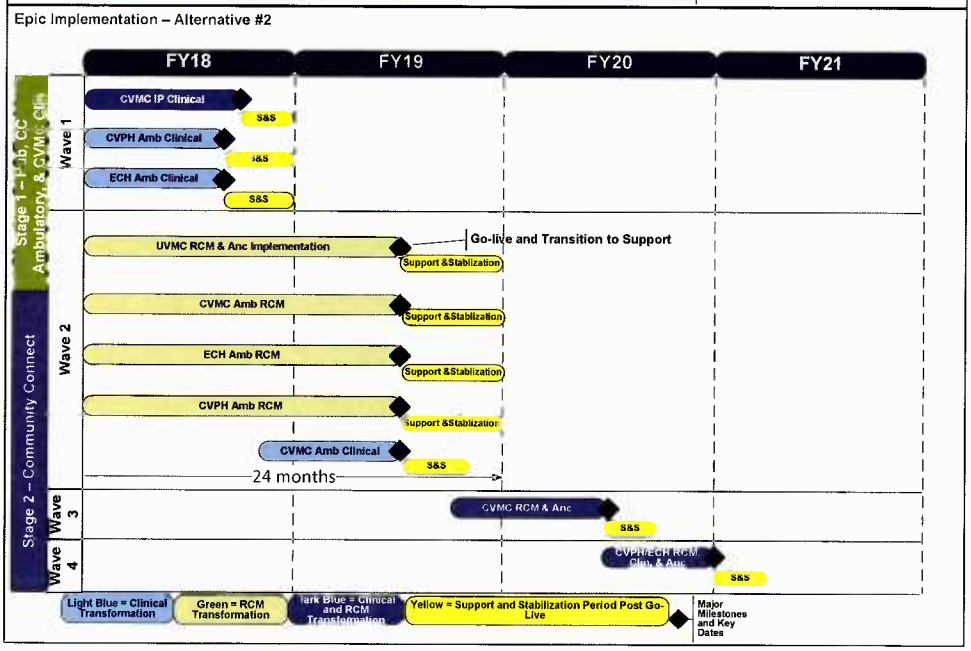


Section 12: Alternatives and Risk Discussion

Review of Alternatives

UVMHN has undergone much investigation to understand system integration needs, cost and timelines. The model outlined in Section 11 was ultimately chosen for its financial feasibility, benefit to patients, and relatively low-risk impact to each UVMHN organization. However, as with any major initiative, multiple options were considered and reviewed intensely before making this decision. The Gantt Charts below show the deployment timelines for the two additional options which were considered in the decision-making process.





The first alternative considered centered around an efficient staffing model that allowed Ambulatory clinicals be deployed to all affiliate sites first, followed by the RCM and Ancillary implementation at UVMMC along with Ambulatory RCM at all sites. It then finished with Epic Connect implementations at CVMC, ECH and CVPH. While the grouping of Ambulatory clinical implementations allowed for those resources to be used most effectively, this benefit was outweighed by the challenges associated with temporary interfaces needing to be developed and deployed at those practices to bridge the gap between the clinical and RCM go-lives. These interfaces would have necessitated additional costs and testing, as well as introduced a level of risk that could have resulted in negative impacts to the subsequent deployments.

The second alternative considered was aimed at meeting the most immediate needs for the affiliates, namely bringing CVPH live on Ambulatory clinicals and CVMC live on Inpatient clinicals. In this model, CVMC's implementation of Inpatient clinicals is moved up to Wave 1 to allow them to go-live 21 months earlier than in other options with those modules, and their Ambulatory clinical go-live is pushed to Wave 2. While doing this met the desire for an earlier Inpatient go-live at CVMC, it increases the complexity and risk associated with Wave 1 and introduces more opportunity for delays down the line should there be significant issues. In addition, separating the go-lives for IP clinicals from RCM/Ancillary for CVMC necessitates two go-live events impacting the hospital instead of one, which could cause frustration with end users and patients.

In addition to the alternative implementation timelines outlined above, a third alternative was reviewed. In this option, UVMHN would not move forward with the Epic project and all organizations would remain on their current systems. It was determined that this option would not be in the best interest of the patients across the UVMHN Network or the Network itself. Some of the major drivers of the Epic conversion include improving patient safety, integrating clinical and RCM solutions across Inpatient and Ambulatory, promoting Network standardization through proven tools and best practices, and offering solutions which enhance the patient experience, such as a fully-integrated patient portal; improvements of this magnitude are not possible using the current framework of aging, disparate systems across the Network. Additional detail related to the justification for a move to an integrated solution is outlined above in the Scope and Strategic Fit and Rationale sections.

Risk Identification and Mitigation Process

Risk management begins early in the Epic project and continues throughout the project lifecycle. Risks are defined as events over the course of a project that have not yet occurred, but if not addressed, may impact the project negatively. The UVMHN Epic Project Team will identify and document project risks prior to and during implementation. Risks will be documented in a registry and updates will be provided in project status meetings and, if appropriate, escalated to the Project Implementation Leadership Team and/or the ITG Steering Committee.

Common risks and proposed mitigation strategies have been identified and listed in the table below. Risks will continue to be managed throughout the project.

Risks and Mitigation Strategies

The following list represents a starter set of potential risk areas for the overall Epic Project. Included with each risk area are strategies to mitigate the identified risks.

#	Risk	Mitigation Strategy
1	The UVM Health Network has a large number of stakeholders and the project impacts many aspects of operations. There is a risk that key stakeholders are not well-informed about the project	• A communication plan will be developed prior to implementation that addresses the approach, methods and frequency of communication to key stakeholders and end users throughout the project • The plan owner will provide updates on progress and issues related to communication to executive leadership throughout the project
2	Software vendors supplying the systems to be implemented could delay software delivery or have software defects that impact the implementation timeline	• Ensure contractual agreements have been developed with software vendors with appropriate remedies to delays or defects • Aligning contractual incentives to increase the likelihood of delivery
3	UVMHN is unable to provide resources to assist with the project as defined in the project staffing plan	• The implementation team will communicate with executive leadership on progress toward staffing the implementation team • Development and approval of a change request to add additional resources to the project, or to modify the scope, timeline and associated project costs
4	Project resourcing requirements, both internal and external, are not met in a timely manner	• Identify needs to fill open positions and the impact on project by not filling • Engage the project leadership team to assist in filling open positions on a timely basis • Work with consulting partners to bring in temporary assistance to bridge gaps to keep the project on time
5	UVMHN executive, clinical, revenue cycle, IT and operational leaders are not engaged and/or supportive of the project	• Engaged leadership is a key factor in a successful project outcome • Executive leadership must emphasize the importance of the project to senior leadership and align incentives to ensure support • The implementation team will report on potential trouble areas and will engage executive leadership throughout the project
6	Organizations do not feel fully engaged in the implementation process	• Develop detailed executive status reports for senior leaders • Establish a governance process that allows for frequent and open communication of project status • Definition of and adherence to a thorough communication plan throughout the course of the project
7	Clinician's schedules/major holidays are in conflict with current go-live plan sequencing	• Use the communication plan referenced in Risk #1 to set expectations and announce key milestones • Work with hospital and practice administrative staff to coordinate schedules and vacation calendars
8	During the first few months of go-live, provider schedules are impacted and patient volumes may decrease before returning back to baseline	• Migration of relevant clinical and demographic legacy data into the EHR prior to conversion • Training of UVMHN Super Users to provide at-the-elbow support during go-live transition period • Preparing provider schedules prior to go-live to allow more time for each patient – schedule preparation may include adjusting provider hours and scheduling in longer blocks

#	Risk	Mitigation Strategy
9	Assessment of the UVMHN infrastructure results in unplanned Network or hardware upgrades that impact the project timeline or budget	• Reviewing technical architecture with Epic technical staff to ensure consistency with Epic technical guidelines
10	Due to unforeseen needs, project warrants additional funds that were not accounted for in the original budget	• A contingency of 10% has been built into the budget for capital and operating expenses
11	Capital dollars available to one or more organizations are not sufficient to fund their portion of the project	• Development of a participation agreement that lays out the requirements of each participating organization and defines remedies for funding issues
12	Requests received for additional modules, functionality, workflow design, and/or non-standard build interfere with the project's approved scope	• Rigorous scope management will be key to keeping the project on-time and within budget • Requests will be reviewed on a case-by-case basis and then brought to ITG Steering Committee for approval as necessary
13	Risks associated with technology: • Interfaces considered in-scope fall behind and will not be ready in time for the scheduled go-live • Contractual or other financial obligations with current systems prevent ability to move forward according to schedule • Standard process for hardware procurement is not developed or followed • Planned data migration from legacy systems is not complete • Help desk response cannot keep pace with incoming calls	• Technical Project Management will track status closely and provide regular updates to project leads, escalating issues to senior leadership as necessary
14	Revisiting of project decisions puts implementation milestones at risk for delay	• Log of major decisions and issues will be kept throughout the course of the project • The implementation team will define a thorough approach to addressing key decisions, but will emphasize decision-making and adhering to made decisions in order to keep the project on-track

KEY STAKEHOLDERS SUBMITTING INFORMATION AND CERTIFICATION

Sponsors and Planning Group

Department/Function	**Signature**
Dr. Adam Buckley, Network CIO	
Dr. Doug Gentile, UVMMC CMIO	
Kevin Lavery, Planning Consultant	
Noah Lazarus, Planning Consultant	
Carol Durett, Director, Planning	
Cumberland Consulting Group	

Contributors

Facilities
Information Services, IT Council
Legal
Compliance
Government Relations
Network Finance, Finance Council
Marketing Council
Human Resources Council
Quality

Reviews, Recommendations and Approvals

Planning Council	**Recommendation**	**Date**
Facility Senior Leaders	**Approval**	**Date**
Network Leadership Council	**Approval**	**Date**
Facility Board	**Approval**	**Date**
UVMHN Board Planning Committee	**Approval**	**Date**
University of Vermont Health Network Board	**Approval**	**Date**

Epic Connect –Cost Breakdown by Organization

Location	Cost	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
UVMMC	Capital	$ 1,067,141	$ 30,541,369	$ 21,068,431	$ 14,668,783	$ 2,681,512	$ -	$ 70,027,236
	Operating	$ -	$ 4,677,319	$ 7,502,283	$ 7,126,772	$ 5,487,970	$ 2,315,061	$ 27,109,405
	Total	$ 1,067,141	$ 35,218,688	$ 28,570,714	$ 21,795,555	$ 8,169,482	$ 2,315,061	$ 97,136,641
CVPH	Capital	$ 320,615	$ 7,304,451	$ 4,367,235	$ 10,267,754	$ 1,971,752	$ -	$ 24,231,807
	Operating	$ -	$ 1,416,212	$ 2,151,554	$ 1,893,933	$ 2,222,962	$ 1,576,147	$ 9,260,808
	Total	$ 320,615	$ 8,720,663	$ 6,518,789	$ 12,161,687	$ 4,194,715	$ 1,576,147	$ 33,492,615
CVMC	Capital	$ 183,667	$ 4,215,092	$ 4,286,997	$ 2,360,818	$ 461,518	$ -	$ 11,508,092
	Operating	$ -	$ 805,019	$ 1,247,152	$ 1,303,085	$ 1,197,297	$ 660,051	$ 5,212,604
	Total	$ 183,667	$ 5,020,111	$ 5,534,149	$ 3,663,903	$ 1,658,815	$ 660,051	$ 16,720,696
ECH	Capital	$ 32,575	$ 993,061	$ 1,098,855	$ 377,324	$ 81,855	$ -	$ 2,583,671
	Operating	$ -	$ 142,779	$ 239,707	$ 305,584	$ 326,843	$ 235,563	$ 1,250,476
	Total	$ 32,575	$ 1,135,840	$ 1,338,562	$ 682,908	$ 408,698	$ 235,563	$ 3,834,147
TOTAL	**Capital**	$ 1,603,998	$ 43,053,973	$ 30,821,518	$ 27,674,679	$ 5,196,637	$ -	$ 108,350,805
	Operating	$ -	$ 7,041,329	$ 11,140,697	$ 10,629,374	$ 9,235,073	$ 4,786,822	$ 42,833,294
	Total	$ 1,603,998	$ 50,095,301	$ 41,962,215	$ 38,304,053	$ 14,431,710	$ 4,786,822	$ 151,184,099

THE University of Vermont HEALTH NETWORK

Excerpt from October 2016 UVM Health Network Board of Trustees Meeting

Ms. Stickney asked the Board to consider a resolution (on file) regarding Epic Connect, which amends the total cost due to three changes: the inclusion of capitalized interest expense of $3.2 million, the reduction in staffing costs of $400,000, and the addition of some facilities costs of $899,000.

Upon motion duly made (Paul Sands) and seconded (John Powell), the UVM Health Network Board of Trustees approved the resolution as presented to file a CON application for the Epic Connect Project with a total capital cost of $112.4 million and incremental operating expenses of $42.3 million, and to implement the project upon receipt of CON approval by the Green Mountain Care Board.

THE UNIVERSITY OF VERMONT HEALTH NETWORK
BOARD OF TRUSTEES

October 5, 2016

RESOLUTION APPROVING THE FINAL PROJECT COST FOR THE NETWORK'S CONVERSION TO AN ALL-EPIC PLATFORM AND SUBMISSION OF A CON APPLICATION

BACKGROUND

A. The Boards of Trustees of The University of Vermont Medical Center and The University of Vermont Health Network (the "Network") previously approved:

   1. The Network's conversion to an integrated electronic medical records system and revenue cycle management system, using the Epic platform hosted by The University of Vermont Medical Center (the "Medical Center"), for a total capital cost of $108M and incremental operating expenses of $42M over the implementation period (the "Project");
   2. The filing of a Certificate of Need ("CON") application for the Project; and
   3. Upon CON approval, payment of the capital costs by the Medical Center, with the operating costs to be allocated across all Network hospitals based on their patient volumes as a percentage of overall Network volumes.

B. Further refinement of the Project cost by Network management has resulted in a determination that the capital cost of the Project must include capitalized interest of $3.2M, a non-cash expense, for a total Project capital cost of $112.4M.

C. The Network Board of Trustees has reviewed Network management's updated Project cost information and believes it is in the best interest of the Network to move forward with the Project upon receipt of a CON from the Green Mountain Care Board (the "GMCB").

NOW THEREFORE, BE IT **RESOLVED**, as follows:

1. The Network Board of Trustees hereby AUTHORIZES and APPROVES the following actions and transactions:

   a. The filing of a CON application for the Project, with a total capital cost of $112.4M and total incremental operating expenses of $42.3M as outlined in the attached Exhibit 1.
   b. The implementation of the Project upon receipt of a CON from the GMCB.

2. The Network Board of Trustees further AUTHORIZES and APPROVES the CEO and the President of the Network to take all actions and to execute all documents and instruments as are deemed necessary and appropriate to carry out the foregoing transactions, the execution of any such document or instrument by any one of the foregoing persons to be deemed conclusive evidence of their authority to act for the Network.

This Resolution shall be included in the minute book of The University of Vermont Health Network.

A True Copy:

Secretary

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Epic Connect – Board Update

Adam Buckley, MD
Network CIO

THE
University of Vermont
HEALTH NETWORK

Revised Capital

Cost Estimate	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Epic Software Costs	$ -	$ 3,990,626	$ 4,297,367	$ 6,061,808	$ -	$ -	$ 14,349,800
Epic Implementation and Travel Costs	$ -	$ 7,608,174	$ 4,221,394	$ 2,351,950	$ 1,060,102	$ -	$ 15,241,619
Required 3rd Party Software	$ -	$ 2,592,546	$ -	$ -	$ -	$ -	$ 2,592,546
RCM Bolt On Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -
UVMHN Internal Staffing	$ -	$ 4,641,375	$ 3,800,834	$ 2,767,777	$ 590,655	$ -	$ 11,800,641
External Staffing	$ -	$ 11,456,900	$ 11,708,700	$ 10,229,375	$ 2,990,125	$ -	$ 36,385,100
Epic Related Technology Costs (Hardware,	$ -	$ 4,196,259	$ 3,925,000	$ 2,942,500	$ 83,333	$ -	$ 11,147,093
Network Related Technology Costs	$ -	$ 3,516,900	$ 836,756	$ 805,390	$ -	$ -	$ 5,159,047
Facilities, Communication and Travel	$ -	$ 1,073,055	$ 115,480	$ -	$ -	$ -	$ 1,188,535
Pre-Implementation - External Staffing	$ 1,458,180						$ 1,458,180
	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Capital Costs	**$ 1,458,180**	**$ 39,075,835**	**$ 28,905,530**	**$ 25,158,799**	**$ 4,724,216**	**$ -**	**$ 99,322,561**
Contingency 10%	$ 145,818	$ 3,907,584	$ 2,890,553	$ 2,515,880	$ 472,422	$ -	$ 9,932,256
Grand Total Capital Costs	**$ 1,603,998**	**$ 42,983,419**	**$ 31,796,083**	**$ 27,674,679**	**$ 5,196,637**	**$ -**	**$ 109,254,817**
Epic Software Costs	$ -	$ -	$ 685,098	$ 1,630,533	$ 2,662,005	$ 3,015,509	$ 7,993,145
Required 3rd Party Software	$ -	$ -	$ 348,007	$ 718,451	$ 741,673	$ 765,709	$ 2,573,839
RCM Bolt On Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -
UVMHN Internal Staffing	$ -	$ 924,502	$ 3,344,949	$ 5,800,043	$ 8,507,258	$ 7,719,765	$ 26,296,516
External Staffing	$ -	$ 377,700	$ 1,101,625	$ 818,350	$ 535,075	$ -	$ 2,832,750
Epic Related Technology Costs (Hardware,	$ -	$ 1,386,000	$ 1,454,000	$ 1,472,900	$ 1,492,745	$ 1,513,582	$ 7,319,227
Network Related Technology Costs	$ -	$ 5,652,060	$ 5,449,186	$ 4,976,629	$ 5,513,847	$ 5,770,810	$ 27,362,533
Facilities, Communication and Travel	$ -	$ 265,938	$ 667,704	$ 610,692	$ 564,358	$ -	$ 2,108,691
UVMHN Staffing Offsets	$ -	$ (2,943,311)	$ (3,146,513)	$ (5,653,331)	$ (8,349,263)	$ (9,986,680)	$ (30,079,099)
UVMHN Legacy System Offsets	$ -	$ -	$ -	$ (1,956,071)	$ (3,825,902)	$ (5,890,410)	$ (11,672,383)
	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total OpEx	**$ -**	**$ 5,662,888**	**$ 9,904,056**	**$ 8,418,195**	**$ 7,841,795**	**$ 2,908,285**	**$ 34,735,219**
Contingency 10%	$ -	$ 860,619.91	$ 1,305,056.85	$ 1,602,759.72	$ 2,001,696.12	$ 1,878,537.50	$ 7,648,670.10
Grand Total OpEx	**$ -**	**$ 6,523,508**	**$ 11,209,112**	**$ 10,020,955**	**$ 9,843,491**	**$ 4,786,822**	**$ 42,383,889**
Total Project Cost	**$ 1,603,998**	**$ 49,506,927**	**$ 43,005,195**	**$ 37,695,634**	**$ 15,040,128**	**$ 4,786,822**	**$ 151,638,705**

THE University of Vermont HEALTH NETWORK

Revised Capital

- 3 changes
  - Accounting decided to include Capitalized Interest Expense
    - 3.2 million dollars
  - We reduced external staffing by about 400k
  - We had to add in some facilities costs by 899k
  - New capital amount 112.4 million (109.2 cash expense)

THE UNIVERSITY OF VERMONT HEALTH NETWORK INC.
BOARD OF TRUSTEES

April 5, 2017

RESOLUTION APPROVING MODIFICAIONS TO EPIC CONNECT PROJECT

Background

A. On January 3, 2017, UVM Medical Center filed an Application for a Certificate of Need approving the replacement of the current electronic health records and related information technology systems at UVM Medical Center and three other Network hospitals with a unified Epic-based EHR system (the "Project"). In the original Application, the three Network hospitals to be included in the Project, apart from UVM Medical Center, were CVPH, Elizabethtown Community Hospital, and CVMC.

B. On February 23, 2017, UVM Medical Center filed an amended Application, substituting Porter Medical Center for ECH in the initial phase of the Project to allow for a more coordinated and efficient implementation process of the Epic platform.

C. The Board wishes to confirm its approval of the amended CON application and to confirm that the Epic platform will be implemented at ECH and Alice Hyde Medical Center upon completion of the Project.

Now, therefore, it is **RESOLVED** as follows:

1. The Board of Trustees hereby **APPROVES** the Amended and Restated CON Application, dated February 23, 2017 and the substitution of Porter Medical Center for ECH in the initial phase of the Project.

2. The Board further **AUTHORIZES** and **APPROVES** the implementation of Epic at ECH and Alice Hyde Medical Center in the future upon completion of the initial phases of the Project and the finalization of cost estimates for the subsequent phases of the Epic implementation.

Dated at Burlington this 5th day of April, 2017.

The University of Vermont Medical Center Board of Trustees - Meeting Minutes
Thursday, September 15, 2016

Dr. Buckley presented a revised capital plan for the Epic Connect project. The three changes are reduced staffing, modified facilities expense with the move of IS from Burlington Square to the former IDX building, and the capitalized interest expense. The latter is the largest change and is noncash, while total cost of ownership focuses on the cash expense. The resolution requests Board approval of these three changes, which bring the total cost of the project to $151.6 million. The final financial tables for the CON application are still being prepared, but the hope is that with a timely submission and GMCB review process, the project could kick off in October 2017. In response to a question from Mr. Davis, Dr. Buckley indicated that patient volume would be used to allocate operating costs across the network once the system is in place; that figure for the UVM Medical Center would be around 67%.

Action: A motion was made and seconded to approve the attached resolution regarding Epic capital costs. The motion was approved unanimously.

The University of Vermont Medical Center Board of Trustees - Meeting Minutes
Thursday, March 17, 2016

Dr. Buckley summarized the work done over the past three months to develop a cost allocation model for implementing Epic Connect across the network. The model has been approved the Finance Council and Network Leadership Council, and must now be approved by each individual affiliate Board. He then gave a presentation covering the different models considered for apportioning costs, with patient volume selected as the metric for allocating licensing and maintenance costs. The cost allocation will be adjusted annually, based on patient volume. AHMC has not yet been included in the model, but will be added for purposes of the CON submission. Ongoing capital costs are not large and have been built into the UVM Medical Center's capital framework. Savings in operating costs from phasing out legacy electronic medical record (EMR) systems will accrue to the affiliates (for example, 80 licenses currently maintained by the UVM Medical Center will be reduced to a single license). Dr. Buckley added that Epic licensing includes an annual upgrade of the system to keep pace with regulatory requirements. With all network affiliates using the same EMR, the enhanced access to clinical data to inform care improvements will be a significant benefit for population health management. Epic is currently the market leader in this sector, and he expects they will continue to enhance and increase their system's applications. Mr. Keating added that Epic is working to gain more market share in order to improve the system's affordability for smaller hospitals.

Action: A motion was made and seconded to approve the attached resolution regarding Epic cost allocation based on patient volume and the filing of a CON application for the project. The motion was approved unanimously.

The University of Vermont Medical Center Board of Trustees - Meeting Minutes
Thursday, December 10, 2015

Ms. Ginn reported on the Planning Committee meeting held earlier in the week, which reviewed the UVM Health Network strategic plan and affiliate initiatives. The committee then met jointly with the Finance Committee for a discussion of Epic, a project that will implement the same electronic medical record across the system. Dr. Brumsted commented that Trustees have seen the estimated total cost of ownership for the network of $151M over five years, with $100M for the UVM Medical Center. Ms. Ginn added that this project will avoid $78M in costs to maintain disparate medical record systems, and Ms. Whalen that it has already been built into the capital plan. The Planning and Finance Committees have recommended approval by the UVM Health Network Board, which will take it up at their meeting on December 16. If approved, this initiative will come back to each affiliate Board early in 2016 for approval of the cost-allocation methodology, which would permit submission of a CON by mid-May.

THE UNIVERSITY OF VERMONT MEDICAL CENTER
BOARD OF TRUSTEES

March 17, 2016

RESOLUTION APPROVING THE MEDICAL CENTER'S CONVERSION TO AN ALL-EPIC PLATFORM FOR ITS MEDICAL RECORD AND BILLING SYSTEMS, AND HOSTING SUCH AN INTEGRATED SYSTEM FOR USE BY ALL UVM HEALTH NETWORK HOSPITALS

BACKGROUND

A. Management of The University of Vermont Medical Center and The University of Vermont Health Network (the "Network") has conducted extensive planning work and assessments of the information technology systems at each of the Network hospitals and has recommended as follows:

1. Each Network hospital (The University of Vermont Medical Center, Central Vermont Medical Center, Champlain Valley Physicians Hospital and Elizabethtown Community Hospital) should replace its existing electronic medical records systems and revenue cycle management systems and convert its systems to a single Epic platform that would be hosted by The University of Vermont Medical Center (the "Project");
2. The Project will have a total cost not to exceed $151M (approximately $108M in capital and $42.8M in incremental operating expenses) over the course of a five-year implementation period;
3. The capital cost of the Project ($108M) should be paid for by The University of Vermont Medical Center (the "Medical Center"), as it will license and maintain Epic for use by itself and the other Network hospitals;
4. The incremental operating costs of $42.8M during the Project's five-year implementation period (which assumes that legacy medical records and revenue cycle systems of each Network hospital will be de-commissioned during this period), as well as ongoing maintenance fees thereafter, should be paid for by all Network hospitals with the costs to be apportioned in accordance with their patient volumes as a percentage of overall Network volumes;
5. A Certificate of Need application for the Project should be filed, as well as any other regulatory approval that management's legal counsel determines is needed; and
6. Upon Project implementation, a single medical record should be established among the Network for all patients who receive care at a Network hospital.

B. The Finance Committee and the Network Board of Trustees have previously reviewed and approved the Project, subject to final review and approval by the Boards of each of the Network hospitals.

C. The Medical Center Board of Trustees has reviewed management's presentation in detail and believes it is in the best interest of the Medical Center to replace its existing non-Epic information technology systems with a single Epic platform, and to host the Epic platform for the creation of a consolidated electronic medical record and billing system among all Network hospitals, for a total

cost as outlined herein, which implementation shall occur upon the receipt of Certificate of Need ("CON") approval for the Project.

NOW THEREFORE, BE IT **RESOLVED**, as follows:

1. The Medical Center Board of Trustees hereby AUTHORIZES and APPROVES the following actions and transactions:

    a. The filing of a CON application for the Project.
    b. The replacement of the Medical Center's existing revenue cycle system and non-Epic medical records software systems, with a single Epic platform that will be hosted by the Medical Center for the benefit of itself and the other Network hospitals.
    c. Expenditures for the Project not to exceed a total cost of $151M (operating and capital) over a five-year implementation period, with the Medical Center to pay for the $108M capital cost of the Project, and the incremental operating costs ($42.8M) to be borne among the individual Network hospitals in accordance with their volumes, as described in the Epic Connect – Cost Allocation Model attached hereto as Exhibit 1.
    d. The creation of a single, consolidated electronic medical records system among the Network hospitals.

2. The Medical Center Board of Trustees further AUTHORIZES and APPROVES the CEO and the President of the Medical Center to take all actions and to execute all documents and instruments as are deemed necessary and appropriate to carry out the foregoing transactions, the execution of any such document or instrument by any one of the foregoing persons to be deemed conclusive evidence of their authority to act for the Medical Center.

This Resolution shall be included in the minute book of The University of Vermont Medical Center.

A True Copy:

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Secretary

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Epic Connect – Cost Allocation Model

March 2016

THE University of Vermont HEALTH NETWORK

Overview

- This presentation provides the updated cost allocation model for the UVMHN Epic Connect project
- A few months ago a model was presented in which costs were allocated based on Inpatient and Ambulatory volumes (67% UVMMC, 20% CVPH, 11% CVMC and 2% ECH) after "passing through" Epic licensing and maintenance costs
- The model shown on the following slides, which has been approved by the Finance Committee and the Network Leadership Council, simplifies the previous approach and applies the volume allocations stated above to all costs (including Epic software maintenance)

Overview

- Assumptions:
  - The model in this presentation assume that the network will be responsible for the capital costs of the project ($108M) and the operating expenses will be allocated to the affiliates during implementation
  - Financial benefit of the sundowning of legacy systems accrue to the affiliate and not the Health Network
  - Post implementation, all Epic Connect costs (inclusive of capital) will be allocated annually based on patient volume

Implementation Operating Costs With Staffing Offsets Only

Location	Cost	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL (Yrs 1-5)
UVMMC	Total Operating w/ Staffing Offsets	$ -	$ 4,684,602	$ 7,473,646	$ 7,968,325	$ 9,094,259	$ 7,103,572	$ 36,324,404
CVPH	Total Operating w/ Staffing Offsets	$ -	$ 1,407,454	$ 2,245,401	$ 2,394,024	$ 2,732,302	$ 2,134,215	$ 10,913,396
CVMC	Total Operating w/ Staffing Offsets	$ -	$ 806,272	$ 1,286,298	$ 1,371,438	$ 1,565,223	$ 1,222,604	$ 6,251,834
ECH	Total Operating w/ Staffing Offsets	$ -	$ 143,001	$ 228,139	$ 243,239	$ 277,609	$ 216,842	$ 1,108,830
	Total	$ -	$ 7,041,329	$ 11,233,484	$ 11,977,026	$ 13,669,394	$ 10,677,232	$ 54,598,464

Location	Cost	FY23	FY24	FY25	FY26	FY27	TOTAL (Yrs 6-10)	TOTAL (Yrs 1-10)
UVMMC	Total Operating w/ Staffing Offsets	$ 1,877,731	$ 1,947,895	$ 2,021,268	$ 2,097,985	$ 2,178,184	$ 10,123,063	$ 46,447,467
CVPH	Total Operating w/ Staffing Offsets	$ 564,150	$ 585,231	$ 607,275	$ 630,324	$ 654,419	$ 3,041,399	$ 13,954,795
CVMC	Total Operating w/ Staffing Offsets	$ 323,178	$ 335,254	$ 347,883	$ 361,087	$ 374,890	$ 1,742,292	$ 7,994,126
ECH	Total Operating w/ Staffing Offsets	$ 57,319	$ 59,461	$ 61,701	$ 64,043	$ 66,491	$ 309,014	$ 1,417,844
	Total	$ 2,822,378	$ 2,927,841	$ 3,038,127	$ 3,153,438	$ 3,273,984	$ 15,215,768	$ 69,814,232

Implementation Operating Costs with Staffing and Application Offsets

Location	Cost	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL (Yrs 1-5)
UVMMC	Total OpEx w/ Staff and App Offsets	$ -	$ 4,684,602	$ 7,473,646	$ 6,135,577	$ 6,467,778	$ 4,374,579	$ 29,136,182
CVPH	Total OpEx w/ Staff and App Offsets	$ -	$ 1,407,454	$ 2,152,614	$ 2,278,226	$ 2,045,696	$ (344,382)	$ 7,539,607
CVMC	Total OpEx w/ Staff and App Offsets	$ -	$ 806,272	$ 1,286,298	$ 1,363,914	$ 1,157,658	$ 711,398	$ 5,325,540
ECH	Total OpEx w/ Staff and App Offsets	$ -	$ 143,001	$ 228,139	$ 243,239	$ 172,358	$ 45,228	$ 831,965
	Total	$ -	$ 7,041,329	$ 11,140,697	$ 10,020,955	$ 9,843,491	$ 4,786,822	$ 42,833,294

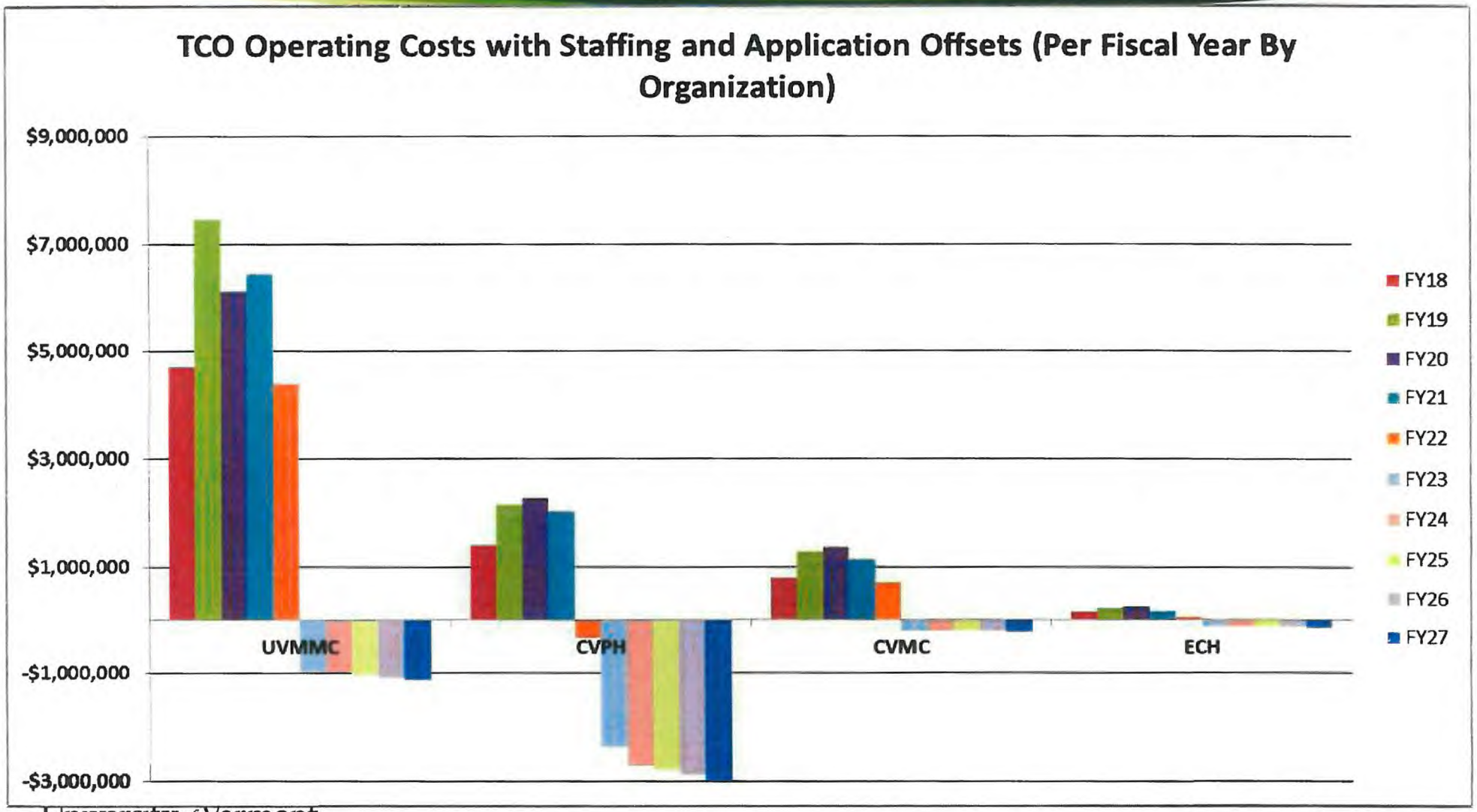
Location	Cost	FY23	FY24	FY25	FY26	FY27	TOTAL (Yrs 6-10)	TOTAL (Yrs 1-10)
UVMMC	Total OpEx w/ Staff and App Offsets	$ (958,035)	$ (999,092)	$ (1,041,584)	$ (1,085,582)	$ (1,131,160)	$ (5,215,452)	$ 23,920,729
CVPH	Total OpEx w/ Staff and App Offsets	$ (2,372,168)	$ (2,716,374)	$ (2,794,733)	$ (2,875,153)	$ (2,957,687)	$ (13,716,114)	$ (6,176,507)
CVMC	Total OpEx w/ Staff and App Offsets	$ (203,364)	$ (207,084)	$ (210,726)	$ (214,280)	$ (217,738)	$ (1,053,193)	$ 4,272,347
ECH	Total OpEx w/ Staff and App Offsets	$ (120,144)	$ (124,054)	$ (128,077)	$ (132,216)	$ (136,475)	$ (640,966)	$ 190,999
	Total	$ (3,653,711)	$ (4,046,604)	$ (4,175,120)	$ (4,307,231)	$ (4,443,060)	$ (20,625,725)	$ 22,207,569

THE University of Vermont HEALTH NETWORK

Cost Allocation Summary

Location	Cost	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	TOTAL (Yrs 1-10)
UVMMC	OpEx w/ Staff Offsets	$ 4,684,602	$ 7,473,646	$ 7,968,325	$ 9,094,259	$ 7,103,572	$ 1,877,731	$ 1,947,895	$ 2,021,268	$ 2,097,985	$ 2,178,184	$ 46,447,467
UVMMC	OpEx w/ Staff and App Offsets	$ 4,684,602	$ 7,473,646	$ 6,135,577	$ 6,467,778	$ 4,374,579	$ (958,035)	$ (999,092)	$ (1,041,584)	$ (1,085,582)	$ (1,131,160)	$ 23,920,729
CVPH	OpEx w/ Staff Offsets	$ 1,407,454	$ 2,245,401	$ 2,394,024	$ 2,732,302	$ 2,134,215	$ 564,150	$ 585,231	$ 607,275	$ 630,324	$ 654,419	$ 13,954,795
CVPH	OpEx w/ Staff and App Offsets	$ 1,407,454	$ 2,152,614	$ 2,278,226	$ 2,045,696	$ (344,382)	$ (2,372,168)	$ (2,716,374)	$ (2,794,733)	$ (2,875,153)	$ (2,957,687)	$ (6,176,507)
CVMC	OpEx w/ Staff Offsets	$ 806,272	$ 1,286,298	$ 1,371,438	$ 1,565,223	$ 1,222,604	$ 323,178	$ 335,254	$ 347,883	$ 361,087	$ 374,890	$ 7,994,126
CVMC	OpEx w/ Staff and App Offsets	$ 806,272	$ 1,286,298	$ 1,363,914	$ 1,157,658	$ 711,398	$ (203,364)	$ (207,084)	$ (210,726)	$ (214,280)	$ (217,738)	$ 4,272,347
ECH	OpEx w/ Staff Offsets	$ 143,001	$ 228,139	$ 243,239	$ 277,609	$ 216,842	$ 57,319	$ 59,461	$ 61,701	$ 64,043	$ 66,491	$ 1,417,844
ECH	OpEx w/ Staff and App Offsets	$ 143,001	$ 228,139	$ 243,239	$ 172,358	$ 45,228	$ (120,144)	$ (124,054)	$ (128,077)	$ (132,216)	$ (136,475)	$ 190,999

Operating Costs with Application Offsets



Process

- Proposed Process
  - Health Network IT Governance – approved
  - Health Network Finance Integration Council – approved
  - NLC – approved
  - Take model to each affiliate Board for approval
  - Annualized volume data applied to costs
    - This will be the same volume data that Epic uses for licensing costs (see appendix)
  - Creates the allocation
  - Budget process defines the funds flow to support the affiliates

THE UNIVERSITY OF VERMONT MEDICAL CENTER
BOARD OF TRUSTEES

September 15, 2016

RESOLUTION APPROVING THE FINAL PROJECT COST FOR THE NETWORK'S CONVERSION TO AN ALL-EPIC PLATFORM AND SUBMISSION OF A CON APPLICATION

BACKGROUND

A. The Boards of Trustees of The University of Vermont Medical Center and The University of Vermont Health Network (the "Network") previously approved:

   1. The Network's conversion to an integrated electronic medical records system and revenue cycle management system, using the Epic platform hosted by The University of Vermont Medical Center (the "Medical Center"), for a total capital cost of $108M and incremental operating expenses of $42M over the implementation period (the "Project");
   2. The filing of a Certificate of Need ("CON") application for the Project; and
   3. Upon CON approval, payment of the capital costs by the Medical Center, with the operating costs to be allocated across all Network hospitals based on their patient volumes as a percentage of overall Network volumes.

B. Further refinement of the Project cost by Network management has resulted in a determination that the capital cost of the Project must include capitalized interest of $3.2M, a non-cash expense, for a total Project capital cost of $112.4M.

C. The Medical Center Board of Trustees has reviewed Network management's updated Project cost information and believes it is in the best interest of the Medical Center to move forward with the Project upon receipt of a CON from the Green Mountain Care Board (the "GMCB").

NOW THEREFORE, BE IT **RESOLVED**, as follows:

1. Subject to final approval by the Network Board of Trustees, the Medical Center Board of Trustees hereby AUTHORIZES and APPROVES the following actions and transactions:

   a. The filing of a CON application for the Project, with a total capital cost of $112.4M and total incremental operating expenses of $42.3M as outlined in the attached Exhibit 1.
   b. The implementation of the Project upon receipt of a CON from the GMCB.

2. The Medical Center Board of Trustees further AUTHORIZES and APPROVES the CEO and the President of the Medical Center to take all actions and to execute all documents and instruments as are deemed necessary and appropriate to carry out the foregoing transactions, the execution of any such document or instrument by any one of the foregoing persons to be deemed conclusive evidence of their authority to act for the Medical Center.

This Resolution shall be included in the minute book of The University of Vermont Medical Center.

A True Copy:

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Secretary

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Epic Connect – Board Update

Adam Buckley, MD
Network CIO

THE University of Vermont HEALTH NETWORK

Revised Capital

Cost Estimate	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Epic Software Costs	$ -	$ 3,990,626	$ 4,297,367	$ 6,061,808	$ -	$ -	$ 14,349,800
Epic Implementation and Travel Costs	$ -	$ 7,608,174	$ 4,221,394	$ 2,351,950	$ 1,060,102	$ -	$ 15,241,619
Required 3rd Party Software	$ -	$ 2,592,546	$ -	$ -	$ -	$ -	$ 2,592,546
RCM Bolt On Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -
UVMHN Internal Staffing	$ -	$ 4,641,375	$ 3,800,834	$ 2,767,777	$ 590,655	$ -	$ 11,800,641
External Staffing	$ -	$ 11,456,900	$ 11,708,700	$ 10,229,375	$ 2,990,125	$ -	$ 36,385,100
Epic Related Technology Costs (Hardware,	$ -	$ 4,196,259	$ 3,925,000	$ 2,942,500	$ 83,333	$ -	$ 11,147,093
Network Related Technology Costs	$ -	$ 3,516,900	$ 836,756	$ 805,390	$ -	$ -	$ 5,159,047
Facilities, Communication and Travel	$ -	$ 1,073,055	$ 115,480	$ -	$ -	$ -	$ 1,188,535
Pre-Implementation - External Staffing	$ 1,458,180						$ 1,458,180
	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Capital Costs	$ 1,458,180	$ 39,075,835	$ 28,905,530	$ 25,158,799	$ 4,724,216	$ -	$ 99,322,561
Contingency 10%	$ 145,818	$ 3,907,584	$ 2,890,553	$ 2,515,880	$ 472,422	$ -	$ 9,932,256
Grand Total Capital Costs	$ 1,603,998	$ 42,983,419	$ 31,796,083	$ 27,674,679	$ 5,196,637	$ -	$ 109,254,817
Epic Software Costs	$ -	$ -	$ 685,098	$ 1,630,533	$ 2,662,005	$ 3,015,509	$ 7,993,145
Required 3rd Party Software	$ -	$ -	$ 348,007	$ 718,451	$ 741,673	$ 765,709	$ 2,573,839
RCM Bolt On Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -
UVMHN Internal Staffing	$ -	$ 924,502	$ 3,344,949	$ 5,800,043	$ 8,507,258	$ 7,719,765	$ 26,296,516
External Staffing	$ -	$ 377,700	$ 1,101,625	$ 818,350	$ 535,075	$ -	$ 2,832,750
Epic Related Technology Costs (Hardware,	$ -	$ 1,386,000	$ 1,454,000	$ 1,472,900	$ 1,492,745	$ 1,513,582	$ 7,319,227
Network Related Technology Costs	$ -	$ 5,652,060	$ 5,449,186	$ 4,976,629	$ 5,513,847	$ 5,770,810	$ 27,362,533
Facilities, Communication and Travel	$ -	$ 265,938	$ 667,704	$ 610,692	$ 564,358	$ -	$ 2,108,691
UVMHN Staffing Offsets	$ -	$ (2,943,311)	$ (3,146,513)	$ (5,653,331)	$ (8,349,263)	$ (9,986,680)	$ (30,079,099)
UVMHN Legacy System Offsets	$ -	$ -	$ -	$ (1,956,071)	$ (3,825,902)	$ (5,890,410)	$ (11,672,383)
	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total OpEx	$ -	$ 5,662,888	$ 9,904,056	$ 8,418,195	$ 7,841,795	$ 2,908,285	$ 34,735,219
Contingency 10%	$ -	$ 860,619.91	$ 1,305,056.85	$ 1,602,759.72	$ 2,001,696.12	$ 1,878,537.50	$ 7,648,670.10
Grand Total OpEx	$ -	$ 6,523,508	$ 11,209,112	$ 10,020,955	$ 9,843,491	$ 4,786,822	$ 42,383,889
Total Project Cost	$ 1,603,998	$ 49,506,927	$ 43,005,195	$ 37,695,634	$ 15,040,128	$ 4,786,822	$ 151,638,705

THE University of Vermont HEALTH NETWORK

Revised Capital

- 3 changes
  - Accounting decided to include Capitalized Interest Expense
    - 3.2 million dollars
  - We reduced external staffing by about 400k
  - We had to add in some facilities costs by 899k
  - New capital amount 112.4 million (109.2 cash expense)

STATE OF VERMONT
GREEN MOUNTAIN CARE BOARD

In re:	UVM Medical Center	) Docket No. GMCB-001-17con
	Replacement of Electronic Health	)
	Record	)
	Capital Expenditure: $112.4M	)

SPENCER R. KNAPP, Esq., being duly sworn, states on oath as follows:

1. My name is Spencer R. Knapp, Esq. I am Senior Vice President and General Counsel of The University of Vermont Medical Center Inc. I have reviewed the foregoing letter in response to the Green Mountain Care Board's questions from April 5, 2017.

2. Based on my personal knowledge, after diligent inquiry, the information contained in the foregoing is true, accurate and complete, does not contain any untrue statement of a material fact, and does not omit to state a material fact necessary to make the statement made therein not misleading, except as specifically noted herein.

3. My personal knowledge of the truth, accuracy and completeness of the information contained in the foregoing letter is based upon either my actual knowledge of the subject information or, where identified below, upon information reasonably believed by me to be reliable and provided to me by the individuals identified below who have certified that the information they have provided is true, accurate and complete, does not contain any untrue statement of a material fact, and does not omit to state a material fact necessary to make the statement made therein not misleading.

4. The following certifying individuals have provided information or documents to me in connection with the foregoing letter, and each such individual has certified, based on his or her actual knowledge of the subject information or, where specifically identified in such certification, based on information reasonably believed by the certifying individual to be reliable, that the information or documents they have provided are true, accurate and complete, do not contain any untrue statement of a material fact, and do not omit to state a material fact necessary to make the statement made therein not misleading:

   Adam Buckley, MD, Chief Information Officer

5. In the event that the information contained in the foregoing letter becomes untrue, inaccurate or incomplete in any material respect, I acknowledge my obligation to notify the Green Mountain Care Board, and to supplement the information/document subject

to verification as soon as I know, or reasonably should know, that the information or document has become untrue, inaccurate or incomplete in any material respect.

SPENCER R. KNAPP, Esq.

On May 2 2017, SPENCER R. KNAPP, Esq., appeared before me and swore to the truth, accuracy and completeness of the foregoing.

HELEN CABOT McCARTHY
NOTARY PUBLIC
State of Vermont
My Comm. Expires Feb. 10, 2019

Notary public

My commission expires on 2/10/2019