Alameda Health System

Electronic Health Record Project

Finance Committee

January 11, 2018

Epic Electronic Health Record

1. Electronic Medical Record Overview
2. Total Cost of Ownership
3. Implementation Planning
4. Financing Plan
5. Risk Mitigation Plan
6. Recommendation

EMR Overview

- **Clinical Operations –** The system will improve patient care, ensuring that our providers can access patient and clinical information in real time so that the right care can be provided at the right time.

- **Financial Operations –** The system will integrate financial and clinical operations, ensuring that we have accurate patient classification, charge capture, clinical documentation and coding, and patient accounting.

- **System Integration –** The EHR will allow all of our business units to be on the same clinical and financial systems, which will be more efficient and effective.

- **Strategic Plan –** The system directly support our strategic plan, providing the tools that we need to manage populations for which we have taken risk, and ensuring that the care we provide is consistent with national protocols.

- **Federal Requirements –** Attainment of Meaningful Use has been mandated by ARRA. AHS is currently missing out on available funding and will shortly begin paying penalties because we do not have a functional Electronic Health Record.

The Imperative

- **Implementation Timeline** – This is a long lead time project, with implementation typically taking 18 to 24 months.

- **Cerner Soarian Contract Term** – Our current agreement with Cerner expires in January 2021. Failure to address system issues now place AHS in a position where we will have to remain on an inadequate system with no negotiating leverage.

- **System Functionality** – The current system is inadequate in many different areas, and AHS is having to pursue "one-off" solutions to individual problems. These systems will likely have to be abandoned within a few years (which is wasteful) or interfaced with the new EHR (which will increase our long term operating costs.

- **Current Systems Sunsetting** – Soarian and Meditech are being sunsetted; status quo is not an option.

- **Alignment** – Our business partners are converting to Epic, and AHS needs this system both to facilitate the sharing of clinical information and to ensure that AHS maintains its position as a preferred referral center.

Operational Benefits

- **Stable IT Platform -** Conversion to the new EHR will address a wide range of technical issues, improve system stability, and get all of our operations on a common platform.

- **Clinical Quality –** We expect to see improvement in our core quality measures, a reduction in clinical errors, and improved clinical operations. We also expect this to improve our ability to recruit and retain physicians and staff.

- **Operational Efficiency –** The system should allow us to operate more efficiently, enabling AHS to achieve benchmark productivity in areas such as nursing, ancillary operations, care coordination, health information management, and patient accounting.

- **Ambulatory Access –** The new EHR should result in greater productivity and increase access to our Primary Care FQHC's.

- **Network Integration –** The new EHR should result in better provider engagement with CHCN and other referral sources.

What activities have occurred since Lead Vendor Selection?

- **Contract Negotiations** – With the objective of achieving a successful and affordable implementation, AHS is 95% complete on negotiating the basic contract and has just met with Epic to identify ways to manage the Total Cost of Ownership (TCO) to a level that is affordable by AHS.

- **Pre-implementation Readiness Assessment** – AHS has contracted with Impact Advisors to assess AHS' current state of readiness and identify key activities that would have to occur during implementation. We have also begun recruitment of personnel to staff our EHR Project Management Office and are conducting an assessment of space requirements and facility options.

- **Clinical Standardization** - Chartis has been engaged to review and standardize our key clinical protocols.

- **Financing Planning** – As mentioned above, we are completed our review of the TCO over the next few weeks, and this will be done with Epic. We are also refining of financial and operational planning assumptions.

- **Operational Benefits** – Expected operational improvements from use of the new system have been identified and quantified.

Total Cost of Ownership (TCO) Overview

"Management has worked with closely to manage the TCO to be as efficient as possible. This will involve a more streamlined governance/decision making/accountability process and will require the recruitment of a qualified team who can both implement and maintain the system going forward. Co-locating the team in an appropriately sized facility is an integral part of the plan and will result in a dramatic reduction in the use of consultants.

- **Cost Components** – Project costs include the basic Epic Software and Licensing costs, implementation costs, and ongoing maintenance. However, the majority of the costs are borne directly by AHS and include our own implementation and training costs, new facilities, external consultants that we decide to use, and any third party systems that we decide to keep.

- **Savings Components** – The TCO "nets out" the cost of the old systems that are being replaced.

- **Operational Improvement** – We have identified and quantified operational savings that we expect to achieve through use of the new system, expected improvements in our revenue cycle, as well as the impact on Meaningful Use funds.

- **Epic Approach** – Epic believes that we can significantly reduce the TCO by changing our approach to do the following; create an environment where AHS can recruit a qualified internal team (IT, PA) that can work together to build the system, streamline and empower Project Governance to ensure effective and timely decision making, stick religiously to the Epic Foundation Model, and stick to the Implementation Checklist. Discard anything that doesn't fit that template and timeline, including consultants unless absolutely needed.

TCO Summary– As a result of these initiatives, the 10-year TCO has been reduced from $230 million to just under $200 million (15%). Adding in the identified Operational Improvements, the total incremental cost will be about $160 million.

TCO Comparison - Capital

Capital Project Costs - 10 Years					
Cost Item	**Previous Model**	**New Model**	**Previous Estimate**	**Current**	**Delta**
Items Included in Previous Model					
Hardware/Server Costs	• Under-estimated	• Received more accurate cost projections based on IT assessment	$ 10,070,000	$ 10,637,000	$567,000
3rd Party Systems Software	• Assumed 3rd party costs	• Received more accurate cost projections from 3rd parties	$ 6,731,000	$ 9,199,440	$2,468,440
Epic Software License Costs	• Based on a 5 year payment plan.	• Includes a 7 year payment plan, plus interest. • Changes in scope (Tapestry) have changed the total Epic costs.	$ 10,679,000	$ 11,042,424	$363,424
Internal Interfaces (non- vendor)		• Costs have been added to account for fees paid to Third Party Application vendors to interface with	$ 168,000	$ 1,000,000	$832,000
FTE Staffing Capital - AHS	• Assumed 100 FTEs	• Reduced to 84 FTEs based on Epic's recommendation	$ 28,652,000	$ 22,815,236	($5,836,764)
Contractor/Consulting Staffing	• 71 consultants	• Reduced to 10 consultants	$ 43,743,000	$ 4,564,630	($39,178,370)
Vendor Implementation	• Epic quote based on fixed cost	• Updated Epic quote based on Time and Materials	$ 24,316,000	$ 17,688,504	($6,627,496)
Vendor Travel Expenses		• Updated Epic quote has reduced total travel expenses estimate	$ 4,880,000	$ 4,080,000	($800,000)
AHS Travel Expenses	• Over-estimated	• Removed unnecessary travel cost	$ 4,600,000	$ 1,170,000	($3,430,000)
Pre-Implementation Planning		• Reduced estimate by $500,000	$ 1,000,000	$ 500,000	($500,000)
Conversion Costs	• Over-estimated	• Removed unnecessary cost	$ 2,350,000	$ 1,000,000	($1,350,000)
Project Team Performance Incentive		• Incentive listed as a One-Time operating expense in new model, see below.	$ 600,000	$ -	($600,000)
Contingency	• 15% on all Non-Epic costs	• 20% on all Capital and One Time Operating Non-Epic costs • $5,000,000 Scope Contingency	$ 12,166,950	$ 15,164,861	$2,997,911
Total			$ 149,955,950	$ 98,862,095	$ (51,093,855)

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TCO Comparison – Operating Costs

Operating Costs: One-Time and Annual - 10 Years					
Cost Item	**Previous Model**	**Impact Advisors Model**	**Previous Cost**	**New Cost**	**Delta**
Items Included in Previous Model					
Remote Hosting On-Going Fees		• Based on update Epic Quote	$ 32,444,312	$ 29,236,341	($3,207,971)
System Software Maintenance		• Based on update Epic Quote	$ 19,630,000	$ 19,971,063	$341,063
3rd Party Software Maintenance	• Assumed 3rd party costs	• Received more accurate cost projections from 3rd parties	$ 18,188,000	$ 10,187,023	($8,000,977)
FTE Staffing Operating	Based on 25 FTEs	Based on 84 FTEs	$ 38,515,000	$ 105,451,325	$66,936,325
Contractor/Consulting Staffing Operating	Based on 71 consultants	Based on 3 for only 6 months	$ 4,024,000	$ 597,456	($3,426,544)
Legacy Support	• Assumed 11.25 FTEs but offset costs by $2.4M resulting in $1,787,000 line item.	Based on 11.25 FTEs for duration of implementation. 24 months v 21 months.	$ 1,787,000	$ 5,207,169	$3,420,169
SME Backfill	• SME backfill effort was overestimated	• Based on Epic's recommendation	$ 5,556,000	$ 1,634,037	($3,921,963)
Go-Live	• Go-live effort effort was overestimated	• Based on Epic's Operations Expectations Tool	$ 4,943,000	$ 4,429,388	($513,612)
Training	• Training effort was underestimated	• Based on Epic's recommendation	$ 3,005,000	$ 7,866,485	$4,861,485
Interface Maintenance		• Costs have been added to account for fees paid to Third Party Application vendors to interface with Epic	$ 189,000	$ 895,399	$706,399
Tax Estimate	• Included based on estimates provided by Cerner for apples to apples comparison to Cerner.	• N/A	$ 540,000	$ -	($540,000)
Contingency	• 15% on all Non-Epic costs	• 20% on all Capital and One Time Operating Non-Epic costs • 0% Contingency on Annual Operating	$ 11,430,000	$ 5,599,273	($5,830,727)
Items Added in New Model					
Retention incentive program	• Included as a capital expense	Based on $15,000 per FTE	$ -	$ 1,260,000	$1,260,000
Legacy Decommissioning	• Not included	**Cost Increases:** $500,000 Decommissioning $500,000 Archiving $500,000 AR Rundown	$ -	$ 1,500,000	$1,500,000
Project Team & Training Space	• Not included	**Cost Increases:** $1,250,000 Per Year	$ -	$ 11,250,000	$11,250,000
Epic Training, User Group Mtg or Advisory Councils	• Not included	**Cost Increases:** 30 attendees @ $3,600 per attendee per year	$ -	$ 1,130,099	$1,130,099
Total			$ 140,251,312	$ 206,619,604	$ 66,368,293

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TCO Comparison – Total

Total			$ 140,251,312	$ 206,619,604	$ 66,368,293
Total - Capital + Operating			$ 290,207,262	$ 305,481,700	$ 15,274,438

Reductions and Offsets: One-Time and Annual - 10 Years					
Cost Item	**Previous Model**	**Impact Advisors Model**	**Previous Cost**	**New Cost**	**Delta**
Items Included in Previous Model					
Legacy IT FTE Offset	No offset	• Assumes 31 current AHS FTEs will staff the Epic team. Costs for Epic team are offset for both capital and	$ -	$ (53,515,771)	($53,515,771)
Legacy Application Maintenance Savings	• Assumes decommissioning of legacy applications 6 - 12 months post go-live. • Assumes current maintenance fees for applications planned to be	• Differences in implementation timeline assumptions result in offset differences.	$ (55,779,000)	$ (53,387,928)	$2,391,072
Total			$ (55,779,000)	$ (106,903,699)	$ (51,124,699)
Total - With Offsets			$ 234,428,262	$ 198,578,001	$ (35,850,261)

Financing Plan – Major Assumptions

Management has developed a comprehensive operational and financing plan that funds the Epic EMR Project within AHS' existing Line of Credit availability. The key components/assumptions in the plan are:

- **Operations** – Achieve current year budgeted performance of a 4.2% EBIDA and then increase operating performance to 6% over the next two years through a combination of growth, revenue cycle improvements, and operational performance improvement initiatives.

- **EHR Benefits** – we have identified and quantified expected operational improvement through use of the new system, and have incorporated them into the financial plan.

- **Capital Expenditures** – We reviewed our other capital plans and made reductions during the implementation phase of the project.

- **Philanthropy** – We have incorporated the following:
  - $20M from Kaiser in first 3yrs
  - $30M fundraised by AHSF for next 5yrs in addition to normal philanthropy of $1 million per year.

- **County Relationship**
  - Strategic Capital Reserves: requested release of $7m/year for 10 years.
  - Additional Credit Capacity (potential need)

Financing Plan – Management believes that the project can be completed within its current capital availability.

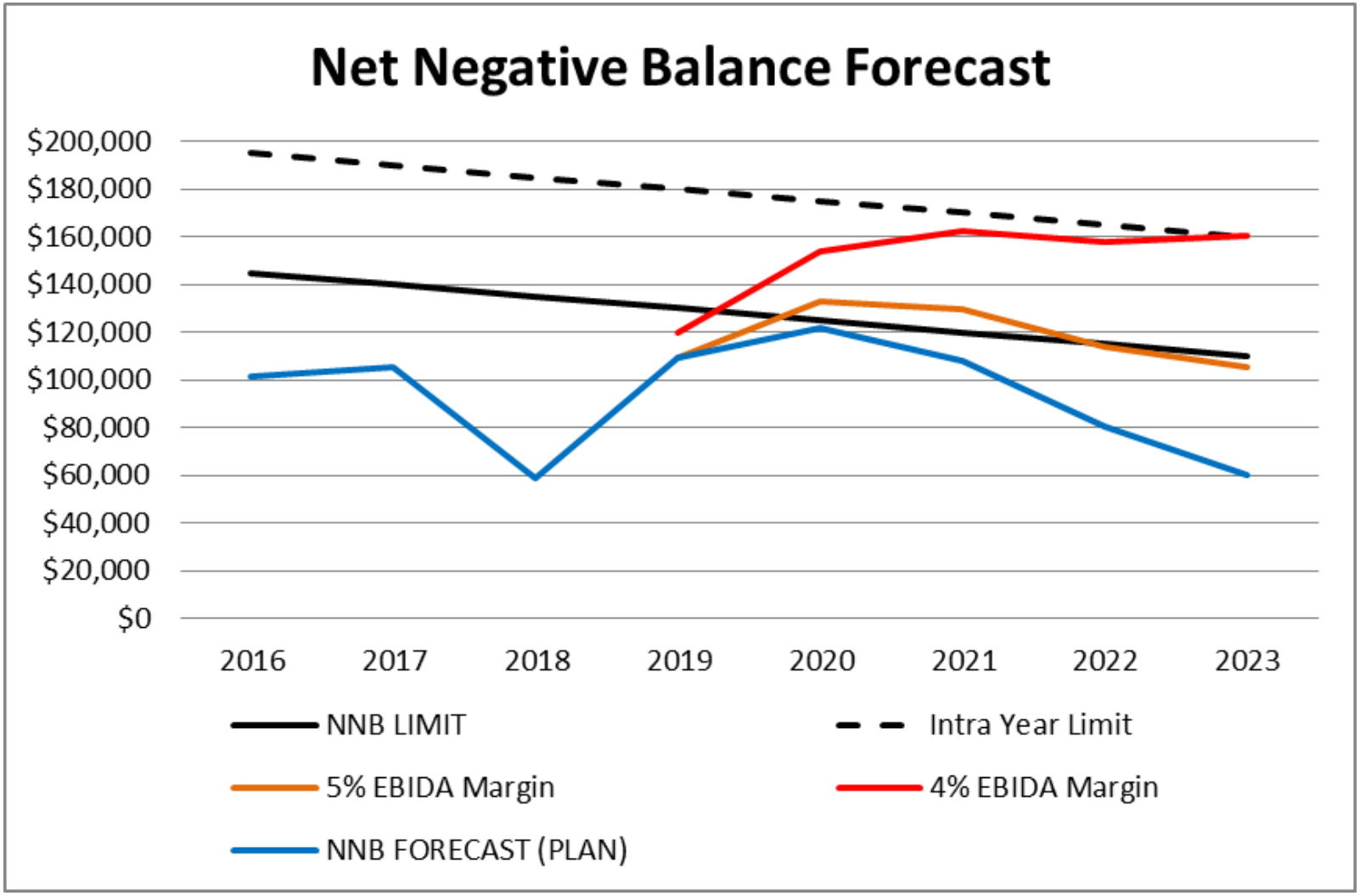
	($ in thousands)	Actual	Budget	Forecast	Forecast	Forecast	Forecast	Forecast
	Summary Financial Plan	2017	2018	2019	2020	2021	2022	2023
1	**Revenue Growth Rate**	**5.0%**	**5.0%**	**4.0%**	**3.0%**	**2.0%**	**2.0%**	**2.0%**
2	**Net Revenue**	**$ 971,991**	**$ 1,020,263**	**$ 1,061,074**	**$ 1,092,906**	**$ 1,114,764**	**$ 1,137,059**	**$ 1,159,800**
3	**Baseline EBIDA Margin**	**5.4%**	**4.2%**	**5.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**
4	Free Cash Flow (EBIDA)	$ 52,488	$ 42,851	$ 53,054	$ 65,574	$ 66,886	$ 68,224	$ 69,588
5	**Epic Operating Costs (Operating)**	**$ -**	**$ (968)**	**$ (3,436)**	**$ (32,983)**	**$ (10,025)**	**$ (8,795)**	**$ (9,593)**
6	**Epic Operational Benefits**	**-**	**-**	**-**	**1,700**	**4,451**	**5,337**	**5,337**
7	**Post Go-Live Cash Flow**	**$ 52,488**	**$ 41,883**	**$ 49,617**	**$ 34,291**	**$ 61,312**	**$ 64,766**	**$ 65,332**
8	Working Capital	(7,726)	(8,045)	(6,802)	(5,305)	(3,643)	(3,716)	(3,790)
9	EMR Days in A/R Effect	-	-	-	-	**(15,000)**	**15,000**	-
10	Supplemental Reimbursement	-	80,000	(20,000)	(10,000)	(10,000)	(10,000)	-
11	**Cash From Operations**	**44,761**	**113,838**	**22,815**	**18,986**	**32,669**	**66,050**	**61,542**
12	**Post Epic EBIDA Margin**	**5.4%**	**4.1%**	**4.7%**	**3.1%**	**5.5%**	**5.7%**	**5.6%**
13	Debt Reduction	(13,252)	(13,848)	(19,135)	(18,612)	(14,155)	(7,000)	(7,000)
14	AHS/County Capital Reserve Fund	-		7,000	7,000	7,000	7,000	7,000
15	Routine Capital Expenditures	(25,000)	(42,359)	(32,828)	(14,000)	(14,000)	(39,000)	(42,000)
16	Electronic Medical Record (Capital)		(19,747)	(39,682)	(17,571)	(3,635)	(5,416)	(5,416)
17	Philanthropic Support K	-	6,000	8,000	6,000	-	-	-
18	AHSF Support - Routine	3,000	3,000	3,000	1,000	1,000	1,000	1,000
19	AHSF Support - EMR Campaign				5,000	5,000	5,000	5,000
21	**Cash From Non-Operating**	**(35,252)**	**(66,954)**	**(73,645)**	**(31,183)**	**(18,790)**	**(38,416)**	**(41,416)**
22	**Cash Surplus/(Deficit)**	**$ 9,509**	**$ 46,884**	**$ (50,830)**	**$ (12,197)**	**$ 13,879**	**$ 27,634**	**$ 20,126**

AHS Operating Plan

Management believes that the targeted operating performance can be achieved through the following initiatives:

- **Market Share Analysis/Growth –** Achieve a 1% annual growth rate.
- **Revenue Cycle Improvement** – Improve NPSR by an extra 1% annually, over and above normal rate increases, and an aggressive contracting strategy.
- **Supplemental Reimbursement –** Maximize available reimbursement through government programs. (note – FQHC DSH issue resolving in AHS favor: $22 million).
- **Population Health/Capitation –** Effectively managing risk based contracts to improve utilization.
- **Wage and Benefit Management** – Achieve efficiencies by managing the mix of labor employed.
- **Labor Productivity –** Achieve labor efficiency improvements of 1.0% per year. (note: in discussions with Vizient regarding support to implement new benchmarks).
- **Operational Improvements/LEAN –** Achieve other operational improvements of 0.5% per year.

Given these assumptions, AHS can finance the Epic EMR project within the existing Line of Credit limits.



RISK MITIGATION PLAN

Typical Risks	Mitigation plan
Lack of ALL Stakeholders Ownership (Delegation without oversight or disengaged leadership)	• Defined Project Governance and senior management ownership in ALL areas. Integrated EHR is typically clinical and operational transformation but with the right tool.
Resource intensive-implementation from poor estimates of requirements	• Begin planning and recruitment before contract signing.
Lack of high performance team, inexperienced staff - inadequate build team	• Mandatory pre-requisite screening with Epic's Sphinx Test (aptitude logic necessary for Epic build). • Training and Epic certification of resources as defined by Epic's requirement for success.
Having too many different processes for the same kind of work operationally	• Logical planning-Chartis with clinical standardization for top 3 initiatives. • Engaging SMEs and forming various workgroups for standardizing operational process and redesign workflows-clinical transformation
Recruitment of poor Physician Champion	• Engage physician champions who are able to commit time in their specialty areas during clinical design phase and be the communication change agent
Poor attendance in training especially clinicians	• Mandatory training for ALL end-users including physicians and clinicians
Trying to customize too much upfront	• Adopt what is already in Epic's rich foundation build & only customized critical gaps.
Revenue Cycle does not work, bills don't go out	• Planning for an In-house systems interface/integration team for seamless integrations that is embedded with best practice workflows • Co-locate the revenue cycle and core integrated build team for integrated build to be effective

Recommendation

Management requests the AHS Board to approve the Epic Electronic Medical Record Project with a Net 10-year Total Cost of Ownership of $200 million, including the following major components:

- Epic Contract – 5 year agreement with an option to extend for an additional 5 years.

- Facilities – Authority to enter into a five year lease for up to 50,000 sq. feet, not to exceed $3.50 per ft/month, for EMR related purposes.

November 2017 Financial Report

Summary – Operating Income was just above breakeven in November and is now 0.8% YTD, while the EBIDA Margin is 2.6%, below the budget of 5.1%. Patient activity improved in several areas during the month and we are now recognizing favorable development in supplemental reimbursement. Expenses were negative to budget during November and are 0.7% favorable YTD, and we are recognizing retroactive wage increases back to July.

	November 2017				Year-To-Date				FY 2017	
	Actual	Budget	Variance	% Var	Actual	Budget	Variance	% Var	YTD	% Change
Net patient service revenue	$ 53,803	$ 56,957	$ (3,154)	(5.5)%	$ 275,312	$ 294,959	$ (19,647)	(6.7)%	$ 262,882	4.7%
Supplemental revenue	30,446	26,273	4,173	15.9%	136,755	131,363	5,392	4.1%	133,297	2.6%
Net operating revenue	84,249	83,230	1,019	1.2%	412,067	426,321	(14,255)	(3.3)%	396,179	4.0%
Operating expense	84,078	82,115	(1,964)	(2.4)%	408,218	410,910	2,692	0.7%	379,297	(7.6)%
Operating Income	171	1,115	(945)	(84.7)%	3,848	15,411	(11,563)	(75.0)%	16,882	(77.2)%
Other non-operating activity	(4,453)	(4,154)	(299)	(618.6)%	(20,534)	(20,760)	227	(118.4)%	(19,718)	(4.1)%
Net Income	**$ (4,282)**	**$ (3,038)**	**$ (1,244)**	**(40.9)%**	**$ (16,685)**	**$ (5,349)**	**$ (11,336)**	**(211.9)%**	**$ (2,835)**	**488.4%**
Operating Margin	**0.2%**	**1.3%**	**(1.1)%**		**0.9%**	**3.6%**	**(2.7)%**		**4.3%**	
EBIDA Margin	**1.8%**	**2.9%**	**(1.1)%**		**2.6%**	**5.1%**	**(2.5)%**		**5.8%**	

ALAMEDA HEALTH SYSTEM

1411 East 31st Street
Oakland, CA 94602

MEMORANDUM

To: AHS Finance Committee
From: David Cox, CFO
Re: EHR Financing Plan
Date: January 11, 2017

Management recommends approval of the Epic Electronic Health Record Project and provides this plan of finance in support. The major factors to be considered are:

- The projected incremental cost and cash requirements of the Electronic Health Record (EHR) project, summarized in the Total Cost of Ownership (TCO) analysis.
- An assessment of AHS' other capital needs or reimbursement impacts, and short term capital expenditure plan
- A detailed operating plan to support the required financial performance going forward and the current actions that management is taking to achieve our targeted performance
- Potential philanthropy, or other services in kind, to support the project, including amounts, timing, and certainty.
- An assessment of the operational improvements and benefits that are expected to be realized from use of the new system.
- An assessment of AHS' ability to accommodate these requirements within AHS' primary credit facility, the long-term Line of Credit provided by the County of Alameda.

EHR Total Cost of Ownership

The summary projected total cost of ownership (TCO), which is summarized below and attached in detail as Schedule 1 in the back of this report, contains the cost of the software license, third party systems, implementation, training, go-live support, and ongoing operations. The baseline agreement with Epic is for a 10-year period.

The cost in the first three years of the project, which is the critical period in terms of our financial plan, is approximately $102 million. In developing the cost estimate, AHS has worked in partnership with Epic to adopt a philosophy of recruiting, training, and retaining internal staff that can ensure a successful implementation and go-live and remain afterwards to help us achieve operational efficiencies from use of the new system. The projection is based on an initial cost estimate conducted by Leidos, subsequently reviewed by Impact Advisors, and then review in detail with Epic. The cost estimate includes contingencies totaling $23 million and management believes that, in total, the cost estimate is reasonable and achievable.

In our negotiations with Epic, we highlighted the importance of containing the overall cost of the project through the offered Safety Net Discount Program, clear identification of AHS costs, and development of a strong implementation plan. We also negotiating extended payment terms intended to smooth the cash requirements.

Much of the cash requirement in the current proposal occurs during the implementation phase; i.e., at the front end of the project as shown below. AHS is currently projecting to need about $21 million in the Jan – June 2018 period, $43 million in Fiscal 2019, and $49 million in Fiscal 2020. After that, implementation will be complete and the ongoing incremental costs will be much lower.

Capital Expenditure Plan

Apart from the EHR project, AHS has reviewed its Capital Expenditure Plan and intends to defer normal expenditures for equipment, facilities, and information technology in fiscal years 2019 through 2021, in order to manage credit requirements in those years. Once the EHR project is completed, we would then expect to increase capital spending back to normal levels beginning in Fiscal 2022.

	CapEx Plan ($,000)	2017	2018	2019	2020	2021	2022	2023
30	Facilities	(6,500)	(5,000)	(2,500)	(2,500)	(2,500)	(10,000)	(11,000)
31	Equipment	(7,000)	(5,000)	(2,500)	(2,500)	(2,500)	(14,000)	(15,000)
32	Information Technology	(9,000)	(6,000)	(2,000)	(2,000)	(2,000)	(10,000)	(11,000)
33	San Leandro Rehab	(1,500)	(18,259)	(13,428)	-	-	-	-
34	SB90 Seismic - AH Kitchen	-	(8,100)	(7,400)	(2,000)	(2,000)	-	-
35	John George Expansion	-	-	-	-	-	-	-
36	Strategic Opportunities	(1,000)		(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
38	**Capital Expenditures**	**$ (25,000)**	**$ (42,359)**	**$ (32,828)**	**$ (14,000)**	**$ (14,000)**	**$ (39,000)**	**$ (42,000)**

Summary Financial Plan

Operating performance will be a critical factor in determining AHS' ability to finance this project. Combining capital requirements with debt service and projected operating performance (EBIDA Margin), provides a summary projection of AHS overall cash requirements. AHS' current financial plan anticipates increasing financial performance from a 4.2% EBIDA Margin in 2018, to 5.0% in 2019 and to 6.0% in 2020 and subsequent years. Management believes that this is the level of operating performance required to ensure compliance with our Line of Credit.

In constructing this forecast and plan, management has been conservative in our estimate of Supplemental Reimbursement settlements (line 10 below), and it is possible that AHS could do significantly better due to certain reimbursement appeals that will resolve during this period.

	($ in thousands)	Actual	Budget	Forecast	Forecast	Forecast	Forecast	Forecast
	Summary Financial Plan	2017	2018	2019	2020	2021	2022	2023
1	**Revenue Growth Rate**	**5.0%**	**5.0%**	**4.0%**	**3.0%**	**2.0%**	**2.0%**	**2.0%**
2	**Net Revenue**	**$ 971,991**	**$ 1,020,263**	**$ 1,061,074**	**$ 1,092,906**	**$ 1,114,764**	**$ 1,137,059**	**$ 1,159,800**
3	**Baseline EBIDA Margin**	**5.4%**	**4.2%**	**5.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**
4	Free Cash Flow (EBIDA)	$ 52,488	$ 42,851	$ 53,054	$ 65,574	$ 66,886	$ 68,224	$ 69,588
5	**Epic Operating Costs (Operating)**	**$ -**	**$ (968)**	**$ (3,436)**	**$ (32,983)**	**$ (10,025)**	**$ (8,795)**	**$ (9,593)**
6	**Epic Operational Benefits**	**-**	**-**	**-**	**1,700**	**4,451**	**5,337**	**5,337**
7	**Post Go-Live Cash Flow**	**$ 52,488**	**$ 41,883**	**$ 49,617**	**$ 34,291**	**$ 61,312**	**$ 64,766**	**$ 65,332**
8	Working Capital	(7,726)	(8,045)	(6,802)	(5,305)	(3,643)	(3,716)	(3,790)
9	EMR Days in A/R Effect	-	-	-	-	**(15,000)**	**15,000**	-
10	Supplemental Reimbursement	-	80,000	(20,000)	(10,000)	(10,000)	(10,000)	-
11	**Cash From Operations**	**44,761**	**113,838**	**22,815**	**18,986**	**32,669**	**66,050**	**61,542**
12	**Post Epic EBIDA Margin**	**5.4%**	**4.1%**	**4.7%**	**3.1%**	**5.5%**	**5.7%**	**5.6%**
13	Debt Reduction	(13,252)	(13,848)	(19,135)	(18,612)	(14,155)	(7,000)	(7,000)
14	AHS/County Capital Reserve Fund	-		7,000	7,000	7,000	7,000	7,000
15	Routine Capital Expenditures	(25,000)	(42,359)	(32,828)	(14,000)	(14,000)	(39,000)	(42,000)
16	Electronic Medical Record (Capital)		(19,747)	(39,682)	(17,571)	(3,635)	(5,416)	(5,416)
17	Philanthropic Support K	-	6,000	8,000	6,000	-	-	-
18	AHSF Support - Routine	3,000	3,000	3,000	1,000	1,000	1,000	1,000
19	AHSF Support - EMR Campaign				5,000	5,000	5,000	5,000
21	**Cash From Non-Operating**	**(35,252)**	**(66,954)**	**(73,645)**	**(31,183)**	**(18,790)**	**(38,416)**	**(41,416)**
22	**Cash Surplus/(Deficit)**	**$ 9,509**	**$ 46,884**	**$ (50,830)**	**$ (12,197)**	**$ 13,879**	**$ 27,634**	**$ 20,126**

An additional consideration is the potential working capital requirements of the project. In the last conversion, AHS' Days in Accounts Receivable (A/R) almost doubled to about 120 days, requiring an additional $55 million draw on the Line of Credit. At AHS' current level of revenue, each "day of revenue" increase will require an additional $2 million, and it is not unusual for EHR conversion to increase A/R Days by 30 or more, which would potentially require another $60 million of liquidity.

In the projection above, AHS has assumed that the net increase at June 30, 2021 (i.e, six months after the projected go-live date), will be about 7.5 days or $15 million. Management obviously intends to plan to do better than this, but we believe that it is appropriate to plan for some level of deterioration in accounts receivable.

Alameda County Line of Credit

Healthcare organizations are capital intensive and it is very normal to finance large projects such as an EHR conversion with debt; typically through a long-term bond issuance. Other public safety net health systems are part of County Operated Health Systems (COHS) and have the ability to issue bonds under their own authority or access other sources of funding, such as special tax levies. AHS, however, by its nature is legally separate from the County but under restrictive covenants that require County approval for any major debt issuance, even if AHS could otherwise qualify for this.

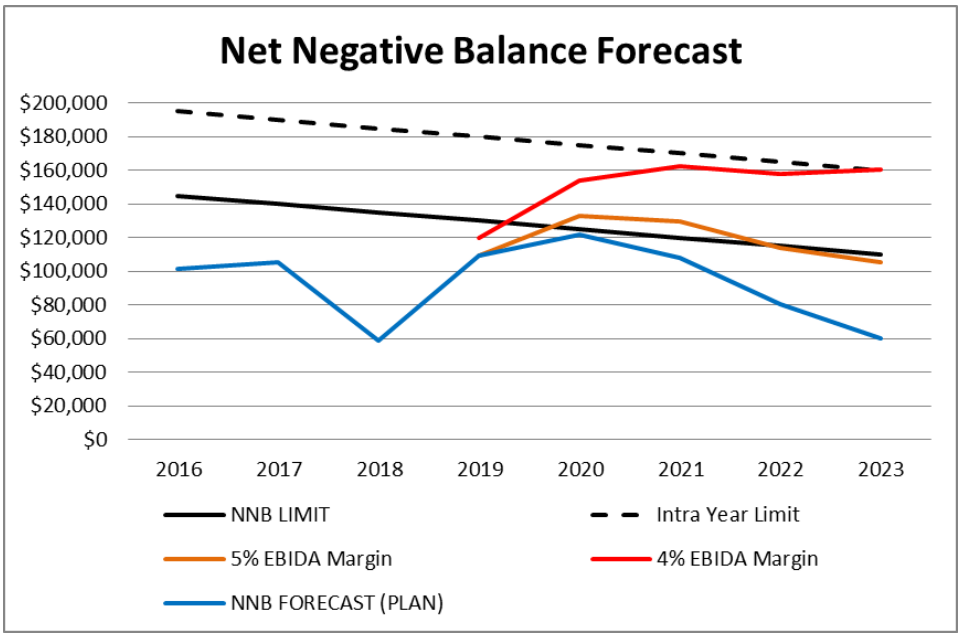
AHS' primary source of external financing is a Line of Credit provided by Alameda County, which is structured as an ability to draw on the County Treasury and termed Net Negative Balance (NNB). This is a 20-year credit facility with a declining availability over a period of years. The

declining balance must be met at June 30th of each year (the Measurement Date), but during the year AHS can draw up to an additional $50 million over the year-end target.

Based on the current operating assumptions of achieving a 6% EBIDA Margin in Fiscal 2020, AHS would remain in compliance with the Line of Credit in all years (see lines 23, 24, and 28 below). We have also run projections at operating performance of 5% and 4% EBIDA margins, which are also shown below (lines 25 and 26). The 5% projection indicates that AHS would slightly exceed the LOC Limit in Fiscal 2020 – 2022, but within the margin of error. The 4% scenario exceeds the LOC Limit in Fiscal 2020 – 2023 by significant margins.

		2017	2018	2019	2020	2021	2022	2023
23	**NNB LIMIT**	**$ 140,000**	**$ 135,000**	**$ 130,000**	**$ 125,000**	**$ 120,000**	**$ 115,000**	**$ 110,000**
24	**NNB FORECAST (PLAN)**	**$ 105,500**	**$ 58,616**	**$ 109,446**	**$ 121,643**	**$ 107,764**	**$ 80,130**	**$ 60,004**
25	Intra Year Limit	$ 190,000	$ 185,000	$ 180,000	$ 175,000	$ 170,000	$ 165,000	$ 160,000
26	5% EBIDA Margin			$ 109,446	$ 132,572	$ 129,841	$ 113,578	$ 105,050
27	4% EBIDA Margin			$ 120,057	$ 154,112	$ 162,528	$ 157,636	$ 160,706
28	**NNB Surplus/(Deficit)**	**$ 34,500**	**$ 76,384**	**$ 20,554**	**$ 3,357**	**$ 12,236**	**$ 34,870**	**$ 49,996**

This information is shown graphically below:



Operating Plan/Improvement Initiatives

A key consideration will be AHS' ability to achieve the targeted operating performance in the financial plan and has developed a detailed operational plan that should allow AHS to achieve the targeted level of operating performance. The following sections will discuss the key assumptions that go into the forecast.

Volume and Revenue Projection

AHS' revenue growth forecast is a combination of normal volume increases, normal rate increases, and revenue cycle improvement initiatives. Volumes, as measured by Adjusted Patient Days (APD), increased by 8.3% in Fiscal 2016, decreased by 4.7% in Fiscal 2017, and are budgeted to increase by 2.7% in Fiscal 2018. Given the emphasis on expanding access in AHS' strategic plan, we are assuming a 1.2% annual growth rate going forward.

Normal collection rate increases – Medicare, Medi-Cal, and Commercial – should average about 2.0% per year. We have also included specific targets from negotiation with our Medi-Cal Managed Care plans, to be realized in Fiscal 2019 through 2020.

Revenue Cycle Improvement – In Fiscal 2015 AHS implemented an aggressive revenue cycle improvement plan that produced revenue growth of 20% combined over the next two years, and are targeting an additional 5.6% in Fiscal 2018. Although there are additional opportunities, they are harder to attain. Accordingly, we are assuming 2% in 2019, 1% in 2020, and 1% per year thereafter. This is still an aggressive target that would likely require the use of external resources.

Revenue	2016A	2017A	2018B	2019F	2020F	2021F	2022F	2023F
Volume Increase (APD)	8.3%	-4.7%	-0.9%	1.2%	1.2%	1.2%	1.2%	1.2%
Rate Improvement	2.0%	2.0%	1.5%	2.0%	2.0%	2.0%	2.0%	2.0%
AAH/Anthem MediCal Negotiations				1.0%	1.0%	1.0%	0.0%	0.0%
Revenue Cycle Improvement	13.4%	8.1%	5.6%	2.0%	1.0%	1.0%	1.0%	1.0%
NPSR Growth Rate	**23.7%**	**5.3%**	**6.2%**	**6.2%**	**5.2%**	**5.2%**	**4.2%**	**4.2%**
Inpatient Days	204,398	209,018	208,750	210,213	211,680	213,153	214,631	216,113
IP/OP Ratio	56.2%	60.3%	60.8%	60.5%	60.2%	59.9%	59.6%	59.3%
Adjusted Patient Days	363,684	346,495	343,315	347,434	351,604	355,823	360,093	364,414
Inpatient service revenue	56.2%	60.3%	60.8%	60.4%	60.0%	59.6%	59.2%	58.8%
Outpatient service revenue	35.4%	32.6%	32.3%	32.6%	32.9%	33.2%	33.5%	33.8%
Professional service revenue	8.4%	7.1%	6.9%	7.0%	7.1%	7.2%	7.3%	7.4%
Revenue Mix	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Supplemental Reimbursement

Supplemental Reimbursement totals over $300 million per year and constitutes about 30% of AHS' total annual revenue. We maintain a very detailed forecast of future reimbursement and update the forecast regularly based on projected changes in programs. The attached is the current forecast. The primary risk is the current Medi-Cal Waiver, which is currently projected to end in 2020, but may be replaced in whole or part by another program. We have included an assumption that the current level of funding will continue, but it is very hard to predict.

AHS Projection	2017A	2018B	2019F	2020F	2021F	2022F	2023F
Medi-Cal Waiver	64,127	84,300	100,780	93,230	88,530	88,530	88,530
Measure A, Parcel Tax, Other Supp	108,474	112,488	120,700	123,582	126,537	129,565	132,157
CA Hospital Fee	1,445	3,700	3,700	3,700	3,700	3,700	3,700
Supplemental Programs	87,768	91,685	54,745	54,205	54,205	54,205	54,205
Grants & Research Protocol	7,476	6,482	6,700	6,700	6,700	6,700	6,700
Other Operating Revenue	15,786	16,306	13,700	13,700	13,700	13,700	13,700
Incentives	458	-	-	-	-	-	-
Supplemental Revenue	**285,534**	**314,961**	**300,325**	**295,117**	**293,372**	**296,400**	**298,992**
Total Operating Revenue	**971,991**	**1,020,263**	**1,049,161**	**1,082,707**	**1,121,109**	**1,158,446**	**1,196,769**

Capitation

AHS' core strategy is to become a manager of Population Health. This entails taking financial risk for groups of populations and managing the care provided in a manner that improves overall care while efficiently managing overall resources utilization. The financial result of this should be to stabilize top line net revenue, expand and rationalize capacity, and ensure that costs are below revenue under these contracts; i.e., capitation. AHS will pursue capitation for some services and continued fee-for-service for other services. AHS will phase-in capitation among its Medi-Cal managed care population over a 12- month period beginning with a risk sharing program in January 2018.

Management is including this very preliminary proforma (Figure-12) as an example (the numbers below are illustrative only) of how this would work, and have included the results in the revised financial plan.

Capitation (dollars)	2016A	2017A	2018B	2019F	2020F	2021F	2022F	2023F
Enrolled Lives (Medi-Cal)				50,000	60,000	70,000	80,000	90,000
Revenue PMPM				$ 90.00	$ 150.00	$ 153.00	$ 156.06	$ 159.18
Expense PMPM				$ 88.00	$ 147.00	$ 149.94	$ 152.94	$ 156.00
Margin PMPM				$ 2.00	$ 3.00	$ 3.06	$ 3.12	$ 3.18
Net Capitation Income				**$ 1,200,000**	**$ 2,160,000**	**$ 2,570,400**	**$ 2,996,352**	**$ 3,438,314**

Staffing and Productivity

Staffing costs are the largest component of a health systems expense structure and good management of staff productivity is therefore essential to strong financial performance. The key indicators of productivity are:

- Total Paid FTEs – Paid FTEs were 3,949 in 2015, declined to 3,923 in 2016, increased to 4,148 in 2017, and are budgeted at 4,360 in 2018. Projecting forward, we have included an annual growth factor of 50% of the volume increase, which is typical in healthcare. We are also building a 0.5% productivity improvement factor into the forecast as we believe that a sustained program of productivity improvement is necessary to achieve our objectives.
- FTEs per adjusted occupied bed – The result of this should be an improvement in FTEs per adjusted occupied bed from the budget of 4.74 in 2018 to 4.28 in 2023.
- Worked Hours per APD – Similarly, Worked Hours per APD are projected to decrease from 22.7 in 2018 to 20.5 in 2023.

Staffing & Productivity	2016A	2017A	2018B	2019F	2020F	2021F	2022F	2023F
Paid Full Time Equiv. (FTE's)	3,914	4,148	4,360	4,255	4,260	4,264	4,268	4,272
Volume Related Growth	4.2%	-2.4%	-0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
Productivity (Gain)/Loss	-6.4%	8.2%	5.6%	-3.0%	-0.5%	-0.5%	-0.5%	-0.5%
% Change in Paid FTE's	-0.9%	6.0%	5.1%	-2.4%	0.1%	0.1%	0.1%	0.1%
Total FTE Growth	**(35)**	**234**	**212**	**(105)**	**4**	**4**	**4**	**4**
FTE's per AOB	3.93	4.37	4.74	4.47	4.42	4.37	4.33	4.28
Efficiency (Gain)/Loss	-8.4%	11.2%	8.5%	-5.7%	-1.1%	-1.1%	-0.9%	-1.2%
Worked Hours per APD	19.6	21.6	22.7	21.4	21.2	20.9	20.7	20.5
Efficiency (Gain)/Loss	-4.9%	10.4%	5.1%	-5.7%	-1.1%	-1.1%	-1.1%	-1.1%

Wages and Benefits

In addition to the total number of employees projected above, total salary costs are determined by the average amount paid to each employee and the benefit package that is provided to all employees. We are estimating that the average wage per employee will increase at about 3.0% below, based on these assumptions:

- Annual Wage Increases – 3.5%
- Step Increases – an additional 1.0%
- Longevity Rotation – Higher paid employees retiring, being replaced by new lower paid employees. Average reduction of 0.5%.
- Operational Mix Factor – An improvement of 0.5% per year to be achieved by ensuring that we have the right skill mix appropriate to care provided.

Wages and Benefits	2016A	2017A	2018B	2019F	2020F	2021F	2022F	2023F
Salaries and Wages	404,734	439,768	471,031	476,114	494,514	513,577	533,327	553,788
Registry	20,089	35,158	34,447	34,500	34,500	34,500	34,500	34,500
Total Salaries	424,823	474,926	505,478	510,614	529,014	548,077	567,827	588,288
Avg Salary per Paid FTE	$ 108,539	$ 114,495	$ 115,935	$ 119,993	$ 124,193	$ 128,539	$ 133,038	$ 137,695
Annual Wage Increase	2.5%	2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%
Step Factor	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Longevity Rotation	-1.0%	-1.0%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
Wage Mix Reduction Tgt	2.1%	3.0%	-2.2%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
% Change	**4.6%**	**5.5%**	**1.3%**	**3.5%**	**3.5%**	**3.5%**	**3.5%**	**3.5%**

Employee Benefits – we are assuming a slight improvement in this ratio of 0.1% per year, due to the portion of total benefits (FICA) that caps out based on pre-determined limits. Due to wage rates, we have many employee classes that exceed the annual maximums. We have also factored in expected increases in pension benefit costs due to changes in actuarial assumptions.

Operational Improvement Initiatives

AHS is investing in a LEAN/Operational Improvement initiative and we are projecting general cost reductions of 0.25% in Fiscal 2019 and then an additional 0.25% each year going forward. This would result in savings of approximately $2 million in 2019, and an additional $5 million per year each year thereafter.

Operational Improvement	2016A	2017A	2018B	2019F	2020F	2021F	2022F	2023F
Salaries and Wages	404,734	439,768	471,031	476,114	494,514	513,577	533,327	553,788
Registry	20,089	35,158	34,447	34,500	34,500	34,500	34,500	34,500
Contracted Physician Services	75,958	83,325	93,656	96,466	99,360	102,340	105,411	108,573
Purchased Services	73,482	75,031	79,504	81,094	82,716	84,370	86,058	87,779
Pharmaceuticals	30,986	27,953	29,678	30,865	32,100	33,384	34,719	36,108
Medical Supplies	33,297	36,119	35,073	36,476	37,935	39,452	41,030	42,672
Materials and Supplies	17,988	18,633	19,368	20,143	20,948	21,786	22,658	23,564
Outside Medical Services	2,954	2,205	4,365	4,452	4,541	4,632	4,725	4,819
Administrative Expense	13,613	18,095	19,840	20,237	20,642	21,054	21,475	21,905
Repairs/Maintenance/Utilities	16,165	19,241	18,615	18,987	19,367	19,754	20,149	20,552
Controllable Expenses	**689,266**	**755,528**	**805,577**	**819,334**	**846,622**	**874,851**	**904,052**	**934,260**
Oper Imp/LEAN Tgt - Annual			**0.00%**	**0.25%**	**0.25%**	**0.25%**	**0.25%**	**0.25%**
Cumulative Improvement			**0.00%**	**0.25%**	**0.50%**	**0.75%**	**1.00%**	**1.25%**
Efficiency Improvement Assumption - Cumulative Annual Impro			**$ -**	**$ 2,048**	**$ 4,233**	**$ 6,561**	**$ 9,041**	**$ 11,678**
Annual Improvement				**$ 2,048**	**$ 2,185**	**$ 2,328**	**$ 2,479**	**$ 2,638**
Annual Expense Increase %	**3.8%**	**9.6%**	**6.6%**	**1.7%**	**3.3%**	**3.3%**	**3.3%**	**3.3%**

In summary, management believes that the financial performance necessary to fund the Electronic Medical Record project within our current credit limits, can be accomplished through these initiatives.

Schedule 1 – Total Cost of Ownership (TCO)

10 Year Projection	2018 FY1	2019 FY2	2020 FY3	2021 FY4	2022 FY5	2023 FY6	2024 FY7	2025 FY8	TOTAL
	07/17-06/18	07/18-06/19	07/19-06/20	07/20-06/21	07/21-06/22	07/22 - 06/23	07/23-06/24	07/24-06/25	
CAPEX									
Epic Licensing Fees + Implementation Cos	$2,451,000	$4,440,000	$3,328,950	$3,634,866	$5,416,032	$5,416,032	$5,416,032	$2,708,016	$32,810,928
3rd Party Software License Fees	4,599,720	4,599,720							9,199,440
Hardware	1,306,750	5,410,000	3,920,250						10,637,000
AHS Staff Cost 84 ppl (Salary+Benefits & Epic Trai	6,453,073	13,862,198	3,669,753						23,985,024
Consultants Cost	2,053,760	2,413,414	1,194,913						5,662,086
Integration Costs		1,000,000	1,000,000						2,000,000
Subtotal	16,864,303	31,725,331	13,113,866	3,634,866	5,416,032	5,416,032	5,416,032	2,708,016	84,294,479
Contingency 20% (on non-epic line items)	2,882,661	5,457,066	1,956,983						10,296,710
Scope Contingency (CEO)		2,500,000	2,500,000						5,000,000
CAPITAL TOTAL	**$19,746,964**	**$39,682,397**	**$17,570,850**	**$3,634,866**	**$5,416,032**	**$5,416,032**	**$5,416,032**	**$2,708,016**	**$99,591,189**
OPEX									
Epic Hosting & Annual Support	$435,600	$906,048	$4,680,250	$5,534,259	$5,741,895	$5,955,521	$6,162,134	$6,375,189	$49,207,404
3rd Party Software Maintenance	464,572	957,018	985,729	1,015,301	1,045,760	1,077,133	1,109,447	1,142,730	10,187,023
AHS FTE Staff Cost (84 -> 68 ppl 3% yearly inflation)			11,864,260	13,943,025	13,645,572	13,354,514	13,069,714	13,458,565	107,466,346
End User Training			7,573,382						7,573,382
Go-Live Support			4,646,000						4,646,000
Legacy & SME Backfill	1,686,656	3,373,312	1,686,656						6,746,624
Legacy Decommission Costs		750,000	750,000						1,500,000
New Office Space & Training Rooms Lease		1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	11,250,000
Subtotal	2,586,828	7,236,378	33,436,278	21,742,585	21,683,226	21,637,167	21,591,294	22,226,484	198,576,779
Contingency 20% (on non-epic line items)	430,246	1,266,066	5,751,205						7,447,517
OPERATIONAL TOTAL	**$3,017,074**	**$8,502,444**	**$39,187,483**	**$21,742,585**	**$21,683,226**	**$21,637,167**	**$21,591,294**	**$22,226,484**	**$206,024,296**
TOTAL (capex & opex)	**$22,764,038**	**$48,184,842**	**$56,758,333**	**$25,377,451**	**$27,099,258**	**$27,053,199**	**$27,007,326**	**$24,934,500**	**$305,615,485**
OFF SETS									
Decommissioning (Place Holder)			(986,200)	(6,342,638)	(7,352,856)	(6,342,638)	(7,800,645)	(8,034,664)	(53,397,009)
Legacy IT OFF-SET (31FTEs)	(2,049,349)	(5,065,990)	(5,217,969)	(5,374,508)	(5,535,744)	(5,701,816)	(5,872,870)	(6,049,056)	(53,515,274)
Subtotal	(2,049,349)	(5,065,990)	(6,204,169)	(11,717,146)	(12,888,600)	(12,044,454)	(13,673,515)	(14,083,721)	(106,912,283)
GRAND TOTAL	$20,714,689	$43,118,852	$50,554,163	$13,660,304	$14,210,659	$15,008,745	$13,333,811	$10,850,779	$198,703,202
Benefits Realization									
Benefits Realization			($1,700,000)	($4,451,368)	($5,336,872)	($5,336,872)	($5,336,872)	($5,336,872)	($38,172,603)
EPIC TCO TOTAL		**$43,118,852**	**$48,854,163**	**$9,208,936**	**$8,873,786**	**$9,671,872**	**$7,996,938**	**$5,513,906**	**$160,530,598**

Schedule 2 – AHS Operating Plan

AHS Projection	2017A	2018B	2019F	2020F	2021F	2022F	2023F
Inpatient service revenue	$ 1,868,582	$ 2,079,390	2,214,879	2,359,567	2,513,595	2,652,106	2,798,121
Outpatient service revenue	1,010,105	1,103,214	1,193,879	1,292,145	1,398,383	1,498,848	1,606,400
Professional service revenue	218,915	237,205	258,001	280,619	305,161	328,632	353,842
Gross patient service revenue	**3,097,602**	**3,419,809**	**3,666,759**	**3,932,332**	**4,217,139**	**4,479,585**	**4,758,363**
Deductions from revenues	(2,470,824)	(2,747,703)	(2,952,982)	(3,181,439)	(3,427,200)	(3,656,468)	(3,900,675)
Net patient service revenue	**626,778**	**672,106**	**713,777**	**750,893**	**789,939**	**823,117**	**857,688**
Capitation - HPAC	59,679	33,196	33,860	34,537	35,228	35,932	36,651
Net Capitation Income	-	-	1,200	2,160	2,570	2,996	3,438
Total Capitation	**59,679**	**33,196**	**35,060**	**36,697**	**37,798**	**38,929**	**40,089**
Medi-Cal Waiver	64,127	84,300	100,780	93,230	88,530	88,530	88,530
Measure A, Parcel Tax, Other Supp	108,474	112,488	120,700	123,582	126,537	129,565	132,157
CA Hospital Fee	1,445	3,700	3,700	3,700	3,700	3,700	3,700
Supplemental Programs	87,768	91,685	54,745	54,205	54,205	54,205	54,205
Additional Funding			-	-	-	-	-
Grants & Research Protocol	7,476	6,482	6,700	6,700	6,700	6,700	6,700
Other Operating Revenue	15,786	16,306	13,700	13,700	13,700	13,700	13,700
Incentives	458	-	-	-	-	-	-
Supplemental Revenue	**285,534**	**314,961**	**300,325**	**295,117**	**293,372**	**296,400**	**298,992**
Total Operating Revenue	**971,991**	**1,020,263**	**1,049,161**	**1,082,707**	**1,121,109**	**1,158,446**	**1,196,769**
Salaries and Wages	439,768	471,031	476,114	494,514	513,577	533,327	553,788
Registry	35,158	34,447	34,500	34,500	34,500	34,500	34,500
Employee Benefits	155,546	162,948	164,093	169,477	175,036	180,776	186,702
Contracted Physician Services	83,325	93,656	96,466	99,360	102,340	105,411	108,573
Purchased Services	75,031	79,504	81,094	82,716	84,370	86,058	87,779
Pharmaceuticals	27,953	29,678	30,865	32,100	33,384	34,719	36,108
Medical Supplies	36,119	35,073	36,476	37,935	39,452	41,030	42,672
Materials and Supplies	18,633	19,368	20,143	20,948	21,786	22,658	23,564
Outside Medical Services	2,205	4,365	4,452	4,541	4,632	4,725	4,819
General & Administrative Expenses	18,095	19,840	20,237	20,642	21,054	21,475	21,905
Repairs/Maintenance/Utilities	19,241	18,615	18,987	19,367	19,754	20,149	20,552
Building/Equipment Leases & Rental	8,510	9,038	9,219	9,403	9,591	9,783	9,979
Operational Efficiency Target	-	-	(2,048)	(4,233)	(6,561)	(9,041)	(11,678)
EMR Effect	-	-	-	-	-	-	-
Depreciation	15,140	15,140	16,000	17,000	17,000	17,000	17,000
Total operating expense	**934,724**	**992,703**	**1,006,597**	**1,038,269**	**1,069,917**	**1,102,570**	**1,136,262**
Operating Income	**37,267**	**27,560**	**42,564**	**44,438**	**51,193**	**55,876**	**60,506**
Operating Margin	**3.8 %**	**2.7 %**	**4.1 %**	**4.1 %**	**4.6 %**	**4.8 %**	**5.1 %**
EBIDA Margin	**5.4 %**	**4.2 %**	**5.6 %**	**5.7 %**	**6.1 %**	**6.3 %**	**6.5 %**
Collection % - NPSR	20.2 %	19.7 %	19.5 %	19.1 %	18.7 %	18.4 %	18.0 %
Revenue Growth Rate - Total	**5.0%**	**5.0%**	**2.8%**	**3.2%**	**3.5%**	**3.3%**	**3.3%**
Expense Growth Rate	**8.4%**	**6.2%**	**1.4%**	**3.1%**	**3.0%**	**3.1%**	**3.1%**
System Discharges	19,867	19,978	20,118	20,454	20,797	21,148	21,506
System Patient Days	209,018	208,750	210,213	211,680	213,153	214,631	216,113
Average Length of Stay	10.5	10.4	10.4	10.3	10.2	10.1	10.0
Adjusted patient days (APD)	346,495	343,315	347,434	351,604	355,823	360,093	364,414
Net operating revenue per APD	$ 2,805	$ 2,972	$ 3,020	$ 3,079	$ 3,151	$ 3,217	$ 3,284
Operating expense per APD	$ 2,698	$ 2,892	$ 2,897	$ 2,953	$ 3,007	$ 3,062	$ 3,118
Oper income per APD	$ 108	$ 80	$ 123	$ 126	$ 144	$ 155	$ 166
Paid Full Time Equivalents (FTE)	4,148	4,463	4,255	4,260	4,264	4,268	4,272
Paid FTE's per APD	4.37	4.74	4.47	4.42	4.37	4.33	4.28
Worked Hours per APD	21.59	22.70	21.40	21.17	20.94	20.71	20.48
Compensation Ratio	64.9 %	65.5 %	64.3 %	64.5 %	64.5 %	64.6 %	64.8 %

Contractor/Vendor Name:	(1) Epic Systems Corporation (License and Support Agreement or "**License Agreement**"), and (2) Epic Hosting, LLC (Hosting Services Agreement or "**Hosting Agreement**") (collectively, "**Epic**")
Description:	**Situation:** Alameda Health System ("**AHS**") executive leadership wishes to implement a comprehensive and high-quality electronic health records system ("**EHR**") across all AHS hospitals and physician office settings. The EHR is expected to impact all aspects of patient access, clinical, and revenue cycle processes throughout the AHS enterprise. AHS's vision for the EHR is to transform patient care, patient experience, and enable AHS's path to population health management. To ensure that AHS selected the EHR vendor best qualified and able to provide the highest value to AHS, AHS solicited proposals for the EHR via a Request for Proposal ("**RFP**") process. Two vendors, Epic and Cerner, submitted proposals in response to the RFP. Epic and Cerner are consistently recognized as the market's top two vendors for both inpatient and ambulatory EHR systems. After a detailed and thorough evaluation process, Epic was selected by AHS executive leadership as AHS's vendor of choice, and the proposed transaction was negotiated with Epic. AHS leadership requests that the Board approve the proposed transaction with Epic as described herein. We would also like to bring to your attention, as a part of the Electronic Health Record (EHR) initiative, AHS will be presenting the Board with a lease agreement for approval in February. AHS has identified a space which is sufficient to accommodate the projected additional resources needed for the EHR project. The lease will not exceed $1.25 million, consistent with the project budget. **Background:** After Epic and Cerner submitted their responses to AHS's RFP, multiple evaluation teams consisting of AHS subject matter experts and stakeholders analyzed and scored the competing proposals, and AHS engaged Leidos, a consulting firm, to prepare total cost of ownership projections for each vendor. Upon careful review, analysis, and discussion by the EHR Project Working Group, a body chaired by AHS's Chief Medical Officer, AHS determined that Epic is the most qualified and best positioned vendor to support AHS's strategic objectives for a new EHR. On June 12, 2017, the EHR Project Working Group unanimously selected Epic as its preferred vendor for the EHR project. Since that date, the EHR Project Working Group, working with outside counsel Foley & Lardner LLP and the AHS General Counsel's office, has overseen contract negotiations with Epic that have culminated in the negotiated transaction that AHS's leadership now recommends. **Analysis:** Once it is implemented, the new EHR will form the backbone of AHS's clinical and administrative operations. Epic's EHR combines inpatient, ambulatory, post-acute, population management, behavioral health, rehabilitation, revenue cycle, health information exchange, and e-health systems on a single, unified platform. More than 30 groups of AHS subject matter experts were needed to evaluate the technical and functional capabilities of the EHR. As one of the largest EHR vendors in the nation, Epic has an established history serving clients similar to AHS in both type and scale. It has a proven history and demonstrated ability in working with academic medical centers and public and safety-net hospitals nationwide. Over 80 safety net groups and FQHCs have implemented Epic's EHR system throughout the U.S. Given Epic's extensive experience with organizations similar to AHS, Epic has demonstrated its capacity to implement its EHR system at AHS. Use of Epic's EHR product is particularly widespread in northern California. More than 60% of the population of northern California is served by healthcare organizations that use Epic. Because Epic's EHR makes it easy to establish health information exchanges (or "HIEs") with other Epic users, Epic's high market penetration in northern California will make it easier for AHS to share information with other health organizations in the Bay Area. The prevalence of Epic in northern California will also provide AHS with a deeper talent pool for recruiting purposes.

Epic's EHR will add value to AHS in a number of ways under the terms of the proposed transaction. AHS executive leadership has identified the following objectives for the new EHR:

1. *Standardization* - using the foundational build, the EHR will be standardized across all of AHS, reflecting best practices, evidence-based care, and the outputs of AHS's clinical standardization (CS4E) initiative.
2. *One Patient, One Record* - The EHR will be the single source for each patient's clinical and demographic data.
3. *Enhanced Patient Safety* - The EHR will improve the accuracy, completeness, and legibility of the patient medical record.
4. *Reduce Duplication and Create Efficiencies* - The EHR implementation will streamline services and workflows, thereby reducing overall costs.
5. *Enhanced Patient Satisfaction* - The EHR will offer patients greater control over their care and direct access to their Care Team.
6. *Enable the Quadruple Aim of Population Health* - The EHR will be leveraged to (1) improve the health of AHS's patient population, (2) improve patient experience of care, (3) lower the per capita cost of care, and (4) improve provider and staff experience.
7. *Continuum of Care* - All clinical, demographic and financial data will be available across the continuum of care, within AHS, and throughout the region. This will be true for clinicians, providers, AHS's business office, and AHS's patients.
8. *Data Reliability* - The EHR will centralize all patient data and make it easily accessible, providing an accurate longitudinal view and enhanced reporting capabilities.
9. *Continued Compliance* - The EHR implementation will ensure AHS's ongoing compliance with healthcare regulations and guidelines.
10. *Financial Stability of AHS's Mission* - The EHR will support the necessary changes to ensure AHS's ongoing financial stability in a changing healthcare funding environment.

The table set forth below under the "Fiscal Implications" section of this Contract Summary summarizes the total financial implications of the proposed transaction over a 10 year period as estimated by AHS. Overall, AHS estimates a total spend of $52,232,689under the License and Service Agreement and $29,236,341 under the Hosting Agreement for a total transaction spend of $81,469,030 across 10 years.

Recommendation:

In light of the above findings, AHS leadership requests Board approval to enter into the License and Hosting Agreements as summarized herein.

Contract Type and Term:	**License and Services Agreement** New Contract Term of Software License The License and Services Agreement starts with a software license term of 75 months ("**Term**"). At the end of the Term, AHS can choose to pay a $1.68M fee (the "**Perpetual License Conversion Fee**") to extend the Term to be perpetual. This election is almost universally made by Epic customers and should be planned on by AHS. If AHS pays the Perpetual License Conversion Fee, AHS may use the Epic software in perpetuity (this does not include maintenance and support or hosting). Term of Maintenance and Support Under the License Agreement, the maintenance and support term for each module of Epic software is 1 year from AHS's first use of the module in a production environment, automatically renewing for successive 1 year periods unless AHS provides Epic with 90 days' notice of non-renewal. **Hosting Agreement** New Contract Term of Hosting Services The term for the hosting services is 5 years after go-live or seventy-eight (78) months after the effective date of the Hosting Agreement, whichever is earlier. The hosting services term may be extended by an amendment to the Hosting Agreement prior to the end of the initial hosting services term.
Key Terms (Including Termination Clause):	Termination - Either party may terminate the License Agreement or the Hosting Agreement if the other party becomes insolvent or bankrupt, or if the other party materially breaches the applicable agreement and does not cure such breach within 60 days. Upon termination of the License Agreement for any reason, AHS's license to the Epic software ends. Upon termination of the Hosting Agreement for any reason, AHS can elect to continue paying for and receiving the hosting services during a transition period of 90 days (or longer, depending on the nature of the termination). Warranty - For each module of Epic software, Epic warrants that it will correct errors that materially and adversely affect AHS's operations or patient safety for the longer of (i) 1 year from the date of delivery or (ii) 120 days from the date of AHS's first use in a production environment (the "**Warranty Period**"). Epic must correct any such error or provide a workaround within 90 days of AHS notifying Epic of the error or 45 days from the end of the Warranty Period for that module. Epic's warranty does not extend to non-Epic software issues (e.g. including issues with third-party software licensed from Epic), or to errors that do not materially and adversely affect AHS's operations or patient safety. Security and Confidentiality - Epic is obligated to provide both physical and software security in accordance with its standard practices as set forth under the Hosting Agreement in Exhibit 2 (Services Specifications) and, to the extent not inconsistent with the rest of the Hosting Agreement, Exhibit 9 (Hosting with Epic). Epic may modify Exhibit 9 (Hosting with Epic) from time to time to reflect its current practices. Epic must also obtain a SOC 2 (or equivalent) report at least once annually, and AHS may review this report upon request. Epic's current security practices are described in a document titled "Hosting and Cybersecurity," which is referenced by the Hosting Agreement as a descriptive resource. Hosting Service Levels - AHS will elect to track up to 7 key performance indicators (KPIs) under Exhibit 7-1 (Index) of the Hosting Agreement. If Epic does not meet certain service levels in connection with AHS's selected KPIs, AHS is entitled to service level credits. Specifically, if AHS experiences 5 or more performance failures a day (i.e., the KPIs are not met) for at least 2 days in any given month, AHS will be credited a pro-rated portion of that month's hosting fees for the number of days with 5+ KPI failures (not to exceed 50% of the number of days in that month).
Total Spend with Vendor:	Software License The license fees for the Epic software are as follows:

- $8,958,720 (core license fees spread out over months 1-75)
- $1,679,976 (Perpetual License Conversion Fee spread out over months 76-84)
- $121,176 (license fee financing costs (fixed) spread out over years 1-3)
- ~$646,748 as estimated by AHS (license fee financing costs (variable) spread out over years 4-7 based on the 30-Day LIBOR rate + 2%)
- unknown (increased license fees resulting from use in excess of the licensed volume limits, described below)

AHS is licensed during the Term of the Agreement to use the Epic software up to the following usage limits:

- 180,000 annual Inpatient Day Equivalents
- 350,000 annual Ambulatory Visits
- 1,000,000 annual Lab Orders
- 200,000 annual Prescription Dispenses
- 42 Interfaces/Connector Units
- 10 Predictive Analytics Models

Additional use in excess of the above will be subject to additional fees.

Implementation

The implementation services provided by Epic are billable on a time and materials basis in accordance with the following payment schedule:

- $5,631,000 (implementation fees spread out over years 1-3)
- ~$4,080,000 as estimated by Epic (Epic's reimbursable expenses (e.g. travel) spread out over years 1-2)
- ~$10,830,000 as estimated by Epic (implementation fees spread out over years 4-7)
- ~$1,458,504 as estimated by AHS (fees for financing AHS's implementation payments spread out over seven years based on the 30-Day Libor rate + 2%)

As of December 19, 2017, Epic's estimate for the implementation fees was $16,461,000, which includes $231,000 in fees for certain post-live activities (note that the actual implementation fees will be determined on a time and materials basis). This estimate does not include Epic's reimbursable expenses (e.g. travel) or the cost of financing AHS's implementation payments. Subtracting the $5,631,000 in payments scheduled for years 1-3 from Epic's overall implementation estimate, the estimated implementation fees to be paid over years 4-7 is $10,830,000 (before financing or reimbursable expenses). As of December 19, 2017, Epic's estimate for travel expenses for the implementation totaled $4,080,000, and as of January 25, 2018, AHS's estimate for the financing costs totaled $1,458,504.

The rates for the implementation fees are fixed at the rates set forth in Exhibit 4 (Epic Hourly Rates) during the first 2 years of the License Agreement. Thereafter, AHS will be charged Epic's standard rates. Note that anticipated rate increases have been factored into the cost estimates provided by Epic but Epic is not bound by those estimates contractually.

Maintenance and Support

The maintenance fees for each module of the Epic software are billed individually as set forth in Exhibit 1(a) following AHS's first use of each module in a production environment. The maintenance fees are fixed during the first 2 years of the License Agreement; can increase up to ECI + 2% per year over years 3-9; and thereafter can increase without limit. "**ECI**" is defined as the Employment Cost Index for total compensation (not seasonally adjusted) for private industry workers, management, professional and related occupations, excluding incentive paid occupations. For the 2015-2016 and 2016-2017 periods, ECI was approximately 2%. As of January 25, 2018, AHS anticipates to pay $2,198,200 annually, for a total of $19,057,561 in

maintenance fees through 2028.

Hosting

The costs for the hosting services are as follows:

- $72,600 per month beginning on the earlier of (i) stand-up of the build environment, or (ii) 6 months following the effective date of the Hosting Agreement.
- $234,200 per month beginning upon the earlier of (i) go-live, or (ii) 18 months following the effective date of the Hosting Agreement.

The rates for the hosting services fees are fixed at the rates above during the first year of the Hosting Agreement, and are thereafter subject to adjustment. With estimates for stand-up of the build environment occurring on month 6, go-live occurring on month 18, and fee adjustments of 4% yearly beginning FY2020, the overall spend for 10 years of hosting is estimated by AHS at $29,236,341.

Summary

Description	Board Approval	Total
License and Services Agreement (Years 1-10) (Feb. 1, 2018 through Feb. 2028)	**Approval Requested**	**$52,232,689**
Hosting Agreement (Years 1-10) (Feb. 2018 through Feb. 2028)	**Approval Requested**	**$29,236,341**
Total Estimated Spend:		**$81,469,030**

Estimated Cost Savings:

There is no cost savings associated with these agreements.

Fiscal Implications:

The overall fiscal implications of the proposed transaction are summarized in the table below:

Cost	
Description	**Amount**
License	$11,406,624
Implementation	$21,768,504
Maintenance and Support	$19,057,561
Hosting	$29,236,341
Total	**$81,469,030**

Reasons for Recommendation:

As noted above, AHS expects the Epic EHR to transform patient care, patient experience, and enable AHS's path to population health management. The functional capabilities of the EHR have been thoroughly evaluated by AHS subject matter experts in over 30 specialized areas, and the overall consensus amongst AHS's clinical and administrative staff is that Epic's product is the best product for AHS. AHS leadership has reviewed the financial and legal implications of the proposed transaction and has determined that the transaction does not pose an unacceptable level of risk. Finally, AHS's thorough evaluation of Epic's EHR product during the RFP process and Epic's extensive track record of successful implementations at other healthcare organizations demonstrate that Epic has the capacity and ability to meet AHS's goals for the new EHR.

Impacted Facilities:	<table><tr><th>AHS</th><th>Highland</th><th>Fairmont</th><th>San Leandro</th><th>Alameda</th><th>Clinic(s)</th></tr><tr><td>x</td><td>x</td><td>x</td><td>x</td><td>X</td><td>x</td></tr></table>
Coordination with Medical Staff:	AHS medical staff representatives have been involved in the EHR procurement process since the development of the RFP. Ongoing engagement by medical staff will be necessary for a successful implementation of the Epic EHR, and many activities requiring such engagement have already been planned or are already underway in a provisional stage. Among other things, the success of the new EHR will depend on coordination with medical staff regarding (1) determining data conversion and legacy system requirements, (2) establishing new processes, workflows, and clinical standards, (3) the training and certification of AHS super users at Epic's training facility, and (4) the training of end users by the certified super users.
Administrative Review:	These Agreements were reviewed by the Executive Leadership team.
Prior BOT Review/Action:	N/A

Executive Sponsor

Delvecchio Finley
Chief Executive Officer

Date Approved: 1/8/18

Alameda Health System – Epic Corporation
Transaction Term Sheet

No.	Subject	Summary
1.	Term	<u>Software License</u> The license agreement starts with a software license term of 75 months ("Term"). At the end of the Term, AHS can choose to pay a $1.68M fee (the "Perpetual License Conversion Fee") to extend the Term to be perpetual. This election is almost universally made by Epic customers and should be planned on by AHS. If AHS pays the Perpetual License Conversion Fee, AHS may use the Epic software in perpetuity (this does not include maintenance and support or hosting). <u>Maintenance and Support</u> Under the license agreement, the maintenance and support term for each module of Epic software is 1 year from AHS's first use of the module in a production environment, automatically renewing for successive 1 year periods unless AHS provides Epic with 90 days' notice of non-renewal. <u>Hosting</u> The term for the hosting services is 5 years after go-live or seventy-eight (78) months after the effective date of the hosting agreement, whichever is earlier. The hosting services term may be extended by an amendment to the hosting agreement prior to the end of the initial hosting services term.
2.	Termination	Either party may terminate the license agreement or the hosting agreement if the other party becomes insolvent or bankrupt, or if the other party materially breaches the applicable agreement and does not cure such breach within 60 days. Upon termination of the license agreement for any reason, AHS's license to the Epic software ends. Upon termination of the hosting agreement for any reason, AHS can elect to continue paying for and receiving the hosting services during a transition period of 90 days (or longer, depending on the nature of the termination).
3.	Pricing	<u>Software License</u> • $8,958,720 (core license fee spread out over months 1-75) • $1,679,976 (Perpetual License Conversion Fee spread out over months 76-84) • $121,176 (fixed Time Value of Money Adjustment spread out over years 1-3) • Estimated of $646,748 (variable Time Value of Money Adjustment spread out over years 4-7 based on the 30-Day LIBOR rate + 2%) • Unknown (increased license fees resulting from use in excess of the licensed volume limits described in Row 4 of this Term Sheet) <u>Implementation</u> The implementation services provided by Epic are billable on a time and materials basis in accordance with the following payment schedule: • $5,631,000 (scheduled implementation fees spread out over years 1-3) • $4,080,000 as estimated by Epic (Epic's reimbursable expenses (e.g. travel) spread out over years 1-2) • Estimated of $1,458,504 (financed implementation fees spread out over 7 years based on the 30-Day Libor rate + 2%)

No.	Subject	Summary
		As of December 19, 2017, Epic's estimate for the implementation fees was $16,461,000, which includes $231,000 in fees for certain post-live activities (note that the actual implementation fees will be determined on a time and materials basis). This estimate does not include Epic's reimbursable expenses (e.g. travel) or the cost of financing AHS's implementation payments. Subtracting the $5,631,000 in payments scheduled for years 1-3 from Epic's overall implementation estimate, the estimated implementation fees to be paid over years 4-7 is $10,830,000 (before financing or reimbursable expenses). As of December 19, 2017, Epic's estimate for travel expenses for the implementation totaled $4,080,000, and estimate for the financing costs totaled $1,458,504. The rates for the implementation fees are fixed at the rates set forth in Exhibit 4 (Epic Hourly Rates) during the first 2 years of the license agreement. Thereafter, AHS will be charged Epic's standard rates. <u>Maintenance and Support</u> The maintenance fees for each module of Epic software are billed individually as set forth in Exhibit 1(a) following AHS's first use of such module in a production environment. Maintenance fees are fixed during the first 2 years of the license agreement; can increase up to ECI + 2% per year over the following 7 years; and thereafter can increase without limit. ECI is defined as the Employment Cost Index for total compensation (not seasonally adjusted) for private industry workers, management, professional and related occupations, excluding incentive paid occupations—for 2015-2016 and 2016-2017, ECI was approximately 2%. <u>Hosting</u> The costs for the hosting services are as follows: • $72,600 per month beginning on the earlier of (i) stand-up of the build environment, or (ii) 6 months following the effective date of the hosting agreement. • $234,200 per month beginning upon the earlier of (i) go-live, or (ii) 18 months following the effective date of the hosting agreement. The rates for the hosting services fees are fixed at the rates above during the first year of the hosting agreement.
4.	License Metrics	AHS is licensed during the Term of the Agreement to use the Epic software up to the following "Licensed Volume" usage limits: • 180,000 annual Inpatient Day Equivalents • 350,000 annual Ambulatory Visits • 1,000,000 annual Lab Orders • 200,000 annual Prescription Dispenses • 42 Interface/Connector Units • 10 Predictive Analytics Models Additional use is subject to additional fees.
5.	Withhold Remedy	If Epic fails to perform any of its duties or obligations with respect to the implementation services under the Agreement, and Epic fails to cure the default within 30 days of notice from AHS, AHS may withhold an amount for the service or deliverable that is in default in proportion to the magnitude of the default for the

No.	Subject	Summary
		deliverable or service that Epic is not providing, as determined by AHS. Upon Epic curing the default, AHS must pay the withheld amount (without interest).
6.	Implementation	Epic is obligated to provide the implementation services set forth in Exhibit 2(c) (Statement of Work) and the Implementation Schedule. Exhibit 2(c) (Statement of Work) is a 46-page statement of work developed jointly by AHS and Epic that details Epic's tasks and responsibilities under the license agreement. The Implementation Schedule is a project management document for the implementation (typically Microsoft Project) that will be jointly developed and managed by AHS and Epic.
7.	Warranty	For each module of Epic software, Epic warrants that it will correct errors that materially and adversely affect AHS's operations or patient safety for the longer of (i) 1 year from the date of delivery or (ii) 120 days from the date of AHS's first use in a production environment (the "Warranty Period"). Epic must correct any such error or provide a workaround within 90 days of AHS notifying Epic of the error or 45 days from the end of the Warranty Period for that module. Epic's warranty does not extend to non-Epic software issues (e.g. including issues with third-party software licensed from Epic), or to errors that do not materially and adversely affect AHS's operations or patient safety.
8.	Limitation of Liability	Neither party is liable for consequential damages under the Agreement, and except for AHS's payment of license and maintenance fees, each party's liability for direct damages is capped at the greater of (i) $1.5M or (ii) the sum of the license fees paid by AHS to Epic (up to $10.6M upon payment of the Perpetual License Conversion Fee). There are three exceptions to the above consequential damages waiver and direct damages cap: (1) damages for bodily injury or tangible property loss, (2) either party's indemnity obligations under the Agreement, and (3) Epic's obligation to compensate AHS for damages to patients caused by its breach of Exhibit 5 (Business Associate Exhibit).
9.	Security and Confidentiality	Epic is obligated to provide both physical and software security in accordance with its standard practices as set forth under the hosting agreement in Exhibit 2 (Services Specifications) and, to the extent not inconsistent with the rest of the hosting agreement, Exhibit 9 (Hosting with Epic). Epic may modify Exhibit 9 (Hosting with Epic) from time to time to reflect its current practices. Epic must also obtain a SOC 2 (or equivalent) report at least once annually, and AHS may review this report upon request. Epic's current security practices are described in a document titled "Hosting and Cybersecurity," which is referenced by the hosting agreement as a descriptive resource.
10.	BAA	The license and hosting agreements both include business associate agreement exhibits that are compliant with HIPAA requirements.
11.	Transfer / Assignment	Either party may assign the license and hosting agreements: (i) with the other party's prior written consent, (ii) to a parent/affiliate, or (iii) in the event of a sale/merger/acquisition. For any assignment under (ii) or (iii), the assigning party will remain liable to the other party for all of its obligations under the applicable agreement if the assignee fails to satisfy such obligations.
12.	Indemnity	Epic agrees to defend and indemnify AHS against claims that the Epic software infringes third-party intellectual property rights. Third-party software licensed to AHS by Epic is not covered by this indemnity. AHS must notify Epic of the claim and provide Epic with control over any defense.

No.	Subject	Summary
		AHS agrees to defend and indemnify Epic against (i) claims by or on behalf of any of AHS's patients, and (ii) claims by third parties arising from AHS's data or AHS's use of any third-party software.
13.	Intellectual Property Rights	As between AHS and Epic, each party owns all of its own background intellectual property; Epic owns the Epic software and documentation and modifications thereto; and AHS owns all of the data it inputs into the EHR system (e.g. PHI).
14.	Hosting Service Levels	AHS may elect to track up to 7 key performance indicators (KPIs) under Exhibit 7-1 (Index) of the hosting agreement. If Epic does not meet certain service levels in connection with AHS's selected KPIs, AHS is entitled to service level credits. Specifically, if AHS experiences 5 or more performance failures a day (i.e., the KPIs are not met) for at least 2 days in any given month, AHS will be credited a pro-rated portion of that month's hosting fees for the number of days with 5+ KPI failures (not to exceed 50% of the number of days in that month).