

STATE OF VERMONT  
GREEN MOUNTAIN CARE BOARD

DOCKET NUMBER GMCB-001-17con

IN RE: A CERTIFICATE OF NEED APPLICATION  
SUBMITTED BY THE UNIVERSITY OF VERMONT HEALTH  
NETWORK FOR AN ELECTRONIC HEALTH RECORD  
REPLACEMENT PROJECT

November 6, 2017  
9:30 a.m.

115 State Street  
Montpelier, Vermont

Public hearing held before the Green Mountain Care  
Board, at the Vermont State House, Room 11, 115 State  
Street, Montpelier, Vermont, on September 5, 2017,  
beginning at 9:30 a.m.

P R E S E N T

BOARD MEMBERS: Kevin Mullin, Chair  
Jessica A. Holmes, Ph.D  
Robin Lunge, JD, MHCDS  
Maureen Usifer  
STAFF: Judith Henkin, Hearing Officer

CAPITOL COURT REPORTERS, INC.  
P.O. BOX 329  
BURLINGTON, VERMONT 05402-0329  
(802)863-6067  
E-mail: info@capitolcourtreporters.com

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CHAIRMAN MULLIN: I'll call this meeting to  
order. The first item on the agenda is the approval of  
the minutes for November 2nd. Is there a motion?  
MS. HOLMES: I'll move approval.  
MS. USIFER: And I'll second it.  
CHAIRMAN MULLIN: So it's been moved for  
approval by Member Holmes, seconded by Member Usifer,  
and, because we have one person on the phone, Member  
Robin Lunge, it will have to be by call of the roll.  
So, Robin, if you could, just identify yourself to  
start with so people know you're there.  
MS. LUNGE: Sure. Hi, everyone. It's Robin  
Lunge. I'm on the phone.  
CHAIRMAN MULLIN: Call the roll?  
MS. HENKIN: Sure. So all those in favor of  
-- wait. I'm sorry. We have to call the roll. Member  
Usifer?  
MS. USIFER: Aye.  
MS. HENKIN: Member Lunge?  
MS. LUNGE: Yes.  
MS. HENKIN: Member Holmes?  
MS. HOLMES: Yes.  
MS. HENKIN: Chair?  
CHAIRMAN MULLIN: Yes.  
MS. HENKIN: All are in favor, and the

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P R E S E N T

John R. Brumsted, MD, UVM Health Network  
Adam Buckley, MD, UVM Health Network  
Marc Stanislas, UVM Health Network  
Kate Fitzpatrick, DNP, RN, UVM Medical Center  
Betty Diette, Patient  
Anna Hankins, MD, CVMC  
Fred Kniffin, MD, Porter Medical Center  
Wouter Rietsema, MD, CVPH  
Matt Abrams, Cumberland Consulting Group  
John Waters, Cumberland Consulting Group

Eric Schultheis, Office of the Health Care Advocate  
Michael Fisher, Office of the Health Care Advocate

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minutes are approved.  
CHAIRMAN MULLIN: So thank you. Before I  
turn the meeting over to our Hearing Officer, I'd like  
to introduce the newest member of the Board who is just  
waiting for paperwork to be finalized. Otherwise, he  
would be sitting with us up here. Where did Tom go?  
Okay. Do you want to rise, Tom?  
MR. PELHAM: Pardon me?  
CHAIRMAN MULLIN: Tom has a huge amount of  
experience in state government, and do you wish to say  
anything, Tom?  
MR. PELHAM: No, except I'm excited and I'm  
glad to be here and it's just an important place to be,  
and I hope I can contribute to the Board and to the  
provider community and to the citizens of Vermont.  
CHAIRMAN MULLIN: Well, welcome. So, with  
that, I'm going to turn the meeting over to Judy Henkin  
who will serve as the Hearing Officer today.  
MS. HENKIN: Okay. Welcome, everyone. This  
hearing is concerning the Electronic Health Record  
Replacement Project for UVMHC. It is Docket  
GMCB-001-17. This was an expedited review, but we are  
holding an open, during our meeting, we're having a  
hearing on this to better inform the Board, the public,  
and because we have participation of the Health Care

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1 Advocate in this. The hearing is being both taped  
2 electronically, and it is being transcribed by Sunnie  
3 Donath who is here today. When you come to speak,  
4 please let her know who you are.

5 We're going to start with a presentation by UVMCC.  
6 I'll ask everyone in the audience to please keep your  
7 phones off. If you need to do a conversation, please  
8 go out in the hall.

9 MS. HOLMES: Judy, can you actually share why  
10 it's expedited?

11 MS. HENKIN: Expedited review is granted in  
12 all electronic, in all HIT projects under statute, so  
13 that's why it was expedited, not for other reasons as  
14 to -- it's an automatic process. However, because it's  
15 of great interest, we are having this hearing today,  
16 and I'm going to allow time today. The Health Care  
17 Advocate has asked for some time to ask some questions.  
18 Also, as you heard, we do have a member on the phone.

19 A decision will not be made today. There will be  
20 a period of public comment that will be open following  
21 this for ten days. We have electronic ways to submit a  
22 public comment. We also will have time at the close of  
23 this hearing for anyone from the public to comment on  
24 this, on this matter. So, without any further ado, I  
25 guess I will ask UVMCC to begin the presentation.

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1 Medical Center Board. So thank you both for coming.

2 Through the process that we've come through so  
3 far, we've answered several rounds of the Board's and  
4 the staff's questions, most of the answers to those,  
5 many of which were pretty granular. I congratulate the  
6 staff and the Board at the level of questioning and  
7 scrutiny of this project. Many of the answers to those  
8 questions that you have in writing. We worked  
9 collaboratively with your IT and finance consultants.  
10 We transparently gave them all information requested  
11 and answered their questions.

12 Later on in the presentation, Marc Stanislas, who  
13 is Vice President at the network level for Treasury &  
14 Finance, is going to answer some of your questions  
15 related to funds flow of the project. I'll take one  
16 right up front because I know that it's of some  
17 interest. No employee of any of our organizations will  
18 receive incentive payments based on aspects of this  
19 project. Just wanted to get that out of the way right  
20 up front.

21 CHAIRMAN MULLIN: Thank you.

22 DR. BRUMSTED: You'll also hear from one of  
23 our consultants, Mark Abrams -- Matt Abrams, sorry --  
24 who is from Cumberland, and he'll speak as an expert on  
25 the total cost of ownership for health care projects

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1 (All Witnesses were placed under oath.)

2 DR. BRUMSTED: And we'll have the folks that  
3 come up after Dr. Buckley and myself introduce  
4 themselves. They'll all let you know who they are.  
5 Thank you very much for the time this morning to talk  
6 about an incredibly important project. I've been  
7 involved personally with many, many, many CON hearings,  
8 so many that I haven't counted them, and I must say  
9 that this is a unique experience to have the hearing in  
10 this gorgeous room, and I do think it's, when I was  
11 thinking about that, it's somewhat symbolic of the  
12 importance of this project to all Vermonters that we  
13 have this hearing in Vermont's State House in this  
14 great room. So thank you.

15 We are going to spend the next time talking about  
16 the importance of this project. We've brought several  
17 members of our management team. Dr. Adam Buckley is  
18 our Chief Information Officer, and he and I will start  
19 things off. I do want to mention that we have two of  
20 our trustees. We have Scottie Emery-Ginn -- raise your  
21 hand, Scottie -- who is currently the Chair of the  
22 University of Vermont Medical Center Board and in  
23 January will take over as the Health Network Board  
24 Chair. And we have Allie Stickney who is going to be  
25 taking over as the Chair of the University of Vermont

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1 that's the standard in our industry. Really, the core  
2 of our presentation, however, is going to come from  
3 those that are most impacted by having a uniform health  
4 record and the approach to clinical care and quality  
5 that that brings.

6 We have a panel led by Dr. Fred Kniffin that, from  
7 the clinicians' perspective and from patient's  
8 perspective, you'll hear about the "why", the "why"  
9 that this project is so critically important.

10 Just going to start by giving you what you've seen  
11 many times before. This is the region of central and  
12 northwestern Vermont and northern New York served by  
13 the University of Vermont Health Network. We currently  
14 have the University of Vermont Medical Center in  
15 Burlington, Central Vermont Medical Center right up the  
16 hill here in Berlin, Porter Medical Center in Addison  
17 County in Middlebury, Champlain Physicians Hospital in  
18 Plattsburgh, New York. Those four organizations, their  
19 employed physicians, all of their clinicians would be  
20 directly impacted by approval of this Certificate of  
21 Need as those are the organizations where we will begin  
22 this process.

23 We also have affiliation with Elizabethtown  
24 Community Hospital and Alice Hyde Medical Center in  
25 Malone, New York. Those organizations are not part of

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1 this CON, and, although we'll totally keep you informed  
 2 on the progress of this, we believe that, when we get  
 3 to a phase of this project where we would be looking to  
 4 spread the electronic record, the Epic record, to those  
 5 organizations, that it likely will not need additional  
 6 capital expense but would be done based on operating  
 7 dollars, but, again, we'll keep you totally in the loop  
 8 on that.

9 I'm going to turn this over for a project overview  
 10 to Dr. Adam Buckley. He's an obstetrician/gynecologist  
 11 and prided member of our management team. Adam, at the  
 12 expense of embarrassing him, is a real find for us, and  
 13 what early on I noted in the way Adam approached  
 14 things, he is a clinician and a physician first and  
 15 became interested in how technology could help us  
 16 improve patient care, and, frequently in the IT world,  
 17 it's exactly the opposite. And so Adam has ably led us  
 18 to this point in the planning of the project with many  
 19 others on our team, so I'll turn this over to Adam for  
 20 project overview.

21 DR. BUCKLEY: Thanks, Dr. Brumsted. As Dr.  
 22 Brumsted said, my name's Adam Buckley. I'm the Chief  
 23 Information Officer for the Health Network. So, you  
 24 know, how did we get here? Well, it became clear five  
 25 years ago that a lot of different systems needed to be

1 their scheduled appointments. It includes all the  
 2 financial aspects, all the patient care notes,  
 3 specialty care, radiology results, lab results. So it  
 4 really is an entire compendium of all the care that  
 5 they're receiving.

6 And so how we envision this project is that  
 7 University of Vermont Medical Center, which has been  
 8 live on Epic as an inpatient and ambulatory record,  
 9 would convert all systems that could be converted to  
 10 Epic would be converted to Epic, and then that instance  
 11 or version of Epic would then be extended out across  
 12 other affiliated hospitals, and so you'd effectively  
 13 have a single version of a single record that would  
 14 follow the patient wherever they went in the health  
 15 network, and this has quite a few value, tremendously  
 16 valuable from a patient care perspective as well as the  
 17 patient family perspective. Go into that in a little  
 18 bit more detail, but, really, what we're talking about  
 19 again is a record that's built from Burlington and then  
 20 extended out across the health network.

21 You know, we've also looked at what it would look  
 22 like to have non-health network people subscribe to the  
 23 record, and there is an opportunity for even non-UVM  
 24 health network providers to get onto the record should  
 25 they have an interest, and we can certainly talk a

1 taken a look at in terms of what they needed to be  
 2 replaced, in terms of stable life, how long they would,  
 3 how long we would support them.

4 And so we did what's called a total cost of  
 5 ownership, which is really trying to figure out five  
 6 years' worth of costs associated with a project of this  
 7 size -- as to Dr. Brumsted's point, the standard in the  
 8 industry -- and we came up with a total of \$151  
 9 million, a total cost of ownership over five years, so  
 10 that's operating and capital.

11 The application represents the 112 in capital, 109  
 12 in -- I think it's 109.3 in direct capital, and then  
 13 there's the capitalized interest expense which is a  
 14 little over \$3 million on top of that, and so what  
 15 we're talking about here is really a five-year plan to  
 16 replace all these different systems with a total cost  
 17 of \$151 million. That includes the systems that we'll  
 18 be able to sunset and the staffing changes that will be  
 19 made as a result. So that's really the costs all in.

20 So what is an electronic health record? Well, as  
 21 the slide asks, that's a great question because I  
 22 think, nowadays, people don't really have a true sense  
 23 of what an electronic health record is. It's far more  
 24 than just a glorified paper chart. It's really all the  
 25 care that a patient is receiving. It includes all

1 little bit more about that.

2 So, when we look at the IT ecosystem at the health  
 3 network level, quite a few of the systems, the  
 4 hospitals have record systems that are 20-plus years  
 5 old. That's an extraordinary period of time in health  
 6 IT. I mean, 20 years ago none of us were using an  
 7 iPhone, let alone going to the tenth version of it, and  
 8 so 20 years is an eternity. So these are systems that  
 9 are, to a large degree, significantly outdated. We  
 10 have quite a few systems that don't speak to each other  
 11 seamlessly or at all.

12 We have quite a few systems that make it almost  
 13 impossible for us to measure clinical or health care  
 14 outcomes for our patients, and, when we can measure  
 15 them, it's very difficult to extract it and then put it  
 16 in a system that you can then look at data  
 17 meaningfully, and even more challenging still is, if  
 18 you could pull that data out and decide you want to  
 19 change the way you're rendering care, it's impossible  
 20 with 20-plus clinical systems to make a standard  
 21 approach to patient care and sort of a Holy Grail of  
 22 reducing clinical variation. In other words,  
 23 Dr. Brumsted and I doing very different things for the  
 24 same problem and the same type of patient becomes  
 25 almost impossible or actually is impossible with this

1 many systems.

2 Furthermore, from a patient perspective, even if  
3 we have a patient portal or a way for the patient to  
4 see into these records, they often have so many  
5 different portals, and all those portals have just a  
6 small slice of the information, so we really don't have  
7 an opportunity for the patient to see their entire  
8 record for the entirety of the care that they're  
9 getting in the health network, and by consolidating to  
10 a single record, patients and their families who have  
11 access to that can see really all of the care that  
12 they're receiving in a way they can't do now.

13 So this is the extent of our multimedia  
14 extravaganza. That used to have movement. Sorry. So  
15 what this slide represents is really us leveraging all  
16 the tools that we have to make the systems speak  
17 together. So we use different vendors, including  
18 Vital, to move information around between systems,  
19 between settings of care. When we leverage the  
20 government, the federal standards for moving clinical  
21 information, we move about 140 pieces of clinical  
22 information. When you have a wholly integrated record,  
23 there's upwards of 100,000 pieces of clinical  
24 information in that record, and so what you can do from  
25 a clinical care perspective is dramatically different.

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1 ambulatory setting and that provider wants to admit  
2 them or send them to the emergency room for evaluation.  
3 They're sent to the ED. Those are two different  
4 records that don't speak. When the ED physician sees  
5 that patient and decides they want to admit them and  
6 maybe a surgical consult, they go on the floor, yet  
7 another record. When the surgeon sees that patient and  
8 decides to take them into the operating room, they go  
9 to the operating room, it's another system.

10 And so these systems, some of which move some data  
11 -- and, just to be clear, we spend as much time,  
12 energy, and effort to get these systems to speak  
13 together as we can. There's just limitations to having  
14 20 different vendors that you're working with. There's  
15 just limitations, even with the federal standards,  
16 about what these records will share. So it's not for a  
17 lack of time, energy, and effort to get these systems  
18 to work together. It's just the inherent limitation of  
19 having this many vendors involved.

20 And so, from my perspective, I came at this job  
21 primarily as a clinician, but, also, I have a long  
22 background in patient safety and quality, and the  
23 system complexity that's represented by this slide is  
24 enormous, and we've reached the point where we can no  
25 longer manage that level of complexity, nor can we

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1 What's not represented on this slide is those  
2 systems we can't make speak together. In our skilled  
3 nursing facilities, those records don't speak to the  
4 inpatient facilities, and so that's a huge gap in care.  
5 Those gaps exist often between inpatient and  
6 outpatient, sometimes even within the four walls of the  
7 hospital.

8 The other element that we're trying to represent  
9 with this slide is that all those dotted lines have  
10 costs associated with them, and those costs are costs  
11 that are not going directly to patient care. Those are  
12 costs that are just created so that the systems can  
13 speak in even a limited fashion.

14 So, just to drill down a little bit deeper, this  
15 is our current ecosystem. The University Medical  
16 Health Network hospitals require this application, and,  
17 as you can see, there's a myriad of records across the  
18 health network. Some of these records speak to each  
19 other, some of these records don't speak to each other,  
20 and some of the ones that do speak together, it's very  
21 limited what we can get them to transact between.

22 I think a nice example of this is -- and I don't  
23 want to steal thunder from the panel -- but, if you  
24 think about a patient at Central Vermont Medical Center  
25 being seen by their primary care provider in the

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1 sustain it. So we need a far simpler system, and one  
2 of the things that's a benefit of going to a single  
3 record is that you reduce that complexity a  
4 hundredfold, if not more.

5 So and I think, from a patient care perspective,  
6 it's very challenging for patients to live between so  
7 many records. They don't have a portal that accesses  
8 all the clinical information. And I'll just give a  
9 personal anecdote. I get my care at the University of  
10 Vermont Medical Center, which is in Epic health record.  
11 I went to an outside facility to get a third opinion  
12 for something. They use an Epic record, and within  
13 five minutes, actually less -- it was about 90 seconds  
14 -- they had all my clinical information at the  
15 provider's fingertips.

16 The only questions they asked me was to verify my  
17 medications and my allergies. That was it. They  
18 didn't ask any other questions because my entire record  
19 was available to them seamlessly across two states, and  
20 that is just not something that we've been able to do  
21 within our health network now because of the complexity  
22 of these systems. So the patients living between these  
23 systems is an extraordinarily difficult place to be,  
24 and, from a provider perspective, it's not uncommon for  
25 our providers to have five or six different logons just

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1 to render care within their four walls, and that's  
2 extraordinarily challenging.

3 DR. BRUMSTED: So Dr. Buckley and I will be  
4 back up with Marc Stanislas and Matt Abrams, but we  
5 wanted, at this point, to turn the podium here over to  
6 Fred Kniffin and a panel of providers and a patient.

7 MS. HENKIN: Thank you.

8 DR. KNIFFIN: Thank you all. I think you all  
9 know me, but, for the record, my name is Fred Kniffin.  
10 I'm the President of Porter Medical Center, and I want  
11 to start by saying thank you, thank you very much for  
12 giving us the opportunity to have this conversation.

13 So I got the call a couple weeks ago to  
14 participate at this hearing, and I was asked  
15 specifically two questions. The first was, Would I  
16 participate, and, of course, yes, and the second  
17 question was, you know, Could we find a patient in  
18 Addison County to speak to the issue.

19 And it turns out we're right smack in the middle  
20 of our Town Hall meetings. We're holding meetings for  
21 our employees, and we had meetings for our community,  
22 and we went to a community meeting one night, and we  
23 had about 60 folks turn out, and they look a lot like  
24 me. They're, they're sporting the gray hair. That's  
25 my fan base. And, you know, we were talking about

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1 connected. And then, when they come up to UVM for  
2 services, either inpatient or outpatient, that's Epic,  
3 and these records don't talk. So we have before us the  
4 opportunity to fix this, and, as the rest of our team  
5 will tell you, it's not going to be easy, it won't be  
6 cheap, but we can do it. We can get this done.

7 We've gathered here a group of providers and  
8 health care leaders and a patient. They're in the  
9 trenches, boots on the ground, doing the hard work  
10 that, that needs to be done in caring for our patients,  
11 and the goals are simple: Get great care for our  
12 patients, and, if you're a patient, get great care for  
13 yourself.

14 So I'm going to start with Kate Fitzpatrick. Kate  
15 is the Chief Nursing Officer at UVM Medical Center.  
16 You know, the electronic health record has had a  
17 profound effect on nursing. I mean, not only do you  
18 need to go to the bedside and care for a patient,  
19 you're right there, you have to reconcile information  
20 from a number of sources, reconcile medication lists.  
21 Kate, can you speak to this?

22 MS. FITZPATRICK: Yes. So, first off, I want  
23 to express my sincere thanks to the Green Mountain Care  
24 Board for giving us the opportunity to really inform  
25 this decision on the Epic project. It's critically

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1 things related to affiliation. We talked about access,  
2 and then we got into integration, and I started  
3 updating them on the CON process, and I asked folks the  
4 question.

5 I said, How many of you get care in both  
6 Middlebury and at UVM? And we know from data that  
7 about 50 percent of our Medicare recipients get care in  
8 both places, so I expected hands to go up, but about 80  
9 percent of the hands go up. So then I ask the  
10 follow-up question, How many of you are just a little  
11 frustrated that the Porter record and the UVM record  
12 don't communicate? And then the hands really went up  
13 and started to quiver a little bit. Everyone wanted to  
14 tell their tale of woe around the electronic health  
15 record, and, as Adam referred to, it's a bit of a mess  
16 right now, and it's, it's -- what I've learned is that  
17 Addison County is a lot like Clinton County which is a  
18 lot like Washington County.

19 You know, patients in Addison County, most of them  
20 have primary care with Porter-employed physicians.  
21 They have their health record in LSS. When they come  
22 to the ER, they develop a health record in Medhost. If  
23 they're in the hospital, there's a health record in  
24 Meditech. If they go to Helen Porter, our long-term  
25 care facility, that's ECS, different record, not

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1 important, as Fred has said. So I, actually, also,  
2 what you need to understand, I'm representing the  
3 voices of numerous clinicians, not just my own, in  
4 terms of giving you the perspective of their current  
5 level of limitation and frustration and challenges with  
6 the current system that we're working in.

7 So, just by way of background, I wanted you to  
8 know I've been a nurse for 31 years and have practiced  
9 in a variety of settings, and I proudly joined the  
10 UVMMC team back in 2015 as the Chief Nursing Officer,  
11 and, prior to coming to Vermont, I worked for close to  
12 19 years in the Penn system in Philadelphia, and in my  
13 last 9 years there, I actually served as the Nursing  
14 Director of Penn's main hospital.

15 At that time as I was transitioning into my  
16 director role 9 or so years into my stay at Penn, we  
17 had been on Epic for our ambulatory record for about 15  
18 years, and we were in the process of still charting on  
19 paper on the inpatient record, on the inpatient  
20 setting, which was really completely, you know, it was  
21 very challenging.

22 So around 2010, I want to say, Penn made the  
23 decision to move to an electronic record, but they  
24 chose not to install Epic as their inpatient record.  
25 Instead, they went with a system called Allscripts. So

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1 I can tell you that that was some of the most  
2 challenging years that I lived through as a nurse  
3 leader.

4 And it would prove to be a monumental failure for  
5 Penn in terms of what we soon learned in a very short  
6 amount of time, that there were significant challenges  
7 with interfaces, with interoperability, with just the  
8 ability for there to be large gaps in data and info  
9 coordination, so not to mention a huge dissatisfier for  
10 the clinical staff. So, after just two years with the  
11 Allscripts product in place on the inpatient side, Penn  
12 made the decision to abandon that and go to Epic for  
13 the inpatient record. So fast-forward many years  
14 later, Penn, just in the last 12 to 18 months, has gone  
15 Epic systemwide, and, you know, from my colleagues  
16 there, they've said it's just been an amazing  
17 enhancement to the work that they do in a complex  
18 system.

19 So I wanted to just -- I tell you all that because  
20 I want to convey to you that, as a newer leader to UVM  
21 Medical Center, I've been incredibly impressed with the  
22 high degree of thought and care that's gone into the  
23 planning and decision making for the Epic project. I  
24 want you know that you should have a high degree of  
25 confidence in that decision making process that's

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1 called Picis where, as a pre-op nurse, the phone call  
2 that happens to the patient to do all their pre-op  
3 education, to give them pre-op instructions, and also  
4 to do some clearance sort of review happens in this  
5 Picis system.

6 She then toggles over and shows me that the  
7 anesthesiologist, for their presurgical checks and for  
8 their evaluation of the patient pre-op, is in a  
9 separate section of this Picis system. So she's  
10 toggling between the two just to make sure that she's  
11 got the complete story of what's going to be needed for  
12 this patient's operation. The anesthesiologist then  
13 also has to reference what that nurse has done in that  
14 pre-op section of Picis, right? So, again, back and  
15 forth, two different clinicians having to really  
16 systematically go through different systems to get the  
17 full record for that patient.

18 So then we get to the point where the operation is  
19 going to be underway, and she begins to describe that,  
20 for her as an intraoperative nurse, she's going to be  
21 documenting key pieces of her work now in Epic while  
22 some of this other key information is going to be  
23 happening over in Picis. Most notably, the  
24 anesthesiologist's care is going to be in Picis. So  
25 the med administration that the anesthesiologist is

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1 happened and that the UVM Health Network leaders, from  
2 my perspective, have based the decision on one fact,  
3 first and foremost, and that is that this is based on  
4 what's best for patient care, period, and it will also  
5 clearly support clinical staff most effectively in our  
6 efforts to deliver care.

7 So I wanted to share two specific scenarios just  
8 to illustrate some of the current-day challenges that  
9 we face. One is going to be really surrounding what's  
10 going to be the enhancement of moving to an expanded  
11 version of Epic at the medical center, and the second  
12 area we're going to focus on, what going to a  
13 systemwide Epic documentation system will bring for us.

14 So, as the CNO at UVMMC, I am accountable for  
15 about 1,800 professional nurses who are working in a  
16 variety of different settings, and I can remember  
17 vividly, when I first got there in the fall of 2015, I  
18 was on leadership rounds, and I was in our main  
19 operating room, and there was a nurse who very  
20 passionately wanted to commandeer me and bring me over  
21 to her mobile workstation and show me what her daily  
22 work looked like.

23 So she began to sort of illustrate, for a patient  
24 that was coming in for an operation that day, what that  
25 work flow looked like. So she pulled up a system

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1 doing, blood administration, their ongoing assessments,  
2 in Picis. This nurse, who is also going to be giving  
3 some medications, will be maybe doing procedures,  
4 starting IVs, but doing their own ongoing assessments,  
5 and that's going to be in Epic.

6 And so, even just the intraoperative communication  
7 risks that happen with that and do happen is really  
8 significant, and it also sets up a situation where we  
9 have duplicate data entry that's unnecessary because we  
10 have people doing some of the same assessments that  
11 they're doing in two different systems, and from my  
12 standpoint, the thing that concerns me is that it also  
13 relies heavily on verbal communications without that  
14 documented record of what was ordered and what was the  
15 specific things that the patient needs to get.

16 So then, at some point after the operation, the  
17 documents that are in Picis get scanned into Epic at  
18 some point, and, hopefully, that's timely, but that's  
19 not always timely, and then it sets up a whole  
20 different set of challenging circumstances for the  
21 nurses who are going to receive this operative patient  
22 after they're done their operation.

23 So, whether they're in the ICU or they're on the  
24 general care floor, they're documenting in Epic right  
25 now, and they're going to have to go back and look in

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1 different systems like Piscis to start to piece  
2 together what's happened, and it also causes delays in  
3 how they could be prepping differently or realtime  
4 watching what's happening intraoperatively so that they  
5 can have some setups done and things done in a much  
6 more realtime fashion. So I hope you're beginning to  
7 appreciate the clinical burden that this puts on the  
8 teams caring for patients in just that one simple  
9 example.

10 So I want to transition and talk a little bit  
11 about what this means from a system impact. So the  
12 second example relates to something we do very  
13 frequently which is in our hospital patient transfers.  
14 And so the typical way that happens is there is a  
15 patient in an outlying system who is in distress, and  
16 they make a call, they want to send a patient. There  
17 are multiple manual steps involved in this process  
18 currently, and the sending hospital in many cases will  
19 start by filling out a paper form and faxing it to our  
20 patient placement center.

21 In tandem, there is a call that's received, an  
22 intake call by our patient placement center, and that  
23 staff is typing some information, in addition to this  
24 faxed form, that, at some point down the road, will get  
25 scanned into the patient's record, but it's not

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1 radiographic images before the patient arrives, and,  
2 oftentimes, that can be delayed. So that sometimes  
3 sets up a patient getting duplicate lab studies,  
4 duplicate radiographs, and that is not insignificant.  
5 That can cause a patient to get excess radiation they  
6 don't need. It causes additional cost, and, again,  
7 it's interrupting the timeliness of care.

8 So a typical scenario is a patient who is coming  
9 from an outlying hospital is having distress. The  
10 physician gets the call. Based on their initial  
11 assessment, our current teams think the patient  
12 probably should come, but they don't really have all  
13 the data to make that assessment. So they're going on  
14 their best knowledge and judgment and what information  
15 they can glean from this verbal handoff.

16 Sometimes, I will tell you that there are  
17 conservative transfers that happen that maybe those  
18 patients, some patients could be cared for very safely  
19 in their local community, but, because we don't have  
20 all the data and the information we need, we go ahead  
21 and we err on the side of caution and bring those  
22 patients to Burlington. And I can tell you in  
23 situations which happen, not insignificant, not  
24 infrequently, rather, this can involve an infant, and  
25 sometimes bringing an infant post-delivery out of their

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1 immediately.

2 In parallel, we have physician-to-physician  
3 communication and handoff about the patient that's  
4 going to be sent that's not currently documented in  
5 standard place. So, again, you can begin to see where  
6 there's real issues where there can be gaps in  
7 communication, losses of information and translation  
8 that can set up the patient for risk.

9 So the other thing that happens is, once the  
10 patient, the decision is made the patient is going to  
11 come, the patient arrives with a paper printout, which  
12 can be voluminous, of their record from the sending  
13 hospital, and these aren't all uniform so that the  
14 receiving staff has to navigate these different paper  
15 records. They have to find information sometimes  
16 expediently so that they can begin to give care in an  
17 efficient way, and, you know, there's also issues that  
18 come up around legibility, so not being able to read  
19 what's there. So, again, just lots of areas where  
20 there can be failures and not doing the right thing for  
21 the patient.

22 The other thing that's important in this is around  
23 imaging and lab studies. So, in an ideal situation,  
24 those lab results and the imaging results will come  
25 with a patient, but we're not able to see particularly

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1 community and away from their mom interrupts bonding,  
2 has real consequences for families that now have to  
3 travel quite a long distance to be with their, with  
4 their loved one.

5 So I just want to share a case that the team  
6 wanted me to share with all of you, and it involves a  
7 recent case of a 24-year-old mom who delivered a baby  
8 at 28 weeks' gestation, so this is clearly a baby who's  
9 going to need our Level 3 NICU at Burlington. The  
10 child was limp after delivery, required fluid  
11 resuscitation, needed a breathing tube placed, and,  
12 because its lungs were not fully matured, at this point  
13 needs some advanced care and was going to need some  
14 advanced medications and the services of our Level 3  
15 NICU.

16 One of the things that happened with this  
17 particular patient was, when the transport team got  
18 there and they were reassessing the infant with the  
19 local sending hospital's team, they recognized that the  
20 breathing tube wasn't in the right place, and this is a  
21 really difficult and nuanced assessment because reading  
22 a chest x-ray of a human that's, like, this big is very  
23 different than reading an x-ray on an adult, so it  
24 really takes a particular skill, but what happened was  
25 they recognized the tube wasn't in the right place, and

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1 they had to make some adjustments, but some critical  
2 time was lost there as you can appreciate.

3 And so part of what the team wanted me to convey  
4 is the ability to be able to view that x-ray sooner and  
5 starting to guide that team even before the transport  
6 team came could have been a really impactful  
7 difference.

8 So some of the other things that the team, in  
9 terms of looking back on that particular case, that  
10 illustrates some of the things that, really, they hope  
11 will come with us moving to the Epic systemwide record  
12 will be, again, viewing x-rays and lab data in real  
13 time, improving their ability to be more timely and  
14 proactive in preparation for infants and adults we're  
15 going to receive, decreasing patients being exposed to  
16 unnecessary tests and treatments and radiographs,  
17 eliminating having patients exposed to, you know,  
18 needle sticks they don't need and getting more  
19 radiation that they don't need. So, you know, I hope  
20 that those two examples help you get a deeper  
21 understanding of what this project means in terms of  
22 patient care.

23 One final thought that, actually, Adam started to  
24 allude to was what I think is really the most exciting  
25 and powerful about moving the record to a systemwide

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1 1990, the process was gather the paper together, copy  
2 it on the Xerox machine, put it in a manila folder, and  
3 tuck it between the padding and the metal part of the  
4 stretcher. We had done -- we had empiric evidence that  
5 that was the safest place, trial and error, and 27  
6 years later it's the same process: Gather the paper,  
7 copy it, put it in a folder, boom, put it in the  
8 stretcher. Thank you, Kate.

9 MS. FITZPATRICK: You're welcome.

10 DR. KNIFFIN: So Anna is a primary care  
11 pediatrician who was recently recruited to Central  
12 Vermont, and, as a hospital administrator, I can tell  
13 you that Anna is exactly the kind of person you want to  
14 recruit, a primary care physician to take care of the  
15 children in your community. And we talked before this  
16 gathering today, and she was told exactly what I would  
17 have said to her as she was looking for a job. If she  
18 had come to Porter, I would have said, Well, you know,  
19 we have one record in the office, then we have one in  
20 the ER, and we have one in the hospital, and they don't  
21 communicate perfectly, but we make it work. It works  
22 out.

23 How is that working out for you, Anna?

24 DR. HANKINS: This has been a hard  
25 transition, but I've -- so I'm Anna Hankins. I'm a

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1 electronic record is our ability to really do a  
2 different level of robust quality and performance  
3 improvement and really think about where we have  
4 opportunities to adopt best practices that we currently  
5 aren't optimizing because we just don't have the  
6 technical ability to do that.

7 So I just want to end by telling you that I firmly  
8 believe without any hesitation this is what we must do  
9 for our patients and for our staff. It's critical. It  
10 is also going to really help us as a health network  
11 assure we get the right patients to the right hospitals  
12 in the right amount of time and that teams that are  
13 receiving those patients will have the information data  
14 they need to provide the exceptional care that they  
15 need to provide. So, with that, I thank you again for  
16 your time.

17 DR. KNIFFIN: Thank you, Kate. And we'd be  
18 happy to take questions at any time.

19 MS. HENKIN: We can wait until we go through  
20 the panel.

21 DR. KNIFFIN: Okay. I just want to add to  
22 Kate's comments because I'm on the sending side of  
23 transfers, and at Porter we send about 300 patients a  
24 year to UVM. They typically are our sickest and most  
25 complex patients, and, when I started in the ER back in

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1 pediatrician, and I've only been here since August, and  
2 I did my training at Dartmouth, and, back when I did my  
3 training, Dartmouth had a home-grown electronic health  
4 record before they had moved to Epic, and then we moved  
5 out to Wisconsin, and I spent the last ten years as  
6 part of Froedtert & the Medical College of Wisconsin  
7 where I was part of a health system involving an  
8 academic medical center and a couple of community  
9 hospitals. I was at a smaller community hospital, and  
10 we were all on Epic.

11 And then, after ten years there, we decided we  
12 needed to be closer to home, and we moved out here to  
13 Central Vermont, and they did tell me exactly that when  
14 I interviewed that, Oh, we have a few different  
15 systems, but we make it work, and I was frankly a  
16 little bit naive thinking, Well, of course, it must  
17 work well, because I've always used electronic health  
18 records. I'm a young enough physician that I was using  
19 electronic health records in medical school, and  
20 they've always worked pretty well, and I got here, and  
21 it has been a very difficult transition.

22 So I wanted to first touch on what Kate mentioned  
23 about babies being transferred. So it brought back  
24 memories of being at my old hospital in Wisconsin where  
25 it's the middle of the night. I'm taking care of a

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1 young, sick newborn. I have some labs. I have some  
2 chest, a chest x-ray or some other studies, and I'm not  
3 sure. You know, it's easy to know when to transfer a  
4 very sick newborn. It's obvious. And it's easy to  
5 know to keep a healthy newborn, but there's sometimes  
6 those babies where you just aren't sure.

7 And so in Wisconsin I could call the neonatologist  
8 at the Children's Hospital, and they would just log  
9 into Epic and they'd be able to pull up my baby's labs  
10 and my baby's chest x-ray, and we could talk it through  
11 together as colleagues over the phone, and, often,  
12 they'd say, You know, Anna, I think you're okay. Call  
13 me if you need anything else. Let's get these labs.  
14 I'll log in and check them in an hour, and let's see  
15 how it goes, and I could keep babies that here I might  
16 not be able to because I didn't have that ability to  
17 sit with a colleague at the academic medical center and  
18 discuss that case.

19 The other thing that has been a real eye-opener  
20 for me here is trying to get the information that I  
21 need to take care of a newborn. So when a, when a baby  
22 is born, pediatricians need to know certain lab values  
23 that are drawn on the mother, so we always want to know  
24 the maternal labs, and in my career that has always  
25 been easy. They just show up in the baby's chart. The

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1 clipboard, and so I'm, you know, maybe it's at the  
2 nurses station. Maybe the nurse is still caring for  
3 the mother and baby and it's in the room there, and I  
4 go and find it, but I can't take it away because that  
5 would take away that important piece of paper from the  
6 care of the mother and the baby.

7 So I grab another piece of paper or often a paper  
8 towel because that's handy and I handwrite out those  
9 labs again, and then I take that paper with me into my  
10 little alcove and I open up the computer system for the  
11 inpatient side, and maybe the nurse has had time to  
12 already type those labs in, usually not, because the  
13 nurse is trying to help the baby breastfeed and to help  
14 the mother postpartum. And so I sit and, from my paper  
15 that I copied from their paper that they copied from  
16 the papers that were printed from the outpatient  
17 record, I type them into my note, and then we care for  
18 the baby, and then the baby and the mother go home, and  
19 then I see the baby in follow-up the next day in my  
20 clinic.

21 Now we're in ECW. So that note for the baby in  
22 the hospital now gets printed and faxed to my nurse at  
23 my clinic, and my nurse at my clinic takes that paper  
24 and hand-types those labs and other key pieces of  
25 information like weights and things like that into the

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1 baby's linked to the mother in the electronic health  
2 record. Those maternal labs come right into the baby's  
3 chart, so I just log in, I look at the labs, and I know  
4 what I need to know to take care of the baby.

5 Here, because of the different systems, the  
6 mother's labs are drawn when she's an outpatient during  
7 her prenatal care, so that is in ECW. I'm at CVMC, and  
8 the outpatient system is ECW, and, if the mother  
9 receives subspecialty care, for example, if she gets in  
10 vitro fertilization through a clinic up in Burlington,  
11 that would be Epic. So some labs are drawn through  
12 ECW. Maybe they're drawn through a subspecialist  
13 clinic in another system.

14 Then the mother comes to the hospital and delivers  
15 her baby. Now that's in Meditech on the inpatient  
16 side. And so those prenatal labs get faxed or printed  
17 out, and the nurses diligently copy them onto a piece  
18 of paper, and that piece of paper becomes sort of their  
19 system for knowing everything they need to know about  
20 the mother and the baby because they're pulling all of  
21 this disparate information into one place to try to  
22 make sure that everything is seamless.

23 The baby's born. I come in to see the baby, and I  
24 need to find that paper. So the first thing I do is I  
25 go and I try to find the paper, and it's living on a

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1 outpatient record so that I have that information  
2 there.

3 And so there's this step-by-step-by-step process  
4 of hand-copying key pieces of information that is  
5 alarming to me because, without these nurses working  
6 very diligently and carefully and double-checking  
7 things, we could have error because, if a negative gets  
8 turned into a positive or those labs just get written  
9 by the wrong, the test result gets written by the wrong  
10 test, all of a sudden, my care of the baby might, might  
11 not be the proper care because I need to change my care  
12 of the baby based on those lab results.

13 And so it, it provides extra work, but, but, more  
14 seriously, it provides an opportunity to do things  
15 wrong over and over and over again as they're passing  
16 that chain of copying, and it's because the systems  
17 don't speak to each other.

18 So I've been a pediatrician for years now. I've  
19 always had electronic health records, even in medical  
20 school. I was at the VA hospital, and we used the VA  
21 electronic health system. I went to Dartmouth, and I  
22 used the home-grown Dartmouth electronic health system.  
23 I went out to the Medical College of Wisconsin, and I  
24 used Epic across a large health system, and then I've  
25 moved here, and I'm using the electronic health records

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1 that are here at CVMC, and I can tell you that, in my  
2 experience, Epic is by far the best system that I have  
3 worked with, and I look forward to being able to have  
4 Epic here to help take care of my patients.  
5 Thank you very much.

6 DR. KNIFFIN: Thank you, Anna. How, how do  
7 you all prevent the errors from going to the bedside?

8 DR. HANKINS: Well, I think it's through just  
9 checking and double-checking. I mean, it's, you just  
10 keep checking and double-checking to make sure, and, if  
11 I see something entered wrong in the, or I think it's  
12 wrong in the computer because it doesn't match my  
13 paper, I go find the nurse and they look at their paper  
14 and then we look at the outpatient paper and we just  
15 check and double-check that digits didn't get  
16 transposed or tests didn't get entered wrong, and  
17 because we know how important it is for taking care of  
18 a baby that we see every lab that was done and that we  
19 make sure we have the right, the right results in.

20 DR. KNIFFIN: How important is the electronic  
21 health record to physicians who are looking for jobs,  
22 and what would you tell someone who's looking for a job  
23 right now at CVMC?

24 DR. HANKINS: I think that the electronic  
25 health system is very important to physicians looking

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1 Plattsburgh.

2 DR. RIETSEMA: Thank you, Fred, and thank you  
3 all for having me today. Just a little bit about  
4 myself, I am a, I'm a Vice President at CVPH, Champlain  
5 Valley Physicians Hospital in Plattsburgh. I have  
6 responsibility for all the information services as well  
7 as population health activities, and I'm also the Chief  
8 Medical Officer of the Adirondacks ACO, similar to  
9 OneCare.

10 So just a little bit about my history. I came to  
11 CVPH 23 years ago. I was the first infectious disease  
12 physician at CVPH. I have had a multitude of roles at  
13 CVPH over the years. I was Chief Medical Officer for  
14 13 years. I was Chief Quality Officer for roughly 10  
15 years. I've been Chief Information Officer as well,  
16 and along the way, because of my interest in IT, I did  
17 get a graduate certificate in medical informatics,  
18 which is really about the interface between the human  
19 and the IT platform or system or technology.

20 So, you know, I've certainly watched the evolution  
21 of the electronic medical record. I've seen all the  
22 good it can do, but I've also seen the havoc that it  
23 can cause when it's not well-implemented, when it's not  
24 well-executed, and, most importantly, when it's not  
25 integrated, and, really, that's what you're hearing

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1 for jobs because it's such a huge part of how you take  
2 care of patients, and, and, if it works well, it can  
3 really work well to drive good care of patients and to  
4 help, and, if it doesn't work well, it can be very,  
5 very difficult. What I would tell someone right now  
6 is, right now, it's, it's very challenging, and we work  
7 through it, but I am hopeful that we will get Epic soon  
8 and be done with this.

9 DR. KNIFFIN: Okay. Thank you, Anna.

10 MS. FITZPATRICK: Sorry. Just on that point,  
11 we recently did a survey around burnout of some of our  
12 key areas of UVM Medical Center. One of the top themes  
13 that emerged was the amount of burnout that's due to  
14 this insanity in terms of documentation, living in  
15 different systems, feeling that we're not doing the  
16 best we can for our patients. So, from a provider  
17 well-being, you know, beyond the recruitment piece,  
18 it's a real dissatisfier. So, in a place that's not  
19 the easiest to recruit sometimes, that's critically  
20 important.

21 DR. KNIFFIN: Thank you, Kate. So you heard  
22 that Anna grew up on an electronic medical record.  
23 Wouter and I, not so much. We grew up on paper and  
24 transitioned to an electronic health record, and now  
25 Wouter is responsible for all the systems over at

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1 here.

2 We have the identical system, the identical  
3 problem around Newport that Dr. Hankins described, but  
4 I'm going to go to the other end of the spectrum and  
5 talk about oncology care. So we have a busy cancer  
6 center in Plattsburgh. We, we can take care of the  
7 vast majority of the common cancers. I think that the  
8 esoteric ones we don't do. We don't do bone marrow  
9 transplants, but everything else we do, and we give a  
10 lot of chemotherapy.

11 So the, the system of EMRs that we have in our  
12 cancer center causes us a bit of heartburn. So, in  
13 case you've never had the pleasure of having  
14 chemotherapy or have a family member, chemotherapy is  
15 not like just giving, you know, Here's a dose of  
16 Lipitor, it's 10 milligrams, go on your way.

17 Chemotherapy is complicated. It's often figuring  
18 out the dose requires complicated calculations. The  
19 regimens, they're usually multidrug. They have to be  
20 timed right, they have to be sequenced right, and, if  
21 you get all that wrong, you know, you either end up  
22 with an overdose situation, and those sometimes get  
23 publicized, and those, of course, have disastrous  
24 results because chemo is essentially poison, or, if you  
25 underdose it, you're going to have a situation where

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1 the patient is not going to have the best response that  
2 they deserve for their cancer.

3 So our main hospital information system does not  
4 have an ability, does not have a module that deals with  
5 oncology and chemo ordering. One of the benefits of an  
6 electronic medical record is it can facilitate  
7 everything that I just talked about. You can build  
8 those regimens which are standard into the electronic  
9 record, and you can build the calculations so a  
10 physician or a pharmacist doesn't need to do all that.

11 Our primary clinical record at CVPH, Soarian,  
12 doesn't have that capacity, so we're forced to look for  
13 an alternative, so we have a small niche product. It's  
14 called OncoEMR, a very imaginative name, and it does  
15 all of that for the physicians. So it facilitates them  
16 to order their chemotherapy. So, in many ways, we've  
17 taken away from those physicians the errors associated  
18 with ordering, but we haven't taken away the  
19 opportunity for error because that system does not  
20 communicate with our pharmacy system.

21 Again, most systems now can pass medication lists  
22 across a system, but chemotherapy orders, for the  
23 reasons I just described, are really more complicated,  
24 and the ability to electronically pass chemotherapy  
25 orders is pretty limited. It's not required by the

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1 access to go back into the oncology EMR to check the  
2 original orders, and one of the things they do is  
3 verify that what they're giving is aligned with the  
4 orders that the physician ordered, and they detected  
5 the problem, it was corrected, and the patient was not  
6 given the wrong dose, wrong dose of chemotherapy, but  
7 that's, that double-check doesn't always work. It  
8 might not have been detected.

9 And, and, more interestingly, what if the reason  
10 the patient was admitted to the hospital was for a  
11 problem beyond the capacity of our hospital? Where  
12 would that patient go? That patient would come to the  
13 University of Vermont. Now, the nurses at the  
14 University of Vermont don't have access to OncoEMR, so  
15 they would never be able to go back into OncoEMR to do  
16 the double-check to see whether the dosing of the  
17 medication that was transmitted in those records was  
18 aligned with the order.

19 So now you have a system where it's almost like  
20 the old game of telephone where an error is made early  
21 on and it will just get carried downstream because  
22 nobody has access to the original information, and that  
23 so now you would set up Kate's nurses to make an error  
24 for that patient while that patient was at the  
25 University of Vermont Medical Center.

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1 federal government, and most records don't have it, and  
2 we don't have an interface for those orders to pass.

3 So the physician can order the right stuff, but  
4 then a pharmacist has to hand-key it into an  
5 alternative system, and you can imagine the  
6 opportunities for error because the, the medications  
7 are created in our pharmacy out of the pharmacy system,  
8 and it's the pharmacy system that the oncology nurses  
9 use to know what they have to give the patient and how  
10 to give it and to document that it's been given.

11 So we had an incident about three weeks ago, and  
12 this is fortunately a very minor incident from the  
13 standpoint of the patient, but it could have been  
14 worse. So the doctor ordered a complex regimen for the  
15 patient, but in the, in the transcribing into the  
16 pharmacy system, an error was made, and so what was  
17 transcribed into the pharmacy system was not what had  
18 been ordered. What it turned out fortunately is the  
19 patient had to get admitted to the hospital for other  
20 reasons, so now the chemo, instead of being given in  
21 the cancer center, was going to be given while the  
22 patient was in the hospital.

23 And so we had a new set of nurses, and they were  
24 doing some of that sort of diligent work described by  
25 Dr. Hankins where you double-check, and they have

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1 So, so this, this -- you know, we have these  
2 situations come up a couple of times a year. We've  
3 been fortunate we have not had a severe event -- and,  
4 when I mean severe, I mean an event that causes a  
5 severe consequence to the patient -- but we have  
6 certainly had the potential of those, and, and it's  
7 having a single record that, that follows the patient  
8 is, in my mind, the single most, the single most  
9 important thing we can do with respect to patient  
10 safety.

11 As I said before, I've spent ten years or more in  
12 the field of quality, hospital quality. I've been  
13 Chief Quality Officer, and, you know, we are constantly  
14 forced into, to provide safer care, to put in these  
15 double-checks where you have multiple people along the  
16 way who have to double-check. So, A, that's work and  
17 that's a challenge, but, B, it's a setup for error.  
18 Human double-checks will fail. They don't always fail.  
19 They usually work, but they will fail. Why do they  
20 fail? Because we're human beings. We make mistakes.  
21 Sometimes we are distracted.

22 Sometimes we look at the information -- for  
23 instance, I might look at the information that Dr.  
24 Hankins put in and say, Well, she's a great doctor. I  
25 trust what she put in. And she made an error. I just

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1 trusted that. So and we can be distracted. We can be  
2 tired. We can trust the upstream person that made the  
3 error and not imagine that they might have made an  
4 error. So the electronic records, they don't suffer  
5 from fatigue, they don't suffer from distraction, and  
6 they don't suffer from a trust bias, and those are the  
7 things that we can do.

8 So, again, I want to thank you here. I know I'm  
9 the outlier. I'm the New Yorker here. You know, it's  
10 really important to the people that move back and forth  
11 across the border. You know, we, we make a big deal  
12 about the border through our governments and maybe our  
13 payers, but for patients the border is a very  
14 artificial construct. They move back and forth, and  
15 they expect that their care is the same and consistent  
16 and people know what they need to know in either  
17 location. A border doesn't matter to them. So, once  
18 again, thank you for allowing a New Yorker to speak to  
19 you guys.

20 DR. KNIFFIN: Thanks, Wouter. So the  
21 question to all three of you, Would the Epic project  
22 fix the transfers? It would fix the baby lab thing?  
23 Would it fix oncology?

24 DR. RIETSEMA: Yes.

25 DR. HANKINS: Yeah, because it would bring us

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1 complicated.

2 MS. DIETTE: And GYN.

3 DR. KNIFFIN: Life is complicated.

4 MS. DIETTE: It is, it is. So my name --  
5 good morning, first of all, and I'm glad to be here  
6 today. I am currently a resident at the Helen Porter  
7 Health --

8 MS. HENKIN: Please speak up if you can.

9 MS. DIETTE: Okay. Thanks again. I  
10 appreciate your having me here today. I am currently  
11 -- my name is Betty Diette, and I'm currently a  
12 resident at the Helen Porter Health and Rehabilitation  
13 Center. I volunteered to come and testify today from a  
14 patient care perspective because I've seen firsthand  
15 what it's like to have multiple medical records that  
16 have a lot of difficulties in communicating to one  
17 another.

18 To put up a backdrop, I'm a retired registered  
19 nurse, and I graduated in 1981 from UVM with a bachelor  
20 of science in nursing. I then embarked on my career.  
21 In April 1988 I was diagnosed with multiple sclerosis  
22 and continued my nursing. I had the unfortunate  
23 situation where, after 30 years, I had to retire  
24 because of my health, but I had the opportunity to work  
25 in what became Fletcher Allen Health Care in the last

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1 to what I was already working with for the last ten  
2 years. It would absolutely fix it.

3 DR. KNIFFIN: So last, and definitely not  
4 least, thank you, Betty, for coming over here. Betty  
5 volunteered. I just want to say a few things about  
6 Betty Diette. She's a retired nurse. I never had the  
7 pleasure of working with her, although I've heard from  
8 her colleagues that she was excellent. She was a  
9 hiker, the lead flautist for the Vermont Symphony  
10 Orchestra.

11 MS. DIETTE: No, the Philharmonic.

12 DR. KNIFFIN: Philharmonic.

13 MS. DIETTE: Wrong orchestra.

14 DR. KNIFFIN: I apologize. You know, when  
15 Betty's MS progressed to the point where she could no  
16 longer be at her home in Starksboro, she moved into  
17 Helen Porter Health Care and Rehabilitation, our  
18 long-term care facility, and she's lived there for the  
19 last two-and-a-half years, and she's a perfect example  
20 of a patient with a complex medical condition. Betty's  
21 primary care physician is Dr. Fromhold. She is our  
22 Nursing Home Medical Director. They use one record.  
23 If she gets care at Porter, that's a different record,  
24 and then Betty's dermatologist, urologist, and  
25 neurologist are all in Burlington. So it's, it's

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1 20 years of my nursing experience. I started as a  
2 full-time ICU nurse at the Fanny Allen Hospital. After  
3 two-and-a-half years, I took a position at the  
4 University Health Center.

5 MS. HENKIN: I have to ask you to speak up.  
6 There's a lot of background noise. Sorry.

7 MS. DIETTE: Oh, sorry. Okay. Is this  
8 better?

9 CHAIRMAN MULLIN: Yes.

10 MS. DIETTE: So where did you lose me? What  
11 point did you lose me?

12 MS. HENKIN: Just, you were talking about  
13 your 30-year career.

14 MS. DIETTE: Okay. So the last 20 years I  
15 worked for what became Fanny, Fletcher Allen Health  
16 Care. I started as a full-time ICU nurse in the Fanny  
17 Allen Hospital. After two-and-a-half years, I took a  
18 position at the University Health Center as the  
19 clinical supervisor for the medicine outpatient  
20 practices, and that was the outpatient practices for  
21 all of the University of Vermont physicians and  
22 fellows. I also kept a part-time position in the ICU  
23 working every other weekend, holidays, and the  
24 occasional 6:00 to 11:30 p.m. mid-week call to cover.

25 Cardiology recognized my abilities, and they

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1 brought me to the medical center hospital as a UHC  
2 employee, still working at Fanny Allen, and I became a  
3 cardiology staff nurse specialist. One of the most  
4 important duties I had was rounding with my medical  
5 team, meeting every patient admitted to the university  
6 cardiology service.

7 My attending and my fellow changed monthly. I was  
8 the consistent member on the team, and there was a  
9 young lady, well, in her 60's. I'll, I can now say --  
10 I'm 60, so I can say she's young. And she was  
11 transferred from an outlying facility. She was  
12 morbidly obese, brittle, poorly controlled insulin  
13 diabetic, and we had taken her in the, in the five  
14 years prior to the cardiac cath lab and gave her what  
15 we considered was a minimal dose.

16 It knocked her kidneys for a loop. Her BUN, her  
17 blood urea nitrogen, rose to 56, and her creatinine  
18 level to 3.8, and, for the nonmedical people in here,  
19 that is a clear sign of failing renal function. It  
20 took five weeks of peritoneal dialysis to get her  
21 kidneys back to the normal range so that we could  
22 safely discharge her home. I relayed this information  
23 to my medical team, and they were able to develop a new  
24 plan of care that met all of her needs in a safe and  
25 efficient manner. So I know firsthand -- let me look

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1 for your chart, and Dr. Fromhold and Nurse Practitioner  
2 Erlich need that for their records too. Had we in  
3 place a medical record system that communicated  
4 efficiently and effectively, they would have had the  
5 results of my study within 24 hours of the radiologist  
6 interpreting and signing off on my study. Instead,  
7 they had to wait five weeks until I showed up with a  
8 copy.

9 A second example is I have a condition called  
10 bullous pemphigoid. If you looked at my arms and my  
11 legs and my torso, you'd see these white spots where  
12 blisters have formed and ruptured, and health care  
13 providers in this room know that your skin is your  
14 first line of protection against infection. So I take  
15 multiple medications to protect me from the bullous  
16 pemphigoid. It does suppress my immune system and puts  
17 me at other risk, so I have very comprehensive blood  
18 work drawn every 12 weeks.

19 So UVM Medical Center has to communicate the need  
20 for the blood test to Karen Fromhold, my primary  
21 physician at Helen Porter. She, in turn, orders the  
22 blood work at Porter Medical Center. They send a  
23 technician who draws my blood, analyzes it, turns  
24 around, faxes the results to Dr. Fromhold and Nurse  
25 Practitioner Erlich, to the nursing center and the wing

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1 at my notes -- that a complete and coordinated  
2 information chart is -- I'm sorry, the medical record.  
3 It's no longer a chart -- is essential to good and well  
4 and safe and well-coordinated care.

5 Currently, I have three different medical records.  
6 One at UVM, one at Helen Porter, and one at Porter  
7 Medical Center, and, frankly, they don't communicate  
8 with one another. I have three examples as a patient.  
9 It's an established fact I have a multiple sclerosis,  
10 and in the two-and-a-half years that I've been at Helen  
11 Porter, I've had significant measurable changes. So my  
12 MS neurologist in Burlington decided I needed to do a  
13 repeat MRI.

14 So I drove my electric wheelchair across the  
15 parking lot and met with the people at Porter Medical  
16 Center in their MRI unit, and we quickly determined it  
17 wouldn't work. It takes a Hoyer lift to move me from  
18 my wheelchair to a stretcher, and there's no space in  
19 their unit to permit a Hoyer lift, so I went to  
20 Burlington for my study.

21 Five weeks after the study was completed, I met  
22 with my UVM MS neurologist. We reviewed my MRI results  
23 and the implications involved with that, and I returned  
24 to Helen Porter with a copy for my personal records.  
25 The unit secretary said, Oh, my heavens, I need that

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1 where I'm housed and to UVM Medical Center to my MS  
2 rheumatologist. That's a lot of hoops that would be  
3 avoided if we had a common medical record.

4 And my last example is I have something that  
5 happens to a few people with MS. It is trapezius  
6 muscle spasm, and the trapezius muscle runs from  
7 basically your hairline, down your neck, across your  
8 shoulders, over your scapulae, the shoulder blades,  
9 down to your upper back. Words cannot express the  
10 intense and excruciating pain that I experience. I've  
11 been stabilized. I take antispasmodic medications  
12 every 3 hours around the clock, and I go to Burlington  
13 every 12 weeks to receive Botox injections to kill the  
14 pathways that are constantly reestablishing.

15 That information is at Burlington. Dr. Fromhold  
16 and Nurse Practitioner Erlich have to contact  
17 Dr. Boyd's office to get a copy of his medical record  
18 so they can see exactly the location and the dosage of  
19 Botox that I receive every 12 weeks. I do expect to  
20 have to return to Burlington every 12 weeks for  
21 injections for the rest of my life. All these  
22 complications would be eliminated if we had a common  
23 medical record.

24 People like me, I should say, many people like me  
25 at Helen Porter do have complex medical conditions that

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1 require coordinated care. We all need to have our  
2 providers able to critically, to share all of the  
3 critically important information in a very realtime and  
4 safe and -- sorry. They need to share it in realtime  
5 so that we receive safe, efficient, and effective care  
6 in the safest way possible. I appreciate the  
7 opportunity to speak with you this morning, and I trust  
8 that you will move forward and, and approve this  
9 Certificate of Need for this very important project.  
10 Thank you for your time.

11 DR. KNIFFIN: Thank you, Betty.

12 MS. HENKIN: To be a little more efficient  
13 here, I think the way you've divided up your agenda  
14 today will allow the Board to ask questions on this  
15 segment at this point. Do Board members have  
16 questions? And, Chair, did you want to start?

17 CHAIRMAN MULLIN: Sure, so I'll start. So I  
18 think there's a pretty common theme that we need a  
19 health record that answers all the different questions  
20 that are coming up from the providers. So my question  
21 is, We've talked a lot about that need, and,  
22 Dr. Hankins, you've actually worked with this, so I'm  
23 going to focus my question to you, and, you know, I  
24 talk with a lot of doctors who say, you know, Here I  
25 am. I'm expected to open up on my computer three

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1 scheduled coming up, so I can say, Oh, I see you don't  
2 have a neurology appointment scheduled yet. You know,  
3 it's important that we get that done. Let me have my  
4 nurse help you get that scheduled today, because that's  
5 important. So, even though it was two systems, they  
6 were both Epic. It was just easy. We did it right in  
7 the office. I didn't really think about it at the time  
8 because it just worked easily.

9 Now I'm in my office using eClinicalWorks, and I  
10 see a patient who has had their care at the Children's  
11 Hospital. So, in this case, they've had their care in  
12 Burlington, and I don't have that button to push.  
13 Instead, I have the Scanned Patient Documents button.  
14 So I click on that, and I get a list of all of the  
15 papers that have been first printed, then faxed, and  
16 then scanned. So I have to pull it up, and, if it's --  
17 sometimes, it will be a stack of 65 papers that came  
18 together in one fax and seemed to be related and so the  
19 receptionist scanned them all in, and so I have to sit  
20 and scroll through 65 faxed and scanned pages to try to  
21 find the labs that were done or to try to find the most  
22 recent visit or to try --

23 You know, so I'm just scanning. It's too  
24 difficult to do in the room with a patient. It takes a  
25 long time, and then, once I find the information, it's

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1 different screens, and one is Care Navigator,  
2 PatientBank, etc., and then I still sometimes feel like  
3 it's just quicker if I ask for something to be faxed to  
4 me, and is this going to eliminate all that?

5 DR. HANKINS: Well, let me tell you how it  
6 worked at my old hospital. So I was at an outpatient  
7 pediatric clinic attached to a small community  
8 hospital. The nearby academic medical center was about  
9 45 minutes away in downtown Milwaukee. That academic  
10 medical center, my community hospital, and a third  
11 community hospital were all part of the same health  
12 system, and we were all on Epic, and the children's  
13 hospital, Children's Hospital of Wisconsin, was not  
14 part of our health system. It was a different system,  
15 but it was also on Epic.

16 So they had their Epic, and we had our Epic, and,  
17 if I had a patient come to my clinic who received care  
18 at Children's Hospital of Wisconsin, I could access  
19 those charts through something called Epic Care  
20 Everywhere. So, even though their Epic and our Epic  
21 were two different systems, all I had to do was click  
22 the Care Everywhere button, and I can see every  
23 appointment that they've had at Children's Hospital.  
24 It's already organized by specialty. I can pull up all  
25 of their labs. I can see what appointments they have

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1 going to be really hard to get back to. So I pull out  
2 a pad of paper, and I handwrite it out and then type  
3 it. I'm a, I use a problem list very -- with my  
4 patients who have complex health care needs, I update a  
5 problem list so that I can look at this list and see  
6 all their details, so they have this issue, this issue,  
7 this issue.

8 So I take notes on a pad of paper, and then I pull  
9 up my problem list and I type those notes in so that  
10 I'm going to be able to find it more easily the next  
11 time, but that takes a lot of time, and it, it  
12 eliminates that, that collaborative nature of me and  
13 the patient sitting together, looking at their records,  
14 looking at what has happened at the Children's  
15 Hospital.

16 It, it worked great, and, from hospital to  
17 outpatient, outpatient to the academic center  
18 outpatient, hospital to hospital, it, we just had the  
19 information, and you could, you could call the doctor  
20 that you needed to talk to to ask about the patient at  
21 the other hospital, and you could both have that  
22 information up on the screen and be looking at those  
23 images and looking at those labs without relaying all  
24 the information first.

25 So, yes, it would, to have Epic at the community

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1 hospitals, the academic hospital, and the health  
2 clinics would enable coordination of care and enable  
3 communication across physicians and across the health  
4 team caring for these patients, and, and it would  
5 become what I had in Wisconsin where you don't notice  
6 it because it just works so well that it's just sort of  
7 there. And then you look for a job in Vermont to be  
8 closer to family, and they say, Well, we have a  
9 different system, and you think, Well, of course, it  
10 will work fine, right? Because health records do that.  
11 And then you come and go, Oh, no, not necessarily. You  
12 know, it's, so it would absolutely solve the problem.

13 CHAIRMAN MULLIN: Fred, if a patient comes to  
14 you from outside of the UVM network, does Epic do  
15 anything to help you in that situation?

16 DR. KNIFFIN: So, currently, if we see a  
17 patient, so they're outside of the UVM Health Network,  
18 the project -- and I would, again, go to Adam on this  
19 one. It sounds like there's some conversation about  
20 practices in our service area having access to Epic if  
21 they choose, and, for instance, there's a good-sized  
22 FQHC in Bristol, and I've heard that that is a  
23 possibility. Can you speak to that?

24 DR. BUCKLEY: You know, in all honesty, other  
25 than if they're connected to Vital, not much. I mean,

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1 and more of the systems in New England are moving to  
2 Epic. We have Dartmouth. We have Yale. We have  
3 Partners. UMass is going. And so more and more  
4 providers are going Epic, and, if you're in the Midwest  
5 where Anna was, 95 percent of patients in the Midwest  
6 are on an Epic record, and so Epic does share  
7 Epic-to-Epic relatively well, but this project does not  
8 overcome the fact that, you know, Epic and, say,  
9 eClinicalWorks don't really share records, and there's  
10 a few vendors that want to do that level of sharing,  
11 and not all of the vendors really want to do that, as  
12 illustrated by Kate's experience between Allscripts and  
13 Epic in Philadelphia.

14 MS. HOLMES: Can I jump in here with a  
15 question?

16 DR. BUCKLEY: Sure.

17 MS. HOLMES: It mentions in the application  
18 some potential of future licensing to independent  
19 providers and FQHCs of Epic. Could you talk a little  
20 bit about what that would look like?

21 DR. BUCKLEY: Yes. So we've explored that  
22 extensively. Epic does have a program to allow the  
23 entity that's licensed, so, in this case, it would be  
24 University of Vermont Medical Center holds the Epic  
25 license, would be able to allow a non-employee provider

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1 if they're getting care within the health network, all  
2 those records are available. The upside to the  
3 non-health network providers, when they look at it in  
4 the record, which they'll have access to, by and large  
5 all the non-health network providers have access into  
6 the record, but we don't necessarily have access as  
7 health network providers into other people's records.  
8 If they're connected to Vital, that provides some  
9 information.

10 But this, this does not solve the problem of the  
11 fact that multiple vendors just don't share  
12 information. That's just a reality of the marketplace.  
13 And so this does not overcome that burden. And so, if  
14 the patient has gotten care at different times in the  
15 health network, there's some benefit there because Fred  
16 would have access to that information, but, if they're  
17 wholly being seen in a non-Epic facility on a separate  
18 EMR beyond what Vital would share, which we're already  
19 connected to, no.

20 CHAIRMAN MULLIN: Okay.

21 DR. HANKINS: Although Dartmouth is on Epic,  
22 and so that Care Everywhere button that I talked about  
23 would allow us to see that information from the  
24 Dartmouth-Hitchcock Medical Center.

25 DR. BUCKLEY: And that's a great point. More

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1 to subscribe. We looked at a variety of models. What  
2 makes the most sense to avoid scofflaw issues is that  
3 they simply pay the costs, mainly the licensing costs,  
4 not necessarily the medical center costs because adding  
5 a four-person provider practice doesn't have a huge  
6 amount of cost in terms of support, but it does have  
7 licensing costs.

8 And so we've spoken to Federally Qualified Health  
9 Clinics. We've spoken to several large practices.  
10 There's absolutely an interest. Some of that interest  
11 hasn't aligned from a timing perspective because we're  
12 not sure when we'd be live, and so it makes it hard for  
13 them to plan. Right now, with our project when I get  
14 into the project scope, once we're beyond the biggest  
15 wave, which is wave one, we would be in a position to  
16 offer a subscription model, and it would be basically  
17 predicated on just the cost of the Epic license being  
18 passed on to that provider group, and then they would  
19 have access to the same record that everyone else would  
20 have access to.

21 CHAIRMAN MULLIN: What would that cost be?

22 DR. BUCKLEY: It's driven by the Epic  
23 licensing costs which is driven by patient volume. So,  
24 typically, with Epic, if we're talking, let's say, with  
25 a four-provider practice, what type of provider they

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1 are -- generally, in this area it's going to be a  
2 primary care provider -- what their patient volume  
3 looks like, we give that to Epic, and Epic spits out a  
4 licensing number. We don't have line of sight into how  
5 they construct that price because they hold that model  
6 as proprietary, but it is driven by patient volume. So  
7 that's effectively how it looks, and then we pass that  
8 cost back to the provider, and it's usually a per month  
9 per provider scheme.

10 CHAIRMAN MULLIN: And is it across Epic  
11 clients like what I think I heard mentioned here? So  
12 say, for example, you're a doctor in Ludlow, Vermont,  
13 and you have a patient that has some issues that can't  
14 be dealt with at the local hospital, so they've gone to  
15 either UVM or to Dartmouth. If that provider chose to  
16 pay the licensing and be a subscriber of the system,  
17 would they have access to both?

18 DR. BUCKLEY: Yes. So they would effectively  
19 be on the same system that the entire health network  
20 would be on and then would have all the same  
21 capabilities, and so the chart would be partitioned  
22 from a financial perspective, but from a clinical  
23 perspective they're largely integrated, and then, when  
24 they see the patient who's been seen at the health  
25 network, say, cardiologist, they'd see that note, and

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1 provider in, say, Porter's area and you had access  
2 easily to Meditech, you could read the Porter inpatient  
3 Meditech records. This conversion to Epic of Porter,  
4 how will that affect an independent provider in the  
5 Porter community accessing, say, Porter's inpatient  
6 records?

7 DR. BUCKLEY: Well, the value would be they  
8 would now have line of sight into all of the care  
9 rendered across the health network, and so you now have  
10 a consolidated pool of information because in this  
11 model all of the clinical information follows the  
12 patient, and so, if I'm an independent provider and my  
13 patient gets care with myself as a primary care  
14 provider and then all their specialty care with the  
15 health network but at multiple facilities, then  
16 accessing the provider portal, which we have basically  
17 100 percent rate of our patients who are at the medical  
18 center, their providers have access to the portal, they  
19 see all the information.

20 So now they're seeing a far more complete record  
21 than they would now, and that gets to the benefit for  
22 the patient because they access one portal and they see  
23 everything that's done in the health network, and, if  
24 there's proxy access -- say the mom wants to see what's  
25 going on with the daughter -- they can see all of the

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1 then, if the patient landed in Dartmouth emergency  
2 department and they wanted to see what was done there,  
3 they could link through Care Everywhere, providing it  
4 hadn't already been done, and then they would have full  
5 access to the Dartmouth record.

6 And so what's happening now at the New England  
7 level at the larger health systems is we're starting to  
8 reach critical mass with how many are on Epic, and then  
9 the Epic record sharing will start to become ubiquitous  
10 like it is in the Midwest which, you know, frankly  
11 drives a higher level of care because you don't have  
12 those information gaps that drives providers crazy.  
13 Where are those labs? Where's that radiology report?  
14 What's the cardiology note say? All that goes away.

15 Now, you know, the running joke is what Epic does  
16 well is share with Epic, but it doesn't share well with  
17 others, but then none of the other vendors play well  
18 with each other, so that's a burden we can't overcome.

19 CHAIRMAN MULLIN: Therein lies the problem.

20 DR. BUCKLEY: To a large degree, yes, but we  
21 can certainly try to overcome it by offering the  
22 subscription-based model which we've looked at and  
23 spoken to practices about too.

24 MS. HOLMES: Can I just ask a quick follow-up  
25 that to as well? The, so, if you're an independent

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1 care that's going on in the network through the patient  
2 portal, which we can't do now.

3 CHAIRMAN MULLIN: Can I follow up on that  
4 question? Just because I just want to make sure that  
5 I'm understanding what you're saying. Are all the  
6 records from the existing Meditech going to be  
7 transferred into Epic?

8 DR. BUCKLEY: That's a great question. And  
9 so how we typically deal with the industry practice now  
10 is, with all this legacy data, this data that's  
11 effectively going to go away to some degree, how it's  
12 dealt with is active patients, and that's usually  
13 defined as seeing a provider within six months -- as we  
14 know from data, those are the people that are most  
15 likely still active in their system -- we'll bring over  
16 the most important information, the demographics, what  
17 medications they're on, what allergies they have, what  
18 the problem list is.

19 The rest of that data would be archived, and how  
20 it would work is it would be available through the Epic  
21 record, but it wouldn't be part of the Epic record.  
22 So say a provider would log on, set up an encounter.  
23 They would look in their note. There would be a  
24 hyperlink that they would click, and then you can see  
25 all the Meditech data that they've accrued over the

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1 years, and that's typically how systems deal with this  
2 conversion, and, at this point, it's pretty much  
3 well-delineated how you handle that conversion, and we  
4 spoke to some of that in some of the questions we had  
5 during the rounds of questions, but, so, typically, six  
6 months of data is brought over, as much as possible.  
7 The rest is available to the provider within the  
8 electronic health record but through a separate system.

9 MS. HOLMES: Yeah, I just have one more  
10 question on this for this panel, I think.

11 DR. BUCKLEY: Can I jump in? I apologize.

12 MS. HOLMES: Yeah. No. This is actually  
13 great for both of you. In the long run, I think it's  
14 important talking about the long run this is going to  
15 be really important for coordinating patient care.  
16 Also, we've been hearing a lot about administrative  
17 burden to the providers. It sounds like this is going  
18 to alleviate some of that administrative burden to  
19 providers. So I can completely see the value of this  
20 in the long run.

21 I worry a little about the short run in terms of,  
22 you know, with EHR transitions we hear a lot about lost  
23 productivity and what's happening boots on the ground,  
24 and I'm wondering if you can talk a little bit about  
25 how you might manage the lost productivity,

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1 again, when you're going from one electronic health  
2 record to another, it's a very different model than  
3 when you're going from nothing to something. That's  
4 much more dramatic for all involved.

5 MS. HOLMES: That makes a lot of sense. So  
6 is there any world in which they're going to be having  
7 to input data into Epic simultaneously into their  
8 shadow system during transition so there's going to be  
9 double entry?

10 DR. BUCKLEY: No. The only place in which  
11 there's parallel systems is in the financial side, and  
12 that exists just so you don't cause a significant  
13 disruption in your accounts receivable, and so you do  
14 typically in these kind of conversions run your  
15 financials in parallel for 12 months, but, for the  
16 clinical systems, you cut over, and so they're going to  
17 move from one system to the other system, and the  
18 people supporting these systems will move from the  
19 system they support now to the new system because it's  
20 very hard to have both feet in two canoes. It's hard  
21 to sustain.

22 MS. HOLMES: Thank you.

23 MS. USIFER: I just had one comment, and I  
24 think hopefully you'll be addressing this when you talk  
25 about the costs, but, you know, I think in the long

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1 particularly in the service areas where we already have  
2 wait times, and are we going to see any impact on  
3 waits?

4 DR. BUCKLEY: We're going speak to some of  
5 that later in the presentation. We're not going to  
6 speak to it now. I mean, current practice is to not  
7 let this disrupt the way care is rendered. And, you  
8 know, Epic has been doing this for a long time. They  
9 have it down to a science. Cumberland, our  
10 implementation partner, has this down to a science.  
11 Many of our providers, if not most of them, are already  
12 on the health record so they're used to working in  
13 health records so it's very different than when you're  
14 going from paper to a health record. It's learning one  
15 to the other.

16 In many ways, the system that we would be moving  
17 to with Epic is more intuitive and easier to use. I,  
18 myself, have used a myriad of records. I even started  
19 on paper, so I'm old enough to remember what that  
20 transition is like. It was far easier coming from a GE  
21 system to an Epic system, actually.

22 And so the way you handle it now is just continued  
23 clinical care with some, with an appropriate level of  
24 support and an appropriate level of training. But that  
25 certainly is a concern that you have to manage to, but,

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1 term you've exhibited several areas where there will be  
2 cost savings where there's, you know, duplicate efforts  
3 as well as on the top line where maybe they were given,  
4 you know, excess radiation or they were transported  
5 under a situation where it was, you know, a  
6 conservative care that could have been kept in one  
7 place, and you really haven't shown, I think, in your  
8 financials the kind of a top-line change, an NPR  
9 reduction from this.

10 As well as in the \$110 million of cost savings  
11 that you've put in the presentation, we don't really  
12 have a lot of specifics about, you know, how this would  
13 be captured, but I definitely see from everything you  
14 guys are showing in the long term, you know, we should  
15 get a lot of benefits from that duplicate effort.

16 DR. BUCKLEY: Yeah. So let me respond to  
17 this, and I'll let Marc speak to this in a significant  
18 amount as well as Matt Abrams will. In these types of  
19 projects, there's definitely two savings. There's the  
20 soft savings you speak to in terms of clinical  
21 efficiency, operational efficiency, which big systems  
22 have tried to capture and just failed. So there's  
23 really no way to monetize the value of the way the  
24 provider is rendering care and how different it is and  
25 more efficient.

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1 From an actual hard cost savings, we do know that,  
2 on the UVM Medical Center side, we're doing away with  
3 80 software licenses right out of the gate by just  
4 converting to Epic, reduced interface costs. The  
5 licensing costs are in the multitude of millions for  
6 these systems. There is some staffing efficiency that  
7 we've built into this model that we know we can  
8 achieve. So there are savings.

9 Now, it's not savings in the sense that it's less  
10 expensive. There's no way to get away from the cost of  
11 these systems, but having a single consolidated system  
12 is far more cost-efficient and effective than having,  
13 you know, 20 different clinical systems plus 80-plus  
14 different financial systems which we can all collapse  
15 into a single vendor. And so, you know, that, but  
16 getting to the savings is a challenge in these system  
17 deployments that people have generally failed to  
18 capture in all of them, but we've certainly captured  
19 the ones we think we can put a stake in the ground and  
20 say, We can capture these savings.

21 MS. USIFER: Marc will probably address it  
22 more, but there was a lot of unidentified savings,  
23 right, that you guys have to capture?

24 DR. BUCKLEY: That may be in terms of the  
25 five-year financial framework which is different than

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1 network side, but, again, I didn't do that level of  
2 analysis on the Vital side, so I can't speak  
3 specifically to if that number changes at all.

4 That being said, the plan is to continue to  
5 leverage Vital because it's critically important for  
6 all the non-health network providers that we're also  
7 engaging with the HIE in the North Country in New York,  
8 as well. The goal is to leverage those systems. So,  
9 regardless of how many interfaces it takes, we don't  
10 plan on disrupting any of those connections that we  
11 have through any of the health information exchanges  
12 currently available to us.

13 MS. LUNGE: Thank you. The other question I  
14 had is related to the Vital connectivity criteria which  
15 is criteria that was approved by the Green Mountain  
16 Care Board a couple of years ago. I didn't notice  
17 anything in the evidence related to this system and the  
18 connectivity criteria. So, if that's not something you  
19 can speak to today, it would be helpful to get  
20 information on whether the system meets those criteria.

21 DR. BUCKLEY: I can't recall off the top of  
22 my head those criteria. What were they, 2010 or '11?  
23 I can't remember when they were developed. Steve, I'm  
24 not sure if you recall.

25 AUDIENCE MEMBER: Yeah, I know that Doug

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1 this project, and I'll let Marc speak to that.

2 MS. USIFER: Okay, great. Thanks.

3 MS. HENKIN: And on that part of the  
4 presentation we can have more questions. And Member  
5 Lunge is on the phone. Robin, do you have questions?

6 MS. LUNGE: I do, thank you. Can you hear me  
7 okay?

8 MS. HENKIN: We can hear you fine.

9 MS. LUNGE: Okay, great. So I was noticing  
10 that, in the materials from February 23rd, you include  
11 in your list of current interfaces, and I counted 18  
12 current interfaces with Vermont information technology  
13 leaders. I was curious to know how the implementation  
14 of the new system across three hospitals would change  
15 that number of interfaces with Vital.

16 DR. BUCKLEY: I can't speak specifically to  
17 the Vital interface analysis. I can speak to the  
18 interfaces across the systems that we'll consolidate.  
19 Those interfaces all go away. But I don't know how  
20 many of those 18 to Vital are specific to Porter versus  
21 specific to UVM Medical Center and whether there will  
22 be a consolidation of some or all of those. I suspect  
23 not. It probably has more to do with the different  
24 types of data that are exchanged with Vital than it has  
25 to do with how many sending systems are on the health

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1 Gentile, our Chief Medical Information Officer, has  
2 looked into that and assessed that our project does  
3 meet those criteria.

4 DR. BUCKLEY: But we can certainly speak to  
5 that more formally if required, but, certainly, Vital  
6 has been involved in our discussions with this out of  
7 the gate and have been wholly supportive. They see the  
8 benefit of a more robust data set coming from the  
9 health network, and so they have not expressed any  
10 concerns, and they've been fully involved in the  
11 process, as Steve mentioned.

12 MS. HENKIN: And, Steve, can you follow up  
13 with something in writing on that for us, please?  
14 Anything else, Robin?

15 MS. LUNGE: Just a couple more. I was also  
16 wondering about how the new system will interface with  
17 OneCare Vermont information technology Health Care  
18 Navigator and Workbench 1 and specifically whether  
19 there are any functions that are redundant between the  
20 new EMR and those tools.

21 DR. BUCKLEY: So, right now, as I understand  
22 the current functionality and the version that we're  
23 online at UVM Medical Center, there is no integration  
24 between the Care Navigator. There will be some  
25 potential redundancy once the medical center is wholly

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1 live on an integrated electronic health record that we  
2 planned in wave one which would be the revenue cycle  
3 and clinicals.

4 Their version 2018 plans to have some tools which  
5 might be redundant. That analysis is ongoing in terms  
6 of what tools would be redundant, but, that being said,  
7 it's, yeah, so there's an ongoing analysis mainly being  
8 driven by Dr. Gentile and working with OneCare on what  
9 tools will exist where, when, and what kind of  
10 integrations could happen, but, as currently  
11 constituted, there are no integrations.

12 MS. LUNGE: Great. And then my last question  
13 was about the patient portal. I wonder if you could  
14 speak a little bit more to why it would make sense to  
15 do this at the network level as opposed to more of a  
16 statewide level through Vital. Because, of course, if  
17 a patient is visiting a network hospital but also  
18 providers outside of the network, they would still have  
19 multiple portals to deal with.

20 DR. BUCKLEY: Let me -- you know, from a  
21 patient care perspective, the health network, you know,  
22 a statewide portal, while tremendously valuable and I  
23 would certainly advocate for a statewide portal, a  
24 significant number of patients from the University  
25 Health Network are coming from New York as illustrated

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1 DR. BRUMSTED: Correct. As we come up to the  
2 table here, just a comment on change and change  
3 management, that it's critical for all those that are  
4 involved in change to understand the "why" and that  
5 that needs to continually be reinforced, and so,  
6 hopefully, the "why" is very clear coming from our  
7 clinicians and patient. So, at this point, project  
8 costs and implementation, we're going to turn the first  
9 part of this over to Adam.

10 DR. BUCKLEY: Thanks. And, just to add a few  
11 elements that we didn't really touch on during the  
12 patient panel, I would say that there are several other  
13 aspects of this project which are important for the  
14 Board to understand. Certainly, the ability for  
15 patients to access patient-centered research is greatly  
16 facilitated by this. Epic's system, especially the  
17 integrated system, has far more research tools  
18 available than we are currently able to leverage at the  
19 medical center.

20 Also, the patients' ability to access cutting-edge  
21 research protocols, especially in cancer areas, would  
22 be greatly enhanced by having the single record across  
23 the health system. And then, just to reiterate again,  
24 when we think about health care reform, the reason why  
25 large systems are moving towards a single record is the

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1 by Wouter being involved in the presentation. So that  
2 would not meet all the patient needs, patient care  
3 needs within the health network itself.

4 That being said, if there's any opportunity to  
5 leverage a statewide portal, the health network would  
6 be fully supportive because the fewer portals, the  
7 better. We've tried to reduce the number of portals  
8 that exist in the medical center, but it's tremendously  
9 challenging because every vendor offers their own  
10 portal which only offers a very small sliver of  
11 information. So I don't view this initiative being  
12 exclusionary in terms of a statewide portal, although a  
13 statewide portal, again, wouldn't meet the needs of all  
14 the health network patients, many of whom come from New  
15 York.

16 MS. LUNGE: Thank you. That's all my  
17 questions at this time.

18 MS. HENKIN: Okay, thank you. And we can  
19 move on in the presentation. We're running a little  
20 behind on time, so I want to make sure that the HCA has  
21 their time at the end and any members of the public.

22 DR. BUCKLEY: And I'll try my best to move  
23 with all alacrity.

24 MS. HENKIN: We don't want to cut anyone  
25 short on questions or information, so --

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1 only way to really accurately measure care and redesign  
2 care to reduce care variation is because of a single  
3 record, and so it's really important, we feel, to have  
4 a single record for that reason.

5 So, now, with that, I'll move on to every person's  
6 favorite part, the implementation and cost itself. You  
7 know, I think one of the things to keep in mind with  
8 the current state is most of the current state systems  
9 at the health network level need to be replaced for a  
10 variety of reasons. We did an analysis and came up  
11 with a number north of \$200 million just to keep the  
12 systems that we have in all of the health centers, all  
13 of the health network facilities to their current  
14 version and replace what needs to be replaced. If we  
15 did that together, that would be \$151 million. So  
16 there's value in doing this collaboratively. You know,  
17 I think one of the things to keep in mind about the  
18 current state is the current state has a tremendous  
19 amount of costs associated with it regardless of what  
20 direction we take.

21 And, now, the Gantt chart. So I'm going to spend  
22 the next 30 minutes on the Gantt chart. I'm kidding.  
23 I just, the whole point of the Gantt chart is really  
24 onefold at this point. We've tried to create this  
25 implementation with as much efficiency as possible.

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1 The big driver for expense and cost with these projects  
2 is external staffing. So Matt shouldn't hear this, but  
3 we wanted to minimize how much external staffing is  
4 required to do this project. So we actually worked  
5 extensively with Cumberland as well as Epic to try to  
6 create the most efficient deployment as possible.

7 And so, really, it's converting University of  
8 Vermont Medical Center on Epic as well as all the  
9 employed ambulatory practices across the health network  
10 and then roll sequentially to the inpatient facilities.  
11 We believe that's the most efficient way to do this.  
12 If we were to double the timeline, it basically doubles  
13 the cost, and so the goal is to keep it as compact and  
14 as efficient as possible but not be overly aggressive  
15 to the point where we don't feel we can execute, which  
16 is why we're relying on our own analysis at the medical  
17 center that has done Epic deployments. That's why  
18 we're relying on Cumberland, and that's also one of the  
19 reasons why we relied on Epic's perspective on what  
20 would be the most efficient model possible, and so that  
21 was really all I wanted to illustrate with the Gantt  
22 chart.

23 Certainly, I'm sure many of you have read about  
24 troubled Epic implementations. What people don't read  
25 about is the current state of their successes, which is

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1 most importantly, you need very robust training for  
2 your providers in a timely fashion in a way that  
3 supports the conversion. Again, people get in trouble  
4 when they don't do enough training. They let providers  
5 into the record without having training, they train too  
6 soon, they train too late. So it's very important to  
7 have a robust training plan, and we feel, with  
8 Cumberland's expertise as well as Epic's guidance at  
9 this point with their 87 percent on time and on budget,  
10 we're well-positioned to do that training.

11 So those are some of the safeguards we've put in  
12 place. Certainly, those safeguards will continue  
13 throughout the project, especially the oversight of  
14 both the Green Mountain Care Board and the Board of  
15 Trustees, and so that's how we've tried to put some  
16 Safeguards around the project in terms of maintaining  
17 the budget.

18 DR. BRUMSTED: So, at this point, we're going  
19 to have Matt Abrams from Cumberland talk about the  
20 development of the total cost of ownership.

21 MR. ABRAMS: Thanks, Dr. Brumsted, and thank  
22 you to the Board for allowing me to present about the  
23 TCO. Just by way of introduction, my name is Matt  
24 Abrams. I'm a founding partner of Cumberland  
25 Consulting Group. I'm the firm's Chief Information

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1 87 percent on time, on budget for this level of  
2 complexity in terms of a deployment, and so we feel  
3 very strongly that partnering with Epic helps position  
4 us for success. We believe having expert project  
5 management and support is critically important.

6 We've looked at systems that have struggled with  
7 their deployments, and trying to self-source that  
8 expertise is often a pain point. We really don't --  
9 we're not in the business of deploying large, complex  
10 health IT systems in the sense of a multi-system  
11 deployment since we haven't done that before. So it's  
12 best to rely on the people who do that on a regular  
13 basis, and Cumberland is one of those firms. It also  
14 requires very clearly defined and well-developed  
15 governance, which we already feel we have in place.

16 The whole point of that is to maintain clear,  
17 rigid scope control. You don't want to keep adding  
18 things as the project goes along. That's another way  
19 in which you get tremendous cost overruns. So you need  
20 rigid governance, not rigid, but you need really robust  
21 governance. You certainly need adequate contingency,  
22 and the contingency amount is effectively the industry  
23 standard at this point for these types of deployments.

24 You also need transparency when it comes to either  
25 regulatory oversight, board oversight, and, probably

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1 Officer, Chief Privacy Officer, and I'm a member of the  
2 Board of Directors. I have, prior to forming  
3 Cumberland Consulting Group, I was an executive with  
4 Ernst & Young's health care information technology  
5 consulting practice. I'm currently based in Nashville,  
6 but, at the time, I was based in Chicago.

7 I have over 23 years of health information  
8 technology implementation experience in the acute,  
9 ambulatory, post-acute, long-term care, academic,  
10 behavioral, correctional, PQHC, critical access, and  
11 RHC health care environments. I have a computer  
12 science background and substantial experience with  
13 custom software development as well as project  
14 estimating, budgeting, and governance. I'm also a  
15 Certified Project Management Professional.

16 I also have one of my colleagues on the line, John  
17 Waters. John, if you don't mind, could you introduce  
18 yourself to the group?

19 MR. WATERS: Hi. Thanks, Matt. My name is  
20 John Waters. I'm a principal with Cumberland  
21 Consulting Group. I've been working with UVM over the  
22 past few years on this project as well as some Epic  
23 upgrades and others. I was formerly an employee at  
24 Epic Systems where I worked on their hospital building  
25 implementation team so I have a lot of experience with

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1 Epic, and I also have worked with numerous other EMRs,  
2 including Cerner and eClinicalWorks.

3 MS. HENKIN: And this witness is not under  
4 oath at this point. So is he going to be testifying  
5 further?

6 MR. ABRAMS: If there are direct questions  
7 about more detailed information in the total cost of  
8 ownership that I'm not able to answer, John would be,  
9 yes.

10 MS. HENKIN: We can probably swear him in,  
11 although he's on the phone.

12 (John Waters was placed under oath.)

13 MR. ABRAMS: And John is very sorry he  
14 couldn't be here today. His wife is 38 weeks pregnant,  
15 and we thought it might not be a good idea for him to  
16 be here in case she went into labor, but she is not  
17 right now.

18 MS. HOLMES: And we have all these OB/GYN's.

19 MR. ABRAMS: I saw that. Just for a little  
20 background on Cumberland Consulting Group, we're in our  
21 15th year of business. We have about 450 team members.  
22 We work only in health care across the provider, payer,  
23 and pharmaceutical manufacturer space. All we do is  
24 health care information technology work. We've been an  
25 Epic-certified consultancy since 2005. We've worked

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1 long track record of successful implementations based  
2 on the TCOs that we have built.

3 Just turning to the next slide, the TCO has been a  
4 collaborative effort with the University of Vermont  
5 Health Network, Epic, and Cumberland. Each party has  
6 had substantial input into the model. On the slides  
7 that follow, again, we'll go into some detail on both  
8 the Capex and Opex components of this, but the model is  
9 intended to be comprehensive and include only the  
10 incremental costs.

11 Our goal when we define these TCOs is to include  
12 all cost categories that we could encounter through the  
13 course of the implementation, and we certainly want to  
14 minimize any surprises that may come up through the  
15 implementation. Our TCOs are informed by our  
16 implementation work. So we're not just a firm that  
17 does total cost of ownership models. We, almost in all  
18 cases -- I can't say definitively in all cases, but I  
19 would say almost in every case we've done a TCO, we've  
20 also been selected to be the implementer.

21 So we have a group of clinicians, project  
22 management professionals, technicians, people who all  
23 they do is work on Epic implementation projects, and  
24 we, our TCOs are informed by the work we do over those  
25 many years so that we understand what cost categories

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1 for approximately 20 percent of Epic's customer base,  
2 and our roots go back quite a bit.

3 Just coincidentally, every Epic customer that was  
4 mentioned by the panel earlier today is also a customer  
5 of Cumberland, Children's Hospital of Wisconsin,  
6 Froedtert, UPMC, Dartmouth-Hitchcock, all clients of  
7 Cumberland Consulting Group. Our roots actually go  
8 back to implementing Epic at UPMC in the 90's. So that  
9 ambulatory implementation was work that we did when we  
10 were with Ernst & Young before we started the company.

11 MS. HOLMES: Can I just interrupt you for a  
12 second? Is that 87 percent success rate your success  
13 rate?

14 MR. ABRAMS: That's a Cumberland metric. I'm  
15 sorry. That's an Epic metric.

16 MS. HOLMES: What is your success rate?

17 MR. ABRAMS: 100 percent. So Cumberland was  
18 engaged in roughly September of 2014 to develop a total  
19 cost of ownership for the project. The TCO is a cash  
20 flow based model, that is, what we try to do is  
21 document all incremental costs for the project. The  
22 model includes both capital and operating expenses.  
23 I'll go into some detail on the next few slides about  
24 what's contained in each of those categories, but  
25 Cumberland has built many similar models, and we have a

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1 to look for, and we're, you know, I think we're very  
2 good at developing comprehensive cost models.

3 So, just to go over the specifics of what's  
4 contained in the TCO, the first three categories are  
5 all categories of information that are provided  
6 directly by Epic. This is the capital, list of capital  
7 areas, and on the following slide you'll see the list  
8 of Opex which matches these categories. So for the  
9 first category that's Epic software costs. That is the  
10 one-time licensing costs that are provided directly by  
11 Epic based on the scope of the project and the modules  
12 to be implemented as part of the Epic implementation.

13 The next category is the Epic component of  
14 implementation services and travel costs for the Epic  
15 resources that will be working on this project in  
16 support of the overall implementation. The next  
17 category is required third-party software, which is the  
18 cachet operating environment upon which the Epic system  
19 works and relies on. The following categories related  
20 to staffing are both the internal University of Vermont  
21 Health Network staff that will work on the project, at  
22 least the capital component of the work they will do,  
23 and then the external staffing which is the Cumberland  
24 Consulting Group system integrator roles that will be  
25 part of the overall implementation.

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1 In order to develop these staffing models, we  
2 worked very closely with Epic who is very prescriptive  
3 about the specific roles which are required for any  
4 Epic implementation, and they based those on the  
5 modules which would be implemented. It's a bottom-up  
6 model that's defined based on the actual individual  
7 resources who will be assigned to the project over the  
8 time of the actual implementation with an hourly rate  
9 for both the external staffing from Cumberland as well  
10 as the internal resources that will work on the project  
11 on a week-by-week basis for the entire duration of the  
12 project. The staffing model has to be approved by  
13 Epic, and they did so in this case.

14 MS. USIFER: I just had a few quick questions  
15 on this chart. One is, Did the auditors, have they  
16 approved that all of these costs are capitalizable?

17 MR. ABRAMS: Yes.

18 MS. USIFER: And is the relationship between  
19 the Epic costs and all the other costs, is that similar  
20 to what you've seen in other implementations?

21 MR. ABRAMS: Yeah. The ratio of the costs  
22 here is roughly equivalent. I mean, the staffing  
23 certainly is a big component of this, but the staffing  
24 models are defined based on the idea that there are not  
25 resources in our clients that are typically just

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1 incremental to the environments that they're already  
2 hosting. So we have a distinct advantage here in that  
3 the folks who are working on this are very, very  
4 familiar with Epic's environments, and so they have a  
5 very fine level of detail in terms of the estimate that  
6 we were able to put together here.

7 The next category is related to space for the  
8 implementation team, facilities for the actual  
9 conducting of training, and costs for managing the  
10 communication to stakeholders for the project, both  
11 folks that are working at the University of Vermont  
12 Health Network and the public and patients. And then,  
13 finally, as Adam referenced, the 10 percent, roughly 10  
14 percent contingency that we've applied on top of the,  
15 on top of the capital and operating budget based on our  
16 experience of projects of similar size and scope.

17 On the next slide, I won't go through it again.  
18 These cost categories match, and, essentially, what  
19 we've done in collaboration with the auditors is  
20 determine which components of the costs are operating  
21 expenses and, therefore, not capitalizable. A good  
22 example of this is corresponding resources that are  
23 assigned to the project when they're actually  
24 conducting training that can't be capitalized, and  
25 so, therefore, we have a component of the work that is

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1 available and waiting to do an implementation of this  
2 type. So, typically, third parties are brought in to  
3 provide resources on a temporary basis that then go  
4 away after the implementation.

5 We try to define these models such that we have  
6 resources that would be temporary that come under a  
7 third party, and then the resources that are assigned  
8 from the University of Vermont Health Network or any of  
9 our clients are the ones that would then stay around to  
10 support the system after the project goes live. We  
11 don't want to be in a case where we ask our clients to  
12 hire resources temporarily for the implementation that  
13 then would have to go away because that's a hard thing  
14 to do.

15 The next category is related to the technical  
16 component of the system. This is the network and  
17 technology costs based on Epic's actual requirements  
18 for hosting their environment. The estimates were  
19 created collaboratively again with the University of  
20 Vermont Health Network's technical resources as well as  
21 technical systems folks from Epic.

22 It's important to note that, remember that the  
23 University of Vermont Medical Center is a long-term  
24 Epic customer. So they've been hosting Epic  
25 environments for a very long time, and this will be

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1 operating.

2 I just want to conclude my remarks by saying it's  
3 my professional experience that, oh, sorry, my  
4 professional opinion that the TCO is comprehensive,  
5 reasonable, and that the project can be successfully  
6 performed on budget and on time based on our years of  
7 experience doing similar models and managing similarly  
8 sized and scoped projects. Thank you.

9 DR. BRUMSTED: Thank you very much, Matt.  
10 We're now going to turn to Marc Stanislas. You all  
11 know him well from our budget presentations, and your  
12 staff knows him well also. Marc.

13 MR. STANISLAS: Thank you. So, basically,  
14 the process that we did next to test the affordability  
15 on the University of Vermont Medical Center is we took  
16 all of the work that they just did and we took all of  
17 those numbers and we translated it into the summary  
18 slide. So everything that you just heard about is  
19 built into the financial framework that was submitted  
20 as part of the application, and, also, I believe this  
21 summary is part of the application.

22 Just to go through the categories, there's \$109  
23 million worth of capital expense that all lives with  
24 the medical center as the licensee. We want to be very  
25 clear that the depreciation lives there also. That's

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1 going to have an impact on their operating margin, and  
2 all of that is built into the cash fund flow of the  
3 financial framework, okay?

4 The next line is the operating expenses that they  
5 just spoke to. That's all going to be charged to the  
6 medical center, and then it's going to be charged out  
7 to the other affiliates, and it's going to come back to  
8 the University of Vermont Medical Center as a  
9 reimbursement, and that's going to be through  
10 subscription fees. There's a schedule across the  
11 entities on how those subscription fees are going to be  
12 spread based on the TCO. There was a question  
13 from the Green Mountain Care Board, Is that going to  
14 be, is that going to be in future budgets? Anything in  
15 the TCO is going to be in future budget presentations  
16 and also budgets for all the entities in the health  
17 network.

18 And then there's the total staffing offsets.  
19 That's also spoken to in the TCO, and there's the net  
20 incremental cost of \$151.7 million, and I'll just put  
21 the disclaimer on there that that does not include  
22 capitalized interest of \$3.1 million. Any questions on  
23 that slide?

24 MS. USIFER: Yeah, I just had one question.  
25 Since this does cross over to New York and you have all

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1 likely not.

2 MS. USIFER: Okay, thanks.

3 MR. STANISLAS: So then, after we took the  
4 Epic TCO estimates, we built that into our financial  
5 framework, and these are the other assumptions that we  
6 built into it. I want to pause for a second, and our  
7 approach to this was to build in fair and reasonable  
8 assumptions. What does that mean from a financial  
9 perspective? It's, basically, to be very reasonable,  
10 there's going to be pluses, there's going to be  
11 minuses, but at the end of the day, the hope is that  
12 they balance.

13 This is the exact same process that we used for  
14 the Miller Building, and, if you take a look at those  
15 estimates in that CON application to the performance of  
16 today, I think we are meeting or beating those in all  
17 categories. This is also the exact same process that  
18 we take in our annual budget process every single year  
19 that goes through all of our internal reviews all the  
20 way up through the Green Mountain Care Board for the  
21 final approval, and that's also for operating and  
22 capital.

23 So, basically, there was a challenge here because  
24 it's not typical to do a ten-year projection, okay?  
25 But the IT folks put the finance folks in a very

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1 of the capital really attached to UVM, you know,  
2 whether that's the right allocation. I mean, you know,  
3 I understand over the whole network you wouldn't look  
4 at it that way, but, when you divided out what it would  
5 have cost if they implemented their own system, think  
6 it would have been more than that?

7 MR. STANISLAS: I mean --

8 DR. BUCKLEY: Yeah, it would be substantially  
9 more, and, to Matt's point, there is already a  
10 tremendous amount of infrastructure, hardware, stuff,  
11 the capital of maintaining an electronic health record  
12 that resides with the medical center. The instance or  
13 version of Epic will reside with the medical center.  
14 Epic licenses to, only licenses to the academic medical  
15 center. So University of Vermont Medical Center is  
16 license holder, and so with the model that UVM Medical  
17 Center will actually host it, UVM Medical Center is the  
18 licensee, it made sense for the capital to live with  
19 the University of Vermont Medical Center and for the  
20 depreciation expenses to live there.

21 If Central Vermont Medical Center or Champlain  
22 Valley Physicians Hospitals were trying to do a similar  
23 Epic project, they'd be starting from scratch. The  
24 capital expense could be dramatically more, and that's  
25 assuming Epic would license to them, which is most

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1 uncomfortable position that our model only works on a  
2 five-year model or a ten-year model, and their  
3 five-year model crossed our five- and six-year model.

4 So and I should speak to the modeling software  
5 that we use. It is a Kaufman Hall product. We've been  
6 using it, I believe, since 1994 in partnership,  
7 actually, 2004 in partnership with the Green Mountain  
8 Care Board also. Kaufman Hall is one of the leading  
9 health care financial advisors in the United States  
10 along with Ponder & Company, in which we have a  
11 professional opinion. So it's a live working software  
12 that we've been working with for a long time.

13 So, basically, the assumptions were, 2016 was the  
14 base year. Because of the amount of planning that has  
15 gone into this, that we had to pick a jumping point.  
16 So the jumping point was 2016 actual. We took 2017  
17 budget, and we made adjustments for, you know, what we  
18 thought some of the high-level performances, you know,  
19 would change between the entities, and then we built in  
20 the 2018, the 2020 projections. This was spread  
21 somewhat evenly throughout all of the years, but the  
22 net results were this on the operating margin is the  
23 operating margins for the medical center are going to  
24 range from 2.6 percent to 3.5 percent.

25 The staffing growth in the models were between .6

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1 and 1 percent, .6 at the beginning and then leveling  
2 off at 1 percent. The net patient revenue growth each  
3 year, I want to caution when I say that. That's not  
4 all price. That's volume and price combined together,  
5 very similar to the way we're looking at the all-payer  
6 model of 3.4 and 3.5 percent, and then, and then we  
7 needed to build in some expense savings for us to stay  
8 in the A-rated category, and I can respond to your  
9 question earlier.

10 So, first of all, I think you heard about the  
11 level of planning that has gone into this on the IT  
12 side, okay? What probably hasn't been fairly  
13 articulated is the level of planning that all of the  
14 operating leaders on the medical center side have put  
15 into this, okay? So, as such, of the \$75 million  
16 target -- and I just want to remind everyone that's a  
17 goal to get there to by 2023. If you average that out,  
18 that's about 1 percent of their total expense a year.  
19 So, when you narrow it to those terms, while there's  
20 some difficult work to achieve those, that's a very  
21 reasonable goal to put forward.

22 So but, on that, so the medical center started  
23 this work in 2017, okay? They achieved approximately  
24 \$15 million of the \$75 million in 2017. The goal is  
25 that they hope and carry that forward through the

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1 But, at the same time, there's plenty of capacity  
2 within this financial framework also to handle some of  
3 those unknowns. I mean, you know, today we're talking  
4 about a significant cost of health care, that's in IT,  
5 okay, but there's a lot of other things going on at the  
6 same time. So our approach, you know, was to build,  
7 you know, reasonable assumptions that there are going  
8 to be pluses and minuses.

9 So, if you break it down into a micro-level, you  
10 know, it can seem very challenging, but, if you step  
11 back and take a look at the macro-level -- and the  
12 macro-level in my world is, well, the medical center is  
13 \$1.2 billion approximately, okay? The health network  
14 is about \$2 billion. So our ability to manage any risk  
15 in the scope and scale that we're going into this as a  
16 health network gives us many more levers than where a  
17 smaller individual hospital or organization has, and, I  
18 mean, so that's the best that I can answer that today.  
19 But, but the Deloitte report, they did do some  
20 sensitivity testing also.

21 DR. BRUMSTED: And, just to follow up on that  
22 a little bit, I think I know from inside of the tent  
23 what our capital budgeting process looks like and our  
24 capital allocation, and the largest and quickest lever  
25 is to ratchet back on other capital allocation. Epic

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1 future budget process of the Green Mountain Care Board,  
2 but \$15 million of the 2017 performance is directly  
3 related to efforts that they put in place to achieve  
4 these savings, okay?

5 In the 2018 budget there's \$27.5 million more. In  
6 the TCO the target was \$17.5 million, so they upped it  
7 by \$10 million, okay? And if -- now, they still have  
8 to hit their 2018 budget, but, if you put those  
9 together, they are more than 60 percent of the way  
10 there only one year in, and they still have five more  
11 years to get to the other 40 percent. Does that?  
12 Okay.

13 CHAIRMAN MULLIN: So, Marc, in your modeling  
14 did you run different scenarios? Say, that NPR growth  
15 was different than 3.4 to 3.5, so let's say it was 2.5.  
16 How does that affect your model?

17 MR. STANISLAS: It is difficult. So, first  
18 of all, to answer your first question, this was built  
19 on 3.4 to 3.5 percent, okay? But the most important  
20 question I think in that is you need to understand the  
21 difference between rate and volume, you simply can't  
22 say 2.5. If, say, 2.5 is all rate, I can say that can  
23 probably be accounted for in the model. If, say, part  
24 of the 2.5 is volume and rate, well, then we would need  
25 to understand what that split-out is.

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1 is the number one priority for us going forward, and,  
2 as Marc said, that throughout the network we would be  
3 able to rein in the capital spend if we ran into any  
4 kind of speed bump.

5 And the other thing is, again, from Deloitte --  
6 and Marc made reference to this later on -- they did  
7 say over the timeframe of this project that we would  
8 develop excess capacity that, as we went along, of  
9 about \$175 million. So I think we've really got some  
10 good financial guardrails on the project.

11 MS. HOLMES: Dr. Brumsted, will you just  
12 speak to what those capital expenditures that might be  
13 foregone if this ran over, prioritizing?

14 DR. BRUMSTED: Equipment, facilities, real  
15 estate.

16 MS. HOLMES: There's nothing you have  
17 specific?

18 DR. BRUMSTED: Yeah. We've got those right  
19 in the uses and sources capital budget that goes out  
20 five years that were part of the budget process. You  
21 can just go through those, and most of those would not  
22 fall off the plate totally. They would just, the  
23 timing would be delayed, and we'd -- obviously, it's a  
24 fluid process. We would go through, like we always do,  
25 an annual prioritization based on performance of where

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1 the best spend of capital dollars, but once you enter  
2 into a project like this, priority number one is going  
3 to be to get through the Epic implementation  
4 successfully.

5 MS. HOLMES: Thank you.

6 MR. STANISLAS: And here's also some of the  
7 other planning items too. So built into the financial  
8 framework, there was an anticipation of additional  
9 dollars, but then to get to 100 percent pension fund,  
10 okay? The medical center, with their 2017  
11 performance, they're almost at 100 percent. They're  
12 at, like, 98 or, you know, 99 percent, you know,  
13 depending on the evaluation of the day. There's an  
14 additional \$18 million built into the framework for  
15 '18, '19, and '20 which is now, you know, freed-up  
16 dollars, you know, for some of those other unknowns.  
17 So that's another favorability in there.

18 I think it makes sense to talk through, you know,  
19 at a very high level with the process, you know, that  
20 we go through. The financial framework gets updated  
21 annually. This amount of rigor gets provided every  
22 single year, not only for the medical center, but for  
23 each one of our affiliates, and it gets rolled up at  
24 the health network level. Then we test those financial  
25 metrics to see where they stand to the A-rated

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1 network has another \$50 million that's available to the  
2 University of Vermont Medical Center to assist with  
3 that, and, as Dr. Brumsted said, even the Deloitte  
4 report has identified another \$173 million worth of  
5 debt capacity, and that still keeps us in the A-rated  
6 category, and all of this is reviewed through the Green  
7 Mountain Care Board annually for all the operating  
8 budgets and all of the capital budgets, and, at the  
9 same time, you know, we would share any changes or  
10 adjustments that we need to make, you know, moving  
11 forward.

12 So, at least in my mind, the best assurance that  
13 we can give you is that we're planning ahead. If  
14 there's a road bump, it's identified as early as  
15 possible. We have a management team with a track  
16 record based upon previous performances from actual to  
17 budget that they react to those items, and we're doing  
18 it in a very cohesive manner between operations, IT,  
19 and finance and the clinical side.

20 If we move on to the Deloitte report, I have to  
21 say this is the most, this is the most rigorous  
22 financial review I have ever been through, okay? That  
23 includes previous CONs. That includes anything from  
24 the rating agencies, and, yes, it includes anything  
25 that Dr. Brumsted has ever put me through to date,

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1 category, and this is just some of the steps that we  
2 could go through and some of them that we do go through  
3 every single year.

4 So I think Dr. Brumsted talked about the capital.  
5 Epic is the priority. Just to understand, the  
6 capital's built into the financial framework. For the  
7 medical center it's \$922 million over these planned  
8 periods. For the health network it is \$1.3 million,  
9 okay?

10 DR. BRUMSTED: Billion.

11 MR. STANISLAS: Billion, yes. The Epic  
12 project, okay, along with the Miller Building that  
13 we're already committed to, is about \$284 million. So  
14 that's the scope and scale of the numbers that we have,  
15 you know, to work with. The other thing that I would  
16 want to say about the leadership of the medical center,  
17 their ops teams have already identified with some  
18 levels if cutbacks need to be made. So they've already  
19 started work that if, for some reason, that the numbers  
20 fall into the circumstance that here's our starting  
21 point, so we're not starting from scratch, okay?

22 The scope and scale of the health network, the  
23 University of Vermont Medical Center, okay, has  
24 significant cash reserves. Currently, it's about 221  
25 days cash on hand to fall back on, okay? The health

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1 okay? What we spent --

2 CHAIRMAN MULLIN: Sounds like a challenge.

3 DR. BRUMSTED: That's right.

4 MR. STANISLAS: Okay, thank you. Well, can I  
5 withdraw that last statement? No. I, just for the  
6 record, I do not withdraw it, okay? We spent three to  
7 four weeks working with Deloitte, and I think it's  
8 important to understand there was calls scheduled two  
9 to three times a week. They were scheduled for an  
10 hour-and-a-half to two hours, and they often, you know,  
11 went over. They went at every level of detail that, I  
12 mean, at least I've ever been through talking through  
13 all of the variables. We gave them direct access to  
14 our live system, and that's what they used to test for  
15 the sensitivity that they did.

16 So, you know, just going through these, I mean,  
17 this speaks to the analysis. This is directly from the  
18 Deloitte report. Based upon -- they called it base  
19 assumptions. Based upon what the base assumptions,  
20 they estimate that we're going to stay in the A-rated  
21 category using all of the assumptions, well, the peer  
22 analysis, comparisons to like organizations, that we're  
23 going to stay within the metrics, and we're above the  
24 metrics in average terms of liquidity and coverage.

25 On the debt capacity they spoke to that there's an

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1 additional \$173 million worth of debt capacity to stay  
2 in the A-rated category. On the sensitivity, after  
3 they went through their sensitivities, they still  
4 maintained that we would fall within the A-rated  
5 category, and then, based upon a high level SWOT  
6 analysis, based upon what management said, that this is  
7 a cheaper alternative than doing all the one-offs  
8 entity by entity.

9 DR. BRUMSTED: Thank you. You've been very  
10 gracious with your time, and I want to be equally as  
11 respectful and give you all the time that you'd like  
12 for any further questioning so, for the Health Care  
13 Advocate to question. You've heard it all. You've  
14 heard the "why" from our front-line clinicians,  
15 nursing, physicians. You've heard it from a patient.  
16 I think you know us well and you know the rigor that we  
17 apply to big projects, and I think you know as well  
18 what motivates us, and what motivates us is to make  
19 sure that we provide the very, very, very best, highest  
20 quality care we possibly can to our patients of this  
21 region. So we're happy to answer any questions, and,  
22 if anybody behind me is answering a question who hasn't  
23 done the right hand thing, I expect they'll do it.

24 MS. HENKIN: Okay. Board members, Maureen,  
25 do you have questions?

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1 providers. But we feel we can manage all those risks.  
2 Those risks are no different than the implementations  
3 that Matt's been a part of or Epic has been a part of  
4 at this point.

5 MS. USIFER: And I think, from Marc's  
6 perspective, you know, you talked about some of the  
7 things on the balance sheet as far as, you know, days  
8 on hand cash, things like that. If those were to be  
9 tapped, that's going to then hit your operating margin  
10 and give you covenant risk potentially.

11 MR. STANISLAS: So I'm going to take it down  
12 a level of detail because that's the world I live in.  
13 So I think the first risk is that we need to keep a  
14 stable payment platform in Vermont. Knowing what the  
15 high-level payment model is going to be is very, very  
16 important, particularly as I spoke, you know, about the  
17 medical center, that they built in savings into the '17  
18 performance and carrying that forward. So that  
19 understanding in future budget cycles, from your  
20 perspective, is going to be very important for us to  
21 stay financially on target, okay?

22 I think the next item, you know, I'm going to pass  
23 it off to Adam and Matt. They have to stay on target,  
24 on plan with the TCO, with the total cost of ownership.  
25 The third thing is the medical center is going to need

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1 MS. USIFER: I think your presentation has  
2 been very thorough in all the information you gave us.  
3 What do you see as the biggest risk?

4 DR. BRUMSTED: Not proceeding, seriously.

5 DR. BUCKLEY: Yeah. I think, you know, to  
6 dovetail on that, certainly, the existing systems,  
7 we're at an unsustainable point so we have to do  
8 something. We think this is the most cost-effective  
9 way to proceed. We also think it's the best from our  
10 patient care perspective.

11 That being said, generally, with projects of this  
12 magnitude, the risks are, you know, our governance  
13 isn't engaged, we don't do adequate training, we  
14 haven't delineated the risks. So I think managing the  
15 scope of the project and making sure we stay within the  
16 boundaries of the project we've created is usually  
17 where people get in trouble.

18 The benefits of engaging with a group such as  
19 Cumberland is, you know, they've been there, they've  
20 done that. They know when to say, Hey, this is a  
21 little off point or you're drifting, and so we feel  
22 that we've managed that risk with good board governance  
23 oversight plus the oversight of the Green Mountain Care  
24 Board, but there is always risk with these large  
25 projects. Certainly training, we have to train the

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1 to stay within the .6 and the 1 percent FTE growth.  
2 Salary and expenses are the biggest stable expense item  
3 so that also creates the greatest opportunity, you  
4 know, to the extent that you can do more there.

5 And, you know, the safeguard against that is we  
6 continue to update and to, and to reevaluate our  
7 financial framework every single year. So, if there is  
8 a gap, that gap is identified and shared, and then, at  
9 that time, you know, we can share what the operational  
10 performance initiatives are to fill in that gap. But,  
11 you know, from my perspective -- oh, and, you know, I  
12 don't want to let the TCO folks off either, but how  
13 quickly that we can yield those savings, those offset  
14 savings in the TCO model, that's the other important  
15 factor too.

16 DR. BRUMSTED: I would just emphasize --  
17 thank you for that, Marc. I would just like to  
18 emphasize that there are multiple levels and very  
19 rigorous oversight of this and other projects well  
20 before we get to the Green Mountain Care Board which we  
21 realize, for a project like this, is the ultimate  
22 oversight.

23 We have a management team which is very  
24 experienced and reviews financial information,  
25 operational goals on a very frequent basis and are very

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1 ready to jump in and rein in scope creep, or, if we  
2 need to offset capital investments, very ready to  
3 reprioritize and be very realistic about where we are.

4 We have a Board Finance Committee that is  
5 coalesced between the medical center and the network.  
6 Allie Stickney is currently chairing that, and they  
7 also look at the financial framework, actually, twice a  
8 year and provide very rigorous oversight of finances.  
9 And one thing that the board implemented as a board  
10 policy -- this is the network board -- I think, two  
11 years ago now, and I believe we mentioned it. For  
12 significant projects it will set up a specific ad hoc  
13 but officially appointed board committee to oversee  
14 that project and to report back on a regular basis.

15 So they would get closer to the operations and the  
16 finances than a board normally would, and we have a  
17 subcommittee right now targeting oversight on the  
18 Miller Building, and the goal is, should you give us  
19 the go-ahead, that we would have a board project  
20 oversight committee specific for the Epic project that  
21 will have trustees from throughout the region on it,  
22 all of that oversight before we get to the level of the  
23 Green Mountain Care Board.

24 MS. USIFER: And the only other thing I would  
25 say is on the upside is I would put a lot of pressure

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1 MS. HENKIN: Robin, on the phone, do you have  
2 questions?

3 MS. LUNGE: I just have a couple. I was  
4 curious to know about how the new financial system may  
5 help with the work that you've been doing around cost  
6 accounting. We had heard in a previous board meeting  
7 about how you're working on being able to assign  
8 expenses as well as revenues for patient care items,  
9 and I was wondering if you could speak a little bit to  
10 whether this would help in that process.

11 MR. STANISLAS: I think one part of that  
12 answer lives with me, and I think one part of it lives  
13 with Adam. With that, if we are able to build a  
14 process that's the same process for all of our health  
15 affiliates, it's going to be easier to make it be more  
16 predictable cost to support those services, and I think  
17 what Adam said earlier is this is building, you know,  
18 one structure that, not only the patient record, but  
19 the financial registration, the payment processing  
20 process, and the collection process for the whole  
21 health network, and from an IT perspective that's all  
22 kinds of efficiencies that can be generated from that.

23 I don't know if that -- but, I mean, and, if it's  
24 all done the same, it's going to be definitely easier  
25 to manage it in the cost accounting model, but --

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1 on that contingency. You know, you have, like, \$16,  
2 \$17 million in contingency. Just really monitoring to  
3 try not to tap into that because sometimes you have  
4 that in the budget and, you know, you're dealing with  
5 consultants and things like that, and you get a lot of  
6 creep and it's almost assumed, like, We can get that,  
7 and who's holding? I know it's not that way, but we  
8 should really be looking at that as an opportunity. I  
9 know there's a lot of risk and you probably will need  
10 to tap into some, but that could be a place where you  
11 improve too.

12 DR. BRUMSTED: Yeah, that's a great point. I  
13 just would harken back to another very large project  
14 that you provided oversight to. That's the Miller  
15 Building, and we still have a significant amount of  
16 that contingency left. The only amount that has been  
17 expended were for unknowns, and that's exactly what a  
18 contingency is. I think, specific in that project,  
19 when we were peeling off the skin of the building that  
20 we're attaching the Miller Building to, they found some  
21 things that they just didn't know, and it cost a little  
22 bit more to actually attach the building. It's those  
23 sorts of unknowns that a contingency should be used for  
24 in our view and I know our board's view and not for  
25 scope creep.

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1 DR. BRUMSTED: Does that get your question,  
2 Robin?

3 MS. LUNGE: So my other question was about  
4 the New York state CON that's needed. I wondered where  
5 you are in that process.

6 DR. BUCKLEY: So, when we originally  
7 submitted the application, there was a requirement to  
8 do an expedited HIT review in New York, but that's no  
9 longer the requirement. So we will not be needing to  
10 submit a Certificate of Need in New York State.

11 DR. BRUMSTED: We will, however, Robin, we  
12 will, however, continue to report the progress of these  
13 other network activities to the section of the New York  
14 State Department of Health which oversees the acute  
15 care side, the delivery system side. So we'll continue  
16 to report to them this project but also other projects.

17 MS. LUNGE: Thank you. That's all my  
18 questions.

19 MS. HOLMES: Well, the beauty of going  
20 towards the end is that a lot of the questions have  
21 been asked, but one question I have is, As I see Epic  
22 gaining tremendous market share -- and you just named  
23 all the hospitals, a bunch of hospitals in New England  
24 that moved to Epic, and I know from just, you know,  
25 reading the news that it's gaining tremendous market

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1 share which, on the one hand, is wonderful because  
2 you've got interoperability gains. You have  
3 efficiencies in information flow.

4 The flip side of that is that they then have  
5 tremendous leverage in marketing future contracts. So  
6 I'm wondering, you know, how you have mitigated the  
7 risk of potentially, you know, huge upticks in their  
8 licensing fees or in their upgrade costs in the future  
9 as they gain tremendous market share.

10 DR. BUCKLEY: That's a great question, and I  
11 think, when they were being raked over the coals by the  
12 federal government, you know, one of their arguments  
13 was, We develop our own software so we work well  
14 together, and that's why people love us. You know, I  
15 think the other benefit of going all Epic aside from it  
16 all works together is their model has always been  
17 academic medical centers and community medical centers,  
18 and so our needs have always aligned, but the risk, to  
19 your point, is you're all in a single vendor.

20 You know, fortunately, it's privately held, and  
21 the people who own it have always had a singular vision  
22 for it. They reinvest, most people guess, 50 to 60  
23 percent of their profits back into the product. One of  
24 the other market competitors is about 14 percent. And  
25 so the biggest risk I see from a single vendor

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1 there's really only two vendors in the space -- and,  
2 unfortunately, that's the world in which we're  
3 currently moving towards -- in terms of who shares more  
4 of a patient-centric view and more of the population  
5 health-centric view and what we'd like to do as a  
6 health network, it's certainly Epic. We benefit from  
7 the fact that the medical center has already gone all  
8 in with Epic. We might very well be having a  
9 conversation on Cerner if somebody had gone all in on  
10 Cerner, but, from a vendor perspective and what they're  
11 delivering, the product itself, certainly, we're better  
12 served by Epic, but, to Matt's point, it is down to a  
13 two-horse race, effectively, at this point.

14 MS. HOLMES: And my other question just is  
15 around the 10 percent contingency which we've, people  
16 have touched on. Is there a -- do you have a  
17 confidence interval around that being, in your  
18 experience, what is a reasonable range for that  
19 confidence interval on what that contingency might be?  
20 I understand that the benchmark is the industry  
21 standard 10 percent, but can you broaden that a little  
22 bit?

23 MR. ABRAMS: Yeah, I guess I would say we  
24 rarely use contingency on our implementation projects.  
25 You know, the prescriptive nature of Epic's

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1 perspective is less that it's a single vendor we're  
2 negotiating with and, What do they look like with the  
3 next generation of leaders if they continue to hold it  
4 privately?

5 Because, right now, they're able to stake a vision  
6 for what the product does. There aren't shareholders  
7 competing with that vision such as, I mean, InHealth  
8 has been through some difficulty with active investors.  
9 And so I think the risk is, What do they look like 5,  
10 10 years from now as opposed to a single vendor because  
11 their goal has always been a vision of everyone being  
12 on Epic but not necessarily making the most money,  
13 although, certainly, they do well with that.

14 And I know Matt has his hand up, so I'll defer to  
15 Matt Abrams to add to that.

16 MR. ABRAMS: Yeah. I think Adam made  
17 reference to it, but I think Cerner is still a major  
18 player in the marketplace and will remain so for a long  
19 period of time. So I think that we see the market  
20 being Epic and Cerner, and Cerner is a, certainly, a  
21 major competitor of theirs, and I think the likelihood  
22 that Epic would really take over and own the market is,  
23 is very low because of, because of the viability of  
24 Cerner.

25 DR. BUCKLEY: And, just to add to that, if

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1 implementation process, the fact that they put out a  
2 progress report that goes to Dr. Brumsted and other  
3 people in this room and other people that aren't in  
4 this room and that they have the ability to escalate  
5 items for executive intervention early. The progress  
6 report goes into substantial detail about every team  
7 that's working, about interdependencies, about  
8 interfaces, about the actual progress of each module.

9 And, you know, I ran the Henry -- I was the system  
10 integration lead for the Henry Ford Health System  
11 implementation, and that budget was, you know, roughly  
12 three times larger than this one, and, you know, we  
13 didn't touch the contingency because we, because we  
14 developed a very extensive TCO, and the executives were  
15 absolutely involved in the project and were able to  
16 address problems before they, before they became large.  
17 So, you know, in our experience, the, the 10 percent  
18 contingency is more than sufficient for an Epic  
19 implementation.

20 MS. HOLMES: Thank you.

21 CHAIRMAN MULLIN: No questions.

22 MS. HENKIN: Anything else from the Board?  
23 Health Care Advocate has questions.

24 MR. SCHULTHEIS: I'm just going to grab Board  
25 Member Holmes's microphone, unless you're attached to

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1 it.

2 MS. HOLMES: No. I can share with you.

3 MR. SCHULTHEIS: So, looking at the time,  
4 we're pretty close; that's correct?

5 MS. HENKIN: Yes, but you can ask your  
6 questions. We can be in this room, I believe, until  
7 12:30. So I don't see a lot of possible public  
8 comment. I think we have time for everything.

9 MR. SCHULTHEIS: Wonderful. If we do run  
10 short, then I can submit, like, a brief list. Okay.  
11 So you've talked a lot about the advantages of having a  
12 single patient record so, for instance, clinical  
13 efficiency, continuum of care, but there are also some  
14 potential dangers to having a single patient record.  
15 So, for instance, you know, if there's faulty  
16 information in a unified EHR, you know, a unified EHR  
17 isn't some magical system that's going to deal with all  
18 the data integrity issues. Data entry is still a  
19 problem. You perhaps might not have the checks on data  
20 integrity that you've talked about of checking it three  
21 times if it's correct.

22 Are people just going to rely on the EHR? So  
23 there's a real potential, due to faulty information,  
24 for patient harm. When you talk about data breaches,  
25 there's also a certain risk to go into your CON focused

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1 of their care, they also raise the red flag and say,  
2 Hey, that's not true.

3 So the checks and balances don't disappear. You  
4 just need far fewer of them, and you need to -- and you  
5 can rely on humans less and less, which may seem  
6 counterintuitive, but often is actually more  
7 protective. So a unified record gives you an  
8 opportunity to validate once and then create an  
9 accuracy throughout the entire record, whereas, if you  
10 have five different records, you might have a myriad of  
11 errors that it takes, you know, concerted effort to  
12 correct all those errors within each record.

13 MR. SCHULTHEIS: So it's interesting as I'm  
14 thinking for a larger picture of the Vermont health  
15 care system that your learning experience with a  
16 unified EHR, if you could catalog some of those  
17 processes that you've implemented and share that with  
18 the rest of the Vermont community so we could start to  
19 develop best practices as we move towards having EHRs  
20 and having unified EHRs. So I jumped right into the  
21 question. I wanted to --

22 DR. BUCKLEY: Can I finish the security  
23 piece?

24 MR. SCHULTHEIS: Of course.

25 DR. BUCKLEY: And, from a security

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1 on maintaining security of all these different  
2 databases, but, if there's a breach of a unified EHR,  
3 the potential risk to patients is magnified  
4 exponentially. So, as I'm reading your CON, I'm really  
5 wondering, What additional methods will the medical  
6 center implement to kind of proactively address the  
7 risks to the patient due to patient record errors and  
8 to the system security that are attendant to a unified  
9 EHR?

10 DR. BUCKLEY: You know, so those are great  
11 questions. The first question, you know, having lived  
12 in both a paper world and a world of a multitude of  
13 electronic health records and a patient safety  
14 background, I can say that the likelihood of risk and  
15 error with a multitude of systems and multiple points  
16 at which human factor factors into the accuracy of the  
17 data, there's much more risk associated with a lot of  
18 system, a lot of checks and balances.

19 Certainly, having a single record does not obviate  
20 the need for accuracy. The reason why we have  
21 patients, when they get moved in, you validate  
22 allergies and medications, the problem list, is just to  
23 avoid that. One of the reasons why we've gone to open  
24 notes at the University of Vermont Medical Center is  
25 the data shows that, if a patient can see every element

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1 perspective -- and I apologize that I didn't make this  
2 point earlier because it's a very important point. We  
3 find from the vendors a wide spectrum of how concerned  
4 they are with security. We find a wide spectrum of how  
5 mature their security tools are or their ability to  
6 protect the record. Epic is perhaps the most, if not  
7 one of the more advanced. Many of the vendors we have  
8 now have no sense of it at all, and so, certainly,  
9 there is risk being wholly engaged with a single  
10 vendor, but the upside is they're probably the most  
11 mature from a security perspective.

12 And so while, to your point, a unified record,  
13 there's more information there, but in terms of systems  
14 to protect, you're protecting one system or, you know,  
15 maybe 20 or 30 systems as opposed to 100-plus systems,  
16 and so many of whom the vendors aren't really  
17 particularly mature in terms of protecting the data,  
18 and so it actually does enhance our ability to keep the  
19 record secure simply because of the vendor we've chosen  
20 to go forward with.

21 MR. SCHULTHEIS: So, speaking of the vendor,  
22 so Epic, it was interesting. You talked about the  
23 advantage of Epic being privately held. There are also  
24 attendant risks to a privately held company. So, for  
25 instance, you talked about the amount of money that

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1 Epic puts back into the system. We can't know that.  
2 I mean, all we can rely on is Epic's statements, and  
3 there is, at least there's a financial, Epic has a  
4 financial interest in putting their best foot forward.

5 DR. BUCKLEY: Certainly. And so there's a  
6 track record. There's something called Class which  
7 ranks customers' perspectives of the products that are  
8 produced. Epic is consistently, in the spaces that  
9 they're in, the number one, and when they enter, say, a  
10 space like revenue cycle -- I'll give you an example  
11 that, when University of Vermont Medical Center was  
12 looking at implementing Epic, they decided to stay with  
13 GE's reference cycle because it was the market leader  
14 at the time in 2007. Epic's was far behind, and Epic's  
15 is now number one. We also know in the population  
16 health space they've hired 600 people to do population  
17 health work. Cerner has 150.

18 And so, to your point, you don't know. They don't  
19 have open books, but you do know from the size of the  
20 teams that are engaged, from how quickly they've  
21 produced the number one best-in-class product that they  
22 are wholly invested in making sure that they're number  
23 one no matter what they do. And so, yes, there's risk,  
24 but they have a long track record of succeeding despite  
25 some of those concerns.

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1 dissatisfaction. So, for instance, the Epic  
2 implementation for the medical center affiliated with  
3 Cambridge University didn't go so well. There's a lot  
4 of press on that. Also, a little closer to home,  
5 Brigham and Women's Hospital, that implementation  
6 continues to be very problematic. If you look in the  
7 "Boston Globe", a lot of articles on that as there is  
8 with Partners Health near Boston.

9 So in your CON you provided Exhibit D, which are  
10 numbers that, again, come from Epic, so their 87  
11 percent success rate and their assertion that, when  
12 there are these cost overruns, they're due to the  
13 hospital. I kind of found that a little bit hard to  
14 believe. So Cambridge University and Brigham and  
15 Women's Hospital don't seem like the kind of hospitals  
16 that would engage in poor planning. They're field  
17 leaders, elite institutions.

18 And so I'm wondering, putting aside what Epic  
19 says, what lessons you've learned from those  
20 problematic implementations.

21 DR. BUCKLEY: Another great question. And so  
22 we did not rely on Epic's assertion. Certainly, it's  
23 important for them to note what their success rate is,  
24 but we did our own due diligence around failed  
25 implementations. You know, specific to Partners, they

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1 MR. SCHULTHEIS: So I want to just step back  
2 a little bit because I rushed into questions before. I  
3 wanted to thank you for a very thorough CON. I also  
4 wanted to -- I'm going to ask a bunch of probing  
5 questions, but I also wanted to let the Board know that  
6 there are aspects of this CON that I was very happy to  
7 see. So, for instance, a phased implementation,  
8 provided it also has a chance of holding costs down,  
9 but provided you have this kind of a continuous  
10 learning process in place, you can, as you're moving  
11 forward, you can take the lessons learned from the  
12 earlier phases of implementation and apply them to the  
13 next, and that was exciting to see.

14 I think, looking at this panel and all the  
15 different staff in the medical center that you have,  
16 there's involvement across the organization in having  
17 the unified EHR and with Epic, and so what research  
18 there is on the EHR is kind of having champions and  
19 also involving the full staff from providers to senior  
20 management to finance to IT is critical. So I applaud  
21 you on that.

22 You know, so thinking about Epic, we've heard a  
23 bit about their successes, but there also have been a  
24 few Epic -- there have been Epic implementations that  
25 have resulted in massive cost overruns and provider

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1 partnered with Accenture who'd never done an Epic  
2 implementation before. So it was a \$12 million system  
3 to partner with a firm who had never done one of those  
4 implementations before. They knew there were going to  
5 be learning, growing pains.

6 We've not made that decision. We've made the  
7 decision to go with an experienced Epic implementation  
8 firm. We certainly know that scope control is  
9 critical. Scope is not -- you know, contingency is not  
10 for scope control. Contingency is for those things  
11 that are unexpected. Scope control is critical in the  
12 sense that you don't keep adding all the new bells and  
13 whistles that Epic keeps adding on. Governance and  
14 oversight is critically important.

15 A main theme throughout many of the difficult  
16 implementations is training, not a sufficient training  
17 budget, not enough trainers, allowing providers into  
18 the record who haven't been trained, and so we didn't  
19 learn some of these lessons from Epic. We learned them  
20 from Epic. We learned them from Cumberland. We've  
21 learned them from speaking to colleagues and friends  
22 across the United States. We spoke to clients and  
23 customers who have had successful implementations and  
24 then failed implementations. And so the guardrails we  
25 put in place were based on the themes that we heard

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1 from some of the failed implementations.

2 MR. SCHULTHEIS: So -- oh, go ahead.

3 MR. ABRAMS: I don't have direct insight into  
4 those specific implementations because Cumberland's not  
5 involved in any of them, but, in my experience, the  
6 projects that fail are typically ones that don't have  
7 an engaged executive team, and they see the project  
8 more as an information technology implementation rather  
9 than an operational, clinical and financial  
10 implementation, and in this, in this particular  
11 instance, you know, I just, as I've, as a third party  
12 being able to observe the process of planning that  
13 happens in the State of Vermont as well as inside the  
14 medical center and the affiliates across the entire  
15 health network, not in my career have I seen a more  
16 thorough process and engaged leadership team, and I  
17 believe that's a foundation for success for this  
18 implementation.

19 MR. SCHULTHEIS: So the AMIA, the American  
20 Medical Informatics Association, has released a board  
21 policy statement, and they also have the 2020 EHR task  
22 force, and they talk about some of the issues that come  
23 in with EHRs, and, in particular, I want to draw your  
24 attention to one that they talk about which is that the  
25 vendor and the hospital often have competing interests,

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1 might have arisen from some of those for-profit  
2 systems, but and we do have AMIA members as part of the  
3 clinical informatics team, so they're all very familiar  
4 with these concepts.

5 And so but I absolutely see those level of  
6 conversations and that type of control happening with  
7 the clinical governance, and I can assure you that,  
8 historically and moving forward, patient care, patient  
9 safety, patient outcomes is the number one priority for  
10 the health network, non-negotiable.

11 MR. SCHULTHEIS: So I want to take a question  
12 that Board Member Holmes asked about market share and  
13 kind of this monopoly power of Epic, at least in  
14 Vermont the potential of it, and push it in a little  
15 different direction. So my concern or our concern is  
16 that there are, like, tried unified EHRs. So, if you  
17 look at the Veterans Health Care Administration's  
18 Vista, and there's an open-source version of that  
19 that's now commercially supported called OpenVista. It  
20 hasn't gained a lot of traction, but we do have a lot  
21 of evidence that the system that it's built on has had  
22 successful outcomes.

23 And the concern is, you know, if people in  
24 Vermont, providers in Vermont adopt Epic, it's  
25 proprietary, it's closed-source, it's built on a rather

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1 and so they talk about one is profit, one is patient  
2 safety, and they offer some ideas around including  
3 model contract terms so that all parties recognize,  
4 when decisions are made, those decisions are made to  
5 further patient safety, and, if there's a competing  
6 interest, we go with patient safety.

7 So I was wondering if you had looked over these  
8 model terms and whether you had thought about what  
9 terms in your contract -- and I know that's proprietary  
10 or confidential -- are included to protect patients and  
11 to make sure that decisions are made in their  
12 interests.

13 DR. BUCKLEY: Yeah. I would say that, while  
14 that's important from a vendor contract perspective, I  
15 think that's a far more important question for your  
16 clinical and operational governance, and, historically,  
17 University of Vermont Medical Center, when it comes to  
18 electronic health record governance, patient care,  
19 patient safety, clinical outcomes, those are all  
20 primary number one, and so I've never personally been a  
21 party to a conversation where I felt like that was the  
22 level of trade-off.

23 You certainly have a wide spectrum of delivery  
24 models in this country now. You do have for-profit  
25 systems. So I can envision where some of that language

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1 antiquated programming language, MUMPS, that we're  
2 going to get in a situation where we're all engaged,  
3 where all the providers or a large proportion of them  
4 are buying into this proprietary system that's  
5 closed-source, that can't be studied, that there's no  
6 insight into how the code works and that that's going  
7 to really stifle HIT innovation in the state.

8 And so less about the cost manipulation, but could  
9 you talk a little bit about the safeguards you've  
10 thought about to make sure that HIT innovation  
11 continues to move forward for Vermont providers?

12 DR. BUCKLEY: You know, so having been the  
13 COI at University of Vermont Medical Center and now the  
14 CMIO, I've seen the risk that's inherent with taking  
15 systems and trying to build them into what you want  
16 them to be as opposed to what they are. University of  
17 Vermont Medical Center and the health network are not a  
18 software development shop. We're just not staffed,  
19 built, or have a capacity to be a software development  
20 shop. We'd need potentially hundreds of people  
21 managing an open-source EHR beyond just the people that  
22 keep all the other systems running because the level of  
23 development that's required to meet state and federal  
24 regulatory standards is almost impossible.

25 We've seen our own vendors fail to meet state and

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1 federal regulatory standards. I'll give you an  
2 example. A two-factor authentication for providing  
3 controlled substances in New York, very few vendors  
4 were actually able to do that. And so we made a  
5 decision early in my tenure as CMIO that we weren't  
6 going to be in the business of developing software. We  
7 were going to take whatever was the standard system,  
8 leverage the most out of it, and then, when there was a  
9 difference between the clinical care was needed and  
10 what the system would give us, we would develop that  
11 gap.

12 And so we do continue to innovate. The health  
13 network has a small innovation team. So the innovation  
14 won't stop, so but it's no longer wholly predicated on  
15 doing things like meeting security standards and  
16 federal regulatory standards and CMS standards and FDA  
17 standards and state standards because that's just a  
18 full-time job, and that's not the full-time job we do.  
19 We do patient care.

20 And so I don't see it stifling innovation, but I  
21 do think it's that acceptance that, you know, open  
22 sourcing for the electronic health record means you're  
23 effectively running your own software development shop  
24 and all that goes with that, and that's tremendously  
25 challenging and not a space that most people would want

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1 DR. BUCKLEY: So let me -- I can speak to the  
2 patient-facing side of it, and then I'll let Marc speak  
3 to the revenue side. From a patient-facing  
4 perspective, one of the things that we haven't hit upon  
5 is Epic's patient portal which allows things like  
6 self-pay, point-of-care, self check-in. It has instant  
7 validation, verification of insurance eligibility,  
8 benefits on the front end. They are, in future  
9 releases, going to have an ability to show cost  
10 transparency for, say, a procedure based on both  
11 historical cost data plus insurance information from  
12 the insurance provider.

13 And so, from a patient perspective, it gets to  
14 greater cost transparency, and it allows the patient to  
15 understand on the front end much more the financial  
16 obligations. It allows them to do many things through  
17 a patient portal on their device, their phone, than  
18 anything we can do now. So, from a patient care  
19 perspective and from a patient perspective, we know,  
20 certainly, from patient satisfaction analyses they'd  
21 much prefer knowing as much as possible on the front  
22 end and enjoy the fact that they can use their phone to  
23 do all those things that they wouldn't otherwise be  
24 able to do. I can turn it over to Marc for the revenue  
25 side.

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1 to live in long-term having tried to do some work  
2 around that. I know the two-midnight rule almost broke  
3 us when it came from CMS because of how much  
4 development was required just to meet that standard.

5 MS. HENKIN: Let me just -- I want to  
6 apologize for one of our members who has to catch a  
7 flight, but we are not going to be able to stay in this  
8 room much longer. If you have one more question, then  
9 we can --

10 (Board Member Usifer leaves the hearing.)

11 MR. SCHULTHEIS: Yeah, one more.

12 MR. FISHER: I'll do one question. I also  
13 appreciate. Thank you, thank you for this whole forum.  
14 Could I ask you to go back to Slide 9?

15 DR. BRUMSTED: Let me know when I get there.

16 MR. FISHER: Got it. That's it. So you have  
17 spent quite a bit of time -- and I appreciate it --  
18 talking about the values of this move to Epic around  
19 clinical systems for providers, and but I don't think  
20 I've heard you talk much about the impact of this move  
21 for the financial systems. And so my question is, How  
22 will this move change your practices or patient  
23 experiences around the financial systems, the  
24 communication between the clinical system and the  
25 financial system and so on?

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1 MR. STANISLAS: So the best example of what I  
2 can give is on the implementation of the decision  
3 support cost accounting system. Basically, it deals  
4 with unified data. That, that included 5 different  
5 hospitals, 10 different systems because there was a  
6 different system on the hospital side and a different  
7 system on the professional side or the doctor side, and  
8 we are about 18 months into that implementation, okay?  
9 It took us 12 to 15 months to get unified data, and it  
10 took us 3 to 6 months to actually do the  
11 implementation.

12 So, if all of us were on the same system, we  
13 probably, that 12 to 15 months -- and, and there's  
14 bridges in the consistency of the data there too. If  
15 it's all in the same system, there are not going to be  
16 any bridges. That would have took us 3 months. It  
17 would have been implemented in, say, 6 months or, you  
18 know, within a 12-month period, but it's now taken us  
19 about 18 months, and we're not quite there yet, but  
20 we're going to be there by the end of the year.

21 So, I mean, that's the best example that I can  
22 give. And then you're also dealing respectively with  
23 five different cultures on what their thoughts on the  
24 data versus one culture of one thought on the data, you  
25 know, through the governance channels that Adam talked

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1 about.

2 DR. BUCKLEY: So let me turn it over to Matt  
3 can give some specific to the revenue cycle side.

4 MR. ABRAMS: Our clients that work in  
5 environments where they have a separate revenue cycle  
6 system from their clinical system should be commended  
7 for the work they do on the back end to fix the  
8 problems that are inherent in any environment where  
9 those two systems are decoupled from one another.

10 The main thing that happens when you get on an  
11 integrated revenue cycle on a clinical platform is that  
12 you have a feedback loop, so the back end and the front  
13 end are connected in one single database and,  
14 therefore, you're able to create work queues and  
15 address problems that are occurring with the data that  
16 gets entered into the system.

17 So the operations that are so efficient at fixing  
18 problems in doing, you know, fixing claims on the back  
19 end, the burden on that work force shifts  
20 substantially, and you end up having your clinicians,  
21 your registration staff, people at the front end with  
22 the ability to see the problems that are occurring,  
23 have work queues to address those problems and to fix  
24 those on the front end so that your clean claims rate  
25 can go up substantially and your reimbursements can be

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1 MR. SCHULTHEIS: Okay. Businesses days or  
2 calendar days?

3 MS. HENKIN: It will be calendar days.

4 MR. SCHULTHEIS: Okay, thank you.

5 CHAIRMAN MULLIN: Okay. With that, I know  
6 it's been a long morning for everyone. I don't  
7 anticipate any new business or old business. Not  
8 hearing any from the Board members, is there a motion  
9 to adjourn?

10 MS. HOLMES: So moved. I hope there's a  
11 second somewhere on the phone.

12 CHAIRMAN MULLIN: So, Robin, I'm hoping  
13 you're going to second that.

14 MS. LUNGE: I will second it.

15 CHAIRMAN MULLIN: Thank you very much.

16 MS. HENKIN: We will take the roll on that.  
17 Robin?

18 MS. LUNGE: Yes.

19 MS. HENKIN: Jess?

20 MS. HOLMES: Yes.

21 MS. HENKIN: Chair?

22 CHAIRMAN MULLIN: Yes. Thank you very much.

23  
24 (Whereupon at 12:27 p.m. the hearing was adjourned.)  
25

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1 therefore that much more efficient so you can get  
2 revenue left from your reduction in AR days because of  
3 the clean claims rate. DMT rates go lower.

4 There's just substantial advantages to having a  
5 system, you know, having a situation where you have  
6 those integrated, and the fact that you could  
7 potentially do that if this project gets approved  
8 across this number of facilities on one single  
9 platform, it is a -- you can't underestimate the amount  
10 of efficiencies that will be gained from that.

11 MR. FISHER: Thank you.

12 MS. HENKIN: Do you have any other questions?

13 MR. FISHER: No.

14 MS. HENKIN: Any questions from members of  
15 the public at this time? Anything else from the Board?  
16 I don't see any comment. Comment is open for another  
17 ten days. As I said, we will take comments through the  
18 website, by phone, by mail so that, if you know someone  
19 that wants to comment, that will be open. And, with  
20 that, I believe we had one ask for some information  
21 from UVMMC, and we can conclude the hearing. I'll turn  
22 it back over to the Chair.

23 MR. SCHULTHEIS: What date is the due date  
24 for comments, ten business days or ten calendar days?

25 MS. HENKIN: Tomorrow's day one.

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C E R T I F I C A T E

1 I, Sunnie Donath, RPR, do hereby certify that  
2 I recorded by stenographic means the public hearing  
3 Re: Docket Number GMCB-001-17con, at the Vermont State  
4 House, Room 11, 115 State Street, Montpelier, Vermont,  
5 on November 6, 2017, beginning at 9:30 a.m.

6 I further certify that the foregoing testimony was  
7 taken by me stenographically and thereafter reduced to  
8 typewriting and the foregoing 131 pages are a  
9 transcript of the stenographic notes taken by me of the  
10 evidence and the proceedings to the best of my ability.

11 I further certify that I am not related to any of  
12 the parties thereto or their counsel, and I am in no  
13 way interested in the outcome of said cause.

14 Dated at Westminster, Vermont, this 12th day of  
15 November, 2017.  
16

17  
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19  
20 //Sunnie E. Donath  
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