Testimony of

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to the

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"VA Electronic Health Records: Modernization and the Path Ahead"

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Good afternoon, Chairman Tester, Ranking Member Moran, and members of the Committee.

Thank you for the opportunity and honor to testify before you today. I am Marc Probst, the Chief Innovation Officer of ELLKAY, a healthcare technology services organization focused on managing and integrating healthcare data. Additionally, I serve as an advisor to provider healthcare systems and Health Information Technology companies.

In July of 2020 I retired from Intermountain Healthcare (Intermountain) where I had served as the Chief Information Officer (CIO) for 17 years. Intermountain Healthcare is one of the countries leading Integrated Delivery Networks, based in Salt Lake City, Utah.

Prior to Intermountain I spent 23 years in professional services companies focused on planning, strategy, procurement, implementation and effective use of healthcare technology. I was a Partner with both Ernst & Young and Deloitte. In my career I have had the opportunity to serve my profession as the Board Chair of the College of Healthcare Information Management Executives (CHIME) and as a member of the Federal Health Information Technology Policy Committee (HITPC) which was formed by the Obama Administration to define the "Meaningful Use" of Electronic Health Records (EHR). I served on the HITPC for seven years.

I have been working with Electronic Health Record (EHR) systems and organizations for over 35 years. I have been involved in the technical development of EHR systems as well as in the implementation of commercial off-the-shelf (COTS) EHR solutions. This breadth of experience has given me a unique perspective of the technology and approaches to achieve value from the implementation of an EHR. Like anyone else that has been involved in these large, complex EHR projects, my experience comes from success and many failures. Never have I witnessed a simple implementation of an EHR.

Based on my experience, success or failure of an EHR implementation cannot be uniquely attributed to a vendor, consultants or to the organization implementing the solution. These programs require true partnership at each level in the project where accountability is understood, assigned and owned and where success and failure are shared.

Experience at Intermountain Healthcare

Our EHR journey at Intermountain Healthcare seems to have some similarities to that of the Department of Veterans Affairs (VA).

When I arrived in 2004, Intermountain was using self-developed applications for inpatient and outpatient medical records. These internally developed and maintained applications, known as HELP and HELP2 were highly customized to meet specific clinical workflows (i.e., the steps to perform a job), and in some instances, individual nurse, doctor, therapist or other unique needs. Because these systems had been in use for many years at Intermountain, the users were very adept in navigating these solutions. The users liked the system because it was comfortable to use and they had developed workflows, encompassing the technology and manual processes, to perform their daily activities. Simply, it worked!

However, HELP and HELP2 were showing their age. These systems were based on older technology and had software that was difficult to maintain. New and many times younger generation clinicians were being exposed to commercial off-the-shelf (COTS) solutions at other organization and medical schools. These COTS solutions included significantly greater functionality (e.g., how to enter orders for services such as lab work, using voice commands to search the record, different drop down menus, etc.), modern user interfaces, web-based access, computerized intelligence and many other "cool" features. As users became aware of these functionally rich solutions, they rightfully began demanding more from our information technology.

In an attempt to meet the growing need of users, Intermountain spent several years working with a COTS vendor to enhance their product with the goal to replace the self-developed HELP and HELP2 products. This was a difficult project and ultimately, Intermountain ceased that project and decided a better route would be to modernize the HELP2 solution.

This modernization effort proved to be too time consuming and difficult as well.

In 2005 Intermountain partnered with a second large technology company to leverage the capabilities of HELP and HELP2 in an effort to build the next generation EHR. After several years of intense effort and for reasons outside of Intermountain's control, this re-build project was stopped and Intermountain began a process to select and implement a COTS EHR solution.

After a very comprehensive selection and procurement process, Intermountain selected the Cerner suite of solutions. The team determined that Cerner provided a robust set of applications that would meet the many documented requirements of our users and was deemed more appropriate for meeting the unique future needs of Intermountain. Cerner also was seen as an organization that would partner well with Intermountain on what everyone knew, would be a long and difficult journey.

The Cerner implementation project was huge, impacting nearly every workflow and area of the organization. Initially, the project was heavily focused on enhancing and modifying the Cerner solutions to meet the unique needs of Intermountain. However, this approach became technically challenging and time consuming. Intermountain users were becoming frustrated with the many new versions of the software and delays in delivery. It became clear that a re-set was needed on the project.

In 2018, Intermountain executives, working closely with Cerner executives refocused the EHR implementation project toward better use of the proven and existing functionality in Cerner. Many changes to Cerner were still required, but the overall approach changed from "*making the system do whatever the end users wanted*," to "*how can we best meet the needs of end users with the least modification to the Cerner system*." It is important to note, that even with this revised approach, Intermountain could not just use Cerner "out-of-the-box." The project

still required hundreds of professionals to manage, design, configure, integrate, build, test, migrate data, train and implement.

With the new approach and under the committed leadership and teams of both organizations, the Cerner set of solutions were successfully implemented. An on-going team was formed to continue enhancing, configuring and updating the Cerner solutions. Although, implementing an EHR is never complete, most would say that the Intermountain Cerner EHR implementation has been a success.

Keys to a Successful EHR Implementation

Healthcare delivery organizations are large, complex and highly regulated. The technology needs of healthcare delivery organizations are massive, with seemingly new solutions being delivered (and needing to be procured, integrated, secured and mastered) at a daily pace. These technologies support hundreds and many times thousands of people. At the VA, that number is a workforce of hundreds of thousands and millions of patients.

There is very little room for error in healthcare information technology. These systems are needed 24 hours a day, seven days a week, 365 days a year. Many times, availability of these systems can determine the quality of care provided and sometimes mean life or death.

EHRs are a foundational set of solutions in a healthcare delivery system and EHR implementations are extremely complex, impacting nearly every workflow and function. These projects are large, time consuming and difficult. From my experience I have observed several keys that increase the likelihood of success in these major initiatives, below I highlight five of these:

1. A strategy for the project and how the technology will support that strategy
2. Accurately understanding the current environment
3. Realistic user expectations documented with detailed requirements
4. A team of qualified professionals experienced in the intricacies of EHR technology and implementation
5. Strong partnerships between the vendor, consultants, technology teams and the user organization

1. A strategy for the project and how the technology will support that strategy

Stephen Covey's 2nd Habit states "*Begin with the end in mind*." A successful EHR implementation requires this discipline. The early efforts at Intermountain began with a goal of "building the EHR of the future," which is an aspiration, not a strategy. However, we achieved success when we defined a strategy based on actual operational needs, with technology supporting those operational needs. Too many times the strategy is "Implement an EHR" versus "Improving care and making processes more efficient through the implementation of an EHR."

2. Accurately understanding the current environment

Sir Terence Pratchett was an English humorist, satirist, and author who wrote; *"If you do not know where you come from, then you don't know where you are, and if you don't know where you are, then you don't know where you're going. And if you don't know where you're going, you're probably going wrong."*

Too many times in a technology implementation such as an EHR the true current state, the problems trying to be resolved are not well understood. In these cases, time, energy and resources are spent either explaining the misunderstanding or worse pursuing solutions to a problem that doesn't really exist.

I have heard a number of times that the way to move medical records in the DoD and VA EHR systems today is manually, via paper chart or flash drives etc.. However, from what I understand the electronic transfer of records between these systems has been automated for years for VA and DoD. The two organizations transfer medical data electronically, today. The question here as it relates to data interoperability is the level of sophistication of the data and whether it can also be exchanged with private or community providers, for example. Certainly, in many health organizations today there are times using a paper chart may be required, but the reason for this paper transfer likely has roots in historical ways of doing work, user preferences or very complex situations.

Significant time is wasted if we don't clearly understand our current environment and the real problems trying to be solved.

3. Realistic user expectations documented with detailed requirements

The old saying "*measure twice, cut once*" is sage advice in implementing EHRs. It takes time to understand user expectations for a complex system such as an EHR. When my wife and I built our home, we had ideas for what we wanted and how it should look and like many couples, our ideas didn't always match. It took as much time working with the architect on defining our requirements as it took to build the home. Many times the architect would have to manage our expectations citing the realities of engineering and the costs of what we wanted. However, before the first brick was laid, it was clear what we were building.

An EHR must meet the expectations of thousands of people. Documenting the requirements to meet these diverse expectations is arduous and time consuming. However, understanding the expectations of users allows for more accurate procurement and becomes a foundation for either meeting those expectations or for managing them when engineering and/or cost realities arise.

4. A team of qualified professionals experienced in the intricacies of EHR technology and implementation

This almost seems too obvious of a point to even include. However, I can't over emphasize the importance of relevant experience in successfully implementing an EHR. I doubt many of us would like to fly in a commercial airliner that has been designed and built by car mechanics.

As I have already stated, these projects are complex with numerous moving parts. Success is much more likely if project leadership has experienced EHR implementations (hopefully several) and has team members who understand the technology and the operational workflows of the medical workforce being automated. I always appreciate having a nurse working on nursing workflows, a physician working on physician workflows, a pharmacist on pharmacy, etc. Relevant subject matter expertise is key.

Retention of team members allowing for continuity of knowledge, is also key.

5. Strong partnerships between the vendor, consultants, technology teams and the user organization

Synergy is real.

It takes a large team to implement an EHR and the team is many times composed of multiple organizations. It takes a team, a partnership. It is my experience that partnerships don't happen just because there is a contract. Partnerships are made when incentives are aligned, when leadership demands cooperation and when all involved parties understand that the project success is the only path to individual success.

There are many tools that need to be in place for managing a project. But these tools will be ineffective if a partnership, a team, is not achieved.

Conclusion

Thank you for the opportunity to share my thoughts on successful EHR implementation. The VA EHR implementation is extremely large and comparable in complexity to other EHR implementations. I believe the practices and principles outlined in this testimony are valid regardless of the project size. I am happy to respond to your feedback and questions.