

***VITAL RECORDS IMPROVEMENT FUND
ADVISORY COMMITTEE***

To The New Hampshire Department of State

- MINUTES -

Thursday

October 13, 2016

-MINUTES-

Vital Records Improvement Fund Advisory Committee Meeting

October 13, 2016

Archives & Records Building
2nd Floor Conference Room
71 South Fruit Street
Concord, New Hampshire 03301-2410

COMMITTEE MEMBERS PRESENT:

Stephen M. Wurtz, State Registrar
Brian Burford, State Archivist
Timothy Horrigan, NH House of Representatives, Public Member, SOS Appointment
Tricia Piecuch, Nashua City Clerk, NHC&TC Association Appointment
Janice Bonenfant, Concord City Clerk, NHC&TC Association Appointment
Erin Piazza, Health Information Specialist, NHHA Appointment
Thomas A. Andrew, MD, Medical Examiner Appointment
Brook Dupee, DHHS Appointment
Bruce Riddle, Data User, DHHS Appointment

COMMITTEE MEMBERS EXCUSED:

David Scanlan, Deputy Secretary of State, SOS Appointment
Nicole Bottai, Windham Town Clerk, NHC&TC Association Appointment
Todd Rainier, Hooksett Town Clerk, NHC&TC Association Appointment
Theresa Pare-Curtis, OIT CIO Appointment
Peter Morin, Funeral Director Association Appointment
Ashley Conley, Municipal Data User, DHHS Appointment

GUESTS:

Dan Cloutier, SOS IT
Chris Bentzler, SOS IT
Catherine Cheney, SOS IT
Nicholl Marshall, Vital Records

1. Call to Order, Introductions, and Approval of Minutes:

- Ms. Tricia Piecuch called the meeting to order at 09:33 with a quorum present.
- Ms. Piecuch introduced a new member of the Department of State information technology staff, Ms. Catherine Cheney. Introductions of all present were made.
- Ms. Piecuch asked the Committee to review the minutes of the March 25 meeting. Mr. Brian Burford made a motion to approve the minutes the March 25 meeting, seconded by Dr. Bruce Riddle. A vote was taken and all were in favor; the minutes were approved.

2. IT Update – DOS/SOS Virtualized Environment:

- Mr. Christopher Bentzler said that the virtualized environment is up and running in the archives data center. A 2012 server has been built for the NHVRIN environment, which is now being used for the development, UAT, and training environments for NHVRIN. Mr. Dan Cloutier, Mr. Dave Fournier, and Mr. Scott Caveney, along with a vendor, spent a tremendous amount of time to get the environment up and running. It is fully operational. Servers can be built upon demand in that environment. The advantage of this is that DVRA has full control over what the environment will look like, since it has DVRA's footprint, DVRA's operating system build, and DVRA's anti-virus software. There is still some work with the state Department of Information Technology regarding communications back to DVRA's database, but the environment is under the Department of State domain.
- Mr. Stephen Wurtz asked with all that technology, would DVRA have the capability parallel of DoIT's workshop; Mr. Bentzler could not answer because he was unaware of the full capacity of the DoIT workshop, but it is designed to be fully backed up. There is a facility set up at the annex where true disaster recovery can occur or if something happens to one place, the other place can take over. Mr. Wurtz asked if other division within the Department of State also have their information on e-servers; Mr. Bentzler responded that currently not the Archives Division.
- Dr. Brook Dupee asked if the production and the UAT environments were all on the same server; Mr. Bentzler replied that the UAT, the development, and the training environments were on the save server, while the production environment will be on a separate server.

- Mr. Cloutier said that servers are slowly being created in a virtual environment. DVRA is still tied to 2003 servers which are in the DHHS domain. As the back end begins to migrate over, some other items which do not face the public, such as training servers, can be done internally. A DMZ must be created and those servers can most likely remain at the data center but not the DHHS domain. CNSI has given to DVRA a code base which can survive in a 2012 and 2014 environment, where they could not before.
- Mr. Bentzler said that there is a virtualized environment at DoIT. The next phase of NHVRIN is to migrate NHVRIN production into a virtualized environment within the DoIT infrastructure. A 2012 server that DVRA is configuring was just recently rebuilt, so that the two NHVRIN production servers, which date from 2003, will migrate into this new virtualized up-to-date server. DVRA will be able to make any adjustments in hardware or increase RAM with a request to DoIT. Ms. Piecuch said that it was her understanding to be less dependent on DoIT; Mr. Cloutier said these servers were built for the NetSmart project a number years ago and they are repurposing them for now until DVRA's DMZ environment is ready. Mr. Cloutier continued that it was the easiest methodology to get there, and in the next six months DVRA will be able to create its small virtualized environment sitting within the DMZ. It would be easier to create the DMZ at the data center and not create the DMZ in this building. There is still no generator for back-up, but not for a lack of trying.
- Mr. Wurtz asked if end-users will notice an improvement with the new virtualized environment versus the old box servers; Mr. Bentzler said there should be some improvement. Mr. Cloutier continued that a robust environment for NHVRIN was created in 2003, but Ms. Piecuch and Ms. Janice Bonenfant acknowledge that they call when NHVRIN is operating slowly or suddenly get kicked off. Mr. Cloutier added that he expects to have a better connection with a newer server, more memory to run software, more CPUs to cycle various simultaneous requests. Mr. Bentzler continued that memory is being bumped up tremendously from the current environment, with one gigabyte of RAM on the servers, which nowadays is almost unbelievable, to eight gigabytes of RAM in a virtual environment. Hard drive space is an issue because one can not easily add hard drive space, so Mr. Bentzler and Mr. Fournier are looking to see if there are files that are consuming space. In the new environment, it is expected that there will not be similar issues.
- Mr. Wurtz asked if the new environment is where the training environment is located; Mr. Bentzler said it is the same operating system and the training environment is within the DVRA network as opposed to the DoIT training center. Mr. Cloutier added that when training was conducted yesterday, the virtualized

environment sitting downstairs was used. Mr. Wurtz responded that the fact there were no problems yesterday in a new environment is positive. Ms. Piecuch added that the clerks are excited to have that training environment back.

- Mr. Wurtz noted that there was a period of time where every couple of days, a server needed to be rebooted and asked if that was resolved; Mr. Bentzler responded that he has been monitoring that issue and it has been some time since a server needed to be restarted. Mr. Bentzler is not sure if the latest build received from CNSI on September 21 has something in it which improved the performance of NHVRIN, but the servers are still being monitored. If a call is received, information technology staff will take a look. Mr. Wurtz does not want to believe that the equipment and hardware is starting to fail. Mr. Bentzler said that it does not appear that the hardware is a problem, but space and the amount of memory. Mr. Wurtz is happy that there has not been any down times but he is nervous that it has been so long without a problem. Mr. Bentzler said that now that the new environment is in play, it is just a matter of scheduling the new deployment in the release schedule.
- Ms. Piecuch said she had reported an error regarding an inventory report in NHVRIN; Mr. Bentzler responded that the issue has been addressed by CNSI and will be in the 8.6.4 release. The 8.6.3 release has been received and tested, and it is known that there is a work-around for that error.
- Mr. Wurtz asked when will be the next scheduled release; Mr. Bentzler answered that it is scheduled for next Thursday. Mr. Cloutier added that this build is competing with building the tablets for the election because the same people are doing these tasks, so if the tablets are not completed yet, the NHVRIN build may have to be postponed. Ms. Piecuch said that message must be communicated with the town/city clerks. Mr. Cloutier said more should be known by Monday or Tuesday. Mr. Bentzler added that when a release is deployed, information technology staff start work at about 7:15am and the database changes are usually made at about 8:00am. Ms. Piecuch stated that next week, the clerks will not be in their offices because of a conference. Mr. Bentzler added that one reason the previous build took more time to be completed was the implementation of situational surveillance, which required 25 database changes, which took longer than expected. The next release requires only four database changes, so the time frame should be quicker than the previous release.

3. IT Update - SOSKB:

- Mr. Cloutier explained that when the clerks get their monthly invoice from DVRA, the clerks go to a website to find out about adjustments. That is part of

the retired Secretary of State Knowledge Base. Over the last year and a half, the system of the Corporations Division has been migrated over to a piece of software dubbed QuickStart. That gives capability for individuals to create businesses and make transactions over the web, so one does not have to come into an office or send paper. Nine of them were set up two years ago as a test. The important thing was to get off the legacy computers now about fourteen years old. When DVRA decided that accounting controls were needed, DoIT was still supporting NHVRIN; it cost too much time and money for DoIT to put this module into NHVRIN than to put it into an existing system, which at the time was SOSKB. Now the system is gone for all intents and purposes as it is not being used. The only reason it is still up is for the monthly DVRA invoicing project. Over the last fortnight, the invoicing did not run completely and the clerks did not get the e-mail; information technology staff fixed the problem. A methodology to go away from that needs to be found and build something that is not on the SOSKB platform. CNSI may not have much experience with financials. DVRA is still receipting money over the counter into the SOSKB backend, which will become the QuickStart backend because QuickStart is now the Department's system. A screen says there is a certain amount of checks and money and it compiles it into a transactional package and sends it automatically to New Hampshire First, which is the state's accounting package. Thus the bank gets the deposit, the accounting package gets the money, and the two numbers match. It is expected that DVRA will transition to receipting money using QuickStart. The vendor is PCC who created the financial module for the Corporations Division, the elections system, the APP system, and the campaign finance system, so PCC understands the concept. There is a mechanism for receipting money inside NHVRIN today.

- Ms. Piecuch asked if anything has been discussed with CNSI because it should all be part of that package, and not separate. Mr. Wurtz said that NHVRIN has a component, designed thirteen years ago, to do this but it was never finished because it was decided to drop that. Mr. Wurtz asked if a change request has been submitted to CNSI to explore building a financial package; Mr. Bentzler responded that there is not a change request but there have been informal discussions about how to go about an SOSKB replacement. Some ideas on requirements needed for the system have been discussed. Mr. Wurtz asked if this new financial package would be a stand-alone web service that would integrate with NHVRIN in the future; Mr. Cloutier responded that it is expected to be a module, so there would be APIs in between. An API is an Access Program Interface, an intermediary which sends data, so if a system changes and the API can send the same data, the module still works.

- Ms. Piecuch asked how long SOSKB can be expected to survive; Mr. Cloutier said his staff will do everything they can to keep it running. The number of hard disc hits has dropped off dramatically by about 95% because everyone inside the Corporations Division is not using it any more. Ms. Piecuch asked if the data is generated only once per month; Mr. Cloutier responded in the affirmative, but still does not want to shut them down.
- Mr. Wurtz has a bunch of thoughts about SOSKB and its performance; Mr. Cloutier answered that DVRA has told him that they were surprised it is operating on one gigabyte when Mr. Cloutier was thrilled to have 640 kilobytes when programming in the early days.
- Mr. Wurtz said when discussions resume with CNSI, DVRA should inform them that if CNSI feels knowledgeable about how much it will cost and how it will work, then CNSI will have competition; Mr. Cloutier concurred.

4. IT Update – KFI Project:

- Mr. Chris Bentzler said that for the Key From Image (KFI) project, CNSI was the vendor for the application, but there was a third-party vendor named Databank, who scanned all the images. At the time of the last meeting, DVRA was still receiving the scanned images from Databank. Since the last meeting, DVRA has received 100% of all records which were scanned. Throughout the summer, CNSI worked with DVRA to ensure the proper mapping took place for getting the data inserted into the NHVRIN database. DVRA went through iterations of exception reports for each module to find anomalies in the KFI since there are more than one million records involved and there are bound to be issues. CNSI compared the NHVRIN database to the data received and anything that did not pass was put into an exception report. DVRA reviewed the data and provided corrections to records that showed various issues. DVRA is still working through the death module on certain exceptions. Marriage has zero exceptions; birth has 174 exceptions remaining; divorce has about 300 exceptions remaining. The DVRA database administrator, Mr. Jeff King, and CNSI have placed the records where there were no exceptions or the exceptions had been solved into the NHVRIN development database. Since then, DVRA has looked at those records in NHVRIN to find any issues after the fact, such as printing a certified copy, mapping fields to the right place, etc. CNSI is now in the process of reviewing those issues, and DVRA will look at those records again. Then DVRA will place the records into the UAT environment and later into the production environment. When that is completed, there will be about one million records in the production environment which were not there before. It is estimated that this will occur before Christmas.

- Mr. Wurtz emphasized that DVRA must make these records right. No setbacks which could not be overcome have been experienced yet, but the review has become a more daunting task. Mr. Bentzler added that the CNSI team is great and everyone is working together to come to the end result.
- Mr. Wurtz said that state staff can see the image of the record on a computer. That technology is being reviewed by the vendor to give all NHVRIN users the ability to see the scanned image from which the record was created. For the vast majority of records, the state record should be the same as the local record, but there is a possibility that a correction was made locally and did not reach DVRA. DVRA wants the local clerks to see how the image appears because if the local clerks have something that is different, processes are in place to update it. DVRA is working with the vendor to create a change request to push that image technology to the local clerks and to the medical examiner. Ms. Piecuch praised this move because some clerks may have ballots coming soon for the election and the ballots may be stored in front of vital records when a caller requests a clerk to look up a record, the record can be seen without getting out of a chair.
- Mr. Wurtz said Mr. Cloutier's team was an awesome group. Mr. Bentzler recognized Mr. King, who works with the database administrative team at DoIT to get the job done. Mr. Wurtz added that DoIT is under new leadership and the cooperation received from DoIT has not been seen before. Mr. Cloutier said that the database team at DoIT is very responsive.

5. IT Update – NHVRIN Support & Maintenance:

- Mr. Bentzler said that NHVRIN version 8.6.2 was deployed on September 21. It was significant because of the situational surveillance feature, which allows DVRA to ask questions on demand during the process of adding a birth or death record in NHVRIN. Minor fixes in the death and birth modules were resolved also. NHVRIN version 8.6.3 will be deployed next Thursday. This version will include three new questions in the birth module. Three other questions will be removed. Some minor issues found since the previous release will be resolved in this release.
- Mr. Wurtz added that DVRA has a great relationship with Division of Public Health. The concept of situational surveillance was created based on the concern about the Zika virus. Talking with Dr. David Laflamme from the state Department of Health & Human Services, DVRA agreed to add three Zika related questions to the birth worksheet. It was nice to do this quickly and DHHS offered to pay for it. DVRA has a responsibility to collect only a minimal amount of

information required, and some questions were removed. The Division of Public Health was able to help DVRA secure the funds for situational surveillance.

- Mr. Bentzler said that five training classes were conducted throughout the summer. Most of those classes were mostly full, with about twelve to seventeen people in each class. Ms. Piecuch had two new staff which started on the week of the September primary election, but they could not get admitted at first because the classes were full, however a couple of people did drop out so they did get admitted. Mr. Bentzler continued that one of the things that happened for the classes was moving over to the new training environment for NHVRIN, which was a success. The training machines have been upgraded to Windows 10 during the summer. The changeover in the training environment was a success. There have been issues in the past with printers, mostly toners; DVRA has been utilizing a new vendor and the feedback regarding the new toners cartridges have been much more positive. A two-tier process for printers has been started. Large capacity printers, compared to the 1102Ws have been purchased for the cities.
- Ms. Piecuch observed that the recycled toner cartridges, which were required by a state law, were junk. But since Vital Records Improvement Fund monies were used to purchase them, therefore recycled toner cartridges should not have to be purchased. A recycled toner cartridge may last for about thirty records and then it is exhausted.
- Mr. Wurtz said that large-volume cities and towns will receive this special printer. Now that DVRA has found a better recyclable vendor, these new printers come with an extended use cartridge, thus it has double the capacity of the previous cartridges. Mr. Wurtz and the DVRA front end have one of these printers, and the quality is different to what they are accustomed.
- Ms. Bonenfant said her office asked when the bigger cities can expect these printers; Mr. Wurtz answered they should get to the Concord City Clerk by Saturday. Ms. Bonenfant said that her office is wasting a lot of paper when a bunch of records are printed but only some of them are usable; Mr. Wurtz responded that she would be pleased with the solution. Mr. Cloutier said if his team can get the tablets built within the expected time frame, there will be seven to fourteen days remaining to the election, and that will enable Mr. Bentzler to go out and deliver. Mr. Bentzler added that for Concord, it is a matter of dropping them off because they use their own equipment. Mr. Wurtz asked how many printers from DVRA does Concord have; Ms. Bonenfant answered three. Ms. Piecuch asked if only the 1102 printers would be replaced; Mr. Bentzler said any of the certifying printers can be replaced.

- Ms. Piecuch asked if maintenance expenses are still within the budget; Mr. Cloutier responded that it was likely, but it is early in the fiscal year.

6. IT Update – NHVRINWeb:

- Mr. Bentzler said NHVRINWeb is still on track for a 2017 rollout. Population data is still being sought, but the vendor is not a certified state vendor and issues have arisen in trying to complete their certification. Mr. John Line is a state vendor, but NHVRINWeb utilizes population data software and the current population data package is old. Claritas was the company which provided this population data before. Claritas was acquired by Nielsen, which is not an approved state vendor. Mr. Cloutier said he will work to make that happen. Mr. Bentzler added that NHVRINWeb is still operational in its current form, but it is a matter of getting that population data updated. Mr. Wurtz said that NHVRINWeb serves a limited use without population data.

7. IT Update – Oracle to SQL Migration Analysis Update:

- Ms. Piecuch pointed to a handout created by CNSI and distributed to everyone. The Committee had given them money to do an analysis of what it would cost to migrate from Oracle to SQL. The estimate cost is \$1.8 million. The estimated cost of next generation of NHVRIN is \$2.7 million. It may be prudent to work on the next generation of NHVRIN, which would use SQL.
- Mr. Wurtz said there is an in-depth report which contains enough to examine what it will take to go from Oracle to SQL. Mr. Wurtz asked if this would mean improvements on the code or changing the code; Mr. Cloutier answered that he thought the cost was extremely expensive. Mr. Cloutier's analysis of the document indicates that there would not be any enhancements but there would be a rewrite of the current code which is now speaking Oracle but needs to speak SQL. It may be a more tedious effort than Mr. Cloutier is expecting because of the methodologies deployed to create it in the first place. In the conversion, today's technologies would not be used, but instead the technologies of about a decade ago. Things have morphed quite a bit since then, so perhaps that is the reason it is so expensive.
- Mr. Wurtz said he has not read the entire document, but it will probably take a while to do all this. Mr. Cloutier agreed, although eCOD would not have to be involved in events such as birth and marriage. Mr. Wurtz asked if the \$2.7 million for the NHVRIN re-write would be for a new system will all the technology which DVRA requests plus a complete re-write in SQL using the latest technology available; Mr. Cloutier agreed.

- Mr. Cloutier said that Committee should not immediately agree to the \$1.8 million estimate from CNSI since there is the possibility that there may be other vendors who could cut the price by at least a half.
- Ms. Piecuch recalls that the Committee went out to bid for a new system and Netsmart was vetted pretty well and hired through the bid process, but the Committee went back to CNSI, who originally built NHVRIN, and CNSI has been doing excellent work. Thus she is wary about going to another vendor in lieu of having the current vendor do it. But if a new system will be created, and considering what the Committee has seen from the RFPs before, \$2.7 million may not be all that bad. Mr. Cloutier stated that it can not be done without an RFP process.
- Mr. Wurtz said that he and Mr. Nicholl Marshall represented New Hampshire at the northeast regional NAPHSIS meeting last week. Besides New Hampshire, there were nine states present, and every one of them has an aging automated system. The range of prices heard was from \$2.5 million to \$3.2 million. None of them have the capacity of what NHVRIN has; they were simply individual modules, whereas NHVRIN has birth, death, marriage, divorce, adoptions, and inventory. Based on last week's discussion, the \$2.7 million estimate was right in the ball park. In the price of \$2.7 million, there is about \$100,000 - \$125,000 worth of technology which Mr. Wurtz asked CNSI to insert in order for DVRA to share NHVRIN with other states. There are four states, including Rhode Island, who do almost everything on paper; Rhode Island's birth system is two years old, but the staff in Rhode Island hates it.
- Mr. Wurtz said one of the points he would like to bring up in the New Business portion is the possibility of a co-op type application, and some of the new technology points in that direction. Mr. Wurtz is partial towards having a new system. CNSI has been great to DVRA, but that does not mean that CNSI is the only vendor, although Mr. Wurtz would like to keep CNSI due to previous dealings with another vendor. Years ago, DVRA had picked the best vendor of all that were reviewed to provide a new NHVRIN system, and that vendor failed. Mr. Wurtz asked if the decision was to proceed with a commitment to build a new NHVRIN system, even choosing CNSI to build it, and rebuilding each module within the maintenance contract already present, would that cause DVRA to ask for bids; Mr. Cloutier responded that it was less likely because that will be maintaining the module with new technology and growing it at a pace consistent with a maintenance schedule, not completely revamping or replacing, thus more easily explained and follows the statutes. Mr. Wurtz said that is what DVRA did when faced with SB201 when the marriage module needed to be updated, and it

was discovered that the whole back end of NHVRIN was antiquated, so through the maintenance contract, DVRA had CNSI bring it up to the modern technology. Mr. Cloutier elaborated that CNSI took code and put it back together as a seamless state rather than disparate routines. Mr. Wurtz noted that it was running dot net 1.0 and Mr. Cloutier added that they could not sit on the same platform because when the marriage module was modified, NHVRIN had two different websites, so they had to be placed on the same common back-end platform. Mr. Cloutier further suggested that DVRA could say that within the next maintenance project, during that upgrade, SQL could be the back-end piece, then migrate over during possibly two years. Mr. Wurtz said he is not afraid of the bid process.

- Ms. Picuch said that it has gone out to bid before and she is on the RFP committee. She recalls that some vendors which had applied were unable to do some of the modules. NetSmart could not meet the expectations of DVRA.
- Dr. Brook Dupee said one thing that is done in his department is a Request For Information (RFI). An RFI is a much shorter document and allows the asking of pointed questions while it commits the requester to nothing. This can help inform a decision and allow a requester to understand the lay of the land now. Mr. Wurtz said that process was utilized in the past and it worked, but noted that other states at the conference last week had hate and discontent for what is out there. New Hampshire is at the top of the heap when it comes to vital records automation, so those other states were looking to the activities of the New Hampshire DVRA. Mr. Wurtz said he demonstrated during that conference some of the things done since the last time the Committee met, and he got nine offers for their states to secede to New Hampshire because of what New Hampshire can accomplish.
- Dr. Dupee said that an RFI can give a little more leverage past Purchase & Property; Mr. Cloutier responded that DVRA does not go through Purchase & Property. Dr. Dupee asked where is the choke point; Mr. Cloutier responded that it is himself, the Secretary of State, and the Deputy Secretary of State, which is in the law. Mr. Cloutier added the Department obeys the law, but does not go to the Council for approval; the Secretary reports to the legislature, not the governor. Mr. Timothy asked if the Department must report to the joint fiscal committee; Mr. Cloutier responded in the affirmative. When the system for the Corporations Division was done, an RFI was issued. Some information was obtained, but some companies did not want to reply to the RFI because other companies might win out again, therefore it would be in their interest to reply to an RFP instead.
- Ms. Picuch asked if one does an RFI, must an RFP be done also; Mr. Cloutier responded that an RFP does not have to be done, but an RFI means that a vendor will spent its assets giving others information for no pay. Mr. Cloutier added that

a vendor would like a hope that there will be some business resulting from it. Ms. Piecuch said that an RFI does not hold one to an RFP. Dr. Dupee said that if an RFI is placed, there must be some intention in the background to procure, so a vendor would try to get there first and make a good impression. Mr. Cloutier acknowledged that the incentive could be there but there is still some hope that an RFP would come down. The RFI details some information that would be included in an RFP but an RFP can not be formed specific to a vendor but rather the needs of DVRA. Ms. Piecuch said that whether it is done through an RFP or module by module, it is going to take some time. Mr. Cloutier said that he is very conservative and his opinion is that DVRA has a proven track record with a proven vendor who can modernize each module at an acceptable pace. Thus it is possible, but whatever recommendation the Committee provides must be discussed with the Secretary of State and Deputy Secretary of State.

- Dr. Riddle said he is not skeptical as others about the \$1.8 million to move from Oracle to SQL, although he has heard horror stories over the years about companies losing millions of dollars because some function call failed in the migration, so they may be gun-shy of making sure that they test correctly; Mr. Cloutier agreed, saying the document indicated that. Dr. Riddle asked if DVRA was still paying for Oracle licenses; Mr. Cloutier answered that DVRA shares the Oracle license costs with DoIT. Dr. Riddle asked at what point does the cost shift back to saving money; Mr. Cloutier said \$1.8 million does not save money and that is why that option does not make sense since the payback will be in decades. Mr. Cloutier added the problem is quantifying DVRA's inability to be self-supporting in light of those tentacles tying DVRA to DoIT. When DVRA wants to do a build, DVRA must still work with DoIT rules, and DoIT can not go outside their regular work hours because then it causes them to schedule a month in advance, leading to overtime and billing problems. DVRA has been fortunate in that for almost a year, there has been new leadership in DoIT where DVRA's ability to communicate and get things done has been wonderful. Dr. Riddle asked in the \$2.3 million rewrite, how much is the conversion to SQL; Mr. Cloutier answered that one must take the data one currently has and migrate it over, but the small difference is that one can define the parameters of the new system and build around those parameters, rather than migrate the current fields and calls with the old communications style of SQL. To replace the current system, one must make the system calls identically as they are being programmed today, but with the new system, one can create pockets of modules and just send over whatever you need – just fit the data in the new pockets correctly.

- Dr. Riddle said the better choice would be to do this incrementally, module by module. Dr. Riddle suggests death first; Mr. Wurtz said that it probably would start because DVRA is working on other initiatives on death.
- Mr. Wurtz asked if a motion is approved, would it have to return to the Committee to start the process; Ms. Piecuch answered in the negative. Dr. Dupee asked if the Secretary of State wants a more detailed discussion or would the minutes provide a deep enough background to explain; Mr. Cloutier answered that the minutes of the discussion today along with the Mr. Wurtz, Mr. Cloutier, and perhaps Ms. Piecuch would be enough for him. Dr. Dupee suggested adding that there is no other system of which they are aware which has the capacity of NHVRIN, the current vendor is meeting programming needs; Mr. Cloutier suggested adding the good job Mr. Marshall has done in keeping the minutes.
- Dr. Riddle made a motion to recommend to the Secretary of State that DVRA begin the process of migration module by module from Oracle to SQL over the course of three or four years; Mr. Burford seconded the motion. There was no discussion on the motion. A vote was taken and all were in favor; the motion passed.

8. CDC Contract Extension:

- Mr. Wurtz said working with the CDC has been the high spot of DVRA in a year. The CDC believes in DVRA, and consequently the CDC has approved many proposals which Mr. Wurtz has pitched to the CDC in the last six months. One of those was the electronic Cause Of Death (eCOD) system. The document to which Mr. Wurtz pointed was produced by Ms. Cheney and he used the document last week. The eCOD system is a first-in-the-nation application which no one has had before. DVRA showed they could bring a concept into reality and the CDC paid DVRA for it. The CDC was impressed with this new technology. Since October 1, eCOD has been available. The CDC funded New Hampshire to take its eCOD application to another state and let that state experience the same success. There is now an initiative to take eCOD nationally. Mr. Wurtz believes eCOD will be accepted as a national solution for the improvement of completion and timeliness of death registration. The other states at the meeting of the northeastern states earlier this month want this. Dr. Thomas Andrew and his staff will be brought online first and will have the technology to test this application thoroughly in the real world. DVRA was able to automate some of the transmissions DVRA performs, and the contract was for \$225,000. DVRA put out another bid which will enable Dr. Andrew and his staff use this technology which will improve the timeliness of reporting, and because the technology has edits in the system, this should improve on the quality of information received. The CDC is funding the

effort to take those improvements to the rest of the state's physicians. It allows DVRA to provide each of Dr. Andrew's office with a 1032 case, which will include a tablet, a portable scanner, and space to store blood tubes, gloves, and whatever else is needed. This technology will allow Dr. Andrew and his staff to begin death registration on the scene, even if there is no internet connection. This will result in almost real time data coming from the field. The data will be greatly enhanced in terms of spelling and complete causes. Dr. Andrew volunteered to be DVRA's partners in the beginning and help us prove eCOD will be the application of the future. The application was written by DVRA's vendor, CNSI, with the help of DVRA in screen design, how the questions are asked, and how edits appear. CNSI is providing technology for data to go from eCOD to the Application Program Interface (API). Mr. Wurtz will later talk with Dr. Andrew as to which states may be receptive to trying this. DVRA also pitched hiring a company or person to train physicians on how to use these applications and the proper certification of death so that it has full statistical value to the federal government or the State of New Hampshire. There would be two physicians, one of whom would be embedded in Dr. Andrew's office for a period of time to help with some of the backlog and to help update the death record in a more timely fashion after Dr. Andrew receives report results. It can be a burden on the family of the decedent to wait for results. Mr. Wurtz must still find this physician. Another physician will be hired to work with DVRA and do a training session for physicians to improve cause of death information. Mr. Wurtz is held to improvement of timeliness and quality of data as the litmus for if it is working. It is a two-year project coming in at \$220,000. The national eCOD project is where New Hampshire will give eCOD to another state, which came in at \$161,000. Since the beginning of the year, DVRA has been given \$742,000 from the CDC, and this it will cost New Hampshire nothing. DVRA is improving the quality of information and timeliness for citizens.

- Ms. Bonenfant left the meeting at 11:11.
- Mr. Wurtz said that situational surveillance is also something which never happened in the world before. Situational surveillance is DVRA having the ability to ask at will two questions each in the birth module, in the physician's death module, and in the funeral director's death module. A pop-up window will appear asking the question if any questions are activated. Mr. Wurtz had pushed this idea to Dr. Dupee and Dr. David Laflamme. Now DVRA has the ability to ask a question very timely if the CDC or the Division of Public Health observes an issue. The questions asked can have almost limitless text, but the answers are yes, no, or unknown. Working with Dr. Laflamme at the Division of Public Health, there are tables where the Division of Public Health can use this

information. DVRA has complete control over situational surveillance. The hospitals will hear about this shortly. Each time a new question in situational surveillance is formed, the birth clerks will be told in advance what the question will be, so they ask the new mother that question at the time the worksheet is completed.

- Dr. Andrew asked if the only responses to any situational surveillance question were yes, no, and unknown; Mr. Wurtz answered in the affirmative. Mr. Wurtz further explained that it was kept simple so that those responses could alert DVRA or the Division of Public Health that perhaps intervention with those individuals. Dr. Andrew said that situational surveillance was not limited to infectious diseases since the CDC is very keen on knowing what analogs of fentanyl are out there. It has become much more of a problem than just “fentanyl” since clandestine laboratories are producing new varied analogs and Dr. Andrew wondered if that is important surveillance information for public health people as well as law enforcement. Dr. Andrew sees a lot of acetyl fentanyl here whereas another place may be seeing furanyl fentanyl and somewhere else may be seeing carfentanil. This might be important information but perhaps the responses of yes, no, or unknown may prompt some follow up rather than the certifier naming the specific analog. Mr. Wurtz said that is exactly the flexibility now present. Dr. Andrew acknowledged that if there are not discrete buckets, it gets really messy on the analytical side.
- Mr. Cloutier asked how many questions will be asked; Mr. Wurtz said as many as two questions can be asked each in the birth module, the certifier’s death module, and the funeral director’s death module. Mr. Cloutier asked how often the questions can be changed; Mr. Wurtz answered they can be changed at will.
- Mr. Wurtz conceived this idea while driving to work one morning when he heard that the Zika virus was found to be in South Beach, Miami, and thought how someone could capture that. The death record would be easy to capture that, but the birth record would be nearly impossible. Changing the birth worksheets to ask the question would take six months. DVRA will be demonstrating situational surveillance in a webinar tomorrow at 10:00 and invited anyone to join. The CDC paid for this and the CDC is excited over this.
- Mr. Wurtz repeated that New Hampshire is first-in-the-nation with new technology, such as situational surveillance and eCOD. The CDC trusts and believes what New Hampshire can do. New Hampshire has a reputation of getting it done. Everyone should be proud of their contributions to it because it could have a positive effect on our community.

- Mr. Wurtz added that also tomorrow, there will be a webinar with the director of the CDC since he funded it. By happenstance Mr. Wurtz did a complete demonstration at the northeast regional conference last week, and the director of the CDC later heard how great it was, but was disappointed that he had not been able to see it. Mr. Bentzler added that demonstrations are usually done when DVRA can control them where DVRA presents the application with a mobile device or tablet on the screen plugged into a computer. Mr. Bentzler continued that Mr. Wurtz told the attendees of last week's conference what the app was and had the attendees use their own mobile devices to go to the Google Play store or the Apple App store and pull down the app and follow along on their own devices. Mr. Wurtz said that sixteen people went to the Google Play or Apple App stores, download the app, and were given a username and password from Mr. Wurtz. Mr. Wurtz added that instead of him demonstrating it to them, he narrated what they were to do and they did it themselves. It showed the ease of use. When Mr. Wurtz told Mr. Bentzler what Mr. Wurtz did, Mr. Bentzler cringed and said how risky that was. The app was tested repeatedly and it worked.
- Dr. Andrew asked if that would be the same format when Mr. Wurtz meets with the ADMs on November 5; Mr. Wurtz answered in the affirmative. Dr. Andrew asked if Mr. Wurtz was part of the in-service training program on November 5; Mr. Wurtz answered that he had never heard of it, but Mr. Wurtz would be happy to be there. Dr. Andrew said the agenda has already been set, but would make sure that Mr. Wurtz is on the spring agenda. Dr. Andrew said if he mentions the new initiative, there may be resistance, but if the ADMs have it in their hands and Mr. Wurtz walks them through it, it will sell itself. Mr. Wurtz said there was favorable response during the last training in the fall, but it was a static demonstration. Last week, Mr. Wurtz asked how many in the meeting had a smartphone, had everyone go to a store and download the application and proceeded. Dr. Andrew suggested that the demonstration for the ADMs should go that same way.
- Mr. Wurtz said it is wonderful to work with this team, namely the DVRA core and Mr. Cloutier's information technology people; they get it done. Mr. Wurtz added that in the previous meeting of the Committee, DVRA took on an initiative to automate a transmission through the State & Territorial Exchange of Vital Events (STEVE) application. DVRA was told it was impossible, but DVRA did it. Thus DVRA sets the pace higher than ever. Mr. Cloutier noted that the CDC was speechless.
- Ms. Piecuch added that the City of Nashua is one of the major users and Mr. Wurtz's has always been responsive to the concerns of Nashua. Ms. Piecuch

recalls six years ago at the New England municipal clerks conference in Boston, Massachusetts, Mr. Wurtz gave a presentation and all the other clerks were envious of New Hampshire.

- Dr. Riddle asked if it was possible to tell if a death certification came from eCOD or NHVRIN; Mr. Wurtz responded in the affirmative. Dr. Riddle said that if this does what it is supposed to do, there should be a qualitative difference in the quality of statistical information on the death file, but that flag would have to be on the statistical death file. Mr. Wurtz said this was discussed and will ensure that it is there. Mr. Bentzler said that there is a notification piece built into eCOD that when if a record is created by a funeral director and a notification is sent to a certifier, that creates a transaction record of that notification occurring at a certain date and time. Mr. Wurtz said DVRA will ensure there is some type of indicator that eCOD was involved. Dr. Riddle said it needs to be on the statistical death file for him to do something with it. Dr. Dupee said that Dr. Riddle could do a quantitative analysis if the new data was better than the old data. Mr. Wurtz added that it was the positive spin on this mobile technology.
- Mr. Wurtz said that if anyone really wants to see this application, not only will Mr. Wurtz show it, he will give them a username and password so that they can play with it.
- Dr. Dupee moved that the Committee commends the fine work that the State Registrar has done in bringing innovative and new ideas and technology to bear on how vital records are handled in the State of New Hampshire; Mr. Burford seconded the motion. Mr. Wurtz insisted that the team be mentioned; Dr. Dupee acknowledged that it was all a team effort, but the motion is about the person leading the team. A vote was taken and all was in favor; the motion passed.

9. VRIFAC Budget:

- Mr. Cloutier noted that there was an anomaly in the numbers themselves: the bottom number in the final column should equal the last column and it does not. The cumulative should balance, but it is possible that the fields as they go across were not updated so the shaded column may not be accurate.
- Mr. Wurtz politely asked if based upon the suggestion made to the Secretary of State to go forward, does the Committee have the ability to encumber all the funds so that it does not get raided by the legislature; Mr. Horrigan answered it is theoretically possible. Mr. Wurtz knows in the past, the Committee has encumbered a certain amount of dollars because that is what a short-term project may cost, but this is a certain amount of dollars over a long-term time span.

- Mr. Cloutier said that the column marked FYTD 2017 has only two months' worth of data and is on a cash basis, so \$178,194 has been deposited in the fund for those two months. Looking at the Transfers to DoIT (027) line, about \$2200 per month is now spent on Transfers to DoIT; the cost for Transfers to DoIT has gone down to roughly less than fifteen percent of what it used to be in FY2012 and FY2013. Mr. Wurtz said the mission of going independent of DoIT has paid off. Mr. Cloutier concurred, saying there is a very good responsive information technology team who is able to react to things much more quickly with a lot less paperwork.
- Ms. Piecuch indicated that the expenses in the Personnel Services - Permanent (010) line have significantly increased; Mr. Cloutier noted that it is really a shift of money. Ms. Piecuch said now the information technology staff is in house and they are better able to deal with matters and provide better service. Mr. Cloutier added that DVRA is getting more hours out of it.
- Ms. Piecuch asked the line Equipment (030) expenses because new printers were purchased; Mr. Cloutier responded that the printers probably have not been expensed yet. The brand new printers came in at the end of August, so they probably will not be seen on the budget sheet until September. The printers were less than \$200 apiece and about two dozen were purchased. Mr. Bentzler said toner cartridges were purchased at the same time to test the cartridges; Mr. Cloutier replied that they may be in the Current Expense (020) line since they are not equipment, and Equipment (030) is for durable goods.
- Mr. Burford made a motion to accept the budget; Mr. Horrigan seconded. No further discussion was made on the motion. A vote was taken and all were in favor; the motion passed.

10. Old Business:

- Ms. Piecuch had talked with Mr. Burford about preservation grants, but it is uncertain where things stand so that will be discussed at the next meeting. Mr. Burford was expecting to propose something about imaging for old records, but he feels it is not a real need at the moment.
- Mr. Burford said because DVRA has upgraded to Windows 10, the DOS database is no longer working, and Mr. Burford would like to propose that it be converted. Mr. Wurtz will talk to Mr. Burford about it. Mr. Burford said it is important but can be overlooked even though it should not be. Mr. Bentzler said that an MS-DOS Virtual PC to run this that loads and runs the R-base program like turning on a DOS computer. This worked well in Windows 7 with Microsoft Virtual PC.

Windows 10 replaced Virtual PC with Hyper-V. The conversion of that virtual machine from Virtual PC to Hyper-V led to a loss of ability to use the mouse for any kind of functionality, thus it is all keyboard based. It is an antiquated program, thus it is challenging, and over the course of time it was never updated to any newer platform. Mr. Burford asked if there is something that can update it and does the Committee need to allot some money towards it. Mr. Cloutier said that this was the first he had heard of it. When the Division of Securities data was migrated, it was migrated from an R-base, but there were data challenges. Mr. Cloutier asked if the data elements are anywhere else so that one could re-create it from data that exists elsewhere; Mr. Bentzler responded that there is a copy of the system on the Vital Records Share but it has been a while since anyone looked at it. Ms. Piecuch suggested that Mr. Cloutier and Mr. Bentzler work together and report back for the next Committee meeting in January.

- Mr. Burford distributed a handout. Mr. Burford heard much about information technology moving forward into the 21st century, but part of Mr. Burford's job is to contend with the 20th, 19th, and 18th centuries. The handout was not made for the Committee but for another group to whom he will be talking about digital records and some of the concerns which he, as an archivist, has with digital records. The back side of the handout shows a diagram of an Open Archival Information System (OAIS). Mr. Burford believes many information technology people tend to think and resolve issues within parts of the OAIS, but do not necessarily see the whole picture. Mr. Burford explained that there is more to digital preservation than just keeping a back-up. Mr. Burford does wake up at night thinking about how vital records are solely digital and what that means to the future. Mr. Burford feels the Committee needs to address the issue of digital preservation, more than just digital management or just being able to pull digital data together, but to be able to ensure its authenticity over time for the purpose of buttressing public trust of the records. Mr. Burford likes the idea of moving into the 21st century and that towns and cities and the medical examiner's office and DHHS can go on a computer to access information, but wants to know where this information will be two or three decades from now. For Mr. Burford, this is a real concern and should be something the Committee should consider. Ms. Piecuch recalls when her office went to digital with no paper copies and the clerks felt concern about not having paper copies anymore. Mr. Burford said the Committee should consider digital preservation in the NHVRIN system. Mr. Wurtz agrees and also recalls a solution into NHVRIN which would give the ability to store on some other type of media. Mr. Cloutier said that was the elongated pdf format, and pdf has a methodology of storing the data bits in a different methodology, but it is still digital. Mr. Burford said that still can change. Mr. Cloutier asked if one printed a copy of every record that was originally digital, how many records

would there be and what would the storage cost; Mr. Burford asked how many terabytes and gigabytes and what the cost of that would be. Mr. Burford said there is a cost all the way around, and there are good points and risks about paper. In the archival world, there have been four of five centuries of formalized archiving figuring out how to deal with and mitigate the risks of paper records, animal-hide records, clay tablets, or records chiseled on a cave wall. Now the same must be done with digital records, and that must be a part of what the Committee must be aware. Ms. Picuch noted that technology changes and it may be totally different a few years from now. Mr. Cloutier said that if a large enough magnetic pulse affected the database, all could be lost except for the existing paper records, which is scary. Dr. Riddle said there is much research all over the world being done on this. Dr. Riddle noted that there were some interesting articles which said some places decided they would print with special markings on special paper so that it could be rescanned. Dr. Riddle said the Library of Congress took over some underground military bases. Mr. Burford said that microfilm and not paper may be the best medium, but that will also be subject to risks. Dr. Riddle said the most interesting medium to him is DNA; Mr. Burford said there are people who are examining that.

11. New Business:

- Mr. Wurtz said one of the thoughts he had was to take the application and give it to other states which have nothing. DVRA, not CNSI, owns the code thus DVRA has the ability to give it away, although there are formalities which must be pursued. Mr. Wurtz wants to offer another state, such as Rhode Island with whom Mr. Wurtz met last week, the current NHVRIN system. Thus that other state would come from nothing to something great in a relatively short period of time. The attraction to the other state is a lot and Rhode Island can not afford \$2.5 million for a new system. The Rhode Island state registrar and the deputy director of public health in Rhode Island do not have their own laptops but they share in a pool of equipment. Thus Mr. Wurtz had the concept of giving it away and the concept of getting a buy-in from these other states. For example, if the buy-in for another state is \$300,000, NHVRIN would be rebuilt because the Committee just recommended to the Secretary of State to rebuild the current NHVIRN system; the other states would have the benefit of those systems. So DVRA could have its own universe of jurisdictions that would benefit from pooling resources/money and New Hampshire driving it to success using the NHVRIN application rewritten in SQL in the mobile technology of choice. Mr. Wurtz does not want it to be a PC-based application in the future; as learned in eCOD, mobile technology is the way to go. In the future, the modules can be shared with other jurisdictions in more of a common platform. Mr. Wurtz and

CDC would like to explore that, but some states such as Rhode Island does not have the money. The CDC wants to help but the CDC can not spent \$2.5 million dollars each on several different systems, each with its own problems. From dealing with Mr. Delton Atkins, the director of the NCHS, Mr. Wurtz's vision is to work towards a universal application where all states pool their money because too much money is being spent out there and everyone is rebuilding their own system.

- Dr. Dupee left at 11:58. A quorum is no longer present.
- *Ms. Erin Piazza left at 11:59.*
- *Ms. Piecuch says it is a wonderful thing to bring other states – for example, in Massachusetts one must go to the town of event to get the vital record. This could bring more uniformity across the states. Mr. Wurtz added that Massachusetts spent \$12 million on its death module and \$10 million on its birth module and Massachusetts hates it. Mr. Burford's high level reaction is that he likes the idea. Mr. Burford's low level reaction is concerned with liability and administrative cost. Mr. Burford asked if there is a snag in one state's system, would that state's information technology staff or would Mr. Bentzler be responsible to iron it out; Mr. Wurtz responded that it was an excellent question and pointed out that all those states would share a common vendor who would be very responsive. DVRA is unable to do anything for these states other than giving technical assistance on how the application works, but it will really be between the vendor and the state to adopt New Hampshire's way of doing business, and as Mr. Wurtz explained last week, it may mean the other states may need to re-engineer how they do things in their states. Mr. Cloutier does not want to lose New Hampshire's ability to get what New Hampshire wants. Mr. Cloutier said if another state wants to do something in a different way, would New Hampshire have the veto power. One would want to cooperate but one does not want to jeopardize all of one's partners who need to have their own systems. It is not a new concept since SOSKB was written with that in mind, but as the number of states got bigger, the author of the software was unable to keep up, sold out to another company, and New Hampshire ended up settling with that other company because that other company could not get it done. Mr. Burford would like the idea explored further. Mr. Wurtz said last week that New Hampshire would drive this bus and if other states want to ride along with us, then it will cost those other states, but other states know New Hampshire has the track record of doing it. Mr. Wurtz does not want to lose control of the application but other states can benefit from New Hampshire. The jurisdictions share a common goal and a common IJE format of the data; the jurisdictions follow the same national model certificate asking the*

same questions and they all report to the CDC. Mr. Wurtz is sick of hearing the failures costing millions of dollars, but chuckles because New Hampshire still has twice the product. Ms. Piecuch said that the Vital Records Improvement Fund pays for maintaining the system. Ms. Piecuch has heard from other clerks in other states who wish their states did the same thing New Hampshire did with monies and vital records. Mr. Wurtz said a co-op usually means people get together because neither can afford something individually. However, New Hampshire can afford it so the co-op here would be followers. Mr. Cloutier said that if DVRA's death module was modified to have a SQL back end, perhaps that would be the time to invite Rhode Island to partner with New Hampshire with the death module. The only way for Rhode Island to get the current code is Oracle, but if Rhode Island does not have an Oracle shop, it will be very expensive for them. Mr. Wurtz said that would be the time when discussion between the vendor and Rhode Island would take place; New Hampshire's vendor could host Rhode Island's application for them if need be.

12. Next meeting & adjournment:

- *Ms. Piecuch said the next meeting date would be Friday January 27, 2017. No vote was taken to adjourn because there was no quorum. Meeting was adjourned at 12:10.*